



***Tasmania's Workforce:  
health impacts on participation  
and productivity in the face of an  
ageing population***

**Information Paper No 2**

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The Council is a Tasmanian Government initiative, in conjunction with the Local Government Association of Tasmania, Tasmanian Chamber of Commerce and Industry, Tasmanian Council of Social Service, Unions Tasmania, University of Tasmania and the Australian Bureau of Statistics



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# Section 1

## Introduction

On current trends, Tasmania's working age population is likely to peak at around 320 000 in the next four years and then start to decline. The effect is that fewer people will be available to work and provide the goods and services that the community demands.<sup>1</sup> Currently, there are about two people of working age (15 to 64 years of age) for every one person above or below this age range. By 2046, this ratio could decline to one working age person for every person not of working age.

As Tasmania's workforce ages and the number of people entering the work force begins to decline, the capacity to maintain the supply of labour will be critical for economic wellbeing. One of the most important areas impacting on supply capacity is the health of the working age population, as it is an important determinant of labour productivity and participation.

As people age, they face an increasing risk of developing a range of health conditions. Poor health can impact on businesses and economic growth by affecting:

- rates of workplace absenteeism (both in terms of sick leave and leave for caring of others who are ill);
- the extent to which people attend work but are not operating at full capacity due to ill health or injury — which is referred to as presenteeism;
- the rate of labour turnover, if people of poor health are unable to continue working;
- the participation rate in the workforce; and in turn
- the skills available.

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<sup>1</sup> For more information on Tasmania's labour force participation rate and its ageing population refer to *Information Paper No 1: Who is not participating in Tasmania's labour force?* Which can be located at [www.dcac.tas.gov.au](http://www.dcac.tas.gov.au).

## Purpose and structure of the paper

The purpose of this paper is to:

- raise awareness about the importance of workforce health on economic activity and business outcomes;
- provide a snapshot of the health status of Tasmania's working age population compared with other jurisdictions; and
- briefly outline why there is an increasing emphasis on how employers (across all sectors — government, non-government, and business) may benefit from a healthy workforce and encourage workers to maintain their health and wellbeing.

Maintaining a healthy lifestyle provides many benefits to individuals and households. This paper, however, focuses on the state-wide economic impacts of the health of the working-age population.

The focus of the paper and the following sections are outlined below.

Section 2 provides a brief review of the literature that examines the impact that health status can have on labour force participation and productivity levels.

Section 3 outlines the health status of Tasmania's working age population compared with other jurisdictions and examines risk factors that might influence the prevalence of various health conditions in Tasmania.

Section 4 examines the impact that work-related injuries can have on participation and productivity.

Section 5 reviews some literature that may help to explain why employers are investing in health promotion programs and provides several case studies on what employers are doing in this field.

Section 6 provides a summary and conclusions.

## Section 2

### Health impacts on labour force participation

An individual's health status can significantly impact on that person's ability and willingness to participate in the labour force.

In 2004–05, an Australian Bureau of Statistics (ABS) survey, titled *Barriers and Incentives to Labour Force Participation* (Cat No 6239.0) reported that there were 1.47 million Australians whose labour force participation was reduced because of ill health. This included people who worked and would like more hours but could not because of health issues, those who were not in the labour force and wanted to work, but could not because of health issues, and those who did not want more hours or a job for reasons of ill health.

**TABLE 2.1. HEALTH BARRIERS TO PARTICIPATION, AUSTRALIA, 2004–05**

	Persons ('000s)	Per cent (%)
Unable to work because of disability	35.9	2.4
Short-term sickness or injury	151.3	10.3
Caring for ill/disabled/elderly person	298.7	20.4
Long-term sickness or disability	981.0	66.9
<b>Total</b>	<b>1466.9</b>	<b>100.0</b>

Source: ABS Cat No 6239.0, *Barriers and Incentives to Labour Force Participation*, 2004–05.

The majority of people whose participation was reduced due to ill health suffered from a long-term sickness or disability (over two thirds). One fifth had reduced participation due to caring for someone in poor health, while for 10 per cent of those surveyed, their reduced participation was due to short-term sickness or injury.

These data are not available for Tasmania. Assuming the national data are representative of reduced participation at a state level, there may be around 33 000 persons with reduced participation, or non-participation, due to ill health. This equates to around 6.9 per cent of the Tasmanian population in 2004–05, or almost 14 per cent of the current labour force, including the unemployed. Clearly, this represents a potentially significant additional labour supply if these people can be employed productively.

As the data are not available for Tasmania, it is useful to cross-check this estimate with similar data which are available; such as data that relate to people that access certain welfare payments on the basis of health-related criteria. Box 1 illustrates that, in June 2007, around 25 000 Tasmanians received the Disability Support Pension. This figure does not include the other health barriers (as outlined in Table 2.1) that are included in the estimate of the above-mentioned 33 000 Tasmanians. Within this context, the estimate of 33 000 Tasmanians having reduced participation, or non-participation, due to ill health appears to be plausible.

**Box 1: PROXY MEASURE OF REDUCED TASMANIAN PARTICIPATION DUE TO ILL HEALTH — DISABILITY SUPPORT PENSION RECIPIENTS**

The Disability Support Pension (DSP) is available to persons who are assessed as not being able to work or be retrained for work of at least 15 hours per week within two years because of illness, injury or disability and persons who are permanently blind. DSP recipients are permitted to work but their pension is subject to income and assets tests. As can be seen in the table below, Tasmania has a significantly greater share of the population who are DSP recipients than nationally.

**Table 2.2. Disability support pension recipients, 2002 to 2007**

	Tasmania	Australia	% of Tasmanian population	% of Australian population
June 2002	31 603	658 915	6.7	3.4
June 2003	32 225	673 334	6.7	3.4
June 2004	33 290	696 742	6.9	3.5
June 2005	31 669	700 412	6.5	3.4
June 2006	24 823	712 163	5.1	3.4
June 2007	24 975	713 764	*5.1	*3.4

\* Percentages calculated using population figures as at 31 December 2006.

Source: Department of Family and Community Service and Indigenous Affairs

There is a series break in 2006, when the eligibility for DSP was changed and all overseas recipients were removed from the Tasmanian data, having been erroneously included in previous years.

The DSP data also show that the share of all DSP recipients increases with age, with over 50 per cent of recipients being in the 50 to 64 year age range. The eligibility and relative benefit of DSP changes once the age pension becomes accessible. Compared to the Australian percentages by age, there are no distinct differences at the Tasmanian level, though the average age of DSP recipients is higher in Tasmania than nationally. This shows that while Tasmania has a 50 per cent higher rate of those on DSP benefits, the higher rate occurs through almost all age ranges. It also suggests that the level of disability or ill health in Tasmania's working-age population may be a key reason for the State's relatively low participation rate.

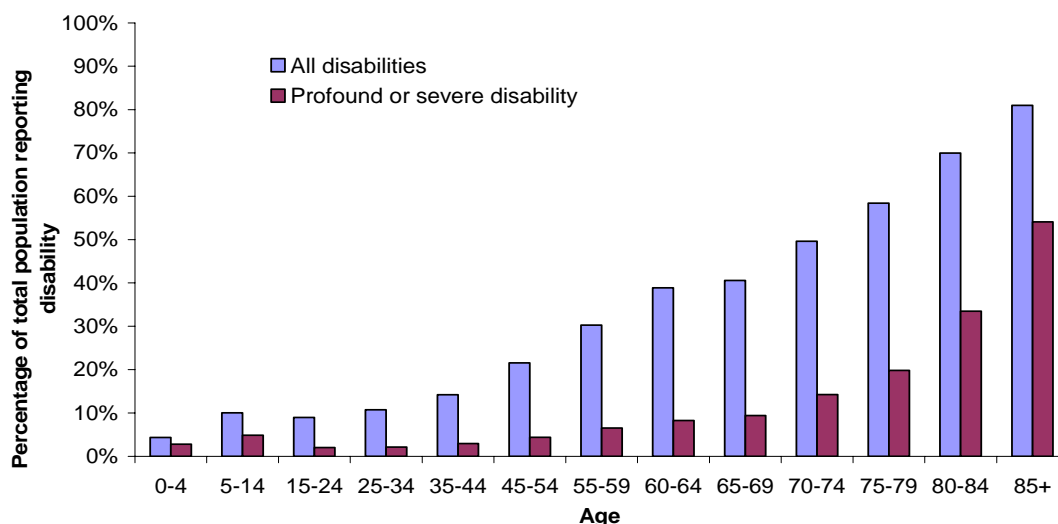
**TABLE 2.3. DISABILITY SUPPORT PENSION RECIPIENTS BY AGE, AS AT 30 JUNE 2007**

Age	Tasmania	% of total Tasmania	% of total Australia
16–19	537	2.2	2.4
20–24	880	3.5	4.0
25–29	1 037	4.2	4.5
30–34	1 251	5.0	5.4
35–39	1 853	7.4	7.2
40–44	2 322	9.3	9.1
45–49	3 098	12.4	11.9
50–54	3 646	14.6	14.3
55–59	4 860	19.5	18.8
60–64	5 326	21.3	21.1
65+	165	0.7	1.3
Total	24 975	100.0	100.0

Source: Department of Family and Community Service and Indigenous Affairs, unpublished data.

The burden of disability increases with age (Figure 2.1). In addition, the burden of disease and injury, more generally, also increases with age.

**FIGURE 2.1: PERCENTAGE OF POPULATION (BY AGE COHORT) REPORTING A DISABILITY, AUSTRALIA, 2003**



Source: ABS, *Disability, Australia, 2003*, Cat No 4446.0.

A recent national study of the burden of disease and injury found that adults aged between 45 to 64 years comprised around 24 per cent of the total population and experienced about 26 per cent of the total burden of disease and injury in Australia, in 2003 (Table 2.3). By contrast, people aged between 15 to 44 years represented about 43 per cent of the population but experienced only 24 per cent of the burden of disease. Cancer, cardiovascular disease and neurological disorders accounted for more than half of the total burden of disease for people aged 45 to 64 years.

**TABLE 2.3. DISTRIBUTION OF POPULATION AND BURDEN OF DISEASE, BY FIVE BROAD AGE GROUPS, AUSTRALIA, 2003**

Age Group	Persons (per cent of population)	Burden of disease (per cent of total)
0 to 14 years	20.0	8.4
15 to 44 years	43.4	24.1
45 to 64 years	23.8	25.9
65 to 74 years	6.8	16.3
75 years and over	6.0	25.4

Source: Begg S, Vos T, Barker B, Stevenson C, Stanley L, Lopez AD, 2007. *The Burden of Disease and Injury in Australia, 2003*, Canberra: AIHW.

The above data highlight that the health impacts on labour force participation are likely to worsen as a population ages. In other words, the occurrence of disease and injury is likely to be the greatest in the last ten years of a person's working life.

The relationship between specific health conditions and a person's probability of participating in the labour force is examined in the following section.

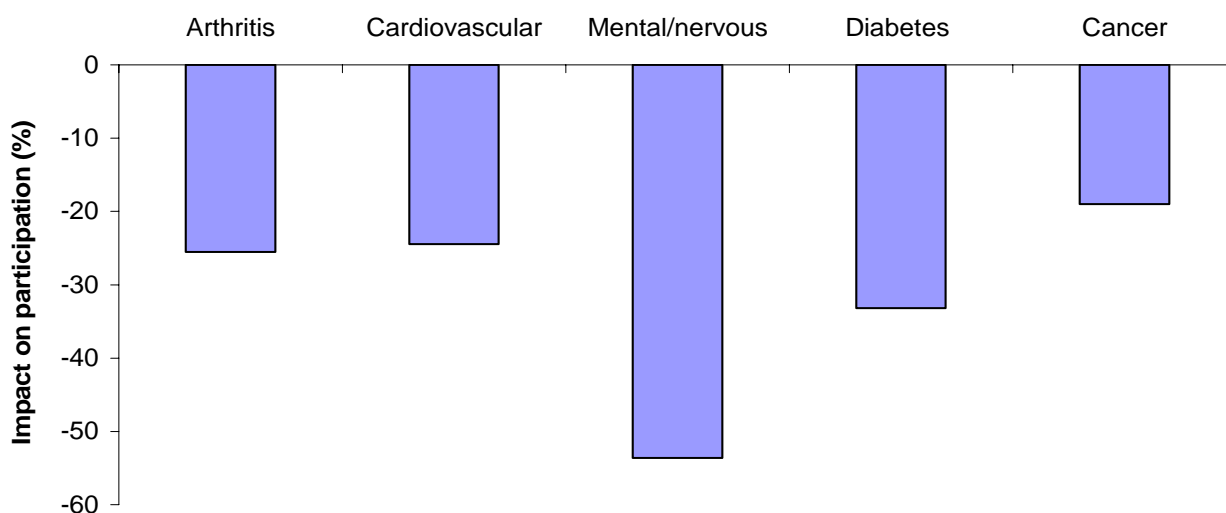
## Effects of specific health conditions on labour force participation

Although the overall level of population health affects labour force participation, different health conditions have different impacts on a person's willingness or ability to participate in the labour force.

