Victorian Burden of Disease Study

mortality

Human
Services

Victoria

The Victorian Burden of Disease Study: Mortality

Public Health and Development Division

Department of Human Services

Acknowledgments

THE BUTTERFLY

The butterfly is the result of a complex transformation—from a characterless grub that many would fail to recognise to a creature that is both eye-catching and familiar to people of diverse backgrounds.

Much of the core business of the Epidemiology Section is directed towards transforming complex data into clear, user-friendly information about the health of Victorians. Like the butterfly, this information should be highly visible and readily appreciated by a wide audience.

The life cycle of the butterfly symbolises our responsiveness to the need for ongoing redevelopment of a system to provide information that is both attractive and relevant.

Health Intelligence Series

Volume One
Surveillance of Sexually Transmitted Diseases in Victoria 1997
Published by the Disease Control Section, Health Intelligence and Disease Control, Public Health and Development Division,Victorian Government Department of Human Services.
This publication can be found on the Internet at: http://www.dhs.vic.gov.au/phd/9806045/index.htm

Volume Two
The Health of Young Victorians
Published in October 1998 by the Prevention and Child Health Section, Health Intelligence and Disease Control, Public Health and Development Division,Victorian Government Department of Human Services.
This publication can be found on the Internet at: http://www.dhs.vic.gov.au/phd/9709090

Volume Three
The Victorian Burden of Disease Study: Mortality
Published by the Epidemiology Section, Health Intelligence and Disease Control, Public Health and Development Division,Victorian Government Department of Human Services

This publication can be found on the Internet at: http://www.dhs.vic.gov.au/phd/9903009/index.htm

Ministerial Foreword

The past century has seen tremendous gains in the health status of populations. Improved living conditions and nutrition have contributed greatly to better health. Increasingly, improvements in health status are dependent on the ability of health services to prevent or treat the ill effects of disease and injury. Scientific advancement in our understanding of health and disease is now producing a rapidly growing array of interventions to extend the human life span and improve quality of life. But this comes at a cost. Australians already spend 8.5 per cent of their national income on health services, with consequently high expectations that resources in health are well spent.

A year ago, the Public Health and Development Division of the Department of Human Services began the Victorian Burden of Disease Study—a comprehensive review of the health status of Victorians. This publication presents the first set of results from this work. It is a detailed analysis of the causes of death from over one hundred diseases and injuries as well as a number of important risk factors for major causes of death. It also projects mortality into the year 2016.

Comparisons of the disease burden between population groups, as reported in this important document, allow us to define more adequately the distribution of health status across the population. This report finds great disparities in the mortality burden between indigenous and non-indigenous people in Victoria. Aboriginal people have a shorter life expectancy at birth by an estimated 8 to 18 years. Differences in health status are also found in people living in socio-economically disadvantaged areas and in rural Victoria. Findings such as these are already helping in the planning for services that can achieve improved health status for all Victorians.

A second publication later this year will describe further results from the Victorian Burden of Disease study and will include the measurement of the disability and loss of healthy life associated with disease, injury and risk factors.

This publication represents an important milestone in the provision of improved information to health service policy makers, planners and managers. In time, this should see a more equitable and efficient system of health service delivery to Victorians.

ROB KNOWLES

Minister for Health

Contents

List of Figures

Contents

List of Data Tables

Executive Summary

This report is the first of a series of publications about the Victorian Burden of Disease Study. The study uses the methods developed for the Global Burden of Disease Study adapted to the Victorian context. It provides a comprehensive assessment of the amount of ill health, the 'burden of disease', in Victoria in 1996 and projected to the year 2016. Mortality, disability and illness arising from over 130 diseases, injuries and risk factors are measured in Disability-Adjusted Life Years (DALYs). The mortality component of the burden of disease, the Years of Life Lost (YLLs), is the topic of this first report.

Key Findings

1. Men have a life expectancy six years shorter than women but the gap is narrowing.

2. The amalgamation of Local Government Areas (LGAs) of recent years has made it more difficult to analyse secular trends in mortality that are reliant on classification of small areas. Best estimates within these constraints show a small, one-year difference in male and female life expectancy between metropolitan areas and rural or remote Victoria since 1988.

3. Local area variation in life expectancy at birth is more significant. The gap between the LGA with the lowest and highest life expectancy is seven years in men and four years in women. Socio-economic disadvantage is an important predictor of lower life expectancy.

4. Available information suggests that life expectancy in Aboriginal men may be between eight and 18 years shorter than the state average. In women, the gap is estimated to be as large as nine to 18 years.

5. Due to data deficiencies and the small overall population size of the Aboriginal people in Victoria, it is not possible to measure the importance of individual causes of ill health. Experience from elsewhere in Australia makes it plausible that differences in cardiovascular health, diabetes, injuries and substance abuse are important contributors to the ill health of the Aboriginal population in Victoria.

6. Cardiovascular disease and cancer are, each, responsible for about a third of the years of life lost due to premature mortality. Injuries are a greater cause of mortality burden in men (12 per cent) than in women (five per cent). Ischaemic heart disease and stroke are the most prevalent cardiovascular diseases leading to death. The lungs, bowel, prostate and breast are the most common sites of fatal cancers. Suicide, followed by road traffic accidents, are the main causes of injury mortality. Diabetes is ranked ninth in men and seventh in women among the top leading causes of YLLs. Drug overdose, mainly heroin-related, is the tenth cause of YLLs in men and is the only mental health condition in the list of top-twenty causes. The National Health Priority Areas thus cover 16 of the top twenty causes of YLLs in men and women. Chronic obstructive pulmonary disease—emphysema and chronic bronchitis, both strongly linked to smoking —and dementia are the most important fatal conditions not addressed as a national priority.

7. Socio-economic disadvantage is an important predictor of years lost due to cardiovascular disease, smoking-related illness, digestive disorders and causes of infant and childhood mortality. Rural residence, especially in the least populated parts of Victoria, is the most important predictor of premature mortality from injuries. Traffic accidents, suicide, machinery accidents and drowning are the main types of injury responsible for this difference.

8. Risk factors, such as smoking, physical inactivity, high blood cholesterol, hypertension, alcohol and obesity are responsible for large proportions of the overall mortality burden. Interventions that address these are likely to lead to larger health gains than curative interventions.

9. The increase of three per cent annually in tobacco-related mortality in women over the last eighteen years is a reason for concern. There remain considerable opportunities for disease reduction through the prevention of smoking.

10. Alcohol, when consumed in moderation, protects against death from cardiovascular diseases. The protective effect is only relevant after age forty-five, while the deleterious effects of alcohol on premature death are apparent at all ages.

11. Favourable trends in life expectancy and mortality from many causes have been witnessed in the last two decades. The most favourable trends are observed in deaths from cardiovascular diseases and injuries, with a mean annual decline of five per cent. Tobacco-related illness in women, diabetes in older men, drug overdose deaths and suicide in young men show unfavourable trends.

12. Ageing of the population will accelerate as a consequence of increasing life expectancy and the baby boom generation growing older. Ageing is expected to have a major impact on the demand for health services with a minimum increase in hospital expenditure of 37 per cent needed by 2016 to keep levels of service at current levels of ill health.

13. On the whole, a further improvement in life expectancy of 4.6 years in men and 3.6 years in women is predicted in twenty years time. Cancer is expected to become the leading cause of YLLs, largely because cancer mortality trends are less favourable than those of cardiovascular disease. Dementia, illicit drug use and renal failure are predicted to show substantial increases in life years lost.

Conclusions

■ Ageing and higher life expectancy are increasing the demand for health services at a rate greater than the overall population growth. Medical technology is growing rapidly and offering nearly limitless ways of spending health dollars. Even though health expenditure is increasing as a proportion of GDP, health budgets are already struggling to keep pace with demand. In such an environment, the imperative to make choices about resource allocation and to make these choices transparent is obvious.

■ There is great inequality in health status of the Aboriginal people in Victoria who have a shorter life expectancy by at least eight years. Identification of measures to increase the access of Aboriginal people to preventive and curative health services should be a matter of the highest priority.

■ Geographical inequalities in life expectancy have been identified, particularly in Gippsland, the Grampians and the inner suburbs of Melbourne. A large part of these differences are related to socio-economic status.

■ This report provides a glimpse into the future health of Victorians. It is a first step to inform decision making on the appropriate mix of services to meet future health demands. Complementary information on costs and effectiveness of current and potential new health interventions is required to determine which health service interventions give value for money and which interventions give too little benefit for what they cost.

■ There are major gaps in our knowledge about the effectiveness of interventions and the associated costs. In the immediate future, the Public Health and Development Division intends to build on the information currently gathered for the Victorian Burden of Disease Study by linking it to studies of the cost-effectiveness of interventions for major health problems. The use of a common metric, the DALY, to measure all health outcomes helps to identify the relative importance of diseases and risk factors, and allows comparisons of the health gains expected from different health interventions. Such information will help to define the right strategy to address future challenges posed by the ageing of the population, shifts in disease patterns and the explosion of the costs of health services.

1 Introduction

While the public has growing expectations of health services and the repertoire of health services to respond to these demands is expanding, governments are under pressure to justify their health resource allocation. Expressed intentions to base decision making on health outcomes will remain rhetoric, however, unless adequate tools to measure health outcomes are used. In response to this need for comparable information on health outcomes, the Public Health and Development Division of the Department of Human Services in Victoria has undertaken a body of work to assist decision making on health resource allocation in Victoria.

The Victorian Burden of Disease Study is the most recent endeavour in this process. The study uses the methodology developed by researchers at Harvard University and the World Health Organisation for the World Bank's 1993 World Development Report. The Victorian study has a similar goal: to provide a comprehensive assessment of premature mortality and disability attributable to diseases, injuries and various risk factors in 1996 and projections twenty years ahead.

To achieve this goal, the study has several objectives:

a)   To develop internally consistent estimates of mortality for over 100 causes of disease and injury.

b)   To develop internally consistent estimates of the incidence, duration and severity for the major non-fatal health outcomes associated with the more than 100 causes of disease and injury.

c)   To calculate the burden of premature mortality and disability in terms of Disability-Adjusted Life Years (DALYs).

d)   To identify health inequalities by examining differences in the burden of disease by age, sex, area of residence and socio-economic status.

e)   To estimate the attributable and avoidable burden of disease due to different risk factors.

and

f)   To estimate the burden of disease in the next 20 years taking demographic changes and trends in mortality and the incidence of diseases into consideration.

Complementary cost-effectiveness analyses of current and potential new health interventions are planned to follow. The combined knowledge of the size of current and future health problems, and knowledge of the ability of health services to respond to these health challenges with cost-effective interventions, forms a powerful tool to inform decision making.

This report, the first of a series of publications about the Victorian Burden of Disease Study, presents a detailed analysis of premature mortality. Further publications will follow on the full burden of disease results including the estimates of disability, a sensitivity analysis of the results, and estimates of the burden of disease at the level of Departmental Regions and Local Government Areas (LGAs).

Details of the methods are presented in Chapter 2. Life expectancy at birth and its historical, geographic and socio-economic changes are the topic of Chapter 3.

Chapter 4 presents the burden of premature mortality in 1996, expressed as Years of Life Lost (YLLs) by cause, age, sex, residence and socio-economic status. The analysis of the burden attributable to tobacco, alcohol, hypertension, obesity, physical inactivity and high blood cholesterol follows in Chapter 5. The final chapter presents projection estimates of the mortality burden to the year 2016. Eleven tables with greater detail of methods and results are added as an appendix. This whole report, as well as more detailed description of methods and results, is available electronically via the Department of Human Services internet site: (http://www.dhs.vic.gov.au/phd/9903009/index.htm).

2 Methods

Introduction

The Victorian Burden of Disease Study is largely based on the methods developed for the Global Burden of Disease (GBD) study (Murray and Lopez 1996a). The method allows the quantification of all states of ill health into a universal indicator, the Disability Adjusted Life Year (DALY). The DALY combines a measurement of premature mortality and disability. Life expectancy determines the stream of life lost, or Years of Life Lost (YLL), for each premature death. Likewise, the disability arising from disease or injury is measured as the duration spent in a state of ill health weighted for severity. This is referred to as the Years Lived with Disability (YLDs). DALYs are the aggregation of YLLs and YLDs at the population level and thus reflect the 'burden of disease' in a population.

Figure 1 GBD Age Weighting Function
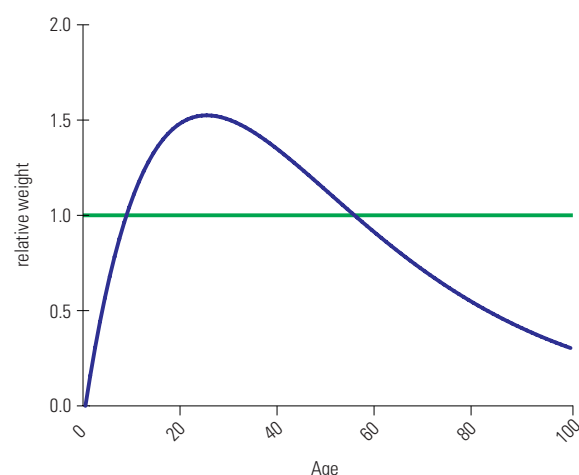
Figure 2 Discounted YLLs With and Without Age Weighting
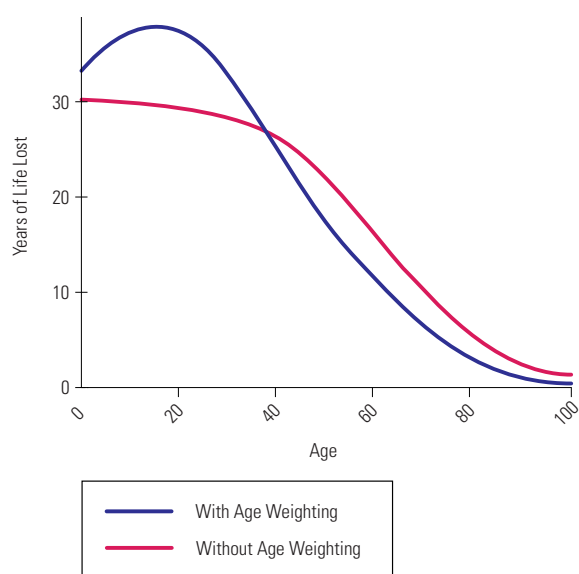
A national study is being undertaken by the Australian Institute of Health and Welfare parallel to the Victorian study. Through cross-representation on the advisory committees of both studies and frequent exchange of materials between the two lead researchers, consistency of the methods has been a joint objective. Both the Victorian and the national studies depart from the GBD methodology in the following key areas:

■ The GBD uses a standard life table (West level 26) with a life expectancy at birth of 82.5 years in women and 80 years in men. Australian cohort life expectancy at birth (that is, the life expectancy calculation that takes declining mortality trends into account) is actually higher than the GBD standard: 85.69 years in women and 81.45 years in men. The Steering Committee for the national study preferred to use the Australian cohort life expectancy. For the sake of comparability, the same approach is adopted in this study. It is relatively easy to redo calculations using the GBD standard to allow international comparisons.

■ The GBD DALYs are discounted at three per cent and age weighted. The age weights were applied to capture a greater social responsibility in young and mid adult life for the very young and old in society. Figure 1 shows the shape of the exponential age weight function that gives a higher weight to time lost due to premature mortality or disability at ages between nine and 55. However, when applied to a stream of life lost due to premature mortality, the net effect is that more weight is given to ages between zero years and 39 (Figure 2). Similarly, age weighting gives more emphasis to long-term chronic disabling

outcomes of disease or injury at younger ages. However, the shorter the episode of disability is, the more the effect of age weighting resembles the curve in Figure 1.

Age weighting has been the subject of criticism that:

a)   Lower age weights for the young and old are not uniformly supported by the international literature (personal communication with Professor Jeff Richardson)

and

b)   The interaction between age weighting, discounting and a life year approach is complex and thus departs from its original intention (Anand et al 1997, Barendregt et al 1996).

The influence of age weighting on the ranking of conditions is not very great. Probably the greatest effect is on the estimates of disability due to mental health conditions, most of which are far more common in young and mid adulthood and thus would receive more prominence with age weights. At a later stage in the Victorian Burden of Disease Study a more detailed sensitivity analysis of age weighting, discounting, disability weights and the epidemiological inputs will be carried out. Because age weights are controversial and do not essentially change the burden estimates, we have decided not to use them in the Australian studies.

While discounting of health outcomes has not been common in epidemiological studies, it is standard practice for health economists to use discounting when doing cost-effectiveness analyses. A recent multi-disciplinary 'consensus panel' convened by the US Public Health Service recommended the discounting of health outcomes and advised a three per cent discount rate as the most appropriate for cost-effectiveness analyses (Gold et al 1996, p 233). The ability of burden of disease studies to inform policy decision making on resource allocation is greatly enhanced if cost-effectiveness analyses are performed using a comparable measure of health outcome. It is the intention to carry out such economic analyses following the completion of the Victorian Burden of Disease Study. Therefore, we decided to retain the three per cent discount rate.

■   Using the same methods as the GBD study, Dutch researchers have derived a set of weights for 196 disabling outcomes of the 52 most common conditions in the Netherlands (Stouthard et al 1997). For the Victorian and Australian studies we chose to apply the Dutch weights because of their greater detail and their focus on the most common disabilities found in low-mortality countries, such as Australia. We resort to the GBD weights for conditions not considered in the Dutch study. In the comparison of GBD and Dutch weights, few discrepancies were revealed, thus adding credence to the validity of combining different sets of weights in one study. In the longer term, it is desirable to repeat the weighting exercise in Australia to examine how appropriate the weights are in the Australian context.

The focus of the methods section of this report on the Victorian Burden Study is on mortality. The methods used in calculating incidence, duration and severity of disability will be described in a second publication to be released later in 1999.

Burden of disease studies make use of existing sources of information on demographics and the epidemiology of disease, injury and risk factors. The most important data sources for the mortality analyses were the Australian Bureau of Statistics' (ABS) estimates of resident population and death registration data.

Population

ABS provided estimated resident population figures between 1979 and 1996. Population figures for 1992 to 1995 were those based on backward calculations after the 1996 census. The time series analyses by Department of Human Services Region, Local Government Area (LGA), rurality classification and socio-economic quintiles are based on population and death figures by Statistical Local Areas (SLAs), the most disaggregated geographical identification of place of usual residence on ABS mortality files. Several SLAs make up one LGA. Successive boundary changes complicate comparisons over time. All population and death data from previous years were remapped into the current SLA boundaries. For SLAs that were split up between different new SLA or LGA boundaries, an overall percentage of population shifts provided by ABS was applied, assuming an equal distribution of the number of people by age and sex that moved to another SLA. This may have led to inaccuracies in the classification into urban areas, rural centres and remote areas. The classification by Region is much less affected because most boundary changes did not flow over into other Regions. The 1979–1988 figures of population and deaths by small areas show erratic secular swings that are probably due to erroneous classifications and, therefore, are not presented here.

Deaths

State Offices of the Registrar of Births, Deaths and Marriages compile information on death certificates. The ABS receives this information from each state and provides a unit record file of deaths with diagnosis, date of death, age, sex and place of residence as the most important variables. For the burden of disease estimates, we considered all deaths of people with their usual place of residence in Victoria, that occurred anywhere in Australia and were registered in 1996. The time series are based on death records since 1979, the year that the ninth version of the International Classification of Diseases (ICD-9) was introduced.

The death file provides only the ICD-9 code corresponding to the main cause of death registered. For a number of conditions, ABS gives a flag if the condition is mentioned anywhere on the death certificate even if it is not the main cause of death. Such flags are available for AIDS, asthma, diabetes, cancer, drowning and tuberculosis. Because until 1996 there was no dedicated ICD code for HIV and AIDS, the AIDS flag helped to identify AIDS deaths that were classified elsewhere. For instance, out of five deaths classified in 1996 as due to misadventure by contaminated blood products (ICD-9 code 875), four were in males aged 20 to 30 who had an AIDS flag. It is most likely that these were haemophilia patients who, in a technical sense, may have died from contaminated blood products but for the purpose of a burden of disease study classify as AIDS deaths.

From the ICD-9 codes, deaths were classified into a comprehensive list of three major

disease groups, 18 categories of disease and injury and 133 specific conditions following the structure of the GBD list of conditions. Full details of the conditions considered in this study and their corresponding ICD-9 codes are presented in Appendix Table 1. The 0.2 per cent of deaths assigned to ill-defined and senility codes (ICD-9 codes 780–799 excluding the code for sudden infant death syndrome 798.0) were redistributed proportionally by age and sex to other causes with the exception of injuries on the assumption that it is unlikely for an injury death to be classified as ill-defined. Cancers of unspecified sites (195–199) were redistributed proportionally by age and sex across all specified sites.

Figure 3 Proportions of Non-Stroke CVD assigned to Selected Codes for Ill-Defined Causes and Directly to IHD, for Selected Countries, Circa 1990 and for Victoria 1996

Considerable differences exist internationally in the way cardiovascular deaths are coded. Murray and Lopez (1996b, pp 128–133) make a convincing argument that in many countries large numbers of ischaemic heart disease (IHD) deaths are coded under so-called 'garbage codes', such as heart failure, ventricular dysrythmias, general atherosclerosis and ill-defined descriptions and complications of heart disease. In Victoria 5.6 per cent of non-stroke cardiovascular deaths are coded under heart failure and another 2.7 per cent under other 'garbage codes'. Figure 3 indicates that coding practices in Victoria are very similar to those of the UK, New Zealand, Canada and Scandinavian countries which do not favour the use of the 'garbage codes'.

The GBD used a regression formula to redistribute deaths from 'garbage codes' to IHD. It also mentions that a proportion of the garbage codes may actually be deaths from the 'inflammatory heart disease' cluster of endocarditis, pericarditis, myocarditis and cardiomyopathy, but did not do any redistributions to correct for these misclassifications. For the Australian and Victorian studies, it was decided after consultation with cardiologists to redistribute the majority of cardiovascular 'garbage codes' to IHD, inflammatory heart disease and hypertensive heart disease in proportions varying by age (Table 1).

Table 1 Redistribution of Cardiovascular 'Garbage Codes'

Condition (ICD-9 Code)	Age Group	Ischaemic Heart Disease	Inflammatory Heart Disease	Hypertensive Heart Disease
Heart failure (428)	5–29		75%	
	30–44	70%	25%	5%
	45–59	70%	10%	20%
	60+	60%	10%	30%
Other CVD 'garbage codes' (427.1, 427.4–5, 429.0–2, 429.9, 440.9)	30–59	75%		
	60+	80%		

Deaths coded as gastric haemorrhage (578) were redistributed equally across peptic ulcer disease and liver cirrhosis as the most likely underlying aetiologies. Ill-defined injury deaths (929.9) were redistributed proportionally by age and sex across all unintentional injuries. The few deaths classified as 'query intentional' or 'query unintentional' injury were reassigned with 90 per cent classified to suicide and the remaining ten per cent to the unintentional injury category. The one case of query intentional or unintentional burns in a small child was put under accidental burns.

Life Expectancy

All-cause mortality by age and sex was used to create abridged life tables according to the Chiang method (Chiang 1984). The accuracy of life tables depends on the size of the population for which mortality observations are available. For the US Burden of Disease Study, Murray and colleagues (1998) found by simulation methods that the 95 per cent confidence interval around a life expectancy estimate is more than two years and rapidly widens for population sizes less than 100,000. Most of the LGAs in Victoria have a smaller population size. To improve the accuracy of the calculations of life expectancy by small areas, we therefore examined five years of death data and aggregated contiguous LGAs with populations of less than 30,000 (or 150,000 person years of observation for five years). Thus, the 79 LGAs in Victoria were brought back to 58 small areas.

The 95 per cent confidence intervals of the life expectancy at birth estimates were derived by simulation methods, using the @RISK software program (Palisade 1996). The software allows the entry of probability distributions in a spreadsheet and then recalculates the spreadsheet many times over and produces summary statistics of designated output variables. We entered age and sex specific mortality rates as normal distributions defined by the observed rate and the standard error (Kirkwood 1988):

$$\text{Standard Error} = \sqrt{\frac{\text{Mortality rate}}{\text{population}}}$$

Considerable doubts exist about the accuracy of death estimates for Indigenous people in Victoria. There are two systems recording deaths in Aboriginal people. The recording of indigenous status at the time of registration of a death in Victoria is known to be incomplete and at times inaccurate. This is the information which is transferred onto the ABS file. Aboriginal Hospital Liaison Officers (AHLOs) also record deaths of Aboriginal people occurring both at home and in hospitals. However, the liaison officers do not cover all parts of Victoria.

Despite an exchange of information between the two systems through feedback of AHLOs' reports to the Registrar of Deaths, Births and Marriages, many deaths are recorded in only one of the systems. To estimate the actual number of Aboriginal deaths, a 'capture-recapture' method (Papoz et al 1996, McCarthy et al 1993, Chapman 1951) was used to compare the deaths recorded by ABS and those reported by the liaison officers over the period 1992 to 1996. Matching between the two systems was done under two different sets of rules. A tight matching scenario required age and date-of-death to be the same or to vary at most by one year (two in those aged sixty and above) or date-of-death to vary by one day. A second generous matching scenario allowed age to vary by up to five years (by ten years in those aged sixty and above) and date-of-death by five days.

Mortality rates of people over 75 years of age thus calculated were lower than the rates in the 70–74 age group and even lower than the rates in that age range in the whole Victorian population. This was considered implausible. Therefore, we decided to predict mortality rates in the 75+ age group by log-linear regression of the mortality rates in the age groups from forty-five onwards. For each of the matching scenarios an uncertainty range was estimated by simulation methods based on the standard error of the age-specific mortality rates and the standard error of the capture-recapture calculations. The final range was defined by the extremes of the uncertainty interval of the two mortality scenarios. Thus, rather than a single estimate of life expectancy, a range is presented within which the true life expectancy of Aboriginal men and women is likely to lie.

