



Tasmania

DEPARTMENT of  
HEALTH and  
HUMAN SERVICES

*"The science and art of preventing disease,  
prolonging life and promoting health through  
the organised efforts of society."*

**state of public health**

*report*

**2003**

## ***State of Public Health Report 2003***

ISBN 0 7246 5763 0

Public and Environmental Health Service,  
Department of Health and Human Services, Tasmania.

**Published 2003**

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## FOREWORD

Almost 100 years ago, following the commencement of a new Public Health Act in 1903, the Chief Health Officer of the day tabled in both Houses of Parliament the first report on public health in Tasmania. It began:

“Sir,

*Incomplete measures in preventive medicine are a serious source of danger to the commonweal\*, since they give a delusive sense of security, and thereby invite disaster. It will be clearly understood therefore that, whilst appreciating to the full the need for departmental economy at the present financial juncture, I am compelled to point out the need for certain measures required to protect this State against epidemic disease.*

*The Launceston experience of last year is sufficiently fresh to show the expense and panic which smallpox is capable of producing when introduced into an unprotected community, and to indicate to some slight extent the epidemic possibilities of this fell disease.”*

(Dr J.S.C. Elkington, 6th August 1904)

In 2003 we have the first Public Health Report to be tabled following introduction of the present *Public Health Act 1997*. This report seeks to inform Parliament and the community of the gains that are being achieved through effective public health action, and also of the necessity for ongoing public health services in order to maintain the health of our population.

The *Public Health Act 1997* provides a modern framework for responding to public health issues, and was a landmark achievement by my predecessor Dr Mark Jacobs. The Act requires that the Director of Public Health submits to the Minister for Health a report on the status of public health in Tasmania at five-yearly intervals, and that the Minister tables this report in both Houses of Parliament.

This *State of Public Health Report* is supported by a considerably larger document, *Health Indicators Tasmania*, which contains detailed information about the health of our population. The combined effect is to provide a summary of the most salient factors influencing the health status of Tasmanians, to report on current measures being taken to protect and promote health, and to provide guidance on future directions to be taken to improve health and reduce the burden of disease.

This report is in three sections. Section One describes the major causes of premature death for our community and outlines the main determinants underlying these conditions. Section Two describes the core functions of public health and highlights key activities protecting and promoting the health of the community and Section Three concludes the report by highlighting the areas requiring attention to achieve further health gains.

I wish to record my appreciation of the work of the many people in the Department of Health and Human Services, particularly within Public and Environmental Health Services, who have contributed to the documents.

It is evident that the influences on public health go well beyond the scope of health agencies. All parts of society are engaged in the effort. The Tasmania *Together* process both embodies the principle of collective action, and is itself supported by public health partnerships.

I acknowledge and salute all those people both within Government and across the community who carry out the vital – but often invisible – functions of public health on a day-to-day basis, and am pleased to present this *State of Public Health Report 2003* to enable broader consideration of achievements, challenges and future directions.



Dr Roscoe Taylor  
Director of Public Health

October 2003

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# SECTION - ONE

## INTRODUCTION

### *introduction*

To understand the scope of a report such as this, a broad conceptualisation of health is required – one which acknowledges that the social and environmental systems within which people live have a very powerful role in shaping health outcomes, together with the already well-recognised individual biological factors and genetic predispositions.

At the time of constitution of the World Health Organisation, the interdependence of social, psychological and physical aspects of health was clearly recognised in this well-known definition of health:

*“Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity.” (WHO 1946)*

This was not necessarily a new construct. Long ago, Pericles (495–429 BC) had observed that:

*“Health is that state of moral, mental and physical well-being which enables a person to face any crisis in life with the utmost grace and facility.”*

Reaching beyond the physical dimension, Pericles saw health in terms of the whole being, and as a source of resilience. Similarly, the health of the Tasmanian community as a whole enables us to respond to challenges and to prosper collectively.

## WHAT IS “PUBLIC HEALTH”?

Public health has been defined as

*“The science and art of preventing disease, prolonging life, and promoting health through the organised efforts of society” (Acheson 1988).*

It is important not to confuse the term “public health” with the “health care system”, although the two are interrelated. The fundamental influences shaping the overall health of our population are generally much more dependent on factors arising outside the health care system than they are upon access to high-quality medical treatment services. Therefore this is not a report on the quality of our health care system.

The starting point for identifying public health issues, problems and priorities, and for designing and implementing interventions, is the population as a whole, and also population subgroups that are ‘at risk’.

The “organised efforts of society” that lead to disease prevention and the promotion of public health may be very broad. For example, the Ottawa Charter for Health Promotion (WHO 1986) identified the following prerequisites for health: peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice, and equity. Beyond these basics are a range of protective and risk factors that are also very much determined by social structures and forces.

Recognition of the interrelationship between health on the one hand and social, economic and environmental factors on the other is giving rise to what may be called an “ecological” view of health. Human activities are intimately embedded in, and dependent on the natural environment, which in turn is influenced by human activities.

Ultimately, human health is dependent on the health of ecosystems and the carrying capacity of the natural environment. Physical, chemical and biological factors affect the quality and safety of air, water, soil and food. Larger scale environmental disruptions, such as global climate change and depletion of resources such as fresh water, can have major health implications. The impact of the environment on human health is a legitimate public health concern.

## THE ROLE OF SOCIOECONOMIC INEQUALITIES

Given the breadth of their influences on health, it is hardly surprising that there is a very strong correlation between socioeconomic factors and health inequalities on a population basis. The appalling health status of the Australian Aboriginal population at the national level is bleak testimony to this fact.

Mortality rates and the prevalence of health risk behaviours (such as smoking and inadequate physical activity) and risk factors (such as obesity) have been shown in Australia to be significantly worse in lower socioeconomic groups than in higher socioeconomic groups (Turrell and Mathers 2000). A number of studies have shown that such differences are evident at every stage of life.

There are often significant differences in the ability of parts of the population to make healthy choices or to exert control over life circumstances. For a variety of reasons people in situations of financial or social disadvantage face different pressures and decision-making environments than do people with either more income, or more control over their lives.

A consequence of this can be that well-intentioned health education messages about healthy lifestyles may have a differential impact, with greater uptake by those in higher socioeconomic groups. While improving the health of some, one-off health education campaigns on their own may also have the unintended consequence of increasing the health gradient between sections of the community.

Therefore to have a more equitable, broader and enduring effect, both government initiatives and community health promotion efforts need to encompass strategies that support risk factor reduction or strengthen protective factors through environmental and system-wide changes. Systemic approaches that also take into consideration issues such as employment, affordable housing, domestic violence, drug dependency and healthy environments are particularly relevant for public health.

In this context, Tasmanian initiatives such as Tasmania *Together* and the Our Kids Bureau may be profoundly beneficial for public health in the longer term, and demonstrate the merits of concerted intersectoral action to the rest of the nation.

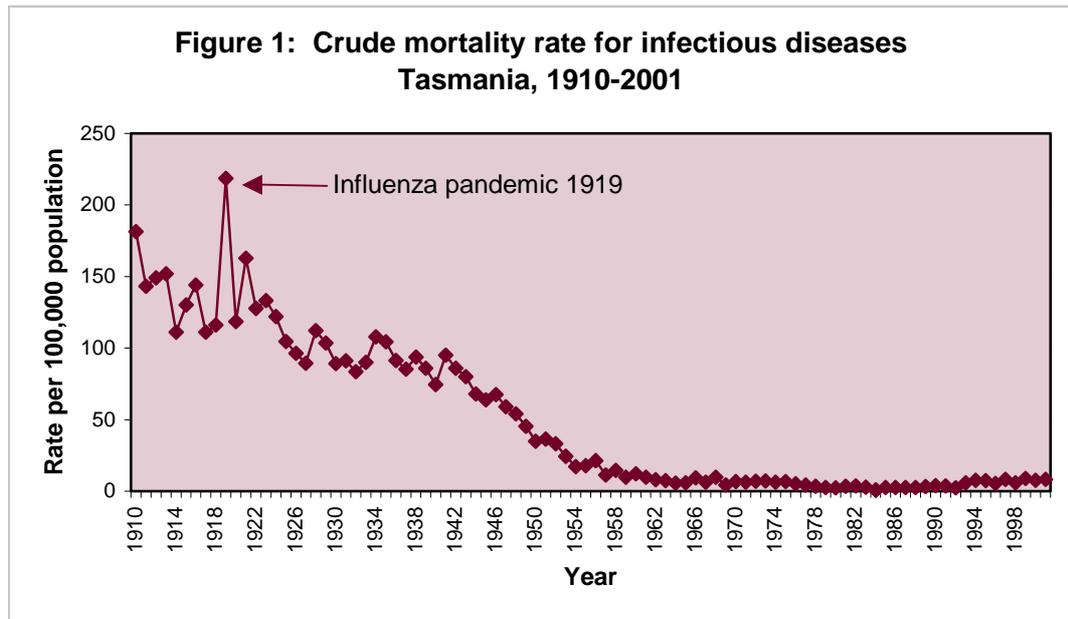
Tasmania *Together* is a long-term social, economic and environmental plan for the State's development over a twenty-year period. It is an overarching framework for planning, budgeting and policy priorities for the government and non-government sectors. Goals and benchmarks have been set and progress towards their achievement will be monitored and supported by the Progress Board. The Our Kids Bureau is developing targeted policies and collaborative initiatives between government and the community to address the social, economic and environmental conditions that affect the growth, development, health and wellbeing of children.



