Avoidable mortality in Victoria

Trends between 1997 and 2003

A Victorian Government initiative

State Government Victoria

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Foreword

Better access to healthcare may reduce avoidable deaths. The test of equity of access to healthcare involves determining whether there are systematic differences in health outcomes among groups and whether these differences result from barriers to healthcare services. Health planners are challenged by an ever growing array of data and information sources. From a complex maze of materials, they are required to provide an informed assessment of health needs and priorities within their communities. Increasingly, they need to make informed decisions about services under considerable pressure and time constraints.

The Avoidable Mortality in Victoria study offers the potential for a new set of indicators describing differentials and inequalities in avoidable mortality in Victoria. It also provides an evidence-based platform for policies directed at improving population health by offering opportunities for targeted interventions. The work on avoidable mortality has been based on internationally accepted standards in the analyses of potentially avoidable deaths. The presentation of the material has been designed to make complex data accessible. It is hoped that users of this report will engage in a dialogue with colleagues and members of the community about the report content and the many questions raised that are likely to be of importance to the health of Victorians.

Future work will include detailed analyses of the factors responsible for variations in avoidable mortality rates, and Local Government profiles of avoidable mortality for community planning and evaluation. This will increase information on differentials in avoidable mortality and will inform strategies to reduce demand on the hospital system through public health and health system interventions.

The information here is relevant because it fills a major information gap about differentials in potentially avoidable mortality across the whole State. The Government is already committed to reducing the burden of chronic disease and its disproportionate impact on disadvantaged Victorians. This commitment is evident in policy (such as in *A Fairer Victoria* or the *Cancer Plan*) and in practice. Several programs like the *Aboriginal Health Promotion and Chronic Care* (AHPACC) program and *A Fairer Victoria* specifically assist disadvantaged Victorians. The report demonstrates the potential use of avoidable mortality rates as a high-level outcome indicator which could be used to monitor and evaluate government initiatives and interventions.

DR JOHN CARNIE
Chief Health Officer

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Dr Jim Hyde was responsible for the management of the study within the Public Health Branch and has been a source of vision and inspiration since its inception. Ms Lorna Harrold provided efficient administrative support throughout. Many other people throughout the Australian and international public health community have also provided invaluable advice and information to this study. Their goodwill and support has greatly facilitated the progress and success of the adoption of new methods for researching mortality in Australia.

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Executive summary

ES.1 Background

The term 'avoidable mortality' (AM) has been used to describe a simple and practical population-based method of counting untimely and unnecessary deaths from diseases for which effective public health and/or medical interventions currently exist. An excess of deaths due to preventable causes may help to identify shortcomings in a health care system that reflects a lack of availability and/or use of those interventions, thus providing the impetus for change. Avoidable mortality therefore refers to deaths classed as 'avoidable', that have the 'potential' to be avoided. In nearly all of the industrialised countries studied, avoidable mortality rates have gradually fallen over recent decades and at a faster rate than mortality from unavoidable causes.

ES.2 Purpose

The aim of this report is to demonstrate the usefulness of avoidable mortality rates as a public health indicator of the impact of prevention and management of chronic diseases, including diseases for which the National Service Improvement Framework has been developed in response to the National Chronic Disease Strategy. Hence, the aim was to:

- develop avoidable mortality as a public health indicator of the impact of prevention and management of chronic diseases in line with the National Chronic Disease Strategy
- use the avoidable mortality indicator to assess current and past performance of the health system in Victoria
- describe the variation in avoidable mortality rates across Victoria by geographic area down to the level of Primary Care Partnership (PCP) areas and Local Government Area (LGA)
- demonstrate the value of the avoidable mortality indicator in monitoring trends in population health over time
- identify the predictors of avoidable mortality with a focus on the underlying social determinants of health
- ultimately inform state and local government area planners and policy makers in the development of health promotion and chronic disease prevention strategies.

ES.3 Key findings

ES.3.1 Absolute numbers of avoidable deaths between 1997 and 2003

- In Victoria, 87,521 people under the age of 75 years died, of which 63 per cent were potentially avoidable.
- There was a steady decline of approximately 17 per cent in the absolute number of avoidable deaths.
- The absolute number of unavoidable deaths also declined by approximately 7 per cent.
- The top ten causes of avoidable deaths in descending order were ischaemic heart disease (IHD), lung cancer, colorectal cancer, suicide, breast cancer, chronic obstructive pulmonary disease (COPD), stroke, diabetes, road traffic accidents, and poisoning.
- Cardiovascular disease (ischaemic heart disease and stroke) and cancer (lung, colorectal and breast) were responsible for more than 50 per cent of all avoidable deaths.
- The absolute number of deaths due to the top ten causes was lower in 2003 compared to 1997 with the single exception of poisoning.
- There were twice as many deaths due to poisonings in 2003 compared to 1997.

ES.3.2 Trends in total avoidable mortality rates in Victoria between 1997 and 2003

- Total avoidable mortality rates have declined significantly in both males and females. The decline was 4.6 (95% CI; 3.9 to 5.2%) per cent per annum in males and 4.0 (2.9 to 5.0%) per cent per annum in females.
- In 2003, the total avoidable mortality rates were 202 per 100,000 persons (95% CI; 196 to 207) in males and significantly lower at 110 per 100,000 persons (106 to 114) in females.
- Males who lived in rural LGAs had significantly higher total avoidable mortality rates than their counterparts in the metropolitan LGAs.

- Females who lived in rural LGAs also had higher total avoidable mortality rates than their counterparts in the metropolitan LGAs, although this was only statistically significant in 1998, 2002 and 2003, three of the seven years.
- Males and females who lived in the socio-economically most disadvantaged LGAs had significantly higher total avoidable mortality rates than their counterparts residing in the least disadvantaged LGAs.
- Males who lived in LGAs with the least accessibility to services, including health services, had significantly higher total avoidable mortality rates than their counterparts residing in LGAs with the most accessibility.
- Females who lived in LGAs with the least accessibility to services, including health services, did not have significantly higher total avoidable mortality rates than their counterparts residing in LGAs with the most accessibility, with the exception of the year 1999.

ES.3.3 Trends in the top ten causes of avoidable mortality in Victoria

Between 1997 and 2003:

- Ischaemic heart disease avoidable mortality rates significantly declined by 7.0 per cent per annum in males and 7.9 per cent per annum in females.
- Lung cancer avoidable mortality rates significantly declined by 4.0 per cent per annum in males, but not in females where the rates remained stable.
- Colorectal cancer avoidable mortality rates significantly declined by 3.7 per cent per annum in males and 3.2 per cent per annum in females.
- Suicide avoidable mortality rates significantly declined by 3.9 per cent per annum in males but not in females where the rates remained stable.
- Chronic obstructive pulmonary disease avoidable mortality rates significantly declined by 5.8 per cent per annum in males but not in females where the rates remained stable.
- The breast cancer avoidable mortality rate significantly declined 3.1 per cent per annum in females.
- Stroke avoidable mortality rates significantly declined by 5.4 per cent per annum in males and 8.4 per cent per annum in females.
- The road traffic accident avoidable mortality rate did not significantly change in males but did in females where the rate declined by 9.8 per cent per annum.
- The diabetes avoidable mortality rate did not significantly change in males but did in females where the rate declined by 4.6 per cent per annum.
- Poisoning avoidable mortality rates did not significantly change in males or females.

ES.4 Key messages

Between 1997 and 2003:

- Avoidable mortality declined in both males and females across Victoria.
- Avoidable mortality rates were significantly higher in males compared to females.
- Rurality was an important determinant of avoidable mortality. Persons residing in rural LGAs tended to experience significantly higher avoidable mortality rates than their counterparts in the metropolitan LGAs.
- Socioeconomic status was an important determinant of avoidable mortality. Persons residing in the most disadvantaged LGAs in Victoria tended to experience significantly higher rates than their counterparts in the least disadvantaged LGAs.
- Cardiovascular disease (ischaemic heart disease and stroke) and cancer (lung, colorectal and breast) were responsible for more than 50 per cent of all avoidable deaths.
- Avoidable mortality due to ischaemic heart disease, colorectal cancer and stroke significantly declined in both males and females.

- Avoidable mortality due to lung cancer, chronic obstructive pulmonary disease, and suicide significantly declined in males but not females.
- Avoidable mortality due to diabetes and road traffic accidents significantly declined in females but not males.
- Avoidable mortality due to breast cancer significantly declined in females.
- Avoidable mortality due to poisoning did not significantly decline in either males or females.

ES.5 National and international comparisons from the literature

- In a national study using different methodology, Victoria ranked third lowest (after the Australian Capital Territory and New South Wales) with respect to rates of amenable and avoidable mortality in 2001, and was below the national average.
- In an international study of nineteen Organization for Economic Cooperation and Development (OECD) countries that used the related concept of "amenable mortality", Australia in 2002-03 had the third lowest rate of amenable mortality (behind France and Japan), suggesting that the Australian health care system is performing well internationally.

1. Introduction

1.1 Background

The term 'avoidable mortality' (AM) has been used to describe a simple and practical population-based method of counting untimely and unnecessary deaths from diseases for which effective public health or medical interventions, or both, are available. The use of AM as an indicator of the quality of medical care stems from work initiated in the USA by Rutstein et al in the mid 1970s (Rutstein *et al.,* 1976). Rutstein originally defined AM as a group of conditions which resulted in premature mortality but were potentially avoidable, and employed an arbitrary upper age limit of 65 years. He hypothesised that an excess of deaths due to preventable causes suggested shortcomings in the health care system that warranted further investigation. Three factors must be present to measure AM: (a) the disease is identifiable, (b) effective interventions are known, and (c) health care providers are available (Tobias & Jackson, 2001).

Distinguishing between 'avoidable' and 'unavoidable' causes of death provides a useful tool to identify areas for improvement that, if acted upon, would improve the overall health of the population. This distinction is not meant to imply that every death classed as 'avoidable' could in fact have been avoided, merely that the potential to do so exists (Tobias & Jackson, 2001). It is also important to recognise that the distinction between avoidable and unavoidable causes of death is not fixed. There are few conditions that are either entirely 'avoidable' or 'unavoidable' and advances in treatment mean that a growing percentage of many deaths previously categorised as 'unavoidable' may in time become potentially avoidable, such as many common cancers (Richards *et al.,* 2000).

Various authors have distinguished conditions where death can be avoided by prevention ('preventable') or by treatment ('amenable', 'treatable') (Boys, Forster & Jozan, 1991; Mackenbach, 1991; Poikolainen & Eskola, 1995; McKee, 1999; Niti & Ng, 2001; Nolte & McKee, 2003, 2004; Page *et al.,* 2006). This concept can be confusing so some clarification is required. Preventable conditions are defined as those for which there are effective means of preventing the condition from occurring at all. These include conditions whose aetiology is, to a considerable extent, related to lifestyle factors, such as the use of tobacco (for example, lung cancer) and excessive alcohol consumption (for example, liver cirrhosis). This also includes deaths that can be prevented through legal means, such as traffic safety interventions (for example, speed limits, use of seat belts and motorcycle helmets) (Nolte & McKee, 2004). By contrast, amenable or treatable conditions are defined as those from which it is reasonable to expect death to be averted even after the condition has developed. This includes conditions such as diabetes, for which clinical intervention is available at the primary care level; and conditions such as appendicitis, for which clinical intervention is available at the secondary care level. Tobias and Jackson went on to further partition every avoidable death, based on expert consensus, into primary, secondary and tertiary AM, assigning it a weighting according to the type of interventions available at each level (Tobias & Jackson, 2001). Hence, any given cause of avoidable death could be prevented before it develops by addressing its risk or protective factors (primary AM), and/or responding to early detection and intervention, typically in a primary health care setting (secondary AM), and/or responding to existing medical or surgical treatments, (typically, but not necessarily, in a hospital setting), even when the disease process is fully developed (tertiary AM).

AM trends have been analysed within Europe (Charlton & Velez, 1986; Kunst, Looman & Mackenbach, 1988; Simonato *et al.,* 1998; Treurniet, Boshuizen & Harteloh, 2004), within individual countries (Charlton *et al.,* 1983; Westerling, 1992; Treurniet *et al.,* 1999; Humblet, Lagasse & Leveque, 2000; Niti & Ng, 2001; Tobias & Jackson, 2001; Manuel & Mao, 2002; Korda & Butler, 2004) and even in states within countries (CHO, 2002; Dugdale & Kelsall, 2003). These time trend studies of AM have been used to estimate the contribution of health care systems to reductions in mortality and to compare the effectiveness of health care systems across countries or regions. In nearly all of the industrialised countries studied, AM rates have gradually fallen over recent decades and at a faster rate than mortality from non-avoidable causes, suggesting that health care has had a significant impact on mortality.

1.2 Potential public health applications

By definition, 'primary AM' includes those deaths that could potentially have been avoided through the application of effective public health measures. Therefore, this study identifies and quantifies those potentially preventable deaths for which action can be taken by means of public health interventions. However, poor health outcomes are rarely, if ever, equally distributed across the population, a phenomenon often referred to as health inequalities. Health inequalities are differences in health status between different groups within a population. The term 'health inequities', however, refers

to health inequalities that are deemed to be unfair, or due to some form of social injustice (Kawachi, Subramanian & Almeida-Filho, 2002). Inequities in health usually relate to socioeconomic position, ethnicity or sex. The presence of a mortality gradient among the socioeconomic classes has been demonstrated where lower socioeconomic groups experience higher rates of mortality from all causes than higher socioeconomic groups (Townsend & Davidson, 1982), particularly avoidable causes (Mackenbach, Stronks & Kunst, 1989; Marshall *et al.,* 1993). In addition, these differences in mortality rates between lower and higher socioeconomic groups have increased in spite of an overall reduction in mortality rates across all socioeconomic strata (Marmot & McDowall, 1986; Feldman *et al.,* 1989; Pappas *et al.,* 1993).

This study analysed AM rates across Victoria over time and analysed AM rates by sex, rurality, socioeconomic status and accessibility to services. This allows for the identification of health inequalities that could potentially be addressed by targeting effective public health interventions to the most vulnerable sub-populations.

1.3 Objectives of the study

The objectives of this study are:

- To develop AM as a public health indicator of the impact of prevention and management of chronic diseases, in line with the National Chronic Disease Strategy.
- To describe the variation in AM rates across Victoria by geographic area down to the level of Primary Care Partnership (PCP) areas and Local Government Area (LGA).
- To describe the variation in AM rates over time between 1997 and 2003.
- To describe variations in AM rates by sex, rurality, socioeconomic status, and accessibility to services in order to identify any health inequalities.
- To ultimately inform state and local government area planners and policy makers in the development of health promotion and chronic disease prevention strategies.

2. Methods

The first widely accepted list of causes of AM was assembled in 1983 (Charlton et al., 1983). However, this list has grown and a comprehensive list is presented in Appendix 1. The current list was initially compiled by Tobias and Jackson and defined using only ICD-9 codes (Tobias & Jackson, 2001). The appropriate groupings of ICD-10 codes were subsequently developed by the NSW Department of Health (2002) and were used in this study after ensuring that the codes in each category of disease and injury were mutually exclusive (DHS, 2005). It is important to remember that for any given cause of AM only the specific conditions for which the outcome of death is judged to be potentially preventable are included. For example, the term 'congenital abnormalities' should not be taken to mean **all** possible congenital abnormalities; under this category conditions such as congenital malformations of the eye, ear and nose are included, but conditions such as congenital malformations of the nervous system are not. For a detailed list of what is included under each of the causes of AM see Appendix 1.

All deaths under the age of 75 years that were due to these listed conditions were considered to be avoidable. All other causes of mortality in those aged <75 years were assumed to be 'unavoidable mortality' (UM) for the purposes of this analysis. The analysis was performed using year of death, for the death registration period 1997–2004 and annual population estimates for 1997–2003 supplied by the Australian Bureau of Statistics (ABS) for Victoria. As >99 per cent of deaths in a particular year were registered in two consecutive calendar years, we excluded deaths occurring in 2004 from the analysis, but included deaths occurring in 2003 but registered in 2004. The most common causes of AM in 1997–2003 were determined from the total number of deaths by cause during this period.

2.1 Primary, secondary and tertiary avoidable mortality

Every death was further partitioned into three categories, based on the weightings of Tobias & Jackson (Tobias & Jackson, 2001). The three categories were:

- **Primary avoidable mortality** (PAM). Conditions that are preventable by addressing the risk or protective factors, whether through individual behavior change (lifestyle modification) or population level intervention (public health policy). For example, deaths due to immunisation preventable diseases, burns, HIV/AIDS infection, Sudden Infant Death Syndrome (SIDS), lung cancer and drowning had a PAM weighting ≥0.5.
- **Secondary avoidable mortality** (SAM). Conditions that respond to early detection and treatment, typically in a primary health care setting. For example, deaths due to cancers for which screening tests are available, conditions such as epilepsy and diabetes that can be well-managed, and newborn conditions such as congenital hypothyroidism, which are detectable at neonatal screening had a SAM weighting ≥0.5.
- **Tertiary avoidable mortality** (TAM). Conditions whose case fatality rate can be significantly reduced by existing medical or surgical treatments typically, but not necessarily, in a hospital setting, even when the disease process is fully developed. For example; Hodgkin's disease, appendicitis, intestinal obstruction and hernia had a TAM weighting ≥0.5.

For example: cervical cancer received a weighting of 0.3 for PAM (preventable through modification of sexual behaviour and cessation of smoking), 0.5 for SAM (amenable to treatment through screening and early detection), and 0.2 for TAM (treatable by surgery and chemotherapy). It should be noted that some conditions cannot be partitioned, for example, appendicitis received a 1.0 weighting for TAM and 0.0 weightings for PAM and SAM.

2.2 Statistical methods

We calculated AM rates in Victoria between 1997 and 2003 and adjusted for age using the direct method and the 2001 census year population for Victoria. All rates were expressed per 100,000 population with their 95% confidence interval (CI), unless otherwise stated. The 95% CI is the range of values around an estimate for which we can be 95% certain that the true value lies.

We calculated total AM, PAM, SAM, TAM and the ten most common cause-specific AM rates separately for males and females and made comparisons of rates between rural and metropolitan LGAs, quintiles of the population based on socioeconomic status, and accessibility to services. LGAs in Victoria and their categorisation into urban or rural, IRSED and ARIA category are set out in Appendix 2. The results are presented in Appendix 3, tables 1–29. We also calculated rate ratios and these are reported in Appendix 3, tables 1–29. We calculated the sex rate ratio by dividing the AM rate for males by the AM rate for females. For example, the sex mortality rate ratio for total AM in Victoria in 1997 was 1.86.

This means that males experienced an 86 per cent higher rate of AM due to all causes compared to females in that year. Similarly we calculated rate ratios for rural versus metropolitan Victoria, the most versus least disadvantaged IRSED category and the least versus most accessible categories of ARIA.

Furthermore, adjusted total AM rates (95% CI) in 2003 by sex and Department of Human Services region and PCP are presented in Appendix 3, Table 30. Estimates for LGAs, using data aggregated over five years, are presented in Appendix 3, Table 31.

The statistical software package 'Stata' (Version 9, College Station, Texas, USA) was used to directly standardise mortality rates (Rothman, 1986) and compute their 95% CI, using the method of Cochran to calculate standard error (Cochran, 1977). When the number of deaths in any geographical area was 0, then the lower limit of the 95% CI of adjusted mortality rate per 100,000 was set to 0 and the upper limit was computed by dividing the upper limit of the 95% CI from the exact Poisson distribution for a count of 0, that is, 3.6889 by the population of the area and expressed per 100,000 population.

We assessed statistical significance of any apparent differences in standardised mortality rates by whether or not the reported the 95% CI overlapped. If the CIs for the two groups **did not overlap** (the upper limit of one estimate is less than the lower limit of the other) then there was sufficient statistical evidence to suggest that there was a true difference between the two groups. In addition to these pair-wise tests, we performed an ordinary least squares linear regression on the logarithms of the directly standardized rates, to test for trend across the seven years. If the 95% CI for the regression coefficient did not include the value 0, then we considered the trend to be statistically significant.

2.3 Index of Relative Socio-Economic Disadvantage

IRSED is derived from attributes such as low income, low educational attainment, high unemployment, jobs in relatively unskilled occupations and variables that reflect disadvantage rather than measure specific aspects of disadvantage (for example, Indigenous and separated/divorced) (ABS, 2004). High scores on the IRSED occur when the area has few families of low income and few people with little training and in unskilled occupations. Low scores on the index occur when the area has many low income families and people with little training and in unskilled occupations. It is important to understand that a high score here reflects lack of disadvantage rather than high advantage, a subtly different concept. To maintain consistency with the other indexes, the higher an area's index value for the IRSED, the less disadvantaged that area is compared with other areas (ABS, 2004). We computed a weighted average of the IRSED score for each LGA in Victoria from IRSED scores and the resident population in 2001 of its constituent statistical local areas. We then ranked the LGAs by their IRSED scores and divided them into quintiles such that each contained approximately one-fifth of the total Victorian population. We then made comparisons between the highest ranking quintile, which reflected the **most disadvantaged** LGAs, and the lowest ranking quintile, which reflected the **least disadvantaged** LGAs.

2.4 Accessibility/Remoteness Index of Australia

ARIA interprets remoteness as accessibility to service centres that have a population greater than 5,000 in the census. It is widely accepted as Australia's most authoritative geographic measure of remoteness. Remoteness values for all populated localities are derived from the road distance to service centres in four categories (DHAC, 2001). An ARIA index score between 0 and 12 is calculated for each populated locality. A zero value means that the location has the highest level of access to services while a value of 12 indicates the location has the lowest level of access to services (and correspondingly the highest measure of remoteness from services). The categories used to describe ARIA values for communities are: highly accessible, accessible, moderately accessible, remote and very remote. Within Victoria there are remote geographic areas but there are no remote or very remote communities living there. Therefore we have retained the official (although somewhat confusing) terms used to describe the three ARIA categories applicable to Victoria at an LGA level. 'Moderately accessible' refers to the ARIA category of **least** accessibility, 'Accessible' refers to the ARIA category of **mid-range** accessibility and 'Highly accessible' refers to the ARIA category of **highest** accessibility.

3. Results

3.1 Absolute number of avoidable deaths by cause

Between 1997 and 2003 there was a total of 87,521 deaths in Victorians under 75 years of age. Of these, 63 per cent (55,252 deaths) were deemed to be avoidable while the remaining 37 per cent (32,269 deaths) were deemed to be unavoidable. Table 1 lists the absolute number and per cent of avoidable deaths for the top 20 causes of AM for the seven-year period from 1997 to 2003.

Table 1. Top 20 causes of avoidable mortality from 1997 to 2003

Rank	Cause of death	Number of avoidable deaths	Proportion of all avoidable deaths (%) <75 years
1	Ischaemic heart disease	12,956	23.4
2	Lung cancer	7,238	13.1
3	Colorectal cancer	4,598	8.3
4	Suicide	3,726	6.7
5	Breast cancer	3,223	5.8
6	Chronic obstructive pulmonary disease	3,156	5.7
7	Stroke	2,628	4.8
8	Diabetes	2,562	4.6
9	Road traffic injury	2,477	4.5
10	Poisoning	1,396	2.5
11	Alcohol-related conditions	1,375	2.5
12	Stomach cancer	1,274	2.3
13	Skin cancers	1,184	2.1
14	Hepatitis and liver cancer	985	1.8
15	Oral cancers	841	1.5
16	Hypertensive disease	531	1.0
17	Congenital anomalies	459	0.8
18	Asthma	413	0.7
19	Leukaemia	367	0.7
20	Epilepsy	356	0.6
	Other AM	3,507	6.5
	TOTAL	**55,252**	**100%**

3.2 Top ten causes of AM by year

There has been a steady and significant decline in the absolute number of avoidable deaths between 1997 and 2003, from 8,642 to 7,165 deaths. The absolute number of unavoidable deaths has also significantly declined from 4,810 to 4,474, but this decline is not as pronounced. Table 2 shows the number of deaths by year from 1997 to 2003 for the ten most common causes of AM.

Table 2. Ten most common causes of avoidable and unavoidable mortality by year

Rank	Cause of death	1997	1998	1999	2000	2001	2002	2003
1	Ischaemic heart disease	2,197	2,084	1,913	1,826	1,733	1,700	1,503
2	Lung cancer	1,105	1,083	971	1,011	1,065	987	1,016
3	Colorectal cancer	699	676	680	651	644	622	626
4	Suicide	574	556	535	492	525	523	521
5	Breast cancer	496	457	474	468	427	429	472
6	Chronic obstructive pulmonary disease	540	459	465	414	470	413	395
7	Stroke	439	418	371	395	360	341	304
8	Diabetes	392	358	377	351	345	355	384
9	Road traffic accidents	339	378	345	363	396	361	295
10	Poisoning	83	146	417	301	116	153	180
Total avoidable deaths		**8,642**	**8,267**	**8,222**	**7,872**	**7,643**	**7,441**	**7,165**
Total unavoidable deaths		**4,810**	**4,729**	**4,478**	**4,621**	**4,457**	**4,700**	**4,474**

Key messages:

In Victoria, 87,521 people under the age of 75 years died. 63% of these deaths were potentially avoidable

The total number of avoidable and unavoidable deaths of men and women under the age of 75 years of age in Victoria significantly declined between 1997 and 2003.

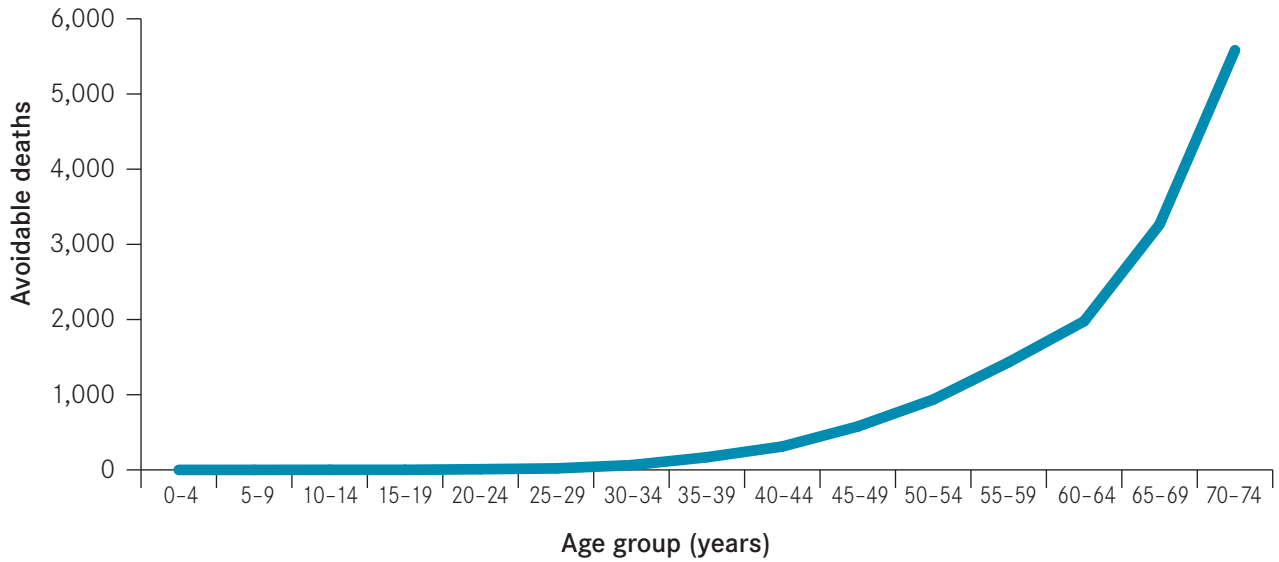
Approximately 28% of avoidable deaths were due to cardiovascular disease (IHD and stroke) and another 28% due to lung, colorectal, and breast cancer, altogether accounting for over 50% of AM.

3.3 Age distribution of the top ten causes of AM

This section describes the age distribution for each of the top ten leading causes of avoidable deaths aggregated over the seven-year period from 1997 to 2003.

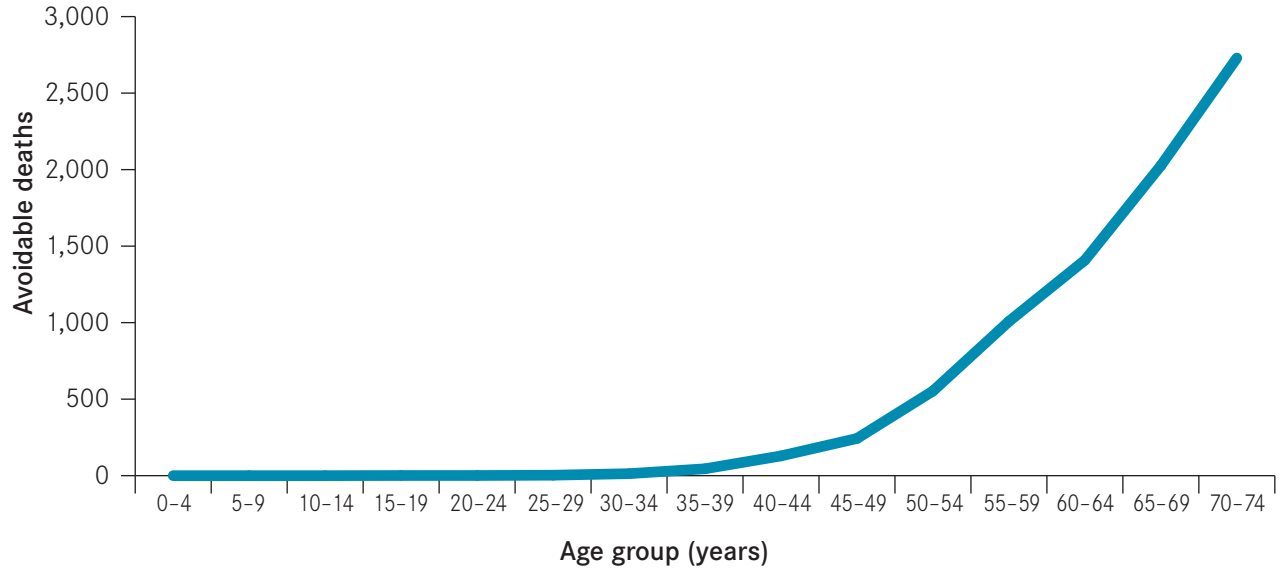
The leading cause of avoidable death between 1997 and 2003 was IHD. Avoidable IHD deaths increased exponentially from the age of 30–34 years onwards. Figure 1 shows the rapid rise in deaths due to IHD with increasing age. The 70–74 year age group had the highest number of avoidable IHD deaths. It is important to note that by definition all deaths in persons aged 75 years of age or greater are considered to be unavoidable.

Figure 1. Avoidable IHD deaths by age group, aggregated over the period 1997–2003



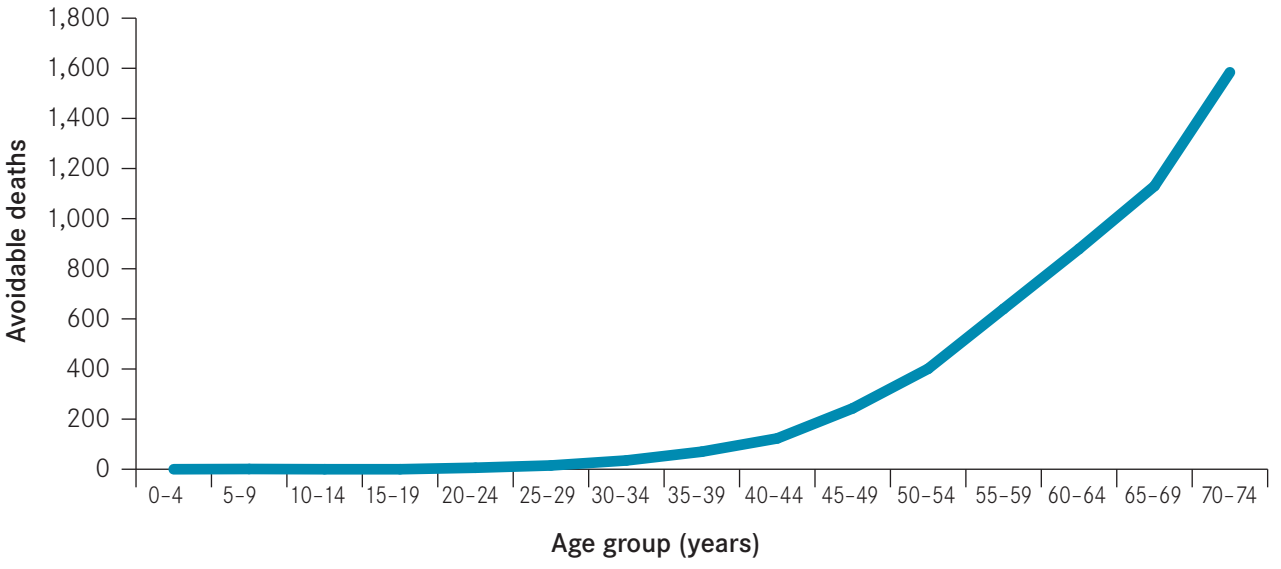
The second leading cause of avoidable death was lung cancer. Figure 2 shows that avoidable lung cancer deaths followed a similar pattern to avoidable IHD deaths where they increased sharply from the age of 30–34 years and the greatest number of deaths was in the 70–74 year age group.

Figure 2. Avoidable lung cancer deaths by age group, aggregated over the period 1997–2003



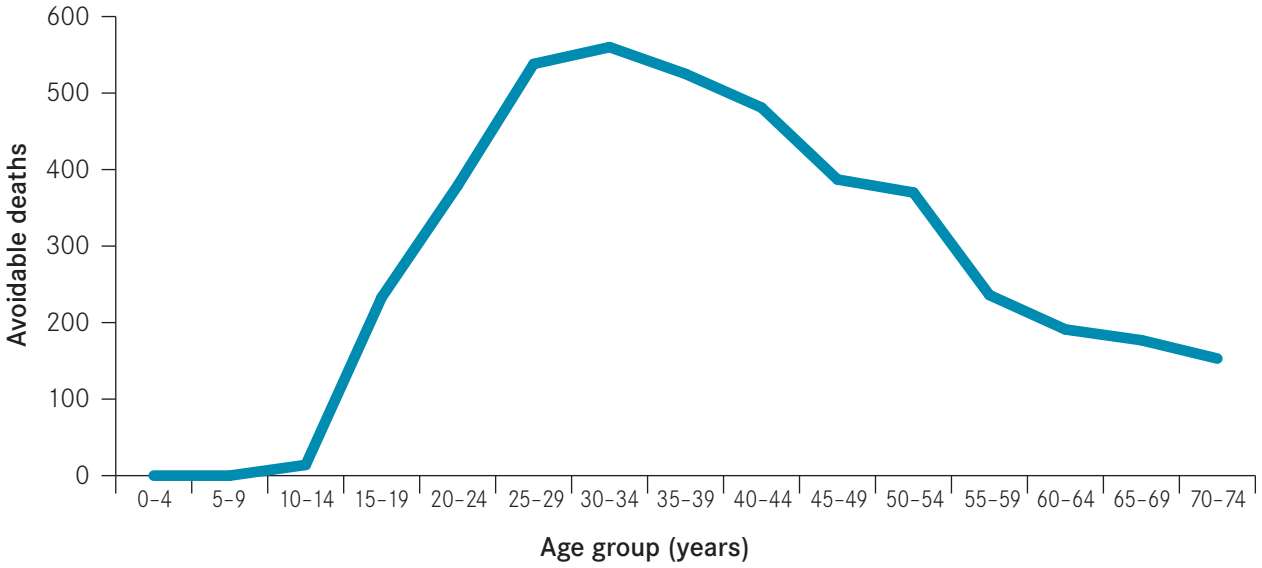
The third leading cause of avoidable death was colorectal cancer and these deaths followed a similar pattern to avoidable deaths due to IHD and lung cancer, in that these increased sharply from the age of 30–34 years and the greatest number of avoidable deaths was in the 70–74 year age group (Figure 3).

Figure 3. Avoidable colorectal cancer deaths by age group, aggregated over the period 1997–2003



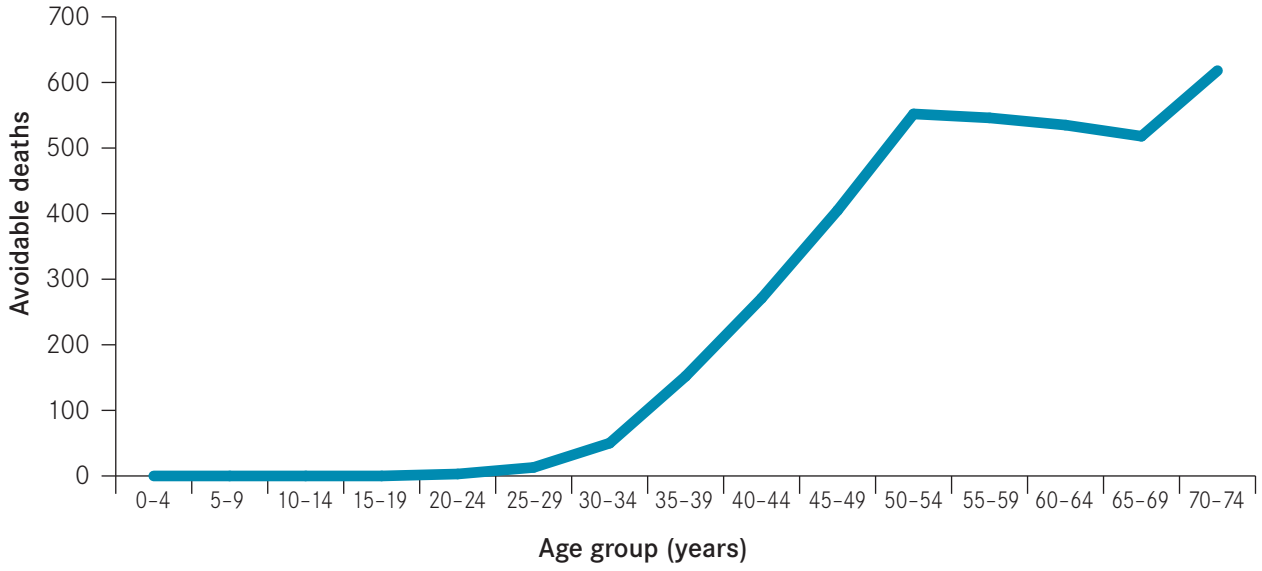
The fourth leading cause of avoidable death was suicide. Figure 4 shows that the number of avoidable deaths due to suicide increased sharply from the age of 15–19 years, reached a plateau between the ages of 25–39 years, then gradually declined with increasing age.

Figure 4. Avoidable suicide deaths by age group, aggregated over the period 1997–2003



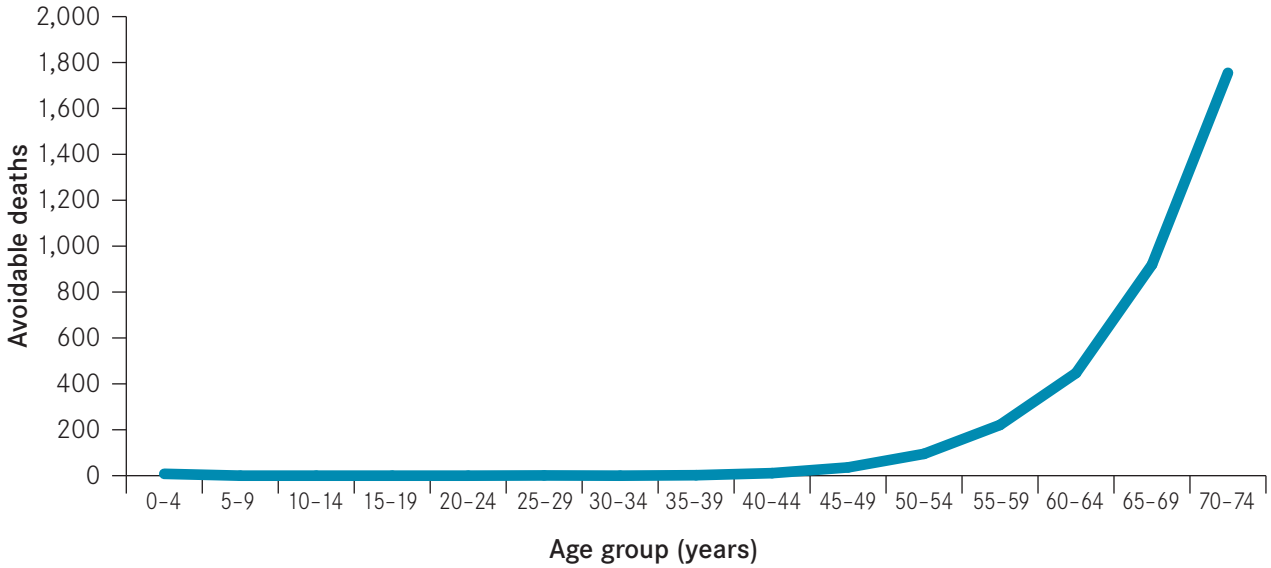
The fifth leading cause of avoidable death was breast cancer (predominantly in females). Figure 5 shows that avoidable breast cancer deaths increased sharply from the age of 25–29 years, reached a plateau between the ages of 50–54 years and then increased sharply from the ages of 65–69 years with the greatest number of avoidable deaths occurring in the 70–74 year age group.

Figure 5. Avoidable breast cancer deaths by age group, aggregated over the period 1997-2003



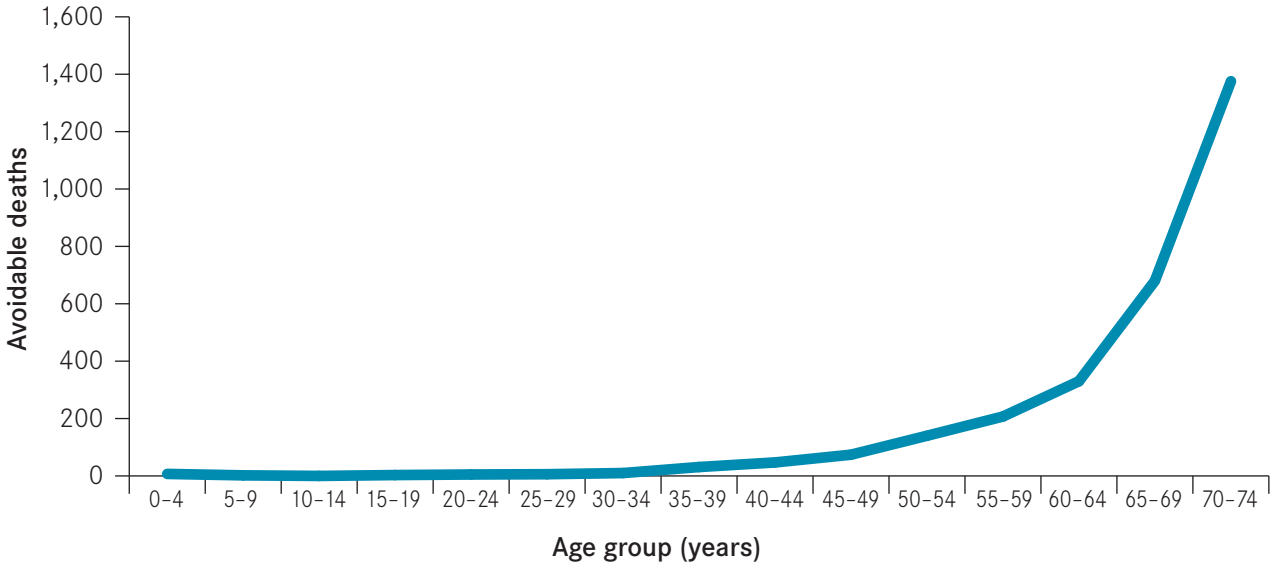
The sixth leading cause of avoidable death was COPD. Figure 6 shows that the number of avoidable deaths due to COPD increased sharply from the age of 45–49 years with the greatest number of avoidable deaths occurring in the 70–74 year age group.

Figure 6. Avoidable COPD deaths by age group, aggregated over the period 1997–2003



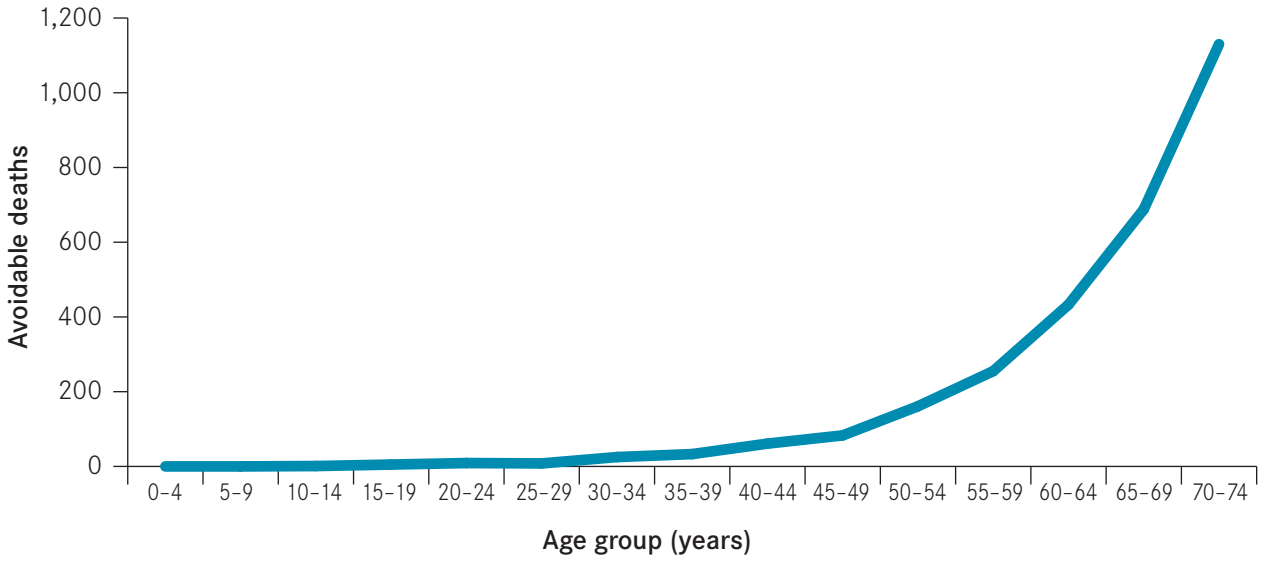
The seventh leading cause of avoidable death was stroke. Figure 7 shows that the number of avoidable stroke deaths increased sharply from the age of 35–39 years with the greatest number of avoidable deaths occurring in the 70–74 year age group.

Figure 7. Avoidable stroke deaths by age group, aggregated over the period 1997–2003



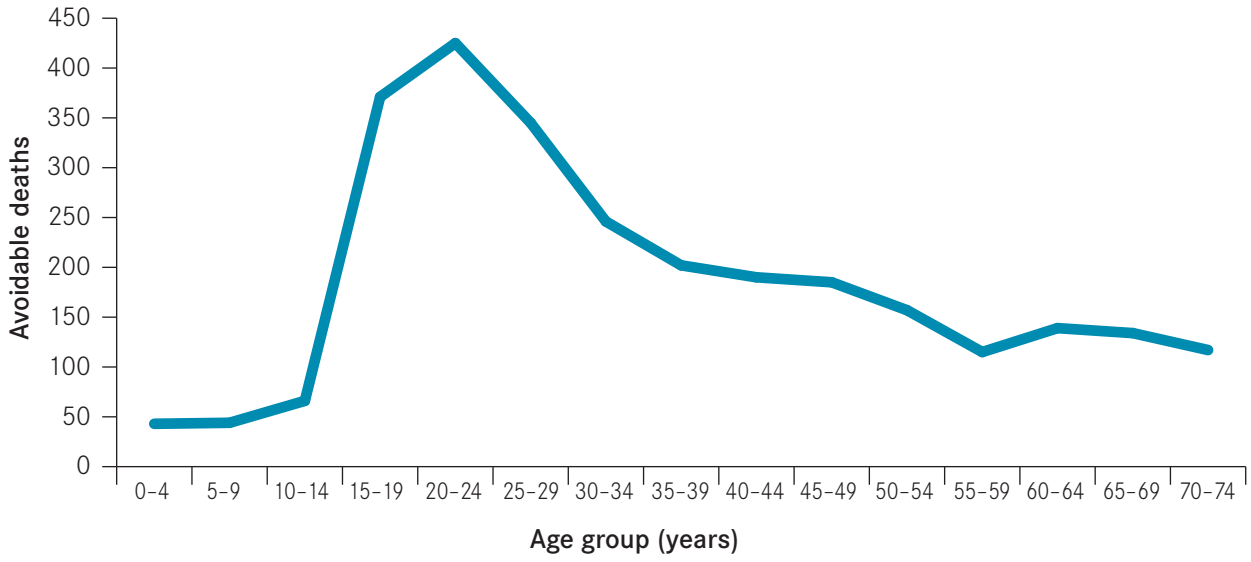
The eighth leading cause of avoidable death was diabetes. Figure 8 shows that the number of avoidable diabetes deaths increased sharply from the age of 30–34 years with the greatest number of avoidable deaths occurring in the 70–74 year age group.