The Productivity Commission recently released a paper that examined the effects of health status on labour force participation<sup>2</sup> and found that participation rates are significantly affected by health conditions. Furthermore, it found that different health conditions have different effects on participation rates (Figure 2.2). For example, people with a mental or nervous condition have very low participation rates, at around 40 per cent compared with an 80 per cent participation rate for people without the condition. Other health conditions that also reduce the probability of participating in the labour force include:

- diabetes, by around 30 per cent;
- arthritis, by around 23 per cent;
- cardio-vascular disease, by around 22 per cent; and
- cancer, by around 15 per cent.

**FIGURE 2.2: IMPACT ON LABOUR FORCE PARTICIPATION BY HEALTH CONDITION, 2001–04 AVERAGE (DIFFERENCE IN PARTICIPATION RATES BETWEEN PEOPLE THAT DO AND DO NOT HAVE SPECIFIC HEALTH CONDITIONS)<sup>a,b</sup>**



Source: Productivity Commission (2007) *Effects of Health and Education on Labour Force Participation*, Staff Working Paper.

Note: (a) The data in this Figure are Productivity Commission estimates based on the Melbourne Institute's Household, Income and Labour Dynamics in Australia (HILDA) data. The participation rate is estimated as the sum of those employed and unemployed, divided by the total relevant population. As such, the participation rates are not necessarily comparable to standard ABS measures of participation.

(b) The participation rate for people 'without specific health conditions' was the estimated rate for those without any of the health conditions in Figure 1 or major injuries.

<sup>2</sup> Productivity Commission (2007) *Effects of Health and Education on Labour Force Participation*, Staff Working Paper.

The report found that the participation rate for people with two or more conditions (at 52.5 per cent) is significantly lower than for people with one condition (at 75.1 per cent), while people without any health issues had a participation rate of 84.7 per cent.

However, the report also notes that there is not a 'one-way' relationship between health and participation rates. Participating in the labour force can have positive and negative impacts on an individual's health. For example, participating in the workforce may help to build an individual's self esteem or social networks, which may in turn have positive health outcomes. Alternatively, work place stress, working long hours, hard physical work, accidents and injuries may have negative health effects. This is covered in more detail in Section 4.

## Health effects on productivity

While it is difficult to quantify the direct impact that health has on productivity, various proxy measures can be used. For example, the impact that poor health has on the number of 'work sick days' taken and the number of work days that people operate below their capacity are measures of the impact of poor health on productivity.

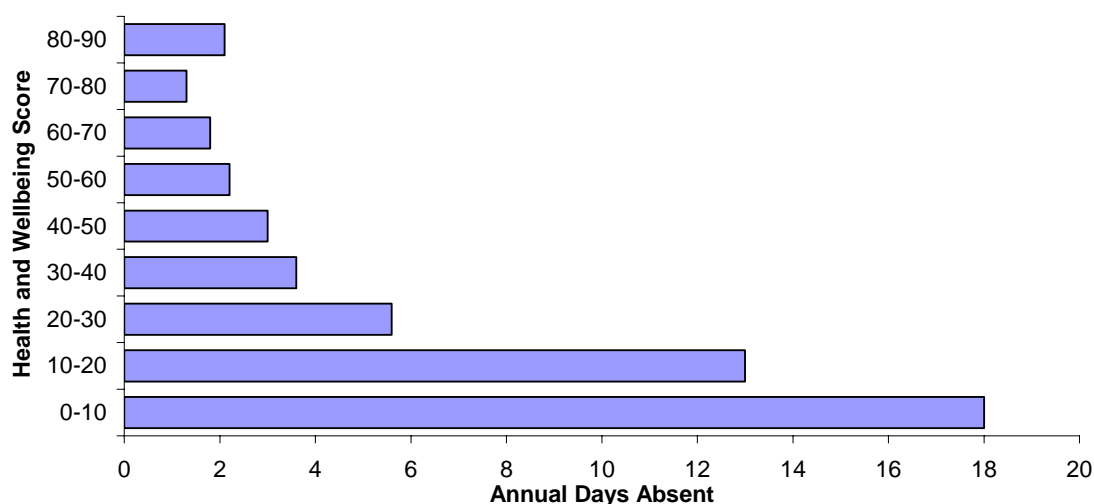
### *Absenteeism*

Poor health is strongly correlated with the number of days absent from work. In most situations and occupations, a day away from work translates into a productivity loss, often in terms of increased cost of production or reduced output.

### **Impact of general health and wellbeing on absenteeism**

A national survey by Medibank Private in 2005 of 3 620 employees from large and small businesses found that employees with poor health have up to nine times the annual sickness absence of healthy individuals, that is 18 days absence per year compared to two days per year (Figure 2.3).

The survey covered eight measures of health and wellbeing including physical activity, nutrition, body weight, stress, risk behaviours, sleep, pain and medical health. These results were combined with other responses on health and wellbeing factors including job satisfaction, mood, life stress and perception of overall health. Employees were given a health and wellbeing score of between 0 and 100. A score below 30 was classified as being in poor health, while between 70 and 100 was classified as being in good health.

**FIGURE 2.3: HEALTH AND WELLBEING AND DAYS OF ABSENCE, 2005**

Source: *The Health of Australia's Workforce, Medibank Private, November 2005.*

Workers with a high health and wellbeing score also reported a high self-assessed work performance and significantly higher effective working hours.

While data collated using self-assessment should be treated with caution, this survey indicates that 'healthy' workers tend to spend more working days at work and are more productive for a greater amount of time while in the workplace than 'unhealthy' workers.

However, it is interesting to note that people reporting the highest health scores tend to take nearly as many days off work as people who report a medium health score of 50–60. It is not clear why this is the case, but it may indicate that these people consider themselves to be healthier because they take more time off to recover from illness, such as a cold, and hence recover more quickly and in general feel healthier.

### Days away from work: Tasmania compared with Australia

Table 2.5 summarises the results from the National Health Survey 2004–05 which are based on a question about whether the respondents had taken days off work in the preceding two week period as a result of illness or to care for someone who was ill.

This table shows that absenteeism from work due to illness is greater in Tasmania than in Australia as a whole — an average of 9.1 days per person employed or 3.5 per cent of all working days in Tasmania compared to an average of 8.7 days per person or 3.2 per cent of all working days nationally.<sup>3</sup> For Tasmania, this absence is the equivalent of a little over 8 000 full-time workers for a whole year, which is around 3.5 per cent of those currently employed.

<sup>3</sup> These figures are based on self-reported days away due to illness and are likely to include sick leave, leave caring for others who are ill and leave due to workers' compensation injuries.

Tasmanians aged 25 to 34 years have a significantly higher average number of days away from work, than nationally. However, people aged 45 to 64 years, in both Tasmania and Australia, tend to take fewer days away from work due to injury than people aged 25 to 44 years. This result is somewhat at odds with the expectation that chronic disease associated with ageing causes increases in absenteeism. Part of the explanation may be that those older Tasmanians that experience chronic disease leave the workforce. Also, younger workers may have a greater propensity to be absent from work due to factors other than disease.

**TABLE 2.5 DAYS AWAY FROM WORK DUE TO ILLNESS, 2004–05 AVERAGE**

	15–24	25–34	35–44	45–54	55–64	Total
<b>Tasmania</b>						
Number of days away ('000s)	230.4	564.0	588.0	376.8	201.6	1 963.2
Employed persons ('000s)	39.3	42.3	55.1	52.7	26.2	215.6
Avg days away per employee	5.9	13.3	10.7	7.1	7.7	9.1
<b>Australia</b>						
Number of days away (millions)	11.0	22.1	24.7	18.5	9.2	85.5
Employed persons (millions)	1.82	2.28	2.40	2.19	1.15	9.85
Avg days away per employee	6.0	9.7	10.3	8.4	8.0	8.7

Source: National Health Survey, 2004–05, ABS Cat No 4364.0.

Using the data on days away from work due to illness, an estimate can be made as to the likely loss of output, measured as a percentage of Gross State Product (GSP).<sup>4</sup> This estimate suggests that Tasmania lost around \$551.7 million in output due to workplace absences for illness in 2004–05. This represents a loss of 3.4 per cent of the total GSP for the State, compared with a national equivalent loss of 3.2 per cent of Gross Domestic Product.

### Impact of obesity, mental illness and alcohol on absenteeism

In October 2005, the Australian Institute of Health and Welfare released a paper titled *Obesity and Workplace Absenteeism Among Older Australians*. The paper used data from the 2001 National Health Survey and concluded that employees with obesity were 17 per cent more likely to be absent from work for at least one day over the two week survey period than employees without obesity. The study also found that:

- for people who were absent for personal illness or injury, the average absence was longer for employees with obesity (3.8 days) than employees without obesity (3.0 days);
- employees with obesity were 28 per cent more likely to have consulted with a general practitioner in the previous two weeks than employees without obesity; and
- older Australians who were obese were 20 per cent less likely to be employed full-time than their counterparts without obesity.

<sup>4</sup> Gross State Product is a measure of the dollar value of output produced in an entire economy. This analysis assumes average labour productivity of those who have a greater tendency to be absent is the same as overall labour productivity in Tasmania.

The results strongly suggest that obesity may be influencing absenteeism and, in turn, work performance, possibly through its association with chronic diseases and injury. The study concluded that obesity was associated with over 4 million days lost in Australia from the workplace in 2001. Days lost through obesity alone represented around 0.2 per cent of all days worked in 2001, the equivalent of nearly 17 000 full-time employees for the whole year. Given that Tasmania currently has similar rates of obesity as nationally, the 0.2 per cent of days lost nationally is likely to be representative at a Tasmanian level.

The University of Queensland's *Work Outcomes Research and Cost-Benefit Project, 2000*, assessed the impact of mental disorders in the workplace. The study estimated that in Australia, absenteeism due to depression accounts for around six million working days lost each year (or around 0.3 per cent), at an annual cost of approximately \$1.2 billion. In addition, depression is estimated to reduce performance in the workplace by at least 40 per cent, which is estimated to equate to around 30 million working days per year of reduced productivity nationally, at a cost of \$2.3 billion.

A recent study published in the *Medical Journal of Australia*<sup>5</sup> estimates the extent and cost of alcohol-related absenteeism in the Australian workforce. On the basis of self-reported days off work because of drinking, the study estimates that more than 2.5 million days were lost in 2001, at an estimated cost of \$437 million.

It is not possible to add the above estimates to obtain a total of days lost as some people surveyed may have had more than one condition.

### *Presenteeism*

Poor health can have a hidden effect on productivity to the extent that it reduces the capacity of workers to operate efficiently while at work (this is often referred to as presenteeism). This includes dual effects of waning levels of productivity as the day progresses due to poor physical fitness and reduced productivity due to bringing an illness into the work place.

In 2007, Medibank Private commissioned economic consultant Econtech to assess the cost of presenteeism, that is, employees who go to work but are not fully functioning because of illness or injury.

The study reported that the output lost due to presenteeism is about 2.5 per cent, or the equivalent of six working days per person per year. The report concludes that the total cost of presenteeism is four times that of absenteeism<sup>6</sup>, or \$17.6 billion annually to employers in direct costs, while overall economy-wide output is reduced by \$25.7 billion or 2.79 per cent of GDP. Combined, this implies that absenteeism and presenteeism costs the economy around 3.2 per cent of GDP in direct costs per year.

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<sup>5</sup> Estimating the cost of alcohol-related absenteeism in the Australian workforce: the importance of consumption patterns, Pidd KJ, Berry JG, Roche AM and Harrison JE, *MJA* 2006; 185 (11/12): 637-641

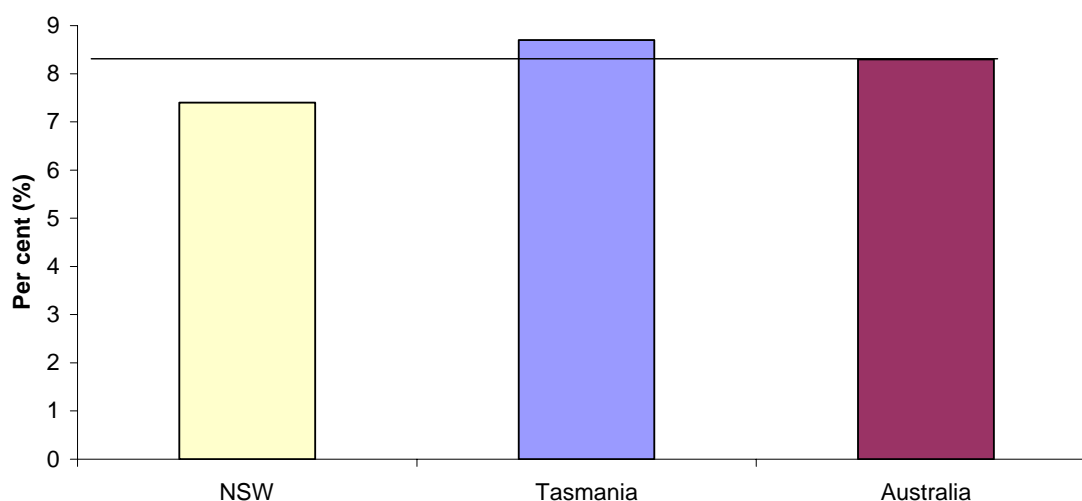
<sup>6</sup> This estimate of the cost of absenteeism comes from Health Services Australia's *Managing Absenteeism Report*, which is quoted in Medibank Private's 2005 report, *The Health of Australia's workforce*.