## A HISTORICAL PERSPECTIVE

Over the century that has passed since Dr Elkington's first Public Health Report to Parliament, there has been a remarkable shift in circumstances.

Deaths in childhood from diphtheria, tetanus, polio, and (more recently) measles, are no longer occurring in Tasmania or Australia, and there have been dramatic declines in many other communicable diseases such as Haemophilus influenzae type B meningitis (see Figure 1).



The roles of a range of environmental health and sanitation measures and systematic, population based vaccination programs in achieving these gains are indisputable.

Australia's success in controlling the progress of HIV/AIDS stands out as another major achievement, attained through an enlightened approach involving at-risk groups early on to develop effective intersectoral strategies.

Such activities continue to represent an excellent and fundamentally necessary investment in protecting public health.

However, there are no grounds for complacency about infectious diseases, as the recent international SARS (Severe Acute Respiratory Syndrome) coronavirus epidemic has demonstrated. Microbes evolve faster than do human immune systems or the capacity to develop treatments or vaccines. Similarly, ecosystem degradation, changing patterns of human interaction with the environment and global travel provide further opportunities for infectious diseases to emerge in new ways.

There is always the potential for a new influenza pandemic with the capacity to wreak the waste of human life seen in 1918 -19 (Figure 1).

Our public health infrastructure must remain in a state of preparedness to counter the impact of this seemingly inevitable event.

# A BRIEF OVERVIEW OF THE HEALTH STATUS OF TASMANIANS

*a brief overview of the health status of tasmanians*

The following key observations about health status and health determinants are taken from various publications including the comprehensive epidemiological report *Health Indicators Tasmania*. All data in this report are taken from *Health Indicators Tasmania*, unless otherwise referenced.

In the context of global health, Australians, including Tasmanians, have a high standard of health and wellbeing.

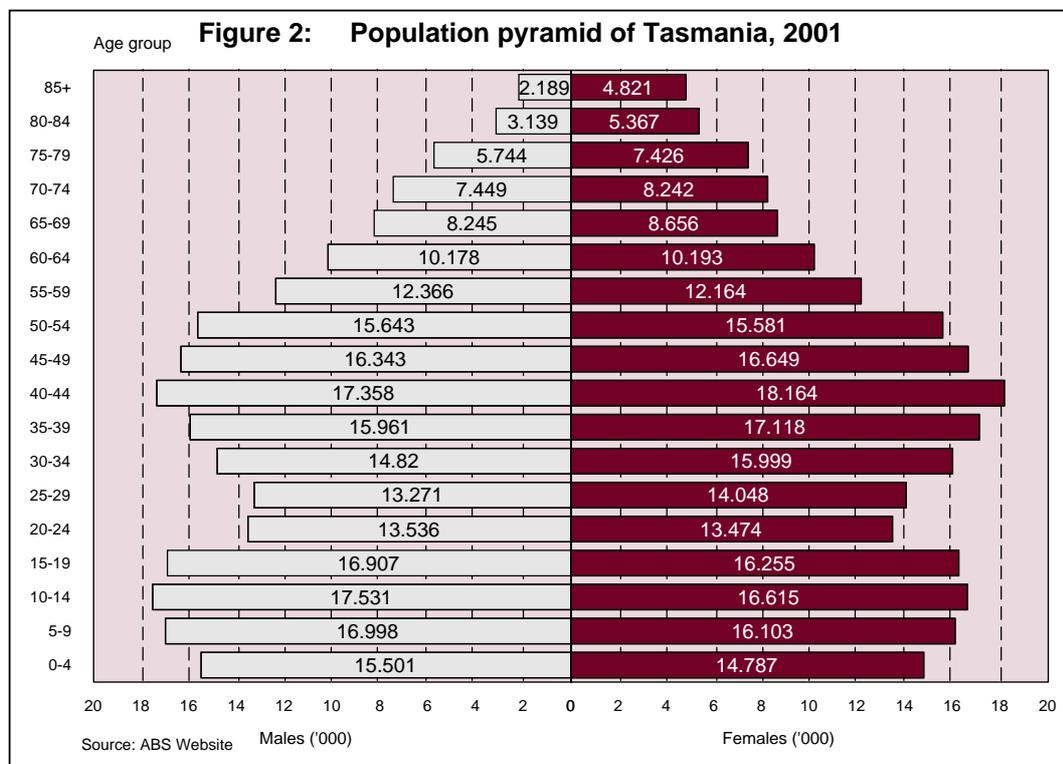
However, in comparison to the rest of Australia, and particularly in relation to chronic diseases, Tasmania faces a number of significant health disadvantages. While the gaps are narrowing over time for some key measures such as life expectancy, the outlook for many other health indicators is less promising.

Social factors such as unemployment, education and income are likely to have a fundamental influence on these disparities.

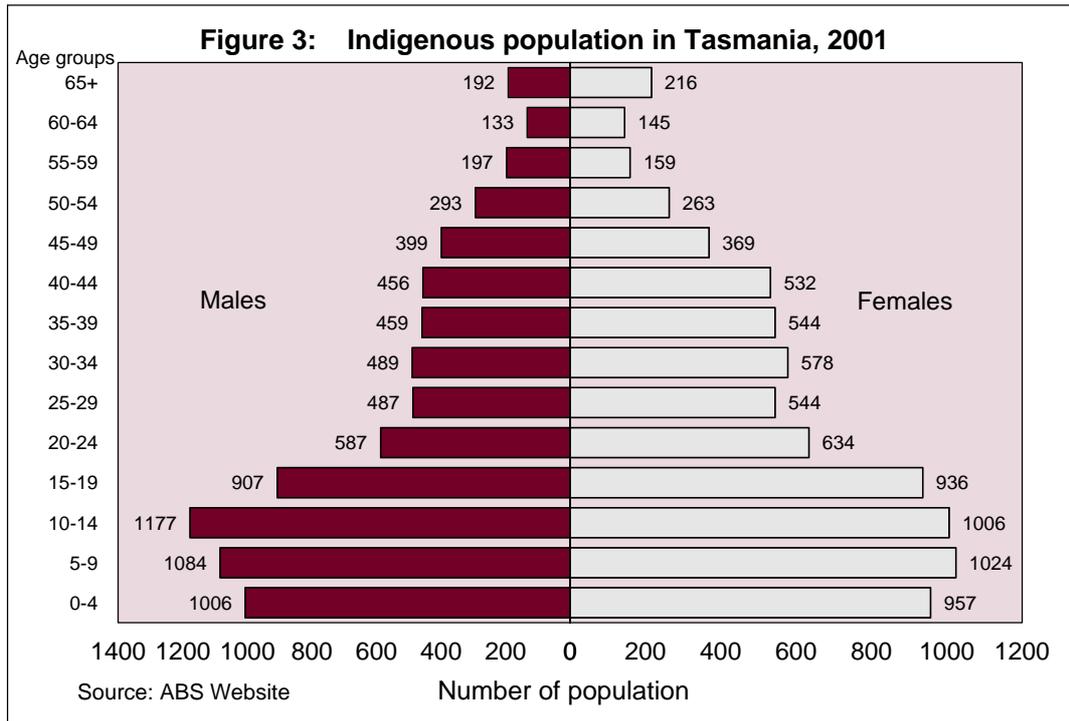
Because Tasmania is small and has a more pronounced rural and regional nature in sociodemographic terms, some caution may be required in drawing conclusions based upon comparisons of health status indicators for Tasmania with indicators for other States with predominantly metropolitan populations.

## SOCIODEMOGRAPHICS

At the time of the 2001 census, the Tasmanian population was 456,652. This represents 2.4% of Australia's total population. Demographic data indicate Tasmania has an ageing population and by 2016 Tasmania is predicted to have the highest proportion nationally of people over the age of 65.