Figure 8. Avoidable diabetes deaths by age group, aggregated over the period 1997–2003



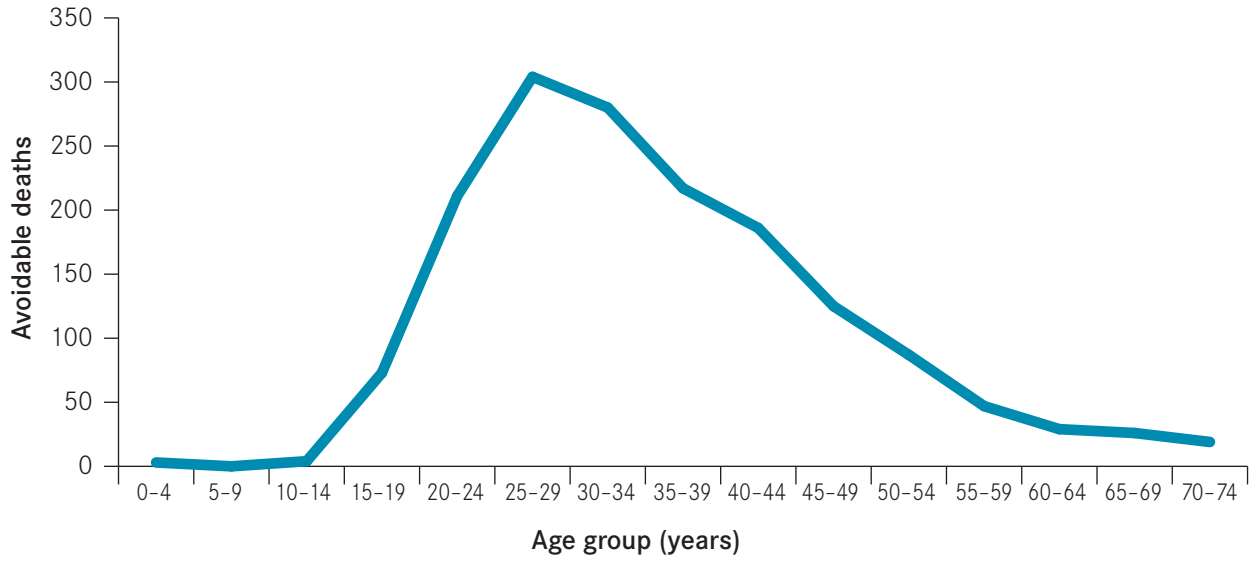
The ninth leading cause of avoidable death was road traffic accidents. Figure 9 shows that the number of avoidable road traffic accident deaths peaked at the ages of 20–24 years and then declined with increasing age thereafter.

Figure 9. Avoidable road traffic accident deaths by age group, aggregated over the period 1997–2003



The tenth leading cause of avoidable death was poisonings. Figure 10 shows that the number of avoidable poisonings increased sharply from the age of 10–14 years, peaked in the 25–29 year age group, and then declined with increasing age.

Figure 10. Avoidable poisoning deaths by age group, aggregated over the period 1997–2003



Key messages:

Of the top ten leading causes of avoidable deaths, suicide, road traffic accidents and poisonings were associated predominantly with young Victorians aged 30 years or younger, while IHD, lung cancer, colorectal cancer, breast cancer, COPD, stroke and diabetes were predominantly associated with older Victorians over 30 years of age.

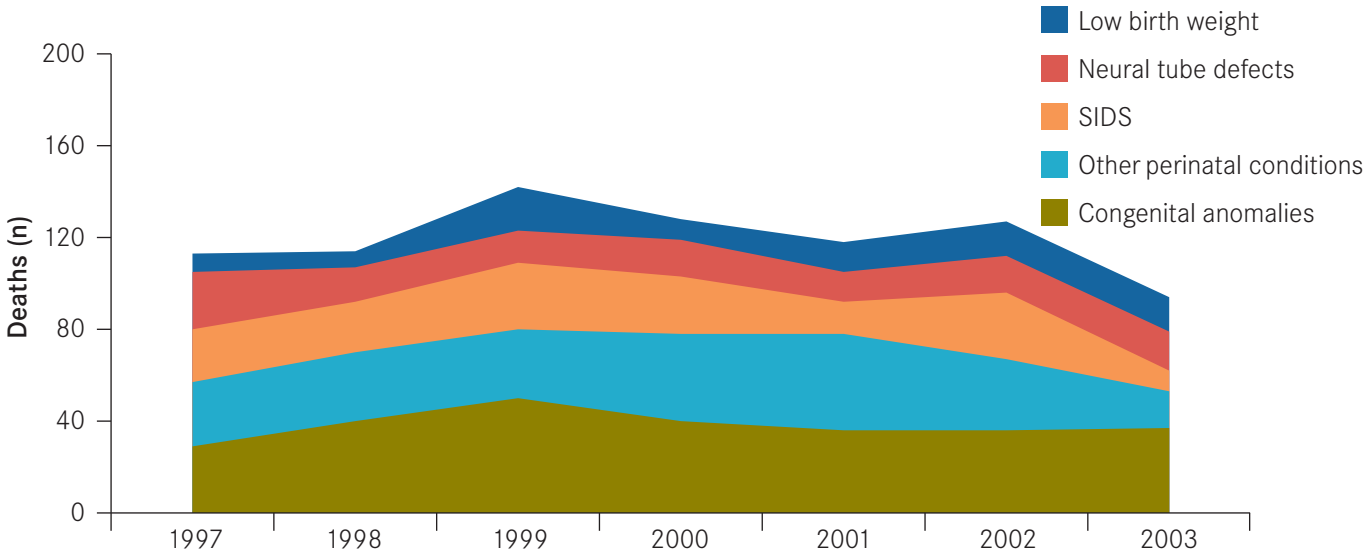
3.4 Top five causes of AM by five-year age group and year

This section reports the top five causes of avoidable deaths for each five-year age group up to the age of 74 years by year.

3.4.1 0–4 year age group

The top five causes of avoidable deaths among children younger than five years of age, in descending order of magnitude, were certain congenital abnormalities, other certain perinatal conditions, sudden infant death syndrome (SIDS), neural tube defects, and low birth weight. Figure 11 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 0–4 year age group that ranked among the top ten were other infections, birth trauma, drowning, road traffic accidents and respiratory infections.

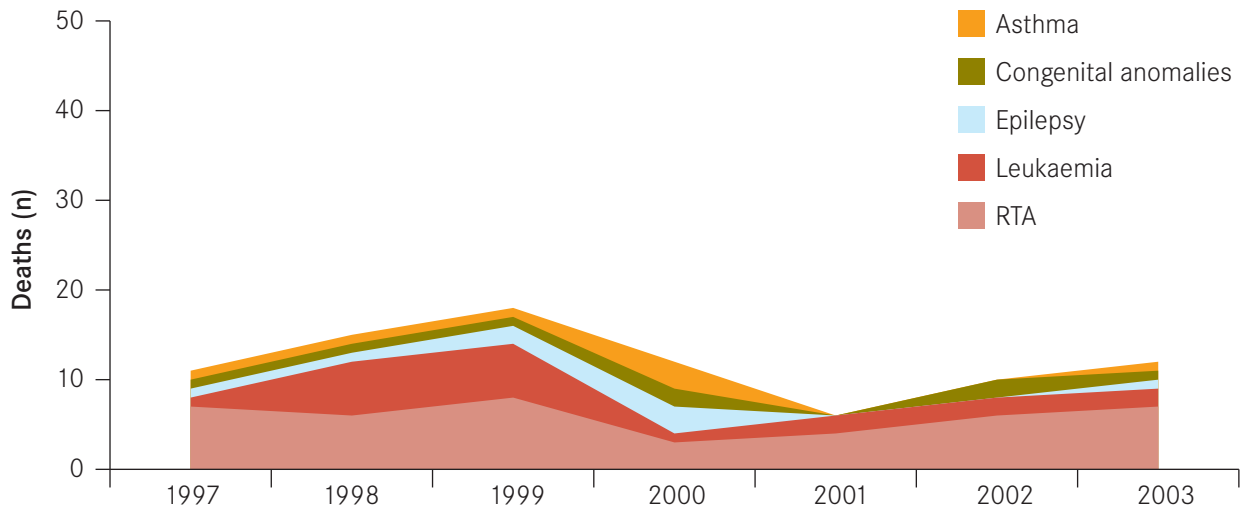
Figure 11. The five leading causes of death in the 0–4 year age group, Victoria (1997–2003)



3.4.2. 5–9 year age group

The top five causes of avoidable death among children aged 5–9 years, in descending order of magnitude, were road traffic accidents, leukaemia, epilepsy, congenital anomalies and asthma. Figure 12 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 5–9 age group that ranked among the top ten were burns, neural tube defects, drowning, other infections and respiratory infections.

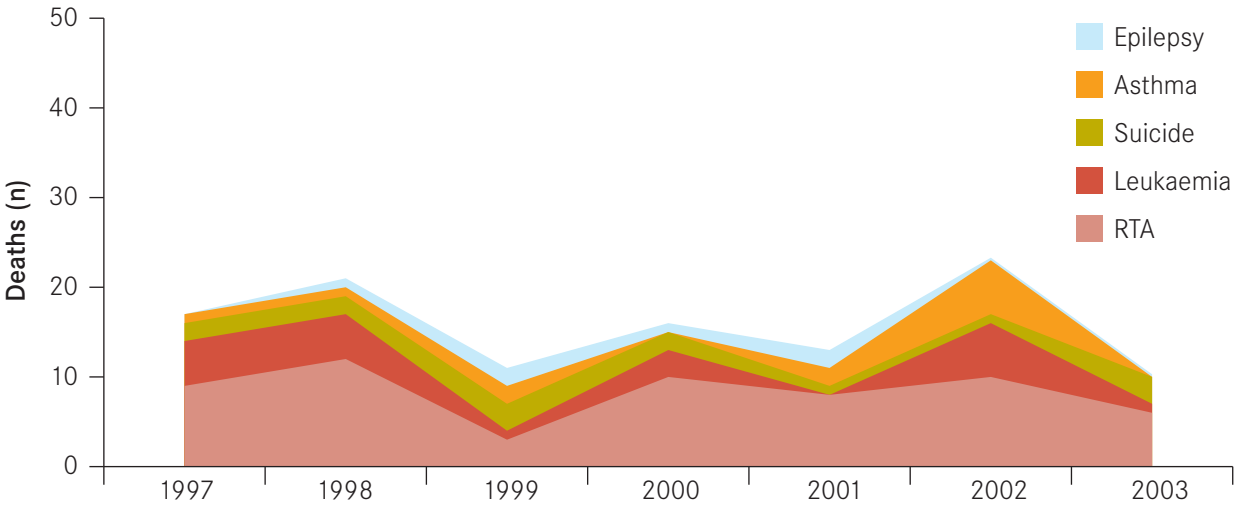
Figure 12. The five leading causes of death in the 5–9 years age group, Victoria (1997–2003)



3.4.3 10–14 year age group

The top five causes of avoidable death among children aged 10–14 years, in descending order of magnitude, were road traffic accidents, leukaemia, suicide, asthma and epilepsy. Figure 13 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 10–14 age group that ranked among the top ten were neural tube defects, drowning, poisoning, other infections and congenital abnormalities

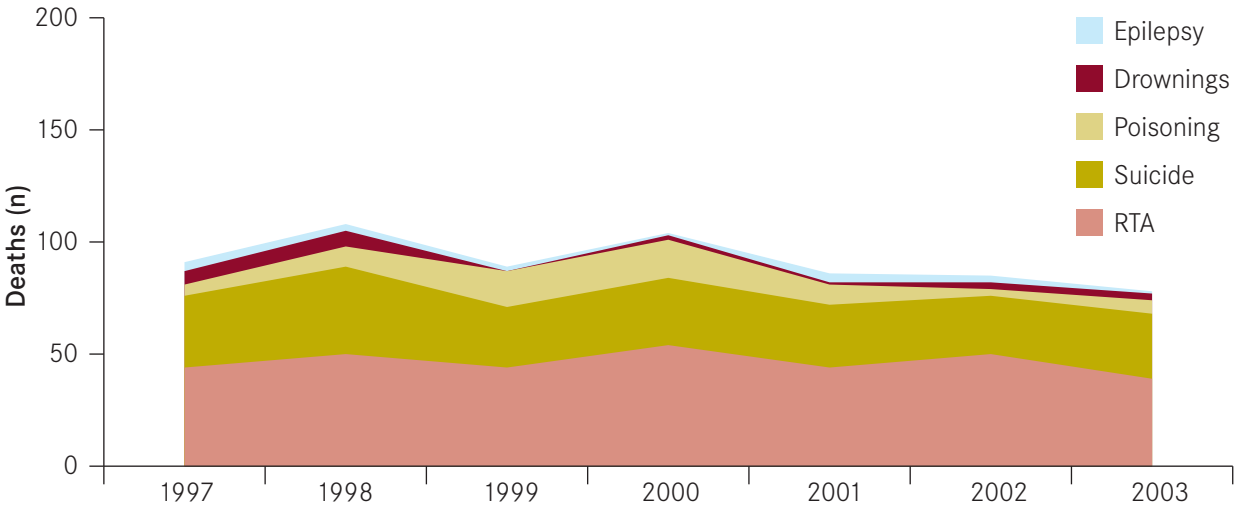
Figure 13. The five leading causes of death in the 10–14 years age group, Victoria (1997–2003)



3.4.4 15–19 year age group

The top five causes of avoidable death among children aged 15–19 years, in descending order of magnitude, were road traffic accidents, suicide, poisoning, drowning and epilepsy. Figure 14 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 15–19 age group that ranked among the top ten were leukaemia, other infections, asthma, congenital abnormalities and diabetes.

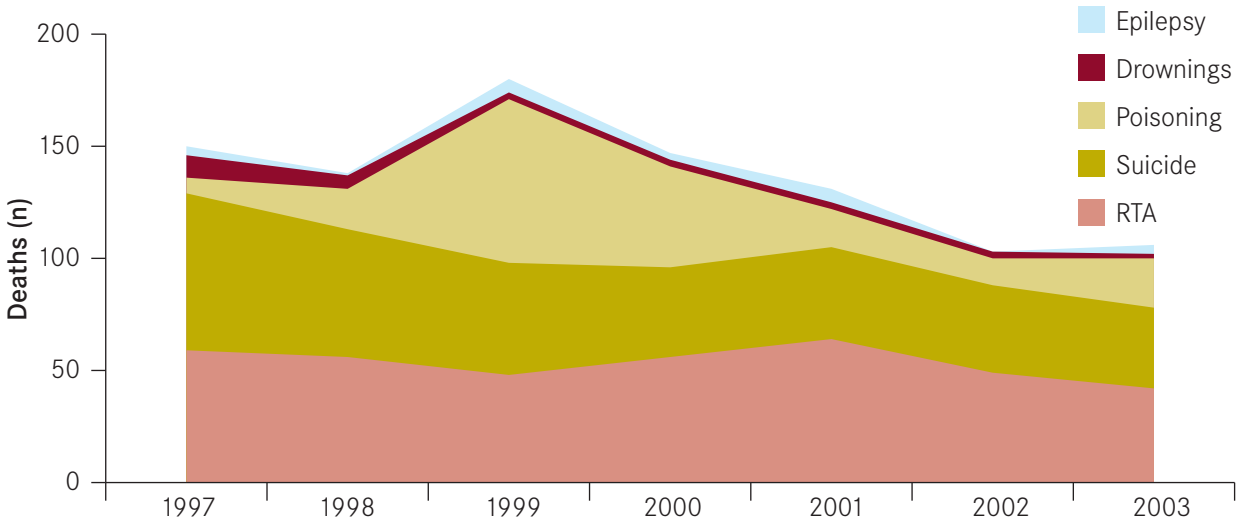
Figure 14. The five leading causes of death in the 15–19 years age group, Victoria (1997–2003)



3.4.5 20–24 year age group

The top five causes of avoidable death among adults aged 20–24 years, in descending order of magnitude, were road traffic accidents, suicide, poisoning, drowning and epilepsy. While the five leading causes of death were identical to the 15–19 year age group, there were considerably more deaths. Figure 15 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 20–24 age group that ranked among the top ten were congenital abnormalities, asthma, skin cancer, IHD and diabetes.

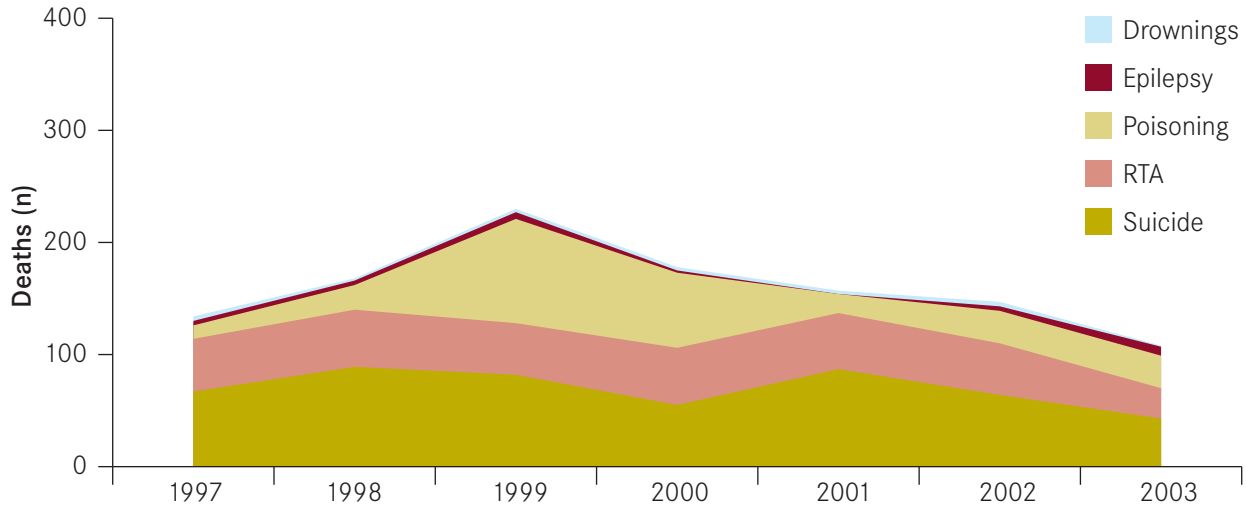
Figure 15. The five leading causes of death in the 20–24 years age group, Victoria (1997–2003)



3.4.6 25–29 year age group

The top five causes of avoidable death among adults aged 25–29 years, in descending order of magnitude, were suicide, road traffic accidents, poisoning, epilepsy and drowning. While the five leading causes of death were similar (with just a change in order) to the previous two years age groups, there were considerably more deaths. Figure 16 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 25–29 age group that ranked among the top ten were IHD, congenital abnormalities, asthma, HIV/AIDS and colorectal cancer.

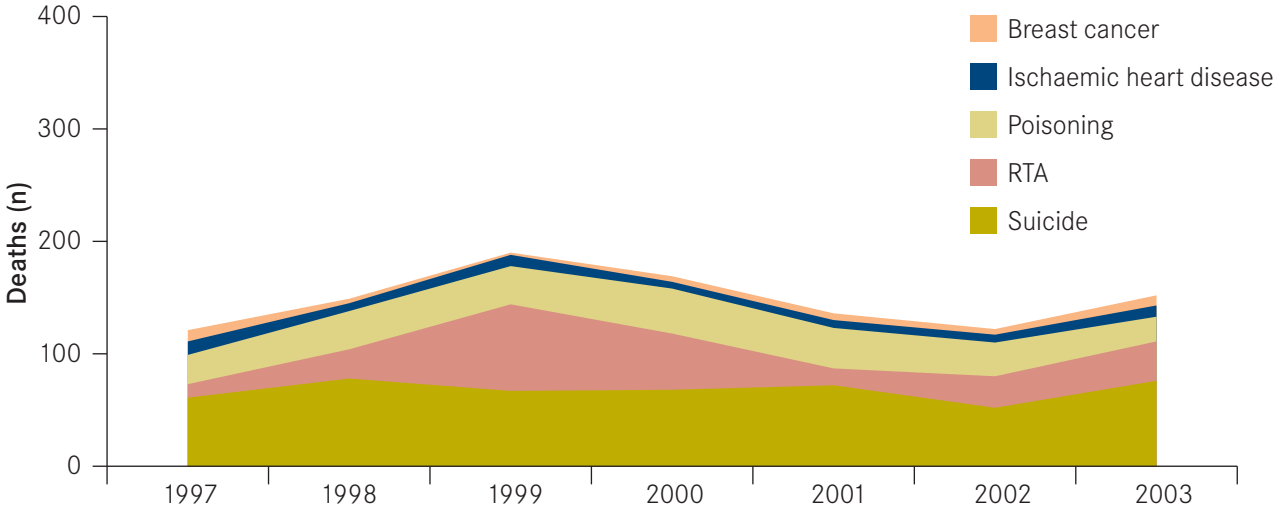
Figure 16. The five leading causes of death in the 25–29 years age group, Victoria (1997–2003)



3.4.7 30–34 year age group

The top five causes of avoidable death among adults aged 30–34 years, in descending order of magnitude, were suicide, poisoning, road traffic accidents, IHD and breast cancer. Two leading causes of avoidable death, namely IHD and breast cancer, appear for the first time in the top five causes of avoidable death. Figure 17 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 30–34 age group that ranked among the top ten were epilepsy, colorectal and skin cancer, HIV/AIDS and asthma.

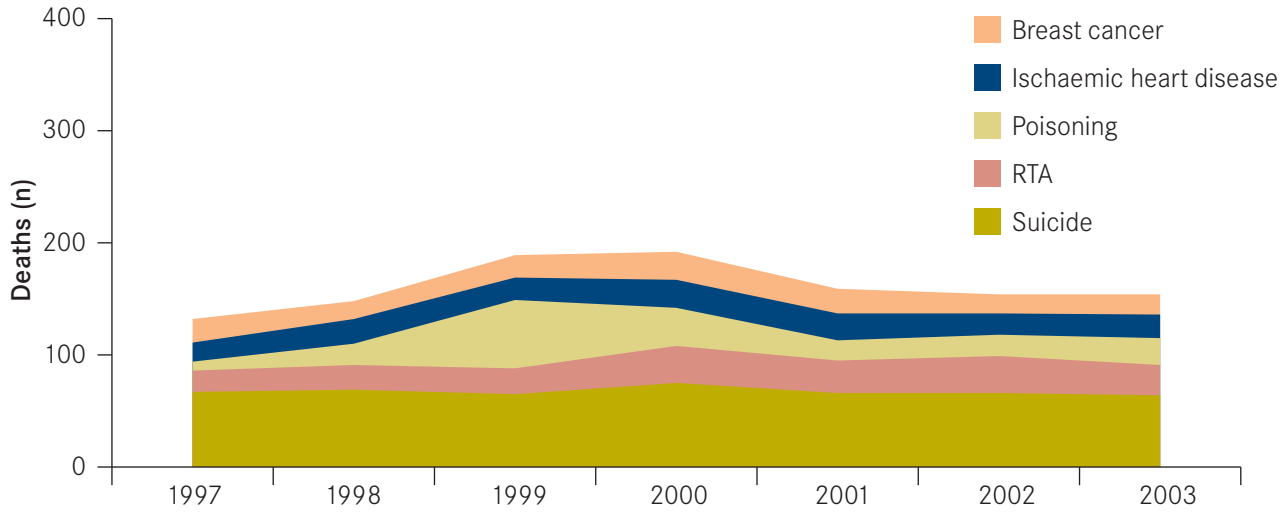
Figure 17. The five leading causes of death in the 30–34 years age group, Victoria (1997–2003)



3.4.8 35–39 year age group

The top five causes of avoidable death among adults aged 35–39 years, in descending order of magnitude, were suicide, road traffic accidents, poisoning, IHD and breast cancer. These were very similar to the previous age group, with a minor reordering of the cause of death. Figure 18 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 35–39 age group that ranked among the top ten were colorectal cancer, HIV/AIDS, alcohol related conditions, skin cancer and epilepsy.

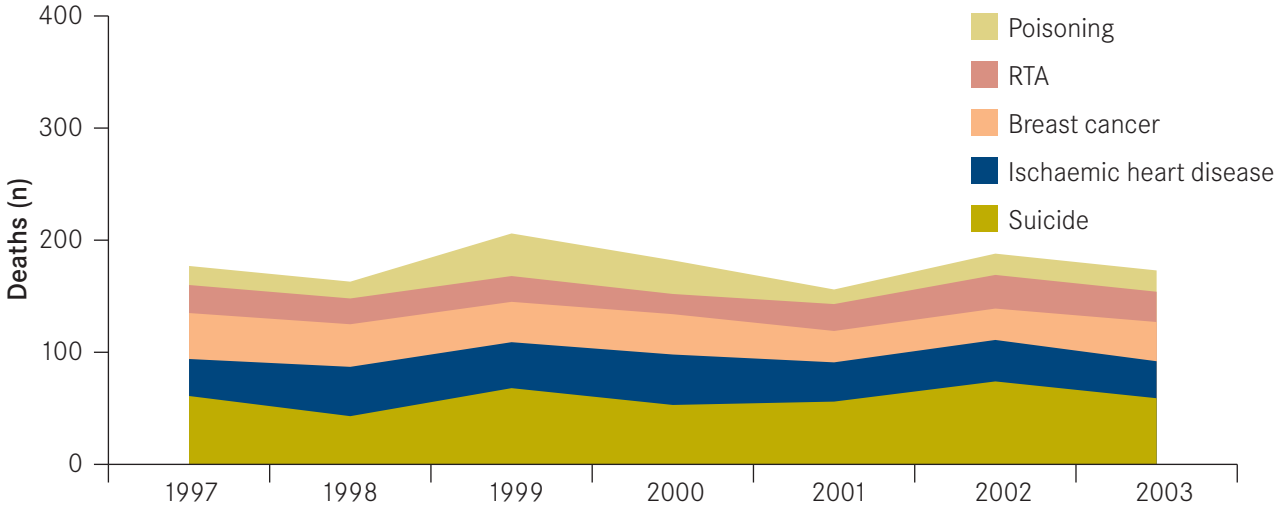
Figure 18. The five leading causes of death in the 35–39 years age group, Victoria (1997–2003)



3.4.9 40–44 year age group

The top five causes of avoidable death among adults aged 40–44 years, in descending order of magnitude, were suicide, IHD, breast cancer road traffic accidents and poisoning. These were very similar to the previous age group, with IHD and breast cancer becoming increasingly more prominent. Figure 19 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 40–44 age group that ranked among the top ten were alcohol related conditions, colorectal, lung and skin cancer and diabetes.

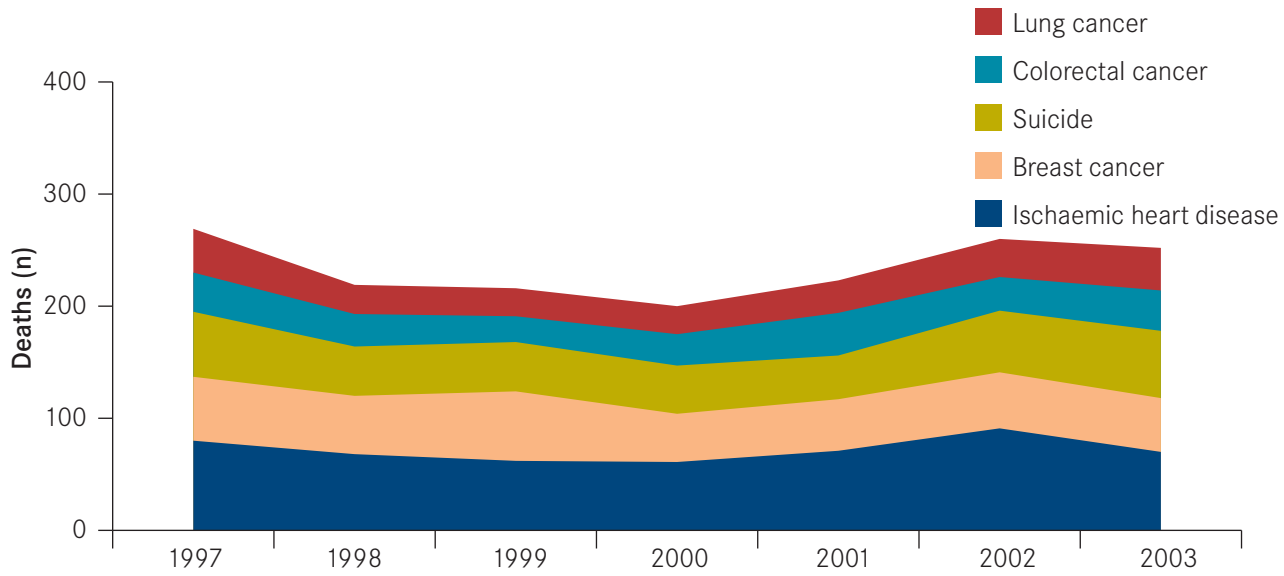
Figure 19. The five leading causes of death in the 40–44 years age group, Victoria (1997–2003)



3.4.10 45–49 years age group

The top five causes of avoidable death among adults aged 45–49 years, in descending order of magnitude, were IHD, breast cancer, suicide, colorectal and lung cancer. IHD and breast cancer were the leading cause of death in this age group. Two other important causes of avoidable death, colorectal and lung cancer appeared among the top five causes for the first time. Figure 20 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 45–49 age group that ranked among the top ten were road traffic accidents, alcohol related conditions, poisonings, skin and stomach cancers.

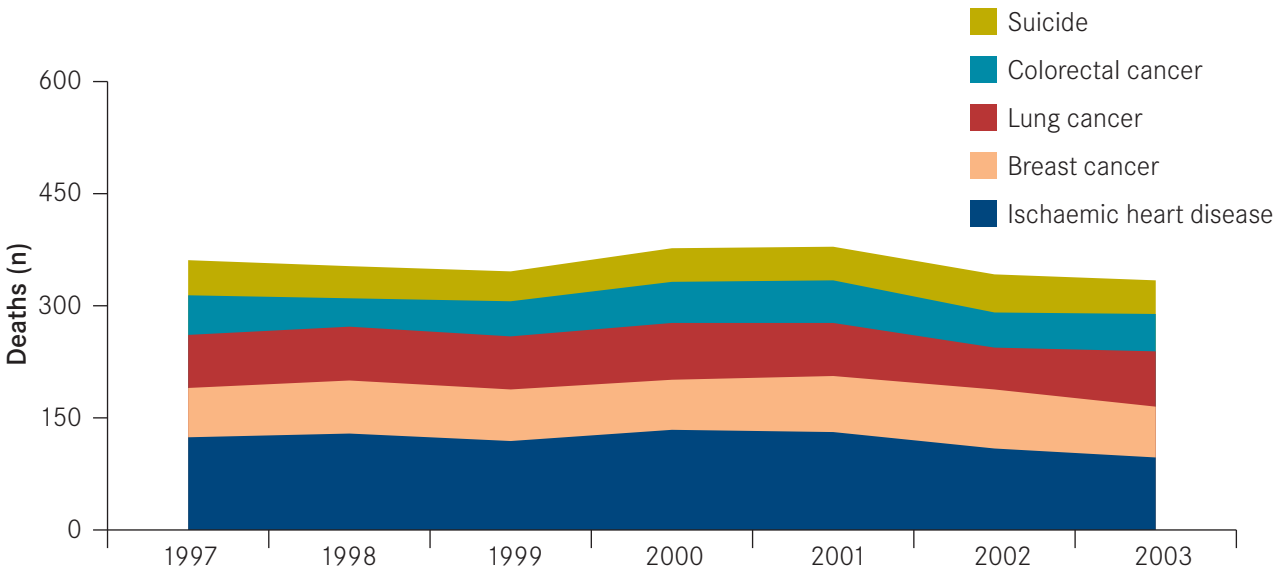
Figure 20. The five leading causes of death in the 45–49 years age group, Victoria (1997–2003)



3.4.11 50–54 years age group

The top five causes of avoidable death among adults aged 50–54 years, in descending order of magnitude, were IHD, breast cancer, lung and colorectal cancer and suicide. Lung and colorectal cancer overtook suicide as leading causes of avoidable death in this age group. Figure 21 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 50–54 age group that ranked among the top ten were alcohol related conditions, diabetes, road traffic accidents, stroke and skin cancer.

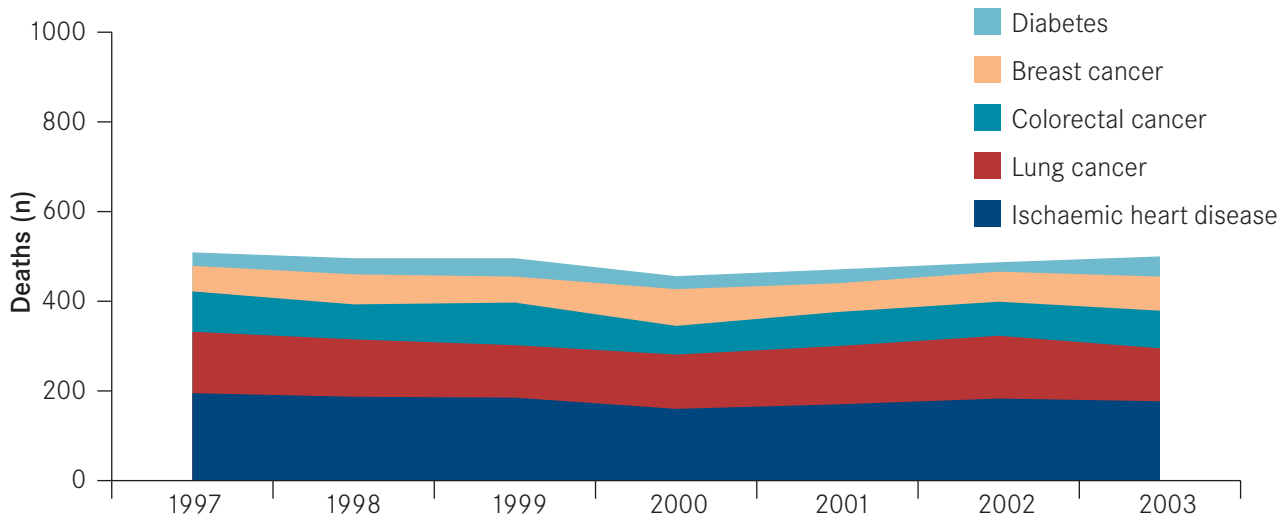
Figure 21. The five leading causes of death in the 50–54 years age group, Victoria (1997–2003)



3.4.12 55–59 years age group

The top five causes of avoidable death among adults aged 55–59 years, in descending order of magnitude, were IHD, lung, colorectal and breast cancer, and diabetes. Diabetes appeared for the first time among the top five leading causes of avoidable death replacing suicide in this age group. Figure 22 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 55–59 age group that ranked among the top ten were suicide, alcohol related conditions, COPD, stroke and skin cancer.

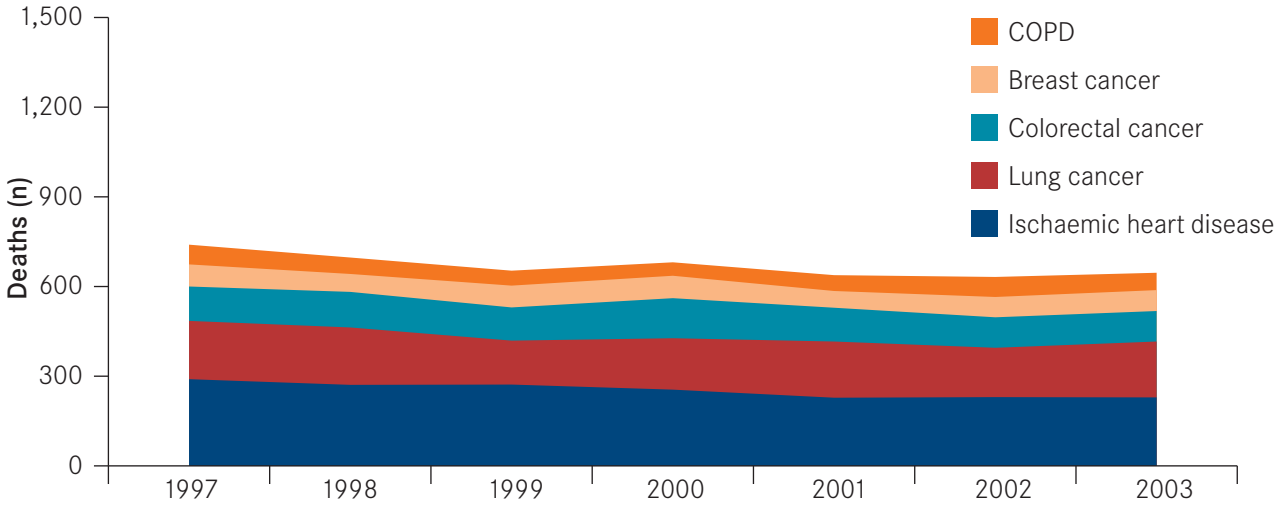
Figure 22. The five leading causes of death in the 55–59 years age group, Victoria (1997–2003)



3.4.13 60–64 years age group

The top five causes of avoidable death among adults aged 60–64 years, in descending order of magnitude, were IHD, lung, colorectal and breast cancer, and COPD. COPD appeared for the first time among the top five leading causes of avoidable death replacing diabetes in this age group. Figure 23 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 60–64 age group that ranked among the top ten were diabetes, stroke, alcohol related conditions, stomach and skin cancer.

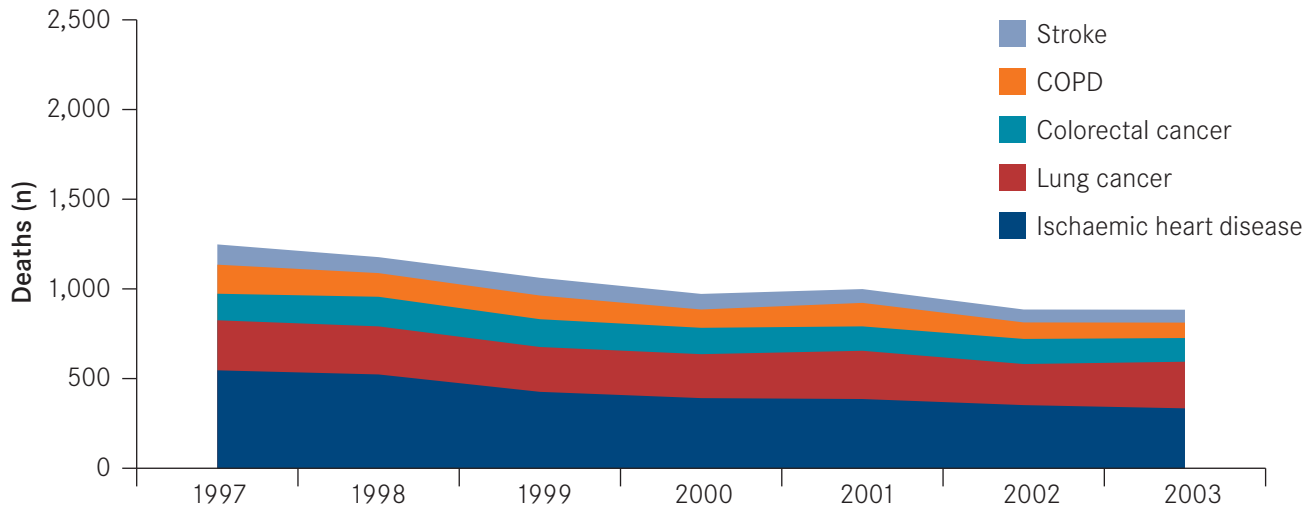
Figure 23. The five leading causes of death in the 60–64 years age group, Victoria (1997–2003)



3.4.14 65–69 years age group

The top five causes of avoidable death among adults aged 65–69 years, in descending order of magnitude, were IHD, lung and colorectal cancer, COPD and stroke. Stroke appeared for the first time among the leading causes of avoidable death replacing breast cancer, while COPD rose to the fourth leading cause in this age group. Figure 23 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 65–69 age group that ranked among the top ten were diabetes, breast and stomach cancer, hepatitis/liver cancer and skin cancer.

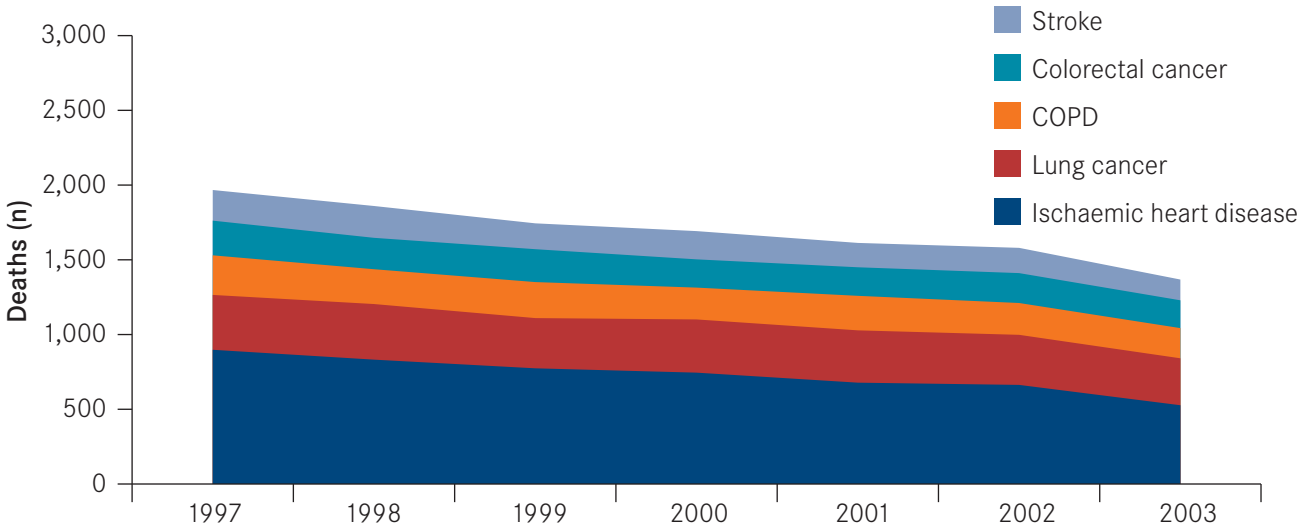
Figure 24. The five leading causes of death in the 65–69 years age group, Victoria (1997–2003)



3.4.15 70–74 years age group

The top five causes of avoidable death among adults aged 70–74 years, in descending order of magnitude, were IHD, lung cancer, COPD, colorectal cancer, and stroke. COPD became the third leading cause of avoidable death in this age group causing more deaths than colorectal cancer and stroke. Figure 23 shows the absolute numbers of avoidable deaths by cause by year between 1997 and 2003. The other causes of avoidable death in the 70–74 age group that ranked among the top ten were diabetes, breast and stomach cancers, hepatitis and liver cancer and skin cancer.

Figure 25. The five leading causes of death in the 70–74 years group, Victoria (1997–2003)



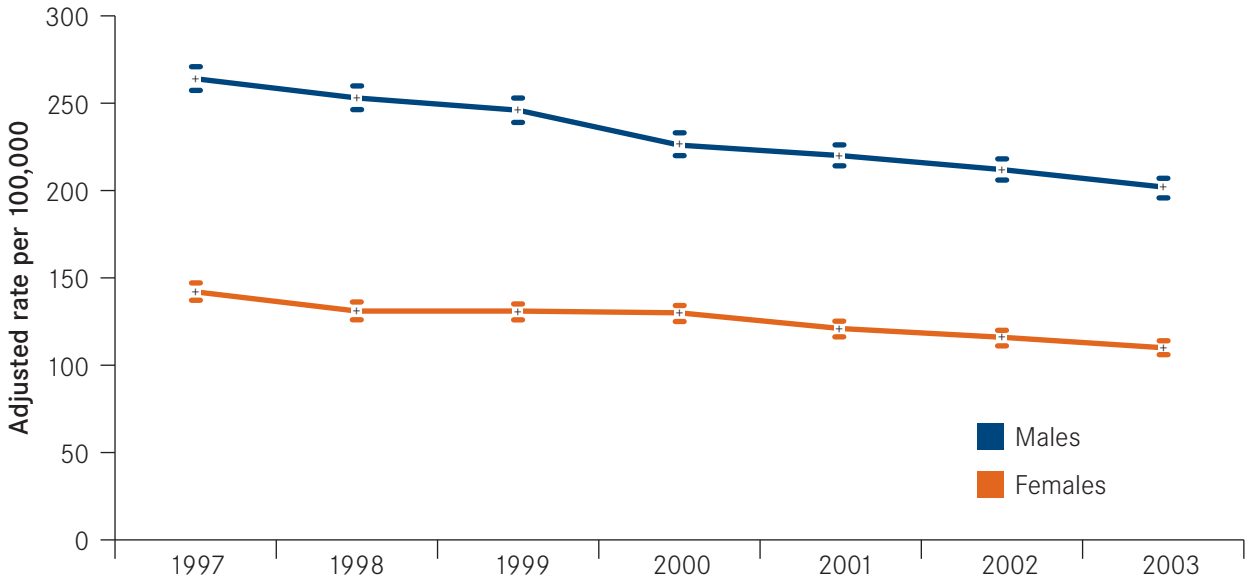
3.5 Trends in total AM rates in Victoria between 1997 and 2003

This section reports on how total AM rates for males and females have changed over time between 1997 and 2003. It also explores differences in total AM rates by rurality, socioeconomic status and accessibility to services.

3.5.1 Trends in total AM rates by sex, Victoria (1997–2003)

- The total AM rate was significantly higher (75 to 100 per cent) in males compared to females, in all seven years (Figure 26).
- Overall there was a significant decline in the total AM rate between 1997 and 2003 in both males and females.
- The total AM rate in males in 2003 was 202 per 100,000 (95% CI; 196 to 207), which was significantly lower than the rate in 1997 of 264 per 100,000 (95% CI; 257 to 271).
- If the current trend continues, we would expect the total AM rate in males to decline to 160 per 100,000 by 2008.
- The total AM rate in females in 2003 was 110 (95% CI; 106 to 114), which was significantly lower than the rate in 1997 of 142 per 100,000 (95% CI; 137 to 147).
- If the current trend continues, we would expect the total AM rate in females to decline to 91 per 100,000 by 2008.

Figure 26. Trends in total AM rates (95% CI) by sex, Victoria (1997–2003)



3.5.2 Trends in total AM rates by sex and rurality, Victoria (1997–2003)

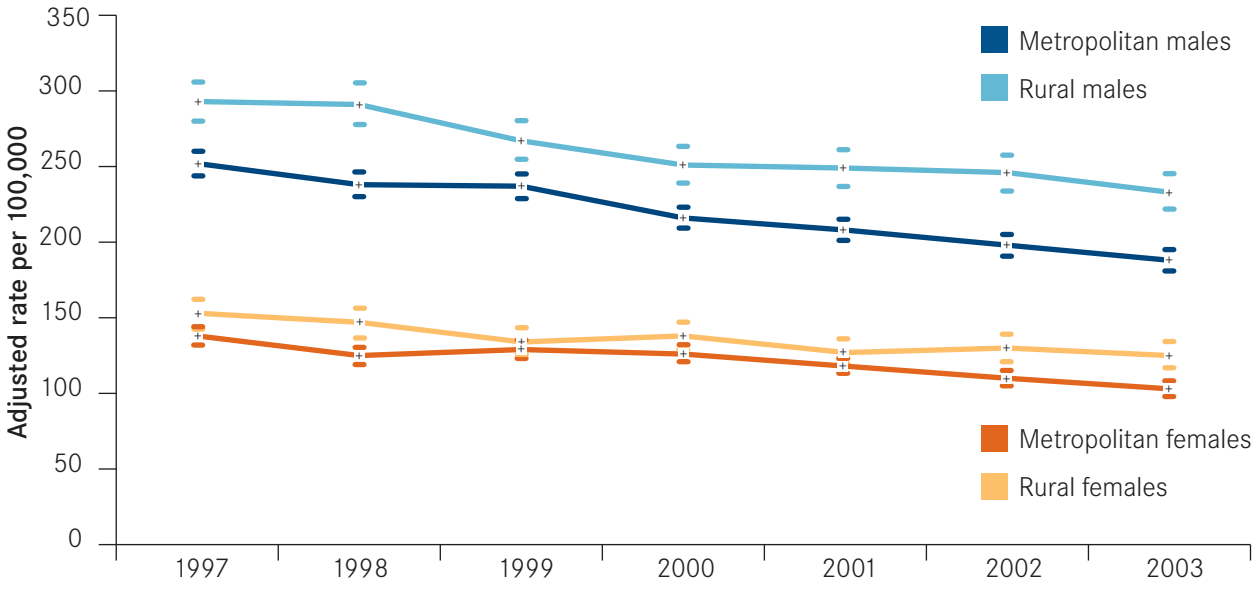
Males

- The total AM rate was significantly higher (13 to 24 per cent) in males who lived in **rural** compared to **metropolitan** LGAs in all seven years (Figure 27).
- The total AM rate in males from **rural** LGAs in 2003 was 233 per 100,000 (95% CI; 222 to 245), which was significantly lower than the rate in 1997 of 293 per 100,000 (95% CI; 280 to 306).
- The total AM rate in males from **metropolitan** LGAs in 2003 was 188 per 100,000 (95% CI; 181 to 195), which was significantly lower than the rate in 1997 of 252 per 100,000 (95% CI; 244 to 260).

Females

- The total AM rate was 4 to 21 per cent higher in females who lived in **rural** compared to **metropolitan** LGAs, but this was only significantly different in 1998, 2002 and 2003.
- The total AM rate in females from **rural** LGAs in 2003 was 125 per 100,000 (95% CI; 117 to 134), which was significantly lower than the rate in 1997 of 153 per 100,000 (95% CI; 143 to 162).
- The total AM rate in females from **metropolitan** LGAs in 2003 was 103 per 100,000 (95% CI; 98 to 108), which was significantly lower than the rate in 1997 of 138 per 100,000 (95% CI; 132 to 144).

Figure 27. Trends in total AM rates (95% CI) by sex and rurality, Victoria (1997–2003)



3.5.3 Trends in total AM rates by sex and socioeconomic status, Victoria (1997–2003)

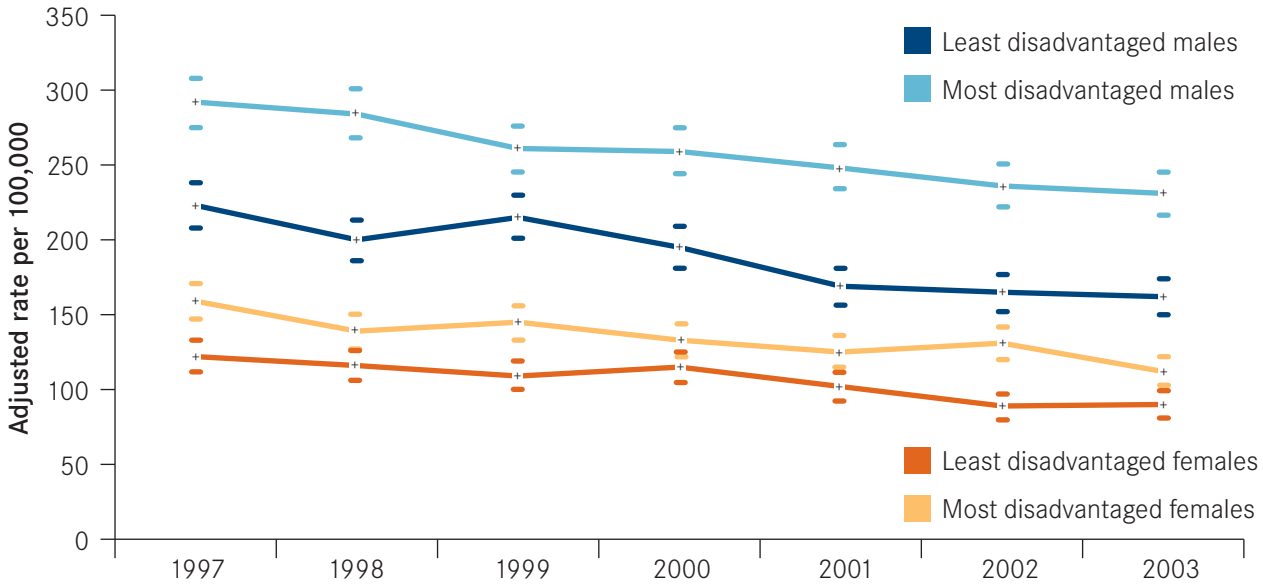
Males

- The total AM rate was significantly higher (21 to 47 per cent) in males who lived in the **most disadvantaged** compared to the **least disadvantaged** LGAs in all seven years, (Figure 28).
- The total AM rate in males from the **most disadvantaged** LGAs in 2003 was 231 per 100,000 (95% CI; 216 to 245), which was significantly lower than the rate in 1997 of 292 per 100,000 (95% CI; 275 to 308).
- The total AM rate in males from the **least disadvantaged** LGAs in 2003 was 162 per 100,000 (95% CI; 150 to 174), which was significantly lower than the rate in 1997 of 223 per 100,000 (95% CI; 208 to 238).