The estimate of the cost of absenteeism, by Econtech, of around 1.5 working days lost per person per year is far below the estimate of absenteeism based on days away due to illness data in the 2004–05 National Health Survey. The estimates use differing methodologies and data sources. However, they provide a range of the likely costs associated with both absenteeism and presenteeism, with the National Health Survey data providing an upper bound.

### Presenteeism: Tasmania compared with Australia

According to the results from the National Health Survey 2004–05<sup>7</sup>, about 8.7 per cent of Tasmania's employed population reported that they had "cut down on their usual activities for all or most of the day due to an illness/injury". In comparison, a marginally lower 8.3 per cent of employed persons nationally reported having days of reduced activity.

**FIGURE 2.4: EMPLOYED PERSONS AGED 15 TO 64: PERCENTAGE REPORTING DAYS OF REDUCED ACTIVITY - AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2004–05**



Source: National Health Survey: Summary of Results; State Tables, 2004–05, ABS Cat. No 4362.0.

<sup>7</sup> This refers to days during the two weeks prior to interview on which a person cut down on their usual activities for all or most of the day due to an illness/injury which they had, excluding days away from work because of own illness or injury.

### Key Points

- An individual's health status can significantly impact on that person's productivity, and ability and willingness to participate in the labour force.
- According to one study, the following health conditions reduce the probability of a person participating in the labour force:
  - mental health, by around 50 per cent;
  - diabetes, by around 30 per cent;
  - major injuries, by around 25 per cent;
  - arthritis, by around 23 per cent;
  - cardio-vascular disease, by around 22 per cent; and
  - cancer, by around 15 per cent.
- Around 33 000 Tasmanians may have reduced participation, or non-participation, due to ill health.
- Absenteeism from work due to illness is marginally greater in Tasmania than in Australia as a whole (9.1 days per person employed compared to 8.7 days per person nationally). For Tasmania, this absenteeism is the equivalent to around 8 000 full-time workers being away from work, for a whole year, due to illness.
- Employees with poor health have up to nine times the annual sickness absence of healthy individuals, that is 18 days absence per year compared to two days per year.
- Estimates suggest that Tasmania may have lost around \$551.7 million in output due to workplace absences for illness, in 2004–05.
- Almost nine per cent of Tasmania's employed population reported that they had "cut down on their usual activities for all or most of the day due to an illness/injury".
- The total cost of presenteeism (ie the extent to which poor health reduces a worker's capacity to perform) is estimated to be four times that of absenteeism.

## Section 3

As outlined in Section 2, different health conditions can significantly impact on the productivity and participation of the labour force. This section examines the health of Tasmania's working-age population compared to other jurisdictions.

Over the longer term there are a number of behaviours or risk factors that influence the prevalence of certain health conditions. For example, obesity increases the risk of developing a range of health problems, including Type 2 Diabetes, cardiovascular disease, high blood pressure, and certain cancers. It is, therefore, also useful to examine specific risk factors as this provides an indication of the potential health of the workforce in future years.

In general, there are four key risk areas which may impact on health and wellbeing (Table 3.1). Available data sources do not generally examine factors *A* and *B* in the context of health status information. Some data on behavioural and physiological risk factors have been included in the following analysis.

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**TABLE 3.1 FACTORS AFFECTING HEALTH AND WELLBEING**

*A Risk conditions*

- Poverty
- Low social status
- Dangerous work
- Polluted environment
- Natural resource depletion
- Discrimination (age, sex, race, disability)
- Steep power hierarchy (wealth, status, authority) within a community and workplace

*B Psycho-social risk factors*

- Isolation
- Lack of social support
- Poor social networks
- Low self-esteem
- High self-blame
- Low perceived power
- Loss of meaning or purpose
- Abuse

*C Behavioural risk factors*

- Smoking
- Poor nutritional intake
- Physical inactivity
- Substance abuse
- Poor hygiene
- Being overweight
- Unsafe sexual activity

*D Physiological risk factors*

- High blood pressure
- High cholesterol
- Release of stress hormone
- Altered levels of biochemical markers
- Genetic factors

Source: [www.health.vic.gov.au/healthpromotion](http://www.health.vic.gov.au/healthpromotion).

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## Tasmania's health profile

Tasmania's working age population has a higher proportion, than nationally, of people with some health conditions that impact on participation and productivity. Many of these health conditions become more prevalent and/or more complex in older age groups. However, having one or more of these conditions does not prevent a person from contributing meaningfully to the workforce. Rather, such people have a higher probability of not participating in the labour force.

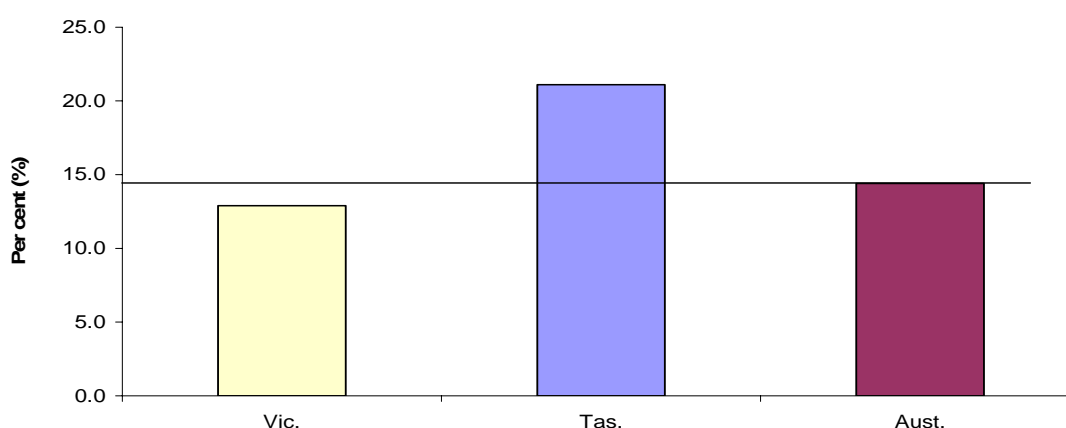
The following section compares the prevalence of specific health conditions for working-aged Tasmanians with those of the national average. Most of these estimates are based on self-reporting and as a consequence may not be consistent with other estimates based on medical assessments.

### Arthritis

Arthritis is a large contributor to pain and disability in Tasmania and it is more prevalent in Tasmania's working age population than any other jurisdiction. According to the 2004–05 National Health Survey, 96 600 Tasmanians reported having arthritis (20.4 per cent of the population), compared to only 15.3 per cent nationally.

Over one fifth (21.1 per cent) of Tasmanians of working age reported having arthritis, almost 50 per cent higher compared to the national average of 14.4 per cent (Figure 3.1). Arthritis usually worsens with time and it is more prevalent among older people. Of the working age population between the ages of 45 and 64 years, 34.8 per cent in Tasmania reported suffering from arthritis, while nationwide this figure was 28.1 per cent. Across all ages in Tasmania, around 59 per cent of those who reported having arthritis were women.

**FIGURE 3.1 ARTHRITIS PREVALENCE FOR PEOPLE AGED 18 TO 64: AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2004–05**



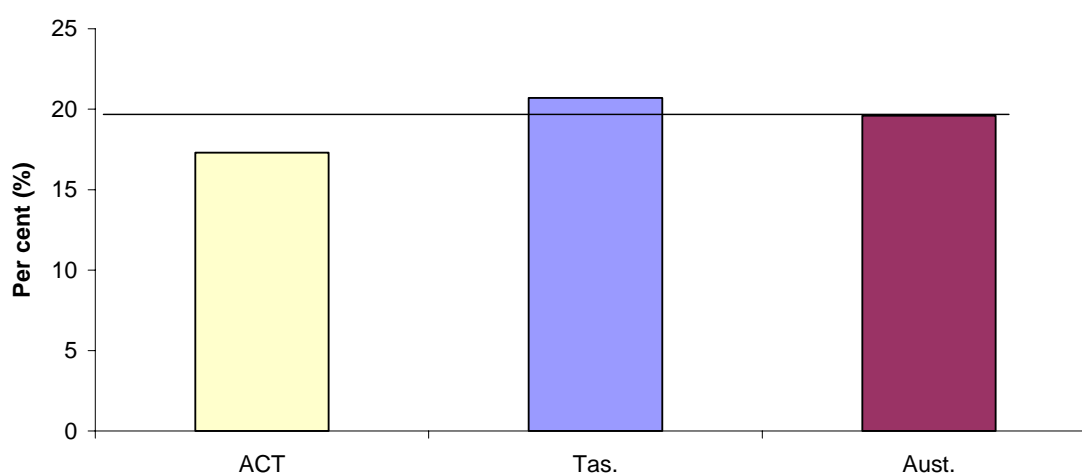
Source: National Health Survey: Summary of Results; State Tables, 2004–05, ABS Cat. No. 4362.0.

## Back pain/disc disorder

Around 15.3 per cent of Australians reported having back pain/disc disorder in 2004–05, with males representing 52.0 per cent of this cohort. In Tasmania, a slightly higher 15.9 per cent of the population (75 400 persons) reported having these conditions, of which 56.8 per cent were males.

Compared to other states and territories, the proportion of Tasmanians aged 18 to 64 having back pain/disc disorder (20.7 per cent) ranked the fourth highest of all states and territories, behind South Australia (23.1 per cent), Western Australia (22.6 per cent) and Queensland (21.1 per cent). The rate was slightly above the national average of 19.6 per cent.

**FIGURE 3.2 BACK PAIN/DISC DISORDER PREVALENCE FOR PEOPLE AGED 18 TO 64: AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2004–05**



Source: National Health Survey: Summary of Results; State Tables, 2004–05, ABS Cat. No. 4362.0.

## Cancer

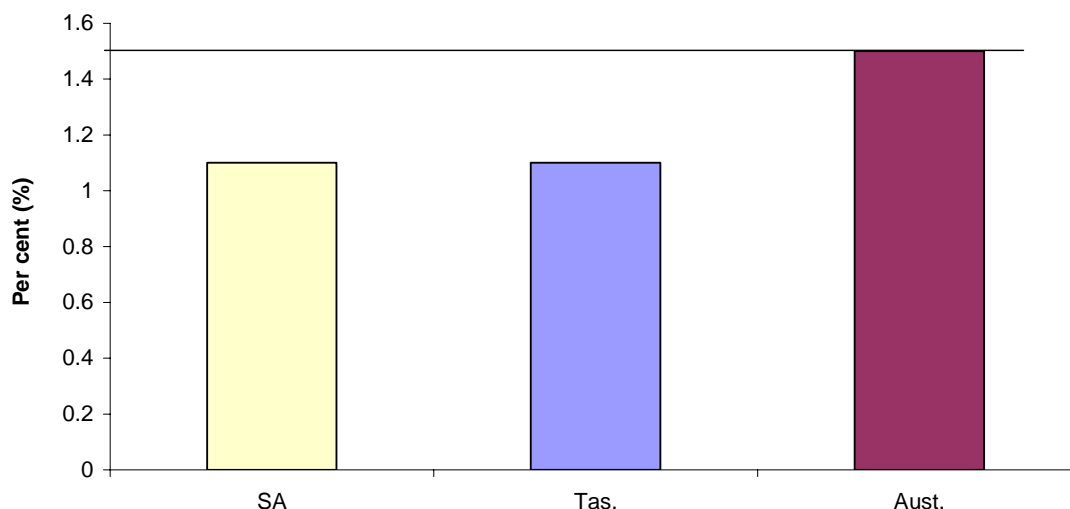
Cancer is a major cause of death and disability in Tasmania and Australia. It affects both physical and emotional wellbeing of individuals and their families.

An estimated 7 400 Tasmanians (1.5 per cent of the population) reported having cancer in 2004–05, consisting of around 4 700 males and 2 700 females. Nationally, a total of 338 300 persons (1.7 per cent of the population) reported having cancer.

Cancer incidence increases with age. In 2004–05, about 45.2 per cent of cancer patients in Tasmania were aged 25 to 64 and 54.8 per cent were aged 65 and over.

About 1.1 per cent<sup>8</sup> of Tasmanians aged 18 to 64 reported having cancer (Figure 3.4) in 2004–05. The Tasmanian rate was the lowest of all states and territories and below the national average of 1.5 per cent.

<sup>8</sup> Rates are age-standardised to the Australian population as at 30 June 2001.

**FIGURE 3.4 CANCER PREVALENCE FOR PEOPLE AGED 18 TO 64: AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2004–05**

Source: National Health Survey: Summary of Results; State Tables, 2004–05, ABS Cat. No. 4362.0.

Although the prevalence of cancer in Tasmania is lower than the national average, death rates from some specific cancers are relatively high in Tasmania. For example, over the period 2000 and 2002 Tasmania recorded the second highest male and female death rates from lung cancer — with the Northern Territory reporting the highest.<sup>9</sup>

## Diabetes

Diabetes mellitus (diabetes) is a metabolic disease in which high blood glucose levels result from defective insulin secretion, insulin resistance or both. It is one of the main reasons for poor health in Australia and it causes much disability, poor quality of life and premature death. In particular, diabetes increases the risk of cardiovascular disease, chronic kidney disease, visual impairment and nervous system damage.