The age-sex pyramids illustrated in Figures 2 and 3 are drawn from 2001 census data and demonstrate a different pattern for Tasmania's indigenous population compared with the population as a whole. Whilst the reliability of these data has been a subject of contention, there is a more rapid fall-off in the older ages suggesting higher premature death rates in the Aboriginal community – a pattern seen elsewhere in Australia.

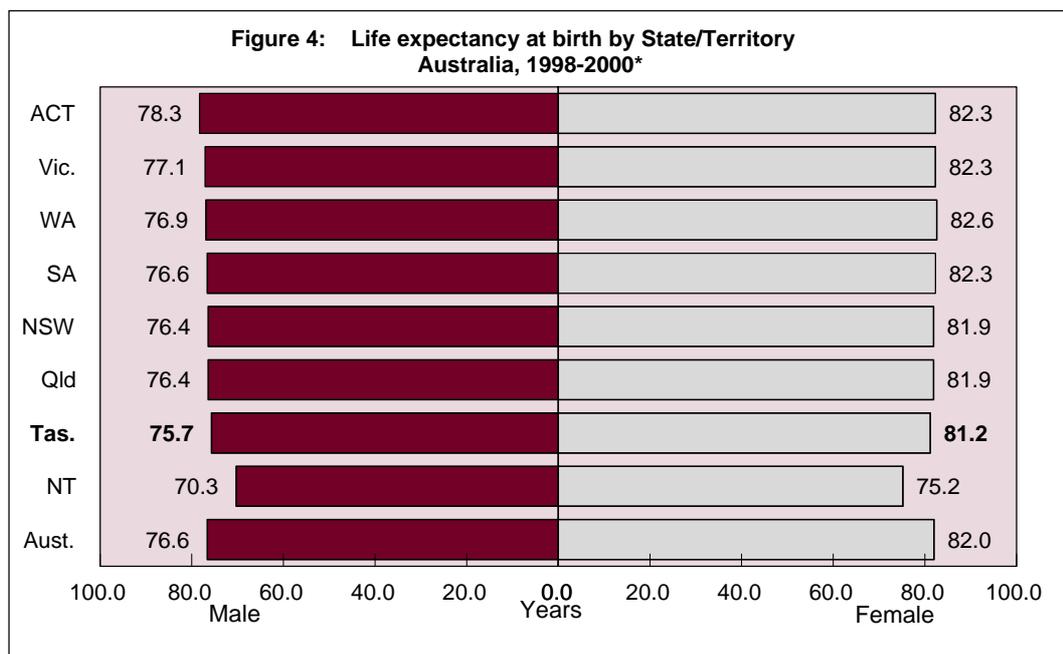


Tasmania's unemployment rate has been traditionally higher than the national average, and was approximately 2% higher at time of writing.

At the time of the 2001 census, Tasmania had the lowest median weekly individual income of any State or Territory (at \$314 for those 15 years and over) and the lowest percentage of people with tertiary education compared with other States.

## LIFE EXPECTANCY IN TASMANIA

Over the period 1881-90 to 1998-2000, average life expectancy in Tasmania has increased by 25 years for males and by 29 years for females. This is a very significant achievement, with reductions in infant and child mortality being the greatest contributors to this improvement.



Source: ABS Cat. No. 3302.0.

\*Life expectancy was calculated over the three year period 1998-2000.

As the twentieth century drew to a close there was growth in the relative contribution of cancer to mortality rates, made prominent by a substantial fall in deaths due to cardiovascular disease. The rising profile of cancer mortality is largely due to an “ageing” effect of the population, rather than environmental causes. Most cancers occur more frequently with advancing age, and there has been a significant increase in average life expectancy over the decades.

Such trends have important consequences. With increased prevalence of chronic diseases emerging in association with longer lifespans, the patterns of disease and disability have altered. This in turn has major implications for demands upon the health care system.

Significant health gains have occurred through reductions in death rates among the middle-aged and the elderly, especially for diseases of the circulatory system (heart disease and stroke) over the past few decades (AIHW 2002). The reduction in coronary heart disease death rates - particularly in males - is believed to be due to both prevention and improved medical management of the disease.

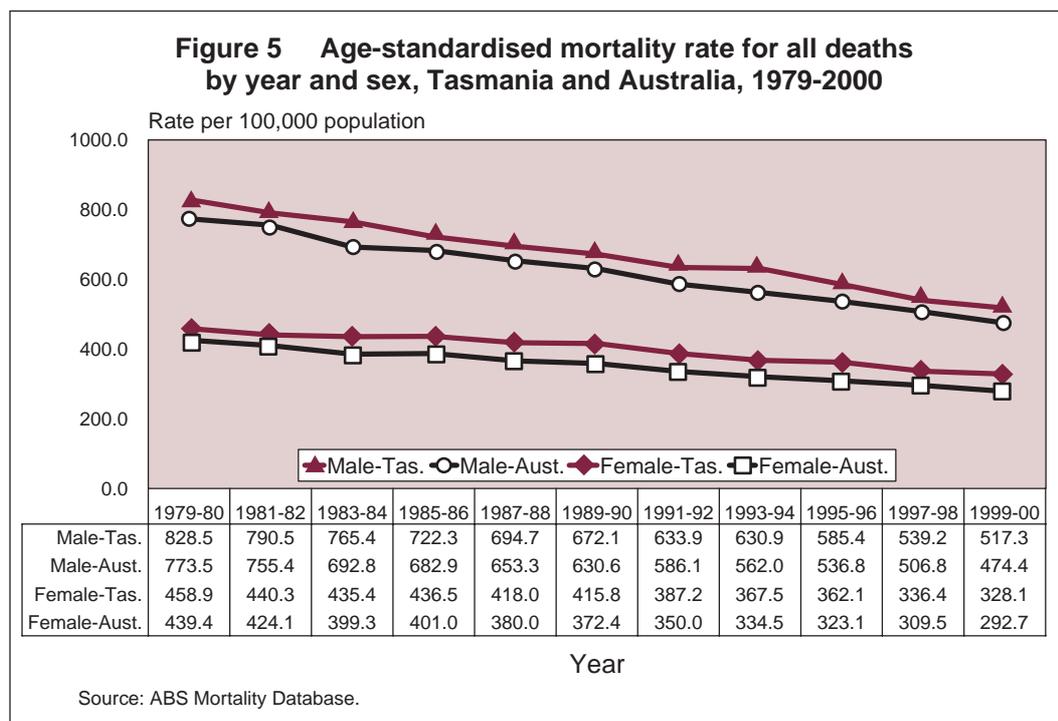
In relation to other States and Territories, Tasmania has the second shortest life expectancy, being 75.7 years for males and 81.2 years for females. The national average is 76.6 for males and 82.0 for females (Figure 4). While the disparity with other States is narrowing, there remains a clear and pressing need for increasing investment in the prevention of premature mortality.

## MORTALITY RATES

A noteworthy achievement has been the decline in overall mortality rates in both Tasmania and Australia as a whole from 1979 to 2000. As with life expectancy, the gap between Tasmania and Australia as a whole is narrowing, but it is clear that there is room for improvement (Figure 5).

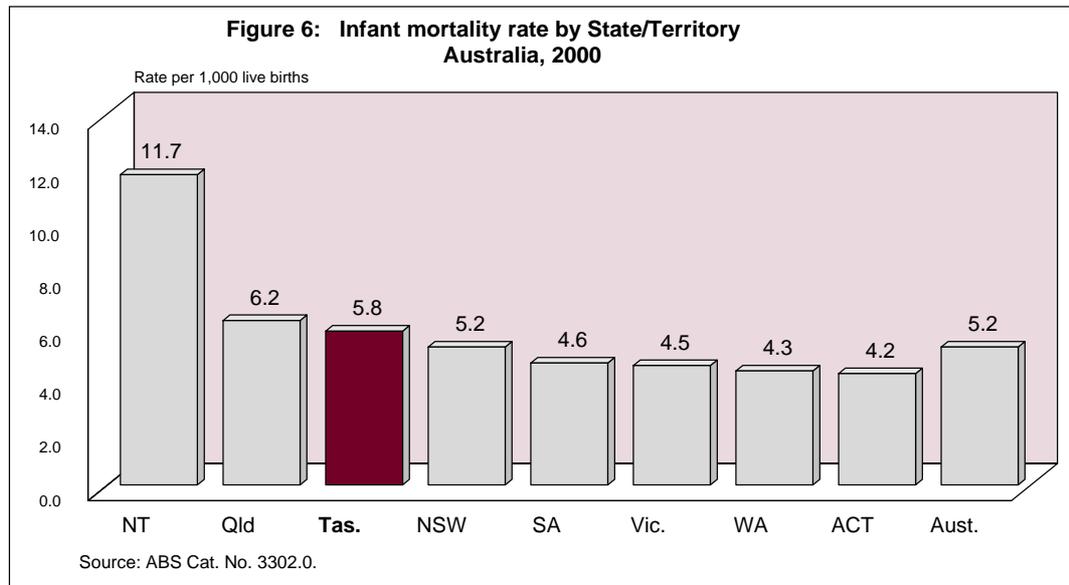
Improvement in mortality rates signifies a decrease in premature mortality, and a reduction in factors causing ill health in our society.