Years of Life Lost

YLLs are the mortality component of DALYs. They are determined by the average life expectancy at age of death while discounting future years by three per cent. We used a cohort life expectancy table created by Colin Mathers for the Australian National Burden of Disease study. For twenty-one age categories (under-1, 1–4, 5–9… up to 95+) YLL conversion figures were calculated. The mean life expectancy for each age category and sex was estimated from the observed mean age at death in the age interval and the life expectancy figures at the exact ages defining the age interval. The mean life expectancy in each age interval was then discounted at three per cent using the formula:

$$YLL = \frac{1}{0.03}\left(1 - e^{-0.03L}\right)$$

where L is the life expectancy. Thus, YLL conversion figures were calculated for each age group and sex which then were multiplied by the observed deaths to derive the YLLs by cause, age and sex.

For comparisons between populations and over time, YLL rates per 1,000 population were calculated and age-standardised to the 1996 Victoria population. Confidence intervals around the YLL rates were extrapolated from the 95 per cent confidence intervals of the age-standardised mortality rates applying the size of the interval as a proportion of the mortality rate to the YLL rate.

Rurality

For comparisons of mortality differentials between metropolitan areas, rural centres (towns with 10,000–100,000 population) and other rural and remote areas, the RRMA classification of SLAs was used (Department of Primary Industries and Energy 1994). This classification is based on pre-1995 SLA boundaries. Where new SLA boundaries overlapped with old SLAs with different rurality status we assigned the rurality status taking population size and density into consideration.

Socio-Economic Status

Based on information collected at the census, the ABS produces socio-economic indices for SLAs (ABS, 1998a). In analyses of the relationship between

socio-economic status and mortality, we used the 1996 SEIFA index of relative socio-economic disadvantage, a composite measure which combines factors such as income, education, employment, family structure, dwellings, house ownership, marital status and ethnicity. After ordering SLAs by SEIFA index we grouped SLAs into SEIFA quintiles ensuring roughly equal population totals for each quintile.

Correlations between SEIFA index and rurality status by LGAs and life expectancy were done with simple linear regression methods. Log-linear Poisson regression models were used to examine the association between age-standardised all-cause and cause-specific mortality rates, SEIFA index, rurality status and population density.

Standardisation requires the selection of an appropriate standard population to enable comparisons. In the analyses by SEIFA quintile, the population of the highest quintile was taken as the standard. For rurality status, YLL rates were age-standardised to the metropolitan population. Analyses of YLL rates by Region and the combined SEIFA and rurality classification were standardised to the Victorian population. Strictly speaking, there is no need for significance testing of differences in mortality between different population groups as the death rates are not based on a sample but the total population of Victoria. However, one could argue that death rates over time are subject to stochastical variation. Thus, a confidence interval was calculated to reflect the extent of error as a result of using 1996 as the baseline year for study and not another year.

Mortality Burden Attributable to Risk Factors

Attributable fractions were calculated from available information on the prevalence of a risk factor and the relative risk (RR) of dying if exposed to the risk factor. Tobacco, obesity, hypertension, physical inactivity, high blood cholesterol and alcohol were selected for analysis in this first report.

For risk factors with different categories of exposure we used the formula suggested by English and Holman (1995, p13):

$$\text{Attributable fraction} = \frac{p_i(RR_i - 1)}{\sum_{i=0}^{k} p_i(RR_i - 1) + 1}$$

where i=0 indicates the baseline category of risk, p_i the prevalence of the risk factor level i, and RR_i the corresponding relative risk.

Because of the long lag time between exposure to tobacco smoke and many of its associated ill effects (which may be many decades in the case of cancers) the current prevalence of smoking is not helpful in understanding the current associated mortality burden. The method proposed by Peto and Lopez (1993) was used in which an artificial compound prevalence measure of exposure is derived from a comparison between lung cancer rates in the country of interest and lung cancer rates found in non-smokers of a large long-term follow-up study in the USA. We used the Peto and Lopez method to determine the exposure to tobacco relevant for the development of cancers of the lung, larynx, mouth and pharynx, oesophagus, pancreas, bladder and pyelum of the kidney, and chronic obstructive pulmonary disease (COPD). The mean time between exposure to tobacco and three other diseases, ischaemic heart disease, stroke and peptic ulcer disease, is considerably

shorter than that for cancer and COPD. As there is no accurate information on the prevalence of smoking in Victoria, we decided to use 1995 Australian smoking prevalence figures in the calculation of attributable fractions for these conditions (Hill et al 1998). In the projections of the tobacco-attributable fractions we assumed a 7.5 per cent drop in smoking prevalence between 1996 and 2006, and a 15 per cent drop between 1996 and 2016. Relative risks of dying were derived from the meta-analyses of Holman and English for all conditions for which there is strong evidence of a link between tobacco and mortality (English et al 1995).

The relative risk of all-cause mortality attributable to obesity was derived from studies in the Netherlands and Germany. Many other studies have examined the relationship between body weight and mortality but few report on the relative risk by body mass index (BMI) categories for which prevalence data are available. The Dutch study reports an RR of 1.5 for all-cause mortality in obese men (BMI >30 kg per m²) but no elevated risk of all-cause mortality in women (Seidell et al 1996). However, the risk of cardiovascular death was three-fold in obese men and women. The German study compared the mortality risk of a cohort of overweight and obese men and women with the general population (Bender et al 1998). It reports no significant increase in risk in people with BMI between 25 and 32. Between BMI of 32 and 36, the RR is 1.31 in men and 1.20 in women, increasing to 1.92 and 1.27 respectively for BMI 36–40, and to 3.05 and 2.31 respectively for people with a BMI over 40. The confidence intervals for men and women overlapped for each of the BMI groups but one. We decided to use a uniform RR of 1.5 for both men and women.

We assumed the prevalence of hypertension in Victoria to be the same as that measured for the whole of Australia in the 1995 National Nutrition Survey (ABS 1998b). The survey defined hypertension in people with known hypertension who were on treatment and those with a systolic blood pressure over 160 mm Hg and/or a diastolic blood pressure greater than 95 mm Hg. Ischaemic heart disease, stroke, peripheral arterial disease, hypertensive heart disease and renal failure are the major adverse health outcomes of high blood pressure. RRs are derived from the Framingham Study (Kannel 1995) and relate to the occurrence of cardiovascular disease rather than mortality. We assumed the risk of death to be the same. The author mentions that the relative risk 'diminishes somewhat with advancing age'. We applied a ten per cent reduction in RRs between ages 65 and 74 and a 20 per cent reduction in RRs in ages over 75. The estimate of relative risk of hypertension-related mortality due to renal failure was assumed to be the same as that calculated for the National Burden of Disease Study in Mauritius from five-year follow-up data on mortality between two cross-sectional non-communicable disease surveys (Vos et al 1995). Table 2 shows the final estimates of RR due to hypertension. All deaths from hypertensive heart disease were counted in the hypertension-attributable fractions.

Table 2 Relative Risks of Mortality from Diseases Associated with Hypertension by Age and Sex

| | <65 Years | | 65–74 Years | | 75+ Years | |
	Male	Female	Male	Female	Male	Female
Ischaemic Heart Disease	2.0	2.2	1.8	2.0	1.6	1.8
Stroke	3.8	2.6	3.4	2.3	3.0	2.1
Peripheral Arterial Disease	2.0	3.7	1.8	3.3	1.6	3.0
Renal Failure	6	6	6	6	6	6

The prevalence of physical inactivity in Victoria was derived from telephone interviews conducted in 1997 and 1998 (data were supplied by Professor A Baumann). Four levels of physical activity were distinguished: sedentary, irregular, regular and vigorous activity. These levels are determined by an estimation of the daily energy expenditure based on the frequency and duration of reported physical activity. The attributable mortality burden was calculated separately for ischaemic heart disease (Berlin et al 1990), stroke (Abbott et al 1994, Wannamethee 1992, Shinton 1993), diabetes and colon cancer (Powell et al 1994) with the assumptions of RR shown in Table 3.

Table 3 Relative Risks of Mortality from Diseases Associated with Sedentary or Irregularly Active Levels of Physical Activity

	Sedentary	Irregularly Active
Ischaemic Heart Disease	2	1.5
Stroke	3	1
Diabetes	1.8	1.5
Colon Cancer	1.8	1.6

The only survey data on the prevalence of high blood cholesterol comes from the 1989 National Heart Foundation (1991) survey. Results are given for three levels of cholesterol: below 5.5, 5.5–6.49 and ≥6.5 mmol/l. We assumed that the prevalence measured in Melbourne residents was the same as that of rural Victorians. The mortality risk from high blood cholesterol, controlling for other major cardiovascular risk factors, was estimated at 31 per cent per 40 mg/dl (≈1 mmol/l) increase in blood cholesterol in a meta-analysis of the Seven Country Study (Menotti et al 1996). We assumed a 31 per cent higher mortality risk in those with blood cholesterol between 5.5 and 6.49 and a RR of 1.72 (or 1.31 times 1.31) in those with higher blood cholesterol levels.

The prevalence of alcohol consumption was taken from the National Mental Health Survey (ABS 1998c) and categorised into four levels of daily reported alcohol intake (Table 4). Attributable mortality fractions were calculated from the relative risks reported by Holman and English for ten medical conditions with the mortality risk of abstinence as the stratum of comparison (English et al 1995). Fractions of injury mortality assumed attributable to alcohol also come from Holman and English. We ignored their proportions of alcohol-related mortality from falls in people over 65 as they, reportedly, were wrongly assumed to be the same as in younger people.

Table 4 Classification of Reported Daily Intake of Alcohol in Number of Standard Drinks

	Men	Women
Abstinence	0–0.24	0–0.24
Low risk	0.25–3.9	0.25–1.99
Moderate risk	4–6	2–4
High risk	>6	>4

Mortality Trends and Projections

Projections of the mortality burden to the years 2006 and 2016 are based on projected population figures and forward projection of mortality trends since 1979. Population projections are taken from ABS's scenario L. This scenario assumes a low level of interstate migration, low fertility assumptions and high external migration. We chose this out of 18 different scenarios presented by ABS because we were informed that the Department of Infrastructure is basing its new population projections on this scenario. The Department of Infrastructure adds local knowledge about new future population settlements into its projections and in the past, their figures have been widely used in government.

We chose to examine mortality trends since 1979, the year that the ninth version of the ICD was introduced. This allowed us a long enough period of 18 years to analyse trends without having to map causes of death across different classification systems. First we determined the number of deaths in the years 2006 and 2016 by extrapolating trends of all-cause mortality by 20 age groups (0, 1–4, 5–9… up to 90+) for both sexes. We used the software package STATA® for log-linear regressions assuming a Poisson distribution of deaths. Then we divided all causes into 51 conditions or groups of conditions and examined trends separately by five age groups (0–14, 15–44, 45–64, 65–74 and 75+) and by sex. For road traffic accidents, suicide and drug overdose deaths we split up the 15–44 age group into three ten-year age bands. For the analyses of trends in dementia deaths we added a 75–84 and 85+ category. We projected each of the significant instantaneous rates of change ten and 20 years forward by a simple exponential function. The proportional distribution of projected mortality rates by cause in each five-year age band was then applied to the total number of expected deaths.

Trends in Life Expectancy

Between 1979 and 1996, life expectancy at birth has steadily increased at a rate of 0.30 years annually in men and 0.21 years annually in women (Figure 4). In 1996, Victorian men had a life expectancy at birth of 76.1 years and women 81.7 years. Life expectancy of Victorians is slightly higher than the Australian average (ABS 1999) and approaches the highest life expectancy figures recorded internationally of Sweden and Japan.

Figure 4 Trends in Life Expectancy at Birth by Sex, Victoria 1979–1996

Figure 5 Life Expectancy at Birth in Metropolitan Victoria, Rural Centres and Other Rural and Remote Areas, 1988–1996
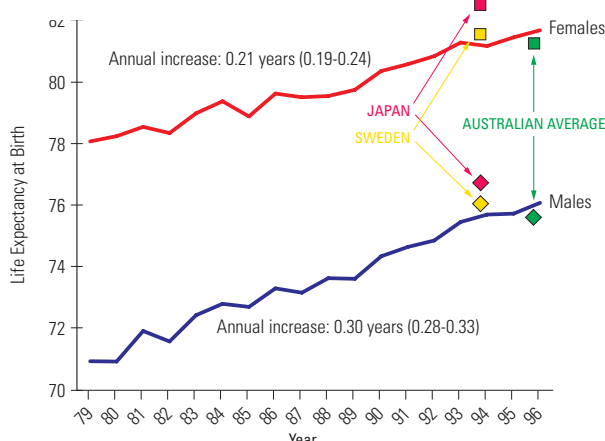
The life expectancy at birth of men is 5.6 years less than that of women. A similar difference in life expectancy between men and women is found in all industrialised countries. This can largely be attributed to the greater health risks men take, resulting in more premature deaths from cardiovascular disease and injuries. There may also be a smaller 'true' biological difference between men and women, attributed to the protective effect conferred by female hormones on cardiovascular disease.

The smaller annual increase in female life expectancy at birth may be an indication that women are living closer to the potential limit of the human life span. However, the increasing mortality from smoking related illnesses alone is large enough to explain the slower gains in life expectancy in women.

Geographical Differences in Life Expectancy

Life expectancy at birth in rural centres and remote rural areas has remained about one year shorter than that in metropolitan areas since 1988. The gains in life expectancy are occurring at a similar pace in all three areas (Figure 5).

More than half of the one year difference between rural and urban Victoria can be explained by a one-and-a-half to three year higher life expectancy at birth in the eastern suburbs of Melbourne. In other words, most of the urban-rural differences disappear after exclusion of the Eastern Region with its relatively unique high socio-economic profile (Figure 6).

The average male life expectancy at birth in Victoria over the period 1992–1996 was 75.6 years, ranging from 71.7 years in Yarra to 78.6 in Manningham. Other LGAs with lower life expectancy than the state average include seven in the Grampians

Region, three in the adjacent Barwon South West Region, two in Gippsland Region, five in Western Region, two in Northern Region and one in Southern Region. Twelve Eastern, Southern and Northern metropolitan LGAs have higher life expectancy (Figure 7).

The 95 per cent confidence intervals for male life expectancy at birth by individual LGAs are presented in Figure 8 and in further detail in Appendix Table 2.

Figure 6 Life Expectancy at Birth by Departmental Regions, Victoria 1988–1996

Legend:
- Eastern Metropolitan
- Southern Metropolitan
- Northern Metropolitan
- Western Metropolitan
- Hume
- Barwon-South West
- Loddon Mallee
- Grampians
- Gippsland
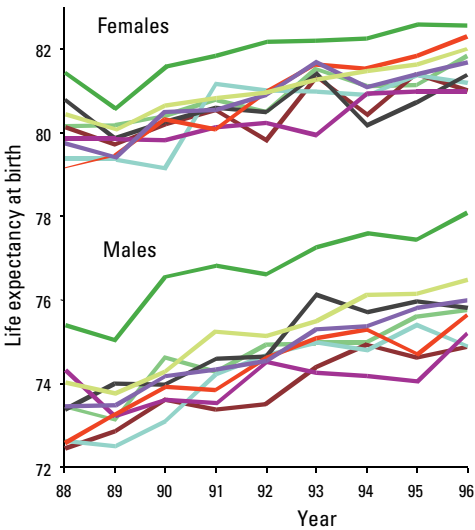
Figure 7 Male Life Expectancy at Birth by LGA, Victoria 1992–1996

- Below state average
- Equal to state average
- Above state average
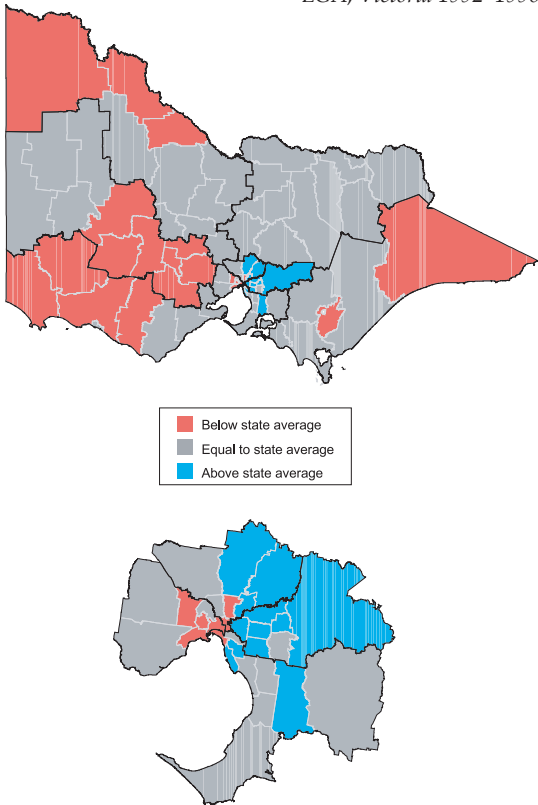
Figure 8 Ninety-Five Per Cent Confidence Intervals for Male Life Expectancy at Birth by LGA, Victoria 1992–1996
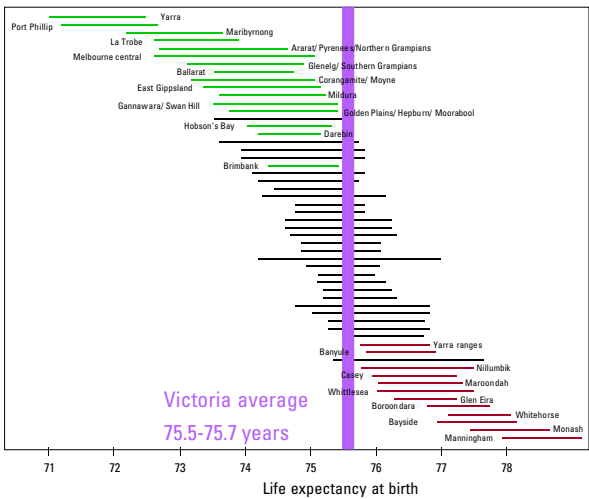
Figure 9 Female Life Expectancy at Birth by LGA, Victoria 1992–1996

Below state average
Equal to state average
Above state average
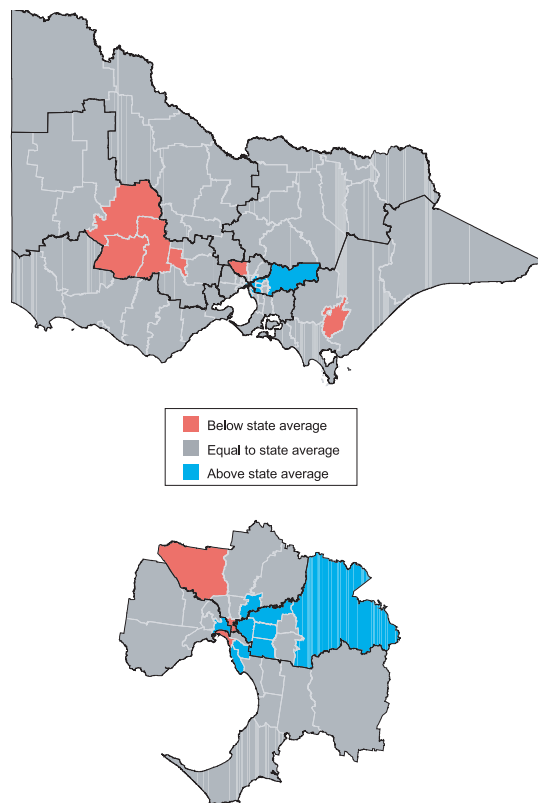
Figure 10 Ninety-Five Per Cent Confidence Intervals for Female Life Expectancy at Birth by LGA, Victoria 1992–1996
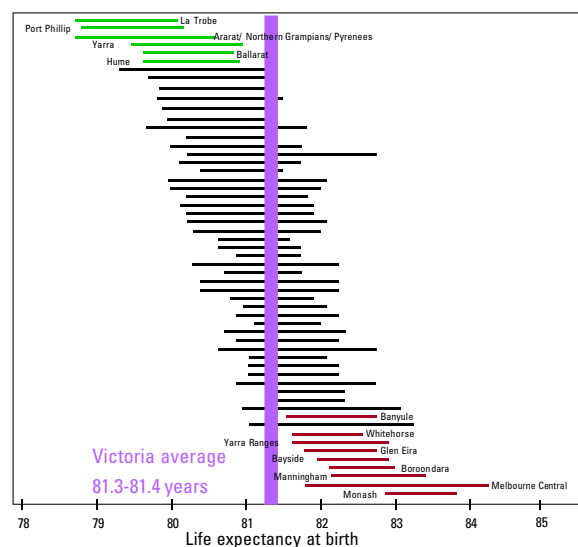
Female life expectancy at birth in Victoria over the period 1992–1996 was 81.3 years, ranging from 79.4 in La Trobe to 83.3 in Monash. LGAs with lower life expectancy than the state average include four in the Grampians Region, one in Gippsland Region, one in Southern Region, and two in Northern Region. Nine LGAs (five in Eastern, two in Southern, one in Northern and one in Central Melbourne) have higher life expectancy in women (Figure 9).

Although the range of life expectancies in women is smaller than that in men, there are still important public health implications for those LGAs below the state average (Figure 10).

The Association Between Life Expectancy at Birth and Socio-Economic Status

Regression analyses reveal an association between low socio-economic status and lower life expectancy at birth. The SEIFA index of relative socio-economic disadvantage explains in males, 36 per cent and in females, 30 per cent of the variation in life expectancy at birth between LGAs (Figure 11). As this is an ecological analysis, taking the average socio-economic status of the population living in a small area and correlating it with the average mortality experience in the area, it is likely that this has diluted the true association between socio-economic status and life expectancy. Unfortunately, the ABS mortality figures, unlike the SEIFA index, do not allow comparison of areas smaller than SLAs. If analysis at the level of census collection districts or even at the level of the individual were possible, socio-economic status would be a stronger predictor of mortality. The Port Phillip LGA is a good example of how an average can mask large differences within one area. The area combines the very wealthy suburbs of Albert Park and Middle Park, and a mix of upcoming and disadvantaged areas in Port Melbourne and St Kilda. Already male and female life expectancy of Port Phillip as a whole is among the lowest in Victoria and would certainly have been lower if we could have separated out the more advantaged areas.

Life Expectancy of the Aboriginal Population

The ABS recorded 284 deaths in Aboriginal people in Victoria between 1992 and 1996. Over the same period, the Aboriginal Hospital Liaison Officers recorded 295 deaths. Under the tight matching scenario 101 deaths were found in common between the two recording systems and 134 deaths in common using generous matching criteria. The capture-recapture method indicates that in the tight matching scenario the true number of Aboriginal deaths was 826 (95 per cent confidence interval 722–930) and in the generous matching scenario the true number of deaths was 624 (95 per cent confidence interval 568–680).

These estimates point at a life expectancy at birth of between 57.1 and 67.2 years for Aboriginal men and between 62.9 and 72.5 years in Aboriginal women (Figure 12). This would mean that at birth Aboriginal men have 8–18 years and Aboriginal women 9–18 years shorter life expectancy than the Victoria average.

This highlights great disparities in health status between the Aboriginal people and the rest of Victorians. The uncertainty analysis demonstrates that this inequality in health is not an artefact of poor registration systems. A methodological prerequisite for using the capture-recapture method is the independence of the two systems compared. Because of the communication between the ABS and liaison officers' registration systems, the method is not quite reliable. However, incomplete independence between the two systems would have the effect of underestimation of the total number of deaths. This may have led to overestimation of the life expectancy estimates. The ABS population estimates for Aboriginal people in Victoria are considered underestimates by the Aboriginal communities. However, it is implausible that the underestimation of population census figures of Aboriginal people is so large that it would take away the main conclusion that life expectancy in Aboriginal people is dramatically worse than that of the rest of Victorians.

Figure 11 Correlation Between SEIFA Index of Relative Socio-Economic Disadvantage and Life Expectancy at Birth for 56 LGAs and Combined LGAs, Victoria 1992–1996
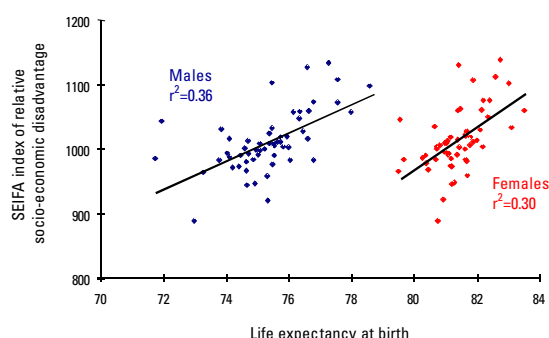
Figure 12 Comparison of Life Expectancy at Birth Between Aboriginal Men and Women and All Victorians
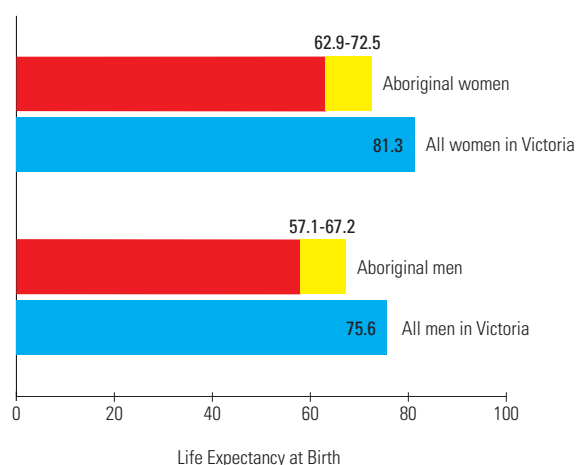
Mortality Burden in Victoria

In 1996, premature mortality was responsible for 180,462 years of life lost in men and 149,419 years lost in women. Cardiovascular disease, cancers and injuries were responsible for three-quarters of the total mortality burden in both men and women (Figure 13).