The Australian Diabetes Obesity & Lifestyle Study (2000)<sup>10</sup> reported that, in 1999, approximately 939,000 Australians aged over 25 years had diabetes. When people under the age of 25 years are included, approximately one million Australians were estimated to have diabetes.

The prevalence of diabetes in Tasmania is about 8.7 per cent of people aged 25 years and over — the highest of all Australian states and territories. The Australian prevalence overall was 7.5 per cent and the best performing state was Western Australia, at 6.6 per cent (Figure 3.5).

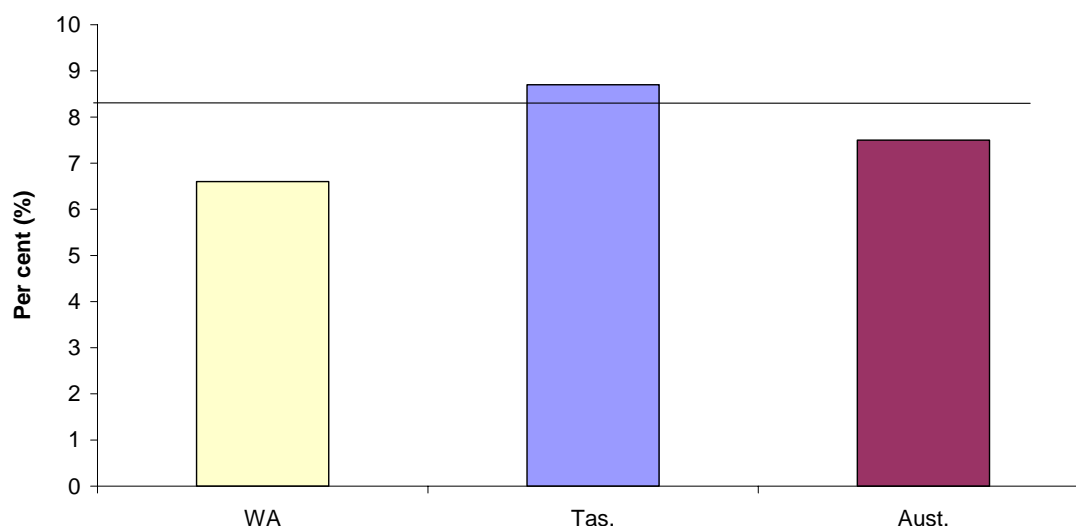
<sup>9</sup> In 2000–02 male death rates from lung cancer per 100 000 population were 58.5 in New South Wales, 58.7 in Victoria, 64.2 in Queensland 65.1 in Western Australia, 59 in South Australia, 69.3 in Tasmania, 43.9 in Australian Capital Territory, and 80.9 in Northern Territory. (Australian Institute of Health and Welfare, National Mortality Database, Australia's Health 2004).

<sup>10</sup> The Australian Diabetes, Obesity and Lifestyle Study Steering Committee (2000) The Australian Diabetes, Obesity and Lifestyle Study (AusDiab), International Diabetes Institute.

The prevalence of diabetes among people of working age in Tasmania (25–64 years of age) was 5.8 per cent, slightly higher than the national rate of 5.5 per cent for the same age group.

While the data reported in Figure 3.5 is somewhat outdated (as it is based on a study conducted 2000) the number of people registered with the National Diabetes Services Scheme, as at June 2007, is consistent with the prevalence of diabetes in Tasmania being similar to that of the national rate.

**FIGURE 3.5 DIABETES PREVALENCE FOR PEOPLE AGED 25 YEARS AND OVER: AUSTRALIA, TASMANIA, 2000**



Source: *The Australian Diabetes, Obesity and Lifestyle Study Steering Committee (2000) The Australian Diabetes, Obesity and Lifestyle Study (AusDiab), International Diabetes Institute.*

Many factors contribute to the onset and development of diabetes, including obesity, physical inactivity and poor nutrition, together with genetic predisposition and ageing.

### Heart, stroke and vascular condition

Ischaemic heart disease, along with stroke, heart failure and peripheral vascular disease, is the major contributor to the cardiovascular disease burden in both Tasmania and Australia.<sup>11</sup> The major risk factors for cardiovascular disease are gender (being male), family history, smoking, high blood pressure, high blood cholesterol, insufficient physical activity, being overweight or obese, poor nutrition and diabetes. High intake of alcohol also increases the risk of stroke.

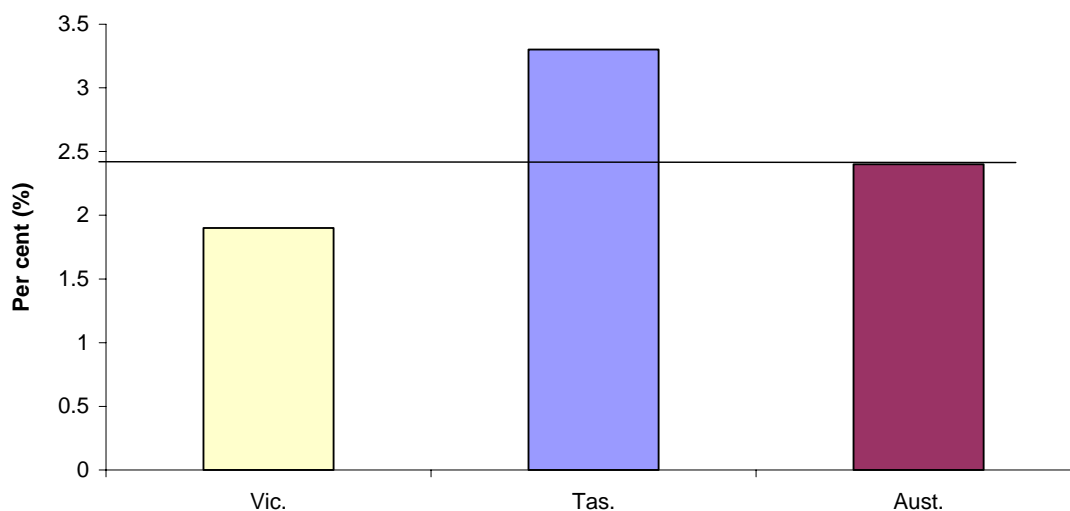
Ischaemic heart disease is one of the most frequent causes of premature death<sup>12</sup> in Tasmania. In 2004–05, about 5.5 per cent of Tasmanians (25 900 persons) were diagnosed having a heart, stroke or vascular condition, with females accounting for 53.7 per cent (13 900). About 6 700 Tasmanians aged 45 to 64 reported having heart, stroke and vascular conditions and the number increased to 16 000 for people aged 65 years and over.

<sup>11</sup> *Australia's Health 2006*, AIHW, Canberra, Cat No AUS 73, p61.

<sup>12</sup> This refers to the deaths below the age of 75 years.

The proportion of Tasmanians aged 18 to 64 reporting a heart, stroke or vascular condition was the highest of all jurisdictions (3.3 per cent) in 2004–05, and almost 40 per cent higher than the national average of 2.4 per cent (Figure 3.6).

**FIGURE 3.6 HEART, STROKE AND VASCULAR CONDITION PREVALENCE FOR PEOPLE AGED 18 TO 64: AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2004–05**



Source: National Health Survey: Summary of Results; State Tables, 2004–05, ABS Cat. No. 4362.0.

## Hypertensive disease

Hypertensive disease (high blood pressure or hypertension<sup>13</sup>) is a major risk factor for coronary heart disease, stroke, heart failure and kidney failure. The risk of disease increases as the level of blood pressure increases. When high blood pressure is controlled, the risk of cardiovascular disease and overall mortality is reduced, but not necessarily to the level of unaffected people.<sup>14</sup>

Major causes of high blood pressure include diet (a high salt intake), obesity, excessive alcohol consumption and insufficient physical activity. It is not yet known whether sustained psychological stress has an effect on a person's average blood pressure level, but stress is likely to have indirect effects by influencing harmful health behaviours associated with high blood pressure.<sup>15</sup>

An estimated 2.1 million Australians (10.7 per cent of the population) reported having high blood pressure in 2004–05, with 52.4 per cent being females. In the same year, a much higher 13.1 per cent of Tasmanians (62 100 persons) reported having the condition with a higher proportion of females (57.2 per cent) than males. The Tasmanian rate is therefore more than 20 per cent above the national average.

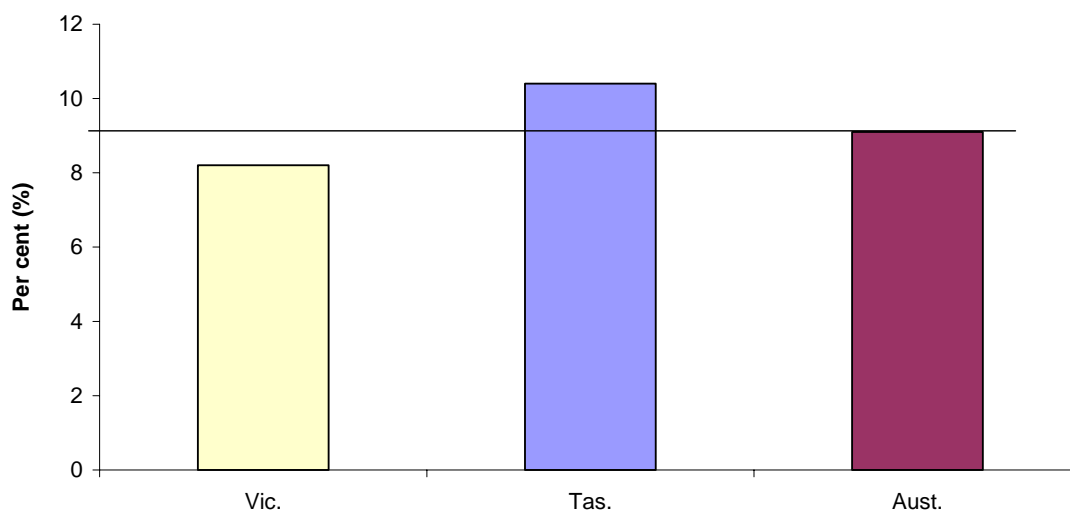
<sup>13</sup>High blood pressure represents the forces exerted by blood on the wall of the arteries and is expressed in terms of systolic and diastolic pressure. Systolic blood pressure reflects the maximum pressure in the arteries when the heart muscle contracts to pump blood. Diastolic blood pressure reflects the minimum pressure in the arteries when the heart muscle relaxes.

<sup>14</sup>This is taken from World Health Organization-International Society of Hypertension (WHO-ISH) 1999, Guidelines for the management of hypertension, *CVD prevention* 2(2): p76–111.

<sup>15</sup> WHO 2002, *World Health report 2002: reducing risks, promoting healthy life*, Geneva.

The proportion of Tasmanians aged 18 to 64 having high blood pressure was the second highest of all states and territories (10.4 per cent) in 2004–05 and well above the national average of 9.1 per cent (Figure 3.7).

**FIGURE 3.7 HYPERTENSIVE DISEASE PREVALENCE FOR PEOPLE AGED 18 TO 64: AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2004–05**



Source: National Health Survey: Summary of Results; State Tables, 2004–05, ABS Cat. No. 4362.0.

### High/Very high levels of psychological distress

Having a high or very high level of psychological distress is one of the causes of mental health problems which are associated with increased exposure to health risk factors, poorer physical health and higher rates of death, including suicide. A person may reveal in other ways that they have psychological distress without necessarily having been diagnosed or treated for a mental illness.<sup>16</sup>

An estimated 9.5 per cent of the population (45 100 persons) in Tasmania reported having high/very high levels of psychological distress in 2004–05, compared to 9.9 per cent of the population in Australia in the same year. Of those, 85.6 per cent of persons suffering these conditions in Tasmania and 86.2 per cent in Australia were aged between 18 and 64.

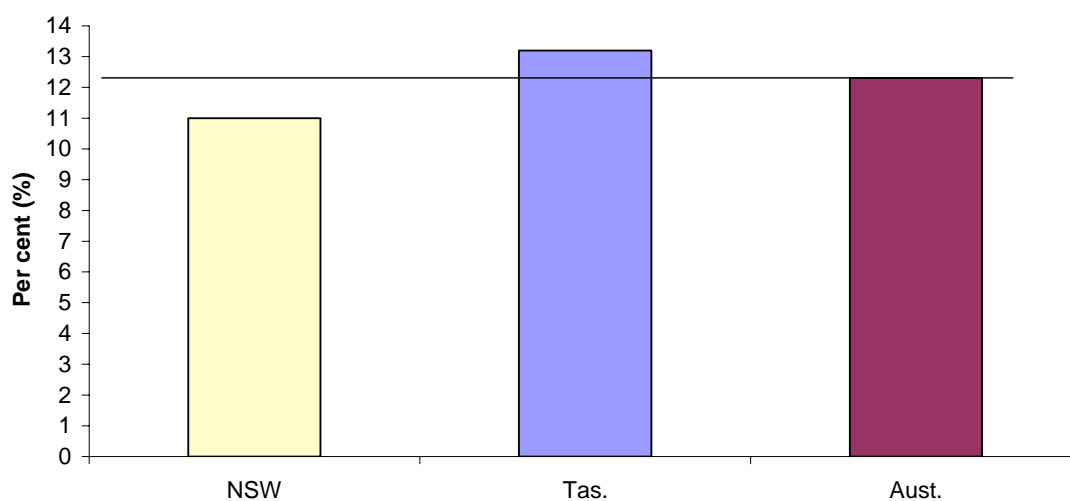
### Mental and behavioural problems

Mental ill health is another leading cause of the non-fatal burden of disease and injury in Tasmania and Australia.<sup>17</sup> About 55 600 Tasmanians (11.7 per cent of the population) reported having such problems in 2004–05, consisting of around 29 700 females (53.5 per cent) and 25 900 males.