Females

- The total AM rate was 16 to 48 per cent higher in females who lived in the **most** compared to the **least disadvantaged** LGAs and this was significant in all years except the year 2000.
- The total AM rate in females from the **most disadvantaged** LGAs in 2003 was 112 per 100,000 (95% CI; 103 to 122) which was significantly lower than the rate in 1997 of 159 (147, 171).
- The total AM rate in females from the **least disadvantaged** LGAs in 2003 was 90 per 100,000 (95% CI; 81 to 99), which was significantly lower than the rate in 1997 of 122 per 100,000 (95% CI; 112 to 133).

Figure 28. Trends in total AM rates (95% CI) by sex and IRSED category, Victoria (1997–2003)



3.5.4 Trends in total AM rates by sex and accessibility to services, Victoria (1997–2003)

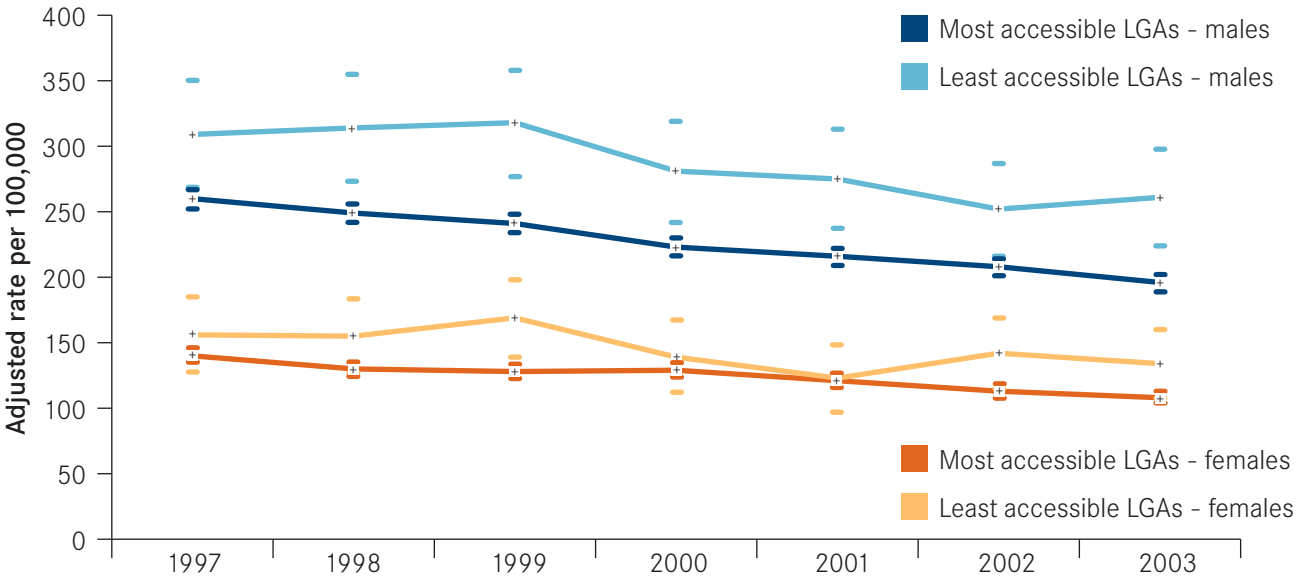
Males

- The total AM rate was significantly higher (19 to 34 per cent) in males who lived in the **least** compared to the **most accessible** LGAs in all seven years, (Figure 29).
- The total AM rate in males from the **least accessible** LGAs in 2003 was 261 per 100,000 (95% CI; 224 to 298), which was significantly lower than the rate in 1997 of 309 per 100,000 (95% CI; 269 to 350).
- The total AM rate in males from the **most accessible** LGAs in 2003 was 196 per 100,000 (95% CI; 189 to 202), which was significantly lower than the rate in 1997 of 260 per 100,000 (95% CI; 252 to 267).

Females

- The total AM rate was 1 to 31 per cent higher in females who lived in the **least** compared to the **most accessible** LGAs, but this was only significant in the year 1999.
- The total AM rate in females from the **least accessible** LGAs in 2003 was 134 per 100,000 (95% CI; 108 to 160), which was not significantly lower than the rate in 1997 of 156 per 100,000 (95% CI; 128 to 185).
- The total AM rate in females from the **most accessible** LGAs in 2003 was 108 per 100,000 (95% CI; 104 to 113), which was significantly lower than the rate in 1997 of 140 per 100,000 (95% CI; 135 to 146).

Figure 29. Trends in total AM rates (95% CI) by sex and ARIA category, Victoria (1997–2003)



Key messages:

Males had significantly higher AM rates due to all causes than females. Between 1997 and 2003 the total AM rates declined significantly in both males and females. If the trend continues, rates would be expected to further decline.

The highest rates of total AM among males were in those who lived in rural LGAs, were in the lowest most disadvantaged socioeconomic group, or had the least access to services including health care.

While the highest rates of total AM among females were in the lowest most disadvantaged socioeconomic group, females who lived in rural LGAs only had significantly higher rates in 1998, 2002 and 2003, three of the seven years.

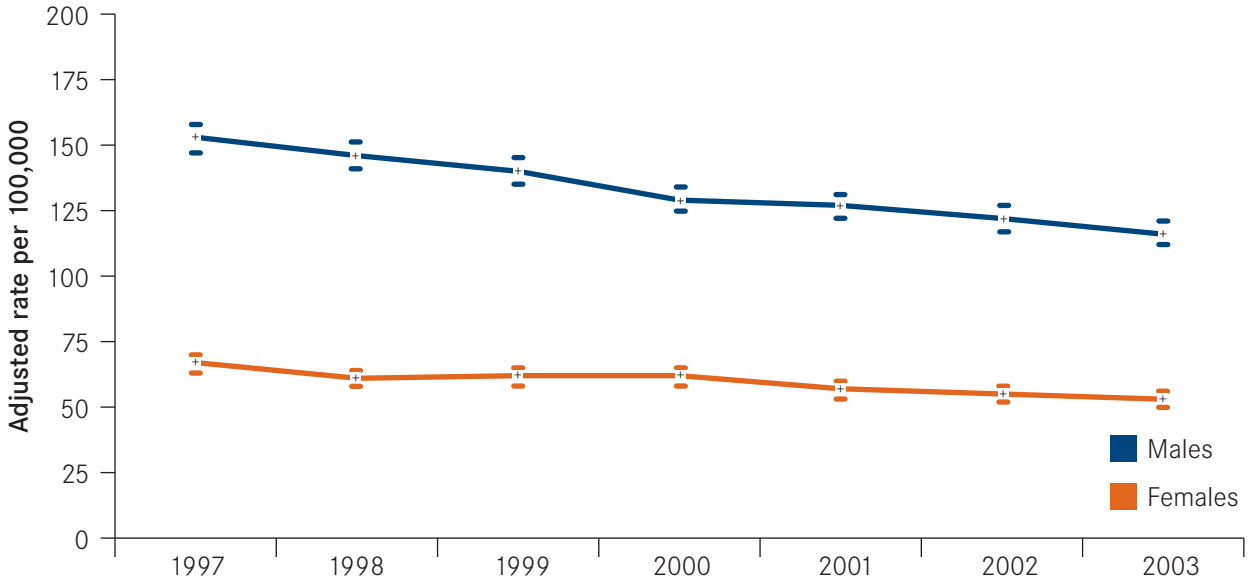
3.6 Trends in primary AM rates in Victoria (1997–2003)

This section reports on how primary avoidable mortality (PAM) rates for males and females have changed between 1997 and 2003. It also explores differences in PAM rates by rurality, socioeconomic status and accessibility to services. PAM includes conditions that are preventable by addressing the risk or protective factors, whether through individual behavior change (lifestyle modification) or population level intervention (public health policy).

3.6.1 Trends in PAM rates by sex, Victoria (1997–2003)

- The PAM rate was significantly higher (108 to 127 per cent) in males compared to females, in all seven years (Figure 30).
- Overall there was a significant decline in the PAM rate between 1997 and 2003 in both males and females.
- The PAM rate in males in 2003 was 116 per 100,000 (95% CI; 112 to 121), which was significantly lower than the rate in 1997 of 153 per 100,000 (95% CI; 147 to 158).
- If the current trend continues, we would expect the PAM rate in males to decline to 91 per 100,000 by 2008.
- The PAM rate in females in 2003 was 53 per 100,000 (95% CI; 50 to 56), which was significantly lower than the rate in 1997 of 67 per 100,000 (95% CI; 63 to 70).
- If the current trend continues, we would expect the PAM rate in females to decline to 45 per 100,000 by 2008.

Figure 30. Trends in PAM rates (95% CI) by sex, Victoria (1997–2003)



3.6.2 Trends in PAM rates in Victoria (1997–2003), by sex and rurality

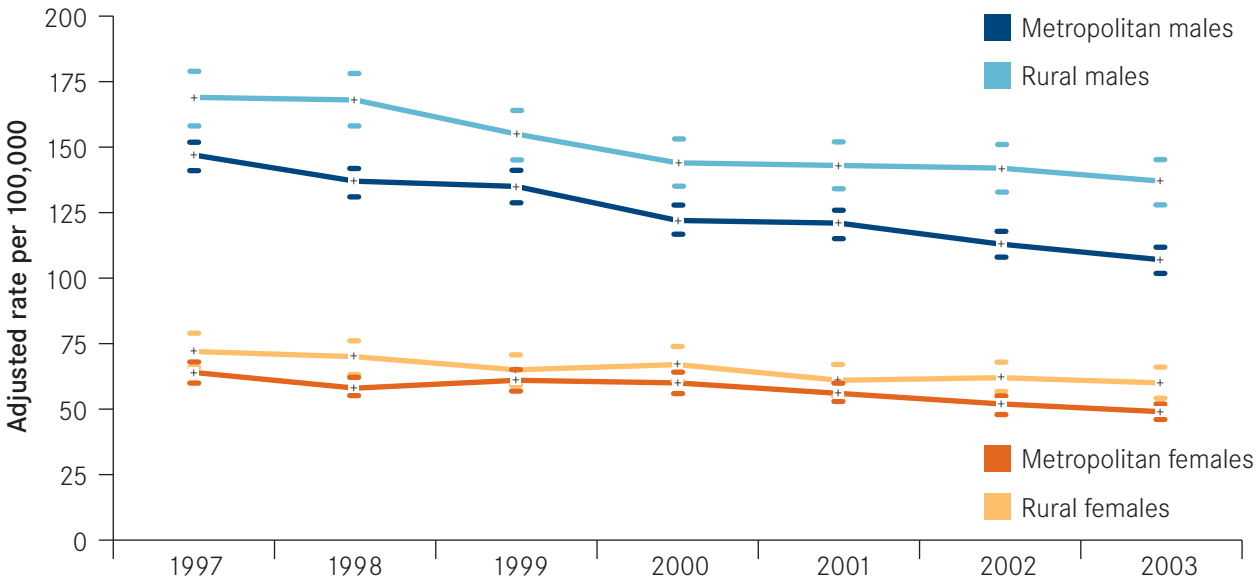
Males

- The PAM rate was significantly higher (15 to 28 per cent) in males from **rural** compared to **metropolitan** LGAs in all seven years (Figure 31).
- The PAM rate in males from **rural** LGAs in 2003 was 137 per 100,000 (95% CI; 128 to 145), which was significantly lower than the rate in 1997 of 169 per 100,000 (95% CI; 158 to 179).
- The PAM rate in males from **metropolitan** LGAs in 2002 was 107 per 100,000 (95% CI; 102 to 112), which was significantly lower than the rate in 1997 of 147 per 100,000 (95% CI; 141 to 153).

Females

- The PAM rate was 6 to 22 per cent higher in females from **rural** compared to **metropolitan** LGAs, but this was only significant in 1998, 2002 and 2003.
- The PAM rate in females from **rural** LGAs in 2003 was 60 per 100,000 (95% CI; 54 to 65), which was not significantly lower than the rate in 1997 of 72 per 100,000 (95% CI; 66 to 79).
- The PAM rate in females from **metropolitan** LGAs in 2003 was 49 per 100,000 (95% CI; 45 to 52), which was significantly lower than the rate in 1997 of 64 per 100,000 (95% CI; 60 to 68).

Figure 31. Trends in PAM rates (95% CI) by sex and rurality, Victoria (1997–2003)



3.6.3 Trends in PAM rates in Victoria (1997–2003), by sex and socioeconomic status

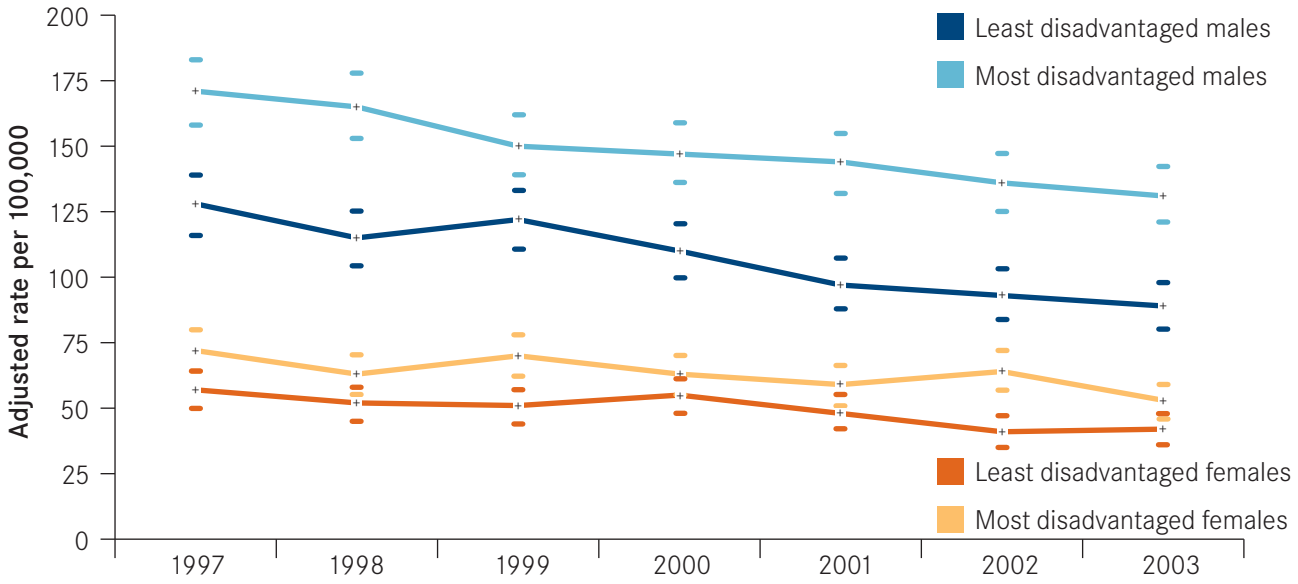
Males

- The PAM rate was significantly higher (23 to 49 per cent) in males from the **most** compared to the **least disadvantaged** LGAs in all seven years (Figure 32).
- The PAM rate in males from the **most disadvantaged** LGAs in 2003 was 131 per 100,000 (95% CI; 121 to 142), which was significantly lower than the rate in 1997 of 171 per 100,000 (95% CI; 158 to 183).
- The PAM rate in males from the **least disadvantaged** LGAs in 2003 was 89 per 100,000 (95% CI; 80 to 98), which was significantly lower than the rate in 1997 of 128 per 100,000 (95% CI; 116 to 139).

Females

- The PAM rate was 16 to 56 per cent higher in females from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1999 and 2002.
- The PAM rate in females from the **most disadvantaged** LGAs in 2003 was 53 per 100,000 (95% CI; 46 to 59), which was significantly lower than the rate in 1997 of 72 per 100,000 (95% CI; 64 to 80).
- The PAM rate in females from the **least disadvantaged** LGAs in 2003 was 42 per 100,000 (95% CI; 36 to 48), which was significantly lower than the rate in 1997 of 57 per 100,000 (95% CI; 50 to 64).

Figure 32. Trends in PAM rates (95% CI) by sex and IRSED category, Victoria (1997–2003)



3.6.4 Trends in PAM rates in Victoria (1997–2003), by sex and accessibility to services

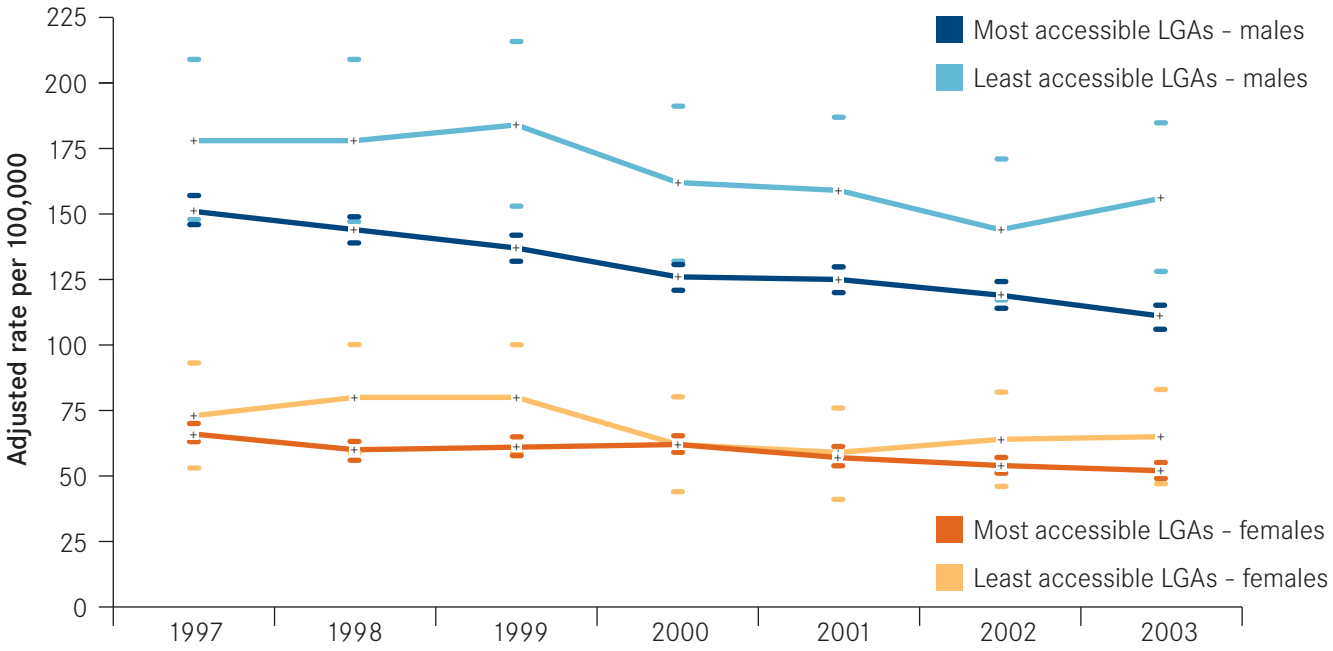
Males

- The PAM rate was 18 to 40 per cent higher in males from the **least** compared to the **most accessible** LGAs, but this was only significant in 1999, 2000 and 2003 (Figure 33).
- PAM rate in males from the **least accessible** LGAs in 2003 was 156 per 100,000 (95% CI; 128 to 185), which was not significantly lower than the rate in 1997 of 178 per 100,000 (95% CI; 148 to 209).
- The PAM rate in males from the **most accessible** LGAs in 2003 was 111 per 100,000 (95% CI; 106 to 115), which was significantly lower than the rate in 1997 of 151 per 100,000 (95% CI; 146 to 157).

Females

- There were no significant differences in PAM rates between females with the least access to services compared to females with the most access to services.
- The PAM rate in females from the **least accessible** LGAs in 2003 was 65 per 100,000 (95% CI; 47 to 83), which was not significantly lower than the rate in 1997 of 73 per 100,000 (95% CI; 53 to 93).
- The PAM rate in females from the **most accessible** LGAs in 2003 was 52 per 100,000 (95% CI; 49 to 55), which was significantly lower than the rate in 1997 of 66 per 100,000 (95% CI; 63 to 70).

Figure 33. Trends in PAM rates (95% CI) by sex and ARIA category, Victoria (1997–2003)



Key messages:

Primary avoidable mortality (PAM) includes conditions that are preventable by addressing the risk or protective factors, whether through lifestyle modification or public health policy.

Males had significantly higher PAM rates than females. Between 1997 and 2003 PAM rates declined significantly in both males and females. If the trend continues, rates would be expected to further decline.

The highest rates of PAM among males were in those who lived in rural LGAs or were in the lowest most disadvantaged socioeconomic group. Males who had the least access to services, including health care, also had higher PAM rates in 1999, 2000 and 2003.

PAM rates among females were only higher in the lowest most disadvantaged socioeconomic group in 1999 and 2002, and in those who lived in rural LGAs in 1998, 2002 and 2003.

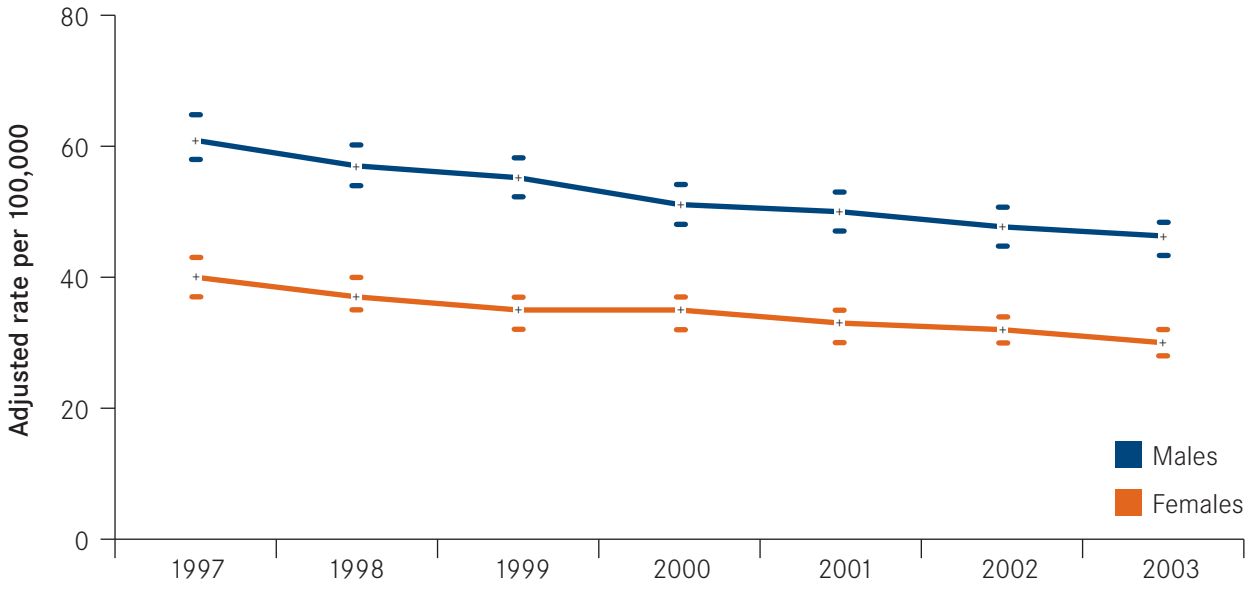
3.7 Trends in secondary AM rates in Victoria (1997-2003)

This section reports on how secondary avoidable mortality (SAM) rates for males and females have changed between 1997 and 2003. It also explores differences in SAM rates by rurality, socioeconomic status and accessibility to services. SAM includes conditions that respond to early detection and treatment, typically in a primary health care setting.

3.7.1 Trends in SAM rates by sex, Victoria (1997–2003)

- The SAM rate was significantly higher (47 to 58 per cent) in males compared to females, in all seven years (Figure 34).
- Overall there was a significant decline in the SAM rate between 1997 and 2003 in both males and females.
- The SAM rate in males in 2003 was 46 per 100,000 (95% CI; 43 to 48), which was significantly lower than the rate in 1997 of 61 per 100,000 (95% CI; 58 to 65).
- If the current trend continues, we would expect the SAM rate in males to decline to 36 per 100,000 by 2008.
- The SAM rate in females in 2003 was 30 (95% CI; 28 to 32), which was significantly lower than the rate in 1997 of 40 (95% CI; 37 to 43).
- If the current trend continues, we would expect the SAM rate in females to decline to 24 per 100,000 by 2008.

Figure 34. Trends in SAM rates (95% CI) by sex, Victoria (1997–2003)



3.7.2 Trends in SAM rates in Victoria (1997–2003), by sex and rurality

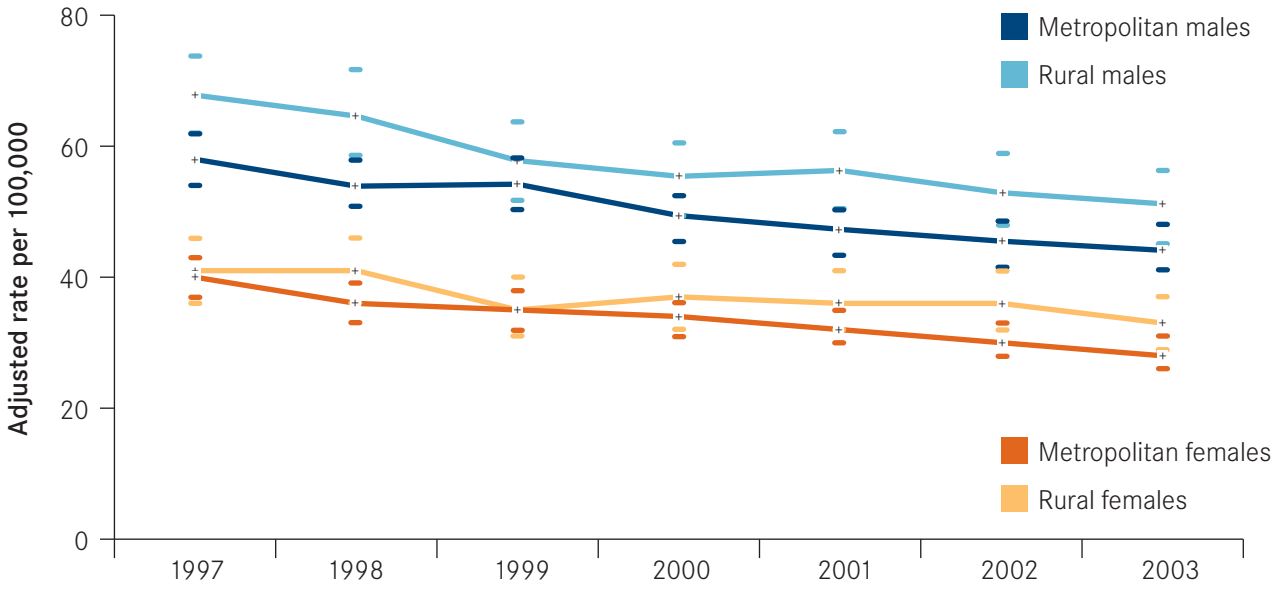
Males

- The SAM rate was 7 to 20 per cent higher in males from **rural** compared to **metropolitan** LGAs, but this was only significant in 1998 (Figure 35).
- The SAM rate in males from **rural** LGAs in 2003 was 51 per 100,000 (95% CI; 45 to 56), which was significantly lower than the rate in 1997 of 68 per 100,000 (95% CI; 62 to 74).
- The SAM rate in males from **metropolitan** LGAs in 2003 was 44 per 100,000 (95% CI; 41 to 48), which was significantly lower than the rate in 1997 of 58 per 100,000 (95% CI; 54 to 62).

Females

- There were no significant differences in SAM rates between females who lived in **rural** LGAs and females who lived in **metropolitan** LGAs.
- The SAM rate in females from **rural** LGAs in 2003 was 33 per 100,000 (95% CI; 29 to 37), which was not significantly lower than the rate in 1997 of 41 per 100,000 (95% CI; 36 to 46).
- The SAM rate in females from **metropolitan** LGAs in 2003 was 28 per 100,000 (95% CI; 26 to 31), which was significantly lower than the rate in 1997 of 40 per 100,000 (395% CI; 7 to 43).

Figure 35. Trends in SAM rates (95% CI) by sex and rurality, Victoria (1997–2003)



3.7.3 Trends in SAM rates in Victoria (1997–2003), by sex and socioeconomic status

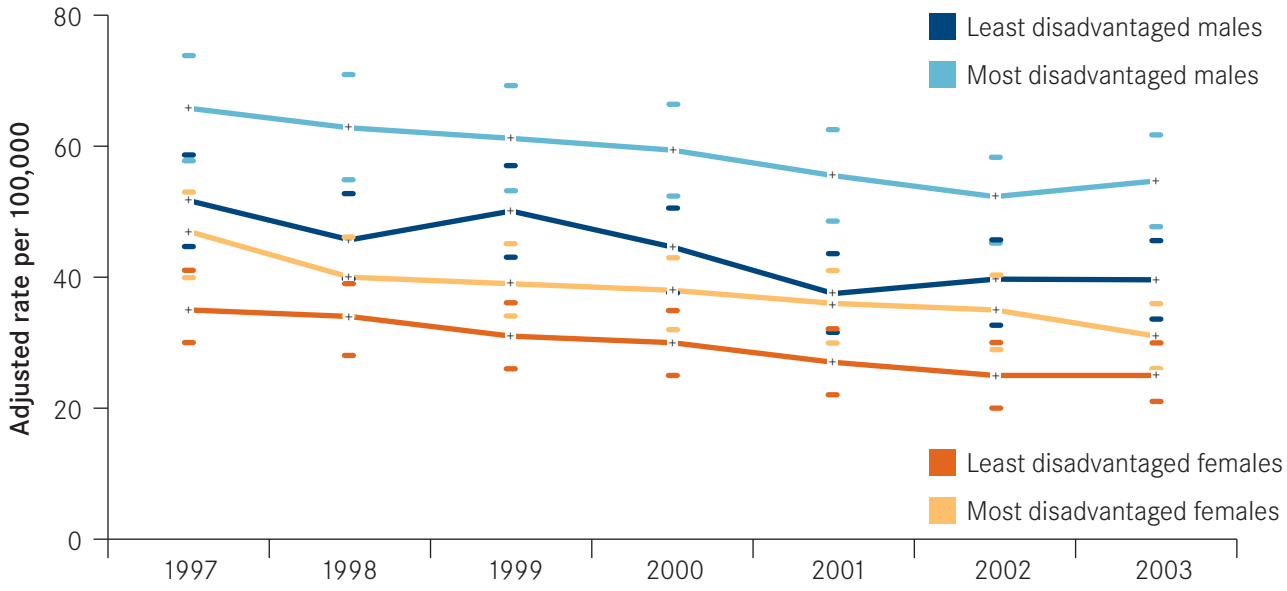
Males

- The SAM rate was 22 to 48 per cent higher in males from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1998, 2000, 2001, and 2003 (Figure 36).
- The SAM rate in males from the **most disadvantaged** LGAs in 2003 was 55 per 100,000 (95% CI; 48 to 62), which was not significantly lower than the rate in 1997 of 66 per 100,000 (58 to 74).
- The SAM rate in males from the **least disadvantaged** LGAs in 2003 was 40 per 100,000 (95% CI; 34 to 46), which was significantly lower than the rate in 1997 of 52 per 100,000 (95% CI; 45 to 59).

Females

- There were no significant differences in SAM rates between females from the **most** compared to females from the **least disadvantaged** LGAs for any of the years.
- The SAM rate in females from the **most disadvantaged** LGAs in 2003 was 31 per 100,000 (95% CI; 26 to 36), which was significantly lower than the rate in 1997 of 47 per 100,000 (95% CI; 40 to 53).
- The SAM rate in females from the **least disadvantaged** LGAs in 2003 was 25 per 100,000 (95% CI; 21 to 30), which was significantly lower than the rate in 1997 of 35 per 100,000 (95% CI; 30 to 41).

Figure 36. Trends in SAM rates (95% CI) by sex and IRSED category, Victoria (1997–2003)



3.7.4 Trends in SAM rates in Victoria (1997–2003), by sex and accessibility to services

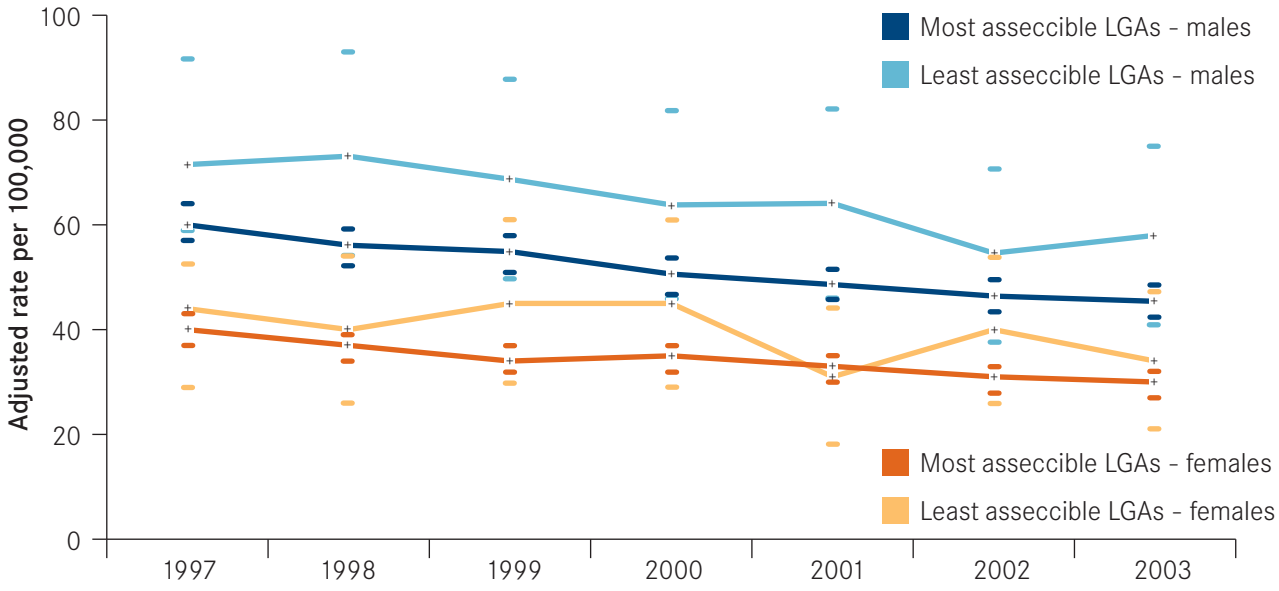
Males

- There were no significant differences in SAM rates between males with the least access to services compared to males with the most access to services (Figure 37).
- The SAM rate in males from the **least accessible** LGAs in 2003 was 58 per 100,000 (95% CI; 41 to 75), which was not significantly lower than the rate in 1997 of 72 per 100,000 (95% CI; 53 to 91).
- The SAM rate in males from the **most accessible** LGAs in 2003 was 45 per 100,000 (95% CI; 42 to 48), which was significantly lower than the rate in 1997 of 60 per 100,000 (95% CI; 57 to 64).

Females

- There were no significant differences in SAM rates between females with the least access to services compared to females with the most access to services.
- The SAM rate in females from the **least accessible** LGAs in 2003 was 34 per 100,000 (95% CI; 21 to 47), which was not significantly lower than the rate in 1997 of 44 per 100,000 (95% CI; 29 to 59).
- The SAM rate in females from the **most accessibl**e LGAs in 2003 was 30 per 100,000 (95% CI; 27 to 32), which was significantly lower than the rate in 1997 of 40 per 100,000 (95% CI; 37 to 43).

Figure 37. Trends in SAM rates (95% CI) by sex and ARIA category, Victoria (1997–2003)



Key messages:

Secondary avoidable mortality (SAM) includes conditions that respond to early detection and treatment, typically in a primary health care setting.

Males had significantly higher SAM rates than females. Between 1997 and 2003 SAM rates declined significantly in both males and females. If the trend continues, rates would be expected to further decline.

Males in the lowest most disadvantaged socioeconomic group had the highest SAM rates in 1998, 2000, 2001 and 2003, but not in the other three years. By contrast there were no significant differences between males who lived in rural LGAs compared to males who lived in metropolitan LGAs after 1998. There were also no significant differences in SAM rates among males based on accessibility to services.

There were no significant differences in SAM rates among females by rurality, socioeconomic status, or accessibility to services including health care.

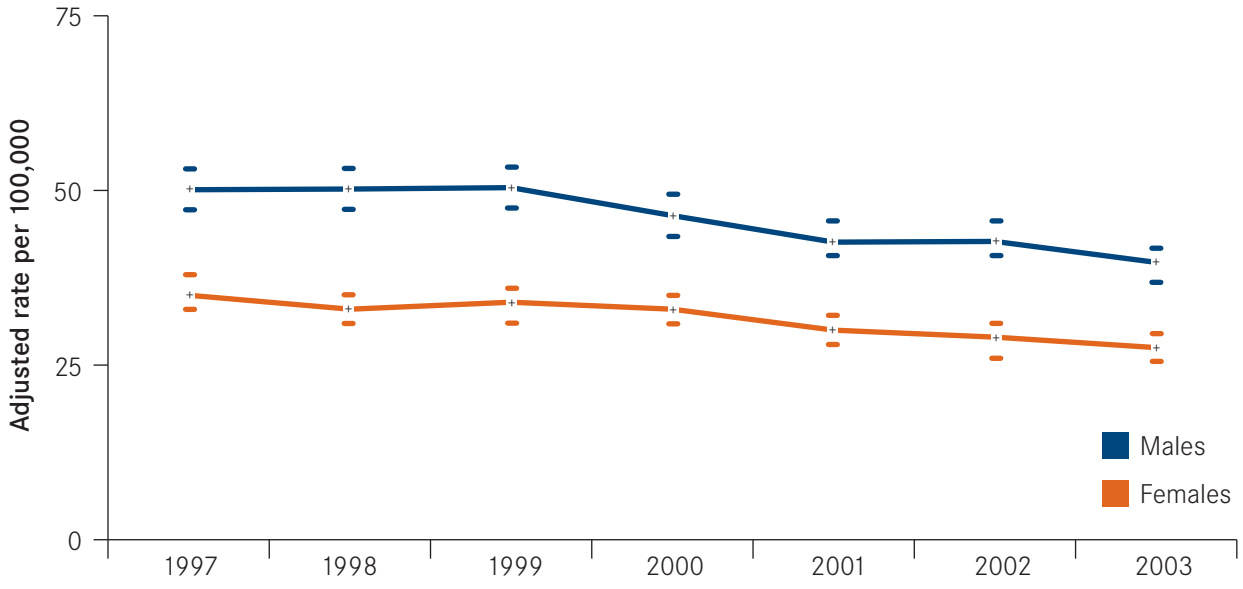
3.8 Trends in tertiary AM rates in Victoria (1997–2003)

This section reports on how tertiary avoidable mortality (TAM) rates for males and females have changed between 1997 and 2003. It also explores differences in TAM rates by rurality, socioeconomic status and accessibility to services. TAM includes conditions whose case fatality rate can be significantly reduced by existing medical or surgical treatments typically, but not necessarily, in a hospital setting, even when the disease process is fully developed.

3.8.1 Trends in TAM rates by sex, Victoria (1997–2003)

- The TAM rate was significantly higher (41 to 53 per cent) in males compared to females in all seven years (Figure 38).
- Overall there was a significant decline in the TAM rate between 1997 and 2003 in both males and females.
- The TAM rate in males in 2003 was 40 per 100,000 (95% CI; 37 to 42), which was significantly lower than the rate in 1997 of 50 per 100,000 (95% CI; 47 to 53).
- If the current trend continues, we would expect the TAM rate in males to decline to 33 per 100,000 by 2008.
- The TAM rate in females in 2003 was 28 per 100,000 (95% CI; 26 to 30), which was significantly lower than the rate in 1997 of 35 per 100,000 (95% CI; 33 to 38).
- If the current trend continues, we would expect the TAM rate in females to decline to 23 per 100,000 by 2008.

Figure 38. Trends in TAM rates (95% CI) by sex, Victoria (1997–2003)



3.8.2 Trends in TAM rates in Victoria (1997–2003), by sex and rurality

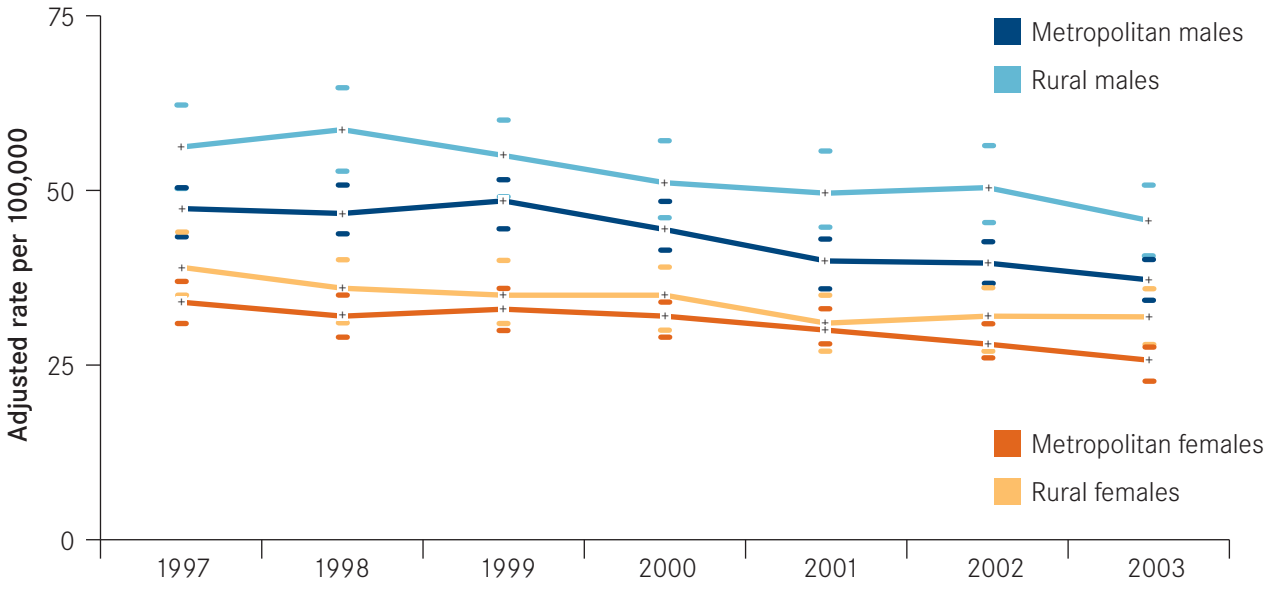
Males

- The TAM rate was 13 to 27 per cent higher in males from **rural** compared to **metropolitan** LGAs, but this was only significant in 1998, 2001, 2002 and 2003 (Figure 39).
- The TAM rate in males from **rural** LGAs in 2003 was 45 per 100,000 (95% CI; 39 to 50), which was significantly lower than the rate in 1997 of 56 per 100,000 (95% CI; 50 to 62).
- The TAM rate in males from **metropolitan** LGAs in 2003 was 37 per 100,000 (95% CI; 34 to 40), which was significantly lower than the rate in 1997 of 47 per 100,000 (95% CI; 43 to 50).

Females

- The TAM rate was 5 to 24 per cent higher in females from **rural** compared to **metropolitan** LGAs, but this was only significant in 2003.
- The TAM rate in females from **rural** LGAs in 2003 was 32 per 100,000 (95% CI; 28 to 36), which was not significantly lower than the rate in 1997 of 39 per 100,000 (95% CI; 35 to 44).
- The TAM rate in females from **metropolitan** LGAs in 2003 was 26 per 100,000 (95% CI; 23 to 28), which was significantly lower than the rate in 1997 of 34 per 100,000 (95% CI; 31 to 37).

Figure 39. Trends in TAM rates (95% CI) by sex and rurality, Victoria (1997–2003)



3.8.3 Trends in TAM rates in Victoria (1997–2003), by sex and socioeconomic status

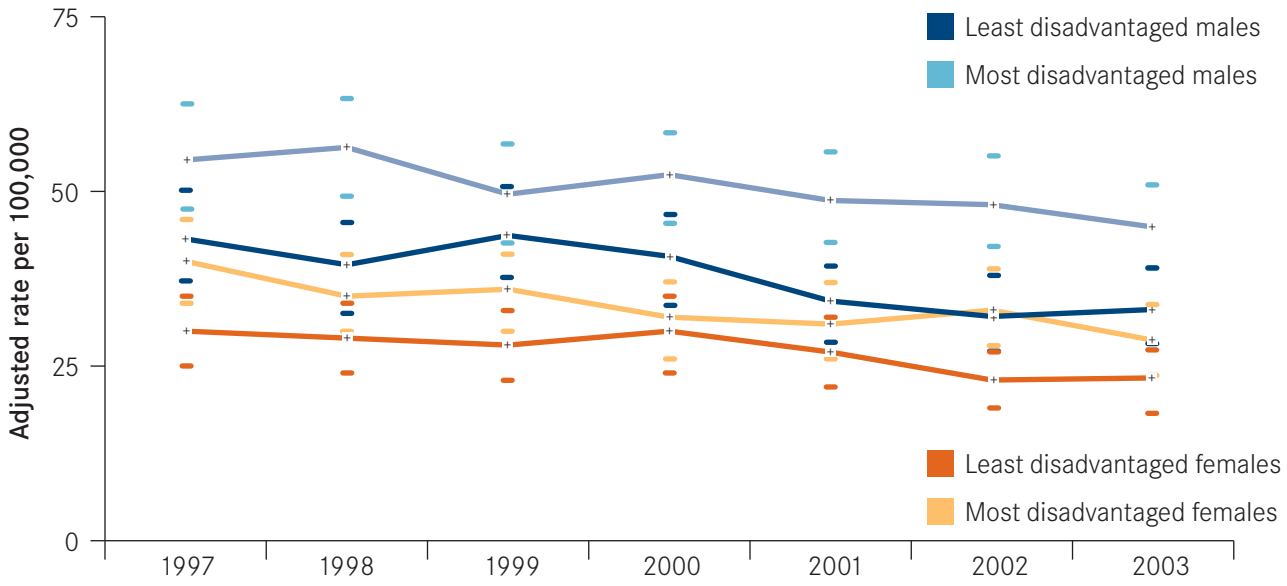
Males

- The TAM rate was 14 to 50 per cent higher in males from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1998, 2001 and 2002 (Figure 40).
- The TAM rate in males from the **most disadvantaged** LGAs in 2003 was 45 per 100,000 (95% CI; 39 to 51), which was not significantly lower than the rate in 1997 of 55 per 100,000 (95% CI; 48 to 63).
- The TAM in males from the **least disadvantaged** LGAs in 2003 was 33 per 100,000 (95% CI; 28 to 39), which was not significantly lower than the rate in 1997 of 43 per 100,000 (95% CI; 37 to 50).

Females

- The TAM rate was 6 to 43 per cent higher in females from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 2002.
- The TAM rate in females from the **most disadvantaged** LGAs in 2003 was 29 per 100,000 (95% CI; 24 to 34), which was significantly lower than the rate in 1997 of 40 per 100,000 (95% CI; 34 to 46).
- The TAM rate in females from the **least disadvantaged** LGAs in 2003 was 23 per 100,000 (95% CI; 18 to 27), which was not significantly lower than the rate in 1997 of 30 per 100,000 (95% CI; 25 to 35).

Figure 40. Trends in TAM rates (95% CI) by sex and IRSED category, Victoria (1997–2003)



3.8.4 Trends in TAM rates in Victoria (1997–2003), by sex and accessibility to services

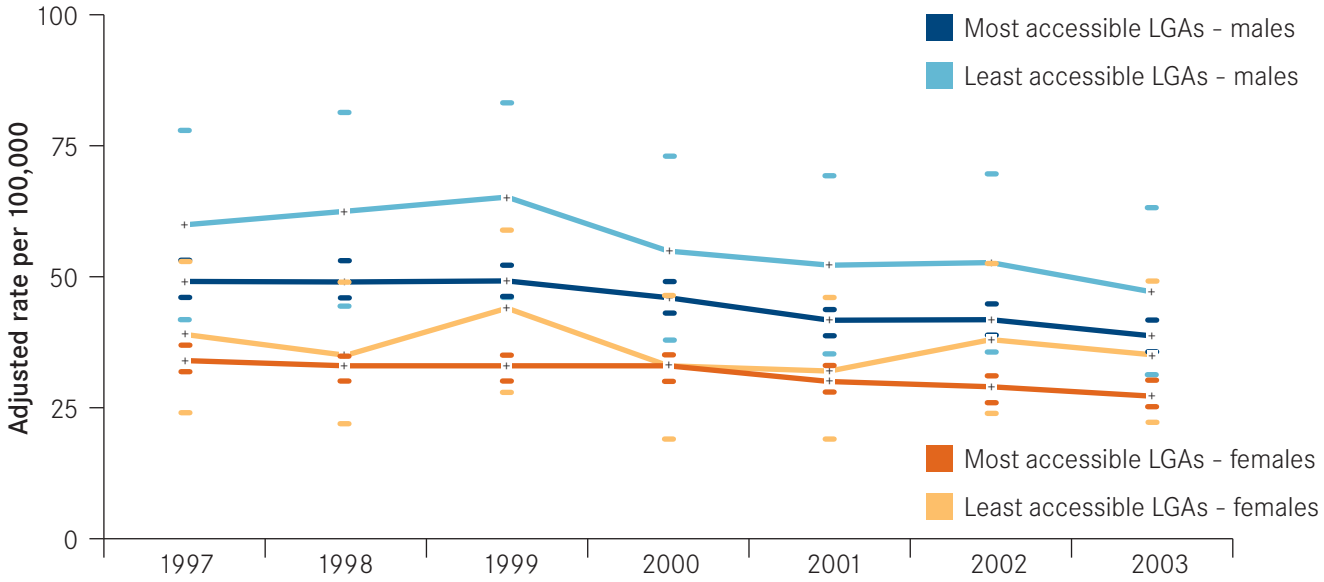
Males

- There were no significant differences in TAM rates between males with the least access to services compared to males with the most access to services (Figure 41).
- The TAM rate in males from the **least accessible** LGAs in 2003 was 47 per 100,000 (95% CI; 31 to 63), which was not significantly lower than the rate in 1997 of 60 per 100,000 (95% CI; 42 to 78).
- The TAM rate in males from the **most accessible** LGAs in 2003 was 39 per 100,000 (95% CI; 36 to 42), which was significantly lower than the rate in 1997 of 49 per 100,000 (95% CI; 46 to 53).