The mortality rate for Tasmanian males is declining more rapidly than for females (an annual average decline of 2.3% for males and 1.7% for females). However a significant differential remains between men and women, with the age-standardised mortality rate for Tasmanian males in 1995-2000 being 545.6 per 100,000 population per annum, and the female rate being 341.0. Both are significantly higher than the Australian rates of 505.0 (male) and 308.0 (female).<sup>‡</sup>



The improvements over this period of about 20 years are likely to be due in the first instance to a broad range of public health strategies – such as reductions in smoking, motor vehicle accident deaths, and screening programs leading to earlier detection of treatable cancers (such as breast cancer). Advances in medical or surgical treatment and technology are also contributory factors – but perhaps not as significant as might be assumed.

## INFANT MORTALITY



The infant mortality rate is often used as an indicator for measuring and monitoring health status in a community. It is defined as the number of deaths of children aged 0-365 days in a given year per 1,000 live births in the same year (ABS 2001a). Infant mortality is affected by a range of factors including maternal and foetal health, the quality of care received during pregnancy and birthing, and the many other influences that affect a baby's health during the first year of life.

Vaccination programs have played a major part in reducing infant mortality over the years (and Tasmania has now achieved commendably high vaccination coverage rates). In recent decades there have been improvements in neonatal care leading to improved survival rates for very premature babies. Research in Tasmania by the Menzies Centre for Population Health Research demonstrating that prone sleeping position is a risk factor for Sudden Infant Death Syndrome has paved the way for further substantial reductions in infant mortality in many countries.

As Figure 6 shows, the infant mortality rate in Tasmania in 2000 was 5.8 deaths per 1,000 live births, slightly above the national average of 5.2 per 1,000 live births.

<sup>2</sup> Age standardisation is a method of removing the influence of age structures in different populations to enable comparisons between those populations. This is done because the rates of many diseases vary with age.

## THE MAJOR CAUSES OF DEATH

Table 1 ranks the top ten causes of death in Tasmania by ICD code groupings:

Rank	Disease ICD-10*	% of all deaths
1	Cancer (all types) C00-C97	27.9
2	Ischaemic heart disease I20-I25	20.2
3	Cerebrovascular disease I60-I69	9.3
4	Injury and poisoning V01-Y98	6.0
5	Chronic lower respiratory diseases J40-J47	5.8
6	Other forms of heart disease I30-I52	5.4
7	Diseases of arteries, arterioles and capillaries I70-I79	2.8
8	Influenza and pneumonia J10-J18	2.1
9	Diabetes mellitus E10-E14	1.9
10	Ill-defined R95-R99	1.5

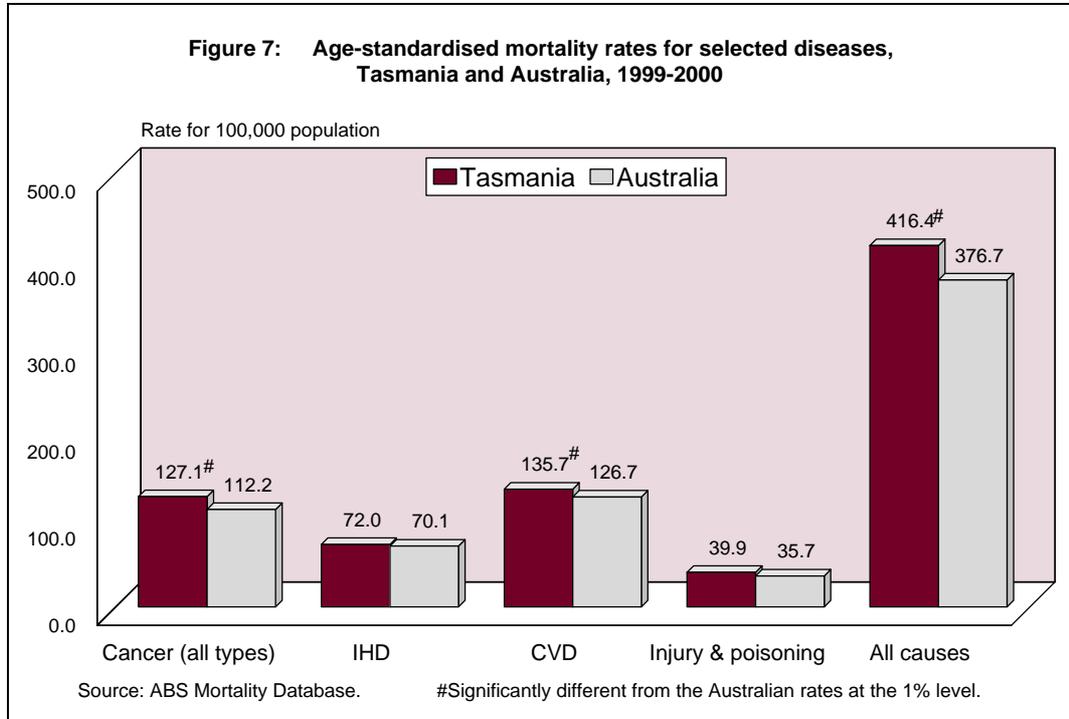
\*International Classification of Diseases, 10th Revision.  
Source: ABS Mortality Database.

In 1999-2000, the most common cause of death in Tasmania was cancer, which accounted for 27.9% of all deaths. The second most common cause of death was ischaemic heart disease (20.2%), followed by cerebrovascular disease (stroke) at 9.3%. However, if ischaemic heart disease and stroke deaths are combined as "cardiovascular disease" (because there is a certain degree of commonality in their underlying causes), then cardiovascular deaths are more common than cancer deaths.

The contribution of diabetes to death rates may well be understated in these data because of potential under-recognition and under-reporting on death certificates.

Looking at differences in health outcomes in comparison to the rest of Australia, the impact of cardiovascular deaths and cancers in Tasmania appears particularly significant (Figure 7), with higher death rates from both causes than the Australian average.

Smoking, poor nutrition and lack of physical activity are major contributing factors to preventable death and disease in Australia as well as in other westernised/developed nations.



IHD = Ischaemic Heart Disease

CVD = Cardiovascular disease (including strokes, IHD and other vascular disease)

When looking at leading causes of death for different age groups, further breakdown for childhood (0-14) is not possible because of the diverse range of causes totalling too few deaths to enable meaningful statistical analysis.

Among those aged 15 – 24 years, road vehicle accidents were the leading cause of death.

In the 25 – 64 years age group, the leading cause of death was ischaemic heart disease in males, whereas for females breast cancer was the leading cause.

Ischaemic heart disease was the biggest killer in those aged 65 years and over.

## CARDIOVASCULAR DISEASE

The term “cardiovascular disease” is used to cover all diseases and conditions involving the heart and blood vessels. It includes coronary heart disease, stroke, peripheral vascular disease and heart failure.

In Australia cardiovascular mortality is generally higher among indigenous Australians, in rural areas of the country and among socioeconomically disadvantaged groups (AIHW 2002). The death rates in men are about twice those for women.

Focusing on ischaemic heart disease, the age-standardised mortality rate in Tasmanian males over the period 1995-2000 was 114.2 deaths per 100,000 compared to the Australian average of 107.8 per 100,000. This difference is relatively small but is still statistically significant. For Tasmanian females the average rate of 56.2 per 100,000 per year over that period was not significantly different from that of Australia (54.3) as a whole.

Declines in death rates for coronary heart disease and stroke have been influenced by reductions in the prevalence of some risk factors (in particular tobacco smoking, untreated high blood pressure, and saturated fat intake) and in medical interventions such as lifestyle advice, therapeutic drug use, emergency care, surgical treatment, and follow-up care. These gains have been achieved despite a significant increase in the prevalence of overweight and a decline in physical activity levels (AIHW 2002).

## CANCERS

Tasmania averaged 2,206 new diagnoses of cancer per year between 1993 and 1999. On average, cancer claims almost three lives every day in the Tasmanian community.