Figure 13 The Mortality Burden in Years of Life Lost (YLLs) by Sex and Broad Disease Grouping, Victoria 1996

Men: 180,462 YLLs

Women: 149,419 YLLs
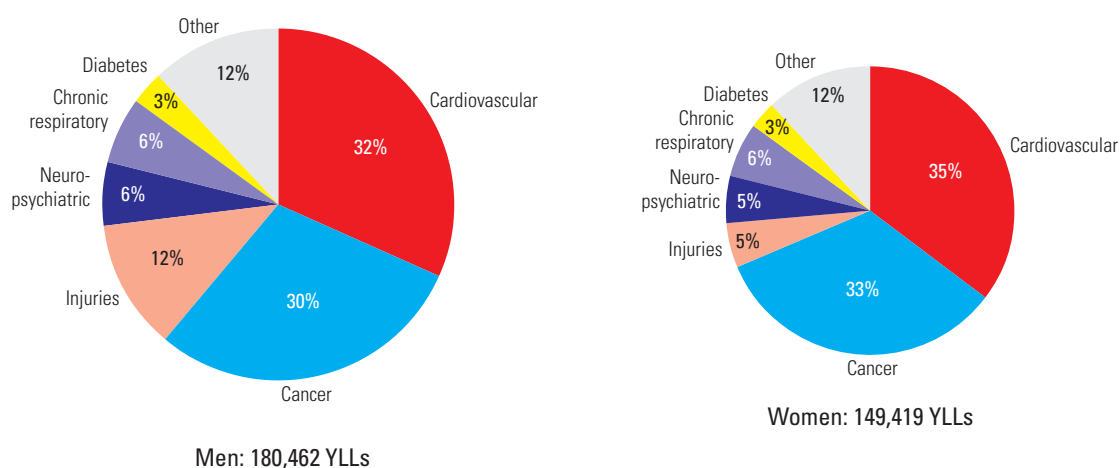
Cancers are a more important cause of years of life lost than cardiovascular disease at all adult ages below 75. In people over 75, cardiovascular diseases are responsible for half the number of years lost. In young adult life, injuries are the main cause of years of life lost. Neonatal conditions dominate the mortality burden in the under-5 age group (Figure 14).

Figure 14 YLLs by Age, Sex and Broad Disease Grouping, Victoria 1996
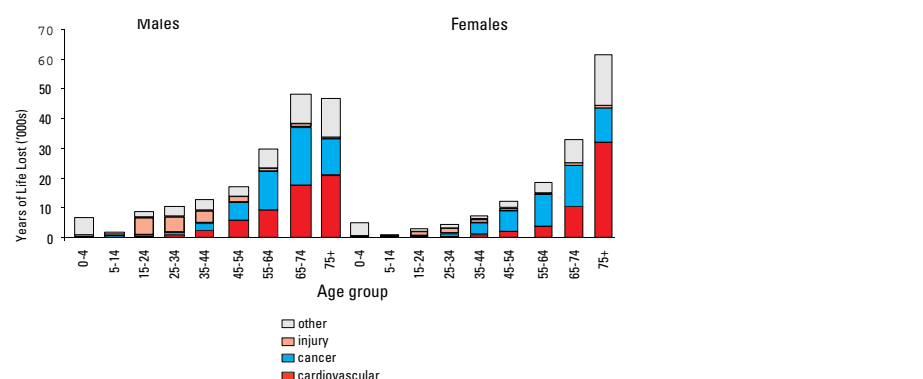
Ischaemic heart disease is by far the largest cause of years of life lost in both men and women. Stroke is the second cause of YLLs in women followed by breast and lung cancer. In men, lung cancer ranks second followed by stroke, suicide and road traffic accidents (Table 5). Drug overdose deaths, most of which are heroin-related, is the tenth cause of years of life lost in men. It is ranked 24 in numbers of deaths but because it affects young people it becomes more prominent in a life year approach.

Table 5 Top Twenty Causes of Mortality Burden in YLLs by Sex, Victoria 1996

Conditions in Men	YLLs	Conditions in Women	YLLs
1. Ischaemic heart disease	37,031	1. Ischaemic heart disease	28,417
2. Lung cancer	13,986	2. Stroke	13,684
3. Stroke	10,430	3. Breast cancer	11,408
4. Suicide	8,738	4. Lung cancer	7,240
5. COPD	7,925	5. Bowel cancer	6,970
6. Bowel cancer	7,805	6. COPD	5,917
7. Road traffic accidents	7,262	7. Diabetes mellitus	4,356
8. Prostate cancer	5,717	8. Dementia[1]	4,251
9. Diabetes mellitus	4,767	9. Ovary cancer	3,436
10. Illicit drug use	3,571	10. Suicide	2,651
11. Cirrhosis	2,811	11. Road traffic accidents	2,569
12. HIV/AIDS	2,622	12. Pancreas cancer	2,487
13. Lymphoma	2,504	13. Lymphoma	2,341
14. Leukaemia	2,439	14. Hypertensive heart disease	2,011
15. Stomach cancer	2,409	15. Brain cancer	1,885
16. Pancreas cancer	2,362	16. Nephritis or nephrosis	1,863
17. Brain cancer	2,207	17. Stomach cancer	1,734
18. Dementia[1]	2,089	18. Pneumonia and influenza	1,725
19. Inflammatory heart disease	2,083	19. Leukaemia	1,717
20. Aortic aneurysm	1,856	20. Peripheral vascular disease	1,601

[1] Dementia is considered a terminal illness in its own right (Department of Human Services 1997)

The National Health Priority areas (cardiovascular disease, cancer, injuries, diabetes and mental health) cover 16 of the top 20 conditions in terms of years of life lost in men and women. The exceptions in men are chronic obstructive pulmonary disease (COPD, ranked 5), cirrhosis (ranked 11), AIDS (ranked 12) and dementia (ranked 18). In women, COPD (ranked 6), dementia (ranked 8), nephritis or nephrosis (ranked 16) and pneumonia and influenza (ranked 18) are the exceptions.

Further detail of deaths and YLLs by age and sex is presented in Appendix Tables 3 and 4.

Figure 15 Rates of YLLs by SEIFA Quintile, Sex and Major Causes of Death

Figure 15 Rates of YLLs by SEIFA Quintile, Sex and Major Causes of Death

Legend: Other causes, Injuries, Cancer, Cardiovascular
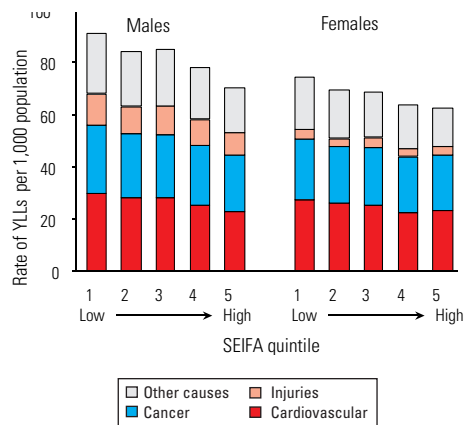
Figure 16 Rates of YLLs by Rurality Status, Sex and Major Causes of Death

Legend: Other causes, Injuries, Cancer, Cardiovascular
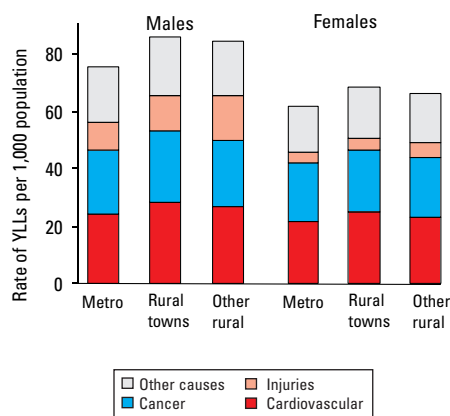
Figure 17 Rates of YLLs by Departmental Region, Sex and Major Causes of Death

Legend: Other causes, Injuries, Cancer, Cardiovascular
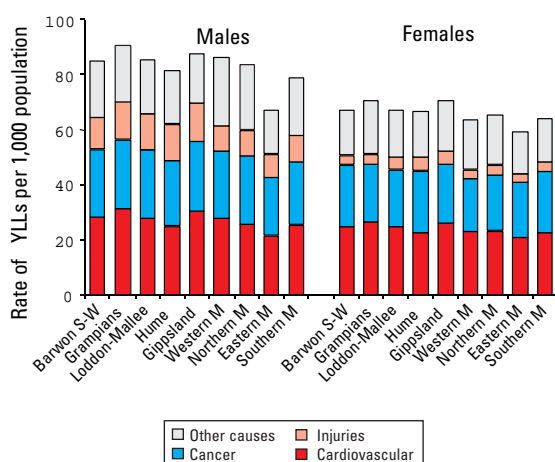
YLLs and Socio-Economic Disadvantage

The socio-economic status (SES) of small areas is a strong predictor of all-cause mortality. All-cause YLL rates show a marked gradient across the five quintiles of the SEIFA index of relative socio-economic disadvantage. The differentials are more marked in men. The male mortality burden in the lowest quintile is 30 per cent higher than in the highest quintile and in women this difference is 19 per cent. While the overall mortality burden in women is considerably smaller than in men, women in the lowest quintile areas experience higher mortality than men of the most well-to-do areas (Figure 15).

Ischaemic heart disease, COPD, diabetes, asthma, sudden infant death syndrome (SIDS), road traffic accidents and homicide are the most important causes of death in both men and women that show large socio-economic differences. In addition, socio-economic differences are associated with a greater mortality burden in men for pneumonia, stomach cancer, lung cancer, stroke, cirrhosis, drug overdoses, dementia, inflammatory heart disease, other transport accidents, drowning and suicide. Neonatal conditions in female infants, but not in male infants, are associated with lower SEIFA quintiles. AIDS in men and breast cancer in women are the only causes of death that show the opposite effect being more common in wealthier areas (see Appendix Table 5).

YLLs and Rurality

The mortality burden is greater in rural Victoria than in the metropolitan areas of Melbourne and Geelong. The smaller differences in YLL rates between the larger rural towns and the more remote rural areas are not significant (Figure 16). Ischaemic heart disease, COPD, road traffic accidents and drowning are the main causes of death more commonly found in rural Victoria. Additional causes of the higher mortality burden in the more remote rural areas are asthma in men and women, and suicide, other transport accidents and machinery accidents in men. AIDS, drug overdose and hepatitis are the only causes more prevalent in the metropolitan areas.

The differences in the YLLs due to injuries are most striking. The road traffic toll is 60 per cent greater in people living in rural towns and two-and-a-half times higher in the more remote rural areas compared to metropolitan Melbourne and Geelong. Appendix Table 6 presents further details.

YLLs and Departmental Regions

In men, almost half of the difference in all-cause YLL rates between the cities and rural areas can be explained by the much lower YLL rates in the eastern suburbs of Melbourne (Figure 17 and Appendix Table 7a+b).

YLL Differentials Explained by Rurality Status or Socio-Economic Disadvantage?

The overlap in the conditions that are responsible for the greatest differences in mortality burden by rurality status and relative socio-economic disadvantage begs the question which of the two factors is of greater importance and whether or not this differs by cause.

The first thing to note is the uneven distribution of the SEIFA index of relative socio-economic disadvantage across Victoria indicating a strong link between socio-economic status and rurality (Figure 18).

Another way of looking at this, is to compare the population sizes of the nine Regions by SEIFA quintile. Areas in the lower SEIFA quintiles are over-represented in rural Regions and the Western and Northern metropolitan Regions while most of the wealthy areas are concentrated in the Eastern and Southern metropolitan Regions (Figure 19).

Thus, there is a confounding effect between SES and rurality as explanatory factors for differentials in the mortality burden. When both factors are taken into account, a clearer picture of the importance of each appears. The higher mortality burden from cardiovascular diseases in rural Victoria is largely due to their lower socio-economic status. This would indicate that differences are mostly likely attributable to lifestyle factors, such as smoking and diet. However, after controlling for socio-economic status, rural residence remains significantly associated with mortality from ischaemic heart

Figure 18 Statistical Local Areas in Victoria by SEIFA Quintile and Rurality Status
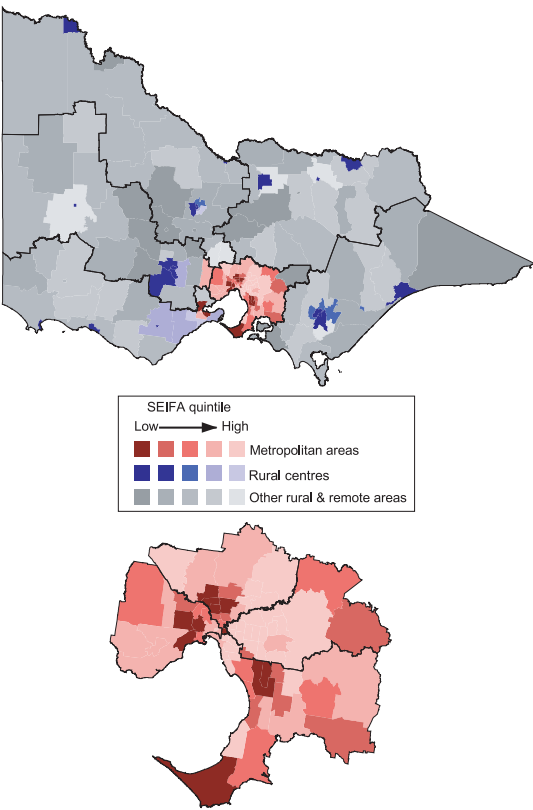
Figure 19 Population Size of Departmental Regions by SEIFA Quintile
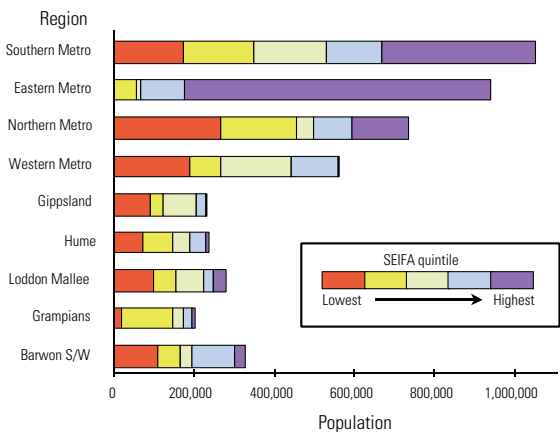
disease. This raises the hypothesis that people in rural areas may not have the same level of access to life-saving treatment. This could be due to delays in resuscitation, thrombolytic treatment or surgical interventions. Also, it cannot be ruled out that SES influences access to treatment.

The higher injury mortality in rural Victoria and particularly the more remote rural areas is largely due to rurality status rather than SES. Road traffic accidents, machinery accidents, other traffic accidents, the 'rest' category of other unintentional injuries and suicide in young males are all significantly raised causes of mortality independent of socio-economic status. The differences with the more densely populated parts of Victoria are great enough to warrant targetted interventions. More detailed analysis of the circumstances and the nature of injury deaths, such as is being carried out by the Monash University Accident Research Centre, is needed to identify appropriate interventions for injury prevention.

Each of the tobacco-related cancers and COPD are associated with socio-economic status. Most of the other cancers do not show a clear gradient by SES or rurality status, with the exception of stomach and liver cancer which are associated with lower SES.

SES is also strongly associated with digestive disorders (particularly liver cirrhosis), neonatal conditions and SIDS.

Appendix Table **8** gives more details of the multivariate analysis of the association between SES, rurality and mortality burden.

5 The Mortality Burden Attributable to Risk Factors

The contribution of risk factors to the burden of disease can be calculated if the prevalence of exposure to the risk factor in the community is known and by how much the risk of disease or death is raised. For this volume of the Victorian Burden of Disease Study, the mortality burden attributable to tobacco, alcohol, obesity, physical inactivity, high blood cholesterol and hypertension is presented (Figure 20). The next volume will include full DALY calculations for these risk factors. Additional calculations are planned for unsafe sex, illicit drug use and further nutritional risk factors. The information on the prevalence of smoking, alcohol use, obesity and hypertension are representative of the Australian population. There are no accurate Victorian data sources on the prevalence of these risk factors. Use of Australian rather than Victorian figures for these calculations assumes that Victorians have a similar prevalence of risk factors to all Australians.

Figure 20 The Mortality Burden Attributable to Selected Risk Factors, Victoria 1996

Mortality burden in Years of Life Lost (and % of overall mortality burden)
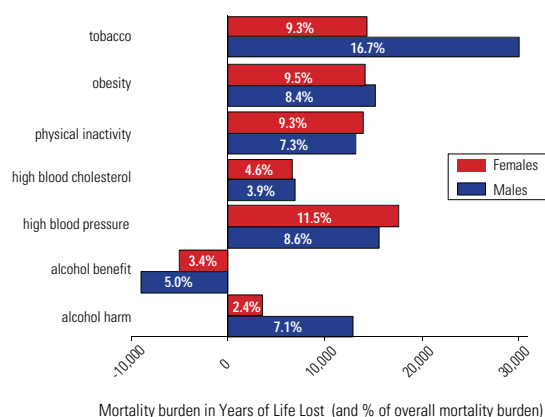
These are relatively simplistic estimates. While obesity, physical inactivity, high blood pressure and high blood cholesterol each have been established as risk factors in their own right, they often occur together. The relative risks are derived from studies which endeavoured to estimate the mortality risk for the risk factor of interest independent of other risk factors. However, it is likely that not all the complexities of the interaction between risk factors are captured by this method. Therefore, caution is warranted in the interpretation of these figures. For instance, one could not add up the attributable burdens and state that roughly 50 per cent of all ill health in Victoria is caused by these six risk factors, let alone that the removal of all these risk factors would halve the burden. Despite these reservations, the conclusion remains that each of these risk factors is responsible for a large amount of ill health ranking in size with the top-ten diseases. This suggests that large health gains can be expected from effective public health interventions.

Tobacco

Tobacco is the risk factor associated with the greatest health problems and is responsible for 16.7 per cent of the mortality burden in men and 9.3 per cent in women. More than half of this burden is due to tobacco-related cancer mortality, most of which is lung cancer. COPD and ischaemic heart disease are the other big contributors to the tobacco burden.

*Figure 21 Per Capita Daily Tobacco
Consumption, Australia 1986–1996*

Excise duty figures indicate that there has been a considerable drop in per capita tobacco consumption since 1986 (Figure 21). However, these figures do not reveal trends in consumption patterns by age group and sex. For that information, we have to rely on self-report surveys. People may not always accurately report their exposure to health risk factors and their willingness to report may vary over time, especially if attitudes in society to these risk factors change.

Hill and colleagues (1998 and 1988) have measured smoking prevalence in Australia using a standard methodology since 1974. The decline in smoking prevalence appears to be plateauing in women and slowing in men between the measuring point of 1992 and 1995 (Figure 22). This is in contrast with the reported consumption figures above which show a continuing trend downwards. If both results are valid, the conclusion must be that people who report current smoking, are smoking less.

*Figure 22 Self-Reported Smoking
Prevalence by Sex, Australia
1974–1995 (Age-Standardised to the
1986 Population)*

The years of life lost due to tobacco will decrease in men over the next 20 years reflecting a drop in smoking prevalence over the last three decades. Women who started smoking in large numbers much later than men are increasingly experiencing the ill effects of the smoking epidemic. The next 20 years will continue to see some increase in smoking related burden in elderly women. It will level off in women between 65 and 74 and start to decline in younger women (Figure 23). Largely, these projected smoke-related deaths are determined by current and past smoking behaviours. The impact of tobacco control measures taken now on the occurrence of smoking-related cancers will only become apparent in a few decades. However, the returns on morbidity and cardiovascular mortality as well as reduced demands for health services will be much quicker.

Obesity

Obesity is the cause of 8.4 per cent of the mortality burden in males and 9.5 per cent in females. The prevalence of obesity in Australia based on measured height and weight during the 1995 National Nutrition Survey is much higher than the prevalence measured from self-reported height and weight from the 1995 National Health Survey (Figure 24). On average, people understate their weight by a few kilograms and overstate their height by a few centimetres. Use of self-reported prevalence of obesity would have caused underestimation of the attributable mortality burden by a factor of 2.

Figure 23 The Mortality Burden in Years of Life Lost Attributable to Smoking, Victoria 1996, 2006 and 2016
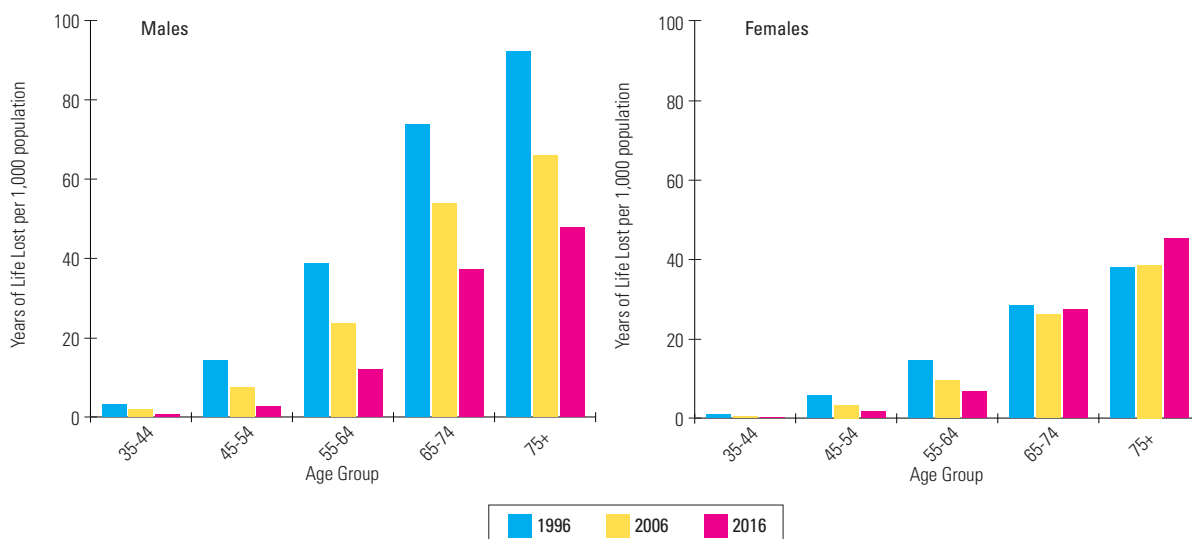
The proportion of obese and overweight people has probably increased rather than dropped over the last decade. Nevertheless, total fat consumption figures from the food industry indicate a small drop in per capita consumption since 1986 (Figure 25). This has been confirmed by the 1995 National Nutrition Survey (ABS 1998b). One explanation for this is decreasing levels and frequency of physical activity. Amongst young people, the increasing trend of high energy, high fat 'fast foods' consumed outside the home (now comprising 45 per cent of teenagers' meals) is a cause for concern.

Figure 24 Prevalence of Obesity by Sex as Self-Reported in National Health Survey and as Measured in National Nutrition Survey, Australia 1995
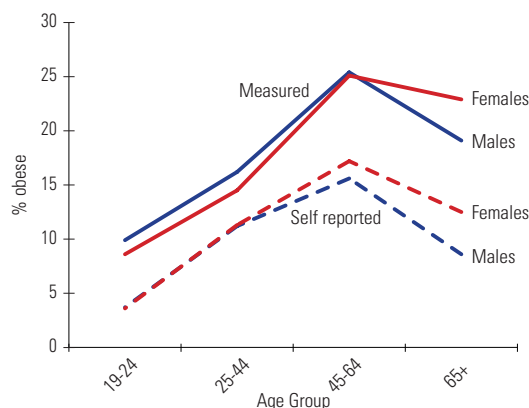
Figure 25 Per Capita Daily Total Fat Consumption, Australia 1986–1996
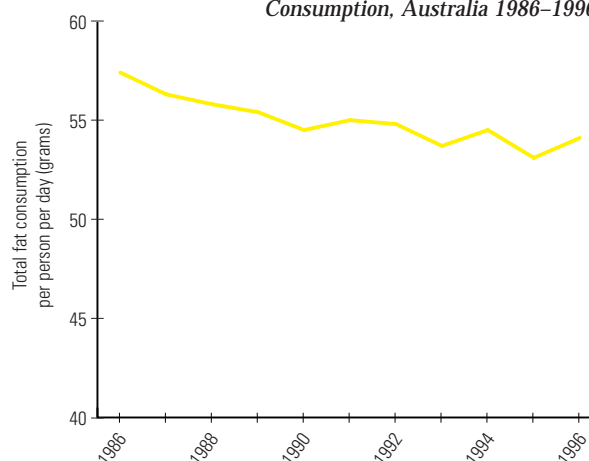
Figure 26 Prevalence of Hypertension by Sex in Melbourne Adults from 1989 National Heart Foundation Survey and in Australian Adults from 1995 National Nutritional Survey

Blood Cholesterol

Elevated blood cholesterol is the first of nutritional risk factors analysed. In the next publication, the disease burden attributable to other dietary factors will be presented. Around four per cent of the mortality burden can be ascribed to high blood cholesterol levels. People with a blood cholesterol over 6.5 mmol/l account for 62 per cent of this attributable burden. The remainder occurs in people with an elevated blood cholesterol level that is considered close to 'normal' (5.5–6.49 mmol/l).

Hypertension

Hypertension is more prevalent in elderly women and causes more mortality than in men because hypertension-related illness is most common at older ages (Figure 26). Two surveys are available in which blood pressure was measured. In 1989, the National Heart Foundation (1991) carried out a survey of adults in metropolitan areas of Australia. The second survey is the 1995 National Nutritional Survey. Though these surveys are not representative of the same populations, the lower prevalence figures in all males and elderly females indicate that hypertension may be becoming less prevalent. The steep drop in mortality from hypertension-related illnesses (see section on mortality trends and projections) supports this. The Framingham study suggests that the decline in mortality from hypertension-related illness may at least partly be attributed to improvements in long-term treatment rates of individuals with hypertension (Sytkowski et al 1996a and 1996b).

Physical Inactivity

Self-reported physical inactivity is responsible for 7.3 per cent of the mortality burden in men and 9.3 per cent in women (Figure 20). Three-quarters of the attributable burden occurs in people over 65 years of age. This would imply that most health gain can be expected from increasing physical activity levels of the elderly. There is considerable evidence that moderate amounts of daily physical activity protect against mortality in men and women, of middle and older age (Sherman et al 1994a and 1994b, Leon et al 1997, Blair et al 1997, Paffenbarger et al 1993). While more short-term health gain can be expected from measures to increase the levels of physical activity in the elderly, it is also likely that physical activity habits acquired at younger ages will be sustained when growing older. Thus, health benefits can be expected from the promotion of physical activity directed at people of all ages.