Compared to other states and territories, Tasmanians aged 18 to 64 recorded the fourth highest rate of mental and behavioural problems (13.2 per cent) in 2004–05. This compared to a national average of 12.3 per cent.

<sup>16</sup> *Australia's Health 2006*, AIHW, Canberra, Cat No AUS 73, p97

<sup>17</sup> Data are from *Australia's Health 2006*, AIHW, Canberra, Cat No AUS 73, p97.

**FIGURE 3.8 MENTAL AND BEHAVIOURAL PROBLEMS FOR PEOPLE AGED 18 TO 64: AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2004–05**

Source: National Health Survey: Summary of Results; State Tables, 2004–05, ABS Cat. No. 4362.0.

### *Behavioural risk factors*

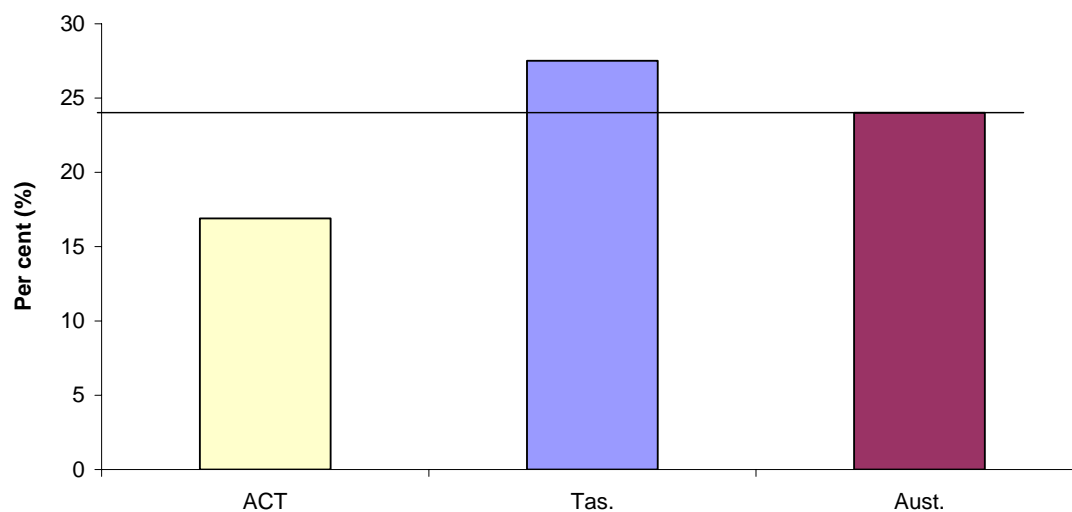
Numerous behavioural risk factors are important in determining the risk of chronic disease during a person's working life, and hence the overall labour force participation rate and productivity level.

Risk factors discussed below include smoking, having medium or high risk alcohol consumption, a sedentary lifestyle or being overweight or obese, and diet (having one or less serves of fruit and four or less serves of vegetables per day).

### **Smoking**

Smoking is associated with an increased risk of developing many diseases including respiratory diseases such as bronchitis and emphysema, and circulatory diseases including thrombosis and heart disease. Smoking is also a significant contributor of lung cancer. The higher death rate from lung cancer in Tasmania than the national average for both males and females may be partly explained by the fact that a higher percentage of the population over 18 years in Tasmania (57.8 per cent) than in Australia (53.2 per cent) are current smokers or ex-smokers.

Tasmania's population aged between 18 and 64 years had the highest proportion of current daily tobacco smokers (27.5 per cent) of all jurisdictions in 2004–05, and 15 per cent higher than the national average of 24.0 per cent. Of particular concern is that the rates in Tasmania were highest among people aged 18 to 24 (33.5 per cent compared to 30 per cent nationally).

**FIGURE 3.9 CURRENT DAILY TOBACCO SMOKERS FOR PEOPLE AGED 18 TO 64: AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2004–05**

Source: National Health Survey: Summary of Results; State Tables, 2004–05, ABS Cat. No. 4362.0.

### Medium risk/high risk alcohol consumption

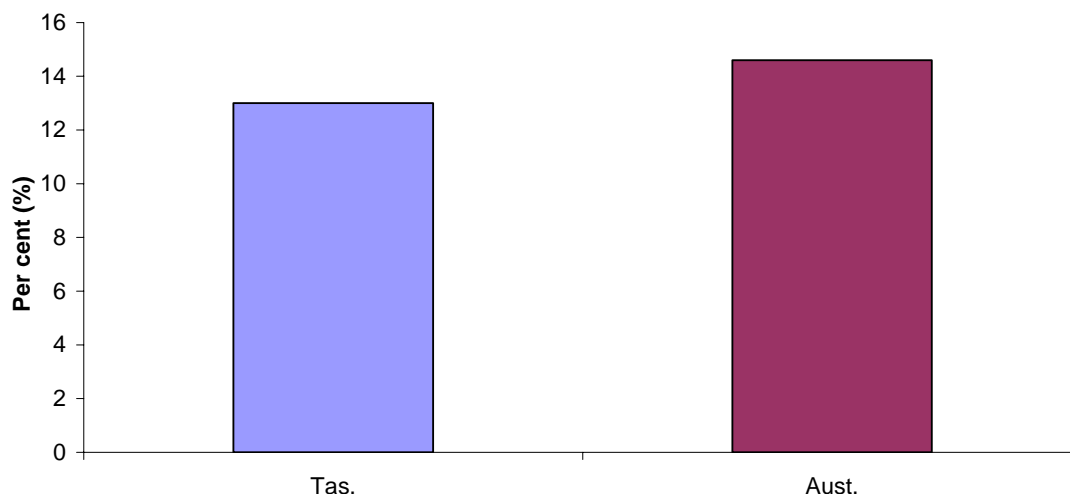
Recent evidence suggests that alcohol has health benefits for some people at low levels, particularly in contributing to the reduction of the risk of heart disease from middle age onwards. However, people who drink regularly at higher levels place themselves at increased risk of chronic ill health and premature death, while an episode of heavy drinking places the drinker and others at risk of injury and death.<sup>18</sup> Alcohol consumption is associated with both short term harm, such as road injuries and violence, and long term harm, such as liver cirrhosis and cancer.

In 2004–05, about 40 900 Tasmanians (11.4 per cent of the population aged 18 years and over) reported drinking alcohol at levels deemed medium or high risk by the National Health and Medical Research Council.

A higher proportion of males than females reported having medium risk or high-risk drinking behaviour in all states and territories. In Tasmania in 2004–05, it was estimated that 22 700 males (55.5 per cent) and 18 200 females were medium risk or high-risk drinkers. It was also estimated that a smaller proportion of Tasmanians aged 18 to 64 years were medium or high risk drinkers (13.0 per cent) compared with the national average (14.6 per cent). In fact, Tasmania recorded the lowest rate of high-risk drinkers (Figure 3.10).

The highest proportion of risky or high-risk drinkers in Tasmania was in the ages of 25 to 44 years (14.9 per cent).

<sup>18</sup>National Health Survey 2001, ABS, Cat No 4364.0.

**FIGURE 3.10 RISKY OR HIGH-RISK DRINKERS FOR PEOPLE AGED 18 TO 64: AUSTRALIA AND TASMANIA (THE BEST PERFORMING STATE), 2004–05**

Source: National Health Survey: Summary of Results; State Tables, 2004–05, ABS Cat. No. 4362.0.

### Sedentary/low exercise lifestyle

Physical activity is important for maintaining good health. Regular exercise reduces cardiovascular risk in its own right and also improves levels of cardiovascular risk factors such as being overweight, high blood pressure, low levels of good cholesterol and Type 2 Diabetes. It helps protect against some forms of cancer, and strengthens the musculoskeletal system, helping to reduce the likelihood of osteoporosis and the risk of falls and fractures. In addition, taking part in physical activity improves mental wellbeing in both the short and long term by reducing feelings of stress, anxiety and depression.<sup>19</sup>

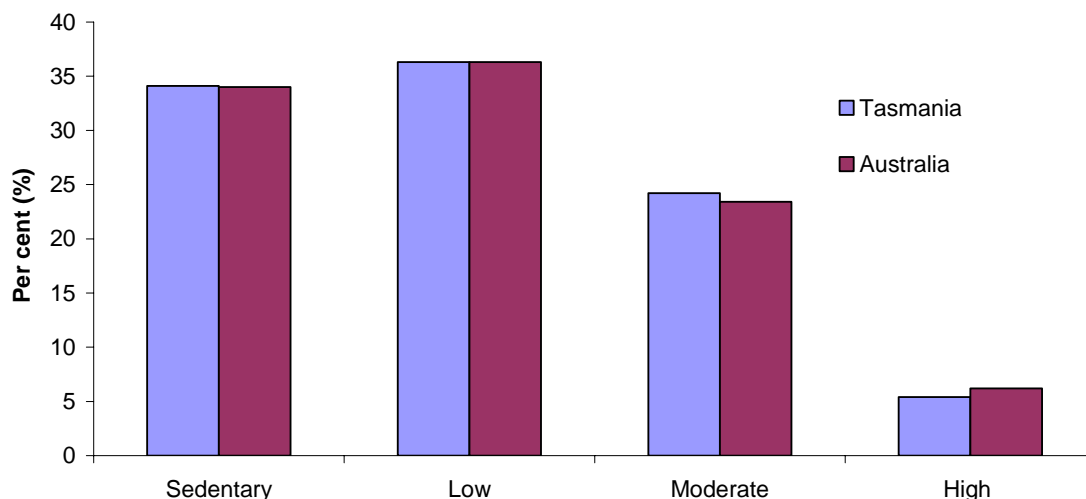
About 70.4 per cent (251 900) of the population in Tasmania reported being sedentary or having a low level of exercise in 2004–05. About 24.2 per cent (86 800) reported a moderate level of exercise and only 5.4 per cent (19 400) had a high level of exercise.<sup>20</sup> This is almost identical to the national rates of 70.3 per cent for those reporting exercise levels as low or being sedentary, 23.4 per cent for those reporting moderate exercise and 6.2 per cent reporting high levels of exercise.

More Tasmanian males (63 400) than females (58 600) reported being sedentary in 2004–05, but many more Tasmanian males (12 500) than females (6 900) had a high level of exercise.

When compared to the national average, Tasmanians aged between 18 and 24 years had lower rates of moderate and high exercise levels (33.3 per cent compared to 35.8 per cent). However, for all working ages above 24 years, Tasmanians reported having higher than national average levels of exercise in the moderate and high groups.

<sup>19</sup>This section is taken from Dunn A, Trivedi M & O'Neal H 2001, Physical activity dose-response effects on outcomes of depression and anxiety, *Medicine and Science in Sports and Exercise* 33:S587-97.

<sup>20</sup>Exercise level was based on frequency, intensity and duration of exercise in the two weeks prior to interview. From these components, an exercise score was derived using factors to represent the intensity of the exercise.

**FIGURE 3.11 EXERCISE LEVELS FOR THOSE 18 TO 64: TASMANIA AND AUSTRALIA, 2004–05**

Source: National Health Survey, ABS, Cat No. 4362.0, 2004–05.

### Overweight/obese

Body weight has attracted growing public attention as a health concern with Australia's increasing prevalence of obesity<sup>21</sup> in recent years. The prevalence of obesity has risen dramatically worldwide, and the World Health Organisation has called the increase a global epidemic. Excess body fat increases the risk of developing a range of health problems, including Type 2 Diabetes, cardiovascular disease, high blood pressure, certain cancers, sleep apnoea, osteoarthritis,<sup>22</sup> and psychological disorders.<sup>23</sup>

The Australian Diabetes Obesity & Lifestyle Study found that around 60 per cent of Australians aged over 25 years were overweight or obese in 2000. In Tasmania, it found that almost two thirds of the population aged over 25 years were overweight or obese.

In 2000, nearly 22 per cent of Tasmanians aged over 25 years were obese, compared with around 20 per cent nationally. The state with the lowest prevalence of obesity for people aged over 25 years was Western Australia, at 17.0 per cent.

The prevalence of obesity among people of working age in Tasmania (25–64 years) was 19.4 per cent. The prevalence of obesity across Australia for this age group was 21.3 per cent.

<sup>21</sup>Body mass index (BMI) is the most commonly used method of assessing whether a person is of normal weight, underweight, overweight or obese. It is calculated by dividing the person's weight (in kilograms) by their height (in metres) squared. For both men and women, underweight is a BMI below 18.5, acceptable weight is from 18.5 to less than 25, overweight is 25 and above (including obese) and obese is 30 and over.