The most common cause of cancer deaths for males in the period 1999–2000 was lung cancer (23.1%) followed by prostate cancer (14.1%).

For females the most common cause of cancer deaths was breast cancer (17.4%) followed by lung cancer (13.7%).

Given that the great majority of lung cancers are preventable, it is a disturbing trend that lung cancer is now the leading cause of cancer deaths overall in Tasmania, and amongst women it is the second biggest cancer killer, after breast cancer. Some other cancers have a substantially higher incidence (e.g. prostate cancer), but it is the poor survival rate from lung cancer that leads to it being ranked so highly as a cause of death.

Cancer prevention efforts have to focus on known causes, and well-known campaigns, such as Quit, that have addressed single causes have met with considerable success. Adequately resourced, such activities can be expected to further reduce the risk of smoking-related cancers together with many other smoking-related diseases.

The risk factors for cancer continue to converge with those for other chronic diseases, so that the next major initiatives in primary prevention of cancer requiring attention after tobacco control are diet and nutrition, and physical activity.

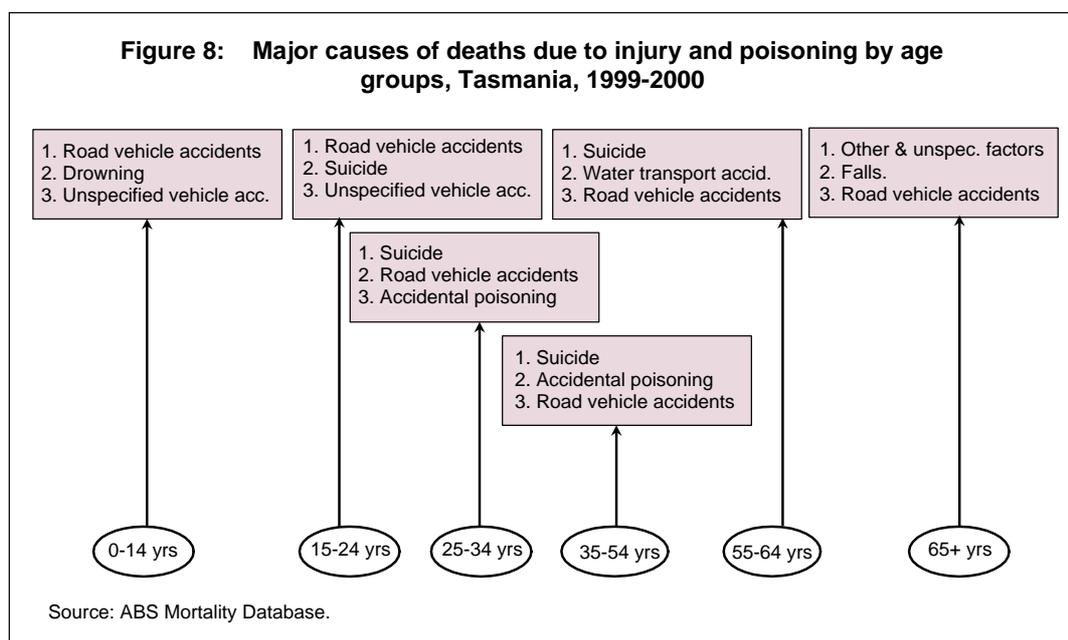
## INJURY

Figure 8 illustrates major causes of death resulting from injury and poisoning. Together, these are the fourth leading cause of death for Tasmanians overall, and the leading cause of death among young people aged 15 to 24 years.

It is important to note that numbers or rates of deaths caused by injury have not been given here because, due to our population size, the numbers are quite small. For example rates for suicide and road vehicle accidents are almost the same in some age groups and although the top three causes would remain the same, the rank order may vary from year to year over a longer period.

Death by self-injury (suicide) remains a significant cause of death and an ongoing major mental health issue. Suicide rates in Tasmania are not significantly different from the Australian average.

In keeping with national figures, the rate of suicide deaths among males in Tasmania is four to five times higher than the rate for females, however there is some evidence that rates of attempted suicide are higher in females than males (Steenkamp & Harrison 2000).



## SELF-REPORTED HEALTH STATUS

People's perception of their own health has been shown to be a powerful, independent predictor of their future health care use and their ultimate survival (AIHW 2002). It is regarded as a useful measure of wellbeing. As may be expected, the proportion of people who report their health as only fair or poor shows a significant correlation with socioeconomic status. People who are less educated, unemployed or living in households with low income all report poorer health.

In 2001 most Tasmanians (78.5%) aged 15 years and over classified themselves as having good to excellent health, which was a little lower than the national average of 81.9%. At the other end of the scale, 5% of Tasmanians reported "poor" health, which was nearly the same as the Australian rate of 4.8%.

## PREVENTABLE RISK FACTORS IN TASMANIA

To summarise the foregoing health data, the most frequent causes of premature death in males are ischaemic heart disease, lung cancer, and stroke. In females the most frequent causes are ischaemic heart disease, stroke, and breast cancer.

Contributing to these diseases is a range of diagnosable preventable conditions including diabetes, elevated cholesterol, hypertension, tobacco and alcohol dependency and obesity, some of which are in turn associated with the underlying key risk factors of poor diet and physical inactivity. While diabetes and cardiovascular disease also have some biological or genetic underlying component, much of their burden in the population is regarded as preventable.

Given the current prevalence of these risk factors, it is unrealistic to expect that our mortality and morbidity rates in Tasmania will continue to decline over the next few decades. In fact there is reason to anticipate that the doubling and trebling in rates of childhood overweight and obesity respectively, observed in Australia since 1980 (due to unhealthy eating practices and physical inactivity) will lead over time to a major increase in Type 2 diabetes and cardiovascular disease, with all their attendant complications such as renal disease and premature death.

The burgeoning rate of overweight and obesity in Tasmania, as in the rest of Australia, is ringing alarm bells throughout the public health sector, but the gravity of this situation is yet to be matched by a sustained commitment of resources dedicated to prevention initiatives. Many of the interventions necessary must be implemented at the national level, and it will be important for all jurisdictions to support the recommendations of the National Obesity Taskforce that is currently developing strategies and formulating recommendations to the Commonwealth Government.

### **CIGARETTE SMOKING**

Tobacco smoking is a major risk factor for coronary heart disease, stroke, peripheral vascular disease, numerous cancers, chronic respiratory conditions and a variety of other diseases and conditions. In 1996 tobacco smoking was responsible for around 12% of the total burden of disease in males and 7% in females (AIHW: Mathers et al. 1999).

It has been estimated that 84% of male and 77% of female cases of lung cancer are attributable to active smoking, and among those under 65 years, 44% of strokes in males and 39% of strokes in females are attributable to smoking. In addition, the risk of suffering from ischaemic heart disease among smokers under 65 years was three times that of never-smokers and the risk of suffering from atherosclerotic peripheral vascular disease was 2.5 times that of never-smokers (English et al 1995).

Smoking is rightly regarded as our single most preventable risk factor.

Taking all ages into account, smoking was responsible for 15% of all deaths in Tasmania in 1995-2000.

Surveys of Tasmanian smoking rates indicate the following:

- Tasmania has the third highest proportion of current smokers in Australia.
- Between 1977 and 2001, the proportion of the population who currently smoke declined significantly. The percentage of adult male smokers fell from 43.0% in 1977 to 25% in 2001, and in females overall there was a smaller decline from 29.6% in 1977 to 23.7% in 2001.
- However, among young females aged 18-34 years in Tasmania there has actually been an increase in current smokers from 32.6% in 1989/90, to 39.7% in 2001.

The high rates of smoking among younger women of child-bearing age is a major concern, not only for their own health and wellbeing, but also because of the impact on fertility rates, pregnancy outcomes (such as miscarriages and premature births), and on babies and small children exposed to tobacco smoke.

It is difficult to find current data on the prevalence of passive smoking in children. The 1989/90 National Health Survey found that approximately 45% of children under the age of 15 years lived in a home where one or both parents smoked.

Smokers are more likely to have sick babies, who in turn may become disadvantaged throughout life. From a public health perspective, reduction in smoking rates for younger people, particularly women, must be a high priority because of its impact on the health of future generations.

### **Alcohol Consumption**

Alcohol consumption has health and social consequences via intoxication (drunkenness), dependence (habitual, compulsive, long-term heavy drinking) and other biochemical effects. Intoxication is a powerful catalyst for adverse health outcomes, such as car crashes or domestic violence, and can also cause chronic health and social problems. Alcohol dependence is a disorder in itself. There is increasing evidence that, as well as volume of alcohol consumed, patterns of drinking are relevant to health, with binge drinking being especially hazardous.