Females

- There were no significant differences in TAM rates between females with the least access to services compared to females with the most access to services.
- The TAM rate in females from the **least accessible** LGAs in 2003 was 35 per 100,000 (95% CI; 22 to 49), which was not significantly lower than the rate in 1997 of 39 per 100,000 (95% CI; 24 to 53).
- The TAM rate in females from the **most accessible** LGAs in 2003 was 27 per 100,000 (95% CI; 25 to 30), which was significantly lower than the rate in 1997 of 34 per 100,000 (95% CI; 32 to 37).

Figure 41. Trends in TAM rates (95% CI) by sex and ARIA category, Victoria (1997–2003)



Key messages:

Tertiary avoidable mortality (TAM) includes conditions whose case fatality rate can be significantly reduced by existing medical or surgical treatments typically, but not necessarily, in a hospital setting, even when the disease process is fully developed.

Males had significantly higher TAM rates than females. Between 1997 and 2003 TAM rates declined significantly in both males and females. If the trend continues, rates would be expected to further decline.

The highest rates of TAM among males were in those who lived in rural LGAs in 1998, 2001, 2002 and 2003 or were in the lowest most disadvantaged socioeconomic group in 1998, 2001 and 2002.

The highest rates of TAM among females were in those who lived in rural LGAs in 2003 or were in the lowest most disadvantaged socioeconomic group in 2002

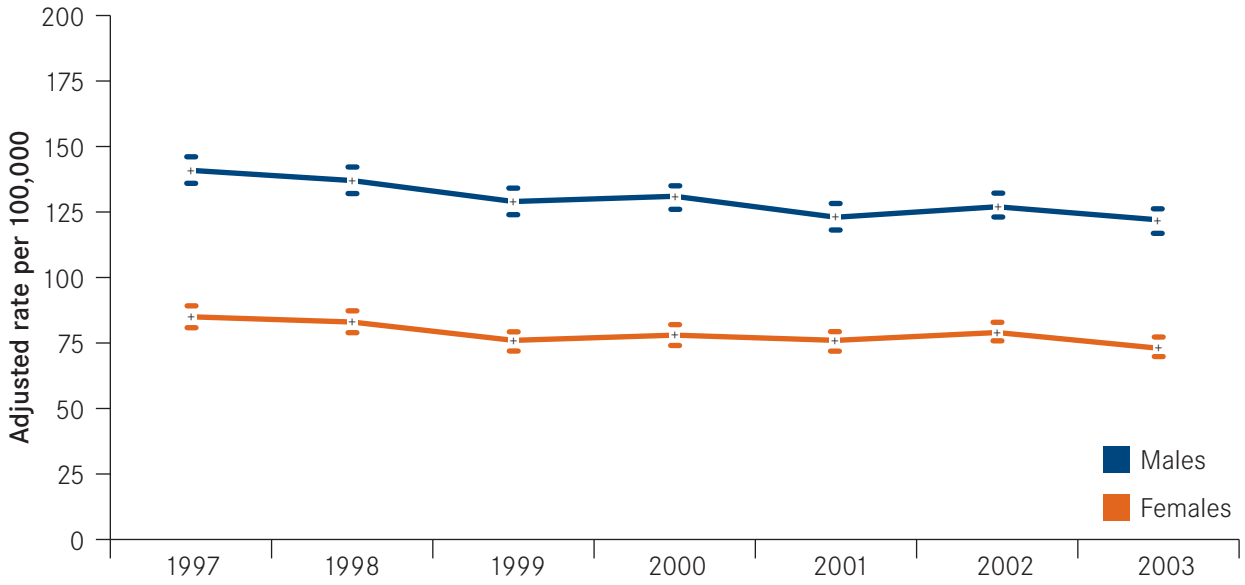
3.9 Trends in unavoidable mortality rates in Victoria (1997-2003)

This section reports on how unavoidable mortality (UM) rates for males and females have changed between 1997 and 2003. It also explores differences in UM rates by rurality, socioeconomic status and accessibility to services. UM includes conditions for which death is not deemed to be avoidable at this time in all persons aged 74 years or younger. It does not include deaths in persons 75 years of age or older.

3.9.1 Trends in UM rates by sex, Victoria (1997–2003)

- The UM rate was significantly higher (60 to 70 per cent) in males compared to females, in all seven years (Figure 42).
- Overall there was a significant decline in the UM rate between 1997 and 2003 in both males and females.
- The UM rate in males in 2003 was 122 per 100,000 (95% CI; 117 to 126), which was significantly lower than the rate in 1997 of 141 per 100,000 (95% CI; 136 to 146).
- If the current trend continues, we would expect the UM rate in males to decline to 109 per 100,000 by 2008.
- The adjusted UM rate in females in 2003 was 73 per 100,000 (95% CI; 70 to 77), which was not significantly lower than the rate in 1997 of 85 per 100,000 (95% CI; 81 to 89).
- If the current trend continues, we would expect the UM rate in females to decline to 67 per 100,000 by 2008.

Figure 42. Trends in UM rates (95% CI) by sex, Victoria (1997–2003)



3.9.2 Trends in UM rates in Victoria (1997–2003), by sex and rurality

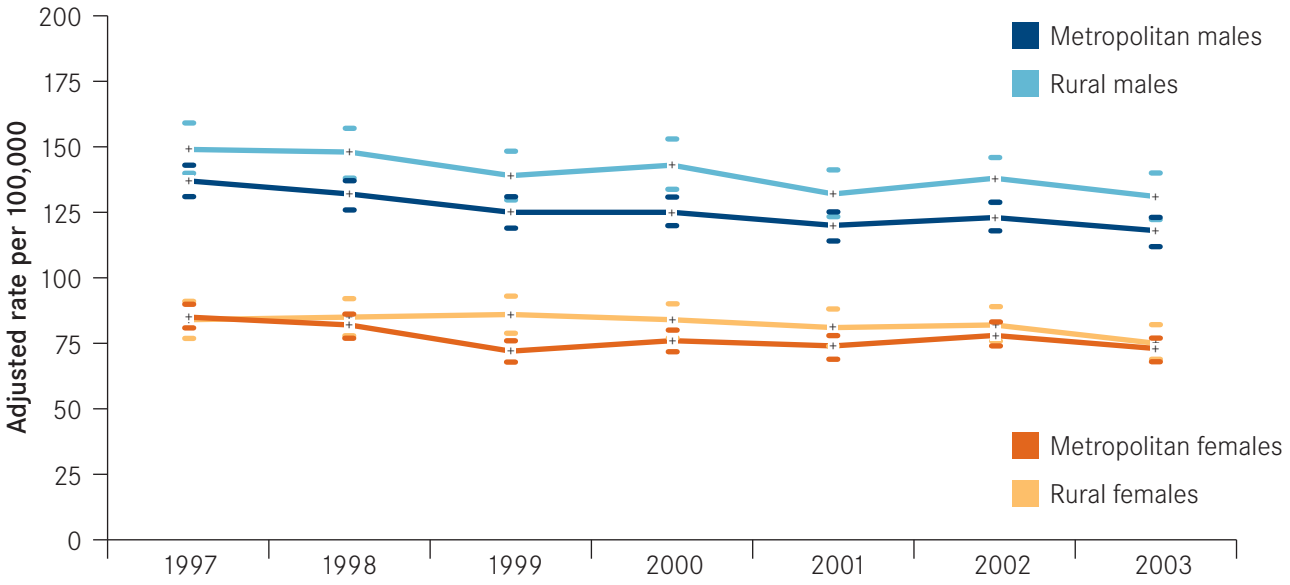
Males

- The UM rate was 9 to 14 per cent higher in males from **rural** compared to **metropolitan** LGAs, but this was only significant in 1998 and 2000 (Figure 43).
- The adjusted UM rate in males from **rural** LGAs in 2003 was 131 per 100,000 (95% CI; 122 to 140), which was not significantly lower than the rate in 1997 of 149 per 100,000 (95% CI; 140 to 159).
- The UM rate in males from **metropolitan** LGAs in 2003 was 118 per 100,000 (95% CI; 112 to 123), which was significantly lower than the rate in 1997 of 137 per 100,000 (95% CI; 131 to 143).

Females

- The UM rate was 2 to 19 per cent higher in females from **rural** compared to **metropolitan** LGAs, but this was only significant in 1999.
- The UM rate in females from **rural** LGAs in 2003 was 75 per 100,000 (95% CI; 69 to 82), which was not significantly lower than the rate in 1997 of 84 per 100,000 (95% CI; 77 to 91).
- The UM rate in females from **metropolitan** LGAs in 2003 was 73 (95% CI; 68 to 77), which was not significantly lower than the rate in 1997 of 85 (95% CI; 81 to 90).

Figure 43. Trends in UM rates (95% CI) by sex and rurality, Victoria (1997-2003)



3.9.3 Trends in UM rates in Victoria (1997-2003), by sex and socioeconomic status

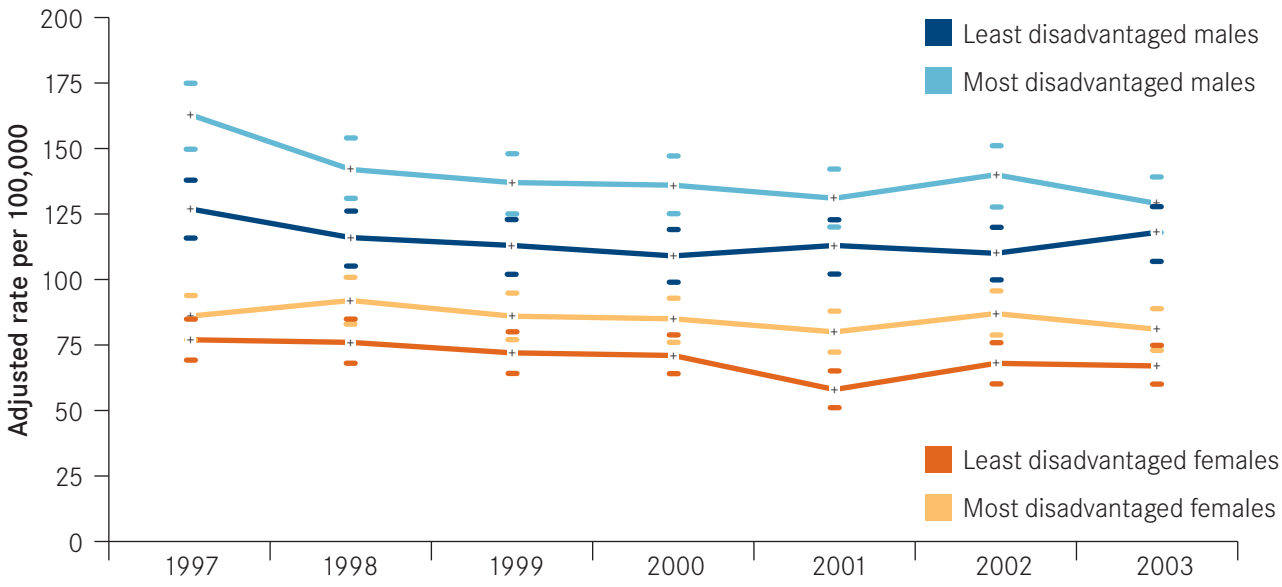
Males

- The UM rate was 16 to 28 per cent higher in males from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1997, 1998, 1999, 2000, and 2002, five of the seven years (Figure 44).
- The UM rate in males from the **most disadvantaged** LGAs in 2003 was 129 per 100,000 (95% CI; 118 to 139), which was significantly lower than the rate in 1997 of 163 per 100,000 (95% CI; 150 to 175).
- The UM rate in males from the **least disadvantaged** LGAs in 2003 was 118 per 100,000 (95% CI; 107 to 128), which was not significantly lower than the rate in 1997 of 127 per 100,000 (95% CI; 116 to 138).

Females

- The UM rate was 11 to 37 per cent higher in females from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1999 and 2002, two of the seven years.
- The UM rate in females from the **most disadvantaged** LGAs in 2003 was 81 per 100,000 (95% CI; 73 to 89), which was not significantly different from the rate in 1997 of 86 per 100,000 (95% CI; 77 to 94).
- The UM rate in females from the **least disadvantaged** LGAs in 2003 was 67 per 100,000 (95% CI; 60 to 75), which was not significantly lower than the rate in 1997 of 77 per 100,000 (95% CI; 69 to 85).

Figure 44. Trends in UM rates (95% CI) by sex and IRSED category, Victoria (1997–2003)



3.9.4 Trends in UM rates in Victoria (1997–2003), by sex and accessibility to services

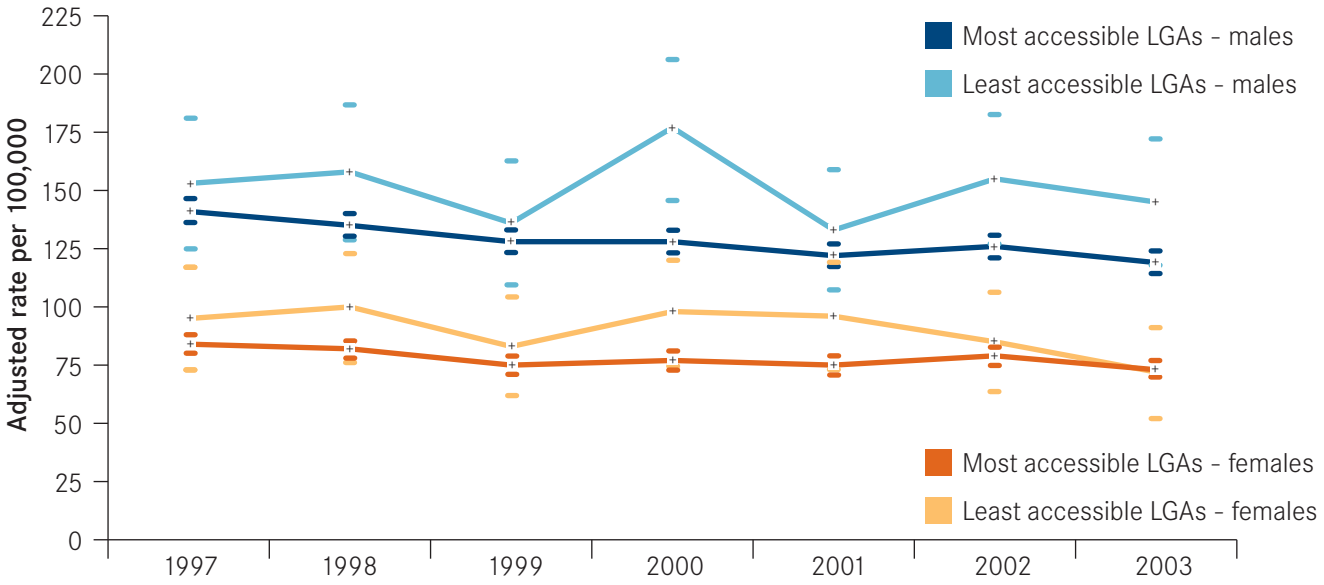
Males

- The UM rate was 6 to 38 per cent higher in males from the **least** compared to the **most accessible** LGAs, but this was only significant in 2000 (Figure 45).
- The UM rate in males from the **least accessible** LGAs in 2003 was 145 per 100,000 (95% CI; 118 to 172), which was not significantly different from the rate in 1997 of 153 per 100,000 (95% CI; 125 to 181).
- The UM rate in males from the **most accessible** LGAs in 2003 was 119 per 100,000 (95% CI; 114 to 124), which was significantly lower than the rate in 1997 of 141 per 100,000 (95% CI; 136 to 147).

Females

- There were no significant differences in UM rates between females with the least access to services compared to females with the most access to services.
- The UM rate in females from the **least accessible** LGAs in 2003 was 72 per 100,000 (95% CI; 52 to 91), which was not significantly lower than the rate in 1997 of 95 per 100,000 (95% CI; 73 to 117).
- The UM rate in females from the **most accessible** LGAs in 2003 was 73 per 100,000 (95% CI; 70 to 77), which was significantly lower than the rate in 1997 of 84 per 100,000 (95% CI; 80 to 88).

Figure 45. Trends in UM rates (95% CI) by sex and ARIA category, Victoria (1997-2003)



Key messages:

Unavoidable mortality (UM) includes conditions for which death is not deemed to be avoidable at this time in all persons aged 74 years or younger. It does not include deaths in persons 75 years of age or older.

Males had significantly higher UM rates than females. Between 1997 and 2003, UM rates declined significantly in both males and females. If the trend continues, rates would be expected to further decline.

Males in the lowest most disadvantaged socioeconomic group had the highest UM rates in all years except 2001 and 2003. Males who lived in rural LGAs had higher UM rates compared to males who lived in metropolitan LGAs in 1999 and 2000, two of the seven years. Males with the least access to services had higher UM rates in 2000.

Females in the lowest most disadvantaged socioeconomic group had the highest UM rates in 1999 and 2002, two of the seven years. Females who lived in rural LGAs had higher UM rates compared to females who lived in metropolitan LGAs in 2000.

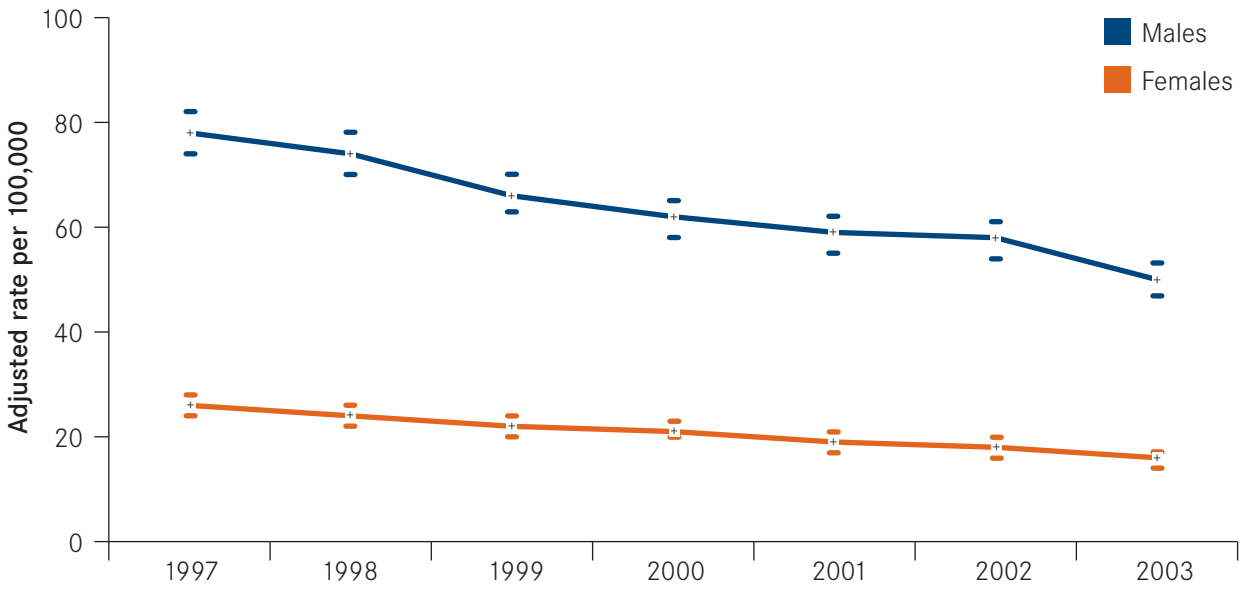
3.10 Trends in AM rates due to ischaemic heart disease in Victoria (1997–2003)

This section reports on how AM rates due to ischemic heart disease (IHD) for males and females have changed between 1997 and 2003. It also explores differences in IHD AM rates by rurality, socioeconomic status and accessibility to services.

3.10.1 Trends in IHD rates by sex, Victoria (1997–2003)

- The IHD AM rate was significantly higher (187 to 223 per cent) in males, compared to females, in all seven years (Figure 46).
- Overall there was a significant decline in the IHD AM rate between 1997 and 2003 in both males and females.
- The IHD AM rate in males in 2003 was 50 per 100,000 (95% CI; 47 to 53), which was significantly lower than the rate in 1997 of 78 per 100,000 (95% CI; 74 to 82).
- If the current trend continues, we would expect the IHD AM rate in males to decline to 36 per 100,000 by 2008.
- The adjusted IHD AM rate in females in 2003 was 16 per 100,000 (95% CI; 14 to 17), which was significantly lower than the rate in 1997 of 26 per 100,000 (95% CI; 24 to 28).
- If the current trend continues, we would expect the IHD AM rate in females to decline to 11 per 100,000 by 2008.

Figure 46. Trends in IHD AM rates (95% CI) by sex, Victoria (1997–2003)



3.10.2 Trends in IHD AM rates by sex and rurality, Victoria (1997–2003)

Males

- The IHD AM rate was 9 to 28 per cent higher in males from **rural** compared to **metropolitan** LGAs, but this was only significant in five of the seven years.
- The IHD AM rate in males from **rural** LGAs in 2003 was 58 per 100,000 (95% CI; 52 to 64), which was significantly lower than the rate in 1997 of 92 per 100,000 (95% CI; 85 to 100).
- The IHD AM rate in males from **metropolitan** LGAs in 2003 was 46 per 100,000 (95% CI; 43 to 50), which was significantly lower than the rate in 1997 of 72 per 100,000 (95% CI; 67 to 76)

Females

- The IHD AM rate was 11 to 67 per cent higher in females from **rural** compared to **metropolitan** LGAs, but this was only significant in 1999 and 2003, two of the seven years.
- The IHD AM rate in females from **rural** LGAs in 2003 was 22 per 100,000 (95% CI; 18 to 25), which was not significantly lower than the rate in 1997 of 28 per 100,000 (95% CI; 24 to 32).

- The IHD AM rate in females from **metropolitan** LGAs in 2003 was 13 per 100,000 (95% CI; 11 to 15), which was significantly lower than the rate in 1997 of 25 per 100,000 (95% CI; 23 to 28).

3.10.3 Trends in IHD AM rates by sex and socioeconomic status (IRSED category), Victoria (1997–2003)

Males

- The IHD AM rate was 16 to 65 per cent higher in males from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1997, 1998, 2001, 2002 and 2003, five of the seven years.
- The IHD AM rate in males from the **most disadvantaged** LGAs in 2003 was 57 per 100,000 (95% CI; 50 to 65), which was significantly lower than the rate in 1997 of 85 per 100,000 (95% CI; 75 to 94).
- The IHD AM rate in males from the **least disadvantaged** LGAs in 2003 was 39 per 100,000 (95% CI; 33 to 45), which was significantly lower than the rate in 1997 of 66 per 100,000 (95% CI; 58 to 74).

Females

- The IHD AM rate was 24 to 115 per cent higher in females from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1997, 1998, 1999 and 2002, four of the seven years.
- The IHD AM rate in females from the **most disadvantaged** LGAs in 2003 was 17 per 100,000 (95% CI; 13 to 21), which was significantly lower than the rate in 1997 of 35 per 100,000 (95% CI; 29 to 41).
- The IHD AM rate in females from the **least disadvantaged** LGAs in 2003 was 11 per 100,000 (95% CI; 8 to 14), which was not significantly lower than the rate in 1997 of 16 per 100,000 (95% CI; 13 to 20).

3.10.4 Trends in IHD AM rates by sex and accessibility to services (ARIA category), Victoria (1997–2003)

Males

- The IHD AM rate was 25 to 86 per cent higher in males from the **least** compared to the **most accessible** LGAs, but this was only significant in 1998, 2001 and 2002, three of the seven years during this period.
- The IHD AM rate in males from the **least accessible** LGAs in 2003 was 61 per 100,000 (95% CI; 44 to 79), which was not significantly lower than the rate in 1997 of 95 per 100,000 (95% CI; 73 to 117).
- The IHD AM rate in males from the **most accessible** LGAs in 2003 was 49 per 100,000 (95% CI; 46 to 52), which was significantly lower than the rate in 1997 of 76 per 100,000 (95% CI; 72 to 80).

Females

- There were no significant differences in IHD AM rates in females from the **least** compared to the **most accessible** LGAs for any of the seven years.
- The IHD AM rate in females from the **least accessible** LGAs in 2003 was 27 per 100,000 (95% CI; 15 to 39), which was not significantly lower than the rate in 1997 of 37 per 100,000 (95% CI; 24 to 50).
- The IHD AM rate in females from the **most accessible** LGAs in 2003 was 15 per 100,000 (95% CI; 13 to 17), which was significantly lower than the rate in 1997 of 25 per 100,000 (95% CI; 23 to 27).

Key messages:

In summary, the AM rate due to IHD was significantly higher in males than females and declined significantly between 1997 and 2003. If the trend continues, rates would be expected to further decline.

Males in the lowest most disadvantaged socioeconomic group had the highest IHD AM rates in all years except 1999 and 2000. Males who lived in rural LGAs had higher IHD AM rates compared to males who lived in metropolitan LGAs in all years except 2000 and 2001. Males with the least access to services had higher IHD AM rates in 1998, 2001 and 2002.

Females in the lowest most disadvantaged socioeconomic group had the highest IHD AM rates in 1997, 1998, 1999 and 2002, four of the seven years. Females who lived in rural LGAs had higher IHD AM rates compared to females who lived in metropolitan LGAs in 1999 and 2003.

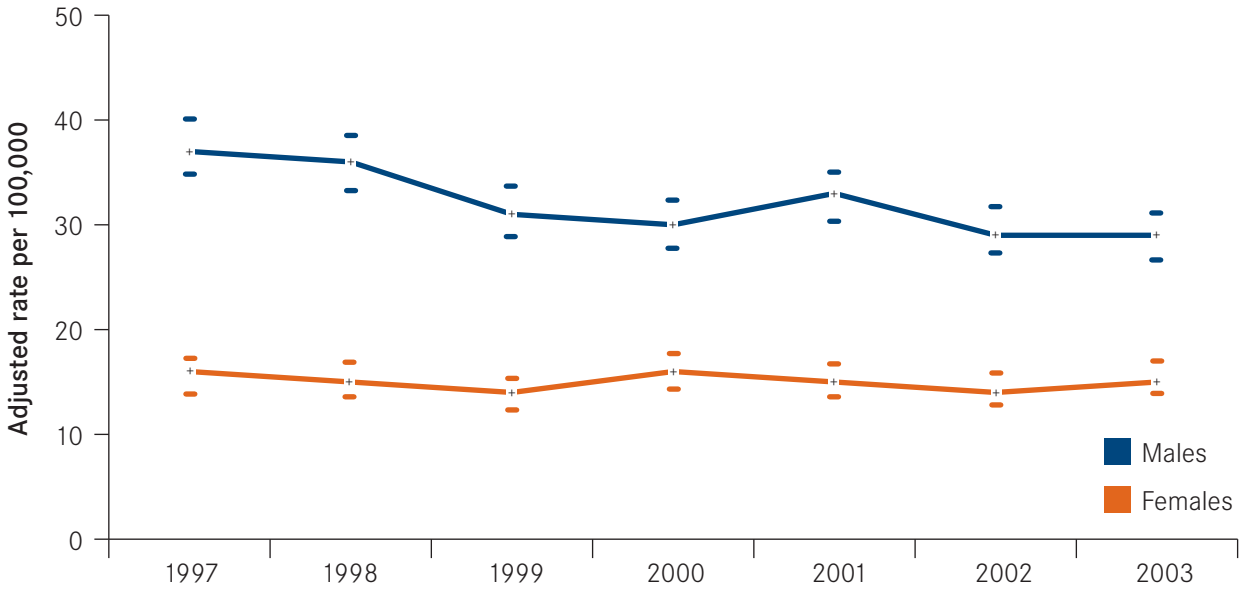
3.11 Trends in lung cancer AM rates in Victoria (1997–2003)

This section reports on how AM rates due to lung cancer for males and females have changed between 1997 and 2003. It also explores differences in lung cancer AM rates by rurality, socioeconomic status and accessibility to services.

3.11.1 Trends in lung cancer rates by sex, Victoria (1997–2003)

- The lung cancer AM rate was significantly higher (88 to 141 per cent) in males, compared to females, in all seven years (Figure 47).
- Overall there was a significant decline in the lung cancer AM rate between 1997 and 2003 in males but not females.
- The lung cancer AM rate in males in 2003 was 29 per 100,000 (95% CI; 27 to 31), which was significantly lower than the rate in 1997 of 37 per 100,000 (95% CI; 35 to 40).
- If the current trend continues, we would expect the lung cancer AM rate in males to decline to 23 per 100,000 by 2008.
- The lung cancer AM rates in males in 2008 is projected to be 23 per 100,000, based on the trend between 1997 and 2003.
- The lung cancer AM rate in females in 2003 was 15 per 100,000 (95% CI; 14 to 17), which was not significantly lower than the rate in 1997 of 16 per 100,000 (95% CI; 14 to 17).
- Given that AM rates due to lung cancer in females have not changed significantly between 1997 and 2003, we would expect that the rate will remain the same in 2008.

Figure 47. Trends in lung cancer AM rates (95% CI) by sex, Victoria (1997–2003)



3.11.2 Trends in lung cancer AM rates by sex and rurality, Victoria (1997–2003)

Males

- The lung cancer AM rate was 5 to 29 per cent higher in males from **rural** compared to **metropolitan** LGAs, but this was only significant in 2003, one of the seven years.
- The lung cancer AM rate in males from **rural** LGAs in 2003 was 34 per 100,000 (95% CI; 30 to 38), which was not significantly lower than the rate in 1997 of 39 per 100,000 (95% CI; 34 to 43).
- The lung cancer AM rate in males from **metropolitan** LGAs in 2003 was 26 per 100,000 (95% CI; 24 to 29), which was significantly lower than the rate in 1997 of 37 per 100,000 (95% CI; 34 to 40).

Females

- The lung cancer AM rate ranged from 1 per cent lower to 47 per cent higher in females from **rural** compared to **metropolitan** LGAs, but this was only significant in 1998, where the rate was higher in the rural LGAs.
- The lung cancer AM rate in females from **rural** LGAs in 2003 was 18 per 100,000 (95% CI; 15 to 21), which was not significantly lower than the rate in 1997 of 17 per 100,000 (95% CI; 14 to 20).
- The lung cancer AM rate in females from **metropolitan** LGAs in 2003 was 14 per 100,000 (95% CI; 13 to 16), which was not significantly lower than the rate in 1997 of 15 per 100,000 (95% CI; 13 to 17).

3.11.3 Trends in lung cancer AM rates by sex and socioeconomic status (IRSED category), Victoria (1997–2003)

Males

- The lung cancer AM rate was 32 to 80 per cent higher in males from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1997, 1998, 1999, 2001 and 2003, five of the seven years.
- The lung cancer AM rate in males from the **most disadvantaged** LGAs in 2003 was 34 per 100,000 (95% CI; 28 to 39), which was not significantly lower than the rate in 1997 of 42 per 100,000 (95% CI; 36 to 48).
- The lung cancer AM rate in males from the **least disadvantaged** LGAs in 2003 was 19 per 100,000 (95% CI; 15 to 23), which was significantly lower than the rate in 1997 of 30 per 100,000 (95% CI; 25 to 35).

Females

- The lung cancer AM rate was not significantly higher in females from the **most** compared to the **least disadvantaged** LGAs for any of the seven years.
- The lung cancer AM rate in females from the **most disadvantaged** LGAs in 2003 was 14 per 100,000 (95% CI; 10 to 17), which was not significantly different from the rate in 1997 of 13 per 100,000 (95% CI; 10 to 17).
- The lung cancer AM rate in females from the **least disadvantaged** LGAs in 2003 was 12 per 100,000 (95% CI; 9 to 15), which was not significantly lower than the rate in 1997 of 17 per 100,000 (95% CI; 13 to 21).

3.11.4 Trends in lung cancer AM rates by sex and accessibility to services (ARIA category), Victoria (1997–2003)

Males

- The lung cancer AM rate ranged from 16 per cent lower to 68 per cent higher in males from the **least** compared to the **most accessible** LGAs, but this was only significant in 2003 where the rate was higher in those with the least access.
- The lung cancer AM rate in males from the **least accessible** LGAs in 2003 was 46 per 100,000 (95% CI; 31 to 61), which was not significantly lower than the rate in 1997 of 36 per 100,000 (95% CI; 23 to 50).
- The lung cancer AM rate in males from the **most accessible** LGAs in 2003 was 27 per 100,000 (95% CI; 25 to 30), which was significantly lower than the rate in 1997 of 37 per 100,000 (95% CI; 34 to 39).

Females

- The lung cancer AM rate ranged from 39 per cent lower to 98 per cent higher in females from the **least** compared to the **most accessible** LGAs, but this was only significant in 1998, where the rate was higher in those with the **least** access.
- The lung cancer AM rate in females from the **least accessible** LGAs in 2003 was 24 per 100,000 (95% CI; 13 to 35), which was not significantly lower than the rate in 1997 of 15 per 100,000 (95% CI; 6 to 23).
- The lung cancer AM rate in females from the **most accessible** LGAs in 2003 was 15 per 100,000 (95% CI; 13 to 17), which was not significantly lower than the rate in 1997 of 15 per 100,000 (95% CI; 14 to 17).

Key messages:

The AM rate due to lung cancer was significantly higher in males than females.

In males the rate declined significantly between 1997 and 2003 and if the trend continues, the rate would be expected to further decline.

By contrast, the lung cancer AM rate did NOT significantly change in females between 1997 and 2003 and is expected to remain the same in 2008.

Males in the lowest most disadvantaged socioeconomic group had the highest lung cancer AM rates in all years except 2000 and 2002. Males who lived in rural LGAs had a higher lung cancer AM rate compared to males who lived in metropolitan LGAs in 2003 as did males with the least access to services.

There were no significant differences in lung cancer AM rates in females by socioeconomic status. In 1998, females who lived in the rural LGAs and or had the least access to services have higher rates than females who lived in metropolitan LGAs or had the greatest access to services.

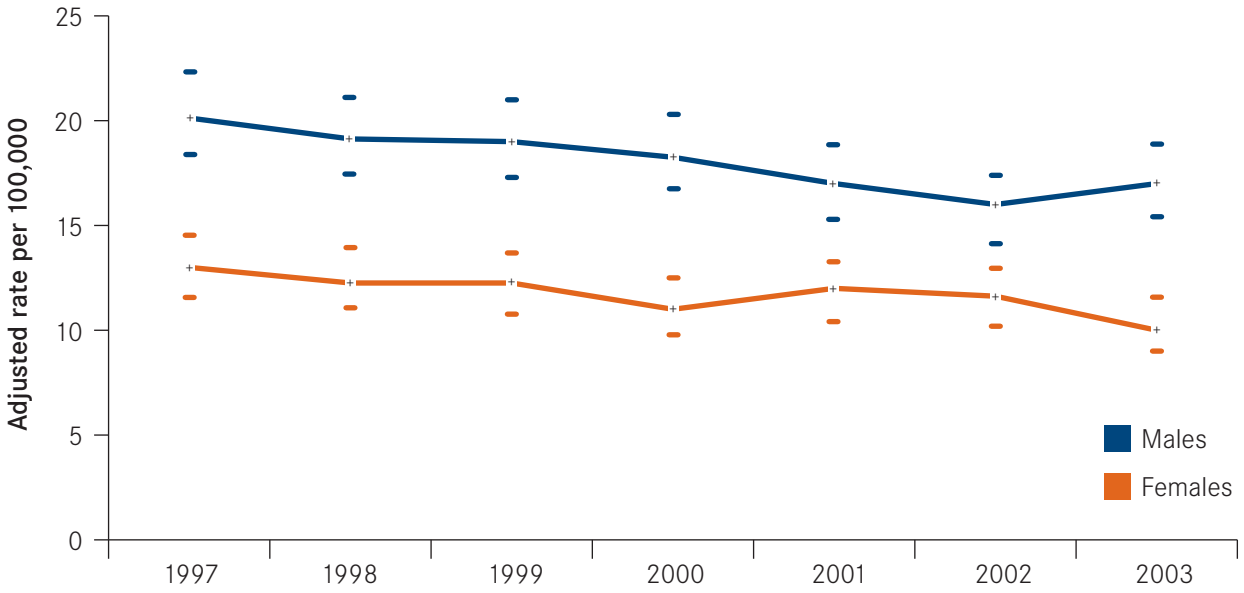
3.12 Trends in colorectal cancer AM rates in Victoria (1997–2003)

This section reports on how AM rates due to colorectal cancer for males and females have changed between 1997 and 2003. It also explores differences in colorectal cancer AM rates by rurality, socioeconomic status and accessibility to services.

3.12.1 Trends in colorectal cancer AM rates by sex, Victoria (1997–2003)

- The colorectal cancer AM rate was significantly higher (37 to 68 per cent) in males compared to females, in all seven years (Figure 48).
- Overall there was a significant decline in the colorectal cancer AM rate between 1997 and 2003 in both males and females.
- The colorectal cancer AM rate in males in 2003 was 17 per 100,000 (95% CI; 15 to 19), which was not significantly lower than the rate in 1997 of 20 per 100,000 (95% CI; 18 to 22).
- If the current trend continues, we would expect the colorectal cancer AM rate in males to decline to 13 per 100,000 by 2008.
- The colorectal cancer AM rate in females in 2003 was 10 per 100,000 (95% CI; 9 to 11), which was not significantly lower than the rate in 1997 of 13 per 100,000 (95% CI; 11 to 14).
- If the current trend continues, we would expect the colorectal cancer AM rate in females to decline to 9 per 100,000 by 2008.

Figure 48. Trends in colorectal cancer AM rates (95% CI) by sex, Victoria (1997–2003)



3.12.2 Trends in colorectal cancer AM rates by sex and rurality in Victoria (1997–2003)

Males

- There were no significant differences in colorectal cancer AM rates in males from **rural** compared to **metropolitan** LGAs for any of the seven years.
- The colorectal cancer AM rate in males from **rural** LGAs in 2003 was 18 per 100,000 (95% CI; 15 to 21), which was not significantly lower than the rate in 1997 of 23 per 100,000 (95% CI; 20 to 27).
- The colorectal cancer AM rate in males from **metropolitan** LGAs in 2003 was 17 per 100,000 (95% CI; 15 to 19), which was not significantly lower than the rate in 1997 of 19 per 100,000 (95% CI; 17 to 21).

Females

- The colorectal cancer AM rate was 2 to 52 per cent higher in females from **rural** compared to **metropolitan** LGAs, but this was only significant in 2002, one of the seven years.

- The colorectal cancer AM rate in females from **rural** LGAs in 2003 was 12 per 100,000 (95% CI; 10 to 15), which was not significantly different from the rate in 1997 of 15 per 100,000 (95% CI; 12 to 18).
- The colorectal cancer AM rate in females from **metropolitan** LGAs in 2003 was 9 per 100,000 (95% CI; 8 to 11), which was not significantly lower than the rate in 1997 of 12 per 100,000 (95% CI; 10 to 14).

3.12.3 Trends in colorectal cancer AM rates by sex and socioeconomic status (IRSED category) in Victoria (1997–2003)

Males

- There were no significant differences in colorectal cancer AM rates in males from the **most** compared to the **least disadvantaged** LGAs, for any of the seven years.
- The colorectal cancer AM rate in males from the **most disadvantaged** LGAs in 2003 was 22 per 100,000 (95% CI; 18 to 27), which was not significantly lower than the rate in 1997 of 19 per 100,000 (95% CI; 15 to 24).
- The colorectal cancer AM rate in males from the **least disadvantaged** LGAs in 2003 was 17 per 100,000 (95% CI; 13 to 21), which was not significantly lower than the rate in 1997 of 16 per 100,000 (95% CI; 12 to 20).

Females

- There were no significant differences in colorectal cancer AM rates in females from the **most** compared to the **least disadvantaged** LGAs, for any of the seven years.
- The colorectal cancer AM rate in females from the **most disadvantaged** LGAs in 2003 was 8 per 100,000 (95% CI; 6 to 11), which was not significantly different from the rate in 1997 of 13 per 100,000 (95% CI; 9 to 16).
- The colorectal cancer AM rate in females from the **least disadvantaged** LGAs in 2003 was 9 per 100,000 (95% CI; 6 to 11), which was not significantly different from the rate in 1997 of 10 per 100,000 (95% CI; 7 to 13).

3.12.4 Trends in colorectal cancer AM rates by sex and accessibility to services (ARIA category), Victoria (1997–2003)

Males

- The colorectal cancer AM rate ranged from 14 percent lower to 99 per cent higher in males from the **least** compared to the **most accessible** LGAs, but this was only significant in 2001, where the rate was higher in the least accessible LGAs.
- The colorectal cancer AM rate in males from the **least accessible** LGAs in 2003 was 25 per 100,000 (95% CI; 14 to 36), which was not significantly lower than the rate in 1997 of 25 per 100,000 (95% CI; 14 to 36).
- The colorectal cancer AM rate in males from the **most accessible** LGAs in 2003 was 17 per 100,000 (95% CI; 15 to 18), which was not significantly lower than the rate in 1997 of 20 per 100,000 (95% CI; 18 to 22).

Females

- The colorectal cancer AM rate ranged from 80 per cent lower to 193 per cent higher in females from the **least** compared to the **most accessible** LGAs, but this was only significant in 2000 where the rate was higher in the most accessible LGAs and 2001, where the rate was higher in the most accessible LGAs.
- The colorectal cancer AM rate in females from the **least accessible** LGAs in 2003 was 14 per 100,000 (95% CI; 5 to 22), which was not significantly lower than the rate in 1997 of 18 per 100,000 (95% CI; 8 to 27).
- The colorectal cancer AM rate in females from the **most accessible** LGAs in 2003 was 10 per 100,000 (95% CI; 9 to 11), which was not significantly lower than the rate in 1997 of 13 per 100,000 (95% CI; 11 to 14).

Key messages:

The AM rate due to colorectal cancer was significantly higher in males than females and declined significantly between 1997 and 2003. If the trend continues, rates would be expected to further decline.

There were no significant differences in colorectal cancer AM rates in males by socioeconomic status or in males who lived in rural compared to metropolitan LGAs.

There were no significant differences in colorectal cancer AM rates in females by socioeconomic status. There were no significant differences in rates between females who lived in rural LGAs and those who lived in metropolitan LGAs, except in 2002 where the rate was higher in rural LGAs.

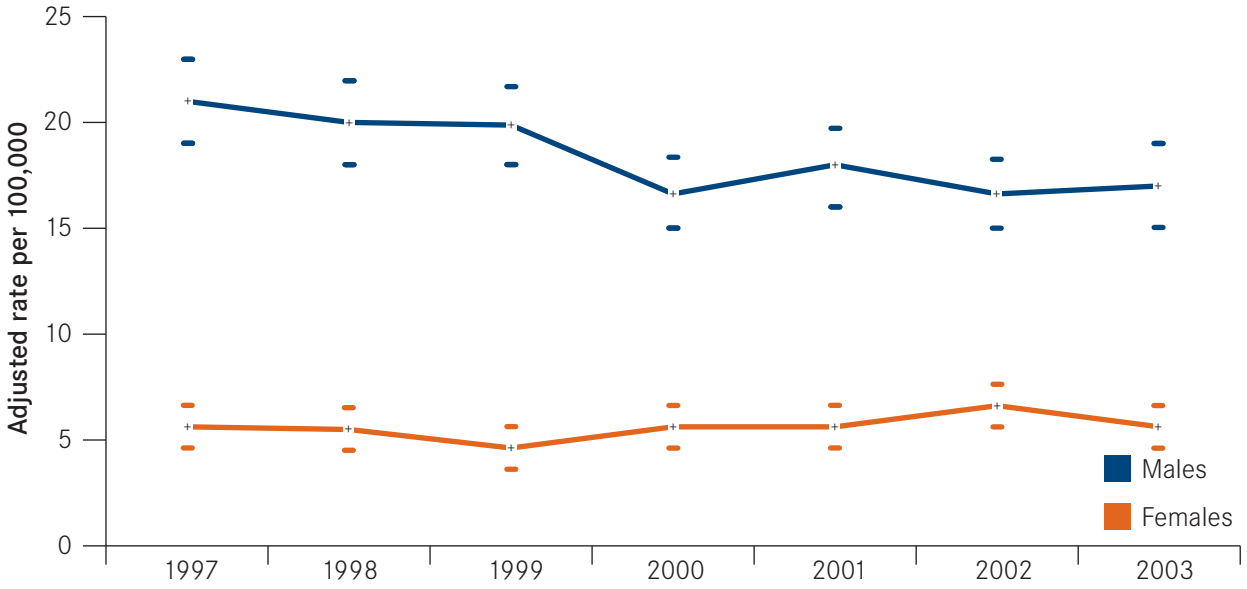
3.13 Trends in suicide AM rates in Victoria (1997–2003)

This section reports on how AM rates due to suicide for males and females have changed between 1997 and 2003. It also explores differences in suicide AM rates by rurality, socioeconomic status and accessibility to services.

3.13.1 Trends in suicide AM rates by sex, Victoria (1997–2003)

- The suicide AM rate was significantly higher (154 to 328 per cent) in males compared to females, in all seven years (Figure 49).
- Overall there was a significant decline in the suicide AM rate between 1997 and 2003 in males but not females.
- The adjusted suicide AM rate in males in 2003 was 17 per 100,000 (95% CI; 15 to 19), which was significantly lower than the rate in 1997 of 21 per 100,000 (95% CI; 19 to 23).
- If the current trend continues, we would expect the suicide AM rate in males to decline to 13 per 100,000 by 2008.
- The suicide AM rate in females in 2003 was 6 per 100,000 (95% CI; 5 to 7), which was not significantly different from the rate in 1997 of 6 per 100,000 (95% CI; 5 to 7).
- Given that AM rates due to suicide in females have not changed significantly between 1997 and 2003, we would expect that without intervention, the rate will remain the same in 2008.

Figure 49. Trends in suicide AM rates (95% CI) by sex, Victoria (1997–2003)



3.13.2 Trends in suicide AM rates by sex and rurality, Victoria (1997–2003)

Males

- The suicide AM rate was 19 per cent to 56 per cent higher in males from **rural** compared to **metropolitan** LGAs, but this was only significant in 1997, 1998, 1999 and 2000, four of the seven years.
- The suicide AM rate in males from **rural** LGAs in 2003 was 20 per 100,000 (95% CI; 16 to 23), which was not significantly lower than the rate in 1997 of 26 per 100,000 (95% CI; 22 to 30).
- The suicide AM rate in males from **metropolitan** LGAs in 2003 was 16 per 100,000 (95% CI; 14 to 18), which was not significantly lower than the rate in 1997 of 19 per 100,000 (95% CI; 17 to 21).

Females

- There were no significant differences in suicide AM rates in females from **rural** LGAs compared to **metropolitan** LGAs, for any of the seven years.
- The suicide AM rate in females from **rural** LGAs in 2003 was 5 per 100,000 (95% CI; 4 to 7), which was not significantly different from the rate in 1997 of 5 per 100,000 (95% CI; 4 to 7).
- The suicide AM rate in females from **metropolitan** LGAs in 2003 was 6 per 100,000 (95% CI; 5 to 7), which was not significantly different from the rate in 1997 of 6 per 100,000 (95% CI; 5 to 7).

3.13.3 Trends in suicide AM rates by sex and socioeconomic status (IRSED category), Victoria (1997–2003)

Males

- There were no significant differences in suicide AM rates in males from the **most** compared to the **least disadvantaged** LGAs, for any of the seven years.
- The suicide AM rate in males from the **most disadvantaged** LGAs in 2003 was 17 per 100,000 (95% CI; 14 to 21), which was not significantly lower than the rate in 1997 of 22 per 100,000 (95% CI; 18 to 27).
- The suicide AM rate in males from the **least disadvantaged** LGAs in 2003 was 14 per 100,000 (95% CI; 10 to 17), which was not significantly different from the rate in 1997 of 15 per 100,000 (95% CI; 11 to 19).

Females

- There were no significant differences in suicide AM rates in females from the **most** compared to the **least disadvantaged** LGAs, for any of the seven years.
- The suicide AM rate in females from the **most disadvantaged** LGAs in 2003 was 6 per 100,000 (95% CI; 3 to 8), which was not significantly different from the rate in 1997 of 4 per 100,000 (95% CI; 2 to 6).
- The suicide AM rate in females from the **least disadvantaged** LGAs in 2003 was 7 per 100,000 (95% CI; 4 to 9), which was not significantly lower than the rate in 1997 of 7 per 100,000 (95% CI; 4 to 9).

3.13.4 Trends in suicide AM rates by sex and accessibility to services (ARIA category), Victoria (1997–2003)

Males

- There were no significant differences in suicide AM rates in males from the **least** compared to the **most accessible** LGAs, for any of the seven years.
- The suicide AM rate in males from the **least accessible** LGAs in 2003 was 21 per 100,000 (95% CI; 10 to 33), which was not significantly lower than the rate in 1997 of 27 per 100,000 (95% CI; 14 to 40).
- The suicide AM rate in males from the **most accessible** LGAs in 2003 was 17 per 100,000 (95% CI; 15 to 18), which was significantly lower than the rate in 1997 of 21 per 100,000 (95% CI; 19 to 23).