<sup>22</sup>Osteoarthritis is a chronic and common form of arthritis, affecting mostly the spine, hips, knees and hands. It first appears from the age of about 30 and is more common and severe with increasing age.

<sup>23</sup>This section is taken from WHO 2000. Obesity: preventing and managing the global epidemic, *Report of a WHO consultation, WHO Technical Report Series 894*. Geneva: WHO.

## Vegetable and fruit intake

Vegetables and fruits have protective effects against non-communicable chronic diseases, due to the presence of nutrients and phytochemicals in plant foods.<sup>24</sup> People whose diet is high in fruit and vegetables (including legumes) have substantially lower risks of coronary heart disease, stroke, several major cancers, and possibly hypertension and Type 2 Diabetes.

The intake of vegetables and fruit required will vary according to body size and activity level, but in general it is recommended that adults consume at least five servings of vegetables and two servings of fruit each day.

In Tasmania, according to the National Health Survey, about 79 per cent of people over 18 years did not have the recommended daily intake of vegetables, in 2004–05, with slightly higher rates for those between 18 and 44 years. By contrast, nationally 85.6 per cent of people over 18 years did not have the recommended daily vegetable intake, with rates of 91.4 per cent for those between 18 and 24 years. It is estimated that almost 75 per cent of Tasmanians had three serves of vegetables per day compared to 60 per cent nationally. Again, the rates are much lower for the younger age groups in Tasmania, with only 57 per cent of people 18 to 24 years having three or more serves of vegetables and only 45 per cent nationally.

The trends for fruit intake are similar, with only 53.7 per cent of Tasmanians over 18 years having the recommended fruit intake per day, very similar to the 54.0 per cent recorded nationally. Rates were again lower for the younger age groups with 42.3 per cent of those aged between 18 and 24 years in Tasmania meeting the recommended daily intake of fruit, while for the same age group nationally the rate was slightly higher at 44.3 per cent.

### Key Points

- Tasmania's working age population has a relatively high proportion of people with health conditions that impact on participation and productivity. For example, in 2004–05, the proportion of working-age Tasmanians reported having:
  - arthritis was almost 50 per cent higher than the national average;
  - a stroke, heart or another vascular condition, was almost 40 per cent higher than the national average; and
  - high blood pressure was almost 20 per cent higher than the national average.
- Many of these health conditions become more prevalent and more complex in older age groups.
- Numerous risk factors are important in determining the risk of chronic disease during a person's working life, and hence the labour force participation rate and productivity level.
- Tasmania's working-age population does not perform well on some of these risk factors. For example, Tasmania had the highest proportion of current daily tobacco smokers (27.5 per cent) of all jurisdictions in 2004–05.

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<sup>24</sup> National Health and Medical Research Council (NHMRC), 2003.

## Section 4

As mentioned earlier there is a 'two way' relationship between an individual's health, and their productivity and labour force participation. More specifically, work-related accidents, injuries or stress can result in lost productivity or reduced labour force participation.

Work-related injuries data reveal the complex relationship between workforce health and labour supply. The work-related injuries data from the ABS for 2004–05 do not show a significantly different rate of injury for Tasmanian workers compared to their national counterparts (Table 4.1).

**TABLE 4.1 WORK-RELATED INJURIES, 2004–05**

	Total workers ('000s) <sup>#</sup>	Experienced an injury (%)
<b>Tasmania</b>		
Male	129.7	*7.2
Female	107.7	*5.6
Total	237.4	6.4
<b>Australia</b>		
Male	5 894.3	7.4
Female	4 944.3	5.1
Total	10 838.6	6.4

*Notes:*

\* Relative standard error between 25 per cent and 50 per cent, estimates should be used with caution.

<sup>#</sup> Total workers includes all those who worked at some time during the reference year.

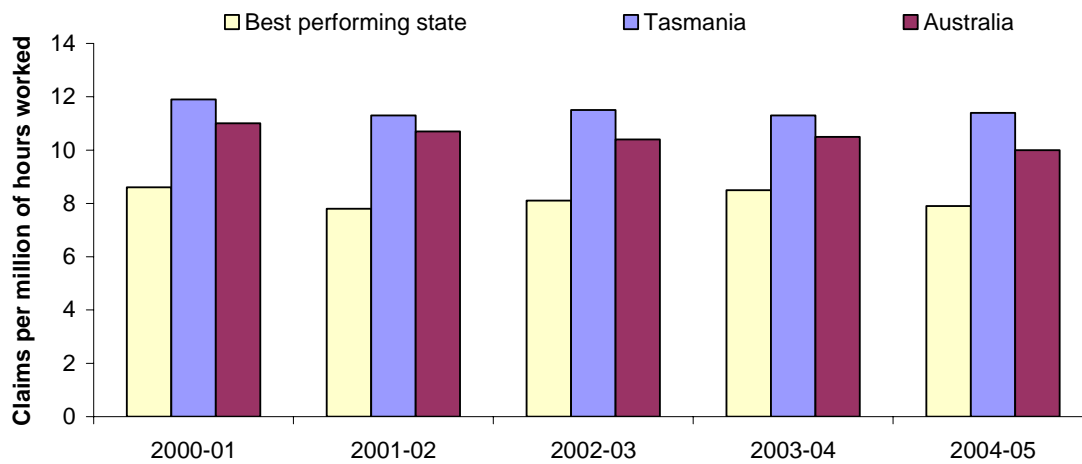
Source: ABS, Cat No. 6234.0, *Work-related Injuries, 2004–05*.

### Impacts of work on health, participation and productivity

Figure 4.1 shows the number of workers compensation claims that resulted in one week or more of compensation, per million hours worked, during 2004–05. Over this period, Tasmania had the third highest rate of claims of all states and territories, 14.0 per cent higher than the national average.<sup>25</sup> The number of claims in Tasmania has declined over the past five years, but this decline has not been as marked as at the national level.

<sup>25</sup> These data are sourced from Comparative Performance Monitoring Report 2004–05, prepared for the Workplace Relations Ministers' Council. Tasmanian data in this report is provided by WorkCover Tasmania. WorkCover data do not include Commonwealth Government employees in Tasmania, who are covered under the ComCare scheme, nor do they capture those who are self-employed, and some contractors.

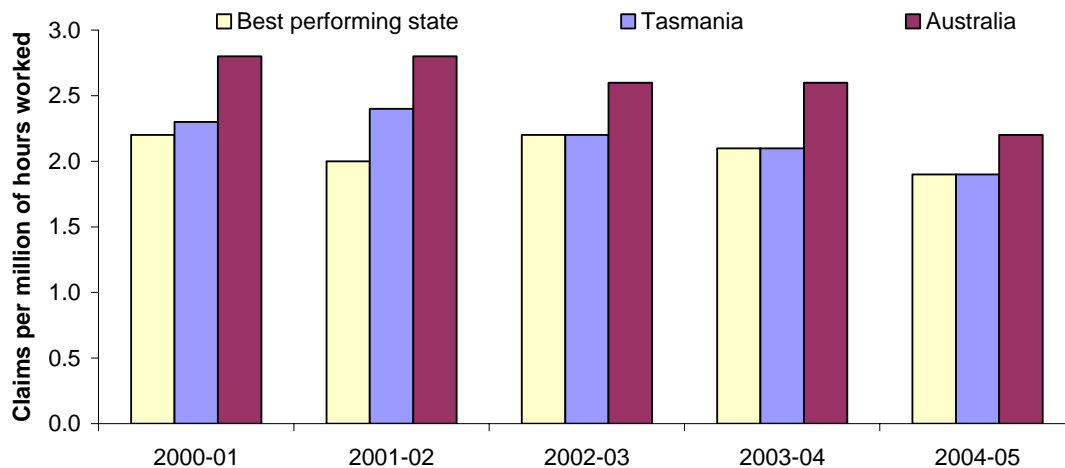
**FIGURE 4.1 WORKERS COMPENSATION CLAIMS FREQUENCY, PER MILLION HOURS WORKED (CLAIMS RESULTING IN ONE WEEK OR MORE OF COMPENSATION), AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2000-01 TO 2004-05**



Source: Comparative Performance Monitoring Report 2004-05, Workplace Relations Ministers' Council.

However, as can be seen below, the number of claims in Tasmania resulting in 12 weeks or more of compensation is considerably lower than the national average. Tasmania was the best or equal best performing state in 2002-03, 2003-04 and 2004-05.

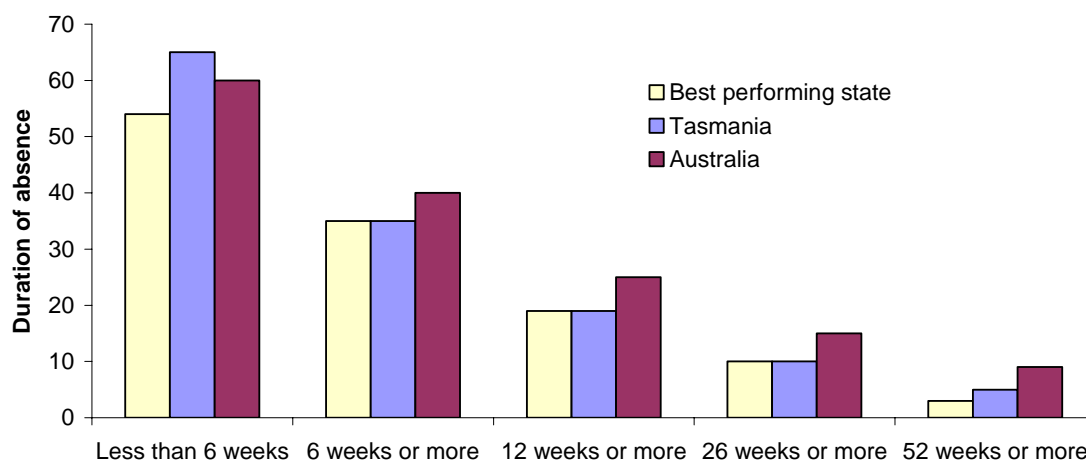
**FIGURE 4.2 WORKERS COMPENSATION CLAIMS FREQUENCY, PER MILLION HOURS WORKED (CLAIMS RESULTING IN 12 WEEKS OR MORE OF COMPENSATION), AUSTRALIA, TASMANIA AND THE BEST PERFORMING STATE, 2000-01 TO 2004-05**



Source: Comparative Performance Monitoring Report 2004-05, Workplace Relations Ministers' Council.

Another measure of occupational health and safety outcomes in the work place is the duration of absence from work *due to injury* (based on successful claims). In this area, Tasmania performs well. On average, in 2002–03, 65 per cent of absences that resulted from compensable injuries in Tasmania lasted less than six weeks, compared to 60 per cent nationally. The data also show that 81 per cent of absences in Tasmania lasted less than 12 weeks (nationally this was 75 per cent), while 90 per cent of absences were less than 26 weeks (85 per cent nationally).

**FIGURE 4.3 DURATION OF ABSENCE DUE TO WORKERS COMPENSATION CLAIM, 2002–03**

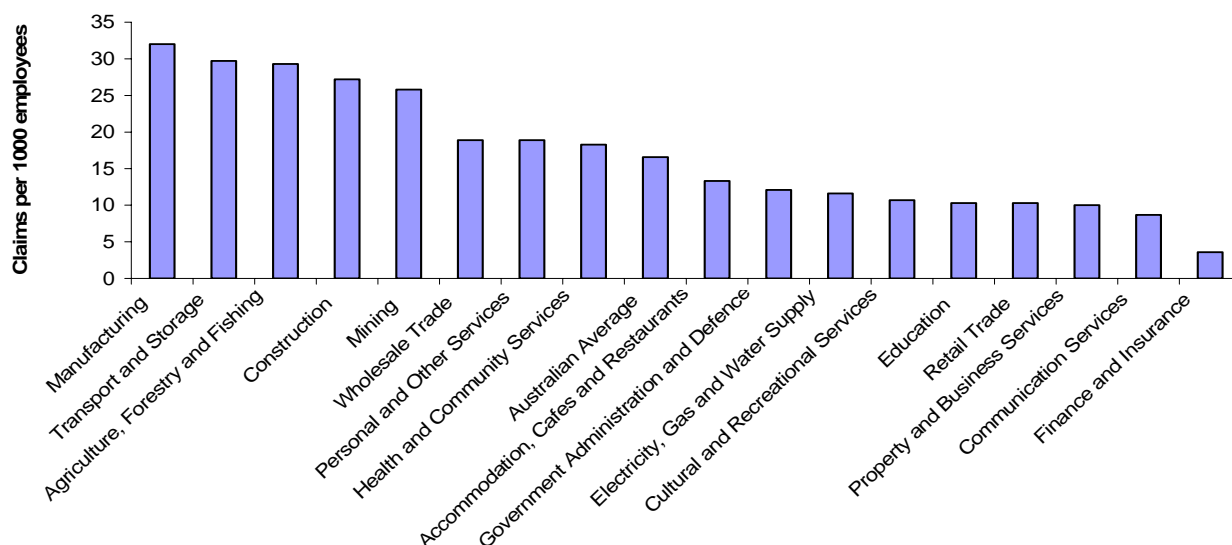


Source: Comparative Performance Monitoring Report 2004–05, Workplace Relations Ministers' Council.

