

# **Population health profile of the**

## **North West Tasmania**

### **Division of General Practice**

**Population Profile Series: No. 116**

**PHIDU**

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The data in this report are designed to be used for needs assessment and planning purposes: while they are based on the best available data and analytic processes, data available by postcode or Statistical Local Area, as used in this report, cannot be precisely translated to Division. Division totals in the report should, therefore, be seen as estimates. Interpretation of differences between data in this profile and similar data from other sources needs to be undertaken with care, as such differences may be due to the use of different methodology to produce the data.

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# Population health profile of the *North West Tasmania Division of General Practice*

## Introduction

This profile has been designed to provide a description of the population of the North West Tasmania Division of General Practice, and aspects of their health. Its purpose is to provide information to support a population health approach, which aims to improve the health of the entire population and to reduce health inequalities among population groups: a more detailed discussion of a population health approach is provided in the supporting information, page 17.

## Contents

The profile includes a number of tables, maps and graphs to profile population health in the Division and provides comparisons with other areas (eg. Tasmania and Australia). Specific topics covered include:

- a socio-demographic profile (pages 2-6);
- GP workforce data (page 7);
- immunisation rates (page 8);
- rates of premature death (page 9); and
- estimates of the prevalence of chronic disease and selected risk factors (pages 10-14).

## Key indicators

<b>Location:</b>	Tasmania	
<b>Division number:</b>	703	
<b>Population‡:</b>	No.	%
<b>Indigenous:</b>	<b>5,631</b>	
<25	3,254	57.8%
65+	157	2.8%
<b>Non-Indigenous:</b>	<b>101,195</b>	
<25	33,120	32.7%
65+	14,585	14.4%

**Disadvantage score<sup>1</sup>:** 940

**GP services per head of population:**

Division‡	4.2
Australia	4.7

**Population per FTE GP:**

Division‡	1,462
Australia	1,403

**Premature death rate<sup>2</sup>:**

Division‡	360.1
Australia	290.1

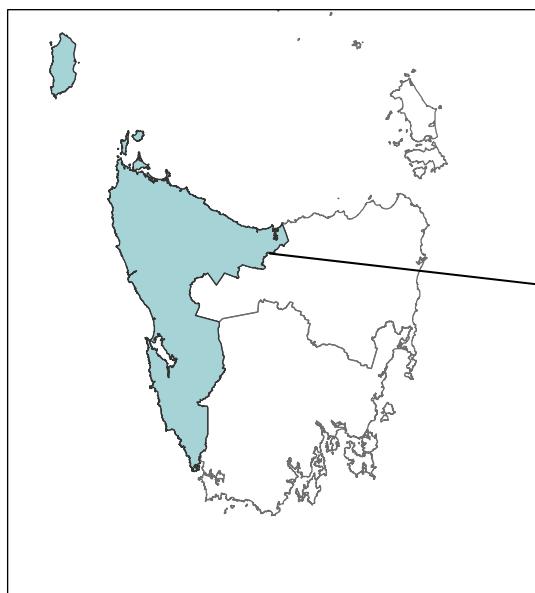
<sup>1</sup> Numbers below 1000 (the index score for Australia) indicate the Division is relatively disadvantaged