Females

- There were no significant differences in suicide AM rates in females from the **least** compared to the **most accessible** LGAs, during this period.
- The suicide AM rate in females from the **least accessible** LGAs in 2003 was 3 per 100,000 (95% CI; 0 to 7), which was not significantly lower than the rate in 1997 of 10 per 100,000 (95% CI; 2 to 18).
- The suicide AM rate in females from the **most accessible** LGAs in 2003 was 6 per 100,000 (95% CI; 5 to 7), which was not significantly different from the rate in 1997 of 6 per 100,000 (95% CI; 5 to 7).

Key messages:

The AM rate due to suicide was significantly higher in males than females.

In males the rate declined significantly between 1997 and 2003 and if the trend continues, the rate would be expected to further decline.

By contrast, the suicide AM rate did NOT significantly change in females between 1997 and 2003. Therefore, without intervention we would expect that the suicide AM rate in females will remain the same.

There were no significant differences in suicide AM rates in males by socioeconomic status. Males who lived in rural LGAs had a higher suicide AM rate than males who lived in metropolitan LGAs in 1997, 1998, 1999 and 2000, four of the seven years.

There were no significant differences in suicide AM rates in females by socioeconomic status or between females who lived in rural compared to metropolitan LGAs.

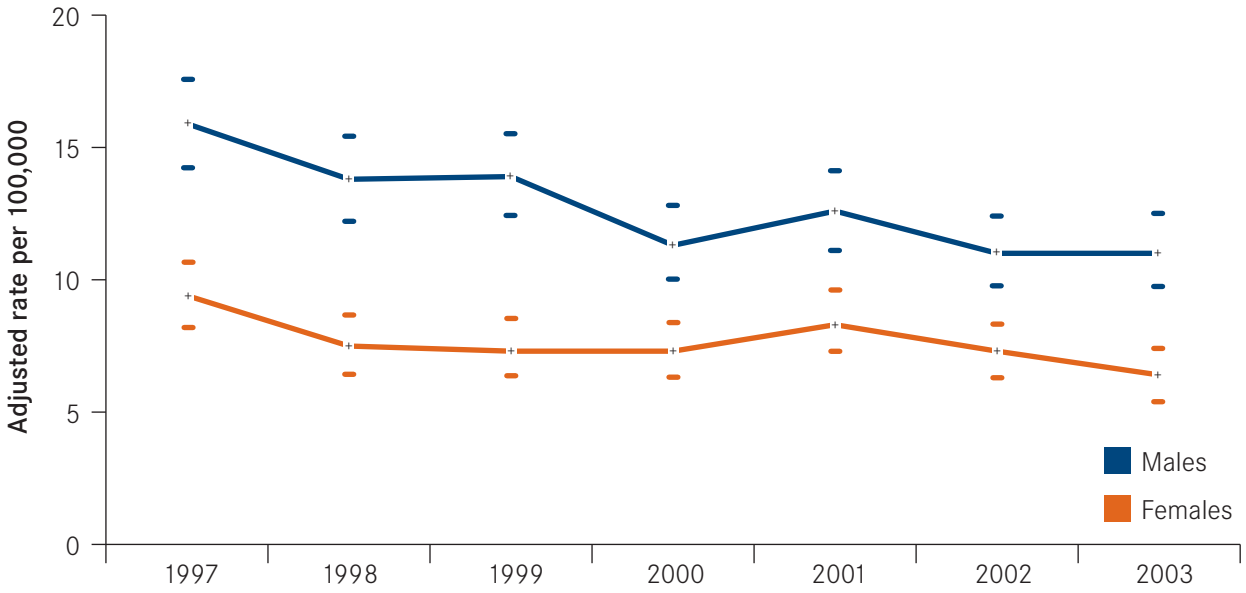
3.14 Trends in chronic obstructive pulmonary disease (COPD) AM rates in Victoria (1997–2003)

This section reports on how AM rates due to COPD for males and females have changed between 1997 and 2003. It also explores differences in COPD AM rates by rurality, socioeconomic status and accessibility to services.

3.14.1 Trends in COPD AM rates by sex, Victoria (1997–2003)

- The COPD AM rate was significantly higher (50 to 88 per cent) in males compared to females, in all seven years (Figure 50).
- Overall there was a significant decline in the COPD AM rate between 1997 and 2003 in males but not females.
- The COPD AM rate in males in 2003 was 11 per 100,000 (95% CI; 10 to 13), which was significantly lower than the rate in 1997 of 16 per 100,000 (95% CI; 14 to 18).
- If the current trend continues, we would expect the COPD AM rate in males to decline to 8 per 100,000 by 2008.
- The COPD AM rate in females in 2003 was 6 per 100,000 (95% CI; 5 to 7), which was significantly different from the rate in 1997 of 9 per 100,000 (95% CI; 8 to 11).
- The COPD AM rate in females has not changed significantly, when all seven years of data (1997-2003) were taken into consideration, hence, we would expect that the rate will remain the same in 2008.

Figure 50. Trends in COPD AM rates (95% CI) by sex, Victoria (1997–2003)



3.14.2 Trends in COPD AM rates by sex and rurality, Victoria (1997–2003)

Males

- The COPD AM rate was 20 to 57 per cent higher in males from **rural** compared to **metropolitan** LGAs, but this was only significant in 1998, 1999, 2002 and 2003, four of the seven years.
- The COPD AM rate in males from **rural** LGAs in 2003 was 15 per 100,000 (95% CI; 12 to 18), which was not significantly lower than the rate in 1997 of 19 per 100,000 (95% CI; 15 to 22).
- The COPD AM rate in males from **metropolitan** LGAs in 2003 was 9 per 100,000 (95% CI; 8 to 11), which was significantly lower than the rate in 1997 of 15 per 100,000 (95% CI; 13 to 17).

Females

- There were no significant differences in COPD AM rates in females from **rural** compared to **metropolitan** LGAs, for any of the seven years.
- The COPD AM rate in females from **rural** LGAs in 2003 was 9 per 100,000 (95% CI; 6 to 11), which was not significantly different from the rate in 1997 of 11 per 100,000 (95% CI; 9 to 13).
- The COPD AM rate in females from **metropolitan** LGAs in 2003 was 5 per 100,000 (95% CI; 4 to 7), which was significantly different from the rate in 1997 of 9 per 100,000 (95% CI; 7 to 10).

3.14.3 Trends in COPD AM rates by sex and socioeconomic status (IRSED category), Victoria (1997–2003)

Males

- The COPD AM rate was 52 to 162 per cent higher in males from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 2000 and 2001, two of the seven years.
- The COPD AM rate in males from the **most disadvantaged** LGAs in 2003 was 12 per 100,000 (95% CI; 9 to 15), which was not significantly different from the rate in 1997 of 19 per 100,000 (95% CI; 15 to 24).
- The COPD AM rate in males from the **least disadvantaged** LGAs in 2003 was 8 per 100,000 (95% CI; 5 to 10), which was not significantly different from the rate in 1997 of 13 per 100,000 (95% CI; 9 to 16).

Females

- The COPD AM rate was 14 to 120 per cent higher in females from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1999, one of the seven years.
- The COPD AM rate in females from the **most disadvantaged** LGAs in 2003 was 7 per 100,000 (95% CI; 4 to 9), which was not significantly different from the rate in 1997 of 10 per 100,000 (95% CI; 7 to 14).
- The COPD AM rate in females from the **least disadvantaged** LGAs in 2003 was 3 per 100,000 (95% CI; 2 to 5), which was not significantly lower than the rate in 1997 of 6 per 100,000 (95% CI; 4 to 8).

3.14.4 Trends in COPD AM rates by sex and accessibility to services (ARIA category), Victoria (1997–2003)

Males

- There were no significant differences in COPD AM rates in males from the **least** compared to the **most accessible** LGAs, for any of the seven years.
- The COPD AM rate in males from the **least accessible** LGAs in 2003 was 10 per 100,000 (95% CI; 3 to 16), which was not significantly lower than the rate in 1997 of 23 per 100,000 (95% CI; 13 to 34).
- The COPD AM rate in males from the **most accessible** LGAs in 2003 was 10 per 100,000 (95% CI; 9 to 12), which was significantly lower than the rate in 1997 of 16 per 100,000 (95% CI; 14 to 18).

Females

- There were no significant differences in COPD AM rates in females from the **least** compared to the **most accessible** LGAs, for any of the seven years.
- The COPD AM rate in females from the **least accessible** LGAs in 2003 was 5 per 100,000 (95% CI; 0 to 11), which was not significantly lower than the rate in 1997 of 5 per 100,000 (95% CI; 0 to 9).
- The COPD AM rate in females from the **most accessible** LGAs in 2003 was 6 per 100,000 (95% CI; 5 to 8), which was not significantly different from the rate in 1997 of 9 per 100,000 (95% CI; 8 to 11).

Key messages:

The AM rate due to COPD was significantly higher in males than females.

In males, the rate declined significantly between 1997 and 2003 and if the trend continues the rate would be expected to further decline.

By contrast, the COPD AM rate did NOT significantly change in females between 1997 and 2003 and is expected to remain the same in 2008.

Males in the lowest most disadvantaged socioeconomic group had the highest COPD AM rates in 2000 and 2001, two of the seven years. Males who lived in rural LGAs had a higher COPD AM rate compared to males who lived in metropolitan LGAs in 1998, 1999, 2002 and 2003, four of the seven years.

There were no significant differences in COPD rates in females by rurality and females in the lowest most disadvantaged socioeconomic group had a higher COPD AM rate in 1999 only.

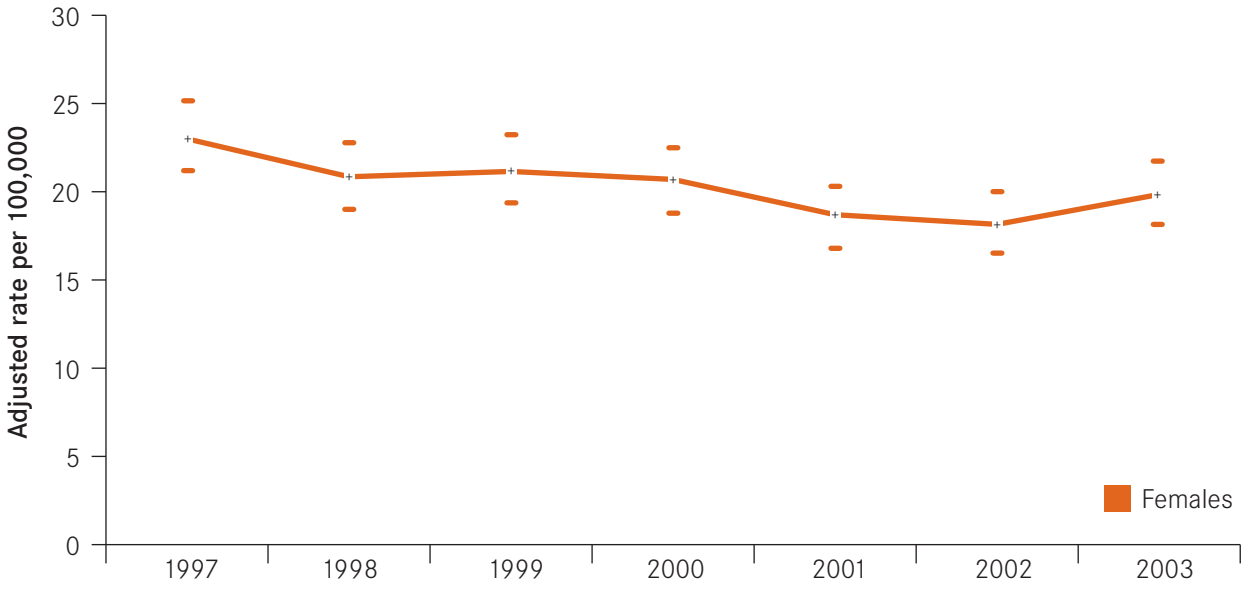
3.15 Trends in breast cancer AM rates in Victoria (1997–2003)

This section reports on how AM rates due to breast cancer for females have changed between 1997 and 2003. We also explored differences in breast cancer AM rates by rurality, socioeconomic status and accessibility to services.

3.15.1 Trend in breast cancer AM rates in females, Victoria (1997–2003)

- The breast cancer AM rate in females in 2003 was 20 per 100,000 (95% CI; 18 to 22), which was not significantly lower from the rate in 1997 of 23 per 100,000 (95% CI; 21 to 25), (Figure 51).
- Overall there was a significant decline in the breast cancer AM rate between 1997 and 2003.
- If the current trend continues, we would expect the breast cancer AM rate in females to decline to 16 per 100,000 by 2008.

Figure 51. Trend in female breast cancer AM rates (95% CI), Victoria (1997–2003)



3.15.2 Trends in breast cancer AM rates by rurality, Victoria (1997–2003)

Females

- The breast cancer AM rate ranged from 19 per cent lower to 32 per cent higher in females from **rural** compared to **metropolitan** LGAs, but this was only significant in 2003, one of the seven years.
- The breast cancer AM rate in females from **rural** LGAs in 2003 was 24 per 100,000 (95% CI; 20 to 27), which was not significantly different from the rate in 1997 of 24 per 100,000 (95% CI; 20 to 28).
- The breast cancer AM rate in females from **metropolitan** LGAs in 2003 was 18 per 100,000 (95% CI; 16 to 20), which was not significantly different from the rate in 1997 of 23 per 100,000 (95% CI; 20 to 25).

3.15.3 Trends in breast cancer AM rates by socioeconomic status (IRSED category), Victoria (1997–2003)

Females

- There were no significant differences in breast cancer AM rates in females from the **most** compared to the **least disadvantaged** LGAs, for any of the seven years.
- The breast cancer AM rate in females from the **most disadvantaged** LGAs in 2003 was 18 per 100,000 (95% CI; 14 to 22), which was not significantly different from the rate in 1997 of 24 per 100,000 (95% CI; 19 to 28).
- The breast cancer AM rate in females from the **least disadvantaged** LGAs in 2003 was 21 per 100,000 (95% CI; 16 to 25), which was not significantly lower than the rate in 1997 of 24 per 100,000 (95% CI; 19 to 29).

3.15.4 Trends in breast cancer AM rates by accessibility to services (ARIA category), Victoria (1997–2003)

Females

- There were no significant differences in breast cancer AM rates in females from the **least** compared to the **most accessible** LGAs, for any of the seven years.
- The breast cancer AM rate in females from the **least accessible** LGAs in 2003 was 30 per 100,000 (95% CI; 18 to 43), which was not significantly different from the rate in 1997 of 29 per 100,000 (95% CI; 16 to 41).
- The breast cancer AM rate in females from the **most accessible** LGAs in 2003 was 19 per 100,000 (95% CI; 18 to 21), which was not significantly different from the rate in 1997 of 23 per 100,000 (95% CI; 21 to 25).

Key messages:

The AM rate due to breast cancer in females declined significantly between 1997 and 2003 and, if the trend continues, the rate would be expected to further decline.

There were no significant differences in breast cancer AM rates by socioeconomic status or rurality except in 2003 when females who lived in rural LGAs had a significantly higher rate than those who lived in metropolitan LGAs.

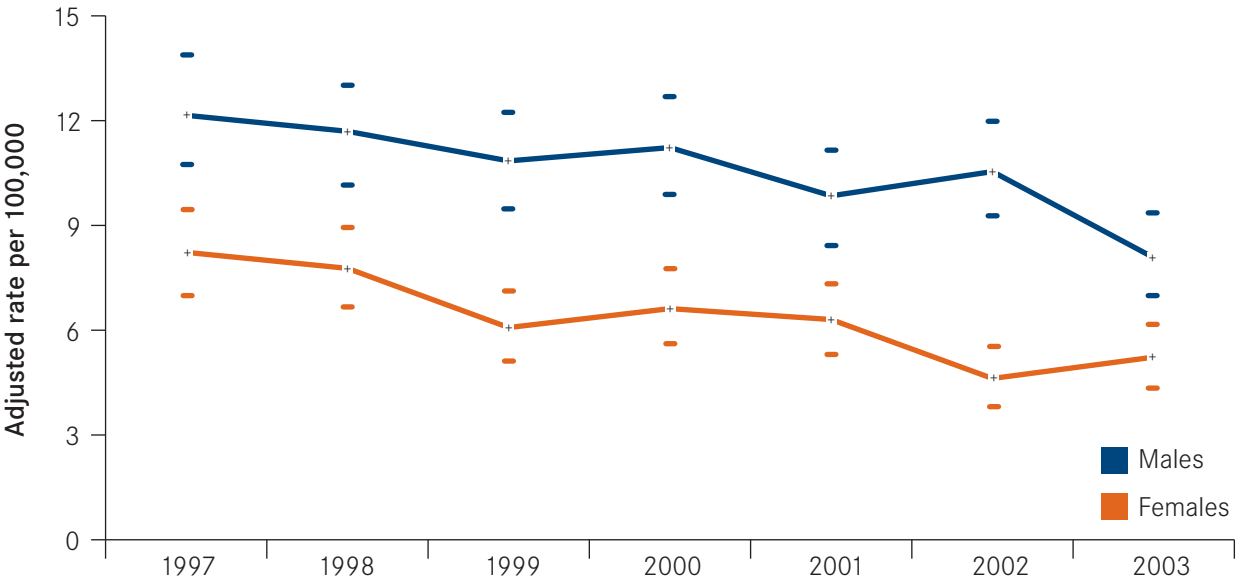
3.16 Trends in stroke AM rates in Victoria (1997–2003)

This section reports on how AM rates due to stroke have changed between 1997 and 2003. It also explores differences in stroke AM rates by rurality, socioeconomic status and accessibility to services.

3.16.1 Trend in stroke AM rates, Victoria (1997–2003)

- The stroke AM rate was significantly higher (49 to 128 per cent) in males compared to females, in all seven years (Figure 52).
- Overall there was a significant decline in the stroke AM rate between 1997 and 2003 in both males and females.
- The stroke AM rate in males in 2003 was 8 per 100,000 (95% CI; 7 to 9), which was significantly lower than the rate in 1997 of 12 per 100,000 (95% CI; 11 to 14).
- If the current trend continues, we would expect the stroke AM rate in males to decline to 7 per 100,000 by 2008.
- The stroke AM rate in females in 2003 was 5 per 100,000 (95% CI; 4 to 6), which was significantly lower than the rate in 1997 of 8 per 100,000 (95% CI; 7 to 9).
- If the current trend continues, we would expect the stroke AM rate in females to decline to 3 per 100,000 by 2008.

Figure 52. Trends in stroke AM rates by sex, Victoria (1997–2003)



3.16.2 Trends in stroke AM rates by sex and rurality, Victoria (1997–2003)

Males

- There were no significant differences in stroke AM rates in males from **rural** compared to **metropolitan** LGAs, for any of the seven years.
- The stroke AM rate in males from **rural** LGAs in 2003 was 9 per 100,000 (95% CI; 7 to 11), which was not significantly lower than the rate in 1997 of 13 per 100,000 (95% CI; 10 to 16).
- The stroke AM rate in males from **metropolitan** LGAs in 2003 was 8 per 100,000 (95% CI; 6 to 9), which was significantly lower than the rate in 1997 of 12 per 100,000 (95% CI; 10 to 14).

Females

- There were no significant differences in stroke AM rates in females from **rural** compared to **metropolitan** LGAs, for any of the seven years.
- The stroke AM rate in females from **rural** LGAs in 2003 was 5 per 100,000 (95% CI; 3 to 6), which was significantly lower than the rate in 1997 of 9 per 100,000 (95% CI; 7 to 11).
- The stroke AM rate in females from **metropolitan** LGAs in 2003 was 5 per 100,000 (95% CI; 4 to 6), which was significantly lower than the rate in 1997 of 8 per 100,000 (95% CI; 7 to 10).

3.16.3 Trends in stroke AM rates by sex and socioeconomic status (IRSED category), Victoria (1997–2003)

Males

- There were no significant differences in stroke AM rates in males from the **most** compared to the l**east disadvantaged** LGAs, for any of the seven years.
- The stroke AM rate in males from the **most disadvantaged** LGAs in 2003 was 12 per 100,000 (95% CI; 8 to 15), which was not significantly lower than the rate in 1997 of 11 per 100,000 (95% CI; 8 to 15).
- The stroke AM rate in males from the **least disadvantaged** LGAs in 2003 was 7 per 100,000 (95% CI; 4 to 9), which was significantly different from the rate in 1997 of 13 per 100,000 (95% CI; 9 to 16).

Females

- There were no significant differences in stroke AM rates in females from the **most** compared to the l**east disadvantaged** LGAs, for any of the seven years.
- The stroke AM rate in females from the **most disadvantaged** LGAs in 2003 was 7 per 100,000 (95% CI; 5 to 10), which was not significantly different from the rate in 1997 of 9 per 100,000 (95% CI; 6 to 12).
- The stroke AM rate in females from the **least disadvantaged** LGAs in 2003 was 3 per 100,000 (95% CI; 2 to 5), which was significantly lower than the rate in 1997 of 9 per 100,000 (95% CI; 7 to 12).

3.16.4 Trends in stroke AM rates by sex and accessibility to services (ARIA category), Victoria (1997–2003)

Males

- There were no significant differences in the stroke AM rates in males from the **least** compared to the **most accessible** LGAs, for any of the seven years.
- The stroke AM rate in males from the **least accessible** LGAs in 2003 was 12 per 100,000 (95% CI; 4 to 20), which was not significantly different from the rate in 1997 of 9 per 100,000 (95% CI; 3 to 16).
- The stroke AM rate in males from the **most accessible** LGAs in 2003 was 8 per 100,000 (95% CI; 7 to 9), which was significantly lower than the rate in 1997 of 13 per 100,000 (95% CI; 11 to 14).

Females

- There were no significant differences in the stroke AM rates in females from the **least** compared to the **most accessible** LGAs, for any of the seven years.
- The stroke AM rate in females from the **least accessible** LGAs in 2003 was 7 per 100,000 (95% CI; 4 to 9), which was not significantly lower than the rate in 1997 of 4 per 100,000 (95% CI; 0 to 9).
- The stroke AM rate in females from the **most accessible** LGAs in 2003 was 7 per 100,000 (95% CI; 5 to 9), which was not significantly different from the rate in 1997 of 9 per 100,000 (95% CI; 7 to 10).

Key messages:

The AM rate due to stroke was significantly higher in males than females and declined significantly between 1997 and 2003. If the trend continues, rates would be expected to further decline.

There were no significant differences in stroke AM rates by rurality or socioeconomic status for either males or females.

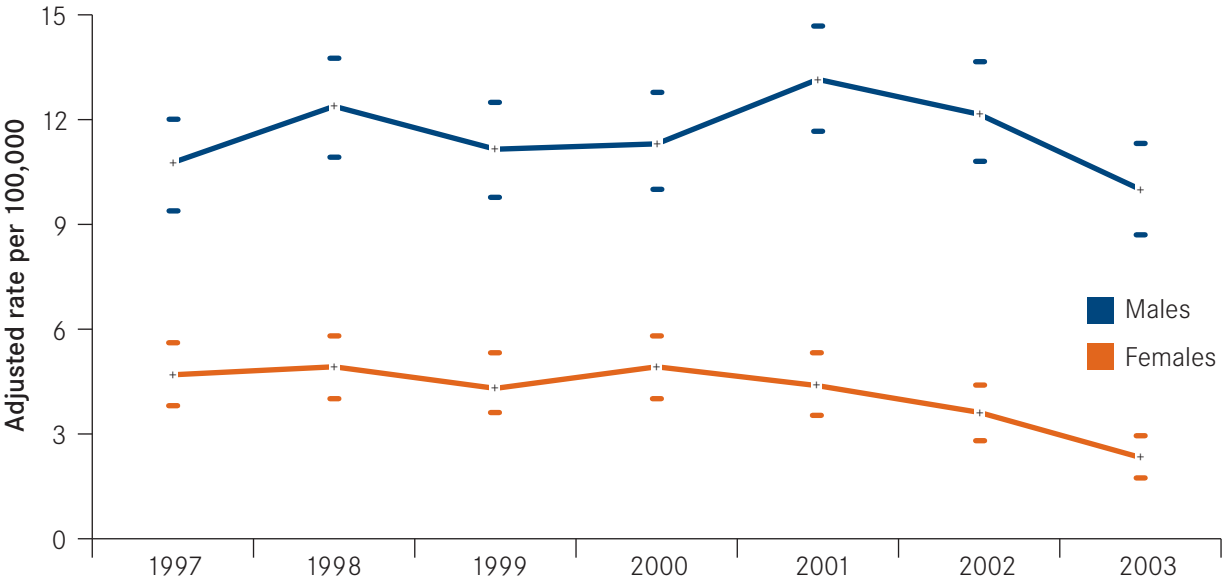
3.17 Trends in road traffic accident AM rates in Victoria (1997–2003)

This section reports on how AM rates due to road traffic accidents (RTA) have changed between 1997 and 2003. It also explores differences in RTA AM rates by rurality, socioeconomic status and accessibility to services.

3.17.1 Trends in RTA AM rates, Victoria (1997–2003)

- The RTA AM rate was significantly higher (130 to 335 per cent higher) in males compared to females, in all seven years (Figure 53).
- Overall there was a significant decline in the RTA AM rate between 1997 and 2003 in females but not males.
- The RTA AM rate in males in 2003 was 10 per 100,000 (95% CI; 9 to 11), which was not significantly different from the rate in 1997 of 11 per 100,000 (95% CI; 9 to 12).
- Given that the RTA AM rate in males did not change significantly between 1997 and 2003, we would expect that without intervention, the rate will remain the same in 2008.
- The RTA AM rate in females in 2003 was 2 per 100,000 (95% CI; 2 to 3), which was significantly lower than the rate in 1997 of 5 per 100,000 (95% CI; 4 to 6).
- If the current trend continues, we would expect the RTA AM rate in females to decline to less than 2 per 100,000 by 2008.

Figure 53. Trends in RTA AM rates (95% CI) by sex, Victoria (1997–2003)



3.17.2 Trends in RTA AM rates by sex and rurality, Victoria (1997–2003)

Males

- The RTA AM rate was significantly higher (45 to 135 per cent) in males from **rural** compared to **metropolitan** LGAs, in all seven years.
- The RTA AM rate in males from **rural** LGAs in 2003 was 17 per 100,000 (95% CI; 14 to 21), which was not significantly lower than the rate in 1997 of 16 per 100,000 (95% CI; 12 to 19).
- The RTA AM rate in males from **metropolitan** LGAs in 2003 was 7 per 100,000 (95% CI; 6 to 9), which was significantly different than the rate in 1997 of 9 per 100,000 (95% CI; 7 to 10).

Females

- The RTA AM rate was 28 to 207 per cent higher in females from **rural** compared to **metropolitan** LGAs, but this was only significant in 1997 and 2003, two of the seven years.
- The RTA AM rate in females from **rural** LGAs in 2003 was 5 per 100,000 (95% CI; 3 to 6), which was not significantly lower than the rate in 1997 of 8 per 100,000 (95% CI; 6 to 11).
- The RTA AM rate in females from **metropolitan** LGAs in 2003 was 2 per 100,000 (95% CI; 1 to 2), which was significantly lower than the rate in 1997 of 3 per 100,000 (95% CI; 3 to 4).

3.17.3 Trends in RTA AM rates by sex and socioeconomic status (IRSED category), Victoria (1997–2003)

Males

- The RTA AM rate was 42 to 160 per cent higher in males from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 2002 and 2003, two of the seven years.
- The RTA AM rate in males from the **most disadvantaged** LGAs in 2003 was 9 per 100,000 (95% CI; 6 to 12), which was not significantly different from the rate in 1997 of 11 per 100,000 (95% CI; 8 to 14).
- The RTA AM rate in males from the **least disadvantaged** LGAs in 2003 was 4 per 100,000 (95% CI; 2 to 6), which was not significantly different from the rate in 1997 of 6 per 100,000 (95% CI; 4 to 8).

Females

- There were no significant differences in RTA AM rates in females from the **most** compared to the **least disadvantaged** LGAs, for any of the seven years.
- The RTA AM rate in females from the **most disadvantaged** LGAs in 2003 was 3 per 100,000 (95% CI; 1 to 5), which was not significantly different from the rate in 1997 of 4 per 100,000 (95% CI; 2 to 6).
- The RTA AM rate in females from the **least disadvantaged** LGAs in 2003 was 1 per 100,000 (95% CI; 0 to 2), which was not significantly lower than the rate in 1997 of 2 per 100,000 (95% CI; 0 to 3).

3.17.4 Trends in RTA AM rates by sex and accessibility to services (ARIA category), Victoria (1997–2003)

Males

- The RTA AM rate was 21 per cent lower to 182 per cent higher in males from the **least** compared to the **most accessible** LGAs, but this was only significant in 1999 and 2003, where rates were higher in the least accessible LGAs.
- The RTA AM rate in males from the **least accessible** LGAs in 2003 was 21 per 100,000 (95% CI; 9 to 33), which was not significantly different from the rate in 1997 of 18 per 100,000 (95% CI; 7 to 28).
- The RTA AM rate in males from the **most accessible** LGAs in 2003 was 7 per 100,000 (95% CI; 6 to 9), which was not significantly different from the rate in 1997 of 10 per 100,000 (95% CI; 9 to 11).

Females

- There were no significant differences in RTA AM rates in females from the **least** compared to the **most accessible** LGAs, for any of the seven years.
- The RTA AM rate in females from the **least accessible** LGAs in 2003 was 8 per 100,000 (95% CI; 1 to 14), which was not significantly lower than the rate in 1997 of 7 per 100,000 (95% CI; 1 to 14).
- The RTA AM rate in females from the **most accessible** LGAs in 2003 was 2 per 100,000 (95% CI; 1 to 3), which was significantly lower than the rate in 1997 of 4 per 100,000 (95% CI; 3 to 5).

Key messages:

The AM rate due to road traffic accidents (RTA) was significantly higher in males than females.

There was no significant change in RTA AM rates for males between 1997 and 2003. Therefore, without intervention we would expect that the RTA AM rate in males will remain the same.

By contrast, the RTA AM rate did change significantly in females between 1997 and 2003 and if the trend continues, the rate would be expected to further decline.

Males who lived in rural LGAs had higher RTA AM rates than males who lived in metropolitan LGAs for all years. Males in the lowest most disadvantaged socioeconomic group had the highest RTA AM rates in 2002 and 2003, two of the seven years. Males with the least access to services had the highest RTA AM rates in 1999 and 2003, two of the seven years.

There were no significant differences in RTA AM rates in females by socioeconomic status. Females who lived in rural LGAs had higher rates than females who lived in metropolitan LGAs in 1997 and 2003, two of the seven years.

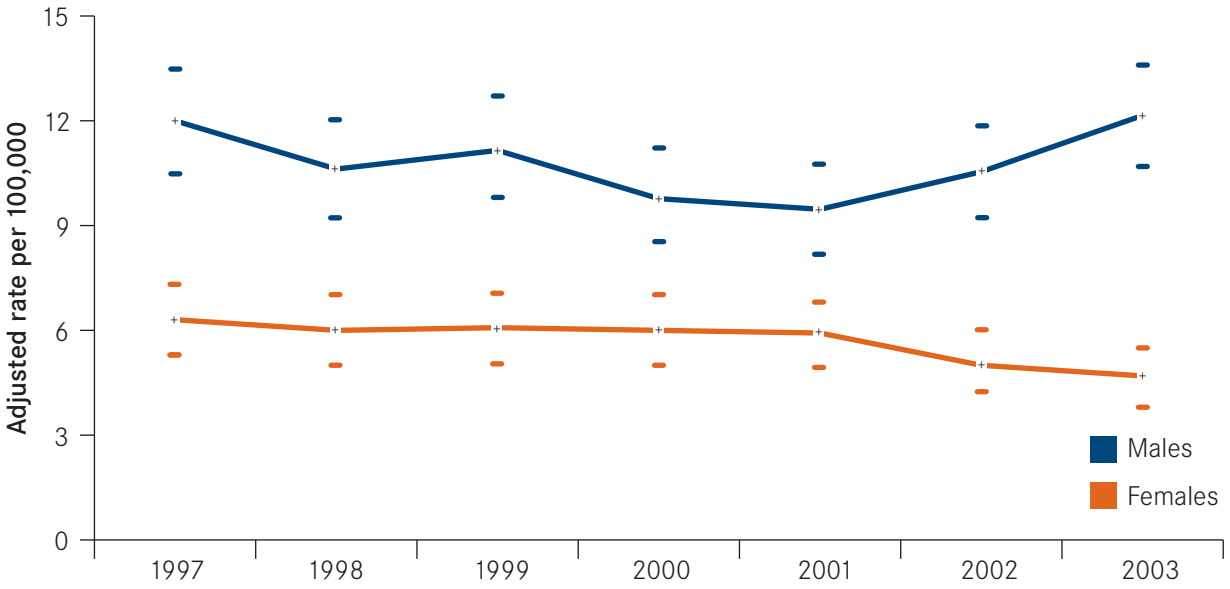
3.18 Trends in diabetes AM rates in Victoria (1997–2003)

This section reports on how AM rates due to diabetes have changed between 1997 and 2003. It also explores differences in diabetes AM rates by rurality, socioeconomic status and accessibility to services.

3.18.1 Trends in diabetes AM rates, Victoria (1997–2003)

- The diabetes AM rate was significantly higher (61 to 160 per cent) in males, compared to females, in all seven years (Figure 54).
- Overall there was a significant decline in the diabetes AM rate between 1997 and 2003 in females but not males.
- The diabetes AM rate in males in 2003 was 12 per 100,000 (95% CI; 11 to 14), which was not significantly different from the rate in 1997 of 12 per 100,000 (95% CI; 11 to 14).
- Given that the diabetes AM rate in males did not change significantly between 1997 and 2003, we would expect that without intervention, the rate will remain the same in 2008.
- The diabetes AM rate in females in 2003 was 5 per 100,000 (95% CI; 4 to 6), which was not significantly different from the rate in 1997 of 6 per 100,000 (95% CI; 5 to 7) although there has been a significant overall decline when all seven years of data (1997-2003) were taken into consideration.
- If the current trend continues, we would expect the diabetes AM rate in females to decline to 4 per 100,000 by 2008.

Figure 54. Trends in diabetes AM rates (95% CI) by sex, Victoria (1997–2003)



3.18.2 Trends in diabetes AM rates by sex and rurality, Victoria (1997–2003)

Males

- There were no significant differences in diabetes AM rates in males from **rural** compared to **metropolitan** LGAs, for any of the seven years.
- The diabetes AM rate in males from **rural** LGAs in 2003 was 13 per 100,000 (95% CI; 10 to 15), which was not significantly lower than the rate in 1997 of 10 per 100,000 (95% CI; 7 to 12).
- The diabetes AM rate in males from **metropolitan** LGAs in 2003 was 12 per 100,000 (95% CI; 10 to 14), which was not significantly lower than the rate in 1997 of 13 per 100,000 (95% CI; 11 to 15).

Females

- There were no significant differences in diabetes AM rates in females from **rural** compared to **metropolitan** LGAs, for any of the seven years.
- The diabetes AM rate in females from **rural** LGAs in 2003 was 5 per 100,000 (95% CI; 3 to 6), which was not significantly lower than the rate in 1997 of 5 per 100,000 (95% CI; 3 to 7).
- The diabetes AM rate in females from **metropolitan** LGAs in 2003 was 5 per 100,000 (95% CI; 4 to 6), which was not significantly lower than the rate in 1997 of 7 per 100,000 (95% CI; 6 to 8).

3.18.3 Trends in diabetes AM rates by sex and socioeconomic status (IRSED category), Victoria (1997–2003)

Males

- The diabetes AM rate was 26 to 103 per cent higher in males from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 2002, one of the seven years.
- The diabetes AM rate in males from the **most disadvantaged** LGAs in 2003 was 14 per 100,000 (95% CI; 11 to 18), which was not significantly different from the rate in 1997 of 14 per 100,000 (95% CI; 10 to 18).
- The diabetes AM rate in males from the **least disadvantaged** LGAs in 2003 was 11 per 100,000 (95% CI; 8 to 14), which was not significantly different from the rate in 1997 of 11 per 100,000 (95% CI; 8 to 15).

Females

- The diabetes AM rate was 50 to 256 per cent higher in females from the **most** compared to the **least disadvantaged** LGAs, but this was only significant in 1997 and 2002, two of the seven years.
- The diabetes AM rate in females from the **most disadvantaged** LGAs in 2003 was 6 per 100,000 (95% CI; 4 to 8), which was not significantly different from the rate in 1997 of 10 per 100,000 (95% CI; 7 to 13).
- The diabetes AM rate in females from the **least disadvantaged** LGAs in 2003 was 3 per 100,000 (95% CI; 1 to 4), which was not significantly lower than the rate in 1997 of 5 per 100,000 (95% CI; 3 to 7).

3.18.4 Trends in diabetes AM rates by sex and accessibility to services (ARIA category), Victoria (1997–2003)

Males

- There were no significant differences in diabetes AM rates in males from the **least** compared to the **most accessible** LGAs, for any of the seven years.
- The diabetes AM rate in males from the **least accessible** LGAs in 2003 was 14 per 100,000 (95% CI; 6 to 22), which was not significantly different from the rate in 1997 of 9 per 100,000 (95% CI; 2 to 16).
- The diabetes AM rate in males from the **most accessible** LGAs in 2003 was 12 per 100,000 (95% CI; 11 to 14), which was not significantly different from the rate in 1997 of 12 per 100,000 (95% CI; 11 to 14).

Females

- The diabetes AM rate was 75 per cent lower to 34 per cent higher in females from the **least** compared to the **most accessible** LGAs, but this was only significant in 2003, one of the seven years.
- The diabetes AM rate in females from the **least accessible** LGAs in 2003 was 1 per 100,000 (95% CI; 0 to 4), which was not significantly lower than the rate in 1997 of 7 per 100,000 (95% CI; 2 to 13).
- The diabetes AM rate in females from the **most accessible** LGAs in 2003 was 5 per 100,000 (95% CI; 4 to 6), which was not significantly different from the rate in 1997 of 7 per 100,000 (95% CI; 5 to 8).

Key messages:

The AM rate due to diabetes was significantly higher in males than females.

There was no significant change in diabetes AM rates for males between 1997 and 2003. Therefore, without intervention we would expect that the diabetes AM rate in males will remain the same.

By contrast, the diabetes AM rate did change significantly in females between 1997 and 2003 and if the trend continues, the rate would be expected to further decline.

There were no significant differences in diabetes AM rates for males by rurality. Males in the lowest most disadvantaged socioeconomic group had the highest diabetes AM rate in 2002 only, one of the seven years.

There were no significant differences in the diabetes AM rate in females by rurality. Females in the lowest most disadvantaged socioeconomic group had the highest diabetes AM rates in 1997 and 2002, two of the seven years. Females with the least access to services had the highest diabetes AM rate in 2003 only, one of seven years.

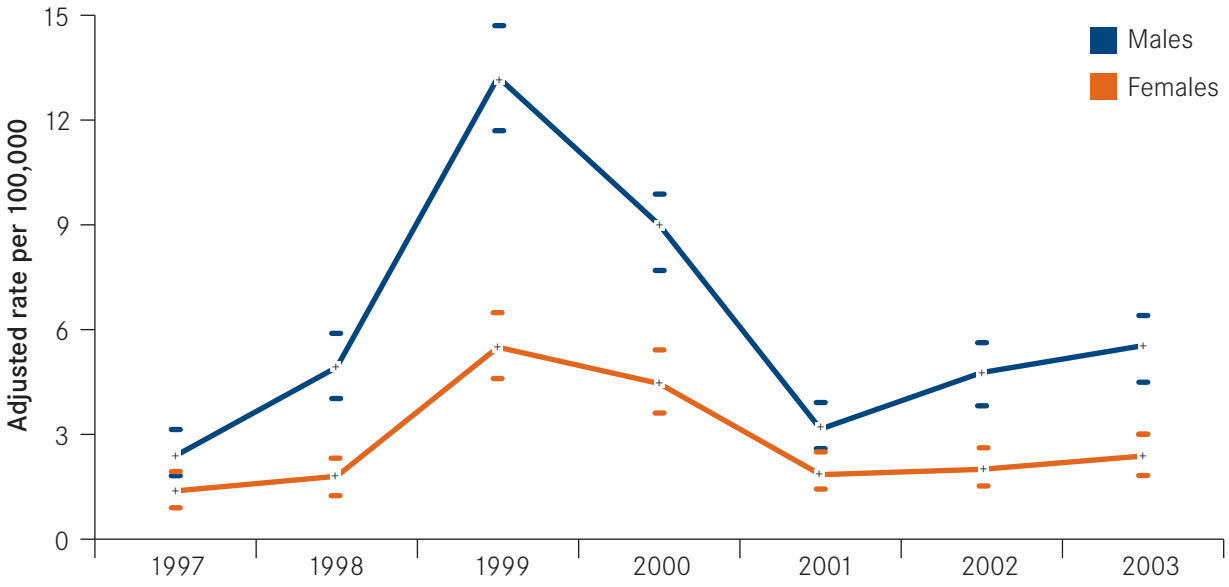
3.19 Trends in poisoning AM rates in Victoria (1997-2003)

In the following section we report on how AM rates due to poisoning have changed over time between 1997 and 2003. We also explored differences in poisoning AM rates by rurality, socioeconomic status and accessibility to services.

3.19.1 Trends in poisoning AM rates, Victoria (1997-2003)

- The poisoning AM rate was 68 to 172 per cent higher in males, compared to females, but this was only significant in 1998, 1999, 2000, 2002 and 2003, five of the seven years, but almost reached statistical significance in 1997 and 2001, two of the seven years (figure 53).
- Overall there was no significant change in the poisoning AM rate between 1997 and 2003 for either males or females.
- The poisoning AM rate in males in 2003 was 6 per 100,000 (95% CI; 5 to 6), which was significantly higher than the rate in 1997 of 2 per 100,000 (95% CI; 2 to 3).
- The poisoning AM rate in females in 2003 was 2 per 100,000 (95% CI; 2 to 3), which was not significantly different from the rate in 1997 of 1 per 100,000 (95% CI; 1 to 2).
- Given that the poisoning AM rates in males and females did not change significantly between 1997 and 2003, we would expect that without intervention, the rates will remain the same in 2008.

Figure 55. Trends in poisoning AM rates (95%CI) by sex, Victoria (1997-2003)



3.19.2 Trends in poisoning AM rates by sex and rurality, Victoria (1997–2003)

Males

- There were no significant differences in the poisoning AM rate in males from **rural** compared to **metropolitan** LGAs, for any of the seven years.
- The poisoning AM rate in males from **rural** LGAs in 2003 was 5 per 100,000 (95% CI; 3 to 7), which was significantly higher than the rate in 1997 of 1 per 100,000 (95% CI; 0 to 2).
- The poisoning AM rate in males from **metropolitan** LGAs in 2003 was 6 per 100,000 (95% CI; 5 to 7), which was significantly higher than the rate in 1997 of 3 per 100,000 (95% CI; 2 to 4).

Females

- There were no significant differences in the poisoning AM rate in females from **rural** compared to **metropolitan** LGAs, for any of the seven years.

- The poisoning AM rate in females from **rural** LGAs in 2003 was 3 per 100,000 (95% CI; 1 to 4), which was not significantly different than the rate in 1997 of 1 per 100,000 (95% CI; 0 to 2).
- The poisoning AM rate in females from **metropolitan** LGAs in 2003 was 2 per 100,000 (95% CI; 2 to 3), which was not significantly lower than the rate in 1997 of 2 per 100,000 (95% CI; 1 to 2).

3.19.3 Trends in poisoning AM rates by sex and socioeconomic status (IRSED category), Victoria (1997–2003)

Males

- There were no significant differences in the poisoning AM rate in males from the **most** compared to the **least disadvantaged** LGAs, for any of the seven years.
- The poisoning AM rate in males from the **most disadvantaged** LGAs in 2003 was 5 per 100,000 (95% CI; 3 to 7), which was not significantly different from the rate in 1997 of 2 per 100,000 (95% CI; 1 to 3).
- The poisoning AM rate in males from the **least disadvantaged** LGAs in 2003 was 6 per 100,000 (95% CI; 4 to 9), which was not significantly different from the rate in 1997 of 3 per 100,000 (95% CI; 1 to 4).

Females

- There were no significant differences in the poisoning AM rate in females from the **most** compared to the **least disadvantaged** LGAs, for any of the seven years.
- The poisoning AM rate in females from the **most disadvantaged** LGAs in 2003 was 3 per 100,000 (95% CI; 1 to 4), which was not significantly different from the rate in 1997 of 1 per 100,000 (95% CI; 0 to 2).
- The poisoning AM rate in females from the **least disadvantaged** LGAs in 2003 was 3 per 100,000 (95% CI; 1 to 4), which was not significantly different from the rate in 1997 of 3 per 100,000 (95% CI; 1 to 4).

3.19.4 Trends in poisoning AM rates by sex and accessibility to services (ARIA category), Victoria (1997–2003)

Males

- There were no significant differences in the poisoning AM rate in males from the **least** compared to the **most accessible** LGAs, for any of the seven years.
- The poisoning AM rate in males from the **least accessible** LGAs in 2003 was 5 per 100,000 (95% CI; 0 to 11), which was not significantly different from the rate in 1997 of 4 per 100,000 (95% CI; 0 to 8).
- The poisoning AM rate in males from the **most accessible** LGAs in 2003 was 5 per 100,000 (95% CI; 4 to 6), which was significantly higher from the rate in 1997 of 3 per 100,000 (95% CI; 2 to 3).

Females

- The poisoning AM rate ranged from 100 per cent lower to 71 per cent higher in females from the **least** compared to the **most accessible** LGAs, but this was only significant in 1999, where where rates were higher in the most accessible LGAs.
- The poisoning AM rate in females from the **least accessible** LGAs in 2003 was 2 per 100,000 (95% CI; 0 to 5), which was significantly higher than the rate in 1997 of 0 per 100,000 (95% CI; 0 to 6).
- The poisoning AM rate in females from the **most accessible** LGAs in 2003 was 2 per 100,000 (95% CI; 2 to 3), which was not significantly different from the rate in 1997 of 2 per 100,000 (95% CI; 1 to 2).

Key messages:

The AM rate due to poisoning was significantly higher in males than females in five of the seven years and nearly reached statistical significance in the other two years.

There was no significant change in the poisoning AM rate for males or females between 1997 and 2003. Therefore, without intervention we would expect that the poisoning AM rates will remain the same.

There were no significant differences in poisoning AM rates for males or females by rurality or socioeconomic status.

3.20 Annual change in adjusted AM rates between 1997 and 2003

The annual rate of change (expressed as %) in standardised rates of total AM, PAM, SAM, TAM, UM and the individual disease groups between 1997 and 2003 are presented in Table 3.

Table 3. Annual change in adjusted rate (%) of the summary measures of avoidable mortality (1997–2003)

Summary measures of avoidable mortality	Males (95% confidence interval)	Females (95% confidence interval)
Total avoidable mortality	-4.6 (-3.9 to -5.2)	-4.0 (-2.9 to -5.0)
Primary avoidable mortality	-4.6 (-3.9 to -5.4)	-3.6 (-2.2 to -4.9)
Secondary avoidable mortality	-4.6 (-3.8 to -5.3)	-4.6 (-3.5 to -5.6)
Tertiary avoidable mortality	-4.2 (-2.6 to -5.9)	-4.0 (-2.5 to -5.4)
Unavoidable mortality	-2.2 (-1.1 to -3.4)	-1.9 (-0.1 to -3.6)

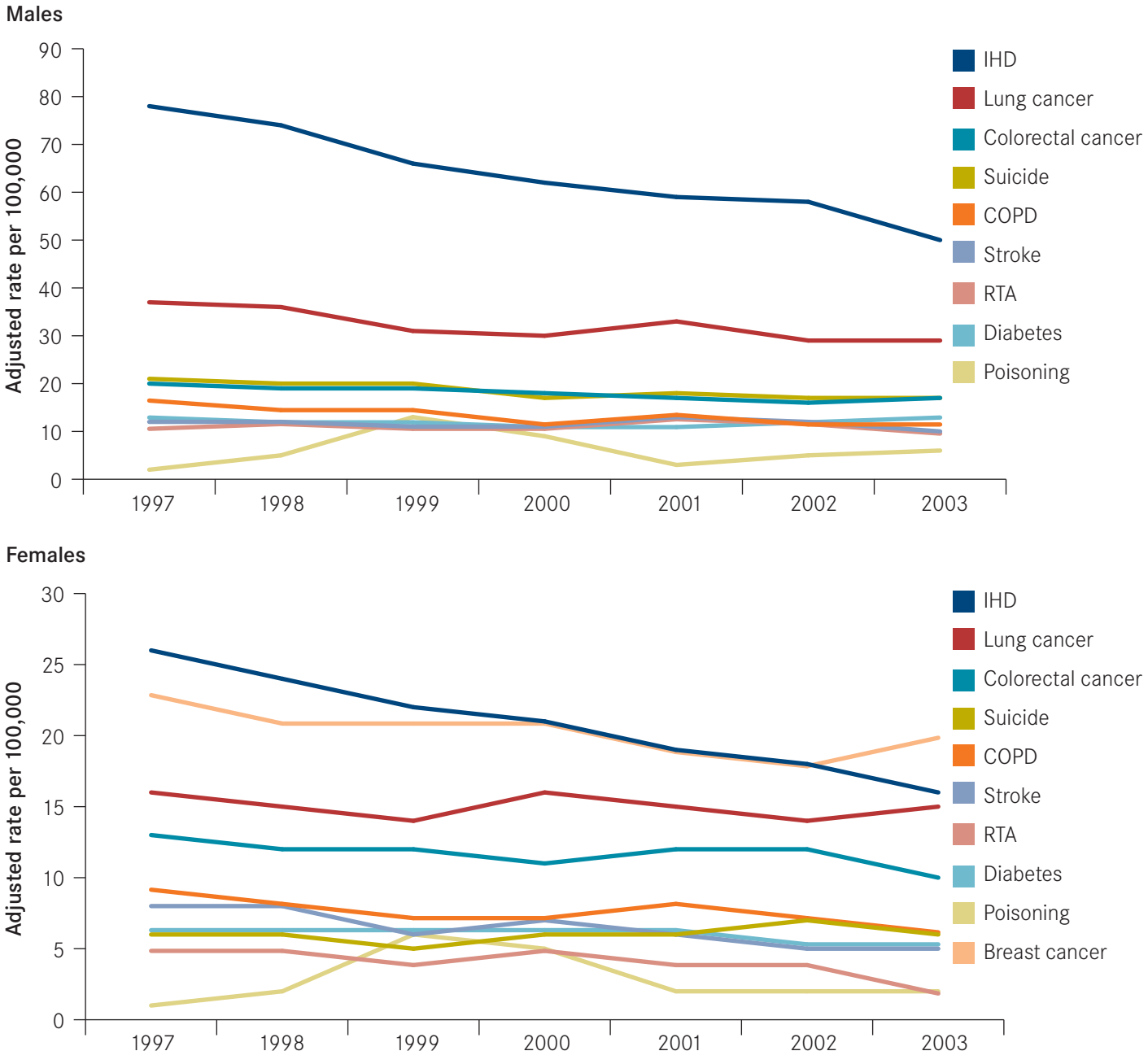
The annual rate of change in UM was less than 50 per cent that of total AM, PAM, SAM, TAM, in both males and females. There was an overall decline in the rates of all of the top 20 causes of avoidable death, with the exception of poisoning in both males and females and suicide in females. The greatest annual decline was observed for IHD (-6.8 per cent) in males and road traffic accidents (-9.4 per cent) for females (Table 4).