## Industry performance – workplace health

Figure 4.4 shows claims that resulted in one week or more of compensation by industry in 2004–05. These claims are measured per 1 000 employees rather than by hours worked; they are not adjusted for full-time and part-time workers. While these data are not broken down at the state level, they show that the industries with higher incidence rates nationally are manufacturing, transport and storage, agriculture, forestry and fishing, construction and mining. Agriculture, forestry and fishing is the only industry sector where Tasmania has a significantly higher share of total employment than is the case nationally.

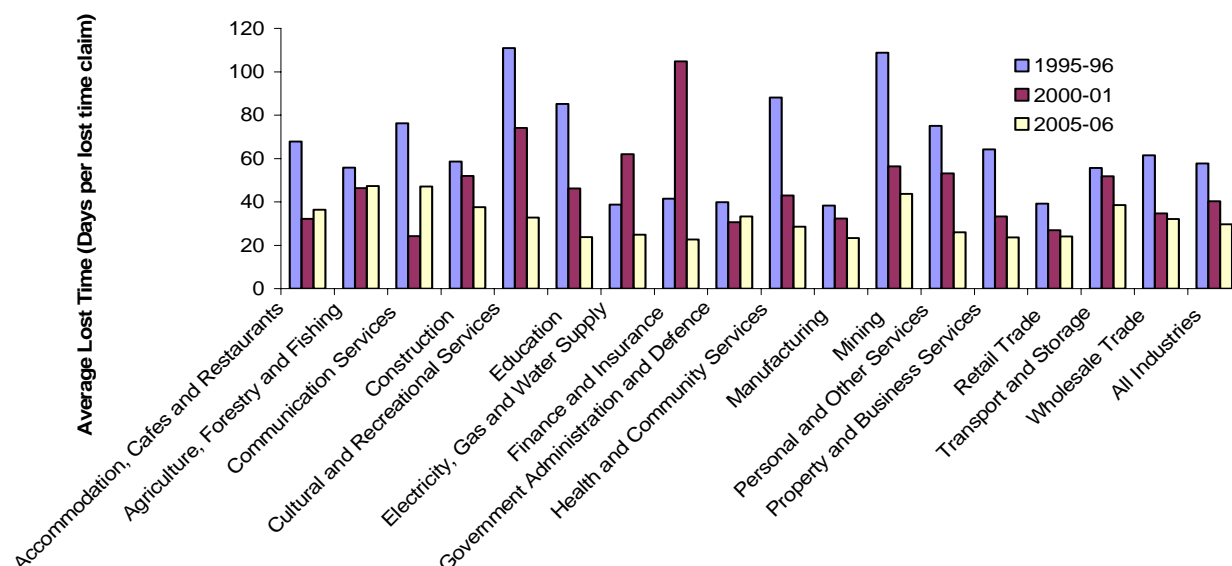
**FIGURE 4.4 WORKERS COMPENSATION CLAIMS INCIDENCE BY INDUSTRY, AUSTRALIA, 2004–05**



Source: Comparative Performance Monitoring Report 2004–05, Workplace Relations Ministers' Council.

As outlined in Figure 4.5, the average number of days away from work due to injury (based on claims where the injured worker had time off) has fallen across all Tasmanian industries from 1995–96 to 2005–06. Furthermore, the variability between industries has also declined over this period.<sup>26</sup>

**FIGURE 4.5 TASMANIAN LOST TIME CLAIMS, BY INDUSTRY, 1995–96 TO 2005–06**



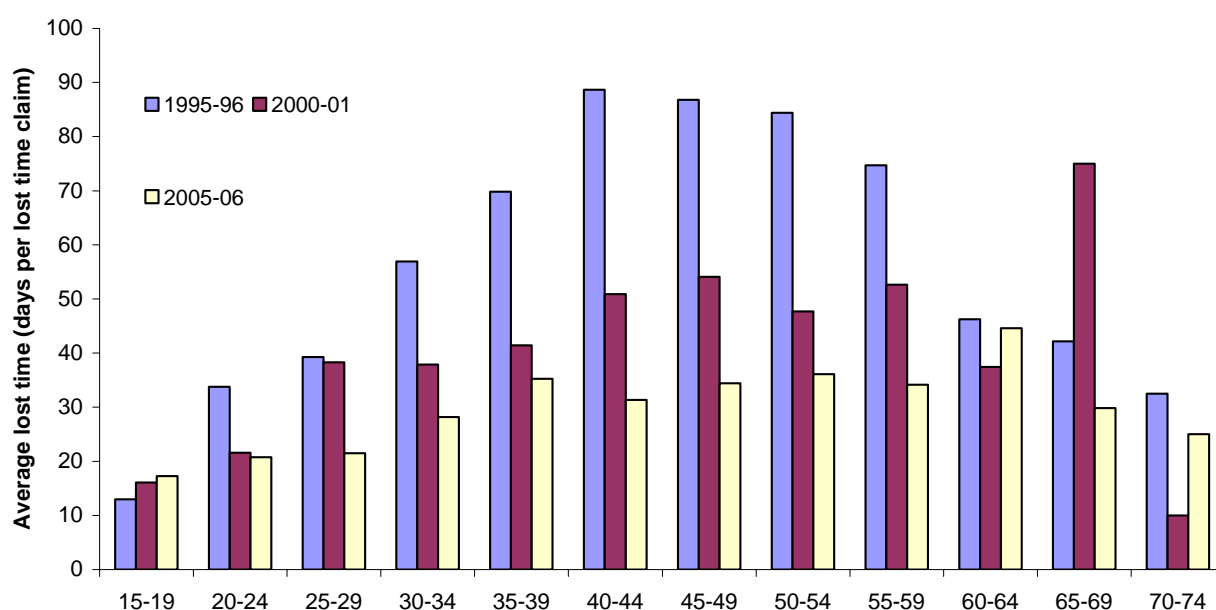
Source: Unpublished WorkCover Tasmania Data.

<sup>26</sup> These data have been provided by WorkCover Tasmania. WorkCover does not collect data for Commonwealth Government employees in Tasmania, who are covered under the ComCare scheme, nor does it capture those who are self-employed, and some contractors. As such, the WorkCover data are a subset of all incident and claims data, but coverage is sufficiently broad to be representative of the trends across the Tasmanian economy. Data for 2005–06 may be incomplete compared to the earlier years, as some claims may still be open and any ongoing absence of injured workers will not yet be recorded. As such, caution should be used when interpreting changes over the past five years.

The average number of days away from work due to injury has also improved over the past ten years. The data show a particularly large fall in average days away from work due to injury for those aged between 35 and 60 years and considerably less variability between all ages over the period 1995–96 to 2005–06.

In 1995–96, the highest average duration of days away from work due to injury was claims from people in the 40 to 55 age group. In 2000–01 this had moved to the 45 to 60 age group, while in 2005–06, it was the 50 to 65 age group. This suggests that while average days away from work due to injury are falling, the same cohort is responsible for the claims that result in a greater duration of absence. In 1995–96, the 40 to 55 year age group accounted for 26.6 per cent of all claims. By 2005–06, this cohort (the 50 to 65 age group) represented 19.2 per cent of all claims.

**FIGURE 4.6 TASMANIAN LOST TIME CLAIMS BY AGE GROUP, ALL INDUSTRIES, 1995–96 TO 2005–06.**



Source: Unpublished WorkCover Tasmania Data.

When looking at individual industries, in 2005–06, agriculture, forestry and fishing had the highest average absences per claim at 47.4 days. This was followed by communication services at 47.2 days per claim, mining at 43.7 days per claim, transport and storage (38.6 days), construction (37.6 days) and accommodation, cafés and restaurants (36.4 days).

The industries that had the highest number of days away from work due to injury, per 1 000 employees, were manufacturing (38.8 claims per 1 000 employees), government administration and defence (28.8 claims), transport and storage (27.7 claims), health and community services (26.4 claims) and mining (24.7 claims). Manufacturing, transport and storage and mining were also in the top five nationally.

Total days away due to workplace incidents for 2005–06 are outlined in Table 4.2. In 2005–06, 142 193 days were lost, which represents 1.8 per cent of the estimated total days worked in the State in 2005–06.<sup>27</sup>

**TABLE 4.2 LOST TIME CLAIMS, BY INDUSTRY, TASMANIA, 2005–06**

	Lost time claims	Average days lost	Employed ('000s)	Claims per 1000 employed	Total days lost
Agriculture, Forestry and Fishing	311	47.4	16.7	18.6	14 734
Communication Services	30	47.2	3.1	9.6	1 415
Mining	59	43.7	2.4	24.7	2 581
Transport and Storage	235	38.6	8.5	27.5	9 070
Construction	378	37.6	16.0	23.7	14 221
Accomm, Cafés and Restaurants	149	36.4	11.2	13.4	5 421
Govt Administration and Defence	350	33.3	12.2	28.8	11 653
Cultural and Recreational Services	61	32.7	7.2	8.4	1 997
Wholesale Trade	160	32.1	9.3	17.2	5 132
Health and Community Services	700	28.6	26.6	26.4	20 053
Personal and Other Services	184	26.0	8.9	20.7	4 778
Electricity, Gas and Water Supply	24	24.9	2.4	10.2	597
Retail Trade	455	24.2	35.6	12.8	10 992
Education	340	23.8	15.4	22.1	8 083
Property and Business Services	411	23.6	18.9	21.8	9 710
Manufacturing	885	23.3	22.8	38.8	20 661
Finance and Insurance	49	22.7	5.3	9.2	1 112
<b>All Industries</b>	<b>4 781</b>	<b>29.7</b>	<b>222.4</b>	<b>21.5</b>	<b>142 193</b>

Source: Unpublished WorkCover Tasmania Data, ABS Cat No 6291.0.55.001.

While the above shows the industries with the highest claims rate and longest duration of days lost, it does not show whether Tasmania's industry structure makes the State more or less vulnerable to workplace injuries. To assess whether Tasmania's structure may have an impact, an estimate has been made of how claims would be altered if Tasmania's industry employment shares were in the same proportion as the national averages (based on the total employment in the State in 2005–06). These levels were then applied to the actual claim rates and days lost per 1 000 employees in 2005–06. This resulted in an estimate of 143 006 total days lost, very similar to the total of 142 193 in Table 4.2.

This analysis suggests that Tasmania's industry structure is not significant in determining the overall number of days lost associated with work place incidents.

An analysis of the reasons for Tasmanian claims (such as the nature of the injury or illness), by age, reveals that there appears to be some age-related trends for various claim types (Table 4.3).

<sup>27</sup> The estimated total days worked is derived from the Australian Bureau of Statistics Labour Force Survey and Survey of Employment and Earnings. The estimate is adjusted to remove days worked by Commonwealth Government employees and self-employed workers, as these workers are not covered by WorkCover Tasmania data. These data are unpublished and obtained by WorkCover Tasmania on request.

There appears to be higher rates of wounds, lacerations, amputations and internal organ damage in the younger age groups (15 to 34 years), while burns are also more prevalent in the 15 to 24 year age group. Traumatic joint, ligament and muscle/tendon injuries occur more commonly for people in the middle ages (35 to 59 year age group) as do musculo-skeletal and connective tissue diseases.

On the whole, traumatic joint/ligament and muscle/tendon injuries account for the majority of injuries at all ages (around 45 per cent on average), with wounds, lacerations, amputations and internal organ damage accounting for another 30 per cent of claims.

**TABLE 4.3 SHARE OF WORKERS' COMPENSATION CLAIMS BY AGE AND REASON FOR CLAIM (PER CENT), TASMANIA, 2005–06**

	Traumatic joint/ ligament and muscle/ tendon injury	Wounds, lacerations, amputations and internal organ damage	Fractures	Burns	Musculo- skeletal and connective tissue diseases	All Other
15–19	37.0	38.1	4.6	6.2	2.7	11.4
20–24	38.8	33.8	4.9	4.6	2.9	15.0
25–29	41.7	31.6	4.6	3.1	3.0	16.0
30–34	43.7	30.0	4.3	3.7	3.7	14.6
35–39	47.8	26.0	3.9	2.7	4.6	15.0
40–44	49.9	24.9	4.5	2.0	4.9	13.7
45–49	50.4	25.9	3.8	1.9	4.3	13.6
50–54	47.9	24.2	5.4	2.1	5.0	15.5
55–59	46.4	28.8	5.8	2.9	3.1	12.9
60–64	43.5	30.1	6.5	4.3	3.8	11.8
65–69	28.6	42.9	14.3	9.5	0.0	4.8
70–74	33.3	33.3	33.3	0.0	0.0	0.0
<b>Total</b>	<b>44.9</b>	<b>29.1</b>	<b>4.6</b>	<b>3.2</b>	<b>3.9</b>	<b>14.3</b>

Source: Unpublished WorkCover Tasmania Data.