Most of the causal relationships between alcohol and disease are detrimental, but there are beneficial relationships with coronary heart disease, stroke and diabetes mellitus, provided low-to-moderate average volume of consumption is combined with non-binge patterns of drinking (WHO 2002).

An estimated 3% of all deaths (565 deaths) in Tasmania were attributable to alcohol for the period 1995-2000.

Alcohol consumption at the medium-risk and high-risk levels was less common in Tasmania, compared with the rest of Australia. However, over the period 1989-2001, there has been a slight increase in the percentage of the adult population drinking at either risky or high risk levels, from 8.1% to 9.8% (vs Australia 10.8%).

### **Physical Activity**

Regular physical activity is essential for healthy life. Regular exercise of moderate intensity, for at least 30 minutes a day, is associated with a decreased risk of developing cardiovascular disease, hypertension, colon cancer, breast cancer, and Type 2 diabetes mellitus (WHO 2002). People who undertake regular exercise also benefit from improved mental health (with reduced symptoms of anxiety, stress or depression) and quality of life. Exercise helps older people remain independent.

In Tasmania in 2001, 28.4% of people reported engaging in moderate or high levels of exercise in the two weeks prior to survey. This was less than the national average of 30.7%, and the second lowest in the country.

The number of people participating in 30 minutes of physical activity or more per day increased between 1990 and 1995 by only 0.4%.

### **Nutrition**

Nutrition is profoundly important to health, with benefits accruing right through the lifespan commencing with parental nutrition pre-conception and continuing through until death.

Dietary guidelines recommend a high intake of plant foods (such as cereals, fruit, vegetables, legumes and nuts), limited saturated fat intake and moderate total fat intake to reduce the risk of coronary heart disease, several of the common cancers, as well as overweight and obesity. Other common diseases and risk factors where good nutrition may be protective or reduce risk include stroke, Type 2 diabetes, osteoporosis, tooth decay, high blood pressure and raised blood cholesterol (NHMRC) (2003a, 2003b).

The available data do not suggest that the nutritional status of Tasmanians is anywhere near optimal.

Breastfeeding in particular has major benefits for infants, which continue through life. For example there is emerging evidence that obesity is less common in adults who were breast-fed as children than in those who were bottle-fed.

Tasmanian breastfeeding rates are the lowest of all States and Territories, both at time of discharge from hospital and at six months of age. Fewer than half of Tasmanian infants (43.9%) are still breastfed, even partially, at six months of age, which falls well below the national target of 80%.

Based on self-reported data in 1994, only 42% of Tasmanian adults consume the recommended two or more serves of fruit per day, which is lower than the national figure of 50%.

Less than 20% of Tasmanian adults consume four or more serves of vegetables a day, which is similar to the Australian figure. Five serves per day is the recommended minimum for adults.

Tasmanian adults consume more saturated fat (14% of energy intake) than the recommended 10% of energy intake, and more than the national average of 12.5%.

Tasmanian adults have the second lowest rate (68%) for trimming the fat off meat. The national average is 72%.

### ***Overweight and Obesity***

Overweight and obesity lead to adverse metabolic effects on blood pressure, cholesterol, triglycerides and insulin resistance. Risks of coronary heart disease, stroke and Type 2 diabetes mellitus increase steadily with increasing Body Mass Index (BMI) (WHO 2002).

Modest weight reduction reduces blood pressure and abnormal blood cholesterol and substantially lowers risk of Type 2 diabetes. Raised BMI also increases the risks of cancer of the breast, colon, and prostate, amongst other cancers. Chronic overweight and obesity contribute significantly to osteoarthritis, a major cause of disability in adults.

Our most reliable data for Tasmanian adults dates back to 1995, when two thirds of adult males (67%) and just over half of adult females (54%) were overweight or obese (i.e. BMI greater than 25, calculated from actual measurements taken by interviewers during the 1995 National Nutrition Survey). These rates were higher than all other States and Territories (ABS 1995).

The proportion of the adult Tasmanian population with abdominal obesity (defined as waist/hip ratio greater than 0.9 for males and 0.8 for females) was 57% for males and 39% for females. The national average was 54% of males and 35% of females (ABS 1995).

### ***Diabetes and Impaired Glucose Metabolism***

In 1999-2000 diabetes was the seventh leading cause of death in Australia, and is a major contributor to significant illness, disability, poor quality of life and premature mortality. Diabetes shares several of the risk factors that contribute to cardiovascular disease, as well as being itself a risk factor for cardiovascular disease. Both genetic and environmental factors contribute to the onset of diabetes.

The prevalence of diabetes (8.7%) and impaired glucose metabolism (17.5%) in Tasmania is among the highest described internationally. While the Tasmanian rates are higher than the national average, the differences are not statistically significant. The Australian rates are 7.5% and 16.3% respectively (AusDiab 2001).



## SECTION - TWO

### THE CORE FUNCTIONS OF PUBLIC HEALTH

#### *the core functions of public health*

Section One of this report provided an epidemiological overview of the “State of Health” in Tasmania. But a report on the State of Public Health should also reflect upon the success with which Tasmania as a whole is implementing the functions of public health (the “organised efforts of society” referred to earlier), and draw attention to the areas requiring further development.

The National Public Health Partnership (NPHP) provides a description of the “core functions” that collectively represent the practice of public health:

- *Assess, analyse and communicate population health needs and community expectations*
- *Prevent and control communicable and non-communicable diseases and injuries through risk factor reduction, education, screening, immunisation and other interventions*
- *Promote and support healthy lifestyles and behaviours through action with individuals, families, communities and wider society*
- *Promote, develop and support healthy public policy, including legislation, regulation and fiscal measures*
- *Plan, fund, manage and evaluate health gain and capacity building programs designed to achieve measurable improvements in health status, and to strengthen skills, competencies, systems and infrastructure*
- *Strengthen communities and build social capital through consultation, participation and empowerment*
- *Promote, develop, support and initiate actions which ensure safe and healthy environments*
- *Promote, develop and support healthy growth and development throughout all life stages*
- *Promote, develop and support actions to improve the health status of Aboriginal and Torres Strait Islander people and other vulnerable groups.*

The NPHP notes that the term “core functions” refers to “*the total public health effort and not just to those activities which government public health authorities are responsible for carrying out or funding*” (NPHP 2000, p.1). While the major contribution to public health from local government and other agencies must be recognised, the principal focus in this report is on the role played by the State Government. Even then the full breadth of public health activities in Tasmania cannot be reflected here due to space limitations.

Each of the core functions is considered in turn, both in terms of activities under way and some of the issues presenting for future attention.

#### ***Assess, analyse and communicate population health needs and community expectations***

Health data at a population level provides information that can be used to identify preventable causes of ill-health, to monitor trends over time, or to benchmark against other populations as a means of assessing progress and focusing effort. Collection, analysis and communication of population-based epidemiological data are therefore fundamental to public health, and provide the basis for much of this report.

Increasingly, health data analysis is required to demonstrate the potential for return on investments. To this end it is recommended that future reports on the State of Public Health adopt a “burden of disease” approach, so that the impacts of a range of preventable risk factors for disease can be better assessed and prioritised.

The production of Health Indicators Tasmania (the larger document from which much of the data in this report are drawn) has been a major task by a very small number of skilled staff, and represents a key achievement in the assessment, analysis and communication of population health needs.

An important source of Tasmanian data in recent years has been the Health and Wellbeing Study carried out by the Department of Health and Human Services (1998), however some of the risk factor prevalence data is beginning to become outdated.

The Tasmania *Together* process provides an important means of assessing community expectations, by defining targets for achievement of benchmark indicators. In the health domain these targets will continue to inform analysis, reporting and action for years to come.

From a public health research perspective, the Menzies Centre for Population Health Research is making a major contribution to the identification of the causes of, and solutions to, health problems in the Tasmanian population.

In the health care sector there may be benefit from increased focus upon evaluation of health services and their outcomes.

Substantial work is required to address a lack of reliable health data about health outcomes for the Tasmanian Aboriginal population. Improved identification of Aboriginal status is required at the health services level, to enable better understanding of health needs and priorities through more accurate description of rates of disease and patterns of ill-health.

### ***Prevent and control communicable and non-communicable diseases and injuries***

Tasmania has particular strengths in the surveillance and collection of notifiable diseases data (including cancer incidence as well as communicable diseases), and has managed to achieve this more economically and efficiently than other States. The dedication of the small number of staff, including those at the Tasmanian Cancer Registry, has no doubt contributed to this.

Communicable disease surveillance, prevention and control are being managed well in general with good partnerships in place between clinicians (both hospital and general practice), Divisions of General Practice, most laboratories, local government environmental health officers, and staff of Public and Environmental Health Services.