Figure 27 The Mortality Burden Attributable to the Harmful and Beneficial Effect of Alcohol by Age and Sex, Victoria 1996

Alcohol

There is growing consensus that regular moderate intake of alcohol protects against cardiovascular disease. Alcohol is also implicated as a risk factor for many medical conditions and injuries. In terms of mortality, alcohol prevents more years of life lost in women than it causes. In men, more years of life are lost due to alcohol than are saved (Figure 20). While the harmful effects of alcohol are evenly distributed across different age groups, almost all of the benefits from alcohol are found in ages over 45 and particularly in the elderly (Figure 27). The public health

Figure 28 Daily Per Capita Consumption of Alcohol, Victoria 1986–1996

implication of this finding is that different advice may be required for young and older adults. Our evidence suggests that for the prevention of premature deaths health promotion messages ought to continue to stress that alcohol, when taken in excess is harmful at all ages while moderate alcohol use can be beneficial to the health of people in middle and older ages only.

Excise duty figures show that alcohol consumption has dropped steadily over the last decade (Figure 28). This is commensurate with the finding that alcohol-related mortality has dropped significantly over the last 18 years (see sections on mortality trends and projections).
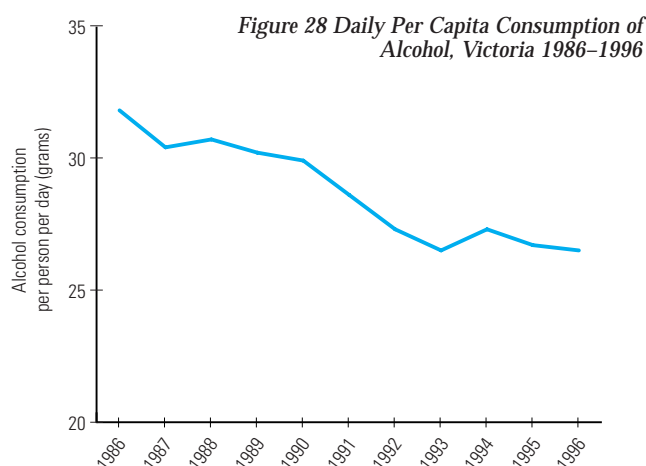
6 Past Mortality Trends and Projection of the Mortality Burden

Changes in the Age Structure of the Population

The population of Victoria is ageing. The 'baby boomers' are expected to cause large population increases in the numbers of people between 40 and 65 years old in the next ten years. These increases become more prominent in twenty years time and extend into higher ages (Figure 29).

Figure 29 Change in Age Structure of the Population of Victoria Between 1996 and 2006, and Between 1996 and 2016
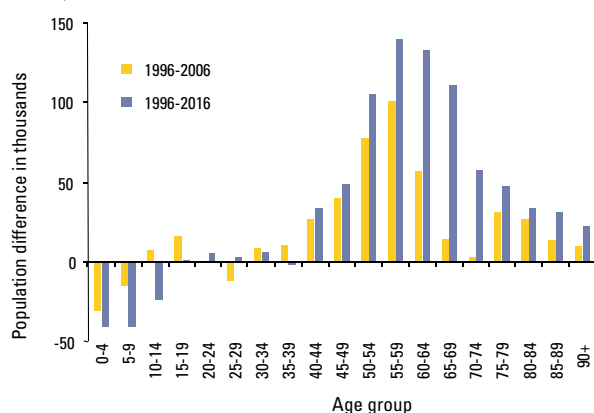
The proportion of elderly people (65–84 years) will increase from the current 11.3 per cent to 14.6 per cent. The proportion of very old people (85+ years) will nearly double from 1.2 per cent to 2.1 per cent (Table 6). The greatest proportional increase will occur in the 55–64 year age group. The seemingly small increases will have a great impact on health outcomes because the old and very old are much more prone to illness and death. Likewise, elderly people make far greater demands on health services. In fact, extrapolation of current hospital expenditure (in case-mix formula WIES[2] units) indicates that while the overall population size is expected to grow by 15 per cent between 1996 and 2016, hospital expenditure would have to increase by 37 per cent just to cater for the older population. Of course, there are many other factors that influence health expenditure that are not considered in this simple extrapolation. Most important among these are changes in disease patterns and an increasing availability of expensive diagnostics and treatments. However, it is important to be aware that ageing of the population and, in particular, the large number of baby boomers 'coming of age', may have a considerable effect on health resource consumption.

[2] WIES stands for weighted inlier equivalent separations

Table 6 Age Structure of the Victorian Population 1996, 2006 and 2016

Percentage of Population	1996	2006	2016
0–4 years	6.9%	5.7%	5.2%
5–14 years	13.9%	12.6%	10.8%
15–24 years	14.5%	13.7%	12.8%
25–34 years	15.8%	14.5%	14.0%
35–44 years	15.3%	14.9%	13.9%
45–54 years	12.5%	13.9%	13.8%
55–64 years	8.6%	11.1%	12.7%
65–74 years	7.3%	7.1%	9.6%
75–84 years	4.0%	4.9%	5.0%
85 years and older	1.2%	1.6%	2.1%
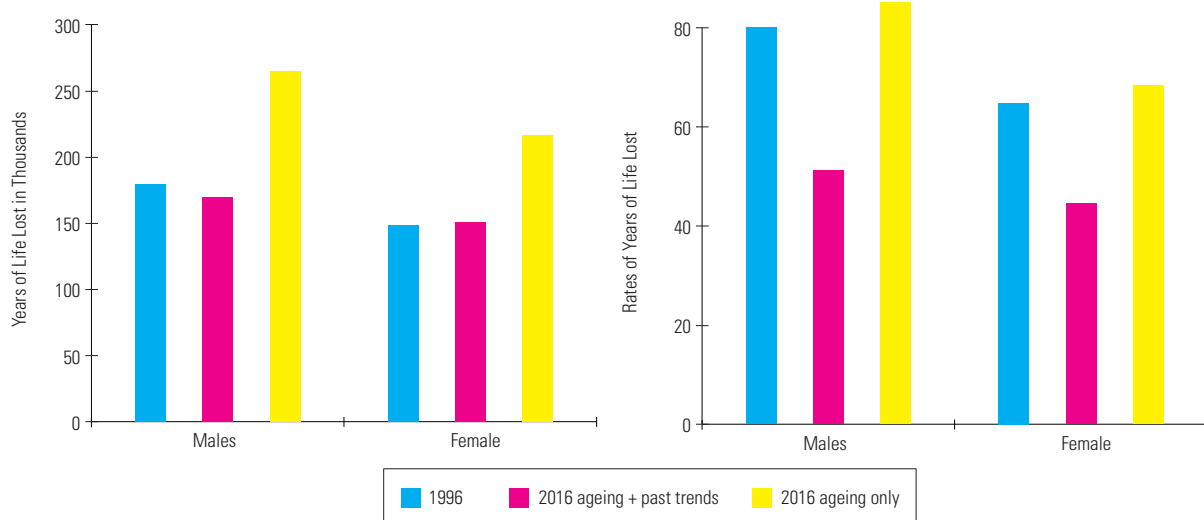
Past Mortality Trends

The last 18 years have seen significant and steady declines in mortality from cardiovascular disease, injuries, smoking-related cancers and COPD in men, digestive disorders, congenital anomalies, neonatal disorders and sudden infant death syndrome. Adverse mortality trends include smoking-related cancers and COPD in women, drug overdoses, prostate cancer, dementia, diabetes in elderly men, and suicide in young men. HIV or AIDS mortality started declining in 1989 and has dropped dramatically since. Appendix Table 9 gives details of the age, sex and cause-specific annual rates of change in mortality between 1979 and 1996.

Projections of the Mortality Burden to 2016

Projections are based on expected population changes and an extrapolation of mortality trends of the past 18 years into the future. There is considerable uncertainty about the mortality changes that have been projected by 51 diseases and groups of diseases, age and sex. The premise has been that past trends will continue at a similar rate over the next 20 years. This is by no means certain or even likely. However, it is helpful to be aware of the potential impact of changes in population size and projected mortality especially where the projections show large differences. Appropriate action can then be taken to try to curb unfavourable trends and thus invalidate the projections.

The size of the mortality burden in men and women is expected to remain stable despite population increases and the considerable ageing of the population. This is due to the very favourable mortality trends that have been witnessed over the last 18 years. Modelling ageing of the population only while assuming unchanged mortality rates at the 1996 level, would see the mortality burden increase by almost 50 per cent in men and women (Figure 30). Between 1996 and 2016, the rate of years of life lost

Figure 31 Current and Projected (Based on Ageing and Past Trends) Mortality Burden for Major Disease Groups in Years of Life Lost (YLLs) by Sex, Victoria 1996 and 2016
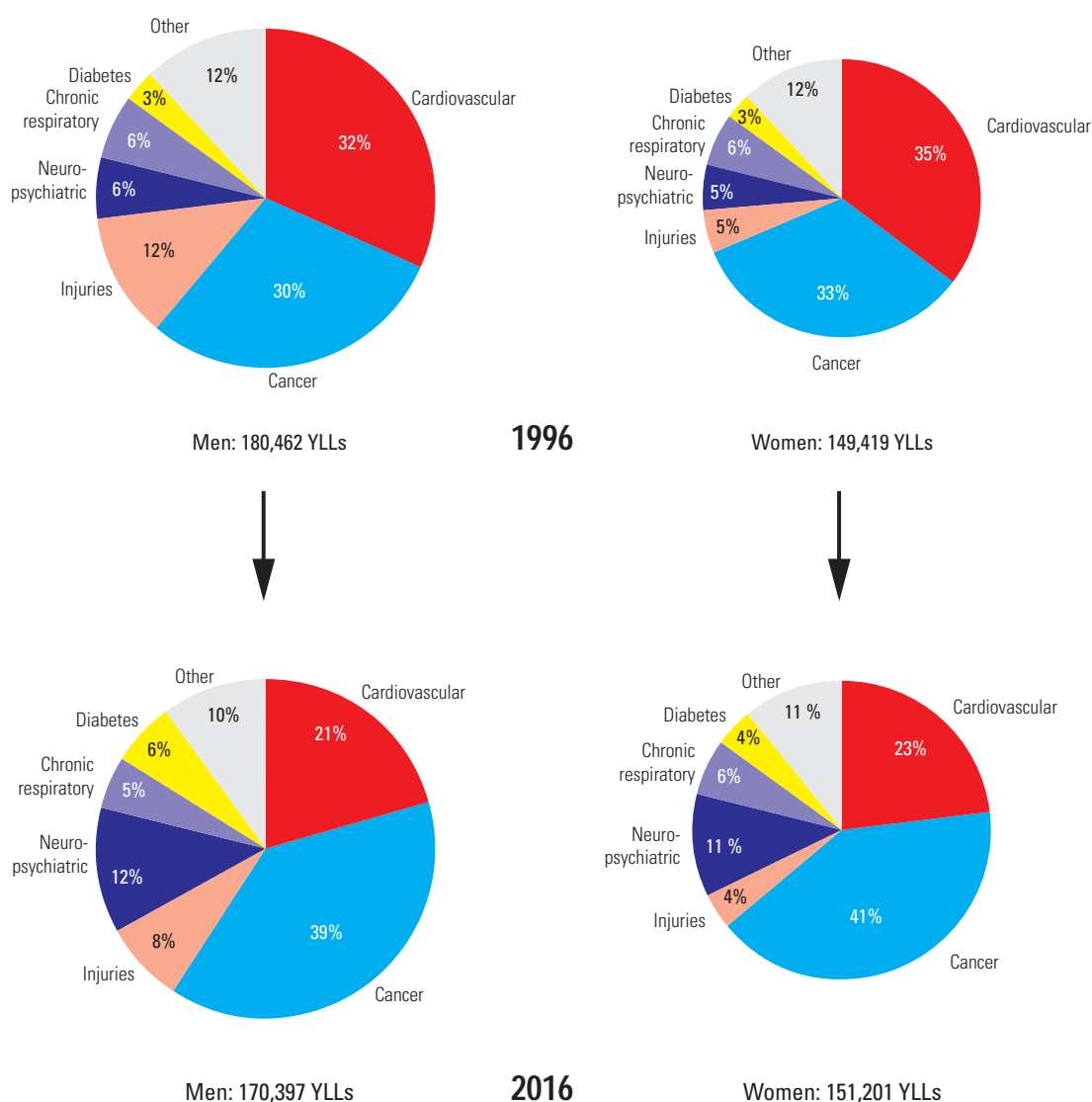
per 1,000 population is expected to drop from 80 to 51 in men, and from the current 65 to 44 in women. This is equivalent to an increase in life expectancy at birth of 4.6 years in men and 3.6 years in women (Figure 30).

YLL rates in women will decline at a slower pace than in men, because favourable trends for some causes are counteracted by growing mortality from smoking-related cancers.

Considerable further drops are expected in mortality from cardiovascular disease and injuries. Because only small decreases in cancer mortality rates are projected, the relative contribution of cancers to the mortality burden in men and women combined will increase from 32 per cent to 39 per cent.

The mortality burden in men from neuro-psychiatric disorders is set to more than double. This is partly due to the steep increases in drug-related deaths. Ageing of the population is likely to cause further large increases in mortality from dementia (Figure 31). Greater detail of projected deaths and YLLs is presented in Appendix Tables 9 and 10.

The pattern of the mortality burden will change considerably in the next 20 years if mortality trends continue unabated. Despite remarkably favourable trends, ischaemic heart disease will continue to cause most years of life lost. Stroke will drop out of the top five causes of YLLs in both men and women. Mortality from all types of injuries is expected to continue to drop. Unintentional injuries show the greatest decline. Road traffic accidents will drop out of the top ten of leading causes of mortality in men. Suicide deaths will show a modest decline in women of all ages and older men. Suicide in young males is projected to continue to increase. Smoking-related diseases, lung cancer and COPD will become the fourth and fifth most important cause of years of life lost in women. The trends in other cancers are either stable or slightly favourable. Because trends in many other causes of death are more favourable, individual cancers will contribute more prominently to the overall mortality burden. Ageing and less favourable trends will cause death from renal disease and dementia to become more common. Drug related deaths have grown at a faster rate than any other cause. If this adverse trend continues drugs will be the third largest cause of years of life lost in men. Continuing declines in HIV mortality which set in after 1989, are the main reason for the expected drop in mortality from infectious diseases. Further declines are projected in the mortality from neonatal conditions and congenital anomalies (Tables 7 and 8).

Table 7 Expected Changes in the Ranking Order of Major Groups of Conditions by YLLs by Sex, Victoria 1996 and 2016

Men	Rank 1996	Rank 2016	Women	Rank 1996	Rank 2016
Cardiovascular disease	1	2⇓	Cardiovascular disease	1	2⇓
Cancer	2	1	Cancer	2	1
Unintentional Injuries	3	8⇓	Chronic Respiratory Diseases	3	4
Chronic Respiratory Diseases	4	5⇓	Neuro-Psychiatric Disorders	4	3⇑
Neuro-Psychiatric Disorders	5	3⇑	Unintentional Injuries	5	9⇓
Intentional Injuries	6	6	Diabetes	6	5
Digestive Disorders	7	9⇓	Digestive Disorders	7	7⇓
Diabetes	8	4	Intentional Injuries	8	8
Infections and Parasitic Diseases	9	13⇓	Genito-Urinary Disorders	9	6
Congenital Abnormalities	10	12⇓	Congenital Abnormalities	10	14⇓
Neo-Natal Conditions	11	14⇓	NeoNatal Conditions	11	15⇓
Genito-Urinary Disorders	12	7	Other Endocrine and Metabolic Disorders	12	10

⇑ and ⇓ indicate projected increases and decreases in the age-standardised YLL rate of more than 30 per cent over the next 20 years.

Table 8 Expected Changes in the Ranking Order of the Top Ten Conditions by YLLs by Sex, Victoria 1996 and 2016

Men	Rank 1996	Rank 2016	Women	Rank 1996	Rank 2016
Ischaemic heart disease	1	1⇓	Ischaemic heart disease	1	1⇓
Lung Cancer	2	2⇓	Stroke	2	6⇓
Stroke	3	9⇓	Breast Cancer	3	2
Suicide	4	7	Lung Cancer	4	4
COPD	5	8⇓	Bowel Cancer	5	7⇓
Bowel Cancer	6	6	COPD	6	5
Road Traffic Accidents	7	19⇓	Diabetes	7	8
Prostate Cancer	8	4	Dementia	8	3⇑
Diabetes	9	5	Ovarian Cancer	9	9
Illicit Drug Use	10	3⇑	Suicide	10	14
Nephritis or Nephrosis	21	10⇑	Lymphoma	13	10

⇑ and ⇓ indicate projected increases and decreases in the age-standardised YLL rate of more than 30 per cent over the next 20 years

Glossary

ABS	Australian Bureau of Statistics
AHLO	Aboriginal Hospital Liaison Officer
AIDS	Acquired Immune Deficiency Syndrome
COPD	Chronic Obstructive Pulmonary Disease
CVD	Cardiovascular Disease
DALY	Disability Adjusted Life Year
GDB	Global Burden of Disease
GDP	Gross Domestic Product
ICD-9	International Classification of Diseases (Ninth Revision)
IHD	Ischaemic Heart Disease
LGA	Local Government Area
RR	Relative Risk
RRMA	Rural, Remote and Metropolitan Areas
SEIFA	Socio-Economic Indices for Areas
SES	Socio-Economic Status
SIDS	Sudden Infant Death Syndrome
SLA	Statistical Local Area
WIES	Weighted Inlier Equivalent Separations
YLD	Years Lived With Disability
YLL	Years of Life Lost

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Appendices

Appendix Table 1 Disease Categories and ICD-9 Codes

Disease or Injury	ICD-9 codes
I. Communicable diseases, maternal, neonatal and nutritional conditions	**001–139, 260–269, 279.1** (if AIDS flag > 0), **280–281, 320–322, 381–382, 460–466, 480–487, 614–616, 630–676, 760–779, 875** (if AIDS flag > 0)
A. Infectious and parasitic diseases	**001–139, 279.1** (if AIDS flag > 0), **320–322, 614–616, 771.0, 771.3, 875** (if AIDS flag > 0)
1. Tuberculosis (TB)	010–018, 137
2. Sexually Transmitted Diseases (STD) excluding HIV/AIDS	090–099, 614–616
a. Syphilis	090–097
b. Chlamydia [a]	–
c. Gonorrhoea	098
3. Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) [b]	042–044, 136.3, 279.1, 875 (last three if AIDS flag > 0)
4. Diarrhoeal diseases	001–009
5. Vaccine-preventable cluster	032, 033 , 037, 045, 055, 056, 138, 771.0, 771.3
a. Diphtheria	032
b. Whooping cough	033
c. Tetanus	037 , 771.3
d. Polio	045, 138
e. Measles	055
f. Rubella	056, 771.0
g. Haemophilus influenzae type b(Hib)	—
6. Meningitis	036, 320–322
7. Septicaemia	038
8. Arbovirus infection	066.3
9. Hepatitis	070
a. Hepatitis A	070.0–1
b. Hepatitis B	070.2–3
c. Hepatitis C	070.4
B. Acute respiratory infections	**460–466, 480–487, 381–382**
1. Lower respiratory tract infections [c]	466, 480–487
2. Upper respiratory tract infections [d]	460–465
3. Otitis media	381–382
C. Maternal conditions	**630–676**
1. Maternal haemorrhage	640–641, 666
2. Maternal sepsis	670
3. Hypertension in pregnancy	642
4. Obstructed labour	660
5. Abortion	630–639

Appendix Table 1 Disease Categories and ICD-9 Codes

Disease or Injury	ICD-9 codes
D. Neonatal causes	**760–779 (excl 771.0 and 771.3)**
1. Birth trauma and asphyxia	767–768, 770.1–770.9
2. Low birth weight	764–765, 769
3. Neonatal infections	770.0, 771.1, 771.2, 771.4–8
E. Nutritional disorders	**260–269, 280–281**
1. Protein-energy malnutrition	260–263
2. Deficiency anaemia	280, 281
II. Non-communicable diseases	**140–259, 270–279.0, 279.1** (if AIDS flag=0)**, 279.2–279.9, 282–319, 323–380, 383–459, 467–479, 488–613, 617–629, 680–759, 850.0–850.2, 854.2, 858.9**
F. Malignant neoplasms	**140–209**
1. Mouth and oropharynx	140–149
2. Oesophagus	150
3. Stomach	151
4. Colon and rectum	153–154
5. Liver	155
6. Gall bladder	156
7. Pancreas	157
8. Trachea/bronchi/lung	162
9. Bone and connective tissue	170–171
10. Melanoma	172
11. Other skin cancer	173
12. Breast	174,175
13. Cervix	180
14. Endometrium	179, 181–182
15. Ovary	183
16. Prostate	185
17. Testis	186
18. Bladder	188
19. Kidney [e]	189
20. Brain	191
21. Thyroid	193
22. Lymphoma	200–202

Disease or Injury	ICD-9 codes
F. Malignant neoplasm (continued)	
23. Leukemia	204–208
24. Multiple myeloma	203.0
25. Larynx	161
Fil. Ill defined cancers [f]	*195–199*
G. Other neoplasms	**210–239**
1. Benign brain tumours	225
H. Diabetes mellitus	**250**
1. Type 1 diabetes	250._1
2. Type 2 diabetes	250._0
I. Endocrine and metabolic disorders	**240–249, 251–259, 270–278, 279.0, 279.2–279.9, 279.1** (if AIDS flag =0), **282– 289**
1. Non-deficiency anaemia	282–285
a. Thalassaemia	282.4
2. Cystic fibrosis	277.0
3. Haemophilia and other clotting disorders	286
J. Mental disorders	**291–316**
1. Substance abuse disorders	
a. Alcohol dependence and harmful use	291, 303, 305.0
b. Heroin or poly drug dependence and harmful use	304.0, 304.7, 305.5
c. Benzodiazepine dependence and harmful use	304.1, 305.4
d. Cannabis dependence and harmful use	304.3, 305.2
e. Other drug dependence and harmful use	304.2, 304.4–304.6, 304.8–304.9, 305.1, 305.3, 305.4, 305.6–305.9
2. Schizophrenia	295
3. Affective disorders	296, 300.4, 311
a. Depression	296.2, 296.3, 296.9, 300.4, 311
b. Bipolar affective disorder	296.0, 296.1, 296.4–296.8
4. Anxiety disorders	
a. Panic disorder	300.01
b. Agoraphobia	300.20–300.22
c. Social phobia	300.23
d. Generalised anxiety disorder	300.02
e. Obsessive-compulsive disorder	300.3
f. Post-traumatic stress disorder	309.81
g. Separation anxiety disorder	309.2
5. Borderline personality disorder	301.83

Appendix Table 1 (continued) Disease Categories and ICD-9 Codes

Disease or Injury	ICD-9 codes
J. Mental disorders (continued)	
6. Eating disorders	307.1, 307.5
a. Anorexia nervosa	307.1
b. Bulimia nervosa	307.5
7. Childhood conditions	314.0, 299.0
a. Attention-deficit hyperactivity disorder	314.0
b. Autism and Asperger's syndrome	299.0
K. Nervous system and sense organ disorders	**290, 317–319, 323.0, 323.2–380, 383–389**
1. Alzheimer and other dementias	290, 330–331
2. Epilepsy	345
3. Parkinson's disease	332
4. Multiple sclerosis	340
5. Motor-neuron disease	335.2
6. Huntington's chorea	333.4
7. Muscular dystrophy	359
8. Sense organ disorders	360–380, 383–389
a. Glaucoma-related blindness	365
b. Cataract-related blindness	366
c. Vision disorders [g]	367
d. Hearing loss (excluding congenital deafness and deafness following otitis media) [h]	389
9. Mental retardation [i]	317–319
L. Cardiovascular disease	**390–402, 404–415, 416.1, 417–455, 457–459**
1. Rheumatic heart disease	390–398
2. Ischaemic heart disease [j]	410–414, + ill-defined CVD (427.1+4+5, 440.9, 429.0–429.2+9) 30–59 yrs: 75%; 60+ yrs 80% and heart failure (428) 30–59 yrs 70%; 60+ yrs 60%
3. Stroke	430–438
4. 'Inflammatory heart disease' [k]	420–422, 425 + heart failure (428) 5–29 yrs 75%; 30–44 yrs 25%; 45+ yrs 10%
5. Hypertensive heart disease	401–402, + heart failure (428) 30–44 yrs 5%; 45–59 yrs 20%; 60+ yrs 30%
6. Non-rheumatic valvular disease	424
7. Aortic aneurysm	441
8. Peripheral arterial disease	440.0–440.8, 442–444
M. Chronic respiratory disease	**416.0, 416.8+9, 470–478, 490–519**
1. Chronic Obstructive Pulmonary Disease (COPD) [l]	416.0, 416.8+9, 490–492, 495–496
2. Asthma	493

Disease or Injury	ICD-9 codes
N. Diseases of the digestive system	**456, 530–579**
1. Peptic ulcer disease	531–533, + 50% of 578
2. Cirrhosis of the liver	456, 571, 572.2–572.8, + 50% of 578
3. Appendicitis	540–543
4. Intestinal obstruction	560, 550.0+1, 551–552
5. Diverticulitis	562
6. Gall bladder and bile duct disease	574–576
7. Pancreatitis	577
8. Inflammatory bowel disease [m]	555–556
9. Vascular insufficiency intestine	557
O. Genito-urinary diseases	**403, 580–611, 617–629**
1. Nephritis/nephrosis [n]	403, 580–586
2. Benign prostatic hypertrophy	600
3. Stress incontinence	625.6
4. Genital prolapse	618
P. Skin diseases	**680–707**
1. Eczema	691–693
Q. Musculoskeletal diseases	**710–739**
1. Rheumatoid arthritis	714
2. Osteoarthritis	715
3. Chronic backpain	724.0–724.2, 724.5–724.9
4. Slipped disc	722, 724.3–724.4
5. 'Repetitive strain injury' [o]	–
6. Osteoporosis [p]	733
R. Congenital abnormalities	**740–759**
1. Anencephaly	740
2. Spina bifida	741
3. Congenital heart disease	745–747
4. Cleft lip, palate	749
5. Digestive system malformations	750–751
a. Anorectal atresia	751.2
b. Oesophageal atresia	750.3
6. Urogenital tract malformations	752–753
a. Renal agenesis	753.0