Table 4. Annual change in adjusted rate (%) of the top ten causes of avoidable mortality (1997–2003)

Condition or cause	Males (95% confidence interval)	Females (95% confidence interval)
IHD	-7.0 (-5.6 to -8.4)	-7.9 (-6.7 to -9.2)
Lung cancer	-4.0 (-1.4 to -6.7)	-0.3 (-3.2 to 2.6)*
Colorectal cancer	-3.7 (-1.8 to -5.6)	-3.2 (-1.1 to -5.4)
Suicide	-3.9 (-1.2 to -6.5)	1.6 (-3.4 to 6.7)*
Breast cancer	N/A	-3.1 (-0.5 to -5.7)
Chronic obstructive respiratory diseases	-5.8 (-2.6 to -8.9)	-3.8 (-8.6 to 0.8)*
Stroke	-5.4 (-1.9 to -9.0)	-8.4 (-3.6 to -13.2)
Diabetes	-0.4 (-5.4 to 4.6)*	-4.6 (-1.9 to -7.2)
Road traffic accidents	-0.4 (-5.3 to 4.6)*	-9.8 (-0.9 to -18.8)
Poisoning	3.5 (-27.1 to 34.1)*	2.7 (-24.0 to 29.5)*

* Not statistically significant

Figure 56. Trends of adjusted AM rates over time for the top causes of mortality in males and females, Victoria (1997–2003)



4. Discussion and conclusions

This is the first comprehensive report on AM in Victoria. The aim of this report is to demonstrate the usefulness of AM as a public health indicator that could identify potential shortcomings in our health care system and inform policy makers and others.

Between 1997 and 2003, 63 per cent of all deaths in Victorians under the age of 75 years were deemed to be potentially avoidable, suggesting that there is room for improving the health care system. In males and females, 60 per cent and 50 per cent respectively of these avoidable deaths were designated as PAM. This means that these deaths could potentially have been avoided by preventing the occurrence of the disease or condition in the first place, by addressing the risk or protective factors, whether through individual behavior change (lifestyle modification) or population level intervention (public health policy). In males and females, 20 per cent and 25 per cent respectively of these avoidable deaths were designated as SAM (secondary AM), which means that these deaths could potentially have been avoided through early detection and treatment, typically in a primary health care setting. Similarly, in males and females, 20 per cent and 25 per cent respectively of these avoidable deaths were designated as TAM (tertiary AM), which means that these deaths could potentially have been avoided through the application of existing medical or surgical treatments typically, but not necessarily, in a hospital setting, even when the disease process is fully developed. These figures suggest that resources may be better channelled into public health measures to reduce PAM rates as this is where the majority of avoidable deaths occur. However, these classifications do not provide any information on the relative effectiveness of the various interventions that may achieve this, and it may be that the most cost-effective interventions impact on SAM or TAM rather than PAM. For example, it is well documented that eliminating or reducing risk factors through influencing changes in individual behaviour, such as smoking cessation or weight reduction, is notoriously difficult with low success rates.

The top ten causes of AM between 1997 and 2003, in descending order, were IHD, lung cancer, colorectal cancer, suicide, breast cancer, COPD, stroke, diabetes, road traffic accidents, and poisoning. Of these, suicide, road traffic accidents and poisonings were associated predominantly with Victorians aged 30 years or younger, while IHD, lung cancer, colorectal cancer, breast cancer, COPD, stroke and diabetes were predominantly associated with Victorians over 30 years of age.

4.1 Temporal trends

The total age-adjusted AM rate in Victoria significantly declined, by 4.6 per cent in males and 3.9 per cent in females per year, between 1997 and 2003. Cardiovascular disease (IHD and stroke) and cancer (lung, colorectal and breast) were responsible for more than 50 per cent of all avoidable deaths. The decline can largely be attributed to the success of public health interventions aimed at reducing the prevalence of risk factors (for example, smoking and unhealthy diets), medical interventions such as the management of risk factors (for example, high blood pressure and blood cholesterol levels), and advances in treatment (for example, coronary bypass graft surgery and chemotherapy) (Goldman & Cook, 1984; Hunink *et al.,* 1997; Capewell *et al.,* 2000; Kuulasmaa *et al.,* 2000; Tunstall-Pedoe *et al.,* 2000).

In the UK between 1972 and 2002, all deaths (avoidable and unavoidable) from colorectal cancer fell significantly, with a drop in mortality rates of 27 per cent in males and 43 per cent in females (Kmietowicz, 2004). This was attributed to better early detection and treatment of the disease. In the same period, mortality from breast cancer in females fell by 20 per cent. By contrast, while death rates due to lung cancer fell in males by 47 per cent, they rose in females 55 per cent, reflecting the fact that since the 1950s many males have given up smoking while more females have taken up the habit. This period in the UK also witnessed declines in death rates due to other less common cancers such as cancer of the stomach, bladder, testis, lymphoma and leukaemia. These declines were largely attributed to changes in lifestyle, development of screening services, earlier diagnoses, and new treatments. However, while death rates have declined, the incidence of all these cancers has increased, indicating that we need more strategies to prevent cancer (Kmietowicz, 2004). Similar forces are likely to be at work in Australia and this report, while estimating avoidable deaths in colorectal, lung, and breast cancers rather than 'all' deaths, concurs with the UK findings. We noted a significant decrease in the AM rate due to colorectal cancer in both males and females in Victoria between 1997 and 2003. We also noted a significant decline in the AM rate due to breast cancer in females and the AM rate due to lung cancer followed a similar pattern where it declined in males but not females.

In Victoria between 1997 and 2003, the annual total AM rate declined at approximately twice the rate of UM. Similar relative declines have been observed in other countries. For example, AM declined by 38 per cent compared to a decline of only 9 per cent for UM in New Zealand between 1981 and 1997 (Tobias & Jackson, 2001), and AM declined by 67 per cent compared to 21 per cent for UM in Spain between 1960 and 1984 (Gil & Rathwell, 1989; Marshall *et al.,* 1993).

We observed significant declines in **males** for AM rates due to IHD, lung cancer, colorectal cancer, suicide, COPD and stroke, but **not** for diabetes, road traffic accidents or poisoning. We observed significant declines in **females** for AM rates due to IHD, colorectal cancer, breast cancer, stroke, diabetes and road traffic accidents, but **not** for lung cancer, suicide, COPD or poisoning. Thus the AM indicator has identified particular areas of concern where we have an opportunity to intervene, that is, diabetes and road traffic accidents in males, lung cancer, suicide and COPD in females, and poisoning in both males and females. Of course there are several important caveats. Firstly, this data only looks at AM rates up to and including 2003 and it may be that changes have occurred over the last five years that would change these conclusions. Secondly, this is mortality data and does not provide any information about the incidence of these diseases and conditions, for example, there is usually a lag period between diagnosis with a cancer and death, thus the incidence of a particular cancer may have been in decline for many years but this is not immediately reflected in a decline in mortality. Thirdly, not all interventions are equal in effectiveness and this should be taken into consideration when making funding decisions.

We observed that AM rates of poisoning did not decline between 1997 and 2003 for either sex. Poisoning includes all accidental poisoning by exposure to noxious substances from prescription medications, pesticides, household and industrial solvents, to illicit street drugs. Further investigation of the predominant types of exposures over time would be useful.

4.2 Sex differentials

Males consistently had significantly higher AM rates than females. This disparity has also been noted elsewhere. For example, males in New Zealand experienced an 18 per cent higher rate of AM than females between 1997 and 1998 (Tobias & Jackson, 2001). Similarly, males in Finland had a 2.4-fold greater risk of AM compared to females between 1980 and 1986 (Poikolainen & Eskola, 1995) and males in Singapore had an 81 per cent higher rate than females between 1965 and 1994 (Niti & Ng, 2001). Interestingly, in Sweden between 1986 and 1990, there was no difference between the sexes in AM rates among employed persons although a similar sex differential was found among the unemployed where males again experienced higher AM rates (Westerling, Gullberg & Rosen, 1996).

4.3 Socioeconomic gradient

Overall there was a fairly consistent tendency for AM rates to be significantly higher among males who resided in the most disadvantaged LGAs compared with males who resided in the least disadvantaged LGAs, suggesting that socioeconomic status is an important determinant of AM rates. This is consistent with the international literature in which socioeconomic status has been repeatedly shown to be an important predictor of a person's health status and risk of ill-health from almost all conditions and diseases (Charlton *et al.,* 1983; Mackenbach, Stronks & Kunst, 1989; Boys, Forster & Jozan, 1991; Marshall *et al.,* 1993; Poikolainen & Eskola, 1995; Westerling, Gullberg & Rosen, 1996; Niti & Ng, 2001). For example, Tobias and Jackson, who used a similar methodology, found a very strong and almost linear correlation of AM with socioeconomic class in New Zealand in 1997 to 1998 (Tobias & Jackson, 2001).

Barondess in an essay on inequality, argues that the poor are less well-educated and so are less knowledgeable about how to take care of themselves; they also live in generally worse conditions (Barondess, 2001). They are more susceptible to the effects of unhealthy diets, overcrowding, unsafe working conditions, and exposure to environmental hazards. They are also more vulnerable to interpersonal aggression and risky behaviour – a point not lost on marketers and suppliers of cigarettes, alcohol, drugs and junk food. But the impact of those things we usually associate with poverty – bad diet, crowding, environmental toxins, health-adverse habits – account for only about 25 per cent of the difference in life expectancy between those at the top and those at the bottom of the socioeconomic ladder. The remaining 75 per cent of the variation appears to be due not to absolute levels of deprivation, but to less tangible causes that reflect **relative** poverty – that is, inequality itself. The impact of relative, rather than absolute, inequality may explain why the association between socioeconomic status and mortality has persisted over the last 150 years,

despite dramatic changes in social and health conditions, risk factors, life expectancy, disease patterns, and health care systems. It also suggests that addressing and ameliorating obvious risk factors, such as poor housing, sanitation and working conditions, although clearly essential for increasing the life expectancy of the poor and blunting the relation between socioeconomic status and mortality, will not be sufficient. One possible reason for inequality's cumulative toll on the health of the poor is that managing stress is more difficult at lower socioeconomic levels. Not only are financial strains obviously more acute, but social relationships and supports are more easily disrupted. The combination of high levels of stress and weak mechanisms for coping with stress has been shown to increase the risk of psychological dysfunction, and has been linked to reduced resilience to disease (Barondess, 2001). Similarly, work-related stress is also a serious public health problem. There is strong epidemiologic evidence that job stress predicts mental illness and mental health problems, cardiovascular disease and various other adverse health outcomes. However, job strain and associated cardiovascular disease and depression risks are inequitably distributed, with lower skill level working Victorians most likely to be adversely affected (LaMontagne *et al.,* 2006).

Poverty, or even relative deprivation, is often also associated with other indicators of social status. Racial discrimination, disenfranchisement and other disadvantages produce a sense of anger, impotence, and other debilities that have been held, with some evidence, responsible for the step-by-step gradation in life expectancy related to socioeconomic status. By contrast, higher socioeconomic status appears to increase an individual's awareness of, and ability to avoid, the risks associated with disease and death. We still have much to learn about how social and economic inequality translates into differences in health and life expectancy. But one thing is certain: direct attacks on poor sanitation, inadequate housing, and unsafe environmental and working conditions, as well as educational campaigns directed at risky personal behaviour, can hope to address only a part of the problem (Barondess, 2001).

Interestingly, while significant differences were found for males, the picture is not quite so consistent and clear for females. Significant differences between females who resided in the **most** disadvantaged LGAs compared with females who resided in the **least** disadvantaged LGAs were noted, but not for all causes of AM and not necessarily in all years. Similar findings of a sex differential have been reported in the literature. For example, suicide rates between 1994 and 1998 in Australia differed significantly by socioeconomic status in males, but not females (Page, Morrell & Taylor, 2002). The authors further investigated this sex differential by analysing the composite components of the IRSED scale; level of economic resources (IER) and educational and occupational status (IEO). Suicide rates in males exhibited a strong socioeconomic gradient for all components of the IRSED scale, while females did for the IER component but showed a reverse gradient for the IEO component where suicide rates actually increased with increasing level of educational attainment or occupational status. The authors concluded that the lack of a socioeconomic gradient by IRSED score was due to the components effectively cancelling each other out. Reasons for the sex differential may lie in the cross-sectional design of these types of studies in that they cannot reflect changes over time in income or occupational status that affect women more than men. Such changes include women's dual roles of employment and primary caretaker of the family that usually results in reduced income, exacerbated by high rates of marital dissolution, as well as disparities in male and female earning capacity and opportunities, which all combine to create inequalities between males and females.

4.4 Geographic differentials

Total AM rates were significantly higher among both males and females residing in rural LGAs compared with metropolitan LGAs. Similarly, males residing in rural LGAs had significantly higher AM rates due to IHD, suicide, COPD and road traffic accidents but not due to lung or colorectal cancers, stroke, diabetes or poisonings. By contrast, we observed very few significant differences in AM rates due to the top ten causes between females who resided in rural compared to metropolitan LGAs. We also observed very few significant differences in the rate of any AM indicator by accessibility to services including health care services. However, caution must be exercised in interpreting these findings. Accessibility to services was compared between persons residing in LGAs with the least access to services and those residing in LGAs with the greatest access. Less than 3 per cent of the Victorian population resides in LGAs that fall into the category of 'least access', representing approximately 127,000 people compared with approximately four million people who fall into the category of 'greatest access'. Therefore, the number of people may be too small to detect statistically significant differences even if they existed. Therefore, absence of evidence isn't necessarily evidence of absence.

Significant differences in mortality rates (avoidable and unavoidable) between persons who reside in rural compared to metropolitan areas have been previously reported for Australia by the Australian Institute of Health and Welfare (AIHW, 2003). Suicide rates are well-documented to be significantly higher in rural areas compared to metropolitan areas in Australia (Caldwell, Jorm & Dear, 2004). Whether the rural-metropolitan disparity is due to differences in availability of appropriate and accessible health care services or health-seeking behaviours, or a combination of both, remains to be determined.

4.5 Limitations of avoidable mortality

A number of potential limitations of the methodology used in this study need to be acknowledged. It is very clear that the choice of definition of AM has considerable influence on the patterns and trends of AM. We have, to a large extent, followed the methods of Tobias and Jackson and the cautions noted by those authors are also appropriate to this study. Specifically, Tobias and Jackson noted that 'The indicator has been constructed to measure the theoretical scope for further population health gain, not what may be considered feasible given current technology, available resources and competing values' (Tobias & Jackson, 2001). Nolte & McKee described some of the limitations of AM, and these are summarised below (Nolte & McKee, 2004).

4.5.1 The changing concept of avoidability

AM conditions were first identified by Rustein and co-authors in the mid 1970s (Rutstein *et al.,* 1976). The conditions identified as potentially avoidable deaths reflected consensus about what was achievable by medical care at that time. However, significant advances have been made in the health care over the last three decades. This has resulted in investigators modifying the list of AM conditions by including causes of death previously considered not being amenable to effective treatment. For example, Mackenbach and co-authors expanded the original list to include ischaemic heart disease, rectal cancer and hip fracture (Mackenbach, 2000). Tobias and Jackson further broadened the concept of AM to include 56 groups of conditions or diseases reflecting advances in prevention and treatment of these conditions (Tobias & Jackson, 2001). Therefore, it is highly likely that the list of conditions and diseases deemed to be potentially avoidable will continue to change and expand in the future.

4.5.2 Cause of death certification and coding

The quality of mortality data has been questioned and it has been suggested that observed differences in AM rates may be due in part to variations in the reliability of information derived from death certificates and subsequent coding of cause of death. While acknowledging that the interpretation of mortality data must always be subject to possible issues relating to completeness and consistency of death certification and coding of diagnostic and demographic fields, mortality data collection in Australia adheres to standards of international best practice. A single national body with an international reputation (Australian Bureau of Statistics, ABS) is responsible for the collection and coding of mortality data from the states and territories. The ABS uses a variety of quality control measures to ensure mortality data is as reliable as possible. These include contacting the certifying doctor to obtain additional information if necessary, audits of the coding of cause of death, detailed computer editing of data, and checks on the statistical output at the individual and aggregated levels.

4.6 National and international comparisons

As indicated in Section 1.1, previous research has focused on refining the concept of AM and examining trends in AM in the jurisdictions where the concept has been applied as a global indicator of the effectiveness of health care and other interventions that impinge on the health status of the population. This section summarises the findings of the few studies that have focused on geographic variation in avoidable and amenable mortality rates which include Victoria and Australia in the comparisons made.

4.6.1 National comparisons

In 2006, the Public Health Information Development Unit (PHIDU) at the University of Adelaide, South Australia, in collaboration with the Public Health Intelligence Unit of the Ministry of Health, New Zealand, published an analysis of avoidable mortality in Australia and New Zealand between 1987 and 2001 (Page et al., 2006). While the PHIDU study used similar methodology to this report, there were some significant differences. The diseases and conditions selected by PHIDU differed (see Page et al., 2006, Appendix 1.1, pp. 201–202 for details of the ICD codes used), although these were still based on those published by Tobias and Jackson (2001). PHIDU also chose not to adopt Tobias and Jackson's classification of avoidable causes according to the level of intervention (PAM, SAM, and TAM). Instead PHIDU followed the approach taken by Nolte and McKee (2004), where causes of death were classified as 'avoidable' or 'amenable'. Avoidable causes are those that can be prevented from occurring in the first place, while amenable causes are those for which case fatalities can be significantly reduced with appropriate medical intervention(s). While most conditions can be classified into one or the other of these two categories, this was not the case for IHD, stroke and diabetes. Thus, in the PHIDU study, the decision was made to apportion half the deaths due to these causes to the preventable category and the remaining half to the amenable category.

Among the eight states and territories, Victoria had the third lowest age-adjusted total avoidable mortality rate in 2001, 153.5 deaths per 100,000 population, which was below the national rate of 161.3 deaths per 100,000 (Appendix 4, Table 1). The Northern Territory had the highest total avoidable mortality rate, while the Australian Capital Territory (ACT) had the lowest. Similarly, Victoria had the third lowest age-adjusted rate of amenable mortality, 63.0 deaths per 100,000 of population, which was below the national rate of 65.3 per 100,000. Again the Northern Territory had the highest rate and the ACT the lowest. However, whether the differences between the rates by state/territory for either avoidable or amenable mortality reached statistical significance was not reported and, therefore, caution should be exercised in interpreting these findings.

Between 1987 and 2001, the PHIDU study also observed a significant decline in rates of both avoidable and amenable mortality, for both males and females, for all states/territories and noted that the rates were significantly higher for males compared to females. These findings concur with the results in this report.

4.6.2 International comparisons

In assessing health care system performance across nineteen Organization for Economic Cooperation and Development (OECD) countries, Nolte and McKee (2008) compared rates of amenable mortality in people under the age of 75 years for the period of 1997–2003. Amenable mortality was defined as those deaths from causes that are considered to be amenable to health care. The list of causes and associated age ranges were selected by the authors through systematic review and differ considerably from those used in this report. Moreover, the authors did not include deaths that could have been prevented in the first place, unless they were also amenable to health care. Rates were computed for two years combined and a comparison was made between 1997–98 and 2002–03.

In 2002–03, Australia had the third lowest amenable mortality rate, 71.3 per 100,000 of population (Appendix 4, Table 2), behind France (64.8 per 100,000) and Japan (71.2 per 100,000), suggesting that the Australian health care system was performing extremely well. By contrast, the United Kingdom (102.8 per 100,000 population) and the United States (109.7 per 100,000 population) ranked sixteenth and nineteenth respectively. In 1997–98, Australia had the fourth lowest rate behind France, Japan and Spain. On average, amenable mortality rates in the OECD countries declined significantly between 1997–98 and 2002–03, by 17 per cent in males and 14 per cent in females.

4.7 Conclusions

In Victoria between 1997 and 2003, the annual total AM rate significantly declined at approximately twice the rate of UM. This suggests that we are going in the right direction to improve health outcomes for Victoria. However, given that 63 per cent of **all** deaths <75 years in Victoria were due to potentially avoidable causes, there may be much room for improvement.

The majority of avoidable deaths are from causes that are potentially preventable, rather than requiring treatment, and it may be that resources would be best channelled into public health initiatives if the intent is to reduce the absolute numbers of avoidable deaths. However, this study does not provide any information about the relative effectiveness of interventions and, given that preventative interventions will require changing individual behaviours, which is notoriously difficult to do, it may be more cost-effective to consider some treatment options. Therefore, while this study identifies areas of potential intervention, we recommend that a thorough cost-effectiveness analysis of all options be conducted prior to any decisions being made.

Of the top ten leading causes of avoidable deaths, suicide, road traffic accidents and poisonings were associated predominantly with young Victorians aged 30 years or less, while IHD, lung cancer, colorectal cancer, breast cancer, COPD, stroke and diabetes were predominantly associated with Victorians over 30 years of age.

Between 1997 and 2003, we observed that AM rates due to diabetes and road traffic accidents in males, lung cancer, suicide and COPD in females, and poisoning in both males and females, did not change significantly over time. Whether these diseases or conditions should be specifically targeted will depend on the relative cost-effectiveness of the intervention options and assumes that rates have not changed between 2003 and the present time.

Socioeconomic status and rurality are important determinants of AM rates where residence in the most disadvantaged and/or rural LGAs is often associated with significantly higher rates, although the picture may be more complicated for females compared to males. Therefore any strategy aimed at reducing AM rates may wish to consider specifically targeting these particularly vulnerable populations.

This report demonstrates the usefulness of AM as an outcome indicator of possible weaknesses in the health care system that can then be investigated in more depth. Its strong points include that 'it is easily available, not expensive and quick to use' (Gaizauskiene & Gurevicius, 1995) and can be used to observe trends over time and to identify particularly vulnerable sub-populations.

5. Appendices

Appendix 1: Causes of AM by ICD-9 and ICD-10 codes

				Proportion in each category		
Category	**ICD-9**	**ICD-10**	**Diseases/conditions included**	**PAM**	**SAM**	**TAM**
Enteritis and other diarrhoeal diseases	001-009	A00-A09	Diarrhoeal diseases	0.7	0.1	0.2
Tuberculosis	010-018, 137	A15-A19, B90	Tuberculosis	0.6	0.35	0.05
Immunisation-preventable diseases	032-033,037,045, 055-056, 320.0, 771.0, 771.3	A33, A35-A37, A80, B05-B06, P35.0, A49.2, G00.0	Diphtheria, whooping cough, tetanus, polio, Hib, measles, rubella	0.90	0.05	0.05
HIV/AIDS	42	B20-B24	HIV/AIDS	0.90	0.05	0.05
Hepatitis and liver cancer	070, 155	B15-B19, C22.0, C22.1, C22.9	Hepatitis A, B, C, D, E, primary liver cancer	0.70	0.10	0.20
Sexually transmitted diseases	090-099, 614.0-614.5, 614.7-616.9, 633	A50-A64, N34.1, N70.0, N70.9, N71.0, N71.1, N72, N73.0-N73.5, N73.8, N75.0, N75.1, N76.0, N76.2, N76.4, N76.6, N76.8, N77.0, N77.1, N77.8, O00, R59.1	Syphilis, gonorrhoea + other STDs, ectopic pregnancy	0.80	0.10	0.10
Skin cancer	140, 172, 173	C00, C43-C44	Lip, melanoma, other skin cancer	0.60	0.10	0.30
Colorectal cancer	153-154	C18-C21	Colorectal cancer	0.40	0.50	0.10
Oral cancer	141, 143-146, 148-149, 161	C02-C06, C09-C10, C12-C14, C32	Malignant neoplasm mouth, pharynx, larynx	0.80	0.10	0.10
Lung cancer	162	C33-C34	Malignant neoplasm, trachea, bronchus, lung	0.95	0.00	0.05
Breast cancer	174	C50	Breast cancer	0.15	0.35	0.50
Nutrition	260-269, 280, 281	D50-53, E40-E46, E50-E56, E63-E64	Nutritional deficits including anaemia	1	0	0
Alcohol related conditions	291, 303, 305.0, 425.5, 535.3, 571.0-571.3	F10, I42.6, K29.2, K70	Psychosis, alcoholism, cardiac, gastric or liver damage due to alcohol	0.90	0	0.10
Chronic obstructive respiratory diseases	490-492, 496	J40-J44	Chronic bronchitis and emphysema	0.80	0.10	0.10
Ischaemic heart disease	410-414	I20-I22, I24, I25.1-I25.9	Ischaemic heart disease	0.50	0.25	0.25
Stroke	431, 433, 434, 436	I61, I62.0, I63.0-I63.5, I63.8-I63.9, I64-I66, I67.8	Intracerebral haemorrhage or occlusion	0.30	0.50	0.20
Neural tube defects	740-742	Q00-Q07	Congenital anomalies of brain and spinal cord	0.60	0.20	0.20
Low birth weight babies	764-765, 770.7	P05-P07, P22, P27	Prematurity, low birth weight, respiratory disease from prematurity	0.50	0.10	0.40
Sudden infant death syndrome (SIDS)	798	R95	SIDS	1	0	0

Appendix 1: Causes of AM by ICD-9 and ICD-10 codes (continued)

				Proportion in each category		
Category	**ICD-9**	**ICD-10**	**Diseases/conditions included**	**PAM**	**SAM**	**TAM**
Road traffic injury	E810-E829	V01.1, V02.1, V03.1, V04.1, V05.1, V06.1, V09.2, V09.3, V10.4, V10.5, V10.9, V11.4, V11.5, V11.9, V12.4, V12.5, V12.9, V13.4, V13.5, V13.9, V14.4, V14.5, V14.9, V15.4, V15.5, V15.9, V16.4, V16.5, V16.9, V17.4, V17.5, V17.9, V18.4, V18.5, V18.9, V19.4, V19.5, V19.6, V19.9, V20.4, V20.5, V20.9, V21.4, V21.5, V21.9, V22.4, V22.5, V22.9, V23.4, V23.5, V23.9, V24.4, V24.5, V24.9, V25.4, V25.5, V25.9, V26.4, V26.5, V26.9, V27.4, V27.5, V27.9, V28.4, V28.5, V28.9, V29.4, V29.5, V29.6, V29.9, V30.5, V30.6, V30.7, V30.9, V31.5, V31.6, V31.7, V31.9, V32.5, V32.6, V32.7, V32.9, V33.5, V33.6, V33.7, V33.9, V34.5, V34.6, V34.7, V34.9, V35.5, V35.6, V35.7, V35.9, V36.5, V36.6, V36.7, V36.9, V37.5, V37.6, V37.7, V37.9, V38.5, V38.6, V38.7, V38.9, V39.4, V39.5, V39.6, V39.9, V40.5, V40.6, V40.7, V40.9, V41.5, V41.6, V41.7, V41.9, V42.5, V42.6, V42.7, V42.9, V43.5, V43.6, V43.7, V43.9, V44.5, V44.6, V44.7, V44.9, V45.5, V45.6, V45.7, V45.9, V46.5, V46.6, V46.7, V46.9, V47.5, V47.6, V47.7, V47.9, V48.5, V48.6, V48.7, V48.9, V49.4, V49.5, V49.6, V49.9, V50.5, V50.6, V50.7, V50.9, V51.5, V51.6, V51.7, V51.9, V52.5, V52.6, V52.7, V52.9, V53.5, V53.6, V53.7, V53.9, V54.5, V54.6, V54.7, V54.9, V55.5, V55.6, V55.7, V55.9, V56.5, V56.6, V56.7, V56.9, V57.5, V57.6, V57.7, V57.9, V58.5, V58.6, V58.7, V58.9, V59.4, V59.5, V59.6, V59.9, V60.5, V60.6, V60.7, V60.9, V61.5, V61.6, V61.7, V61.9, V62.5, V62.6, V62.7, V62.9, V63.5, V63.6, V63.7, V63.9, V64.5, V64.6, V64.7, V64.9, V65.5, V65.6, V65.7, V65.9, V66.5, V66.6, V66.7, V66.9, V67.5, V67.6, V67.7, V67.9, V68.5, V68.6, V68.7, V68.9, V69.4, V69.5, V69.6, V69.9, V70.5, V70.6, V70.7, V70.9, V71.5, V71.6, V71.7, V71.9, V72.5, V72.6, V72.7, V72.9, V73.5, V73.6, V73.7, V73.9, V74.5, V74.6, V74.7, V74.9, V75.5, V75.6, V75.7, V75.9, V76.5, V76.6, V76.7, V76.9, V77.5, V77.6, V77.7, V77.9, V78.5, V78.6, V78.7, V78.9, V79.4, V79.5, V79.6, V79.9, V80.0, V80.1, V80.2, V80.3, V80.4, V80.5, V80.6, V80.7, V80.8, V80.9, V81.1, V82.1, V82.9, V83.0, V83.1, V83.2, V83.3, V84.0, V84.1, V84.2, V84.3, V85.0, V85.1, V85.2, V85.3, V86.0, V86.1, V86.2, V86.3, V87.0, V87.1, V87.2, V87.3, V87.4, V87.5, V87.6, V87.7, V87.8, V87.9, V89.2, V89.3	Road traffic injury	0.60	0	0.40
Poisoning	E850-E869	X40-X49	Poisoning	0.60	0	0.40

Appendix 1: Causes of AM by ICD-9 and ICD-10 codes (continued)

				Proportion in each category		
Category	**ICD-9**	**ICD-10**	**Diseases/conditions included**	**PAM**	**SAM**	**TAM**
Swimming pool injury	E883.0, E910.5, E910.6	W16, W67, W68	Swimming pool falls and drowning	0.80	0	0.20
Sport injury	E884.0, E884.5, E886.0, E917.0, E927	W01.30, W02, W03.30, W09, W21, X50	Falls from playground equipment, sport injury	0.60	0	0.40
Fire	E890-E899	X00-X09	Burns and scalds	0.80	0	0.20
Drowning	E910.0-E910.4, E910.7-E910.9, E984	W65, W69, W70, W73, W74, Y21	Drowning	0.80	0	0.20
Suicide	E950-E959, E980-E989	X60-X84, Y87.0, Y10-Y34	Suicide	0.60	0.30	0.10
Other infections	023-031, 034-036, 084, 320, 770.0, 771.1-771.2, 771.4-771.9	A23-A26, A28.0, A28.2-A28.9, A30, A31, A32.9, A38, A39, A46, B50-B54, G00, G01, J02.0, P23, P35.1-P35.9, P36-P39	Brucellosis +other zoonoses, streptococcus, malaria, meningitis, congenital	0.30	0.40	0.30
Cervical cancer	180	C53	Cervical cancer	0.30	0.50	0.20
Thyroid disease	240-242, 244	E03.2, E03.8, E03.9, E04-E05, E89.0	Goitre, thyrotoxicosis, hypothyroidism	0.10	0.70	0.20
Newborn screening conditions	243, 255.2, 270.1, 271.1	E03.1, E25, E70.0, E70.1, E74.2	Congenital hypothyroidism, CAH, PKU, galactosaemia	0	0.80	0.20
Diabetes	250	E10-E14	Diabetes	0.30	0.60	0.10
Epilepsy	345	G40-G41	Epilepsy	0	0.90	0.10
Ear infections	381-383	H65-H70	Otitis media and mastoiditis	0.10	0.70	0.20
Rheumatic fever/heart disease	390-398	I00-I09	Acute rheumatic fever, heart disease	0.30	0.60	0.10
Hypertensive disease	401-405, 437.2	I10-I15, I67.4	Hypertensive disease	0.30	0.65	0.05
Respiratory infections	460-466, 480-487	J00, J01.1-J01.2, J01.8-J01.9, J02-J06, J10, J11.0, J12-J15, J16.8, J17.0-J17.2, J17.8, J18.0, J18.8, J20-J22	Respiratory infections including pneumonia and influenza	0.40	0.50	0.10
Asthma	493	J45-J46	Asthma	0.10	0.70	0.20
Peptic ulcer	531-534	K25-K28	Gastric and duodenal ulcers	0.05	0.75	0.20
Pregnancy complications	630-632, 634-676	O01-O08, O10-O99	Complications of pregnancy	0.20	0.50	0.30
Musculoskeletal infections	680-686, 711, 730	L01-L08, L98.0, M00, M01.1-M01.3, M01.5-M01.8, M02.1, M02.3, M03.2, M35.2, M46.2, M86, M87.1-M87.9, M89.6, M90.0-M90.2	Skin, bone and joint infections	0.20	0.50	0.30

Appendix 1: Causes of AM by ICD-9 and ICD-10 codes (continued)

				Proportion in each category		
Category	**ICD-9**	**ICD-10**	**Diseases/conditions included**	**PAM**	**SAM**	**TAM**
Stomach cancer	151	C16	Stomach cancer	0.40	0.20	0.40
Cancer of uterus	182, 179	C54, C55	Cancer of uterus	0.10	0.40	0.50
Cancer of testis	186	C62	Cancer of testis	0	0.30	0.70
Eye cancer	190	C69	Eye cancer	0	0	1
Thyroid cancer	193	C73	Thyroid cancer	0.10	0.20	0.70
Hodgkin's disease	201	C81	Hodgkin's disease	0	0.10	0.90
Leukaemia	204	C91.0-C91.3, C91.7, C91.9	Lymphoid leukaemias	0.05	0.05	0.90
Benign tumours	210-234	D10-D36	Benign & in situ cancers	0	0	1
Appendicitis	540-543	K35-K38	Appendicitis	0	0	1
Intestinal obstruction and hernia	550-553, 560	K40-K46, K56	Intestinal obstruction and hernia	0	0	1
Gallbladder disease	574-576	K80-K83, K91.5	Gallbladder disease	0.20	0	0.80
Acute renal failure	584	N17	Acute renal failure	0.10	0.20	0.70
Congenital anomalies	743-746.6, 746.8-747.9, 749-757	Q10-Q23.3, Q23.8-Q23.9, Q24-Q28, Q35-Q84	Congenital cardiac, digestive, genitourinary, musculoskeletal anomalies	0.10	0.20	0.70
Birth trauma and asphyxia	767-768, 770.1, 772.0, 772.3	P10-P15, P20-P21, P50, P51, P95	Birth trauma and asphyxia	0.10	0.40	0.50
Other perinatal conditions	766, 769, 770.2-770.6, 770.8-770.9, 772.1-772.2, 772.4-772.9, 773-779	P08, P22, P22.1, P25, P26, P28, P52-P96	Respiratory disease, haemolytic disease, jaundice, etc	0.30	0.20	0.50
Iatrogenic conditions	E870-E879	Y60-Y84	Complications of treatment	0	0.20	0.80

Appendix 2: Geographical areas and their categorisation

Local government area (LGA)	Primary care partnership (PCP)	DHS region	LGA code	ARIA category	IRSED score	Metropolitan /Rural LGA
Alpine (S)	Central Hume PCP	Hume	20110	Accessible	1042	Rural
Ararat (RC)	Central Grampians PCP	Grampians	20260	Accessible	1006.4	Rural
Ballarat (C)	Central Highlands PCP	Grampians	20570	Highly Accessible	993.44	Rural
Banyule (C)	Banyule- Nillumbik PCP	North & West	20660	Highly Accessible	1057.92	Metropolitan
Bass Coast (S)	South Coast Health Services Cons	Gippsland	20740	Highly Accessible	988.72	Rural
Baw Baw (S)	Central West Gippsland PCP	Gippsland	20830	Highly Accessible	1009.68	Rural
Bayside (C)	Kingston- Bayside PCP	Southern	20910	Highly Accessible	1107.76	Metropolitan
Boroondara (C)	Boroondara PCP	Eastern	21110	Highly Accessible	1122.16	Metropolitan
Brimbank (C)	Brimbank- Melton PCP	North & West	21180	Highly Accessible	918.64	Metropolitan
Buloke (S)	Swan Hill- Gannawarra- Buloke PCP	Loddon Mallee	21270	Moderately Accessible	1030.96	Rural
Campaspe (S)	Campaspe PCP	Loddon Mallee	21370	Highly Accessible	1002.08	Rural
Cardinia (S)	South East PCP	Southern	21450	Highly Accessible	1018.88	Metropolitan
Casey (C)	South East PCP	Southern	21610	Highly Accessible	993.76	Metropolitan
Central Goldfields (S)	Central Victorian Health Alliance	Loddon Mallee	21670	Highly Accessible	947.52	Rural
Colac-Otway (S)	Barwon PCP	Barwon S/W	21750	Highly Accessible	1002.8	Rural
Corangamite (S)	South West PCP	Barwon S/W	21830	Accessible	1024.96	Rural
Darebin (C)	North Central Metropolitan PCP	North & West	21890	Highly Accessible	966.8	Metropolitan
Delatite (S)	Central Hume PCP	Hume	21950	Accessible	1001.84	Rural
East Gippsland (S)	East Gippsland PCP	Gippsland	22110	Moderately Accessible	984.08	Rural
Frankston (C)	Frankston- Mornington Pen PCP	Southern	22170	Highly Accessible	992.72	Metropolitan
Gannawarra (S)	Swan Hill- Gannawarra- Buloke PCP	Loddon Mallee	22250	Accessible	1016.56	Rural
Glen Eira (C)	Inner SE Partnership in Cmty & Health	Southern	22310	Highly Accessible	1083.2	Metropolitan
Glenelg (S)	Southern Grampians- Glenelg PCP	Barwon S/W	22410	Accessible	981.12	Rural
Golden Plains (S)	Central Highlands PCP	Grampians	22490	Highly Accessible	1014.24	Rural
Greater Bendigo (C)	Bendigo- Loddon PCP	Loddon Mallee	22620	Highly Accessible	990.4	Rural
Greater Dandenong (C)	South East PCP	Southern	22670	Highly Accessible	876.88	Metropolitan
Greater Geelong (C)	Barwon PCP	Barwon S/W	22750	Highly Accessible	993.12	Rural
Greater Shepparton (C)	Goulburn Valley PCP	Hume	22830	Highly Accessible	976.72	Rural

Appendix 2: Geographical areas and their categorisation (continued)

Local government area (LGA)	Primary care partnership (PCP)	DHS region	LGA code	ARIA category	IRSED score	Metropolitan /Rural LGA
Hepburn (S)	Central Highlands PCP	Grampians	22910	Highly Accessible	994	Rural
Hindmarsh (S)	Wimmera PCP	Grampians	22980	Moderately Accessible	1005.68	RuralHobsons Bay (C)
WestBay PCP	North & West	23110	Highly Accessible		988.72	Metropolitan
Horsham (RC)	Wimmera PCP	Grampians	23190	Accessible	1022.88	Rural
Hume (C)	Hume- Moreland PCP	North & West	23270	Highly Accessible	954.16	Metropolitan
Indigo (S)	Upper Hume PCP	Hume	23350	Highly Accessible	1027.36	Rural
Kingston (C)	Kingston- Bayside PCP	Southern	23430	Highly Accessible	1024.08	Metropolitan
Knox (C)	Outer East PCP	Eastern	23670	Highly Accessible	1041.04	Metropolitan
Latrobe (C)	Central West Gippsland PCP	Gippsland	23810	Highly Accessible	960.16	Rural
Loddon (S)	Bendigo- Loddon PCP	Loddon Mallee	23940	Accessible	996.4	Rural
Macedon Ranges (S)	Central Victorian Health Alliance	Loddon Mallee	24130	Highly Accessible	1057.52	Rural
Manningham (C)	Central East PCP	Eastern	24210	Highly Accessible	1086.64	Metropolitan
Maribyrnong (C)	WestBay PCP	North & West	24330	Highly Accessible	915.36	Metropolitan
Maroondah (C)	Outer East PCP	Eastern	24410	Highly Accessible	1052.96	Metropolitan
Melbourne (C)	Moonee Valley- Melbourne PCP	North & West	24600	Highly Accessible	1037.6	Metropolitan
Melton (S)	Brimbank- Melton PCP	North & West	24650	Highly Accessible	997.36	Metropolitan
Mildura (RC)	Northern Mallee PCP	Loddon Mallee	24780	Moderately Accessible	979.84	Rural
Mitchell (S)	Lwr Hume Health & Cmty Services Forum	Hume	24850	Highly Accessible	994.88	Rural
Moira (S)	Goulburn Valley PCP	Hume	24900	Accessible	996	Rural
Monash (C)	Central East PCP	Eastern	24970	Highly Accessible	1053.12	Metropolitan
Moonee Valley (C)	Moonee Valley- Melbourne PCP	North & West	25060	Highly Accessible	1016.4	Metropolitan
Moorabool (S)	Central Highlands PCP	Grampians	25150	Highly Accessible	1017.04	Rural
Moreland (C)	Hume- Moreland PCP	North & West	25250	Highly Accessible	984.56	Metropolitan
Mornington Peninsula (S)	Frankston- Mornington Pen PCP	Southern	25340	Highly Accessible	1027.84	Metropolitan
Mount Alexander (S)	Central Victorian Health Alliance	Loddon Mallee	25430	Highly Accessible	978	Rural
Moyne (S)	South West PCP	Barwon S/W	25490	Accessible	1031.68	Rural
Murrindindi (S)	Lwr Hume Health & Cmty Services Forum	Hume	25620	Accessible	1016.16	Rural
Nillumbik (S)	Banyule- Nillumbik PCP	North & West	25710	Highly Accessible	1107.68	Metropolitan

Appendix 2: Geographical areas and their categorisation (continued)

Local government area (LGA)	Primary care partnership (PCP)	DHS region	LGA code	ARIA category	IRSED score	Metropolitan /Rural LGA
Northern Grampians (S)	Central Grampians PCP	Grampians	25810	Accessible	1005.12	Rural
Port Phillip (C)	Inner SE Partnership in Cmty & Health	Southern	25900	Highly Accessible	1078.72	Metropolitan
Pyrenees (S)	Central Grampians PCP	Grampians	25990	Highly Accessible	988	Rural
Queenscliffe (B)	Barwon PCP	Barwon S/W	26080	Highly Accessible	1083.76	RuralSouth Gippsland (S)
South Coast Health Services Cons		Gippsland	26170	Accessible	1017.52	Rural
Southern Grampians (S)	Southern Grampians- Glenelg PCP	Barwon S/W	26260	Accessible	1029.84	Rural
Stonnington (C)	Inner SE Partnership in Cmty & Health	Southern	26350	Highly Accessible	1108	Metropolitan
Strathbogie (S)	Goulburn Valley PCP	Hume	26430	Highly Accessible	991.2	Rural
Surf Coast (S)	Barwon PCP	Barwon S/W	26490	Highly Accessible	1064.88	Rural
Swan Hill (RC)	Swan Hill- Gannawarra- Buloke PCP	Loddon Mallee	26610	Moderately Accessible	984.32	Rural
Towong (S)	Upper Hume PCP	Hume	26670	Accessible	1031.68	Rural
Wangaratta (RC)	Central Hume PCP	Hume	26700	Accessible	994.32	Rural
Warrnambool (C)	South West PCP	Barwon S/W	26730	Highly Accessible	1005.12	Rural
Wellington (S)	Wellington PCP	Gippsland	26810	Accessible	1006.32	Rural
West Wimmera (S)	Wimmera PCP	Grampians	26890	Moderately Accessible	1015.68	Rural
Whitehorse (C)	Central East PCP	Eastern	26980	Highly Accessible	1067.68	Metropolitan
Whittlesea (C)	North Central Metropolitan PCP	North & West	27070	Highly Accessible	962.4	Metropolitan
Wodonga (RC)	Upper Hume PCP	Hume	27170	Highly Accessible	982.16	Rural
Wyndham (C)	WestBay PCP	North & West	27260	Highly Accessible	1007.52	Metropolitan
Yarra (C)	North Central Metropolitan PCP	North & West	27350	Highly Accessible	1013.92	Metropolitan
Yarra Ranges (S)	Outer East PCP	Eastern	27450	Highly Accessible	1037.12	Metropolitan
Yarriambiack (S)	Wimmera PCP	Grampians	27630	Moderately Accessible	1044	Rural

Appendix 3

Table 1: Adjusted AM rates (95% CI) in males, Victoria (1997–2003)

	Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
	Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI	
Victoria	**264**	257	271	**253**	246	260	**246**	239	253	**226**	220	233	**220**	214	226	**212**	206	218	**202**	196	207
Metropolitan	**252**	244	260	**238**	230	246	**237**	229	245	**216**	209	223	**208**	201	215	**198**	191	205	**188**	181	195
Rural	**293**	280	306	**291**	278	305	**267**	255	280	**251**	239	263	**249**	237	261	**246**	234	257	**233**	222	245
IRSED category:																					
Most disadvantaged	**292**	275	308	**284**	268	301	**261**	245	276	**259**	244	275	**248**	234	263	**236**	222	251	**231**	216	245
2	**279**	264	295	**280**	264	295	**255**	240	269	**248**	233	262	**246**	232	260	**240**	226	254	**223**	209	236
3	**290**	273	306	**267**	252	282	**270**	255	286	**234**	220	249	**228**	214	242	**223**	210	237	**215**	202	228
4	**237**	223	252	**233**	218	247	**228**	214	242	**194**	182	207	**206**	192	219	**192**	180	205	**174**	162	186
Least disadvantaged	**223**	208	238	**200**	186	213	**215**	201	230	**195**	181	209	**169**	156	181	**165**	152	177	**162**	150	174
ARIA category:																					
Accessible	**295**	269	322	**286**	260	312	**271**	246	297	**245**	221	269	**253**	229	278	**249**	224	273	**251**	226	275
Highly Accessible	**260**	252	267	**249**	242	256	**241**	234	248	**223**	216	230	**216**	209	222	**208**	201	214	**196**	189	202
Moderately accessible	**309**	269	350	**314**	273	355	**318**	277	358	**281**	242	319	**275**	237	313	**252**	216	287	**261**	224	298
Rate ratios:																					
Male:Female	**1.86**			**1.93**			**1.89**			**1.75**			**1.82**			**1.84**			**1.84**		
Rural:Metro	**1.16**			**1.23**			**1.13**			**1.16**			**1.20**			**1.24**			**1.24**		
Most:Least disadvantaged	**1.31**			**1.42**			**1.21**			**1.33**			**1.47**			**1.43**			**1.42**		
Least:Most accessible	**1.19**			**1.26**			**1.32**			**1.26**			**1.28**			**1.21**			**1.34**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 2: Adjusted IHD AM rates (95% CI) in males, Victoria (1997–2003)

	Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
IHD	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**78**	74	82	**74**	70	78	**66**	63	70	**62**	58	65	**59**	55	62	**58**	54	61	**50**	47	53
Metropolitan	**72**	67	76	**69**	64	73	**63**	59	67	**60**	56	64	**56**	52	60	**54**	50	58	**46**	43	50
Rural	**92**	85	100	**86**	79	93	**74**	68	81	**65**	59	72	**65**	59	71	**66**	60	72	**58**	52	64
IRSED category:																					
Most disadvantaged	**85**	75	94	**84**	75	93	**67**	59	75	**72**	64	81	**73**	65	82	**66**	59	74	**57**	50	65
2	**82**	74	91	**82**	74	90	**75**	67	83	**69**	62	77	**60**	53	67	**68**	60	75	**60**	53	67
3	**87**	78	96	**78**	70	86	**68**	60	76	**60**	53	67	**58**	51	65	**59**	52	66	**52**	46	59
4	**71**	63	79	**65**	58	73	**64**	57	72	**49**	43	56	**57**	50	64	**50**	44	57	**41**	35	47
Least disadvantaged	**66**	58	74	**60**	52	67	**57**	50	65	**58**	50	65	**45**	38	51	**43**	37	50	**39**	33	45
ARIA category:																					
Accessible	**93**	79	108	**83**	69	97	**75**	62	88	**59**	47	70	**72**	59	84	**68**	56	80	**57**	46	69
Highly Accessible	**76**	72	80	**71**	67	75	**65**	61	68	**61**	58	65	**56**	53	60	**56**	52	59	**49**	46	52
Moderately accessible	**95**	73	117	**131**	106	157	**87**	66	108	**81**	61	101	**90**	69	111	**82**	62	103	**61**	44	79
Rate ratios:																					
Male:Female	**3.02**			**3.12**			**3.00**			**2.87**			**3.07**			**3.23**			**3.18**		
Rural:Metro	**1.28**			**1.26**			**1.18**			**1.09**			**1.17**			**1.23**			**1.25**		
Most:Least disadvantaged	**1.27**			**1.41**			**1.16**			**1.25**			**1.65**			**1.52**			**1.47**		
Least:Most accessible	**1.25**			**1.86**			**1.34**			**1.33**			**1.60**			**1.48**			**1.25**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 3: Adjusted lung cancer AM rates (95% CI) in males, Victoria (1997–2003)

Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Lung cancer	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**37**	35	40	**36**	33	39	**31**	29	34	**30**	28	32	**33**	30	35	**29**	27	32	**29**	27	31
Metropolitan	**37**	34	40	**34**	31	37	**30**	27	33	**29**	27	32	**32**	29	35	**28**	25	31	**26**	24	29
Rural	**39**	34	43	**41**	36	45	**34**	29	38	**32**	27	36	**34**	30	38	**33**	28	37	**34**	30	38
IRSED category:																					
Most disadvantaged	**42**	36	48	**44**	38	51	**41**	34	47	**35**	29	41	**39**	33	45	**33**	28	39	**34**	28	39
2	**40**	34	46	**41**	35	47	**31**	25	36	**33**	27	38	**37**	32	43	**33**	28	38	**31**	26	36
3	**46**	40	53	**32**	27	38	**37**	31	42	**31**	26	37	**33**	27	38	**29**	24	34	**36**	31	42
4	**29**	24	35	**35**	29	41	**25**	20	30	**27**	22	31	**30**	25	35	**27**	22	31	**24**	19	28
Least disadvantaged	**30**	25	35	**27**	22	32	**23**	18	28	**24**	20	29	**24**	19	29	**25**	20	30	**19**	15	23
ARIA category:																					
Accessible	**48**	37	58	**36**	27	46	**34**	26	43	**34**	25	42	**28**	20	35	**30**	22	38	**37**	28	46
Highly Accessible	**37**	34	39	**36**	33	39	**31**	28	33	**30**	28	32	**33**	30	36	**29**	27	32	**27**	25	30
Moderately accessible	**36**	23	50	**36**	22	49	**32**	20	45	**25**	13	36	**38**	25	52	**28**	17	40	**46**	31	61
Rate ratios:																					
Male:Female	**2.41**			**2.38**			**2.27**			**1.88**			**2.16**			**2.09**			**1.88**		
Rural:Metro	**1.05**			**1.20**			**1.13**			**1.08**			**1.05**			**1.16**			**1.29**		
Most:Least disadvantaged	**1.40**			**1.62**			**1.77**			**1.44**			**1.64**			**1.32**			**1.80**		
Least:Most accessible	**0.99**			**0.99**			**1.05**			**0.82**			**1.16**			**0.95**			**1.68**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 4: Adjusted colorectal cancer AM rates (95% CI) in males, Victoria (1997–2003)

Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Colorectal cancer	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**20**	18	22	**19**	17	21	**19**	17	21	**18**	17	20	**17**	15	19	**16**	14	17	**17**	15	19
Metropolitan	**19**	17	21	**18**	16	20	**20**	17	22	**18**	16	20	**16**	14	18	**15**	13	17	**17**	15	19
Rural	**23**	20	27	**23**	19	26	**18**	15	21	**20**	16	23	**19**	16	23	**18**	15	22	**18**	15	21
IRSED category:																					
Most disadvantaged	**19**	15	24	**19**	14	23	**21**	16	25	**21**	17	26	**16**	12	20	**13**	9	16	**22**	18	27
2	**25**	20	30	**23**	19	28	**19**	15	23	**18**	14	22	**20**	16	24	**20**	16	24	**14**	11	18
3	**23**	19	28	**20**	16	24	**18**	14	22	**17**	13	21	**18**	14	22	**15**	12	19	**16**	12	20
4	**18**	14	22	**20**	16	24	**17**	13	21	**19**	15	23	**16**	12	20	**16**	12	19	**16**	13	20
Least disadvantaged	**16**	12	20	**15**	11	18	**22**	17	26	**18**	14	22	**14**	10	18	**16**	12	20	**17**	13	21
ARIA category:																					
Accessible	**23**	16	31	**26**	18	34	**12**	7	18	**20**	14	27	**18**	12	24	**21**	14	27	**18**	12	25
Highly Accessible	**20**	18	22	**19**	17	21	**20**	18	22	**18**	16	20	**16**	15	18	**15**	13	17	**17**	15	18
Moderately accessible	**25**	14	36	**16**	8	25	**17**	8	26	**16**	7	24	**32**	19	46	**22**	12	33	**25**	14	36
Rate ratios:																					
Male:Female	**1.57**			**1.56**			**1.57**			**1.67**			**1.44**			**1.37**			**1.68**		
Rural:Metro	**1.24**			**1.27**			**0.91**			**1.12**			**1.21**			**1.26**			**1.08**		
Most:Least disadvantaged	**1.18**			**1.28**			**0.97**			**1.19**			**1.16**			**0.81**			**1.34**		
Least:Most accessible	**1.27**			**0.88**			**0.87**			**0.86**			**1.99**			**1.49**			**1.52**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 5: Adjusted suicide AM rates (95% CI) in males, Victoria (1997–2003)

Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Suicide	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**21**	19	23	**20**	18	22	**20**	18	22	**17**	15	18	**18**	16	20	**17**	15	18	**17**	15	19
Metropolitan	**19**	17	21	**17**	15	19	**17**	15	19	**15**	13	17	**17**	15	18	**16**	14	18	**16**	14	18
Rural	**26**	22	30	**27**	23	31	**26**	22	31	**21**	18	25	**22**	18	25	**19**	15	22	**20**	16	23
IRSED category:																					
Most disadvantaged	**22**	18	27	**19**	15	23	**20**	16	24	**16**	13	20	**18**	14	22	**16**	12	20	**17**	14	21
2	**23**	19	28	**22**	18	27	**22**	17	26	**20**	16	24	**19**	15	23	**18**	14	21	**19**	15	22
3	**24**	19	29	**24**	19	28	**21**	17	26	**17**	13	21	**21**	17	26	**16**	12	19	**18**	14	21
4	**20**	16	24	**21**	17	26	**18**	14	21	**14**	11	18	**18**	14	22	**19**	15	23	**18**	14	22
Least disadvantaged	15	**11**	**19**	13	10	17	**19**	14	23	**15**	11	19	**13**	9	16	**14**	10	17	**14**	10	17
ARIA category:																					
Accessible	**21**	14	29	**32**	22	41	**32**	23	41	**21**	14	29	**26**	17	34	**17**	10	24	**21**	13	28
Highly Accessible	**21**	19	23	**19**	17	21	**19**	17	21	**16**	14	18	**18**	16	19	**17**	15	18	**17**	15	18
Moderately accessible	**27**	14	40	**27**	13	40	**26**	13	40	**27**	13	40	**11**	3	20	**13**	4	22	**21**	10	33
Rate ratios:																					
Male:Female	3.67			3.64			4.28			2.96			3.25			2.54			3.05		
Rural:Metro	1.36			1.56			1.53			1.43			1.31			1.19			1.24		
Most:Least disadvantaged	1.50			1.44			1.08			1.10			1.44			1.17			1.28		
Least:Most accessible	1.30			1.41			1.41			1.67			0.65			0.76			1.26		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 6: Adjusted COPD AM rates (95% CI) in males, Victoria (1997–2003)

Chronic obstructuve respiratory diseases	Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
	Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI	
Victoria	**16**	14	18	**14**	12	15	**14**	12	16	**11**	10	13	**13**	11	14	**11**	10	12	**11**	10	13
Metropolitan	**15**	13	17	**12**	10	14	**12**	10	14	**11**	9	12	**12**	10	13	**10**	8	11	**9**	8	11
Rural	**19**	15	22	**17**	14	21	**18**	15	21	**13**	10	16	**15**	12	18	**14**	11	17	**15**	12	18
IRSED category:																					
Most disadvantaged	**19**	15	24	**17**	13	21	**14**	10	18	**14**	11	18	**14**	11	18	**11**	8	14	**12**	9	15
2	**19**	15	23	**14**	11	18	**16**	12	19	**12**	9	15	**13**	10	17	**14**	10	17	**15**	11	18
3	**15**	12	19	**17**	13	21	**17**	13	21	**14**	10	17	**14**	11	18	**12**	9	15	**12**	9	16
4	**13**	10	17	**11**	8	14	**14**	11	18	**11**	8	14	**14**	10	17	**12**	8	15	**8**	6	11
Least disadvantaged	**13**	9	16	**10**	7	13	**8**	5	11	**6**	3	8	**7**	4	9	**7**	4	10	**8**	5	10
ARIA category:																					
Accessible	**15**	9	21	**18**	12	24	**23**	16	30	**15**	9	20	**16**	10	22	**14**	9	20	**20**	13	26
Highly Accessible	**16**	14	18	**13**	12	15	**13**	11	14	**11**	9	12	**12**	11	14	**11**	9	12	**10**	9	12
Moderately accessible	**23**	13	34	**15**	6	23	**22**	12	32	**14**	6	23	**15**	6	23	**16**	7	24	**10**	3	16
Rate ratios:																					
Male:Female	1.69			1.84			1.88			1.56			1.50			1.52			1.73		
Rural:Metro	**1.28**			1.42			1.51			**1.20**			**1.29**			1.47			1.57		
Most:Least disadvantaged	**1.52**			**1.70**			**1.76**			2.62			2.18			**1.56**			**1.55**		
Least:Most accessible	**1.48**			**1.10**			**1.71**			**1.32**			**1.20**			**1.47**			**0.92**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 7: Adjusted stroke AM rates (95% CI) in males, Victoria (1997–2003)

Males (rate per 100,000)																					
	1997			1998			1999			2000			2001			2002			2003		
Stroke	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**12**	11	14	**12**	10	13	**11**	9	12	**11**	10	13	**10**	8	11	**11**	9	12	**8**	7	9
Metropolitan	**12**	10	14	**11**	10	13	**11**	10	13	**11**	9	13	**10**	8	12	**10**	8	11	**8**	6	9
Rural	**13**	10	16	**12**	10	15	**10**	8	12	**12**	9	15	**10**	7	12	**13**	10	15	**9**	7	11
IRSED category:																					
Most disadvantaged	**11**	8	15	**14**	11	18	**14**	10	17	**14**	10	17	**10**	7	13	**12**	9	15	**12**	8	15
2	**13**	10	17	**13**	9	16	**9**	6	12	**13**	9	16	**9**	6	12	**10**	7	12	**8**	5	10
3	**12**	9	15	**11**	8	15	**14**	11	18	**12**	8	15	**11**	8	14	**13**	9	16	**7**	4	9
4	**12**	9	16	**11**	8	14	**9**	7	12	**11**	8	14	**10**	7	13	**8**	6	11	**8**	6	11
Least disadvantaged	**13**	9	16	**9**	6	12	**8**	5	11	**8**	5	11	**8**	5	11	**11**	8	14	**7**	4	9
ARIA category:																					
Accessible	**11**	6	16	**11**	6	15	**12**	7	18	**12**	7	17	**13**	7	18	**18**	12	25	**9**	5	14
Highly Accessible	**13**	11	14	**12**	10	13	**11**	9	12	**11**	10	13	**10**	8	11	**10**	8	11	**8**	7	9
Moderately accessible	**9**	3	16	**12**	4	19	**15**	6	23	**12**	5	20	**6**	1	12	**14**	6	22	**12**	4	20
Rate ratios:																					
Male:Female	1.49			1.51			1.77			1.70			1.56			2.28			1.56		
Rural:Metro	**1.13**			**1.10**			**0.89**			**1.11**			**0.97**			**1.29**			**1.15**		
Most:Least disadvantaged	**0.88**			**1.64**			**1.67**			**1.77**			**1.30**			**1.10**			**1.74**		
Least:Most accessible	**0.74**			**0.99**			**1.40**			**1.12**			**0.67**			**1.47**			**1.49**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 8: Adjusted road traffic accidents AM rates (95% CI) in males, Victoria (1997–2003)

Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Road traffic accidents	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**11**	9	12	**12**	11	14	**11**	10	13	**11**	10	13	**13**	12	15	**12**	11	14	**10**	9	11
Metropolitan	**9**	7	10	**11**	9	12	**9**	8	11	**10**	8	11	**12**	10	13	**10**	8	11	**7**	6	9
Rural	**16**	12	19	**18**	14	21	**17**	13	20	**16**	13	19	**17**	14	20	**20**	16	23	**17**	14	21
IRSED category:																					
Most disadvantaged	**11**	8	14	**12**	9	15	**9**	7	12	**11**	8	14	**13**	10	17	**14**	11	18	**9**	6	12
2	**11**	7	14	**13**	10	17	**13**	10	16	**10**	7	13	**15**	12	19	**15**	11	18	**10**	7	13
3	**15**	11	18	**17**	13	20	**14**	11	18	**15**	12	19	**17**	13	21	**17**	13	20	**10**	7	13
4	**11**	8	14	**12**	9	15	**13**	10	16	**13**	9	16	**11**	8	14	**9**	7	12	**9**	7	12
Least disadvantaged	**6**	4	8	**8**	5	11	**6**	4	9	**8**	5	11	**9**	6	12	**6**	3	8	**4**	2	6
ARIA category:																					
Accessible	**18**	11	25	**22**	14	30	**20**	13	28	**23**	14	31	**21**	13	29	**22**	14	31	**21**	13	28
Highly Accessible	**10**	9	11	**12**	10	13	**10**	9	11	**11**	9	12	**13**	11	14	**11**	10	13	**7**	6	9
Moderately accessible	**18**	7	28	**10**	2	19	**26**	13	39	**14**	4	24	**10**	3	18	**20**	8	31	**21**	9	33
Rate ratios:																					
Male:Female	**2.30**			**2.53**			**2.55**			**2.33**			**3.00**			**3.39**			**4.35**		
Rural:Metro	**1.76**			**1.66**			**1.82**			**1.62**			**1.45**			**2.01**			**2.35**		
Most:Least disadvantaged	**1.88**			**1.55**			**1.47**			**1.42**			**1.43**			**2.60**			**2.15**		
Least:Most accessible	**1.77**			**0.87**			**2.60**			**1.33**			**0.79**			**1.72**			**2.82**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 9: Adjusted diabetes AM rates (95% CI) in males, Victoria (1997–2003)

Males (rate per 100,000)																					
	1997			1998			1999			2000			2001			2002			2003		
Diabetes	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**12**	11	14	**11**	9	12	**11**	10	13	**10**	9	11	**10**	8	11	**11**	9	12	**12**	11	14
Metropolitan	**13**	11	15	**11**	10	13	**12**	10	14	**10**	8	12	**9**	8	11	**11**	9	13	**12**	10	14
Rural	**10**	7	12	**9**	7	12	**10**	7	12	**10**	8	12	**10**	8	13	**10**	8	12	**13**	10	15
IRSED category:																					
Most disadvantaged	**14**	10	18	**14**	10	18	**14**	10	18	**13**	9	16	**10**	7	13	**15**	11	19	**14**	11	18
2	**13**	10	17	**10**	7	13	**12**	8	15	**11**	8	14	**13**	10	16	**12**	9	16	**13**	10	17
3	**12**	9	15	**11**	8	14	**11**	8	14	**10**	7	13	**9**	6	12	**12**	8	15	**14**	10	17
4	**10**	7	13	**10**	7	13	**10**	7	13	**8**	5	10	**9**	6	12	**7**	5	9	**9**	6	12
Least disadvantaged	**11**	8	15	**8**	5	11	**10**	7	13	**8**	6	11	**6**	4	9	**7**	5	10	**11**	8	14
ARIA category:																					
Accessible	**13**	7	18	**8**	4	12	**7**	3	11	**11**	6	15	**9**	5	14	**9**	5	13	**13**	8	19
Highly Accessible	**12**	11	14	**11**	9	12	**12**	10	13	**10**	8	11	**9**	8	11	**11**	9	12	**12**	11	14
Moderately accessible	**9**	2	16	**10**	2	17	**15**	7	24	**14**	6	22	**11**	4	18	**11**	4	18	**14**	6	22
Rate ratios:																					
Male:Female	**1.88**			**1.77**			**1.84**			**1.63**			**1.61**			**2.08**			**2.60**		
Rural:Metro	**0.76**			**0.81**			**0.81**			**1.00**			**1.11**			**0.91**			**1.07**		
Most:Least disadvantaged	**1.26**			**1.73**			**1.38**			**1.50**			**1.55**			**2.03**			**1.31**		
Least:Most accessible	**0.76**			**0.90**			**1.32**			**1.47**			**1.18**			**1.03**			**1.19**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 10: Adjusted poisoning AM rates (95% CI) in males, Victoria (1997–2003)

	Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Poisoning	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**2**	2	3	**5**	4	6	**13**	12	15	**9**	8	10	**3**	3	4	**5**	4	6	**6**	5	6
Metropolitan	**3**	2	4	**5**	4	6	**14**	12	16	**10**	8	11	**3**	2	4	**5**	4	6	**6**	5	7
Rural	**1**	0	2	**6**	4	8	**10**	7	13	**6**	4	8	**5**	3	7	**4**	2	6	**5**	3	7
IRSED category:																					
Most disadvantaged	**2**	1	3	**6**	4	8	**11**	8	14	**9**	6	12	**4**	2	6	**6**	4	8	**5**	3	7
2	**3**	1	4	**6**	4	9	**12**	9	15	**8**	5	10	**5**	3	7	**5**	3	6	**5**	3	7
3	**2**	0	3	**5**	3	7	**15**	12	19	**9**	6	12	**3**	1	4	**4**	2	5	**5**	3	7
4	**3**	2	5	**4**	2	6	**15**	11	18	**11**	8	14	**2**	1	4	**5**	3	7	**5**	3	8
Least disadvantaged	**3**	1	4	**4**	2	6	**13**	10	17	**9**	6	12	**2**	1	4	**4**	2	6	**6**	4	9
ARIA category:																					
Accessible	**1**	0	3	**4**	1	8	**11**	5	17	**4**	1	8	**3**	0	7	1	0	2	**7**	2	11
Highly Accessible	**3**	2	3	**5**	4	6	**13**	12	15	**9**	8	11	**3**	2	4	**5**	4	6	**5**	4	6
Moderately accessible	**4**	0	8	**6**	0	12	**7**	0	14	**4**	0	10	**7**	0	14	**3**	0	7	**5**	0	11
Rate ratios:																					
Male:Female	**1.71**			2.72			2.40			2.00			**1.68**			2.35			2.29		
Rural:Metro	**0.50**			**1.22**			**0.71**			**0.63**			**1.74**			**0.82**			**0.89**		
Most:Least disadvantaged	**0.71**			**1.43**			**0.86**			**0.97**			**1.95**			**1.40**			**0.83**		
Least:Most accessible	**1.40**			**1.12**			**0.53**			**0.44**			**2.29**			**0.62**			**0.93**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 11: Adjusted primary AM rates (95% CI) in males, Victoria (1997–2003)

Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Primary AM	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**153**	147	158	**146**	141	151	**140**	135	145	**129**	125	134	**127**	122	131	**122**	117	127	**116**	112	121
Metropolitan	**147**	141	153	**137**	131	143	**135**	129	141	**122**	117	128	**121**	115	126	**113**	108	118	**107**	102	112
Rural	**169**	158	179	**168**	158	178	**155**	145	164	**144**	135	153	**143**	134	152	**142**	133	151	**137**	128	145
IRSED category:																					
Most disadvantaged	**171**	158	183	**165**	153	178	**150**	139	162	**147**	136	159	**144**	132	155	**136**	125	147	**131**	121	142
2	**161**	149	173	**160**	149	172	**145**	134	156	**142**	131	153	**142**	132	153	**138**	128	149	**129**	119	139
3	**170**	158	183	**153**	142	165	**156**	144	167	**134**	123	145	**132**	121	143	**128**	118	139	**128**	118	138
4	**136**	125	147	**136**	125	147	**129**	118	139	**110**	100	120	**120**	110	130	**111**	101	120	**98**	89	107
Least disadvantaged	**128**	116	139	**115**	104	125	**122**	111	133	**110**	100	120	**97**	88	107	**93**	84	103	**89**	80	98
ARIA category:																					
Accessible	**172**	152	193	**165**	145	185	**160**	140	179	**145**	126	164	**142**	124	161	**140**	122	158	**150**	131	169
Highly Accessible	**151**	146	157	**144**	139	149	**137**	132	142	**126**	121	131	**125**	120	130	**119**	114	124	**111**	106	115
Moderately accessible	**178**	148	209	**178**	147	209	**184**	153	216	**162**	132	191	**159**	130	187	**144**	117	171	**156**	**128**	**185**
Rate ratios:																					
Male:Female	**2.30**			**2.38**			**2.27**			**2.08**			**2.22**			**2.21**			**2.20**		
Rural:Metro	**1.15**			**1.23**			**1.15**			**1.18**			**1.18**			**1.26**			**1.28**		
Most:Least disadvantaged	**1.34**			**1.44**			**1.23**			**1.34**			**1.49**			**1.46**			**1.47**		
Least:Most accessible	**1.18**			**1.24**			**1.34**			**1.28**			**1.27**			**1.21**			**1.40**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 12: Adjusted secondary AM rates (95% CI) in males, Victoria (1997–2003)

	Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Secondary AM	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**60.9**	57.9	64.9	**57.0**	54.0	60.0	**55.2**	52.2	58.2	**51.1**	48.1	54.1	**50.0**	47.0	53.0	**47.7**	44.7	50.7	**46.3**	43.3	48.3
Metropolitan	**58.0**	54.0	62.0	**53.9**	50.9	57.9	**54.2**	50.2	58.2	**49.4**	45.4	52.4	**47.3**	43.3	50.3	**45.5**	41.5	48.5	**44.1**	41.1	48.1
Rural	**67.8**	61.8	73.8	**64.6**	58.6	71.6	**57.8**	51.8	63.8	**55.4**	49.4	60.4	**56.3**	50.3	62.3	**52.9**	47.9	58.9	**51.2**	45.2	56.2
IRSED category:																					
Most disadvantaged	**65.8**	57.8	73.8	**62.8**	54.8	70.8	**61.2**	53.2	69.2	**59.4**	52.4	66.4	**55.5**	48.5	62.5	**52.3**	45.3	58.3	**54.7**	47.7	61.7
2	**66.1**	58.1	73.1	**63.8**	56.8	71.8	**57.8**	50.8	64.8	**55.8**	48.8	61.8	**56.7**	49.7	63.7	**53.1**	46.1	59.1	**49.9**	43.9	56.9
3	**65.2**	57.2	73.2	**60.4**	53.4	67.4	**56.9**	49.9	63.9	**51.9**	44.9	58.9	**52.0**	45.0	58.0	**50.0**	43.0	56.0	**45.5**	39.5	51.5
4	**55.6**	48.6	62.6	**51.9**	44.9	58.9	**50.2**	43.2	56.2	**43.8**	37.8	49.8	**47.2**	40.2	53.2	**43.1**	37.1	49.1	**41.1**	35.1	47.1
Least disadvantaged	**51.7**	44.7	58.7	**45.7**	39.7	52.7	**50.1**	43.1	57.1	**44.6**	37.6	50.6	**37.5**	31.5	43.5	**39.7**	32.7	45.7	**39.6**	33.6	45.6
ARIA category:																					
Accessible	**66.6**	53.6	78.6	**62.3**	50.3	74.3	**53.6**	41.6	64.6	**52.2**	41.2	64.2	**59.8**	47.8	70.8	**58.8**	47.8	70.8	**51.0**	41.0	62.0
Highly Accessible	**60.0**	57.0	64.0	**56.1**	52.1	59.1	**54.9**	50.9	57.9	**50.6**	46.6	53.6	**48.6**	45.6	51.6	**46.4**	43.4	49.4	**45.4**	42.4	48.4
Moderately accessible	**71.5**	52.5	91.5	**73.1**	54.1	93.1	**68.7**	49.7	87.7	**63.8**	45.8	81.8	**64.1**	46.1	82.1	**54.6**	37.6	70.6	**58.0**	41.0	75.0
Rate ratios:																					
Male:Female	1.51			1.54			1.58			1.47			1.50			1.51			1.56		
Rural:Metro	**1.17**			1.20			**1.07**			**1.12**			**1.19**			**1.16**			**1.16**		
Most:Least disadvantaged	**1.27**			1.37			**1.22**			1.33			**1.48**			**1.32**			1.38		
Least:Most accessible	**1.19**			**1.30**			**1.25**			**1.26**			**1.32**			**1.18**			**1.28**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 13: Adjusted tertiary AM rates (95% CI) in males, Victoria (1997–2003)

	Males (rate per 100,000)																			
	1997			1998			1999			2000			2001			2002			2003		
Tertiary AM	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**50.1**	47.1	53.1	**50.2**	47.2	53.2	**50.4**	47.4	53.4	**46.4**	43.4	49.4	**42.6**	40.6	45.6	**42.7**	40.7	45.7	**39.7**	36.7	41.7
Metropolitan	**47.4**	43.4	50.4	**46.7**	43.7	50.7	**48.5**	44.5	51.5	**44.4**	41.4	48.4	**39.9**	35.9	42.9	**39.6**	36.6	42.6	**37.2**	34.2	40.2
Rural	**56.2**	50.2	62.2	**58.7**	52.7	64.7	**55.0**	49.0	60.0	**51.1**	46.1	57.1	**49.6**	44.6	55.6	**50.4**	45.4	56.4	**45.7**	40.7	50.7
IRSED category:																					
Most disadvantaged	**54.5**	47.5	62.5	**56.3**	49.3	63.3	**49.6**	42.6	56.6	**52.4**	45.4	58.4	**48.7**	42.7	55.7	**48.1**	42.1	55.1	**44.9**	38.9	50.9
2	**51.8**	44.8	57.8	**55.7**	48.7	62.7	**52.1**	46.1	59.1	**49.9**	42.9	55.9	**47.4**	40.4	53.4	**48.8**	41.8	54.8	**43.3**	37.3	49.3
3	**54.7**	47.7	61.7	**53.7**	46.7	60.7	**56.9**	49.9	63.9	**48.5**	42.5	55.5	**43.9**	37.9	49.9	**44.9**	38.9	50.9	**41.3**	35.3	46.3
4	**45.9**	39.9	52.9	**45.2**	38.2	51.2	**49.1**	43.1	56.1	**40.7**	34.7	46.7	**38.5**	32.5	44.5	**38.7**	32.7	43.7	**35.1**	30.1	41.1
Least disadvantaged	**43.2**	37.2	50.2	**39.5**	32.5	45.5	**43.7**	37.7	50.7	**40.7**	33.7	46.7	**34.3**	28.3	39.3	**32.1**	27.1	38.1	**33.1**	28.1	39.1
ARIA category:																					
Accessible	**56.4**	44.4	67.4	**58.7**	46.7	70.7	**57.6**	45.6	69.6	**48.1**	37.1	59.1	**51.9**	39.9	62.9	**49.9**	38.9	61.9	**49.4**	38.4	60.4
Highly Accessible	**49.1**	46.1	53.1	**49.0**	46.0	53.0	**49.2**	46.2	52.2	**46.0**	43.0	49.0	**41.7**	38.7	43.7	**41.8**	38.8	44.8	**38.7**	35.7	41.7
Moderately accessible	**59.9**	41.9	77.9	**62.5**	44.5	81.5	**65.2**	46.2	83.2	**54.9**	37.9	72.9	**52.2**	35.2	69.2	**52.7**	35.7	69.7	**47.1**	31.1	63.1
Rate ratios:																					
Male:Female	1.42			1.53			1.49			1.41			1.42			1.47			1.44		
Rural:Metro	**1.19**			1.26			**1.13**			**1.15**			1.24			1.27			1.23		
Most:Least disadvantaged	**1.26**			1.43			**1.14**			**1.29**			1.42			1.50			**1.36**		
Least:Most accessible	**1.22**			**1.28**			**1.33**			**1.19**			**1.25**			**1.26**			**1.22**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 14: Adjusted unavoidable mortality rates (95% CI) in males, Victoria (1997–2003)

	Males (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Unavoidable mortality	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**141**	136	146	**137**	132	142	**129**	124	134	**131**	126	135	**123**	118	128	**127**	123	132	**122**	117	126
Metropolitan	**137**	131	143	**132**	126	137	**125**	119	131	**125**	120	131	**120**	114	125	**123**	118	129	**118**	112	123
Rural	**149**	140	159	**148**	138	157	**139**	130	148	**143**	134	153	**132**	123	141	**138**	129	146	**131**	122	140
IRSED category:																					
Most disadvantaged	**163**	150	175	**142**	131	154	**137**	125	148	**136**	125	147	**131**	120	142	**140**	128	151	**129**	118	139
2	**145**	133	156	**153**	142	164	**135**	124	146	**145**	134	156	**123**	113	133	**132**	122	142	**120**	111	130
3	**138**	127	150	**137**	126	148	**136**	125	147	**135**	124	146	**131**	121	142	**131**	121	142	**129**	119	139
4	**132**	121	143	**134**	123	145	**123**	113	134	**126**	116	136	**117**	107	127	**123**	113	133	**113**	104	123
Least disadvantaged	**127**	116	138	**116**	105	126	**113**	102	123	**109**	99	119	**113**	102	123	**110**	100	120	**118**	107	128
ARIA category:																					
Accessible	**130**	112	148	**142**	124	161	**139**	121	157	**141**	123	159	**133**	115	150	**131**	113	148	**143**	125	161
Highly Accessible	**141**	136	147	**135**	130	140	**128**	123	133	**128**	123	133	**122**	117	127	**126**	121	131	**119**	114	124
Moderately accessible	**153**	125	181	**158**	129	187	**136**	109	162	**177**	146	207	**133**	107	159	**155**	127	183	**145**	118	172
Rate ratios:																					
Male:Female	**1.66**			**1.65**			**1.70**			**1.67**			**1.63**			**1.60**			**1.66**		
Rural:Metro	**1.09**			**1.12**			**1.11**			**1.14**			**1.10**			**1.12**			**1.11**		
Most:Least disadvantaged	**1.28**			**1.23**			**1.21**			**1.25**			**1.16**			**1.27**			**1.09**		
Least:Most accessible	**1.08**			**1.17**			**1.06**			**1.38**			**1.09**			**1.23**			**1.22**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 15: Adjusted AM rates (95% CI) in females, Victoria (1997–2003)

	Females (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
	Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI		Adjusted	95%CI	
Victoria	**142**	137	147	**131**	126	136	**131**	126	135	**130**	125	134	**121**	116	125	**116**	111	120	**110**	106	114
Metropolitan	**138**	132	144	**125**	119	130	**129**	123	135	**126**	121	132	**118**	113	123	**110**	105	115	**103**	98	108
Rural	**153**	143	162	**147**	137	156	**134**	126	143	**138**	129	147	**127**	119	136	**130**	121	139	**125**	117	134
IRSED category:																					
Most disadvantaged	**159**	147	171	**139**	127	150	**145**	133	156	**133**	122	144	**125**	115	136	**131**	120	142	**112**	103	122
2	**144**	134	155	**147**	136	158	**144**	133	155	**138**	128	149	**129**	119	139	**127**	117	137	**121**	112	131
3	**152**	141	164	**135**	124	146	**135**	124	146	**138**	127	149	**130**	120	140	**120**	110	130	**114**	105	124
4	**134**	124	145	**120**	110	130	**121**	111	131	**121**	111	131	**117**	108	127	**111**	102	120	**107**	97	116
Least disadvantaged	**122**	112	133	**116**	106	126	**109**	100	119	**115**	105	125	**102**	92	111	**89**	80	97	**90**	81	99
ARIA category:																					
Accessible	**161**	142	181	**140**	122	159	**141**	122	159	**138**	120	157	**118**	101	134	**133**	115	150	**112**	96	129
Highly Accessible	**140**	135	146	**130**	125	135	**128**	123	133	**129**	124	134	**121**	116	126	**113**	109	118	**108**	104	113
Moderately accessible	**156**	128	185	**155**	127	183	**169**	139	198	**139**	112	167	**123**	97	148	**142**	115	169	**134**	108	160
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.10**			**1.17**			**1.04**			**1.10**			**1.08**			**1.18**			**1.21**		
Most:Least disadvantaged	**1.30**			**1.20**			**1.32**			**1.16**			**1.23**			**1.48**			**1.25**		
Least:Most accessible	**1.11**			**1.20**			**1.31**			**1.08**			**1.01**			**1.25**			**1.24**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 16: Adjusted IHD AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
IHD	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**26**	24	28	**24**	22	26	**22**	20	24	**21**	20	23	**19**	17	21	**18**	16	20	**16**	14	17
Metropolitan	**25**	23	28	**22**	20	24	**20**	18	22	**21**	19	23	**18**	16	20	**16**	14	18	**13**	11	15
Rural	**28**	24	32	**27**	23	31	**28**	24	32	**23**	19	27	**21**	18	25	**21**	18	25	**22**	18	25
IRSED category:																					
Most disadvantaged	**35**	29	41	**29**	24	34	**28**	23	34	**22**	17	26	**22**	17	26	**22**	18	27	**17**	13	21
2	**28**	23	32	**27**	23	32	**26**	22	31	**24**	20	28	**20**	16	24	**21**	17	25	**19**	16	23
3	**31**	26	36	**26**	21	30	**25**	20	30	**24**	19	28	**22**	18	27	**18**	14	21	**18**	14	22
4	**21**	16	25	**19**	15	22	**16**	12	19	**20**	16	24	**17**	14	21	**17**	13	21	**12**	9	15
Least disadvantaged	**16**	13	20	**19**	15	23	**15**	12	19	**17**	14	21	**14**	11	18	**11**	8	14	**11**	8	14
ARIA category:																					
Accessible	**31**	23	39	**23**	16	30	**30**	22	37	**20**	14	27	**22**	15	29	**18**	11	24	**21**	14	28
Highly Accessible	**25**	23	27	**24**	22	26	**21**	19	23	**21**	19	23	**19**	17	21	**18**	16	19	**15**	13	17
Moderately accessible	**37**	24	50	**25**	14	36	**32**	19	44	**27**	16	39	**22**	12	33	**27**	16	38	**27**	15	39
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.12**			**1.24**			1.41			**1.11**			**1.18**			**1.31**			1.67		
Most:Least disadvantaged	2.15			1.52			1.84			**1.24**			**1.53**			2.02			**1.50**		
Least:Most accessible	**1.46**			**1.04**			**1.51**			**1.28**			**1.19**			**1.53**			**1.81**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 17: Adjusted lung cancer AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																					
	1997			1998			1999			2000			2001			2002			2003		
Lung cancer	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**16**	14	17	**15**	14	17	**14**	12	15	**16**	14	18	**15**	14	17	**14**	13	16	**15**	14	17
Metropolitan	**15**	13	17	**13**	11	15	**14**	12	16	**16**	14	18	**15**	13	16	**14**	12	15	**14**	13	16
Rural	**17**	14	20	**19**	16	23	**14**	11	17	**16**	13	19	**16**	13	19	**16**	13	19	**18**	15	21
IRSED category:																					
Most disadvantaged	**13**	10	17	**14**	10	17	**14**	11	18	**16**	12	20	**14**	11	18	**16**	13	20	**14**	10	17
2	**14**	11	18	**17**	14	21	**16**	12	19	**20**	16	24	**16**	13	20	**16**	12	19	**17**	14	21
3	**17**	13	21	**18**	14	22	**15**	11	18	**15**	11	18	**16**	13	20	**17**	13	21	**17**	14	21
4	**16**	12	20	**16**	12	20	**15**	11	18	**14**	11	18	**15**	11	18	**12**	9	15	**16**	13	20
Least disadvantaged	**17**	13	21	10	7	13	9	6	12	**15**	11	18	**14**	11	18	**10**	7	13	**12**	9	15
ARIA category:																					
Accessible	**18**	11	24	**17**	11	23	**9**	5	14	**11**	6	16	**12**	7	17	**19**	12	25	**16**	10	22
Highly Accessible	**15**	14	17	**14**	13	16	**14**	13	16	**17**	15	18	**15**	13	17	**14**	12	15	**15**	13	17
Moderately accessible	**15**	6	23	**29**	17	41	**14**	5	22	**10**	3	17	**21**	11	31	**12**	4	19	**24**	13	35
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.13**			1.47			**1.01**			**0.99**			**1.10**			**1.15**			**1.22**		
Most:Least disadvantaged	**0.77**			**1.33**			**1.58**			**1.09**			**1.03**			**1.68**			**1.16**		
Least:Most accessible	**0.94**			1.98			**0.96**			**0.61**			**1.36**			**0.85**			**1.60**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 18: Adjusted colorectal cancer AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Colorectal cancer	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**13**	11	14	**12**	11	14	**12**	11	14	**11**	10	12	**12**	10	13	**12**	10	13	**10**	9	11
Metropolitan	**12**	10	14	**12**	10	14	**12**	11	14	**10**	8	11	**11**	10	13	**10**	8	11	**9**	8	11
Rural	**15**	12	18	**13**	10	16	**12**	10	15	**14**	11	17	**13**	10	16	**15**	12	18	**12**	10	15
IRSED category:																					
Most disadvantaged	**13**	9	16	**12**	9	16	**11**	8	14	**13**	9	16	**12**	9	15	**11**	8	14	**8**	6	11
2	**16**	12	20	**12**	9	15	**10**	7	12	**9**	7	12	**14**	**11**	**17**	**10**	7	13	**11**	9	14
3	**13**	10	16	**12**	8	15	**15**	11	18	**12**	8	15	**13**	10	17	**15**	12	19	**12**	9	16
4	**13**	9	16	**10**	7	13	**14**	10	17	**10**	7	13	**12**	9	16	**10**	7	13	**10**	7	12
Least disadvantaged	**10**	7	13	**16**	12	19	**12**	9	16	**12**	9	15	7	5	9	**11**	8	14	**9**	6	11
ARIA category:																					
Accessible	**14**	8	19	**17**	11	24	**15**	9	21	**12**	7	17	**13**	8	19	**18**	12	25	**10**	5	14
Highly Accessible	**13**	11	14	**12**	11	14	**12**	10	13	**10**	9	12	**12**	10	13	**11**	9	12	**10**	9	11
Moderately accessible	**18**	8	27	**8**	2	15	**18**	8	27	30	17	44	2	0	6	**15**	7	24	**14**	5	22
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.30**			**1.06**			**1.02**			**1.41**			**1.18**			1.52			**1.32**		
Most:Least disadvantaged	**1.23**			**0.79**			**0.85**			**1.08**			**1.67**			**1.07**			**0.94**		
Least:Most accessible	**1.41**			**0.70**			**1.48**			2.93			0.20			**1.42**			**1.37**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 19: Adjusted suicide AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Suicide	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**6**	5	7	**6**	5	7	**5**	4	6	**6**	5	7	**6**	5	7	**7**	6	8	**6**	5	7
Metropolitan	**6**	5	7	**6**	4	7	**5**	4	6	**6**	4	7	**6**	5	7	**7**	5	8	**6**	5	7
Rural	**5**	4	7	**5**	3	7	**4**	3	6	**6**	4	8	**5**	3	7	**6**	4	8	**5**	4	7
IRSED category:																					
Most disadvantaged	**4**	2	6	**6**	3	8	**4**	2	6	**5**	3	8	**6**	4	8	**7**	4	9	**6**	3	8
2	**7**	4	9	**4**	2	6	**4**	2	5	**5**	3	7	**5**	3	8	**7**	5	10	**6**	4	8
3	**4**	2	6	**6**	4	9	**5**	3	8	**7**	4	9	**5**	3	7	**7**	5	10	**5**	3	7
4	**7**	4	9	**5**	3	7	**3**	2	5	**4**	2	5	**6**	3	8	**6**	4	8	**5**	3	7
Least disadvantaged	**7**	4	9	**6**	4	9	**7**	4	9	**7**	4	9	**6**	4	9	**5**	3	7	**7**	4	9
ARIA category:																					
Accessible	**5**	1	9	**10**	5	16	**4**	0	7	**4**	0	7	**3**	0	6	**5**	1	9	**5**	1	9
Highly Accessible	**6**	5	7	**5**	4	6	**5**	4	6	**6**	5	7	**6**	5	7	**7**	6	8	**6**	5	7
Moderately accessible	**10**	2	18	**3**	0	7	**2**	0	5	**0**	0	6	**0**	0	6	**4**	0	8	**3**	0	7
Rate ratios:																					
Male:Female																					
Rural:Metro	**0.91**			**0.95**			**0.89**			**1.02**			**0.81**			**0.91**			**0.96**		
Most:Least disadvantaged	**0.59**			**0.92**			**0.62**			**0.81**			**0.90**			**1.28**			**0.81**		
Least:Most accessible	**1.73**			**0.53**			**0.34**			**0.00**			**0.00**			**0.51**			**0.54**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 20: Adjusted COPD AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																					
Chronic obstructuve respiratory diseases	**1997**			**1998**			**1999**			**2000**			**2001**			**2002**			**2003**		
	Adjusted	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**9**	8	11	**8**	6	9	**7**	6	9	**7**	6	8	**8**	7	10	**7**	6	8	**6**	5	7
Metropolitan	**9**	7	10	**7**	5	8	**7**	6	8	**7**	5	8	**8**	7	10	**7**	6	8	**5**	4	7
Rural	**11**	9	13	**10**	7	12	**9**	6	11	**9**	7	12	**9**	7	12	**8**	6	10	**9**	6	11
IRSED category:																					
Most disadvantaged	**10**	7	14	**8**	6	11	**11**	8	14	**7**	4	9	**8**	5	10	**8**	5	10	**7**	4	9
2	**14**	11	17	**9**	6	11	**8**	5	10	**10**	7	12	**9**	6	12	**9**	6	11	**8**	6	10
3	**10**	7	12	**9**	6	12	**9**	6	12	**7**	5	10	**11**	8	14	**9**	7	12	**7**	5	10
4	**7**	5	9	**7**	5	9	**5**	3	6	**8**	5	10	**10**	7	13	**6**	4	8	**6**	4	9
Least disadvantaged	**6**	4	8	**4**	2	6	**5**	3	7	**6**	4	8	**5**	3	7	**5**	3	7	**3**	2	5
ARIA category:																					
Accessible	**11**	6	16	**9**	5	14	**11**	6	16	**12**	7	17	**11**	6	16	**7**	3	11	**7**	3	11
Highly Accessible	**9**	8	11	**7**	6	8	**7**	6	8	**7**	6	8	**8**	7	9	**7**	6	9	**6**	5	8
Moderately accessible	**5**	0	9	**12**	4	20	**10**	3	17	**9**	2	15	**11**	4	18	**6**	1	12	**5**	0	11
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.28**			**1.49**			**1.25**			**1.43**			**1.15**			**1.14**			**1.57**		
Most:Least disadvantaged	**1.82**			**1.95**			**2.20**			**1.14**			**1.44**			**1.64**			**1.91**		
Least:Most accessible	**0.50**			**1.67**			**1.48**			**1.26**			**1.36**			**0.86**			**0.83**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 21: Adjusted breast cancer AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																					
	1997			1998			1999			2000			2001			2002			2003		
Breast cancer	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**23**	21	25	**21**	19	23	**21**	19	23	**21**	19	22	**19**	17	20	**18**	16	20	**20**	18	22
Metropolitan	**23**	20	25	**20**	18	22	**23**	20	25	**21**	19	23	**19**	17	21	**18**	16	20	**18**	16	20
Rural	**24**	20	28	**23**	19	27	**18**	15	22	**19**	16	23	**18**	15	21	**18**	15	21	**24**	20	27
IRSED category:																					
Most disadvantaged	**24**	19	28	**20**	16	25	**21**	17	25	**20**	16	24	**17**	13	21	**17**	13	21	**18**	14	22
2	**20**	16	24	**20**	16	25	**24**	19	28	**17**	13	21	**20**	16	24	**22**	18	26	**22**	18	26
3	**25**	20	30	**19**	15	23	**18**	14	22	**22**	18	27	**19**	15	23	**14**	10	17	**19**	15	23
4	**23**	19	28	**23**	19	28	**22**	17	26	**20**	16	24	**20**	16	24	**20**	16	24	**19**	15	23
Least disadvantaged	**24**	19	29	**22**	17	26	**22**	18	26	**23**	19	28	**18**	14	21	**18**	14	22	**21**	16	25
ARIA category:																					
Accessible	**22**	14	29	**19**	12	26	**22**	15	30	**24**	17	32	**16**	10	23	**15**	9	21	**19**	13	26
Highly Accessible	**23**	21	25	**21**	19	23	**21**	19	23	**20**	18	22	**19**	17	21	**18**	16	20	**19**	18	21
Moderately accessible	**29**	16	41	**27**	15	39	**24**	13	36	**22**	11	34	**16**	7	26	**32**	19	45	**30**	18	43
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.05**			**1.16**			**0.81**			**0.92**			**0.95**			**0.99**			**1.32**		
Most:Least disadvantaged	**0.98**			**0.94**			**0.95**			**0.86**			**0.99**			**0.97**			**0.86**		
Least:Most accessible	**1.24**			**1.30**			**1.15**			**1.10**			**0.85**			**1.76**			**1.57**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 22: Adjusted stroke AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																					
	1997			1998			1999			2000			2001			2002			2003		
Stroke	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**8**	7	9	**8**	7	9	**6**	5	7	**7**	6	8	**6**	5	7	**5**	4	6	**5**	4	6
Metropolitan	**8**	7	10	**7**	6	8	**6**	5	8	**7**	5	8	**6**	5	8	**4**	3	5	**5**	4	6
Rural	**9**	7	11	**10**	8	12	**6**	4	7	**7**	5	9	**6**	4	8	**6**	4	8	**5**	3	6
IRSED category:																					
Most disadvantaged	**9**	6	12	**10**	7	13	**8**	6	11	**9**	6	11	**8**	5	10	**6**	4	8	**7**	5	10
2	**8**	6	11	**10**	8	13	**5**	3	7	**7**	5	9	**6**	4	9	**3**	2	5	**6**	4	9
3	**8**	5	10	**7**	5	10	**6**	4	9	**8**	5	10	**7**	4	9	**6**	4	8	**3**	2	5
4	**7**	5	10	**5**	3	7	**6**	4	8	**6**	4	8	**7**	4	9	**4**	2	6	**6**	3	8
Least disadvantaged	**9**	7	12	**6**	4	8	**5**	3	7	**5**	3	7	**5**	3	7	**5**	3	6	**3**	2	5
ARIA category:																					
Accessible	**7**	3	11	**8**	4	13	**6**	3	10	**7**	3	10	**5**	1	8	**9**	4	13	**4**	3	6
Highly Accessible	**9**	7	10	**8**	6	9	**6**	5	7	**7**	6	8	**7**	5	8	**4**	3	5	**7**	5	9
Moderately accessible	**4**	0	9	**11**	4	19	**10**	3	17	**6**	1	12	**4**	0	8	**6**	1	12	**7**	4	9
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.07**			**1.46**			**0.89**			**1.02**			**0.94**			**1.53**			**0.91**		
Most:Least disadvantaged	**0.94**			**1.61**			**1.83**			**1.87**			**1.63**			**1.29**			**2.12**		
Least:Most accessible	**0.51**			**1.52**			**1.64**			**0.96**			**0.60**			**1.47**			**0.99**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 23: Adjusted road traffic accident AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																					
	1997			1998			1999			2000			2001			2002			2003		
Road traffic accidents	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**5**	4	6	**5**	4	6	**4**	4	5	**5**	4	6	**4**	4	5	**4**	3	4	**2**	2	3
Metropolitan	**3**	3	4	**5**	4	6	**4**	3	5	**4**	3	5	**4**	3	5	**3**	2	4	**2**	1	2
Rural	**8**	6	11	**6**	4	8	**7**	5	9	**7**	5	9	**5**	4	7	**5**	3	7	**5**	3	6
IRSED category:																					
Most disadvantaged	**4**	2	6	**5**	3	7	**3**	1	4	**4**	2	6	**3**	2	5	**5**	3	7	**3**	1	5
2	**4**	2	5	**6**	4	8	**5**	3	7	**5**	3	7	**5**	3	8	**5**	3	7	**2**	1	3
3	**7**	5	10	**4**	2	6	**7**	4	9	**7**	5	10	**5**	3	7	**3**	2	5	**3**	2	5
4	**7**	4	9	**5**	3	7	**4**	2	6	**6**	4	8	**5**	3	7	**3**	2	5	**3**	1	4
Least disadvantaged	**2**	0	3	**4**	2	6	**4**	2	6	**2**	1	4	**3**	2	5	**2**	1	3	**1**	0	2
ARIA category:																					
Accessible	**12**	6	18	**6**	2	9	**11**	5	17	**12**	6	18	**5**	1	8	**8**	3	12	**7**	2	11
Highly Accessible	**4**	3	5	**5**	4	6	**4**	3	5	**5**	4	5	**4**	3	5	**3**	3	4	**2**	1	3
Moderately accessible	**7**	1	14	**4**	0	9	**5**	0	10	**5**	0	11	**9**	2	17	**2**	0	5	**8**	1	14
Rate ratios:																					
Male:Female																					
Rural:Metro	**2.41**			**1.28**			**1.78**			**1.53**			**1.29**			**1.65**			**3.07**		
Most:Least disadvantaged	**2.56**			**1.21**			**0.64**			**1.71**			**0.97**			**2.53**			**4.29**		
Least:Most accessible	**1.76**			**0.73**			**1.18**			**1.16**			**2.19**			**0.50**			**4.00**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 24: Adjusted diabetes AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Diabetes	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**6**	5	7	**6**	5	7	**6**	5	7	**6**	5	7	**6**	5	7	**5**	4	6	**5**	4	6
Metropolitan	**7**	6	8	**6**	5	7	**6**	5	8	**6**	5	8	**6**	5	7	**5**	4	6	**5**	4	6
Rural	**5**	3	7	**6**	4	8	**5**	4	7	**5**	4	7	**6**	4	8	**6**	4	8	**5**	3	6
IRSED category:																					
Most disadvantaged	**10**	7	13	**7**	4	9	**8**	5	10	**7**	5	10	**8**	6	11	**6**	3	8	**6**	4	8
2	**5**	3	8	**7**	4	9	**8**	6	11	**7**	5	10	**7**	4	9	**6**	4	8	**6**	4	8
3	**7**	4	9	**7**	4	9	**6**	4	8	**7**	4	9	**6**	4	8	**6**	4	8	**5**	3	7
4	**6**	4	8	**6**	4	8	**5**	3	7	**6**	3	8	**5**	3	7	**6**	4	9	**4**	2	6
Least disadvantaged	**5**	3	7	**4**	3	6	**4**	2	6	**3**	2	5	**5**	3	7	**2**	0	3	**3**	1	4
ARIA category:																					
Accessible	**5**	1	8	**6**	3	10	**6**	2	9	**5**	2	9	**6**	2	9	**8**	4	13	**5**	2	9
Highly Accessible	**7**	5	8	**6**	5	7	**6**	5	7	**6**	5	7	**6**	5	7	**5**	4	6	**5**	4	6
Moderately accessible	**7**	2	13	**8**	2	14	**4**	0	8	**7**	1	13	**8**	2	14	**6**	1	12	**1**	0	4
Rate ratios:																					
Male:Female																					
Rural:Metro	**0.69**			**1.03**			**0.84**			**0.83**			**0.98**			**1.33**			**1.00**		
Most:Least disadvantaged	**2.15**			**1.50**			**2.03**			**2.25**			**1.82**			**3.56**			**2.40**		
Least:Most accessible	**1.14**			**1.34**			**0.63**			**1.18**			**1.31**			**1.31**			**0.25**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 25: Adjusted poisoning AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																					
	1997			1998			1999			2000			2001			2002			2003		
Poisoning	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**1**	1	2	**2**	1	2	**6**	5	7	**5**	4	5	**2**	1	3	**2**	2	3	**2**	2	3
Metropolitan	**2**	1	2	**2**	1	3	**6**	5	7	**5**	4	6	**2**	1	3	**2**	2	3	**2**	2	3
Rural	**1**	0	2	**1**	0	2	**4**	2	5	**5**	3	6	**1**	0	2	**2**	1	2	**3**	1	4
IRSED category:																					
Most disadvantaged	**1**	0	2	**1**	0	2	**5**	3	7	**5**	3	7	**3**	1	4	**2**	1	4	**3**	1	4
2	**1**	0	2	**2**	0	3	**7**	4	9	**4**	2	6	**2**	1	3	**2**	1	4	**3**	1	4
3	**1**	0	2	**3**	1	4	**5**	3	8	**5**	3	7	**2**	1	3	**1**	0	2	**2**	1	4
4	**1**	0	2	**1**	0	2	**6**	3	8	**5**	3	7	**2**	1	3	**2**	1	3	**2**	1	3
Least disadvantaged	**3**	1	4	**2**	1	4	**6**	4	8	**4**	2	6	**2**	0	3	**3**	1	4	**3**	1	4
ARIA category:																					
Accessible	**0**	0	3	**0**	0	3	**4**	0	7	**9**	4	14	**1**	0	2	**1**	0	2	**3**	0	6
Highly Accessible	**2**	1	2	**2**	1	3	**6**	5	7	**4**	3	5	**2**	1	3	**2**	2	3	**2**	2	3
Moderately accessible	**0**	0	6	**0**	0	6	**2**	0	4	**2**	0	5	**0**	0	6	**4**	0	9	**2**	0	5
Rate ratios:																					
Male:Female																					
Rural:Metro	**0.80**			**0.38**			**0.61**			**1.00**			**0.62**			**0.68**			**1.17**		
Most:Least disadvantaged	**0.41**			**0.48**			**0.81**			**1.24**			**1.56**			**0.85**			**0.93**		
Least:Most accessible	**0.00**			**0.00**			0.26			**0.37**			**0.00**			**1.71**			**0.63**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 26: Adjusted Primary AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Primary AM	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**67**	63	70	**61**	58	64	**62**	58	65	**62**	58	65	**57**	53	60	**55**	52	58	**53**	50	56
Metropolitan	**64**	60	68	**58**	55	62	**61**	57	65	**60**	56	64	**56**	53	60	**52**	48	55	**49**	46	52
Rural	**72**	66	79	**70**	63	76	**65**	59	71	**67**	61	74	**61**	55	67	**62**	57	68	**60**	54	66
IRSED category:																					
Most disadvantaged	**72**	64	80	**63**	55	70	**70**	62	78	**63**	55	70	**59**	51	66	**64**	57	72	**53**	46	59
2	**70**	63	78	**70**	62	77	**67**	60	74	**68**	60	75	**62**	55	68	**61**	55	68	**58**	51	64
3	**71**	63	79	**64**	56	71	**65**	57	72	**65**	57	72	**63**	56	70	**59**	52	66	**58**	51	65
4	**63**	55	70	**56**	49	63	**57**	50	64	**58**	51	65	**56**	49	63	**51**	45	58	**51**	45	58
Least disadvantaged	**57**	50	64	**52**	45	58	**51**	44	57	**55**	48	61	**48**	42	55	**41**	35	47	**42**	36	48
ARIA category:																					
Accessible	**77**	63	91	**66**	54	79	**65**	53	78	**65**	53	78	**55**	44	66	**65**	53	78	**56**	44	67
Highly Accessible	**66**	63	70	**60**	56	63	**61**	58	65	**62**	59	65	**57**	54	61	**54**	51	57	**52**	49	55
Moderately accessible	**73**	53	93	**80**	59	100	**80**	59	100	**62**	44	80	**59**	41	76	**64**	46	82	**65**	47	83
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.13**			1.22			**1.06**			**1.11**			**1.09**			1.18			1.22		
Most:Least disadvantaged	**1.26**			**1.21**			1.39			**1.16**			**1.22**			1.56			**1.26**		
Least:Most accessible	**1.11**			**1.32**			**1.31**			**1.00**			**1.03**			**1.17**			**1.26**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 27: Adjusted secondary AM rates (95% CI) in females, Victoria (1997–2003)