As with other States, among the most common notifiable diseases are Hepatitis C, Chlamydia infection and *Campylobacter* enteritis. Every year in Australia the number of gastroenteritis cases caused by contaminated food is conservatively estimated at six million. This costs the community approximately \$1.67 billion per year.

There is a particular urgency to address the current “silent” epidemics of Hepatitis C and Chlamydia, both of which can be asymptomatic yet lead on to serious long-term complications (in the case of Chlamydia, to female infertility and increased risk of ectopic pregnancy).

As with many other public health problems, a national approach to monitoring, surveillance and interventions will be the best means of ensuring control. For example, there is a need for a national prevalence study for Chlamydial infection in both males and females.

During 2001 and 2002, several clusters of group C meningococcal disease emerged, causing a major impact on Tasmanians’ perceptions and awareness of the disease. There were 24 cases in 2001 (5 deaths) and 26 in 2002 (2 deaths) compared with the usual 12 to 15 in a so-called “typical” year.

A State-funded polysaccharide meningococcal vaccine program was initiated in June 2002, (with around 9000 doses being delivered to the community). This coincided with very high levels of uptake of the newer conjugated meningococcal group C vaccine in the private sector (an estimated 50,000 doses). A national meningococcal C vaccine program commenced on 1 January 2003 with the aim of covering all children aged 1–19 years over the next three years. It is likely these activities have contributed to the decline in meningococcal cases observed during 2003 to date.

However this expansion of the vaccination schedule, particularly with its emphasis on delivery via school-based programs, presents new challenges for the immunisation workforce. Renewed partnerships between the State, local government and other vaccination service providers are required; and this will be reflected in the new Tasmanian Immunisation Strategy currently under development. The funding recently provided to support nurse immunisers will help considerably.

Childhood immunisation coverage rates in Tasmania are among the best in the country. Tasmania is unsurpassed in the early immunisation milestone rates for diphtheria, pertussis, tetanus, polio, measles and *Haemophilus influenzae* type b, compared with other States and Territories.

In February 2003 a new disease called Severe Acute Respiratory Syndrome (SARS) emerged. The novel coronavirus causing this epidemic is thought to have originated in China from an initial outbreak in 2002. With dissemination facilitated by global travel, over 8,000 people in many countries were affected (resulting in over 800 deaths). Fortunately Australia to date remains relatively unaffected, with no instances of local transmission.

The fact that many victims have been health care workers has forced a major re-appraisal of infection control practices as well as requiring improved preparedness for a surge in local cases.

While Tasmania responded well and rapidly (it was the first State or Territory to declare SARS a notifiable condition), much remains to be done. There is a lack of capacity to maintain a statewide infection control surveillance system and to coordinate and deliver training in infection control across the breadth of the health care system. This needs to be addressed as a high priority.

Preparedness for similar scenarios is currently being enhanced through development of a State plan for major epidemics, in addition to a specific influenza pandemic action plan.

Non-communicable chronic diseases and injury prevention also require a good deal more attention, along population health lines and using evidence-based approaches.

The Department of Health and Human Services has appropriately identified “Strengthening prevention and management of chronic conditions” as its number one strategic priority. As indicated in the first part of this report, addressing this priority will require increased effort in the areas of smoking, nutrition, physical activity, alcohol abuse, and the psychosocial factors which compound health risks or which affect resilience.

#### ***Promote and support healthy lifestyles and behaviours***

In common with the rest of Australia, there has been a tendency to equate health promotion with the concept of personal and mass education, on the assumption that simply informing people of the “right” choices actually leads to improved health outcomes. There is a need to continue moving away from this rather limited view, to a focus on the development of systematic or structural changes that provide an environment where healthy choices can be made more easily. Many examples of this, such as improving accessibility to a nutritious food supply, and creation of smoke-free environments, are given throughout this document.

#### ***Healthy public policy, including legislation, regulation and fiscal measures***

The Public Health Act 1997 provides a functional modern legislative framework for public health. There remains scope for further regulatory measures to assist the prevention of chronic disease – tobacco control being a particular area of concern.

The Tasmania *Together* process established a set of “Healthy Lifestyle” benchmarks, and has fostered a collaborative policy environment that should be conducive to legislative, policy, fiscal and other measures that support population socioeconomic, environmental and health goals.

The 1994 Tasmanian Food and Nutrition Policy, which was regarded nationally as an excellent model particularly because it was developed in partnership with the food industry, is currently undergoing review and will once again provide best practice strategies for addressing nutrition and food safety.

Since the adoption of the original 1994 Tasmanian Food and Nutrition Policy, a range of strategic partnerships in nutrition promotion has formed. These include the Tasmanian Breastfeeding Coalition, the Tasmanian School Canteen Association, the Healthy Options Tasmania Coalition and the Tasmanian Nutrition Promotion Taskforce that oversees the Eat Well Tasmania campaign.

These positive intersectoral working relationships place Tasmania in a strong position to work towards improving nutrition for all Tasmanians. However, the ongoing resourcing of public health nutrition measures and the necessary workforce to implement them is clearly inadequate and a concern, given the longer-term consequences of neglecting this fundamental issue.

The Food Bill 2002 passed through Parliament in March 2003 to bring our food safety legislation into line with the national model. There is now a need to deliver programs, training and support to local government to implement the improved food safety management processes.

***Plan, fund, manage and evaluate health gain and capacity building programs***

Despite the meagre resources available for health promotion and capacity building compared with most other states and jurisdictions, much has been achieved in Tasmania – particularly in the areas of tobacco control and nutrition. Initiatives such as the establishment of the “Our Kids” Bureau will enhance inter-agency action and coordination.

But much more remains to be done to prevent the burgeoning problems of chronic disease. At the time of writing, the capacity within the Department to engage in facilitating and supporting local community development in relation to healthy lifestyles initiatives remains inadequate.

Investment in the epidemiological capacity necessary to monitor health gain over long time frames is a prerequisite for effective evaluation of programs as they become implemented.

To enable whole-of-system responses to the emergent problems of chronic disease, there is a need to facilitate and support increased local government participation in health promotion activities, in particular tobacco control, healthy eating and physical activity underpinned by measures that create supportive social and physical environments.

***Strengthen communities and build social capital through consultation, participation and empowerment***

The development of formal partnership agreements between State and local government is gaining momentum as a vehicle for strengthening communities, but no doubt there is much more still to be achieved in this area.

The environmental health officer workforce in local government has diminished over the past decade, with a potential reduction in capacity to respond to emergent environmental health issues. The increased focus on environmental regulatory work as a consequence of environmental protection legislation has also had an impact. As with many health professions in rural areas, some councils report difficulty in attracting environmental health officers to advertised positions.

Consideration therefore needs to be given to how to best support and maintain workforce development in the longer term – particularly in local government. Subsidised trainee placements may be one practical option.

***Promote, develop, support and initiate actions which ensure safe and healthy environments***

Health promotion approaches based upon systemic changes to social or physical environments are not only fundamentally important to public health, they are often the most sustainable, cost-effective and equitable means of instigating change. For example, interventions such as legislation and policy changes to reduce exposure to environmental tobacco smoke have far-reaching benefits for both smokers and non-smokers, and for adults and children alike.

As noted earlier, human health is dependent on the health of ecosystems and the natural environment. Internationally, the health of future generations may already be in jeopardy from global ecosystem degradation manifested in climate change, deforestation, loss of biodiversity, decline in fisheries, and depletion of fresh water resources (Labonte & Speigel 2003).

As with any other population, it would be extremely unwise for Tasmanians to consider themselves immune from the impacts of these long-term threats to health, or to fail to take actions now to protect the health of future generations. It is noted that the Department of Primary Industries, Water and Environment has recently established a Climate Change Interdepartmental Committee to coordinate the development of climate change policy within the Tasmanian Government.

The shellfish quality assurance program run through the Public and Environmental Health Service is a good example of how a public health goal of ensuring food safety can be compatible with those of an important industry seeking to build and maintain markets.

The current processes in place in Tasmania for health impact assessment (HIA) as an integral component of environmental impact assessment (EIA) have placed this State at the forefront of such activity in Australia, and may be seen as a positive example of public health concerns being integrated into planning and public policy.

There have been suggestions at the national level that health impact assessment should be more explicitly included in other aspects of government decision-making, for example in the formulation of major policy so that equity considerations are routinely taken into account.

***Promote, develop and support healthy growth and development throughout all life stages***

Opportunities to favourably influence health can begin even before conception, and it remains important that support and assessment services continue to be provided for both mothers and children in a range of settings. For example ongoing work is required to address our sub-optimal breastfeeding rates.