Appendix Table 1 (continued) Disease Categories and ICD-9 Codes

Disease or Injury	ICD-9 codes
R. Congenital abnormalities (continued)	
7. Abdominal wall defect	756.7
8. Down syndrome	758.0
9. Other chromosomal anomalies	758.1–758.9
S. Oral health	**520–529**
1. Dental caries	521.0
2. Periodontal disease	523
3. Edentulism	–
X. Ill-defined conditions [q]	**780–799**
1. Sudden Infant Death Syndrome (SIDS)	798.0
2. Chronic Fatigue Syndrome	780.7
III. Injuries [r]	**E800–849 850.3–854.1, 854.3–858.8, 859–874, 876–999, 875** (if AIDS flag=0)
T. Unintentional injuries	**E800–849 850.3–854.1, 854.3–858.8, 859–874, 876–949, 875** (if AIDS flag=0)
1. Road traffic accidents (RTA)	E810–819, 826–829, 929.0
2. Other transport accidents [s]	E800–807, 820–825, 830–848, 929.1
3. Poisoning	E850.3–854.1, 854.3–858.8, 859–869, 929.2
4. Falls	E880–885 886.9, 887–888, 929.3
5. Fires/burns/scalds	E890–899, 929.4
6. Drowning	E910
7. Sports injuries [t]	E886.0, 917.0, 927
8. Natural and environmental factors	E900–909, 929.5
9. Machinery accidents	E919, 920.0–1 & 920.4
10. Suffocation and foreign bodies	E911–915
11. Adverse effects of medical treatment	E870–874, 876, 875 (if AIDS flag=0), 930–949
a. Surgical/medical misadventure	E870–876, 875 (if AIDS flag=0)
b. Adverse effects of drugs in therapeutic use	E930–949
12. Other unintentional injuries	E878–879, 916, 917.1–917.9, 918, 920.2–920.3, 920.5–920.9, 921–926, 928.0–928.8, 929.8
a. Cutting and piercing accidents	E920.2–920.3, 920.5–920.9
b. Striking and crushing accidents	E916–918 excluding 917.0
13. Unspecified unintentional accidents [u]	E928.9, 929.9
U. Intentional injuries	**E950–979, E990–999**
1. Self-inflicted injuries	E950–959
2. Homicide and violence	E960–969
3. Other intentional injuries	E970–979, 990–999

Appendix Table 1 (continued) Disease Categories and ICD-9 Codes

Notes:
a)   Code not available for chlamydia. Pelvic inflammatory disease (614–616) is main sequela. Sixty per cent of PID attributed to chlamydia, balance to A2.
b)   In 1996, for the first time, ABS coded most deaths to codes 042–044 (HIV infection).
c)   Includes pneumonia, acute bronchitis, influenza.
d)   Includes common cold, sinusitis, pharyngitis.
e)   Includes non-kidney urinary organs (189.2–189.9)
f)   In 1996, 6.6 per cent of all deaths due to malignant neoplasms were coded to ICD-9 195–199, (malignant neoplasm of other and unspecified sites including those whose point of origin cannot be determined, secondary and unspecified neoplasm). These have been distributed pro-rata across all malignant neoplasm categories within each age-sex group, so that category Fil includes only malignant neoplasms of other specific sites.
g)   Age-related myopia, presbyopia etc. Excludes congenital vision loss and vision loss sequelae to other diseases or injuries.
h)   Age-related presbyacusis, conduction deafness. Excludes congenital deafness and deafness following otitis media.
i)   Excludes congenital, infectious and injury cases; mental retardation due to these causes are included as sequelae there.
j)   The Global Burden of Disease project identified differences in coding practices between countries for ischaemic heart disease (410–414) and ill-defined cardiovascular codes (see page 9 for explanation of redistribution of these ill-defined codes).
k)   Cariomyopathy, myocarditis, endocarditis, pericarditis.
l)   Includes chronic bronchitis and emphysema.
m)   Includes ulcerative colitis and Crohn's disease.
n)   Excludes diabetic nephropathy and nephropathy resulting from congenital, injury, cancer and infectious causes.
o)   Relevant ICD-9 codes for occupational overuse syndrome or repetition strain injury (RSI) are in musculoskeletal and nervous system chapters, but are not specific.
p)   Does not include attributable burden of fractures.
q)   The balance of ICD-9 Chapter XVI "Symptoms, signs and ill-defined conditions", apart from SIDS and chronic fatigue syndrome (780.7) is distributed across Groups I and II within each age-sex group. Note that this differs from the GBD which distributed it pro-rata across Group I only for ages 0-4 and Group II only for ages 5 and over. There were 64 deaths in this category, none of which were aged 0-4.
r)   There were 22 injury deaths for which it was not determined whether the injury was accidental or intentional (E980–989). The GBD allocated these deaths pro-rata to intentional and unintentional injury. Because unintentional injuries are dominated by motor vehicle accidents and falls, this has the effect of reallocating the majority of undetermined deaths to accidental deaths. However, very few of the undetermined deaths are falls or road traffic accidents, and most are thought to be intentional deaths where the coroner did not have sufficient evidence to make that finding. These deaths have been re-allocated, 10% to the unintentional injury category and 90% to intentional injury category (to suicide for ages 15+ and to violence for ages 0-14).
s)   Railway, water, air transport and non-road vehicles.
t)   Only includes sports injuries identifiable from four digit ICD-9 codes.
u)   Unspecified unintentional injuries (E928.9, E929.9) redistributed among unintentional injury categories.

Appendix Table 2   Life Expectancy at Birth and 95 Per Cent Confidence Intervals by LGA or Group of LGAs — Victoria 1992–1996

LGA or group of LGAs	Region	Males		Females	
		LEB	95% CI	LEB	95% CI
Victoria		**75.59**	**75.51–75.67**	**81.34**	**81.26–81.43**
Alpine (S) /Delatite/Milawa	Hume	75.98	75.28–76.71	80.59	79.84–81.35
Ararat (RC)/Northern Grampians/Pyrenees	Grampians	73.74	72.76–74.76 ⁻	79.56	78.61–80.54 ⁻
Ballarat (C)	Grampians	74.08	73.46–74.72 ⁻	80.23	79.62–80.85 ⁻
Banyule (C)	Northern Metro	76.34	75.80–76.89 -	82.00	81.49–82.53 -
Bass Coast (S)/South Gippsland /French Island	Gippsland	75.01	74.20–75.84	80.97	80.19–81.78
Baw Baw (S)	Gippsland	74.68	73.70–75.71	81.24	80.16–82.39
Bayside (C)	Southern Metro	77.55	76.95–78.15 -	82.44	81.92–82.98 -
Boroondara (C)	Eastern Metro	77.26	76.81–77.71 -	82.58	82.16–83.00 -
Brimbank (C)	Western Metro	74.90	74.38–75.44 ⁻	81.15	80.57–81.75
Buloke (S)/Loddon/Central Goldfields	Loddon Mallee	74.61	73.54–75.73	80.31	79.31–81.34
Campaspe (S)	Loddon Mallee	75.21	74.27–76.20	81.31	80.37–82.28
Cardinia (S)	Southern Metro	76.44	75.37–77.57	81.96	80.90–83.10
Casey (C)	Southern Metro	76.59	75.96–77.25 -	81.65	81.00–82.33
Colac-Otway (S)/Surf Coast	Barwon-SW	75.92	75.01–76.86	81.51	80.62–82.44
Corangamite (S)/Moyne	Barwon-SW	74.08	73.16–75.03 ⁻	81.01	80.10–81.95
Darebin (C)	Northern Metro	74.66	74.16–75.17 ⁻	81.07	80.57–81.58
East Gippsland (S)	Gippsland	74.20	73.27–75.15 ⁻	81.06	80.19–81.96
Frankston (C)	Southern Metro	75.51	74.95–76.10	81.61	80.99–82.26
Gannawarra (S)/Swan Hill	Loddon Mallee	74.45	73.47–75.47 ⁻	80.95	79.96–81.97

⁻ and - indicate areas with life expectancy at birth significantly lower and higher than the Victorian average.

Appendix Table 2 (continued)   Life Expectancy at Birth and 95 Per Cent Confidence Intervals by LGA or Group of LGAs — Victoria 1992–1996

LGA or group of LGAs	Region	Males		Females	
		LEB	95% CI	LEB	95% CI
Glen Eira (C)	Southern Metro	76.77	76.27–77.29 –	82.25	81.75–82.75 –
Glenelg (S)/Southern Grampians	Grampians	74.01	73.09–74.95 ⁻	80.83	79.94–81.74
Golden Plains (S)/Hepburn/Moorabool	Grampians	74.58	73.73–75.48 ⁻	82.03	80.98–83.14
Greater Bendigo (C) - Pt B	Loddon Mallee	75.05	74.42–75.69	81.48	80.90–82.08
Greater Dandenong (C)	Southern Metro	75.31	74.78–75.85	80.78	80.21–81.37
Greater Geelong (C)/Queenscliff	Barwon-SW	75.51	75.09–75.95	81.23	80.83–81.64
Greater Shepparton (C)	Hume	76.02	75.24–76.83	80.56	79.74–81.42
Hindmarsh (S)/Horsham/West Wimmera/Yarriambiack	Grampians	75.36	74.52–76.23	81.72	80.87–82.58
Hobsons Bay (C)	Western Metro	74.64	73.97–75.33 ⁻	81.51	80.82–82.23
Hume (C)	Northern Metro	75.48	74.87–76.12	80.26	79.67–80.88 ⁻
Indigo (S)/Towong/Wodonga	Hume	75.05	74.26–75.86	80.90	80.10–81.74
Kingston (C)	Southern Metro	75.73	75.23–76.23	81.50	81.03–81.99
Knox (C)	Southern Metro	76.13	75.57–76.70	81.26	80.72–81.80
La Trobe (S)	Gippsland	73.25	72.60–73.93 ⁻	79.38	78.68–80.10 ⁻
Manningham (C)	Eastern Metro	78.56	77.96–79.18 –	82.86	82.23–83.51 –
Maribyrnong (C)	Western Metro	72.96	72.21–73.72 ⁻	80.61	79.88–81.37
Maroondah (C)	Eastern Metro	76.62	75.98–77.28 –	81.33	80.73–81.94
Melbourne (C)	Western Metro	73.82	72.67–75.04 ⁻	82.95	81.71–84.24 –
Melton (S)	Western Metro	75.50	74.19–76.99	80.83	79.13–82.78
Mildura (RC)	Loddon Mallee	74.38	73.55–75.24 ⁻	81.02	80.17–81.91

⁻ and – indicate areas with life expectancy at birth significantly lower and higher than the Victorian average.

Appendix Table 2 (continued)   Life Expectancy at Birth and 95 Per Cent Confidence Intervals by LGA or Group of LGAs — Victoria 1992–1996

LGA or group of LGAs	Region	Males		Females	
		LEB	95% CI	LEB	95% CI
Mitchell (S)/Murrindindi	Hume	75.79	74.78–76.86	80.68	79.65–81.77
Moira (S)/Strathbogie	Hume	74.86	73.90–75.86	81.04	80.08–82.03
Monash (C)	Southern Metro	77.97	77.48–78.48	83.34	82.81–83.88 –
Moonee Valley (C)	Western Metro	75.74	75.18–76.31	81.85	81.29–82.43
Moreland (C)	Northern Metro	75.29	74.79–75.81	81.54	81.01–82.09
Mornington Peninsula (S)	Southern Metro	75.63	75.12–76.16	80.91	80.41–81.42
Mount Alexander (S)/Macedon Ranges	Loddon Mallee	75.44	74.59–76.31	80.51	79.71–81.34
Nillumbik (S)	Northern Metro	76.57	75.72–77.47 –	81.27	80.35–82.24
Port Phillip (C)	Southern Metro	71.93	71.19–72.69 ⁻	79.41	78.71–80.13 ⁻
Stonnington (C)	Southern Metro	75.44	74.81–76.08	81.73	81.17–82.30
Warrnambool (C)	Barwon-SW	74.70	73.61–75.85	80.94	79.89–82.03
Wellington (S)	Gippsland	74.94	74.12–75.79	80.59	79.74–81.46
Whitehorse (C)	Eastern Metro	77.54	77.08–78.02 –	82.06	81.61–82.52 –
Whittlesea (C)	Northern Metro	76.77	76.04–77.55 –	81.50	80.74–82.30
Wyndham (C)	Western Metro	75.36	74.50–76.28	81.53	80.46–82.68
Yarra (C)	Northern Metro	71.71	70.99–72.46 ⁻	80.14	79.40–80.90 ⁻
Yarra Ranges (S)	Eastern Metro	76.32	75.78–76.87 –	82.20	81.61–82.82 –

⁻ and – indicate areas with life expectancy at birth significantly lower and higher than the Victorian average.

Appendix Table 3 Deaths by Age, Sex and Cause — Victoria 1996

Cause	Total	Males	Females	Males 0–14	Males 15–34	Males 35–54	Males 55–74	Males 75+	Females 0–14	Females 15–34	Females 35–54	Females 55–74	Females 75+
All causes	32,726	17,009	15,717	278	711	1,396	6,285	8,338	192	262	867	3,684	10,712
I. Communicable, maternal, neonatal and nutritional conditions	*1,053*	*547*	*507*	*87*	*37*	*90*	*125*	*207*	*66*	*9*	*19*	*56*	*356*
A. Infections and parasitic diseases	**413**	**261**	**151**	**5**	**33**	**81**	**71**	**71**	**1**	**8**	**9**	**33**	**100**
TB	25	16	9	-	-	-	6	10	-	1	-	4	4
STD (excluding HIV/AIDS)	1	-	1	-	-	-	-	-	-	-	-	-	1
HIV/AIDS	123	118	5	-	29	71	18	-	-	2	3	-	-
Diarrhoeal diseases	25	9	16	1	-	-	-	8	-	-	-	2	14
Vaccine-preventable cluster	7	5	2	2	-	-	2	1	-	-	1	-	1
Meningitis	18	10	8	2	1	3	2	2	1	3	1	1	2
Septicaemia	131	55	76	-	1	1	19	34	-	-	2	9	65
Hepatitis	27	15	12	-	-	3	9	3	-	-	1	9	2
B. Respiratory Infections	**463**	**190**	**273**	**6**	**4**	**9**	**49**	**122**	**4**	**-**	**9**	**23**	**237**
Lower respiratory tract infections	454	186	268	3	4	9	49	121	2	-	9	23	234
C. Maternal conditions	**-**		**-**						**-**	**-**	**-**	**-**	**-**
D. Neonatal conditions	**138**	**76**	**62**	**76**	**-**	**-**	**-**	**-**	**61**	**-**	**1**	**-**	**-**
Birth trauma and asphyxia	43	26	17	26	-	-	-	-	16	-	1	-	-
Low birth weight	54	26	28	26	-	-	-	-	28	-	-	-	-
Neonatal infections	16	9	7	9	-	-	-	-	7	-	-	-	-
E. Nutritional disorders	**39**	**19**	**20**	**-**	**-**	**-**	**5**	**14**	**-**	**1**	**-**	**-**	**19**
Deficiency anaemia	19	8	11	-	-	-	2	6	-	-	-	-	11

Appendix Table 3 (continued) Deaths by Age, Sex and Cause — Victoria 1996

Cause	Total	Males	Females	Males 0–14	15–34	35–54	55–74	75+	Females 0–14	15–34	35–54	55–74	75+
II. Non-communicable diseases	*30,105*	*15,367*	*14,738*	*147*	*247*	*1,021*	*5,951*	*8,001*	*103*	*139*	*760*	*3,549*	*10,188*
F. Cancer	**9,075**	**5,042**	**4,032**	**20**	**53**	**409**	**2,563**	**1,997**	**13**	**56**	**499**	**1,688**	**1,776**
Mouth and oropharynx	187	125	62	0	-	20	87	18	-	1	5	29	26
Oesophagus	267	172	95	-	-	19	89	64	-	-	4	38	53
Stomach	377	225	151	-	3	18	114	90	-	1	14	65	71
Colon and rectum	1,355	719	636	-	-	53	422	244	-	5	39	262	330
Liver	166	118	48	-	-	14	74	30	1	-	3	24	20
Gall bladder	97	29	68	-	-	-	15	14	-	-	8	25	35
Pancreas	470	229	241	-	-	13	123	94	-	-	13	81	146
Trachea/bronchi/lung	1,906	1,313	593	-	-	87	776	451	-	1	52	299	240
Larynx	72	68	4	-	-	9	35	25	-	-	-	1	3
Bone and connective tissue	85	46	39	2	11	2	18	13	1	3	10	11	13
Melanoma	220	144	76	-	3	29	66	45	-	-	14	23	40
Other skin cancer	84	59	25	-	-	2	22	34	-	-	1	8	17
Breast	780	5	775	-	-	1	2	2	-	14	196	337	228
Cervix	70	-	70	-	-	-	-	-	-	4	17	29	20
Endometrium	90	-	90	-	-	-	-	-	-	-	3	38	49
Ovary	263	-	263	-	-	-	-	-	-	3	36	124	99
Prostate	721	721	-	-	-	11	246	465	-	-	-	-	-
Testis	6	6	-	-	4	2	-	-	-	-	-	-	-
Bladder	211	152	59	-	1	4	64	82	-	-	3	14	42
Kidney	209	113	95	-	-	12	51	50	-	-	10	40	45
Brain (including benign brain tumours)	272	153	119	1	13	36	68	35	7	7	24	46	35
Thyroid	23	5	17	-	-	2	-	3	-	-	2	4	11
Lymphoma	402	209	193	2	4	33	92	77	-	4	18	87	84
Leukaemia	347	202	146	10	9	21	81	80	4	7	10	44	80
Multiple myeloma	166	95	71	-	-	11	49	34	-	-	4	33	33
G. Other neoplasms	**140**	**81**	**59**	**-**	**2**	**1**	**20**	**58**	**2**	**1**	**3**	**13**	**40**
H. Diabetes mellitus	**1,006**	**522**	**485**	**-**	**2**	**23**	**215**	**281**	**1**	**-**	**14**	**136**	**334**

Appendix Table 3 (continued) Deaths by Age, Sex and Cause — Victoria 1996

Cause	Total	Males	Females	Males 0–14	Males 15–34	Males 35–54	Males 55–74	Males 75+	Females 0–14	Females 15–34	Females 35–54	Females 55–74	Females 75+
I. Other endocrine and metabolic disorders	**339**	**177**	**161**	**3**	**4**	**21**	**69**	**80**	**7**	**6**	**15**	**44**	**89**
Non-deficiency anaemia	38	16	22	1	1	1	3	10	-	1	-	6	15
Cystic fibrosis	5	1	4	-	1	-	-	-	3	1	-	-	-
Haemophilia and other clotting disorders	10	6	4	-	-	1	3	2	-	-	-	1	3
J. Mental disorders	**239**	**185**	**54**	**-**	**104**	**48**	**24**	**9**	**-**	**26**	**10**	**6**	**12**
Depression	5	1	4	-	-	-	1	-	-	-	-	-	4
Bipolar disorder	3	-	3	-	-	-	-	-	-	-	-	1	2
Psychoses	6	3	3	-	-	2	-	1	-	-	-	2	1
Alcohol dependency/abuse	52	40	12	-	3	9	22	6	-	1	4	3	4
Drug dependency/abuse	168	139	29	-	101	37	1	-	-	25	4	-	-
Eating disorders	5	2	3	-	-	-	-	2	-	-	2	-	1
K. Nervous system and sense organ disorders	**1,588**	**633**	**955**	**19**	**26**	**27**	**136**	**426 0**	**8**	**17**	**23**	**103**	**803**
Epilepsy	70	38	32	3	11	10	8	6	1	10	2	7	12
Alzheimer and other dementias	1,055	330	725	3	-	-	47	280	1	-	1	44	679
Parkinson's disease	176	111	65	-	-	-	26	85	-	-	-	3	62
Multiple sclerosis	36	10	26	-	-	4	3	3	-	1	10	10	5
Motor-neuron disease	91	62	29	-	-	5	32	25	-	1	1	16	11
Huntington	11	8	3	-	-	3	3	2	-	-	-	2	1
Muscular dystrophy	10	8	2	1	5	1	-	1	-	-	2	-	-
Sense organs	1	-	1	-	-	-	-	-	-	-	-	-	1
L. Cardiovascular diseases	**13,435**	**6,473**	**6,962**	**6**	**38**	**385**	**2,216**	**3,827**	**4**	**14**	**133**	**1,082**	**5,729**
Rheumatic heart disease	102	38	64	1	-	3	16	18	-	1	3	25	35
Ischaemic heart disease	7,934	4,144	3,790	-	9	253	1,542	2,339	-	2	64	644	3,081
Stroke	3,136	1,273	1,863	-	8	73	345	847	1	3	41	239	1,579
Inflammatory heart disease	299	175	123	2	7	26	75	66	-	1	9	28	85
Hypertensive heart disease	468	162	306	-	3	3	35	121	-	-	1	38	267
Non-rheumatic valvular disease	241	97	144	-	-	3	35	59	1	-	2	24	117
Aortic aneurysm	314	204	110	-	1	12	74	117	-	1	1	27	81
Peripheral vascular disease	411	147	264	-	-	2	24	121	-	-	3	19	242

Appendix Table 3 (continued) Deaths by Age, Sex and Cause — Victoria 1996

Cause	Total	Males	Females	Males 0–14	15–34	35–54	55–74	75+	Females 0–14	15–34	35–54	55–74	75+
M. Chronic respiratory diseases	**2,188**	**1,260**	**929**	**2**	**4**	**19**	**424**	**810**	**2**	**5**	**24**	**271**	**626**
COPD	1,660	1,018	642	-	-	8	351	659	2	2	9	214	415
Asthma	200	92	108	2	4	7	34	45	-	2	13	28	65
N. Digestive disorders	**958**	**484**	**474**	**1**	**3**	**70**	**197**	**212**	**1**	**3**	**24**	**99**	**347**
Peptic ulcer disease	187	77	111	-	-	3	18	56	-	-	-	16	95
Cirrhosis	299	203	97	-	2	53	115	33	-	2	17	32	46
Appendicitis	6	3	3	-	-	1	1	1	-	-	1	-	2
Intestinal obstruction	83	34	49	1	-	-	8	25	1	1	-	3	44
Diverticulitis	44	14	30	-	-	2	3	9	-	-	-	6	24
Gall bladder and bile duct disease	52	20	32	-	-	-	6	14	-	-	-	7	25
Pancreatitis	43	26	17	-	1	4	11	10	-	-	-	6	11
Inflammatory bowel disease	11	7	4	-	-	-	4	3	-	-	1	1	2
Vascular insufficiency bowel	83	27	56	-	-	1	10	16	-	-	1	11	44
O. Genito-urinary disorders	**659**	**311**	**348**	**-**	**1**	**6**	**54**	**250**	**-**	**-**	**5**	**58**	**285**
Nephritis/nephrosis	517	256	261	-	1	5	40	210	-	-	3	33	225
Benign prostatic hypertrophy	8	8		-	-	-	2	6					
P. Skin diseases	**38**	**14**	**24**	**-**	**-**	**1**	**1**	**12**	**-**	**-**	**-**	**1**	**23**
Q. Musculo-skeletal diseases	**228**	**64**	**163**	**-**	**-**	**5**	**24**	**35**	**1**	**3**	**5**	**36**	**118**
Rheumatoid arthritis	70	17	53	-	-	1	8	8	-	1	2	9	41
Osteoarthritis	22	4	18	-	-	-	1	3	-	-	-	-	18
Osteoporosis	24	2	22	-	-	-	-	2	-	-	-	1	21
R. Congenital abnormalities	**166**	**93**	**73**	**71**	**9**	**5**	**6**	**2**	**50**	**7**	**5**	**10**	**1**
Central nervous system	28	13	15	13	-	-	-	-	15	-	-	-	-
Gastrointestinal tract	5	-	5	-	-	-	-	-	4	1	-	-	-
Urogenital tract	17	10	7	8	-	-	1	1	4	-	-	3	-
Congenital heart disease	58	37	21	26	4	4	3	-	12	4	1	3	1
Down syndrome	11	7	4	2	2	-	2	1	1	-	2	1	-
Other chromosomal disorders	14	8	6	8	-	-	-	-	5	-	-	1	-

Appendix Table 3 (continued) **Deaths by Age, Sex and Cause — Victoria 1996**

Cause	Total	Males	Females	Males 0–14	15–34	35–54	55–74	75+	Females 0–14	15–34	35–54	55–74	75+
S. Oral health	4	-	4	-	-	-	-	-	-	-	-	1	3
X. SIDS	38	24	14	24					14				
III. Injuries	*1,567*	*1,094*	*473*	*44*	*427*	*285*	*208*	*130*	*23*	*114*	*88*	*80*	*168*
T. Unintentional injuries	999	660	340	44	245	136	128	106	20	61	41	56	161
RTA	443	324	119	21	162	63	58	20	10	45	23	23	18
Other transport accidents	41	34	7	1	13	8	8	3	2	-	2	3	-
Poisoning	46	27	19	-	14	8	1	4	-	4	10	3	2
Falls	264	119	145	1	9	14	25	70	-	3	1	14	127
Fires/burns/scalds	34	24	10	3	1	12	3	4	1	-	-	3	6
Drowning	52	39	13	12	17	6	4	-	4	3	2	1	2
Natural and environmental injuries	14	7	7	1	1	1	2	2	1	1	-	3	2
Machinery accidents	15	15	-	1	5	3	5	-	-	-	-	-	-
Suffocation and foreign bodies	41	31	10	2	9	10	7	2	1	3	1	2	3
Adverse effects of medical treatment	6	3	3	-	1	-	2	-	-	-	1	2	-
Other unintentional	43	37	6	1	13	10	11	1	-	2	1	2	1
U. Intentional injuries	567	434	133	-	182	149	80	24	3	53	47	24	7
Self-inflicted injuries	523	405	118	-	168	142	73	23	2	45	42	23	7
Homicide and violence	44	29	15	-	14	7	7	1	1	8	5	1	-