Females (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Secondary AM	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**40**	37	43	**37**	35	40	**35**	32	37	**35**	32	37	**33**	30	35	**32**	30	34	**30**	28	32
Metropolitan	**40**	37	43	**36**	33	39	**35**	32	38	**34**	31	36	**32**	30	35	**30**	28	33	**28**	26	31
Rural	**41**	36	46	**41**	36	46	**35**	31	40	**37**	32	42	**36**	32	41	**36**	32	41	**33**	29	37
IRSED category:																					
Most disadvantaged	**47**	40	53	**40**	34	46	**39**	34	45	**38**	32	43	**36**	30	41	**35**	29	40	**31**	26	**36**
2	**41**	35	47	**41**	36	47	**38**	33	44	**37**	32	43	**36**	31	41	**33**	28	38	**34**	29	39
3	**42**	36	48	**37**	32	43	**35**	30	41	**37**	31	42	**36**	30	41	**34**	29	39	**30**	25	35
4	**38**	33	44	**33**	28	38	**32**	27	37	**32**	27	38	**31**	26	36	**31**	26	36	**29**	24	34
Least disadvantaged	**35**	30	41	**34**	28	39	**31**	26	36	**30**	25	35	**27**	22	32	**25**	20	30	**25**	21	30
ARIA category:																					
Accessible	**41**	31	51	**41**	31	51	**37**	27	46	**35**	26	44	**35**	26	44	**38**	29	48	**29**	21	37
Highly Accessible	**40**	37	43	**37**	34	39	**34**	32	37	**35**	32	37	**33**	30	35	**31**	28	33	**30**	27	32
Moderately accessible	**44**	29	59	**40**	26	54	**45**	30	61	**45**	29	61	**31**	18	44	**40**	26	54	**34**	21	47
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.02**			**1.14**			**1.00**			**1.09**			**1.10**			**1.23**			**1.17**		
Most:Least disadvantaged	**1.34**			**1.16**			**1.27**			**1.25**			**1.30**			**1.40**			**1.28**		
Least:Most accessible	**1.09**			**1.10**			**1.31**			**1.29**			**0.94**			**1.29**			**1.13**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 28: Adjusted tertiary AM rates (95% CI) in females, Victoria (1997–2003)

	Females (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Tertiary AM	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**35**	33	38	**33**	31	35	**34**	31	36	**33**	31	35	**30**	28	32	**29**	26	31	**28**	26	30
Metropolitan	**34**	31	37	**32**	29	35	**33**	30	36	**32**	29	34	**30**	28	33	**28**	26	31	**26**	23	28
Rural	**39**	35	44	**36**	31	40	**35**	31	40	**35**	30	39	**31**	27	35	**32**	27	36	**32**	28	36
IRSED category:																					
Most disadvantaged	**40**	34	46	**35**	30	41	**36**	30	41	**32**	26	37	**31**	26	37	**33**	28	39	**29**	24	34
2	**33**	28	39	**36**	31	42	**40**	34	46	**33**	28	38	**32**	27	37	**33**	28	38	**30**	25	35
3	**40**	34	46	**33**	28	39	**34**	28	39	**36**	31	42	**31**	26	37	**27**	22	32	**28**	23	33
4	**33**	27	38	**31**	26	36	**32**	27	37	**32**	27	38	**30**	25	35	**29**	24	34	**27**	22	31
Least disadvantaged	**30**	25	35	**29**	24	34	**28**	23	33	**30**	24	35	**27**	22	32	**23**	19	27	**23**	18	27
ARIA category:																					
Accessible	**44**	33	54	**34**	24	43	**38**	28	48	**39**	29	49	**28**	19	36	**30**	22	39	**28**	20	36
Highly Accessible	**34**	32	37	**33**	30	35	**33**	30	35	**33**	30	35	**30**	28	33	**29**	26	31	**27**	25	30
Moderately accessible	**39**	24	53	**35**	22	49	**44**	28	59	**33**	19	46	**32**	19	46	**38**	24	53	**35**	22	49
Rate ratios:																					
Male:Female																					
Rural:Metro	**1.15**			**1.13**			**1.05**			**1.08**			**1.05**			**1.16**			1.24		
Most:Least disadvantaged	**1.32**			**1.21**			**1.26**			**1.06**			**1.18**			1.43			**1.23**		
Least:Most accessible	**1.15**			**1.06**			**1.33**			**1.02**			**1.07**			**1.34**			**1.29**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 29: Adjusted unavoidable mortality rates (95% CI) in females, Victoria (1997–2003)

	Females (rate per 100,000)																				
	1997			1998			1999			2000			2001			2002			2003		
Unavoidable mortality	**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI		**Adjusted**	95%CI	
Victoria	**85**	81	89	**83**	79	87	**76**	72	79	**78**	74	82	**76**	72	79	**79**	76	83	**73**	70	77
Metropolitan	**85**	81	90	**82**	77	86	**72**	68	76	**76**	72	80	**74**	69	78	**78**	74	83	**73**	68	77
Rural	**84**	77	91	**85**	78	92	**86**	79	93	**84**	77	90	**81**	74	88	**82**	76	89	**75**	69	82
IRSED category:																					
Most disadvantaged	**86**	77	94	**92**	83	101	**86**	77	95	**85**	76	93	**80**	72	88	**87**	79	96	**81**	73	89
2	**89**	80	98	**86**	78	94	**81**	73	89	**81**	73	89	**89**	81	98	**79**	72	87	**75**	67	82
3	**92**	83	101	**82**	74	91	**75**	67	83	**79**	71	88	**78**	70	86	**82**	74	90	**76**	68	83
4	**81**	72	89	**78**	70	86	**66**	59	73	**74**	66	81	**71**	64	79	**80**	72	88	**67**	60	75
Least disadvantaged	**77**	69	85	**76**	68	85	**72**	64	80	**71**	64	79	**58**	51	65	**68**	60	76	**67**	60	75
ARIA category:																					
Accessible	**86**	72	101	**94**	78	109	**81**	68	95	**82**	68	96	**78**	64	92	**80**	66	93	**72**	59	85
Highly Accessible	**84**	80	88	**82**	78	85	**75**	71	79	**77**	73	81	**75**	71	79	**79**	75	83	**73**	70	77
Moderately accessible	**95**	73	117	**100**	76	123	**83**	62	104	**98**	75	120	**96**	73	119	**85**	64	106	**72**	52	91
Rate ratios:																					
Male:Female																					
Rural:Metro	**0.98**			**1.04**			1.19			**1.10**			**1.10**			**1.05**			**1.04**		
Most:Least disadvantaged	**1.11**			**1.20**			**1.20**			**1.19**			1.37			1.28			**1.20**		
Least:Most accessible	**1.13**			**1.22**			**1.10**			**1.26**			**1.28**			**1.07**			**0.98**		

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates and rate ratios in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria or 1, respectively
Adjusted rates and rate ratios in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria or 1, respectively

Table 30: Adjusted total AM rates (95% CI) by sex and Department of Human Services (DHS) region or Primary Care Partnership (PCP), 2003

Area	Males				Females			
	Crude rate	Adjusted rate	95% CI		Crude rate	Adjusted rate	95% CI	
Victoria	**198**	**202**	**196**	**207**	**113**	**110**	**106**	**114**
DHS regions								
Barwon SW	**243**	**228**	206	251	**127**	**112**	96	127
Eastern metropolitan	**164**	163	152	175	**100**	94	86	103
Gippsland	**303**	263	235	291	**160**	136	116	156
Grampians	**235**	**223**	194	252	**141**	**131**	109	152
Hume	**228**	**219**	193	245	**128**	**119**	100	138
Loddon Mallee	**246**	232	207	257	**147**	133	115	151
North-West metropolitan	**181**	**201**	190	212	**95**	**103**	95	111
Southern metropolitan	**189**	**196**	184	208	**114**	**112**	103	121
PCPs								
Banyule Nillumbik	**141**	152	125	180	**97**	**100**	78	121
Barwon	**242**	**229**	202	256	**126**	**111**	92	129
Bendigo Loddon	**214**	**210**	169	252	**139**	**127**	96	158
Boroondara	**133**	138	110	166	**90**	**88**	67	110
Brimbank Melton	**172**	**207**	177	236	**99**	**123**	100	146
Campaspe	**231**	**205**	141	269	**167**	**144**	90	197
Central East	**164**	144	128	160	**95**	80	68	91
Central Grampians	**332**	**266**	190	341	**175**	**144**	85	202
Central Highlands	**204**	**212**	176	247	**134**	**134**	106	161
Central Hume	**221**	**193**	145	242	**94**	**82**	50	114
Central Victorian Health	**220**	**212**	162	261	**156**	**143**	103	184
Central West Gippsland	**260**	259	215	304	**156**	150	117	183
East Gippsland	**348**	**252**	188	316	**204**	**150**	101	199
Frankston Mornington Peninsula	**211**	**194**	170	219	**133**	**118**	100	137
Goulburn Valley	**278**	262	217	308	**127**	**115**	85	146
Hume Moreland	**199**	**217**	191	243	**88**	**92**	76	109
Inner SE Partnership	**183**	**190**	166	213	**106**	**105**	88	122
Kingston Bayside	**177**	**171**	146	195	**117**	**104**	85	122
Lwr Hume Health	**190**	**195**	135	255	**150**	**154**	100	208
Moonee Valley Melbourne	**160**	**169**	139	199	**90**	**96**	74	118
North Central Metro	**200**	**215**	191	239	**92**	**97**	81	113
Northern Mallee	**302**	298	229	367	**157**	**153**	104	202
Outer East	**175**	**201**	179	223	**108**	**117**	101	133
South Coast Health	**372**	290	229	352	**178**	**135**	93	177
South East	**186**	**220**	196	243	**107**	**124**	106	141
South West	**226**	**212**	161	263	**151**	**133**	94	172
Southn Grampians Glenelg	**276**	**250**	179	321	**96**	**81**	41	121
Swan H Gann Buloke	**311**	**267**	198	335	**121**	**98**	57	140

Table 30: Adjusted total AM rates (95% CI) by sex and Department of Human Services (DHS) region or Primary Care Partnership (PCP), 2003 (continued)

Area	Males				Females			
	Crude rate	Adjusted rate	95% CI		Crude rate	Adjusted rate	95% CI	
Upper Hume	**180**	**190**	136	244	**151**	**155**	106	203
Wellington	**288**	**262**	194	330	**107**	**93**	52	134
WestBay	**186**	**218**	189	247	**105**	**117**	96	138
Wimmera	**273**	**226**	161	291	**142**	**113**	67	159

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria
Adjusted rates in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria

Table 31: Adjusted total AM rates (95% CI), aggregated over 5 years (1999-2003), by sex and local government area

	Males				Females			
Area	Crude rate	Adjusted rate	95% CI		Crude rate	Adjusted rate	95% CI	
	per 100,000				per 100,000			
Victoria	**216**	**221**	**218**	**224**	**124**	**121**	**119**	**123**
LGA								
Alpine S	**287**	**239**	189	290	**154**	**130**	91	169
Ararat RC	**309**	**249**	196	302	**185**	**144**	103	186
Ballarat C	**259**	271	247	295	**150**	146	129	163
Banyule C	**193**	192	175	208	**129**	**117**	105	129
Bass Coast S	**338**	**248**	211	285	**147**	97	75	118
Baw Baw S	**232**	**231**	199	264	**141**	**138**	113	162
Bayside C	**179**	171	153	189	**104**	88	76	100
Boroondara C	**150**	156	143	169	**104**	100	90	110
Brimbank C	**181**	**218**	202	234	**106**	**122**	110	134
Buloke S	**346**	**266**	196	336	**177**	**131**	80	183
Campaspe S	257	238	207	270	**166**	**144**	120	169
Cardinia S	**177**	**210**	181	239	**125**	150	125	175
Casey C	**142**	199	183	215	**89**	**123**	111	136
Central Goldfields S	**389**	280	228	331	**236**	170	128	211
Colac-Otway S	**255**	**234**	193	275	**124**	**109**	81	137
Corangamite S	**297**	**264**	217	310	**176**	**150**	114	185
Darebin C	**270**	252	234	269	**144**	**129**	117	141
Delatite S	**235**	**211**	171	251	**124**	**107**	79	135
East Gippsland S	**400**	306	274	339	**178**	**131**	110	151
Frankston C	**240**	258	238	278	**149**	151	136	165
Gannawarra S	**331**	**279**	221	337	**155**	**116**	80	151
Glen Eira C	**204**	201	185	218	**114**	102	91	113
Glenelg S	**290**	281	235	328	**165**	**147**	114	180
Golden Plains S	**194**	**214**	164	264	**111**	**124**	84	165
Greater Bendigo C	**228**	**228**	208	249	**140**	**133**	118	148
Greater Dandenong C	**252**	254	236	272	**147**	140	127	153
Greater Geelong C	**254**	242	228	256	**144**	**127**	117	137
Greater Shepparton C	**217**	**229**	203	255	**114**	**115**	97	134
Hepburn S	**311**	**260**	210	310	**189**	**161**	120	201
Hindmarsh S	**388**	**288**	213	364	**230**	**176**	114	238
Hobsons Bay C	**236**	**239**	217	261	**137**	**133**	117	149
Horsham RC	**238**	**223**	180	267	**130**	**112**	82	142
Hume C	**183**	244	224	263	**94**	**126**	111	140
Indigo S	**186**	**181**	136	226	**153**	**136**	99	173
Kingston C	**228**	**217**	201	233	**134**	**117**	106	129
Knox C	**173**	**217**	199	234	**103**	**121**	109	134

Table 31: Adjusted total AM rates (95% CI), aggregated over 5 years (1999-2003), by sex and local government area (continued)

	Males				Females			
Area	Crude rate	Adjusted rate	95% CI		Crude rate	Adjusted rate	95% CI	
	per 100,000				per 100,000			
Latrobe C	283	293	266	319	152	151	133	170
Loddon S	376	287	220	354	128	96	57	135
Macedon Ranges S	185	206	174	238	106	118	94	143
Manningham C	166	146	133	160	101	91	80	102
Maribyrnong C	283	298	269	326	143	137	118	157
Maroondah C	187	204	185	223	120	120	106	134
Melbourne C	172	235	203	267	64	97	75	119
Melton S	146	225	190	259	117	195	162	228
Mildura RC	291	285	255	315	160	154	132	176
Mitchell S	192	226	188	264	116	132	103	162
Moira S	325	278	240	317	147	125	98	152
Monash C	186	162	150	174	117	98	89	107
Moonee Valley C	215	203	186	220	116	106	94	118
Moorabool S	223	259	215	303	102	113	85	142
Moreland C	268	244	228	261	157	135	122	147
Mornington Peninsula S	246	208	192	223	149	118	107	129
Mount Alexander S	294	260	211	308	168	140	105	174
Moyne S	242	236	188	285	151	140	102	178
Murrindindi S	240	224	173	276	138	130	90	170
Nillumbik S	114	147	123	171	68	94	74	114
Northern Grampians S	365	325	264	385	200	164	121	206
Port Phillip C	261	282	257	307	132	143	125	161
Pyrenees S	342	279	204	355	144	122	67	177
Queenscliffe B	359	223	123	323	169	104	40	167
South Gippsland S	274	240	203	277	151	128	102	155
Southern Grampians S	350	293	244	342	159	128	95	161
Stonnington C	174	176	158	195	110	108	94	121
Strathbogie S	308	229	173	285	188	137	92	182
Surf Coast S	199	200	161	239	116	111	82	141
Swan Hill RC	245	239	197	281	132	123	93	153
Towong S	315	251	177	325	93	74	34	115
Wangaratta RC	236	220	184	256	159	138	111	166
Warrnambool C	214	225	188	261	111	105	81	128
Wellington S	276	261	231	292	139	128	106	150
West Wimmera S	311	256	170	342	104	80	32	129
Whitehorse C	202	181	168	195	114	95	85	104
Whittlesea C	166	201	183	219	82	98	85	111

Table 31: Adjusted total AM rates (95% CI), aggregated over 5 years (1999-2003), by sex and local government area (continued)

	Males				Females			
Area	Crude rate	Adjusted rate	95% CI		Crude rate	Adjusted rate	95% CI	
	per 100,000				per 100,000			
Wodonga RC	**218**	268	228	309	**119**	**140**	112	169
Wyndham C	**160**	**236**	210	262	**87**	**127**	108	146
Yarra C	**241**	290	261	319	**131**	156	135	177
Yarra Ranges S	**166**	196	180	212	**106**	**121**	108	134
Yarriambiack S	**295**	**209**	152	266	**249**	180	125	236

Note: Adjusted rates are significantly different (P<0.05) when their 95% confidence intervals do not overlap
Adjusted rates in **RED** are significantly greater (P<0.05) than the corresponding rate for Victoria
Adjusted rates in **GREEN** are significantly lower (P<0.05) than the corresponding rate for Victoria

Appendix 4: National and international comparative data

The tables and figures in this Appendix present the data referred to in Section 4.6 of the report. As indicated there, these data are not directly comparable to the results of the present AM study due to differences in methodology. Readers are referred to the original sources for further details of the methods, standard populations and data sources used.

National Data: Australian and New Zealand Atlas of Avoidable Mortality

Table 1: Change in avoidable and amenable mortality (0 to 74 years) by state/territory and sex, Australia, 1987 and 2001

	Avoidable mortality (adjusted rate per 100,000)								
	Males			Females			Persons		
State/Territory	1987	2001	Per cent change	1987	2001	Per cent change	1987	2001	Per cent change
New South Wales	364.9	209.8	**-42.5**	180.5	109.1	**-39.6**	272.5	159.5	**-41.5**
Victoria	354.6	198.1	**-44.1**	174.6	108.6	**-37.8**	264.4	153.5	**-41.9**
Queensland	360.6	223.4	**-38.0**	181.6	121.4	**-33.1**	271.0	172.4	**-36.4**
South Australia	340.7	209.9	**-38.4**	169.6	113.1	**-33.3**	255.0	161.6	**-36.6**
Western Australia	330.4	198.1	**-40.0**	165.9	102.7	**-38.1**	248.1	150.4	**-39.4**
Tasmania	–	–	–	–	–	–	300.8	186.3	**-38.1**
Northern Territory	–	–	–	–	–	–	410.6	328.2	**-20.1**
ACT	–	–	–	–	–	–	230.9	143.9	**-37.7**
All areas	**357.6**	**210.1**	**-41.2**	**177.8**	**112.4**	**-36.8**	**267.6**	**161.3**	**-39.7**

	Amenable mortality (adjusted rate per 100,000)								
	Males			Females			Persons		
State/Territory	1987	2001	Per cent Change	1987	2001	Per cent change	1987	2001	Per cent change
New South Wales	135.9	72.6	**-46.6**	99.0	55.3	**-44.1**	117.4	64.0	**-45.5**
Victoria	129.3	70.3	**-45.6**	94.7	55.7	**-41.2**	111.9	63.0	**-43.7**
Queensland	135.6	80.3	**-40.8**	100.2	61.4	**-38.7**	117.9	70.8	**-39.7**
South Australia	128.3	73.8	**-42.5**	92.3	59.1	**-36.0**	110.2	66.5	**-39.7**
Western Australia	130.8	66.8	**-48.9**	92.4	53.2	**-42.4**	111.5	60.0	**-46.2**
Tasmania	–	–	–	–	–	–	128.9	70.2	**-45.5**
Northern Territory	–	–	–	–	–	–	162.7	124.0	**-23.8**
ACT	–	–	–	–	–	–	104.6	59.9	**-42.7**
All areas	**133.4**	**73.5**	**-44.9**	**97.3**	**57.1**	**-41.3**	**115.3**	**65.3**	**-43.4**

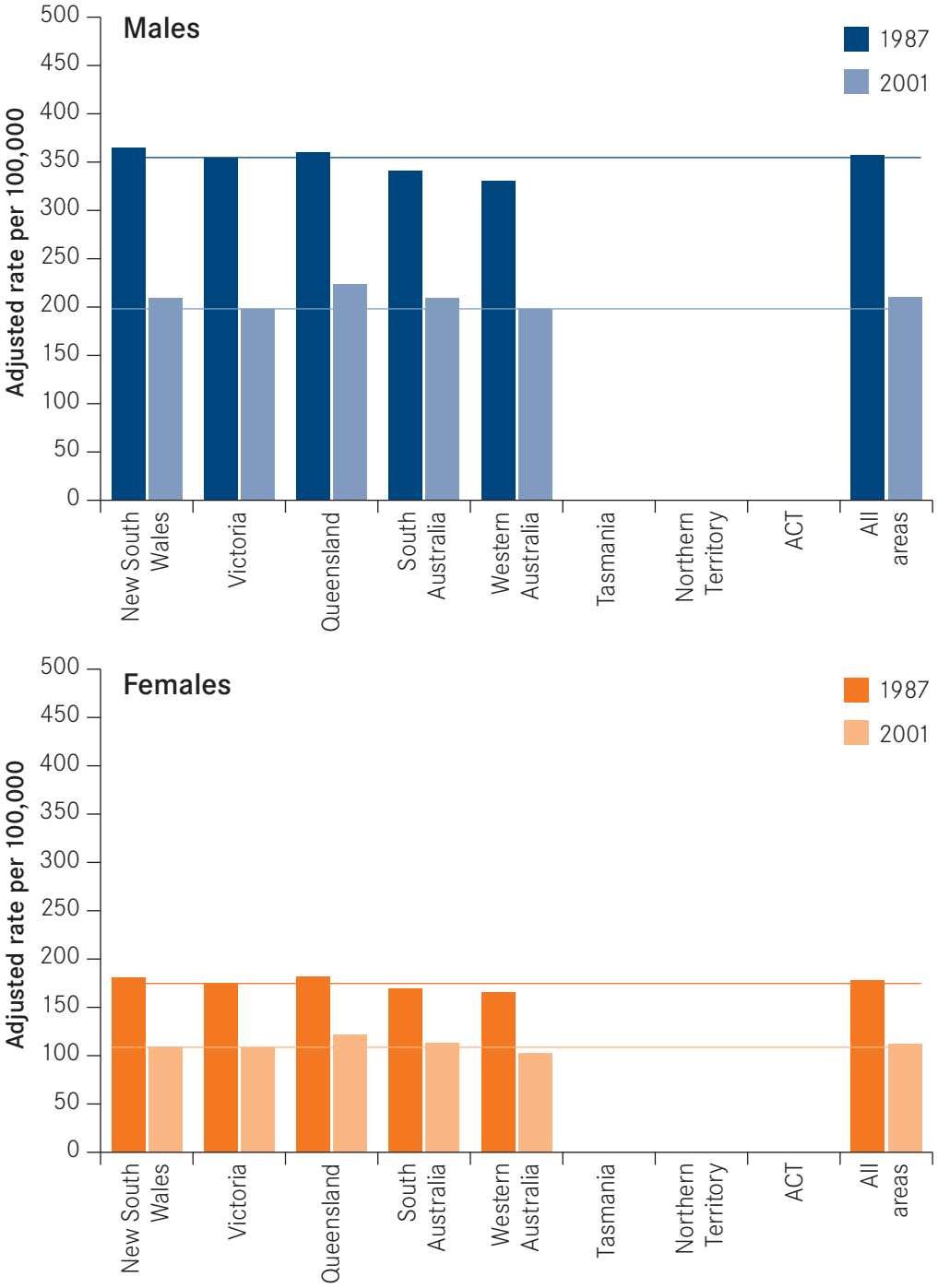
Source: Page A, Tobias M, Glover J, Wright C, Hetzel D, Fisher E (2006) *Australian and New Zealand Atlas of Avoidable Mortality*. p. 180. Adelaide: PHIDU (Public Health Information Development Unit), University of Adelaide.

Notes: 'Amenable mortality' is defined as a subset of avoidable mortality and refers to those causes of death that are potentially avoidable at present time given available health care. Due to small numbers, there are no data available by sex for Tasmania, Northern Territory and the Australian Capital Territory.

For more information:

Public Health Information Development Unit (PHIDU), The University of Adelaide, South Australia, 5005:
www.publichealth.gov.au/publications/australian-and-new-zealand-atlas-of-avoidable-mortality.html

Figure 1: Avoidable mortality (0 to 74 years), by state/territory and sex, Australia, 1987 and 2001



Source: Page A, Tobias M, Glover J, Wright C, Hetzel D, Fisher E (2006) *Australian and New Zealand Atlas of Avoidable Mortality*, p. 180. Adelaide: PHIDU (Public Health Information Development Unit), University of Adelaide.

Notes: Due to small numbers, there are no data available by sex for Tasmania, Northern Territory and Australian Capital Territory. Gridlines indicate adjusted avoidable mortality rates per 100, 000 population for Victoria for 1987and 2001 respectively.

Figure 1: Avoidable mortality (0 to 74 years), by state/territory and sex, Australia, 1987 and 2001 (continued)

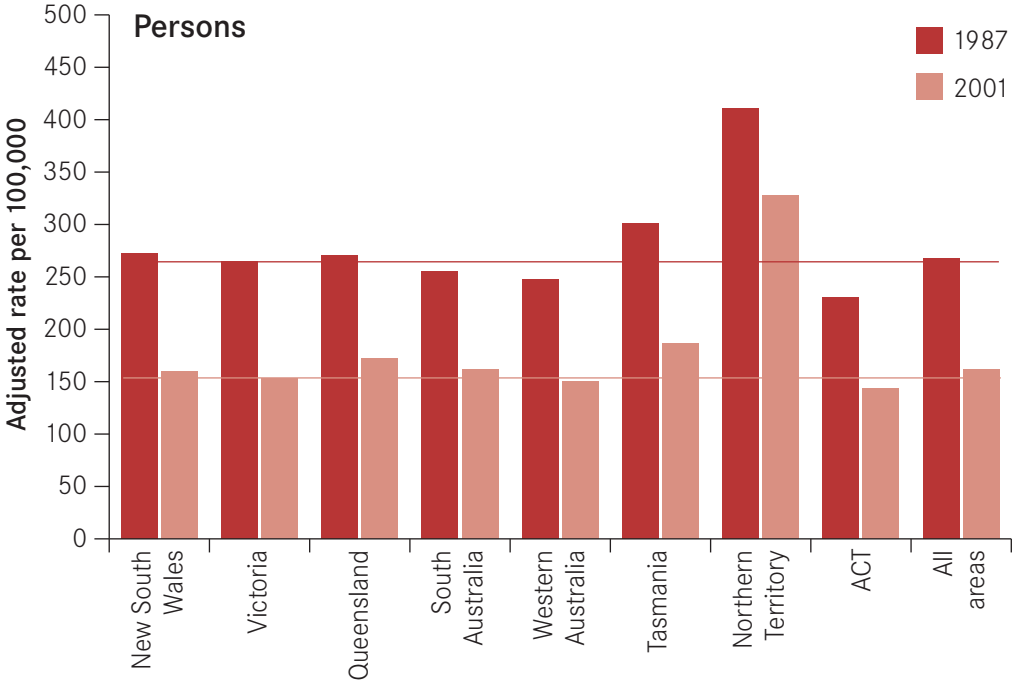
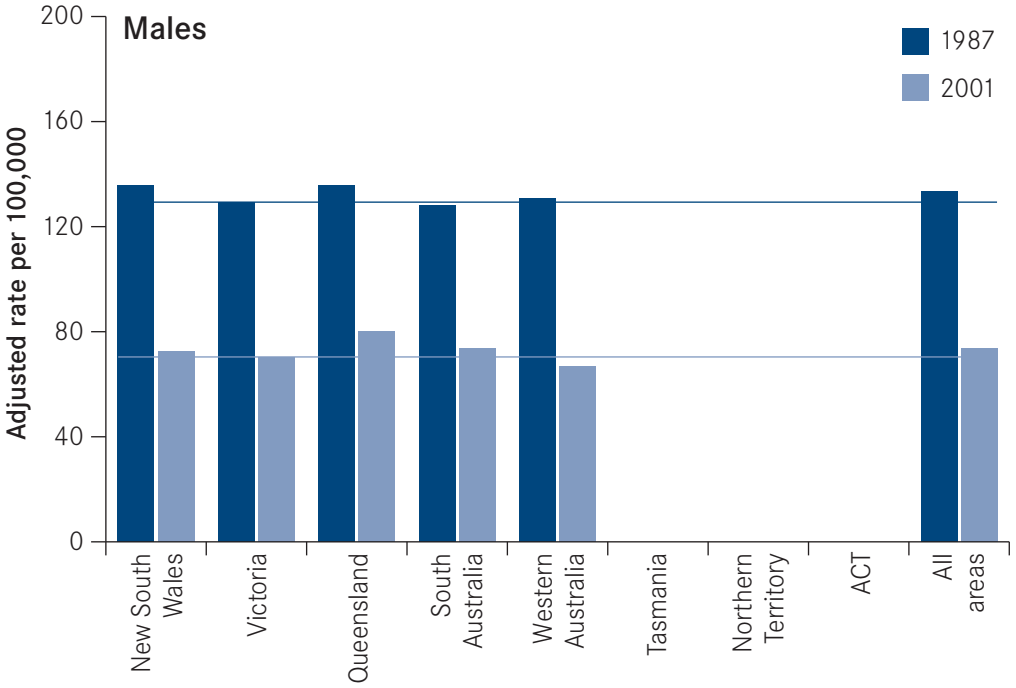


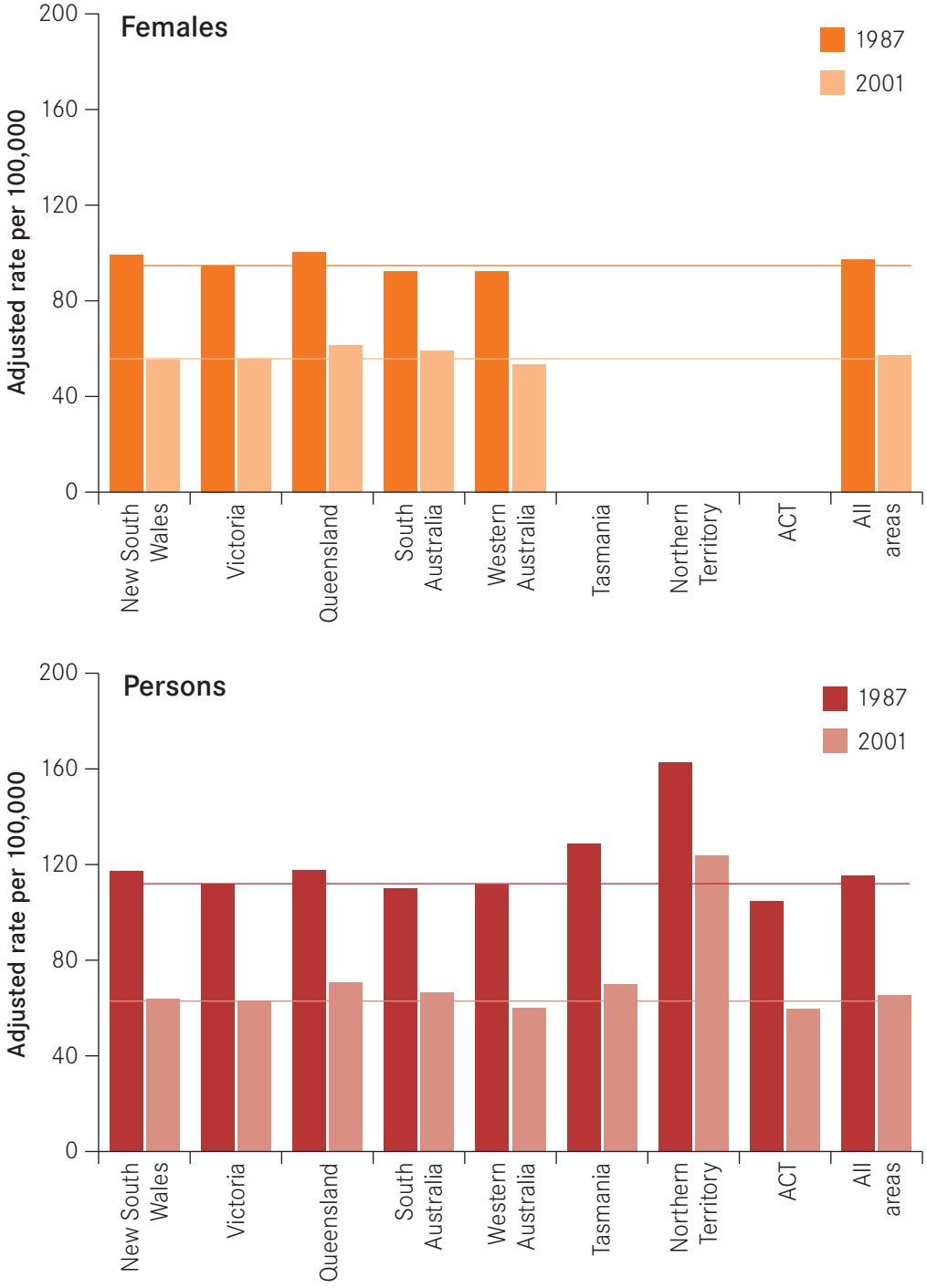
Figure 2: Amenable mortality (0 to 74 years), by state/territory and sex, Australia, 1987 and 2001



Source: Page A, Tobias M, Glover J, Wright C, Hetzel D, Fisher E (2006) *Australian and New Zealand Atlas of Avoidable Mortality*, p. 180. Adelaide: PHIDU (Public Health Information Development Unit), University of Adelaide.

Notes: Due to small numbers, there are no data available by sex for Tasmania, Northern Territory and Australian Capital Territory. Gridlines indicate adjusted avoidable mortality rates per 100, 000 population for Victoria for 1987and 2001 respectively.

Figure 2: Amenable mortality (0 to 74 years), by state/territory and sex, Australia, 1987 and 2001 (continued)



Source: Page A, Tobias M, Glover J, Wright C, Hetzel D, Fisher E (2006) *Australian and New Zealand Atlas of Avoidable Mortality*, p. 180. Adelaide: PHIDU (Public Health Information Development Unit), University of Adelaide.

Notes: Due to small numbers, there are no data available by sex for Tasmania, Northern Territory and Australian Capital Territory. Gridlines indicate adjusted avoidable mortality rates per 100, 000 population for Victoria for 1987and 2001 respectively.

International Data: Comparison of adjusted amenable mortality rates for nineteen Organization of Economic Development and Cooperation (OECD Countries), 1997–98 and 2002–01

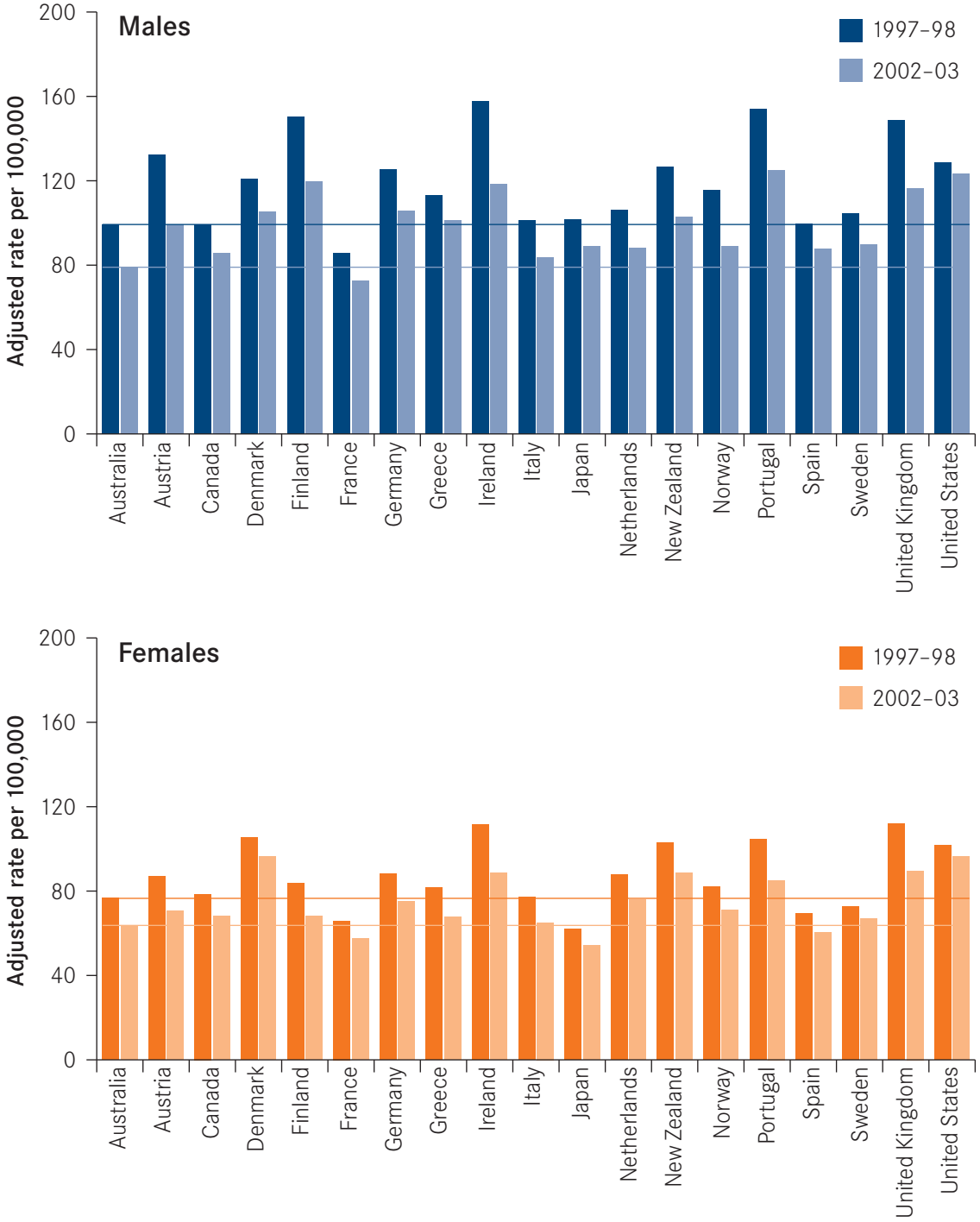
Table 2: Change in amenable mortality (0 to 74 years) by country, Organization for Economic Cooperation and Development (OECD) Countries, 1997–98 and 2002–03

Country	Males				Females				Persons			
	1997–98	2002–03	Per cent change	2002–03 rank	1997–98	2002–03	Per cent change	2002–03 rank	1997–98	2002–03	Per cent change	2002–03 rank
Australia	99.4	79.0	**-20.5**	2	76.6	63.7	**-16.8**	4	88.0	71.3	**-18.9**	3
Austria	132.2	99.3	**-24.9**	10	87.0	70.5	**-18.9**	10	108.9	84.5	**-22.4**	11
Canada	99.4	85.7	**-13.8**	4	78.6	68.2	**-13.3**	9	88.9	76.8	**-13.6**	6
Denmark	120.8	105.5	**-12.7**	13	105.4	96.3	**-8.6**	18	113.0	100.8	**-10.8**	15
Finland	150.4	119.8	**-20.4**	17	83.7	68.1	**-18.7**	8	116.2	93.3	**-19.7**	13
France	85.9	72.6	**-15.4**	1	65.9	57.4	**-12.9**	2	75.6	64.8	**-14.3**	1
Germany	125.3	105.8	**-15.5**	14	88.1	75.1	**-14.7**	12	106.2	90.1	**-15.1**	12
Greece	113.3	101.1	**-10.8**	11	81.5	67.8	**-16.8**	7	97.3	84.3	**-13.3**	10
Ireland	157.6	118.4	**-24.8**	16	111.5	88.6	**-20.5**	15	134.4	103.4	**-23.0**	17
Italy	101.2	83.5	**-17.5**	3	77.1	65.1	**-15.6**	5	88.8	74.0	**-16.6**	5
Japan	101.6	88.8	**-12.6**	8	62.1	54.3	**-12.4**	1	81.4	71.2	**-12.6**	2
Netherlands	106.0	88.0	**-17.0**	6	87.9	75.8	**-13.8**	13	96.9	81.9	**-15.5**	8
New Zealand	126.5	102.8	**-18.8**	12	102.9	88.6	**-13.9**	16	114.5	95.6	**-16.6**	14
Norway	115.5	88.8	**-23.1**	7	82.2	70.9	**-13.7**	11	98.6	79.8	**-19.1**	7
Portugal	154.0	124.8	**-19.0**	19	104.6	85.1	**-18.6**	14	128.4	104.3	**-18.8**	18
Spain	99.7	87.8	**-12.0**	5	69.5	60.4	**-13.0**	3	84.3	73.8	**-12.4**	4
Sweden	104.7	89.9	**-14.2**	9	72.5	66.9	**-7.8**	6	88.4	82.1	**-7.2**	9
United Kingdom	148.6	116.2	**-21.8**	15	111.9	89.6	**-19.9**	17	130.0	102.8	**-20.9**	16
United States	128.5	123.4	**-4.0**	18	101.6	96.4	**-5.1**	19	114.7	109.7	**-4.4**	19

Source: Adapted from Nolte E, McKee CM, 2008, Measuring the health of nations: Updating an earlier analysis. *Health Affairs*, 27(1), 58–71, Exhibits 1–2, 5, pp. 61–62, 65. Based on authors' calculations using data from the World Health Organization mortality database.

Note: Data for 2002–03 were not available for all countries. The exceptions and data used instead are as follows: Denmark, 2001–01; Sweden, 2001–02; Italy, United States, 2002. Amenable mortality is defined as 'deaths from certain causes that should not occur in the presence of timely and effective health care' (p. 59).

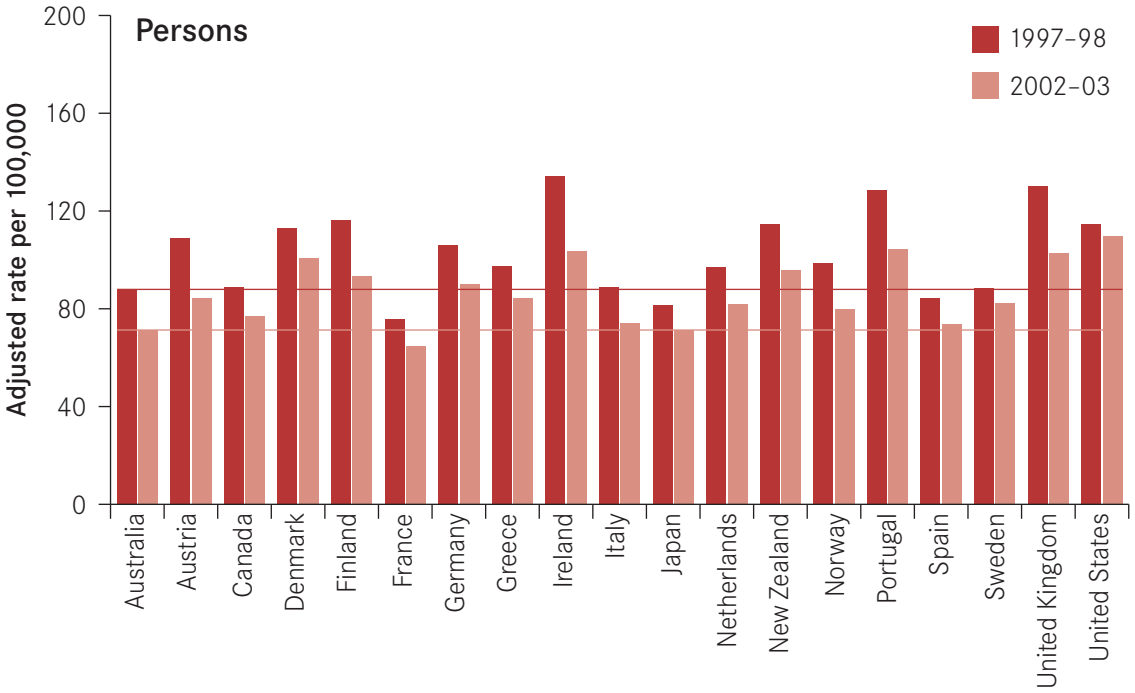
Figure 3: Amenable mortality (0 to 74 years), by country, Organization for Economic Development and Cooperation (OECD) countries, 1997–98 and 2002–03



Source: Adapted from Nolte E, McKee CM, 2008, Measuring the health of nations: Updating an earlier analysis. *Health Affairs*, 27(1), 58–71, Exhibits 1–2, 5, pp. 61–62, 65. Based on authors' calculations using data from the World Health Organization mortality database.

Notes: Gridlines indicate adjusted amenable mortality rates per 100, 000 population for Australia for 1997–98 and 2002–03 respectively. Data for 2002–03 were not available for all countries. The exceptions and data used instead are as follows: Denmark, 2001–01; Sweden, 2001–02; Italy, United States, 2002. Amenable mortality is defined as 'deaths from certain causes that should not occur in the presence of timely and effective health care' (p. 59).

Figure 3: Amenable mortality (0 to 74 years), by country, Organization for Economic Development and Cooperation (OECD) countries, 1997–98 and 2002–03 (continued)



Source: Adapted from Nolte E, McKee CM, 2008, Measuring the health of nations: Updating an earlier analysis. *Health Affairs*, 27(1), 58–71, Exhibits 1–2, 5, pp. 61–62, 65. Based on authors' calculations using data from the World Health Organization mortality database.

Notes: Gridlines indicate adjusted amenable mortality rates per 100, 000 population for Australia for 1997–98 and 2002–03 respectively. Data for 2002–03 were not available for all countries. The exceptions and data used instead are as follows: Denmark, 2001–01; Sweden, 2001–02; Italy, United States, 2002. Amenable mortality is defined as 'deaths from certain causes that should not occur in the presence of timely and effective health care' (p. 59).

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7. Abbreviations and symbols

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
AM	Avoidable mortality
CI	Confidence interval
COPD	Chronic obstructive pulmonary disease
IHD	Ischemic heart disease
PAM	Primary avoidable mortality
PCP	Primary Care Partnership
RTA	Road traffic accidents
SAM	Secondary avoidable mortality
TAM	Tertiary avoidable mortality
UM	Unavoidable mortality
%	Per cent

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