Education Department initiatives, such as mental health promotion for school children, are an important way of having a positive impact on health and wellbeing at a young age, which may prevent problems later in life.

Health issues associated with the growing proportion and number of older people in Tasmania will become more difficult to deal with over time. Population health approaches will be required to contain the impact of increases in the burden of age-related diseases such as cancer, diabetes and cardiovascular disease.

***Promote, develop and support actions to improve the health status of Aboriginal and Torres Strait Islander people and other vulnerable groups***

Aboriginal health data tend to be limited in Tasmania because there has been inconsistent documentation of identifying information at the time of presentations to health services with illness or at death. Therefore the lack of information about Aboriginal health status is a glaring deficiency of this report.

Whilst the Tasmanian Aboriginal population faces its own unique challenges and each Aboriginal community cannot necessarily be regarded as sharing the same problems as others in Australia, actions to promote Aboriginal health and wellbeing need to be strengthened considerably. The resources allocated to Aboriginal health liaison and support at the regional health services level are inadequate to fully realise either critical social health gains or improved data collection.

A Tasmanian Aboriginal Health and Wellbeing Strategy is currently being drafted, and it is hoped that this will be supported by all stakeholders and will provide for a coordinated, effective approach.

Another vulnerable group in Tasmania is the rapidly increasing humanitarian refugee population from a number of overseas countries, particularly from the African continent. Tasmania has a proud track record in social integration of refugee groups in the past, but there is a rapidly growing need for concerted provision of social and health supports from all levels of government.



## SECTION - THREE

### THE WAY FORWARD: AREAS FOR ACTION

#### *the way forward: areas for action*

To a large extent, many of Tasmania's significant chronic health problems are preventable, and can be attributed to smoking, poor nutrition and physical inactivity. In turn, a range of social determinants influences these factors.

Public Health now has the advantage of evidence to demonstrate the potential for significant health gain from comprehensive population-based programs to address many of these issues.

Much of the scope for gain in health outcomes occurs outside of the 'health' domain, and depends on the support of business, government at all levels, non-government organisations, unions and local communities. Hence it is important to form partnerships to address matters from a whole-of-community perspective and implement a range of strategies that will substantially improve the health of the Tasmanian community in a sustainable way.

The partnership between sectors involved in the development of the Tasmanian Food and Nutrition Policy is an excellent example of the kind of collaboration needed for effective change to occur.

In the case of the emergent obesity/overweight epidemic, the need is urgent, and requires coordinated national as well as jurisdictional action.

Local community development approaches (including actions that enhance social capital) also have a fundamental role in improving broader health outcomes and the vital role of local government in achieving these must be supported.

#### **SMOKING PREVENTION**

A Tasmanian Tobacco Action Plan has been developed along intersectoral lines by the Department and is nearing completion. It contains a number of strategies requiring support for implementation.

Recently the Smoke Free Areas legislation was reviewed, and at time of writing its recommendations are awaiting consideration by Cabinet. Following introduction of the legislation in 2001, issues have been raised as to whether hotels and gaming areas have been able to adequately self-regulate to minimise people's exposure (particularly hospitality industry employees) to environmental tobacco smoke. The evidence suggests they have not. Therefore a strengthening of the legislation is now necessary on public health grounds.

More stringent measures also need to be applied in relation to tobacco sales. A survey of 642 retailers was conducted in 2002 to test retailer compliance with legislation prohibiting the sale of tobacco products to children. The survey revealed a very poor performance by retailers, with 48% unlawfully selling to children. Prosecutions of repeat offenders have been initiated in a number of cases where follow-up controlled purchase operations demonstrated failure to comply with the law, despite education and advice.

Given the health evidence for harm, and the economic evidence available to demonstrate the very significant and long-term public benefit of investment in tobacco control, it is increasingly difficult for governments not to take a proactive stance against smoking.

## INCREASING PHYSICAL ACTIVITY

There is a pressing need to develop ways of improving Tasmania's physical inactivity profile by building programs to encourage and assist Tasmanians of all ages to participate in regular moderate physical activity.

On a population basis, measures that promote incidental activity in the course of everyday life are likely to be beneficial for large numbers of people in sedentary occupations – a simple example being the use of stairs rather than lifts in buildings.

A systemic approach should also identify and address practical barriers and provide support to overcome obstacles to participation, such as parental anxieties about street safety that prevent their children from walking or cycling to school, public liability concerns inhibiting organised recreational activities in public venues and unforeseen consequences of town planning decisions that deter active transport.

The Premier's Physical Activity Council must be supported in extending its recently commenced work, to achieve far-reaching beneficial change in levels of physical activity through intersectoral action.

## NUTRITION

Improving healthy eating requires a focus on increasing the availability of healthy food choices as well as changing population attitudes, knowledge and practices. To achieve this requires a comprehensive whole-of-community approach. The main goals are to: increase the proportion of infants who are breastfed to at least six months of age; increase vegetable and fruit consumption; decrease saturated fat, sugar and salt consumption; and maintain a wide variety of healthy and safe food in the Tasmanian diet. The forthcoming new Tasmanian Food and Nutrition Policy will provide the best possible basis for action, and requires full support.

## IMPROVING SOCIAL FACTORS WHICH IMPACT ON HEALTH

This is probably the most important aspect of all.

Changes in policy and the social and physical environment – at multiple levels and in multiple settings – are necessary to foster and sustain behavioural change at the individual level. A common failing with many well-intended health promotion interventions is to exhort individuals to change lifestyles and health behaviours using educational messages but without coupling such strategies with legislation, regulations, organisational policies, social norms and environmental changes that foster and enable healthy choices to be made.

## TASMANIA TOGETHER

The community-based and collaborative approach developed through the Tasmania *Together* process is a precious opportunity to implement population-based approaches to influence the social determinants of health, as well as for development of environmental and systemic approaches that help to make healthy choices easier for individuals. The integrity of Tasmania *Together* processes must be preserved and sustained. The consideration of social, economic and environmental goals is, or should be, naturally aligned to desired population health outcomes.

## MONITORING AND SURVEILLANCE

To be effective, public health must operate from an evidence base. In Tasmania there is a need to enhance our capacity to evaluate the efficacy of interventions, to utilise epidemiological data, and to promote the adoption of evidence-based strategies.

Ongoing monitoring and surveillance of core health indicators is fundamental to developing effective health policies and programs. To enable comparability and efficiency of data collection, most of the work in relation to chronic diseases must be coordinated at the national level. It seems incongruous that as yet there is no commitment from the Commonwealth to maintaining a regular (e.g. five-yearly) system of national health surveys that encompass biomedical and behavioural risk factors.

## FUTURE REPORTS

Future State of Public Health Reports should be able to take a “burden of disease” approach using summary health measures – such as ‘Disability Adjusted Life Years’ (DALY) and ‘Person Years of Life Lost’ (PYLL), to more comprehensively assess the spectrum of disease that occurs in a population. Such an approach will assist the Tasmanian community in comparing those conditions that give rise to the greatest burden.

A significant deficiency in this current report is the lack of information about Aboriginal health, and it is recommended that renewed efforts be made to improve the quality of this information for future reports.

## CONCLUSION

In conclusion, significant and effective public health actions are under way, but there is scope for further improvement. In particular, the rising burden of chronic disease demands a more comprehensive response. There is a pressing and immediate need for stronger prevention programs. As noted in Australia’s Health 2002:

“Solving these major issues often involves value judgments, and often includes political processes because of competing interests. Along with limited resources, the challenge requires choices, priority setting and trade-offs between the health sector and other sectors, between prevention and treatment services, and between the short term and longer term.” (AIHW 2002).

At the same time, investment must be maintained in the more traditional areas of public health. At this point, it is instructive to return to the final words of the 1904 Public Health Report:

*“In finally submitting this Report for your consideration, I would respectfully point out that efficient sanitary administration has a greater commercial importance for Tasmania than most other States, owing to the annual influx of visitors attracted by a salubrious climate and by other natural advantages. Important commercial interests are involved in the tourist traffic; and with increasing popular sanitary knowledge the existing conditions must, if persisted in, tend to divert the flow of visitors to other places where more certainty exists as to the purity of the milk supply and the efficiency of the drainage. I would further repeat that the provision of the necessary machinery for dealing with endemic infectious diseases will enable the State to grapple with exotic dangerous infectious disease whenever introduced....”*  
(Dr J.S.C. Elkington, 6th August 1904)

Tasmania’s most precious resources are the health of its people, and its environment. These cannot be separated from each other, and their continued protection is the key to our future.

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