Appendix Table 4 Years of Life Lost by Age, Sex and Cause — Victoria 1996

Cause	Total	Males	Females	Males 0–14	Males 15–34	Males 35–54	Males 55–74	Males 75+	Females 0–14	Females 15–34	Females 35–54	Females 55–74	Females 75+
All causes	329,881	180,462	149,419	8,397	19,061	29,460	75,488	48,056	5,873	7,223	1,9427	51,315	65,581
I Communicable, maternal, neonatal and nutritional conditions	*13,595*	*8,272*	*5,323*	*2,648*	*978*	*1,977*	*1,574*	*1,095*	*2,029*	*250*	*432*	*784*	*1,828*
A. Infections and parasitic diseases	**5,656**	**4161**	**1,495**	**152**	**870**	**1789**	**936**	**414**	**30**	**223**	**199**	**475**	**568**
TB	254	136	118	-	-	-	74	62	-	27	-	63	27
STD (excluding HIV/AIDS)	5	-	5	-	-	-	-	-	-	-	-	-	5
HIV/AIDS	2,740	2,622	118	-	753	1590	279	-	-	53	65	-	-
Diarrhoeal diseases	175	71	105	30	-	-	-	40	-	-	-	23	81
Vaccine-preventable cluster	30	30	-	61	-	-	24	8	-	-	22	-	5
Meningitis	350	190	160	61	27	58	33	11	30	84	21	12	14
Septicaemia	1,005	476	529	-	25	21	230	199	-	-	46	122	361
Hepatitis	381	198	183	-	-	60	117	21	-	-	**24**	141	18
B. Respiratory Infections	**3,484**	**1,682**	**1,801**	**182**	**108**	**188**	**590**	**615**	**122**	**-**	**209**	**309**	**1,162**
Lower respiratory tract infections	3,306	1,581	1,725	91	105	187	589	609	60	-	208	308	1,148
C. Maternal conditions	**-**		**-**							**-**	**-**		
D. Neonatal conditions	**4,214**	**2,313**	**1,901**	**2,313**	**-**	**-**	**-**	**-**	**1,877**	**-**	**24**	**-**	**-**
Birth trauma and asphyxia	1,307	791	516	791	-	-	-	-	492	-	24	-	-
Low birth weight	1,653	791	862	791	-	-	-	-	862	-	-	-	-
Neonatal infections	489	274	215	274	-	-	-	-	215	-	-	-	-
E. Nutritional disorders	**240**	**114**	**126**	**-**	**-**	**-**	**48**	**66**	**-**	**27**	**-**	**-**	**99**
Deficiency anaemia	99	42	57	-	-	-	19	23	-	-	-	-	57

Appendix Table 4 (continued)   Years of Life Lost by Age, Sex and Cause — Victoria 1996

Cause	Total	Males	Females	Males 0–14	Males 15–34	Males 35–54	Males 55–74	Males 75+	Females 0–14	Females 15–34	Females 35–54	Females 55–74	Females 75+
II. Non-communicable diseases	*285,719*	*149,622*	*136,097*	*4,435*	*6,564*	*21,147*	*71,237*	*46,241*	*3,150*	*3,810*	*16,961*	*49,371*	*62,806*
F. Cancer	**103,545**	**53,781**	**49,764**	**608**	**1,412**	**8,404**	**31,111**	**12,246**	**394**	**1,517**	**11,150**	**24,228**	**12,475**
Mouth and oropharynx	2,420	1,659	762	-	-	427	1,118	114	-	28	114	429	191
Oesophagus	2,786	1,847	939	-	-	390	1,057	400	-	-	91	489	359
Stomach	4,143	2,409	1,734	-	84	372	1,395	558	-	28	318	941	447
Colon and rectum	14,775	7,805	6,970	-	-	1,071	5,228	1,506	-	140	883	3,708	2,240
Liver	1,943	1,392	551	-	-	286	924	183	31	-	68	317	135
Gall bladder	1,066	259	806	-	-	-	176	84	-	-	180	376	250
Pancreas	4,849	2,362	2,487	-	-	264	1,492	606	-	-	307	1,136	1,044
Trachea/bronchi/lung	21,226	13,986	7,240	-	-	1,736	9,383	2,867	-	28	1,115	4,240	1,857
Larynx	792	753	38	-	-	166	433	155	-	-	-	12	26
Bone and connective tissue	1,308	729	579	59	315	44	234	78	30	86	237	143	83
Melanoma	2,697	1,813	883	-	82	613	838	280	-	-	300	318	266
Other skin cancer	704	477	226	-	-	42	247	188	-	-	21	103	102
Breast	11,469	61	11,408	-	-	20	27	13	-	366	4,412	5,089	1,541
Cervix	1,062	-	1,062	-	-	-	-	-	-	113	392	400	157
Endometrium	898	-	898	-	-	-	-	-	-	-	71	511	316
Ovary	3,436	-	3,436	-	-	-	-	-	-	85	806	1,772	773
Prostate	5,717	5,717	-	-	-	208	2,827	2,682	-	-	-	-	-
Testis	155	155	-	-	113	42	-	-	-	-	-	-	-
Bladder	1,896	1,364	532	-	27	86	743	508	-	-	66	181	285
Kidney cancer	2,318	1,188	1,130	-	-	228	641	318	-	-	231	580	320
Brain (including benign brain tumours)	4,092	2,207	1,885	30	348	763	843	224	213	199	526	690	257
Thyroid cancer	241	63	178	-	-	46	-	17	-	-	44	58	75
Lymphoma	4,845	2,504	2,341	59	116	711	1,151	467	-	115	404	1,229	594
Leukaemia	4,156	2,439	1,717	296	250	447	957	488	121	196	237	635	528
Multiple myeloma	1,873	1,057	816	-	-	248	594	215	-	-	89	486	241
G. Other neoplasms	**1,205**	**628**	**577**	**-**	**55**	**19**	**240**	**314**	**61**	**28**	**64**	**164**	**261**
H. Diabetes mellitus	**9,123**	**4,767**	**4,356**	**-**	**53**	**468**	**2,574**	**1,672**	**30**	**-**	**303**	**1,897**	**2,127**

Appendix Table 4 (continued)   Years of Life Lost by Age, Sex and Cause — Victoria 1996

				Males					Females				
Cause	Total	Males	Females	0–14	15–34	35–54	55–74	75+	0–14	15–34	35–54	55–74	75+
I. Endocrine and metabolic disorders	3,820	1,939	1,881	91	111	439	837	460	212	170	336	589	573
Non-deficiency anaemia	367	167	200	30	25	23	36	52	-	27	-	84	89
Cystic fibrosis	147	28	119	-	28	-	-	-	90	29	-	-	-
Haemophilia and other clotting disorders	103	63	40	-	-	19	31	13	-	-	-	14	26
J. Mental disorders	5327	4234	1094	-	2762	1109	308	52	-	722	221	89	61
Depression	27	10	17	-	-	-	10	-	-	-	-	-	17
Bipolar disorder	27	-	27	-	-	-	-	-	-	-	-	19	8
Psychoses	81	46	35	-	-	41	-	4	-	-	-	28	7
Alcohol dependency/abuse	775	595	181	-	78	196	284	36	-	29	84	42	25
Drug dependency/abuse	4,358	3,571	787	-	2,684	872	14	-	-	693	94	-	-
Eating disorders	59	12	47	-	-	-	-	12	-	-	43	-	4
K. Nervous system and sense organ disorders	12,832	5,783	7,048	579	695	580	1,599	2,334	243	467	522	1,372	4,444
Epilepsy	1,301	762	538	89	293	228	110	42	31	272	49	101	86
Alzheimer and other dementias	6,340	2,089	4,251	90	-	-	517	1482	31	-	24	558	3,639
Parkinson's disease	1,195	755	439	-	-	-	279	476	-	-	-	35	404
Multiple sclerosis	586	151	435	-	-	92	38	21	-	27	231	145	32
Motor-neuron disease	1,015	661	354	-	-	98	411	152	-	28	22	222	81
Huntington	155	118	37	-	-	64	38	15	-	-	-	28	9
Muscular dystrophy	235	194	41	30	138	23	-	4	-	-	41	-	-
Sense organs	3	-	3	-	-	-	-	-	-	-	-	-	3
L. Cardiovascular diseases	108,993	56,969	52,024	179	1,009	7,909	26,188	21,683	122	397	2,962	14,503	34,041
Rheumatic heart disease	1,098	415	684	30	-	66	203	116	-	27	67	348	241
Ischaemic heart disease	65,448	37,031	28,417	-	244	5,210	18,252	13,325	-	47	1,414	8,581	18,374
Stroke	24,114	10,430	13,684	-	212	1,483	3,986	4,749	30	80	912	3,183	9,478
Inflammatory heart disease	3,249	2,083	1,166	61	190	517	944	371	-	28	218	400	520
Hypertensive heart disease	3,195	1,185	2,011	-	79	60	398	648	-	-	26	509	1,476
Non-rheumatic valvular disease	1,965	829	1,137	-	0	64	420	345	31	-	48	344	715
Aortic aneurysm	2,801	1,856	945	-	28	247	871	711	-	26	21	353	545
Peripheral vascular disease	2,528	927	1,601	-	-	41	255	630	-	-	62	260	1,280

Appendix Table 4 (continued)   Years of Life Lost by Age, Sex and Cause — Victoria 1996

Cause	Total	Males	Females	Males 0–14	15–34	35–54	55–74	75+	Females 0–14	15–34	35–54	55–74	75+
M. Chronic respiratory diseases	**18,571**	**10,105**	**8,466**	**60**	**111**	**388**	**4864**	**4,681**	**61**	**141**	**532**	**3,643**	**4,088**
COPD	13,843	7,925	5,917	-	-	157	3,973	3,796	61	54	194	2,852	2,755
Asthma	2,190	1,020	1,169	59	110	148	437	266	-	57	295	393	425
N. Digestive disorders	**9,456**	**5,211**	**4,245**	**30**	**77**	**1,460**	**2,459**	**1,184**	**31**	**83**	**547**	**1,409**	**2,176**
Peptic ulcer disease	1,374	589	785	-	-	58	234	296	-	-	-	215	570
Cirrhosis	4,037	2,811	1,225	-	51	1,091	1,472	197	-	54	391	479	301
Appendicitis	77	40	37	-	-	23	10	8	-	-	24	0	13
Intestinal obstruction	607	250	357	30	-	-	89	131	31	27	-	42	257
Diverticulitis	370	126	244	-	-	47	36	43	-	-	-	84	160
Gall bladder and bile duct disease	396	140	256	-	-	-	63	78	-	-	-	103	153
Pancreatitis	461	309	151	-	25	86	134	63	-	-	-	77	74
Inflammatory bowel disease	121	70	52	-	-	-	55	15	-	-	21	19	12
Vascular insufficiency bowel	704	226	479	-	-	19	113	94	-	-	21	152	306
O. Genito-urinary disorders	**4,752**	**2,171**	**2,580**	**-**	**26**	**132**	**655**	**1359**	**-**	**-**	**108**	**785**	**1,686**
Nephritis/nephrosis	3,635	1,771	1,863	-	25	112	494	1140	-	-	64	439	1,360
Benign prostatic hypertrophy	64	64	-	-	-	-	26	38	-	-	-	-	-
P. Skin diseases	**242**	**87**	**156**	**-**	**-**	**19**	**10**	**58**	**-**	**-**	**-**	**16**	**139**
Q. Musculo-skeletal diseases	**2,015**	**573**	**1,442**	**-**	**-**	**102**	**295**	**176**	**30**	**82**	**105**	**513**	**712**
Rheumatoid arthritis	634	164	470	-	-	19	103	42	-	26	41	129	273
Osteoarthritis	114	27	88	-	-	-	12	15	-	-	-	-	88
Osteoporosis	146	13	133	-	-	-	-	13	-	-	-	14	119
R. Congenital abnormalities	**4,622**	**2,618**	**2,003**	**2,156**	**251**	**114**	**84**	**13**	**1,535**	**201**	**110**	**152**	**5**
Central nervous system	855	393	462	393	-	-	-	-	462	-	-	-	-
Gastrointestinal tract	152	-	152	-	-	-	-	-	123	29	-	-	-
Urogenital tract	435	266	169	242	-	-	17	8	122	-	-	47	-
Congenital heart disease	1,574	1,021	553	787	110	89	36	-	368	113	22	44	5
Down syndrome	241	153	89	61	55	-	31	6	31	-	41	16	-
Other chromosomal disorders	414	243	170	243	-	-	-	-	154	-	-	16	-

Appendix Table 4 (continued)   Years of Life Lost by Age, Sex and Cause — Victoria 1996

Cause	Total	Males	Females	Males 0–14	15–34	35–54	55–74	75+	Females 0–14	15–34	35–54	55–74	75+
S. Oral health	27	-	27	-	-	-	-	-	-	-	-	12	15
X. SIDS	1,161	730	431	730	-	-	-	-	431	-	-	-	-
III. Injuries	*30,568*	*22,552*	*8,016*	*1,314*	*11,517*	*6,336*	*2,664*	*720*	*694*	*3,163*	*2,034*	*1,177*	*947*
T. **Unintentional injuries**	**18,163**	**13,183**	**4,980**	**1314**	**6,647**	**3,021**	**1,633**	**568**	**604**	**1,713**	**953**	**815**	**895**
RTA	9,832	7,262	2,569	631	4,394	1,388	744	107	303	1,256	531	353	126
Other transport accidents	863	700	163	35	349	186	107	23	66	-	46	52	-
Poisoning	988	567	421	-	373	162	12	21	-	120	228	54	18
Falls	2,174	1,225	949	29	228	294	313	362	-	84	26	182	656
Fires/burns/scalds	609	483	126	100	29	291	37	26	35	-	-	44	47
Drowning	1,301	1,007	294	347	460	143	57	-	136	84	53	12	11
Natural and environmental injuries	220	114	107	35	30	21	19	9	30	26	-	37	13
Machinery accidents	314	314	-	35	139	70	71	-	-	-	-	-	-
Suffocation and foreign bodies	829	639	190	70	234	229	90	17	35	86	24	26	19
Adverse effects of medical treatment	108	62	46	-	30	-	32	-	-	-	21	26	-
Other unintentional injuries	894	779	115	35	352	238	152	4	-	57	24	31	4
U. **Intentional injuries**	**12,404**	**9,369**	**3,036**	**-**	**4,870**	**3,315**	**1,031**	**153**	**90**	**1,450**	**1,081**	**362**	**52**
Self-inflicted injuries	11,389	8,738	2,651	-	4,491	3,157	942	147	59	1,229	968	344	52
Homicide and violence	1,015	631	384	-	379	157	88	6	31	222	113	19	-

Appendix Table 5 Age–Standardised rates of Years of Life Lost per 1,000 population by SEIFA (Index of Relative Socio-Economic Disadvantage) Quintile of SLA of Usual Residence, Sex and Major Causes — Victoria 1996

| | Males SEIFA quintile | | | | | | | Females SEIFA quintile | | | | | | |
	Lowest	→			Highest			Lowest	→			Highest		
All causes	91.36 –	84.09 –	85.22 –	78.31 –	70.03	**	§	74.25 –	69.33 –	68.78 –	63.96	62.62	**	§
Communicable diseases, maternal, neonatal and nutritional conditions	3.64	3.30	3.91	3.79	3.42			2.69 –	2.20	2.36 –	2.12	1.85	**	§
Infectious and parasitic diseases	1.47	1.42 ⁻	1.97	2.23	1.83	*	§	0.70 –	0.61	0.75 –	0.45	0.50	*	§
HIV/AIDS	0.81 ⁻	0.81 ⁻	1.31	1.68	1.25	**	§	0.07	0.03	0.08	0.03	0.06		
Lower respiratory tract infections	0.93 –	0.76	0.68	0.67	0.63	**	§	0.92 –	0.84	0.88	0.85	0.73	*	
Neonatal causes	1.12	1.03	1.19	0.78	0.91			0.91 –	0.61	0.64	0.71	0.49	*	§
Non-Communicable Diseases	75.93 –	70.25 –	70.10 –	64.48 –	58.34	**	§	67.52 –	63.67 –	62.53 –	58.43	57.58	**	
Cancer	26.33 –	24.66 –	24.18 –	22.98	21.68	**		23.18 –	21.58	21.96	21.24	21.28	*	
Mouth	0.94 –	0.57 –	0.74	0.75	0.52			0.34	0.35	0.28	0.32	0.33		
Oesophagus	0.91	0.96	0.91	0.88	0.77			0.41	0.49	0.43	0.38	0.44		
Stomach	1.33 –	1.21 –	1.01	0.83	0.91	**	§	0.79	0.80	0.77	0.63	0.66		
Colon and rectum	3.46	3.67 –	3.54	3.00	3.15	*		3.30	3.25	3.46	3.08	3.16		
Liver	0.73	0.63	0.56	0.49	0.48			0.31	0.25	0.23	0.29	0.21		
Pancreas	1.05	1.09	0.97	0.94	0.99			1.13	1.01	0.95	0.88	0.94		
Trachea/bronchi/lung	7.27 –	6.63 –	6.32 –	6.09 –	4.89	**	§	3.39 –	3.11	3.10	2.82	2.81	*	
Larynx	0.41 –	0.29	0.39 –	0.29	0.19									
Melanoma	0.77	0.76	0.75	0.67	0.90			0.48	0.45	0.55	0.60	0.49		

* p-value for trend <0.05; ** p-value for trend <0.001; § difference between SEIFA quintiles >5%; – indicates YLL rates that are significantly higher than those in the highest SEIFA quintile; ⁻ indicates YLL rates that are significantly lower than in the highest SEIFA quintile

Appendix Table 5 (continued)   Standardised rates of Years of Life Lost per 1,000 population by SEIFA (Index of Relative Socio-Economic Disadvantage) Quintile of SLA of Usual Residence, Sex and Major Causes — Victoria 1996

	Males SEIFA quintile						Females SEIFA quintile					
	Lowest	→			Highest		Lowest	→			Highest	
Cancer (continued)												
Breast							4.91	4.73	5.00	4.99	5.14	*
Ovary							1.38	1.13	1.37	1.27	1.38	
Prostate	2.66	2.53	2.56	2.54	2.49							
Brain	1.02	0.96	0.93	0.94	1.05		0.86	0.85	0.72	0.78	0.69	
Lymphoma	1.19	1.17	1.34	1.25	1.31		1.10	0.99	1.18	1.04	1.07	
Leukaemia	1.27 –	1.14	1.00	0.94	0.99		0.93	0.76	0.72	0.94	0.78	
Diabetes mellitus	2.35 –	2.29 –	2.18 –	1.81	1.57	** §	2.50 –	2.24 –	2.00 –	1.74 –	1.32	** §
Neuro-psychiatric disorders	4.46 –	3.57	3.88	3.85	3.36	** §	3.83	3.55	3.36	3.40	3.52	*
Alcohol dependency/abuse	0.32 –	0.24	0.28	0.32	0.26		0.08 –	0.06	0.06	0.10	0.07	
Drug dependency/abuse	1.37 –	0.90	1.32 –	1.22 –	0.82	* §	0.35	0.30	0.31	0.42	0.33	
Alzheimer and other dementias	1.14 –	0.90	0.89	0.80	0.85	** §	2.00 –	1.92	1.81	1.72	1.73	**
Cardiovascular diseases	29.98 –	27.95 –	27.96 –	25.17 –	22.96	** §	27.20 –	26.00 –	25.30 –	22.53	23.12	**
Ischaemic heart disease	19.59 –	18.98 –	18.82 –	16.83 –	15.16	** §	15.39 –	14.75 –	14.72 –	12.54	12.48	** §
Stroke	5.25 –	4.50 –	4.77 –	4.21	3.90	** §	6.82	6.54	6.38	5.89	6.36	
Inflammatory heart disease	1.34 –	0.99	1.09	1.07	0.90	* §	0.61	0.57	0.47	0.62	0.56	
Hypertensive heart disease	0.62 –	0.46 –	0.54 –	0.54 –	0.45		1.11 –	0.94	0.93	0.79	0.79	
Chronic respiratory disease	5.62 –	5.25 –	5.32 –	4.81 –	3.55	** §	4.29 –	3.78 –	3.72 –	3.65 –	3.10	** §
COPD	4.26 –	4.03 –	4.07 –	3.79 –	2.66	** §	2.85 –	2.44 –	2.45 –	2.51 –	2.07	** §
Asthma	0.58 –	0.60 –	0.64 –	0.53	0.36	** §	0.76 –	0.69	0.65	0.63	0.51	* §

* p-value for trend <0.05; ** p-value for trend <0.001; § difference between SEIFA quintiles >5%; – indicates YLL rates that are significantly higher than those in the highest SEIFA quintile; ‾ indicates YLL rates that are significantly lower than in the highest SEIFA quintile

Appendix Table 5 (continued)   Standardised rates of Years of Life Lost per 1,000 population by SEIFA (Index of Relative Socio-Economic Disadvantage) Quintile of SLA of Usual Residence, Sex and Major Causes — Victoria 1996

	Males SEIFA quintile							Females SEIFA quintile						
	Lowest				Highest			Lowest				Highest		
Genito-urinary diseases	1.03	0.98	1.05	0.79	0.91			1.28	1.11	1.16	1.09	1.06	*	
Digestive system diseases	3.16 –	2.54 –	2.80 –	2.33	1.92	**	§	2.19 –	2.32 –	2.08 –	1.82	1.71	**	§
Cirrhosis of the liver	1.82 –	1.34	1.54 –	1.19	1.05	**	§	0.60 –	0.57	0.52	0.54	0.42	*	§
Congenital abnormalities	1.07	1.07	0.91	1.09	0.93			0.92	0.80	0.88	0.96	0.72		
SIDS	0.45 –	0.26	0.31	0.27	0.15	**	§	0.26	0.23	0.22	0.21	0.13	*	§
Injuries	11.79 –	10.55 –	11.22 –	10.04 –	8.27	**	§	4.04 –	3.47	3.89 –	3.41	3.18	*	§
Unintentional injuries	6.55 –	5.97 –	6.37 –	5.66 –	4.42	**	§	2.49 –	2.24	2.67 –	2.06	1.88	*	§
RTA	3.67 –	3.60 –	3.54 –	3.03 –	2.29	**	§	1.30	1.36	1.54 –	1.13	1.00	*	§
Other transport accidents	0.54	0.49	0.47	0.39	0.35	*	§	0.10	0.03	0.13	0.03	0.07		
Falls	0.50	0.51	0.63	0.55	0.45			0.50	0.46	0.56 –	0.41	0.41		
Drowning	0.64 –	0.44	0.39	0.43	0.34	*	§	0.14	0.11	0.07	0.14	0.08		
Machinery accidents	0.12	0.09	0.24 –	0.17	0.08			0.00	0.01	0.01	0.01	0.00		
Other unintentional injuries	0.38 –	0.33	0.37 –	0.32	0.27			0.1	0.0	0.0	0.1	0.0		
Intentional injuries	5.24 –	4.57	4.86 –	4.38	3.85	*	§	1.55	1.22	1.22	1.36	1.30		
Self-inflicted injuries	4.69 –	4.17	4.46 –	3.95	3.57	**	§	1.28	0.99	1.05	1.12	1.19		
Homicide and violence	0.51 –	0.40	0.36	0.38	0.27	*	§	0.26	0.22	0.17	0.21	0.11	*	§

* p-value for trend <0.05; ** p-value for trend <0.001; § difference between SEIFA quintiles >5%; – indicates YLL rates that are significantly higher than those in the highest SEIFA quintile; ⁻ indicates YLL rates that are significantly lower than in the highest SEIFA quintile

Appendix Table 6 Age–Standardised Rates of Years of Life Lost per 1,000 Population by Rurality Status of SLA of Usual Residence, Sex and Major Causes — Victoria 1996

	Males Area of residence			Females Area of residence		
	Metropolitan	Rural centres	Other rural & remote	Metropolitan	Rural centres	Other rural & remote
All causes	75.49	85.53 –	83.81 –	61.39	67.82 –	65.82 –
Communicable diseases, maternal, neonatal and nutritional conditions	3.86	2.70	3.12 ⁻	2.15	2.22	2.23
Infectious and parasitic diseases	1.97	1.13	1.04 ⁻	0.57	0.66	0.50
HIV/AIDS	1.33	0.61	0.62 ⁻	0.06	0.11	0.02
Lower respiratory tract infections	0.69	0.65	0.73	0.71	0.81	0.87
Neonatal causes	1.12	0.79	1.25	0.76	0.63	0.74
Non-communicable diseases	62.31	70.49 –	65.57 –	55.92	61.70 –	58.66 –
Cancer	22.40	24.53 –	22.93	20.42	21.77 –	20.62
Mouth and oropharynx	0.67	0.75	0.53 ⁻	0.31	0.33	0.25
Oesophagus	0.77	0.97 –	1.01 –	0.39	0.43	0.45
Stomach	1.05	0.84	0.97	0.69	0.55	0.73
Colon and rectum	3.04	3.82 –	3.40 –	2.88	3.40 –	3.50 –
Liver	0.61	0.51	0.34 ⁻	0.25	0.22	0.20
Pancreas	0.97	0.92	0.97	0.90	1.05	0.89
Trachea/bronchi/lung	5.74	6.51 –	5.85	2.89	2.85	2.77
Larynx	0.29	0.24	0.31	0.03	0.02	0.08
Melanoma	0.73	0.82	0.87	0.45	0.62	0.54
Breast	0.02	0.02	0.03	4.75	4.43	4.56

– indicates YLL rates that are significantly higher than those in Metropolitan areas; ⁻ indicates YLL rates that are significantly lower than those in Metropolitan areas