### Key Points

- There is a 'two way' relationship between an individual's health and the person's productivity and labour force participation, as work-related accidents, injuries or stress can result in lost productivity or reduced labour force participation.
- Work related injuries data, from the ABS for 2004–05, do not show a significantly different rate of injury for Tasmanian workers compared to their national counterparts.
- In 2005–06, around 142 000 days were lost due to workplace incidents in Tasmania, which represents 1.8 per cent of the estimated total days worked in the State.
- Tasmania recorded more compensation claims per million hours worked than the national average. However, the average length of time off work was lower than the national average.
- Industries with the highest number of claims for days away from work due to injury, per 1 000 employees. in 2005–06 were manufacturing (38.8 claims per 1 000 employees), government administration and defence (28.8 claims), transport and storage (27.7 claims), health and community services (26.4 claims) and mining (24.7 claims).
- There appears to be some age-related trends for various claim types, for example:
  - wounds, lacerations, amputations and internal organ damage tend to be higher in the younger age groups (15 to 34 years);
  - burns are more prevalent in the 15 to 24 year age group; and
  - musculo-skeletal and connective tissue diseases, and traumatic joint, ligament and muscle/tendon injuries occur more commonly for those of middle age (35 to 59 year age group).

## Section 5

### Individuals, governments and businesses have a role to play

Section 3 demonstrated that when compared to national data, Tasmanians have generally poorer levels of health (with significantly higher rates of many conditions of ill health), are more likely to partake in some risky behaviours and, as a result, may be away from work longer (or have greater levels of reduced activity). This explains, in part, why Tasmanian participation rates are below the national average and it also provides one reason why Tasmanian employees may, on average, be less productive than their mainland counterparts.

Given the challenges of managing the demand for government health services into the future (due to the costs associated with growing chronic disease levels and the escalating costs of treatment technologies), there is an increasing focus on the role individuals can play in taking responsibility for their own health. While individuals' behaviour and health management may ultimately make the greatest difference to the health profile of the Tasmanian population, governments, businesses, and other stakeholders play various important roles in: funding and providing health services; regulating workplace safety; and educating the population about health and wellbeing.

For example, given the amount of time spent in workplaces (the average full-time worker will spend around a third of his or her waking year in a workplace) and the number of people employed (around 46 per cent of the Tasmanian population), the workplace is potentially a significant 'point of contact' for promoting health issues. At the same time, developing a healthier workforce also has the benefit of providing tangible business benefits. Some empirical evidence suggests that gains can be made to business performance from employers helping to improve the health of employees.

More than 300 studies over three decades have tracked the impact of health promotion in the workplace and findings include significant increases in productivity and energy, improved employee satisfaction and increased staff retention. These studies showed that the benefits of such programs outweighed the costs by a ratio of 2.92 to 1.<sup>28</sup>

Some of the more innovative health and wellbeing workplace programs have been developed and trialled in Finland. These programs are designed around a whole-of-community approach involving individuals, employers and the government.

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<sup>28</sup> Lynette Hoffman, *Companies Today Keep the Doctor Away*, Human Resources Magazine, September 20, 2005

### **Case Study: The Finnish 'Work Ability' Model**

The Finnish Institute for Occupational Health is regarded as a world leader in research that promotes the health and wellbeing of older workers.

This work is borne of necessity, with population ageing in Finland being around fifteen years ahead of many other European countries.

The centrepiece of this research is the 'work ability' model. 'Work ability' is defined as the sum of all individual and work-related factors that form the foundation for employability, to support continuing employment. The model is often expressed as a house with four floors, with each floor relating to a component of 'work ability', namely: health (including functional capacity); competence (such as knowledge and skills), values (including attitude and motivation) and work-related matters (such as environment, community, and pressures).

The model recognises that health forms the foundation of the house and that if this foundation is not solid, the rest of the house will crumble.

A study of a sample of 200 participating companies found that the ratio of benefits to costs from introducing the 'work ability' model ranged from a factor of 3 to 20. This positive return was largely due to increased productivity and reduced absenteeism.

*Source: Ilmarinen J 1999 Ageing Workers and the European Union – Status and Promotion of Work Ability, Employability and Employment, Finnish Institute of Occupational Health, Helsinki; and BWA Centre for Research, Swinburne University of Technology (2007) Redesigning Work for an Ageing Society, Fact Sheet 3: Business Case for The RW4AS Project.*

There are few Australian studies that comprehensively assess the impact of health promotion programs on business performance.

However, one study, the Australian National Workplace Health Project, conducted during the 1990s, trialled socio-behavioural and environmental interventions across twenty worksites with a focus on key behaviours of physical activity, healthy food choices, cigarette smoking, and alcohol consumption, as well as motivational readiness for change. The study did not definitively find cost-efficiencies arising from health initiatives. However, it reported that the 'weight of evidence' indicated they do positively affect health outcomes such as reduced absenteeism, sick leave and health care costs. The study also indicated that various interventions have the potential to change the attitudes and health behaviours of participants.<sup>29</sup>

As workplace health and wellbeing programs do not necessarily have immediate short term impacts on a business's financial performance, other reasons and benefits for introducing them are often cited. For example, such programs can help recruit employees that value personal health and well-being, which in turn is likely to mean more productive employees, who have greater alignment with organisational values. Such programs have also been shown to improve company image and reduce labour turnover.

One challenge with such programs is that they often do not engage existing non-health conscious employees and instead capture only those who are already concerned about their health.

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<sup>29</sup>Crowther, I. Thwaites, M. Zhou, J. (2004) *Measuring the benefits of corporate health and wellbeing initiatives*, Monash University.

There are a number of examples of employer health and wellbeing programs in Tasmania which demonstrate the tangible business benefits of such initiatives. The Premier's Physical Activity Council has recently produced a health and wellbeing resource kit for employers and this kit provides many case studies, some of which are reproduced in the following pages.

***Case Study: Corporate health and wellbeing program extending beyond the work place***

The Zinifex Rosebery Mine, on Tasmania's west coast, mines both lead and zinc and has around 200 employees.

The mine's employee profile was predominantly male, ageing and unlikely to place high importance on their own health. Musculo-skeletal injuries on site accounted for 42 per cent of workplace injuries and the resulting absenteeism had become a substantial expense amounting to eight to ten per cent of all labour costs.

It was recognised that in order to remain internationally competitive, performance needed to improve and that this could be achieved through increased worker productivity. Zinifex concluded that the health and wellbeing of its workforce was paramount in this aim.

Zinifex launched a Wellness Program in March 2006 to promote employee awareness of healthy living and proper health management. The focus of the program was particularly on injury prevention and ergonomics, but included providing information sessions on sleep patterns, stress management and nutrition. One aspect of the program was to talk to the local schools to engage employees' children. The program was also open to wives and families as it was seen that continuing the program into the home was important.

The program also involved providing medical practitioners on site to conduct health assessments, which were complemented with assessments by occupational physicians and exercise physiologists. These initial consultations provided a picture of the health of the workforce and important initial benchmark information from which progress could be measured. The assessments continue to be provided on site at regular intervals, which allows an opportunity for employees to undertake health assessments at no cost to the individual.

Zinifex has stated that it has achieved a significant return on investment, with the number of musculo-skeletal injuries having decreased significantly and unplanned absences having halved. However, the company notes that the benefits are more than just economic, with a cultural change occurring that has seen improved workforce engagement, increased morale and teamwork.

There are other case study examples of companies undertaking such programs. However, they often have slightly different approaches.

**Case study: health and wellbeing 'Expo' – promoting better health**

A Tasmanian-based call centre, that employs in excess of 450 staff, recently introduced a health and wellbeing program. The impetus for this call centre's program came from a study conducted in the workplace in September 2005 by the University of Tasmania which found that many staff had poor dietary habits, many were smokers and a large number did not participate regularly in physical activity. This information provided the initial benchmark for the study and ongoing questionnaires will be used to establish progress measures.

An on-site health and wellbeing 'Expo' was an initial strategy employed, which provided access to blood pressure, blood glucose, eye and body mass index checks. Other measures have included making physical activity more accessible, making fresh fruit and healthy meal options available, corporately funded flu vaccinations, entry into fun runs, hosting a two week quit smoking program and facilitating regular health products promotions.

In its first year in operation, the program saw a reduction in 'lost time injury frequency' by 50 per cent (however, it not clear exactly what type of injuries these were or what the absolute number of injuries had been previously). The centre also saw a 10.5 per cent reduction in employees smoking, an increase in the percentage of staff reporting eating regular meals and increases in participation in physical exercise and healthy eating. 109 staff took up the opportunity to have a flu vaccination.

While the evidence is not yet available to confirm it, it is anticipated by the call centre that personal sick leave will decline and that overall productivity will increase.

Useful case studies are not just restricted to private sector organisations. Public sector organisations are also experimenting with different health and wellbeing programs.

**Case study: starting with an environmental scan – 'Pacing the Police'**

In 2004, the then Tasmanian Department of Police and Emergency Management, in collaboration with the Menzies Research Institute, started the *Pacing the Police* program.

The initial aim of the program was to get a picture of the health status of the workforce using a sample of 175 staff across the Department. Pedometers were given to these volunteers and health checks were performed. Personalised feedback was provided to each participant, with a booklet produced by the Menzies Research Institute titled 'Steps to Better Health'. A joint partnership with the Department of Health and Human Services was also initiated to increase understanding of nutritional factors.

Using the benchmark data, Department of Police and Emergency Management implemented a range of health and wellbeing strategies including hypertension screening, cholesterol screening and support for employees participating in community physical activities. Twelve months later the initial testing was repeated. The results showed a decrease in smoking rates, an increase in participants who were physically active, hypertension had decreased, time spent sitting watching television had decreased and waist circumference had decreased in many participants.

As with most programs of this sort which are in their early years, it is too early to assess the full set of benefits to the Department. However, the Department expects that the progress made, together with future strategies employed, will result in a healthier workforce.

# Section 6

## Key findings

Tasmanian data from the National Health Survey, summarised in Table 6.1 below, show that when compared to national data Tasmanians of working age generally have higher rates of fair or poor health, suffer significantly greater rates of arthritis, back and neck problems, heart conditions and strokes, higher levels of hypertension and greater levels of mental and behavioural problems. Contributing to these outcomes are higher levels of smoking.

**TABLE 6.1 SUMMARY OF 2004–05 NATIONAL HEALTH SURVEY INDICATORS**

<i>Population aged 18–64</i>	<b>Tasmania</b>	<b>Australia</b>	<b>Percentage point difference</b>
<b>Health status</b>			
Excellent/very good	59.4	58.6	0.8
Good	24.6	28.0	-3.4
Fair/poor	16.0	13.4	2.6
<b>Long-term conditions</b>			
Arthritis	21.1	14.4	6.7
Back pain/problems neck/disc disorders	20.7	19.6	1.1
Diabetes mellitus	2.4	2.9	-0.5
Heart, stroke & vascular conditions	3.3	2.4	0.9
Hypertensive disease	10.4	9.1	1.3
Malignant neoplasms	1.1	1.5	-0.4
Mental & behavioural problems	13.2	12.3	0.9
High/very high psychological distress	13.2	13.4	-0.2
<b>Risk behaviours</b>			
Current daily smoker	27.5	24.0	3.5
Risky/high alcohol risk	13.0	14.6	-1.6
Sedentary/low exercise level	68.6	69.4	-0.8
Overweight/obese BMI	48.3	49.5	-1.2
1 serve or no fruit daily	48.6	48.3	0.3
4 serves or fewer of vegetables daily	79.9	86.3	-6.4

Source: National Health Survey, ABS, Cat No. 4362.0, 2004–05.

Health status is of great importance to an individual's level of productivity, and ability and willingness to participate in the labour force. Various studies have shown that individuals with poor health are less likely to participate in the labour force. However, if they do participate there is a greater chance that they will take more than the average number of days away from work due to illness and/or they are less likely to be productive while at work.

Having established that employee health is important to workplace productivity, some employers have identified that the benefits of investing in the health of employees are likely to outweigh the costs. While some empirical evidence suggests that there are positive financial benefits from such investments (mostly through reduced absenteeism), these benefits are often only evident in the longer term and are sometimes difficult to quantify. This said, it is reported that there are other intangible benefits to workplace health and wellbeing programs, such as an improved corporate reputation and an ability to attract and retain quality staff.

## Conclusion

The responsibility for maintaining the health of an individual should not be seen primarily as a role for government. Individuals clearly have primary responsibility to seek to maintain their own health to the extent that they can. However, governments do play a key role in funding and providing health services, regulating workplaces to ensure the safety of workers, legislating to provide for healthy and safe environments, and educating the population at all ages about health and wellbeing.

There is also a role for employers to play. This role has historically focussed on occupational health and safety outcomes, which have had a major positive impact on work place injuries over the past decade. However, the focus is usually on minimising days lost due to work-related incidence. There are likely to be further benefits to employers from adopting a broader focus on the health and wellbeing of their workers.

Just as there is a strong business case to ensure that workers are adequately trained and skilled in a technical sense, there is an equally justifiable case for employers to at least examine what they may do differently to promote a healthy culture amongst their employees. The costs and benefits of health and wellbeing programs will differ for each organisation and will be influenced by the degree to which absenteeism and reduced levels of activity due to illness or injury are already a feature of a particular workplace.

However, in the face of an ageing workforce and a shrinking working age population, such programs may assist in keeping workers and their skills in the workforce.

In summary, consideration of workplace health and wellbeing programs should be considered by employers across all sectors, as a potential means for improving productivity, reducing absences, and maintaining and recruiting quality staff.

**Tasmania's Workforce: health impacts on participation and productivity in the face of an ageing population**  
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