Appendix Table 6 (continued)   Age–Standardised Rates of Years of Life Lost per 1,000 Population by Rurality Status of SLA of Usual Residence, Sex and Major Causes — Victoria 1996

	Males Area of residence			Females Area of residence		
	Metropolitan	Rural centres	Other rural & remote	Metropolitan	Rural centres	Other rural & remote
Cancer (continued)						
Ovary	0.00	0.00	0.00	1.26	1.29	1.10
Prostate	2.31	2.57	2.63 –	0.00	0.00	0.00
Brain	0.95	0.98	1.05	0.70	1.03 –	0.76
Lymphoma	1.25	1.08	1.09	1.01	1.06	1.08
Leukaemia	1.04	1.25	0.85 ⁻	0.77	0.90	0.72
Diabetes mellitus	1.88	1.88	2.02	1.73	1.80	1.85
Neuro-psychiatric disorders	3.88	3.73	2.69 ⁻	3.21	3.66 –	3.19
Alcohol dependency/abuse	0.29	0.31	0.21	0.08	0.04	0.03 ⁻
Drug dependency/abuse	1.32	0.69	0.32 ⁻	0.42	0.12	0.14 ⁻
Alzheimer and other dementias	0.83	0.94	0.86	1.52	1.89 –	1.70
Cardiovascular diseases	23.98	28.27 –	26.91 –	21.72	24.76 –	23.13 –
Ischaemic heart disease	15.88	18.71 –	18.36 –	12.13	14.16 –	12.90 –
Stroke	4.12	4.50 –	4.35	5.64	6.37	5.81
Inflammatory heart disease	0.98	1.28 –	1.03	0.51	0.61	0.59
Hypertensive heart disease	0.47	0.53	0.50	0.77	0.86	0.90
Chronic respiratory disease	4.24	5.28 –	5.17 –	3.30	3.57	3.89 –
COPD	3.19	4.17 –	3.99 –	2.21	2.28	2.57 –
Asthma	0.48	0.45	0.68 –	0.55	0.72	0.82 –

– indicates YLL rates that are significantly higher than those in Metropolitan areas; ⁻ indicates YLL rates that are significantly lower than those in Metropolitan areas

Appendix Table 6 (continued)   Age–Standardised Rates of Years of Life Lost per 1,000 Population by Rurality Status of SLA of Usual
Residence, Sex and Major Causes — Victoria 1996

	Males Area of residence			Females Area of residence		
	Metropolitan	Rural centres	Other rural & remote	Metropolitan	Rural centres	Other rural & remote
Digestive system diseases	2.33	2.66 –	2.32	1.77	2.13 –	1.89
Cirrhosis of the liver	1.32	1.38	1.11 ⁻	0.48	0.49	0.59
Genito-urinary diseases	0.90	0.80	0.85	1.04	1.00	0.92
Congenital abnormalities	1.02	1.26 –	1.22	0.87	1.00	1.02
SIDS	0.29	0.57 –	0.18 ⁻	0.21	0.15	0.39
Injuries	9.32	12.34 –	15.12 –	3.31	3.90	4.93 –
Unintentional injuries	4.94	7.07 –	9.68 –	1.94	2.49 –	3.67 –
RTA	2.64	4.11 –	6.24 –	1.05	1.49 –	2.46 –
Other transport accidents	0.39	0.58 –	0.74 –	0.08	0.09	0.04
Falls	0.52	0.48	0.36 ⁻	0.38	0.46	0.55 –
Drowning	0.38	0.67 –	0.68 –	0.10	0.11	0.21
Machinery accidents	0.08	0.09	0.41 –	0.00	0.00	0.01
Other unintentional injuries	0.27	0.44 –	0.55 –	0.04	0.05	0.04
Intentional injuries	4.37	5.26 –	5.44 –	1.38	1.42	1.25
Self-inflicted injuries	3.98	4.72 –	5.04 –	1.17	1.21	1.08
Homicide and violence	0.37	0.54 –	0.38	0.21	0.17	0.17

– indicates YLL rates that are significantly higher than those in Metropolitan areas; ⁻ indicates YLL rates that are significantly lower than those in Metropolitan areas

Appendix Table 7a Age–Standardised Rates of Years of Life Lost per 1,000 Population in Men, by Region and Major Causes — Victoria 1996

					Males					
	Barwon-SW	**Grampians**	**Loddon Mallee**	**Hume**	**Gippsland**	**Western Metro**	**Northern Metro**	**Eastern Metro**	**Southern Metro**	**Victoria**
All causes	84.20 –	90.93 –	86.74 –	80.21	90.31 –	83.96 –	82.32 –	67.58 ⁻	78.82	80.03
Communicable diseases, maternal, neonatal and nutritional conditions	3.26	2.94 ⁻	3.24	2.64 ⁻	2.66 ⁻	3.71	4.48 –	3.04 ⁻	4.42 –	3.68
Infectious and parasitic diseases	1.02 ⁻	1.25 ⁻	1.34	0.83 ⁻	0.78 ⁻	1.78	2.52 –	1.36 ⁻	2.36 –	1.76
HIV/AIDS	0.66 ⁻	0.61 ⁻	0.73 ⁻	0.55 ⁻	0.40 ⁻	1.01	1.73 –	0.81 ⁻	1.70 –	1.15
Lower respiratory tract infections	0.73	0.72	0.88	0.61	0.58	0.72	0.90	0.56 ⁻	0.75	0.72
Neonatal causes	1.30	0.92	0.94	1.00	1.24	1.18	0.93	1.07	1.24	1.10
Non-Communicable Diseases	69.24 –	74.36 –	70.12 –	64.04	73.61 –	71.05 –	68.60 –	56.17 ⁻	64.91	66.20
Cancer	24.66	24.93	24.66	23.33	25.33 –	24.20	24.72 –	21.09 ⁻	22.95	23.48
Mouth and oropharynx	0.74	0.62	0.73	0.62	0.57	0.81	0.73	0.49 ⁻	0.75	0.68
Oesophagus	1.16	0.95	1.01	0.98	1.03	0.81	0.76	0.74	0.80	0.86
Stomach	1.10	1.08	0.79 ⁻	0.85	1.00	1.34	1.31 –	0.84 ⁻	1.02	1.05
Colon and rectum	3.68	3.95	3.50	3.70	3.83	3.06	3.28	2.98	3.14	3.30
Liver	0.30 ⁻	0.28 ⁻	0.41	0.46	0.55	1.00 –	0.79 –	0.48	0.53	0.58
Pancreas	1.23	1.08	0.72 ⁻	1.36	0.84	0.95	1.00	0.97	0.98	1.00
Trachea/bronchi/lung	5.87	6.52	6.30	6.31	7.17 –	7.12 –	6.84 –	4.86 ⁻	5.74	6.07
Larynx	0.35	0.33	0.40	0.19	0.24	0.36	0.38	0.18 ⁻	0.31	0.30
Melanoma	0.72	0.93	1.17 –	0.54	0.91	0.56	0.65	0.78	0.82	0.77
Breast	0.09	0.06	0.03	0.03	0.01 ⁻	0.02	0.02	0.01	0.01	0.02
Prostate	2.81	2.50	2.88	2.79	2.64	2.44	2.35	2.47	2.34	2.50

– indicates YLL rates that are significantly higher than those in Victoria; ⁻ indicates YLL rates that are significantly lower than those in Victoria

Appendix Table 7a (continued) Age–Standardised Rates of Years of Life Lost per 1,000 Population in Men, by Region and Major Causes — Victoria 1996

	Barwon-SW	Grampians	Loddon Mallee	Hume	Gippsland	Western Metro	Northern Metro	Eastern Metro	Southern Metro	Victoria
Cancer (continued)										
Brain	1.37	0.85	1.06	1.17	0.78	0.97	0.84	1.07	0.89	0.98
Lymphoma	1.46	1.25	1.02	0.73 ⁻	1.14	0.96 ⁻	1.37	1.22	1.40	1.23
Leukaemia	1.10	0.96	1.09	0.88	1.20	1.01	1.23	0.94	1.11	1.06
Diabetes mellitus	1.85	2.01	2.14	1.96	2.05	2.51 –	2.33 –	1.58 ⁻	1.83	1.98
Neuro-psychiatric disorders	3.40	3.53	3.50	2.61 ⁻	3.17 ⁻	4.16	4.26	3.09 ⁻	4.23 –	3.78
Alcohol dependency/abuse	0.38	0.32	0.16	0.17	0.23	0.37	0.33	0.17 ⁻	0.32	0.28
Drug dependency/abuse	0.43	0.37	0.78	0.41 ⁻	0.60 ⁻	1.52	1.65 –	0.57 ⁻	1.53 –	1.11
Alzheimer and other dementias	1.08	1.18 –	1.09	0.79	0.75	0.79	0.88	0.79	0.88	0.89
Cardiovascular diseases	28.17 –	31.44 –	27.80 –	25.11	30.43 –	27.91 –	25.73	21.64 ⁻	25.41	26.03
Ischaemic heart disease	18.92 –	21.26 –	18.93 –	16.12 ⁻	20.86 –	18.72 –	16.68	14.35 ⁻	16.90	17.32
Stroke	4.80	4.97	4.24	4.66	4.69	4.63	4.47	3.73 ⁻	4.37	4.39
Inflammatory heart disease	1.02	1.44	1.05	0.96	1.26	1.31	1.10	0.78 ⁻	1.01	1.05
Hypertensive heart disease	0.39	0.45	0.57	0.49	0.69	0.55	0.55	0.43	0.50	0.51
Chronic respiratory disease	5.11	5.83 –	5.25	5.15	5.63 –	5.27 –	5.02	3.45 ⁻	4.48	4.71
COPD	3.94	4.72 –	4.20 –	3.98	4.44 –	3.88	3.76	2.60 ⁻	3.37	3.59
Asthma	0.65	0.58	0.48	0.63	0.47	0.69	0.47	0.36 ⁻	0.52	0.52
Digestive system diseases	2.60	2.59	2.78	2.18	2.71	2.79	2.83 –	1.87 ⁻	2.33	2.45
Cirrhosis of the liver	1.18	1.32	1.52	1.02	1.33	1.71 –	1.59	1.02 ⁻	1.30	1.33

– indicates YLL rates that are significantly higher than those in Victoria; ⁻ indicates YLL rates that are significantly lower than those in Victoria

Appendix Table 7a (continued) Age–Standardised Rates of Years of Life Lost per 1,000 Population in Men, by Region and Major Causes — Victoria 1996

	Barwon-SW	Grampians	Loddon Mallee	Hume	Gippsland	Western Metro	Northern Metro	Eastern Metro	Southern Metro	Victoria
					Males					
Genito-urinary diseases	0.72 ⁻	0.96	0.80	0.95	0.97	1.03	1.10	0.84	0.92	0.93
Congenital abnormalities	1.30	1.18	1.34	1.09	1.25	1.04	0.88	1.14	0.99	1.09
SIDS	0.14	0.22	0.64	0.30	0.48	0.55	0.31	0.13 ⁻	0.27	0.31
Injuries	11.72 –	13.62 –	13.37 –	13.52 –	14.05 –	9.20	9.26	8.37 ⁻	9.49	10.16
Unintentional injuries	6.99 –	8.09 –	7.70 –	9.13 –	8.43 –	4.64 ⁻	5.15	4.41 ⁻	5.04 ⁻	5.66
RTA	4.11 –	4.94 –	4.87 –	5.79 –	4.76 –	2.29 ⁻	2.77	2.31 ⁻	2.67 ⁻	3.13
Other transport accidents	0.59	0.56	0.34	0.69	0.89	0.40	0.38	0.34	0.42	0.45
Falls	0.36	0.54	0.32 ⁻	0.60	0.33	0.63	0.62	0.46	0.52	0.51
Drowning	0.62	0.73	0.75	0.45	0.84	0.33	0.35	0.31	0.45	0.45
Machinery accidents	0.30	0.12	0.16	0.27	0.38 –	0.08	0.10	0.06 ⁻	0.07	0.13
Other unintentional injuries	0.45	0.54	0.42	0.65	0.44	0.23	0.31	0.30	0.22	0.33
Intentional injuries	4.72	5.55	5.67 –	4.38	5.61 –	4.58	4.12	3.96	4.46	4.49
Self-inflicted injuries	4.25	4.94	5.16 –	3.98	5.19 –	4.03	3.69	3.63	4.17	4.09
Homicide and violence	0.43	0.58	0.52	0.39	0.38	0.52	0.39	0.32	0.26	0.38

– indicates YLL rates that are significantly higher than those in Victoria; ⁻ indicates YLL rates that are significantly lower than those in Victoria

Appendix Table 7b Age–Standardised Rates of Years of Life Lost per 1,000 Population in Women, by Region and Major Causes — Victoria 1996

	Barwon-SW	Grampians	Loddon Mallee	Hume	Gippsland	Western Metro	Northern Metro	Eastern Metro	Southern Metro	Victoria
					Females					
All causes	66.18	70.06 –	67.38 –	67.73 –	70.45 –	62.93	65.16	58.89 ‾	64.64	64.42
Communicable diseases, maternal, neonatal and nutritional conditions	1.96	1.94	2.16	2.88 –	2.37	2.47	2.37	1.92 ‾	2.23	2.22
Infectious and parasitic diseases	0.50	0.45	0.61	0.83	0.69	0.69	0.61	0.50	0.57	0.58
HIV/AIDS	0.08	0.00 ‾	0.08	0.10	0.05	0.05	0.05	0.06	0.04	0.06
Lower respiratory tract infections	0.85	0.75	0.62	1.22 –	0.73	0.87	0.76	0.68	0.72	0.77
Neonatal causes	0.48	0.62	0.73	0.77	0.84	0.83	0.86	0.64	0.81	0.75
Non-communicable diseases	60.68 –	64.75 –	60.80 –	59.88	63.71 –	57.32	59.57	53.72 ‾	58.84	58.66
Cancer	22.58 –	21.11	20.93	22.26	21.68	19.50 ‾	20.56	20.05 ‾	22.09 –	21.09
Mouth and oropharynx	0.41	0.38	0.22	0.25	0.27	0.28	0.34	0.32	0.31	0.31
Oesophagus	0.40	0.44	0.43	0.44	0.64	0.24 ‾	0.43	0.38	0.46	0.42
Stomach	0.72	0.62	0.70	0.71	0.64	0.58	0.74	0.71	0.72	0.70
Colon and rectum	3.26	3.48	3.62	3.68	3.47	2.86	2.88	2.96	3.01	3.11
Liver	0.17	0.18	0.25	0.18	0.28	0.26	0.34	0.23	0.25	0.25
Pancreas	0.83	1.30	0.82	1.02	0.99	0.95	0.91	0.88	0.99	0.95
Trachea/bronchi/lung	3.00	2.81	2.26 ‾	3.03	3.67 –	2.79	2.92	2.59 ‾	3.33	2.95
Larynx	0.03	0.11	0.00 ‾	0.09	0.02	0.03	0.06	0.02	0.03	0.04
Melanoma	0.62	0.61	0.47	0.62	0.59	0.47	0.33	0.51	0.47	0.49
Breast	5.06	4.23	4.57	4.98	4.07	4.30	4.69	4.85	5.12	4.77
Ovary	1.29	1.13	1.34	0.94	1.49	1.25	1.15	1.24	1.42	1.27

– indicates YLL rates that are significantly higher than those in Victoria; ‾ indicates YLL rates that are significantly lower than those in Victoria

Appendix Table 7b (continued) Age–Standardised Rates of Years of Life Lost per 1,000 Population in Women, by Region and Major Causes — Victoria 1996

	Barwon-SW	Grampians	Loddon Mallee	Hume	Gippsland	Western Metro	Northern Metro	Eastern Metro	Southern Metro	Victoria
					Females					
Cancer (continued)										
Brain	0.87	0.97	0.78	0.89	0.73	0.69	0.73	0.65	0.81	0.76
Lymphoma	1.44 –	1.04	1.12	0.85	1.03	0.98	0.85	1.00	1.15	1.05
Leukaemia	0.96	0.69	0.72	1.05	0.91	0.72	0.79	0.76	0.78	0.80
Diabetes mellitus	1.71	2.02	2.07	1.75	1.92	2.54 –	2.39 –	1.32 ⁻	1.52 ⁻	1.82
Neuro-psychiatric disorders	3.08	4.51 –	3.68	2.97	3.42	2.95	3.31	3.17	3.45	3.34
Alcohol dependency/abuse	0.04	0.05	0.01 ⁻	0.02	0.08	0.07	0.09	0.05	0.11	0.07
Drug dependency/abuse	0.06 ⁻	0.23	0.08 ⁻	0.00 ⁻	0.31	0.34	0.47	0.35	0.49	0.35
Alzheimer and other dementias	1.84	2.42 –	2.10 –	1.53	1.69	1.58	1.52	1.45 ⁻	1.59	1.65
Cardiovascular diseases	24.66 –	26.55 –	24.49 –	22.65	25.95 –	22.86	23.27	20.88 ⁻	22.57	23.08
Ischaemic heart disease	13.54	15.23 –	13.69	12.25	15.29 –	13.73	12.82	11.40 ⁻	12.65	12.94
Stroke	6.56 –	6.68 –	6.33	5.72	6.41	5.27 ⁻	5.93	5.63	5.96	5.95
Inflammatory heart disease	0.46	0.87 –	0.47	0.62	0.70	0.50	0.56	0.50	0.53	0.54
Hypertensive heart disease	0.69	0.73	0.95	0.97	1.08	0.93	0.92	0.75	0.77	0.83
Chronic respiratory disease	3.47	3.96	3.72	3.78	4.00	3.46	4.01 –	2.81 ⁻	3.59	3.51
COPD	2.28	2.44	2.44	2.54	2.77	2.30	2.53	1.89 ⁻	2.48	2.35
Asthma	0.77	0.80	0.68	0.75	0.77	0.46	0.69	0.46	0.62	0.61
Digestive system diseases	1.89	2.13	2.22	2.09	2.00	1.83	1.92	1.59 ⁻	1.90	1.88
Cirrhosis of the liver	0.63	0.37	0.66	0.50	0.56	0.47	0.57	0.39	0.51	0.50

– indicates YLL rates that are significantly higher than those in Victoria; ⁻ indicates YLL rates that are significantly lower than those in Victoria

Appendix Table 7b (continued) Age–Standardised Rates of Years of Life Lost per 1,000 Population in Women, by Region and Major Causes — Victoria 1996

	Barwon-SW	Grampians	Loddon Mallee	Hume	Females Gippsland	Western Metro	Northern Metro	Eastern Metro	Southern Metro	Victoria
Genito-urinary diseases	0.60 ⁻	0.87	1.01	1.24	1.13	1.31 –	1.25	1.05	1.00	1.06
Congenital abnormalities	0.93	1.10	0.79	0.96	1.22	0.82	0.92	1.04	0.79	0.92
SIDS	0.13	0.24	0.26	0.26	0.37	0.25	0.17	0.24	0.24	0.23
Injuries	3.53	3.38	4.42 –	4.99 –	4.40	3.16	3.22	3.24	3.57	3.54
Unintentional injuries	2.21	2.10	3.27 –	3.56 –	3.09 –	1.98	1.90	1.96	2.01	2.20
RTA	1.32	1.22	2.11 –	2.48 –	1.77	1.01	0.96	1.15	1.05	1.25
Other transport accidents	0.06	0.05	0.05	0.05	0.12	0.10	0.06	0.03	0.13	0.08
Falls	0.46	0.36	0.66 –	0.52	0.45	0.39	0.50	0.37	0.37	0.42
Drowning	0.11	0.13	0.15	0.14	0.28	0.09	0.10	0.09	0.11	0.11
Machinery accidents	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Other unintentional injuries	0.01 ⁻	0.03	0.06	0.05	0.00 ⁻	0.07	0.05	0.04	0.04	0.04
Intentional injuries	1.32	1.30	1.15	1.42	1.27	1.18	1.31	1.28	1.56	1.34
Self-inflicted injuries	1.11	1.22	0.97	1.12	1.09	0.95	1.09	1.09	1.38	1.14
Homicide and violence	0.21	0.08 ⁻	0.18	0.19	0.17	0.22	0.23	0.19	0.17	0.19

– indicates YLL rates that are significantly higher than those in Victoria; ⁻ indicates YLL rates that are significantly lower than those in Victoria

Appendix Table 8 Significant Associations between Mortality and the Socio-Economic and Rurality Status of SLAs by Sex, Age Group and Major Causes — Victoria 1996

	Males					Females				
	0–14	15–44	45–64	65–74	75+	0–14	15–44	45–64	65–74	75+
All causes	S-	S- R+	S- RC+	S- R+	S- R+	S-	S- R+	S- RR+	S-	S- R+
Communicable diseases, maternal, neonatal and nutritional conditions	S-	R-	R-	S- R-	S-	S-	RC+	S-		RR+
Infectious and parasitic diseases	S-	S+ R-	S+ R-	S- RC+			RC+	S-		
HIV/AIDS		S+ R-	R-							
Lower respiratory tract infections			S-	S- RC-	S-	RC+			S-	RR+
Neonatal causes	S-					S-				
Non-communicable diseases	S-	S- RR-	S- RC+	S- RR+	S- R+		S- RC+	S-	S-	S- RC+
Cancer			S-	S-						
Mouth and oropharynx		S-	S-	S-				RC+		
Oesophagus			S-							
Stomach			S- R-	S- R-			S-	R-		
Colon and rectum			RC+					R+	R+	
Liver		S-	S- RR-	S-						
Pancreas				S-			S-		RR-	
Trachea/bronchi/lung			S-	S-	S-			S-	RC-	R-
Larynx			S-	S-	S-				S-	
Melanoma			S- RR+	S- RR-			R+			S-
Breast							RR-		RC-	

S-, S+: significant association between lower and higher socio-economic status of SLA and cause-, gender and age group-specific mortality

R+, RR+, RC+: significant association between rurality status of SLA (R= all rural areas; RR=other and remote rural areas; RC=rural centres) and higher mortality

R-, RR- , RC-: significant association between rurality status of SLA (R= all rural areas; RR=other and remote rural areas; RC=rural centres) and lower mortality

Appendix Table 8 (continued)   Significant Associations Between Mortality and the Socio-Economic and Rurality Status Of SLAs By Sex, Age Group and Major Causes — Victoria 1996

	Males					Females				
	0–14	15–44	45–64	65–74	75+	0–14	15–44	45–64	65–74	75+
Cancer (continued)										
Ovary										
Prostate										
Brain										
Lymphoma		RC-								
Leukaemia			S-							
Diabetes mellitus			S-	S-	S-			S-	S-	S-
Neuro-psychiatric disorders		S-					S-			
Alcohol dependency/abuse		S-	RC+							
Drug dependency/abuse		S- RR-					S-			
Alzheimers and other dementia			S-	S-	S-				RC+	S-
Cardiovascular diseases		S-	S-	S-	S-		S-	S-	S-	S-
Ischaemic heart disease		S-	S- R+	S- R+	S- R+			S-	S- RR+	S- RC+
Stroke		S-	S- RC+	S-			RC+			S-
Inflammatory heart disease		S-	RC+				RC+			RR-
Hypertensive heart disease				S-	S- RR+			S-		S-
Chronic respiratory disease			S- R+	S- R+	S-		RR+	S- RR+	S-	S- RC-
COPD				S- RC+	S- RR+			S-	S-	S-
Asthma			S-	S- RR+			RR+	S- RR+	S-	

S-, S+: significant association between lower and higher socio-economic status of SLA and cause-, gender and age group-specific mortality

R+, RR+, RC+: significant association between rurality status of SLA (R= all rural areas; RR=other and remote rural areas; RC=rural centres) and higher mortality

R-, RR- , RC-: significant association between rurality status of SLA (R= all rural areas; RR=other and remote rural areas; RC=rural centres) and lower mortality

Appendix Table 8 (continued) Significant Associations Between Mortality and the Socio-Economic and Rurality Status Of SLAs By Sex, Age Group and Major Causes — Victoria 1996

	Males					Females				
	0–14	15–44	45–64	65–74	75+	0–14	15–44	45–64	65–74	75+
Digestive system diseases		S-	S-	S-	S-					
Cirrhosis of the liver		S-	S-	S- RR+				S-		
Genito-urinary diseases			S- RR-							
Congenital abnormalities						S-				
SIDS	S- RC+					S- RR+				
Injuries	S- RC+	S- R+	S- R+	RR+			RR+			
Unintentional injuries	S-	S- RR+	S- R+	RR+	RR+		R+	RR+		RR+
Other transport accidents	RR+	RC+	S- RR+							
Falls							RR+			
Drowning	RR+	S-		RC+					S-	
Machinery accidents	RR+	RR+	RR+	RR+	RR+					
Other unintentional injuries		R+	RR+	RR+	RR+					
Intentional injuries		S-	S-							
Homicide and violence		S-					S-			

	Males						Females					
	0–14	15–24	25–34	35–44	45–64	65+	0–14	15–24	25–34	35–44	45–64	65+
Drug dependency/abuse		S- RR-	S- R-	S- RR-						S-		
RTA	S- RR+	R+	R+	S-	S- R+	RR+			R+		S- RR+	S- RR+
Self-inflicted injuries		RR+		S-	S-					RC+	RR-	

S-, S+: significant association between lower and higher socio-economic status of SLA and cause-, gender and age group-specific mortality

R+, RR+, RC+: significant association between rurality status of SLA (R= all rural areas; RR=other and remote rural areas; RC=rural centres) and higher mortality

R-, RR- , RC-: significant association between rurality status of SLA (R= all rural areas; RR=other and remote rural areas; RC=rural centres) and lower mortality

Appendix Table 9 Mortality Trends by Condition, Age Group and Sex, expressed as Annual Rates of Change — Victoria 1979–1996

	Males					Females				
	0–14	15–44	45–64	65–74	75+	0–14	15–44	45–64	65–74	75+
Communicable/maternal/ neonatal/nutritional conditions	-5.1% ↓	-1.3%	-2.7% ↓	-2.0% ↓	-4.5% ↓	-4.5% ↓	-1.8%	-3.0% ↓	-3.2% ↓	-3.5% ↓
HIV/AIDS #		-16.1% ↓	-16.1% ↓				-16.1% ↓	-16.1% ↓		
Other non-communicable diseases	-1.6%	-0.1%	-0.2%	0.0%	0.3%	0.3%	0.7%	-0.2%	0.8% ↑	1.0% ↑
Other cancers	-3.0% ↓	-0.2%	-0.7%	0.3%	0.9% ↑	-1.9%	-1.3%	-1.3% ↓	-0.1%	0.8% ↑
Mouth		2.3%	-1.8% ↓	-0.8%	-3.2% ↓		4.1%	0.4%	0.9%	0.9%
Oesophagus		9.3% ↑	-0.1%	0.7%	1.9% ↑		7.3%	-1.4%	0.8%	0.7%
Stomach		-2.8%	-4.6% ↓	-3.9% ↓	-3.3% ↓		-0.2%	-2.7% ↓	-3.5% ↓	-3.9% ↓
Colon and rectum		-2.0%	-1.2% ↓	0.3%	-1.1% ↓		-1.8%	-2.2% ↓	-0.5%	-1.6% ↓
Liver	4.8%	1.1%	2.0% ↑	3.8% ↑	1.2%	-3.1%	5.0%	0.4%	1.9%	2.6% ↑
Gall bladder		-18.6% ↓	-4.1% ↓	-5.0% ↓	-1.2%		0.9%	-0.5%	-1.9%	-1.1%
Pancreas		0.3%	-3.3% ↓	-0.8%	-0.5%		-2.3%	-2.9% ↓	-1.2%	1.8% ↑
Trachea/bronchi/lung		-3.2% ↓	-2.8% ↓	-0.9% ↓	-0.5% ↓		-0.6%	0.1%	3.0% ↑	5.5% ↑
Larynx		-10.2% ↓	-2.0% ↓	1.4%	1.3%		0.0%	-9.1% ↓	1.7%	0.6%
Melanoma		-0.7%	0.3%	2.9% ↑	6.7% ↑	7.7%	-3.5% ↓	-0.4%	0.5%	1.0%
Breast		-16.7%	1.0%	-4.2%	-0.9%		0.3%	0.2%	-0.1%	0.1%
Cervix							-1.7%	-4.4% ↓	-2.6% ↓	-3.5% ↓
Endometrium							-6.7% ↓	-2.9% ↓	-1.2%	-0.4%
Ovary						2.9%	-1.5%	-2.1% ↓	1.7% ↑	1.1%
Prostate		-5.8%	2.4% ↑	1.6% ↑	1.4% ↑					
Bladder		-3.8%	-2.6% ↓	-2.0% ↓	-1.6%		-1.1%	-2.7%	-2.0%	-0.7%

‒ and ⁻ indicate trends that are significant at the 95% confidence level;

trend in HIV/AIDS mortality based on all deaths in men and women since 1989 when decline in mortality set in

Appendix Table 9 (continued)   Mortality Trends by Condition, Age Group and Sex, expressed as Annual Rates of Change — Victoria 1979–1996

	Males					Females				
	0–14	15–44	45–64	65–74	75+	0–14	15–44	45–64	65–74	75+
Kidney	-5.4%	2.5%	1.1%	0.1%	2.1% ↑	-1.8%	2.1%	0.8%	1.6%	2.5% ↑
Brain	-5.6% ↓	1.2%	-0.6%	-0.1%	5.0% ↑	0.1%	-1.2%	-0.7%	1.1%	6.0% ↑
Lymphoma	-8.9%	1.3%	0.3%	1.0%	2.7% ↑	-5.1%	0.2%	0.6%	0.8%	3.8% ↑
Leukaemia	-1.0%	-2.7% ↓	0.0%	0.1%	1.0%	-3.6%	-0.4%	-1.0%	0.1%	1.1%
Multiple myeloma		2.4%	0.6%	2.3% ↑	3.2% ↑		-9.2%	2.0%	1.3%	1.9% ↑
Diabetes mellitus	-6.0%	0.5%	1.4% ↑	1.8% ↑	2.5% ↑	2.5%	-5.2% ↓	-0.4%	-0.1%	0.8% ↑
Alcohol related (including cirrhosis and pancreatitis)		-1.7%	-3.6% ↓	-1.8% ↓	-0.6%	-10.1%	-1.6%	-6.1% ↓	-0.9%	0.6%
Illicit drug related		7.3% ↑	27.8% ↑	-1.8%	0.0%		0.8%	4.4%	-1.0%	
Parkinson's			-4.7%	-3.8% ↓	1.3% ↑			-6.0%	-2.7%	0.3%
Other cardiovascular diseases	-1.8%	-4.5% ↓	-4.3% ↓	-2.9% ↓	-3.8% ↓	3.5%	-3.7% ↓	-5.6% ↓	-4.1% ↓	-3.6% ↓
Ischaemic heart disease		-5.7% ↓	-6.4% ↓	-4.6% ↓	-2.3% ↓	0.0%	-5.7% ↓	-6.6% ↓	-4.6% ↓	-1.7% ↓
Stroke	-1.4%	-5.5% ↓	-6.6% ↓	-5.2% ↓	-3.5% ↓	-0.6%	-6.7% ↓	-7.8% ↓	-6.3% ↓	-3.5% ↓
Inflammatory heart disease	-3.3%	-2.2%	-0.9%	2.2% ↑	6.2% ↑	-1.2%	-0.4%	-4.6%	1.8%	6.0% ↑
Hypertensive heart disease		-11.9% ↓	-15.1% ↓	-9.5% ↓	-6.4% ↓		-6.7%	-9.4% ↓	-8.3% ↓	-4.7% ↓
Aortic aneurysm		-3.6%	-2.0% ↓	-1.8% ↓	-1.5% ↓		4.5%	-2.5%	-0.6%	-0.7%
Peripheral arterial disease		-4.3%	-6.1% ↓	-5.4% ↓	-7.9% ↓		-1.2%	-5.1% ↓	-6.3% ↓	-7.2% ↓
Other chronic respiratory diseases	-3.3%	-6.1% ↓	-4.1% ↓	-2.4% ↓	-1.7% ↓	-0.4%	-3.4% ↓	-1.8% ↓	2.5% ↑	3.2% ↑
COPD	1.5%	-9.6% ↓	-4.8% ↓	-2.8% ↓	-2.5% ↓	7.4%	-1.6%	-1.4% ↓	3.1% ↑	3.2% ↑
Asthma	-3.2%	-4.9% ↓	-2.2% ↓	-1.8% ↓	1.6%	-0.1%	-2.8%	-2.9% ↓	0.5%	3.7% ↑
Digestive disorders (excluding cirrhosis and pancreatitis)	-9.3% ↓	-5.3% ↓	-4.8% ↓	-4.1% ↓	-2.0% ↓	-0.6%	-3.6%	-3.9% ↓	-2.8% ↓	-0.8% ↓
Nephritis/nephrosis	-24.2%	-0.6%	-1.9%	-3.6% ↓	3.6% ↑	-12.2%	-2.8%	-5.8% ↓	-2.7% ↓	2.2% ↑

↓ and ↑ indicate trends that are significant at the 95% confidence level

Appendix Table 9 (continued) Mortality Trends by Condition, Age Group and Sex, expressed as Annual Rates of Change — Victoria 1979–1996

	Males					Females				
	0–14	15–44	45–64	65–74	75+	0–14	15–44	45–64	65–74	75+
Congenital abnormalities	-4.2% ↓	0.9%	-0.7%	-1.3%	1.6%	-4.8% ↓	2.1%	1.9%	3.1%	3.4%
Other traffic accidents	-2.8%	-3.0% ↓	-4.0% ↓	-1.6%	0.0%	-1.6%	-4.6% ↓	-1.9%	-6.7%	-4.9%
Falls	-10.5% ↓	-3.6% ↓	-5.2% ↓	-5.3% ↓	-3.8% ↓	-6.3%	2.5%	-2.3%	-6.8% ↓	-5.0% ↓
Other unintentional injuries	-3.8% ↓	-2.5% ↓	-3.8% ↓	-2.7% ↓	-3.1% ↓	-3.8% ↓	-4.1% ↓	-2.7% ↓	-4.2% ↓	-4.7% ↓
Homicide and violence	-9.3% ↓	-0.4%	-1.4%	3.8%	-5.6%	-3.5%	-1.6%	-5.4% ↓	1.4%	-9.2%

	0–14	15–24	25–34	35–44	45–64	65–74	75+	0–14	15–24	25–34	35–44	45–64	65–74	75+
Road traffic accidents	-6.8% ↓	-5.7% ↓	-4.2% ↓	-4.6% ↓	-5.1% ↓	-5.1% ↓	-5.7% ↓	-6.7% ↓	-3.9% ↓	-3.2% ↓	-4.1% ↓	-5.3% ↓	-4.6% ↓	-3.8% ↓
Self-inflicted injuries	0.0%	1.5% ↑	0.8%	0.8%	-0.3%	-1.6%	-0.8%	11.3%	0.3%	-0.5%	-2.3%	-4.7%	-2.8%	-3.2%

	0–14	15–24	25–44	45–64	65–74	75–84	85+	0–14	15–24	25–44	45–64	65–74	75–84	85+
Alzheimer and other dementias§	-	-	-	1.2%	-0.2%	1.3%	2.9% ↑	-	-	-	-1.5%	0.0%	3.2% ↑	5.0% ↑

	<1	1–4	5–34	35–44	45–64	65–74	75+	<1	1–4	5–34	35–44	45–64	65–74	75+
Neonatal conditions	-3.8% ↓	1.6%	-	-	-	-	-	-3.5% ↓	-0.9%	-	-	-	-	-
SIDS	-6.0% ↓	-4.5%	-	-	-	-	-	-7.4% ↓	0.2%	-	-	-	-	-

↓ and ↑ indicate trends that are significant at the 95% confidence level;

§ trend in dementiasmortality based on deaths since 1988 as the low counts of deaths attributed to dementias pre-1988 are likely due to different coding practices

Appendix Table 10 Projected Numbers of Deaths by Age, Sex and Cause — Victoria 2016

Cause	Total	Males	Females	Males 0–14	Males 15–34	Males 35–54	Males 55–74	Males 75+	Females 0–14	Females 15–34	Females 35–54	Females 55–74	Females 75+
All causes	**37,773**	**19,053**	**18,720**	**105**	**592**	**949**	**5,762**	**11,644**	**82**	**207**	**641**	**3,596**	**14,193**
I. *Communicable, maternal, neonatal and nutritional conditions*	*667*	*299*	*367*	*32*	*7*	*15*	*92*	*154*	*24*	*5*	*10*	*37*	*291*
A. Infections and parasitic diseases	**217**	**108**	**108**	**1**	**4**	**8**	**47**	**48**	**1**	**5**	**4**	**23**	**77**
HIV/AIDS	7	7	-	-	1	3	3	-	-	-	-	-	-
B. **Respiratory Infections**	**366**	**146**	**220**	**2**	**3**	**6**	**40**	**95**	**1**	**.**	**6**	**15**	**199**
Lower respiratory tract infections	361	144	217	1	3	6	40	94	1	-	6	15	196
D. **Neonatal conditions**	**52**	**29**	**23**	**29**	**.**	**.**	**.**	**.**	**22**	**.**	**1**	**.**	**.**
II. *Non-communicable diseases*	*36,137*	*18,067*	*18,070*	*61*	*381*	*743*	*5,511*	*11,370*	*47*	*123*	*588*	*3,511*	*13,800*
F. **Cancer**	**12,440**	**6,926**	**5,514**	**10**	**36**	**339**	**3,124**	**3,418**	**11**	**55**	**449**	**2,216**	**2,783**
Mouth and oropharynx	186	127	59	-	-	15	98	14	-	-	5	37	17
Oesophagus	409	292	117	-	-	36	115	140	-	-	4	44	69
Stomach	246	146	101	-	2	9	65	69	-	1	10	44	45
Colon and rectum	1,460	835	625	-	-	40	502	293	-	6	29	282	308
Liver	303	245	59	-	-	16	182	46	1	-	3	29	26
Gall bladder	112	28	84	-	-	-	8	21	-	-	9	32	43
Pancreas	628	273	356	-	-	8	133	131	-	-	10	86	260
Trachea/bronchi/lung	2,609	1,380	1,229	-	-	46	748	586	-	-	40	559	630
Larynx	115	79	35	-	-	5	38	36	-	-	4	12	20
Melanoma	505	413	91	-	2	27	125	259	-	-	11	28	51
Breast	953	7	946	-	-	1	3	3	-	16	195	437	298
Cervix	48	-	48	-	-	-	-	-	-	5	13	19	11
Endometrium	106	-	106	-	-	-	-	-	-	-	1	40	64

Appendix Table 10 (continued) Projected Numbers of Deaths by Age, Sex and Cause — Victoria 2016

				Males					Females				
Cause	Total	Males	Females	0–14	15–34	35–54	55–74	75+	0–14	15–34	35–54	55–74	75+
Ovary	318	-	318	-	-	-	-	-	-	3	27	173	115
Prostate	1,356	1356	-	-	-	16	454	886	-	-	-	-	-
Bladder	226	149	77	-	1	2	54	92	-	-	3	17	58
Kidney	343	189	153	-	-	11	66	113	-	-	10	51	92
Brain	499	261	238	-	9	32	88	132	6	7	24	59	143
Lymphoma	708	357	351	-	3	31	120	203	-	3	17	109	222
Leukaemia	438	258	180	7	7	18	103	123	3	7	10	56	103
Multiple myeloma	305	201	104	-	-	10	89	101	-	-	4	43	57
G. Other neoplasms	204	129	74	-	1	1	26	101	1	1	3	15	54
H. Diabetes mellitus	1,870	1,153	717	-	1	27	390	734	1	-	13	167	536
I. Other endocrine and metabolic disorders	447	246	201	2	2	19	90	133	5	5	15	53	123
J. Mental disorders	552	494	58	-	300	154	25	15	-	25	7	7	19
Alcohol dependency/abuse	43	33	10	-	2	5	17	9	-	1	1	3	5
Drug dependency/abuse	480	453	27	-	299	147	6	-	-	24	4	-	-
K. Nervous system and sense organ disorders	4,269	1,216	3,053	13	17	24	159	1,003	6	16	23	123	2,885
Alzheimer and other dementias	3,564	793	2,771	2	-	-	60	731	1	-	1	51	2,718
Parkinson's disease	284	199	85	-	-	-	18	181	-	-	-	3	82
L. Cardiovascular diseases	10,873	5,228	5,645	4	13	123	1,163	3,925	2	7	44	493	5,099
Ischaemic heart disease	6,712	3,221	3,491	-	2	66	726	2,427	-	1	18	283	3,189
Stroke	2,091	877	1213	-	2	18	148	710	1	1	9	76	1,127
Inflammatory heart disease	768	542	225	2	5	23	129	384	-	1	9	41	174
Hypertensive heart disease	236	67	169	-	-	-	6	61	-	-	-	8	160

Appendix Table 10 (continued) Projected Numbers of Deaths by Age, Sex and Cause — Victoria 2016

Cause	Total	Males	Females	Males 0–14	Males 15–34	Males 35–54	Males 55–74	Males 75+	Females 0–14	Females 15–34	Females 35–54	Females 55–74	Females 75+
M. Chronic respiratory diseases	**2,481**	**1,163**	**1,319**	**1**	**1**	**8**	**299**	**854**	**1**	**1**	**7**	**252**	**1,058**
COPD	1,929	903	1,026	-	-	3	242	659	1	1	2	204	817
Asthma	330	107	222	1	1	3	29	73	-	1	7	31	183
N. Digestive disorders	**958**	**438**	**520**	**-**	**2**	**33**	**138**	**266**	**1**	**3**	**15**	**73**	**428**
Peptic ulcer disease	205	77	128	-	-	1	10	66	-	-	-	11	118
Cirrhosis	268	167	101	-	1	26	89	50	-	2	10	27	61
O. Genito-urinary disorders	**1,542**	**889**	**653**	**-**	**1**	**6**	**57**	**825**	**-**	**-**	**3**	**51**	**599**
Nephritis/nephrosis	1,329	800	528	-	1	5	39	756	-	-	1	21	506
Q. Musculo-skeletal diseases	**332**	**102**	**229**	**-**	**-**	**5**	**32**	**66**	**1**	**3**	**5**	**46**	**174**
R. Congenital abnormalities	**85**	**45**	**40**	**24**	**6**	**4**	**8**	**3**	**14**	**6**	**5**	**13**	**1**
III. Injuries	***970***	***687***	***283***	***11***	***205***	***191***	***159***	***121***	***11***	***78***	***43***	***47***	***103***
T. Unintentional injuries	**480**	**295**	**185**	**11**	**70**	**57**	**72**	**86**	**7**	**27**	**19**	**33**	**99**
RTA	155	101	54	4	38	22	27	11	3	20	9	11	11
Other transport accidents	30	22	8	1	5	4	8	4	2	-	2	4	-
Falls	168	79	89	-	3	5	11	59	-	1	1	8	80
U. Intentional injuries	**489**	**392**	**98**	**-**	**135**	**134**	**88**	**35**	**4**	**51**	**24**	**15**	**4**
Self-inflicted injuries	452	366	86	-	126	128	79	33	3	43	21	14	4
Homicide and violence	38	26	12	-	9	6	9	1	1	8	3	-	-

Appendix Table 11   Projected Years of Life Lost (YLLs) by Age, Sex and Cause — Victoria 2016

Cause	Total	Males	Females	Males 0–14	15–34	35–54	55–74	75+	Females 0–14	15–34	35–54	55–74	75+
All causes	**321,598**	**170,397**	**151,201**	**3,169**	**15,749**	**20,399**	**68,702**	**62,377**	**2,509**	**5675**	**14,363**	**50,574**	**78,080**
I. Communicable, maternal, neonatal and nutritional conditions	*6,293*	*3,314*	*2,980*	*985*	*179*	*310*	*1,100*	*739*	*732*	*150*	*233*	*534*	*1,331*
A. Infections and parasitic diseases	**2,103**	**1,158**	**945**	**44**	**101**	**180**	**579**	**253**	**18**	**128**	**81**	**333**	**385**
HIV/AIDS	127	122	5	-	22	57	43	-	-	3	3	-	-
B. Respiratory Infections	**2,425**	**1,175**	**1,250**	**53**	**78**	**130**	**480**	**435**	**45**	**-**	**129**	**200**	**875**
Lower respiratory tract infections	2,362	1,142	1,220	27	76	128	480	431	27	-	129	200	864
D. Neonatal conditions	**1,580**	**889**	**691**	**889**	**-**	**-**	**-**	**-**	**669**	**-**	**23**	**-**	**-**
II. Non-communicable diseases	*297,775*	*154,282*	*143,493*	*1,848*	*10,078*	*15,823*	*65,530*	*61,003*	*1,442*	*3368*	*13,128*	*49,329*	*76,226*
F. Cancer	**127,257**	**65,397**	**61,861**	**288**	**957**	**7,015**	**37,400**	**19,737**	**330**	**1492**	**10,019**	**31,678**	**18,341**
Mouth and oropharynx	2,413	1,632	781	-	-	329	1,219	85	-	-	112	560	109
Oesophagus	4,069	2,971	1,097	-	-	784	1,364	824	-	-	91	575	431
Stomach	2,619	1,449	1,170	-	63	192	787	407	-	34	216	664	256
Colon and rectum	15,352	8,630	6,722	-	-	812	6,121	1,696	-	150	669	3,953	1,950
Liver	3,458	2,807	651	-	-	333	2,210	264	22	-	70	398	161
Gall bladder	1,194	216	978	-	-	-	96	120	-	-	190	498	290
Pancreas	5,692	2,544	3,148	-	-	172	1,553	819	-	-	223	1,190	1,735
Trachea/bronchi/lung	26,280	13,289	12,991	-	-	901	8,843	3,545	-	-	861	7,694	4,435
Larynx	1,131	777	354	-	-	102	461	214	-	-	77	161	115
Melanoma	4,642	3,669	973	-	56	559	1,527	1,527	-	-	245	408	321
Breast	13,420	77	13,344	-	-	19	38	19	-	424	4,374	6,700	1,846
Cervix	797	-	797	-	-	-	-	-	-	137	313	262	84
Endometrium	952	-	952	-	-	-	-	-	-	-	25	540	386

Appendix Table 11 (continued) Projected Years of Life Lost (YLLs) by Age, Sex and Cause — Victoria 2016

Cause	Total	Males	Females	Males 0–14	Males 15–34	Males 35–54	Males 55–74	Males 75+	Females 0–14	Females 15–34	Females 35–54	Females 55–74	Females 75+
Ovary	3,939	-	3,939	-	-	-	-	-	-	80	612	2,393	853
Prostate	10,435	10,435	-	-	-	313	5,306	4,816	-	-	-	-	-
Bladder	1,840	1,214	627	-	21	45	619	530	-	-	68	216	343
Kidney	3,299	1,708	1,590	-	-	213	821	674	-	-	228	754	608
Brain	5,592	2,833	2,759	6	238	681	1,085	825	168	194	522	892	983
Lymphoma	6,927	3,398	3,529	7	79	650	1,507	1,155	-	99	391	1,568	1,471
Leukaemia	4,662	2,680	1,981	193	174	390	1,226	697	96	196	233	816	640
Multiple myeloma	2,960	1,839	1,121	-	-	225	1,037	578	-	-	88	635	398
G. Other neoplasms	**1,517**	**872**	**645**	**-**	**39**	**18**	**308**	**507**	**43**	**24**	**65**	**192**	**320**
H. Diabetes mellitus	**15,095**	**9,288**	**5,807**	**-**	**39**	**546**	**4,664**	**4,040**	**44**	**-**	**277**	**2,367**	**3,119**
I. Other endocrine and metabolic disorders	**4,387**	**2,321**	**2,066**	**71**	**67**	**397**	**1,090**	**696**	**155**	**148**	**332**	**719**	**711**
J. Mental disorders	**13,028**	**11,976**	**1,052**	**-**	**7,949**	**3,624**	**324**	**79**	**-**	**705**	**157**	**100**	**90**
Alcohol dependency/abuse	540	423	118	-	40	111	220	52	-	22	26	37	32
Drug dependency/abuse	12,221	11,477	743	-	7,910	3,475	92	-	-	655	88	-	-
K. Nervous system and sense organ disorders	**24,310**	**8,114**	**16,196**	**398**	**451**	**523**	**1,893**	**4,849**	**183**	**437**	**513**	**1,670**	**13,393**
Alzheimer and other dementias	17,199	4,096	13,103	64	-	-	659	3,373	22	-	23	656	12,402
Parkinson's disease	1,682	1,151	531	-	-	-	203	948	-	-	-	38	493
L. Cardiovascular diseases	**72,337**	**37,132**	**35,205**	**129**	**336**	**2,523**	**13,537**	**20,608**	**74**	**192**	**991**	**6,613**	**27,335**
Ischaemic heart disease	43,872	22,610	21,261	-	59	1,361	8,393	12,798	-	15	407	3,761	17,077
Stroke	13,102	5,772	7,330	-	48	377	1,683	3,663	15	23	202	1,010	6,080
Inflammatory heart disease	5,980	4,207	1,773	50	135	467	1,569	1,987	-	27	213	573	960
Hypertensive heart disease	1,272	369	904	-	5	3	64	297	-	-	5	110	789

Appendix Table 11 (continued) Projected Years of Life Lost (YLLs) by Age, Sex and Cause — Victoria 2016

Cause	Total	Males	Females	Males 0–14	15–34	35–54	55–74	75+	Females 0–14	15–34	35–54	55–74	75+
M. Chronic respiratory diseases	**17,888**	**8,159**	**9,729**	**39**	**25**	**155**	**3,380**	**4,560**	**43**	**18**	**147**	**3,355**	**6,166**
COPD	13,801	6,248	7,554	-	-	55	2,688	3,505	43	23	52	2,687	4,748
Asthma	2,616	898	1,718	38	25	70	369	395	-	31	163	430	1,095
N. Digestive disorders	**7,659**	**3,784**	**3,876**	**3**	**42**	**686**	**1,683**	**1,370**	**22**	**81**	**343**	**1,021**	**2,410**
Peptic ulcer disease	1,246	471	775	-	-	21	125	326	-	-	-	145	630
Cirrhosis	3,012	1,965	1,046	-	28	544	1,109	284	-	56	247	378	366
O. Genitourinary disorders	**8,956**	**4,981**	**3,975**	**-**	**20**	**121**	**724**	**4,117**	**-**	**-**	**65**	**705**	**3,205**
Nephritis/nephrosis	7,456	4,406	3,050	-	19	102	516	3,768	-	-	20	277	2,753
Q. Musculo-skeletal diseases	**2,600**	**795**	**1,804**	**-**	**-**	**95**	**394**	**306**	**15**	**89**	**110**	**668**	**922**
R. Congenital abnormalities	**2,041**	**1,112**	**929**	**738**	**152**	**99**	**105**	**17**	**429**	**181**	**108**	**204**	**7**
III. Injuries	***17,530***	***12,802***	***4,728***	***335***	***5,493***	***4,266***	***2,072***	***635***	***335***	***2,157***	***1,002***	***711***	***523***
T. Unintentional injuries	**7,216**	**4,812**	**2,404**	**335**	**1,873**	**1,269**	**908**	**426**	**225**	**759**	**434**	**494**	**492**
RTA	3,101	2,012	1,089	108	1,016	484	349	54	88	558	204	170	70
Other transport accidents	536	367	169	24	124	88	101	28	47	-	47	76	-
Falls	1,135	612	523	2	77	111	141	281	-	34	14	104	371
U. Intentional injuries	**10,314**	**7,990**	**2,324**	**-**	**3,620**	**2,997**	**1,164**	**209**	**110**	**1,398**	**568**	**217**	**31**
Self-inflicted injuries	9,493	7,481	2,012	-	3,375	2,854	1,051	201	89	1,183	501	208	31
Homicide and violence	821	509	312	-	245	143	113	8	22	215	67	8	-