<sup>2</sup> Deaths at ages 0 to 74 years per 100,000 population

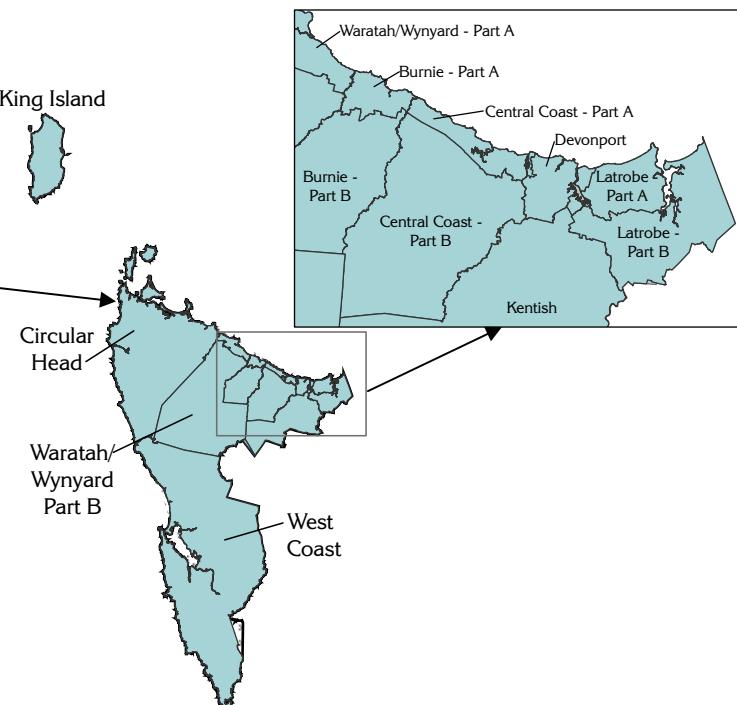
<sup>‡</sup> See note 'Data converters and mapping' re calculation of Division total

## North West Tasmania Division of General Practice

### Tasmania Divisions of General Practice



### North West Tasmania DGP by SLA



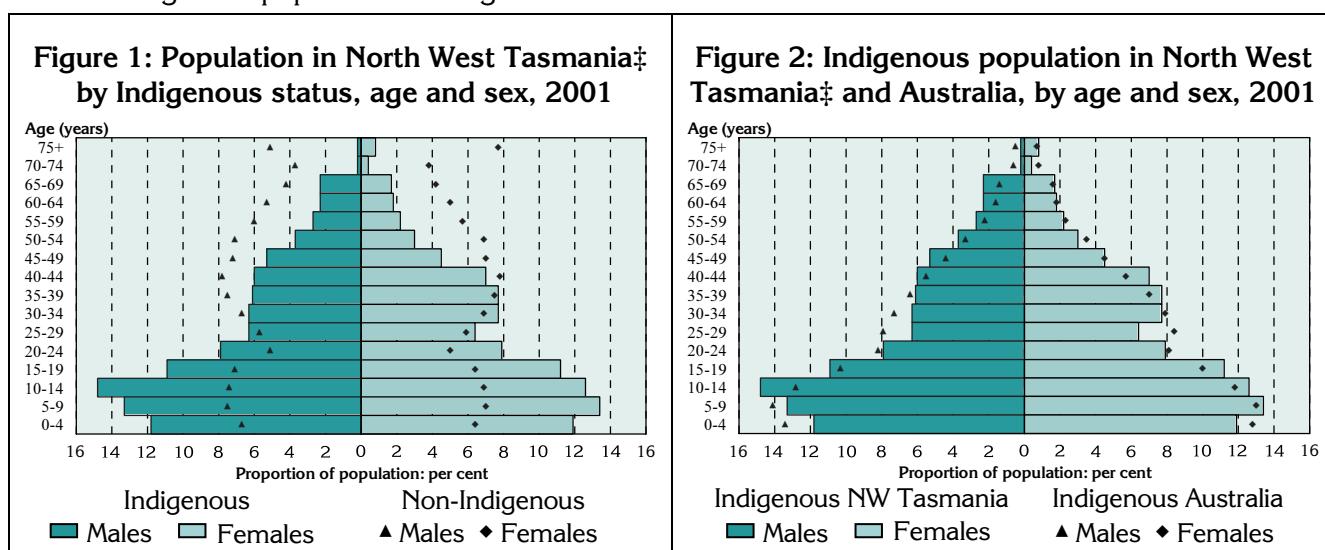
## Socio-demographic profile

### Population

*The population figures used here have been adjusted to take account of the estimated under-counting at the 2001 Census of Aboriginal and Torres Strait Islander people.*

The North West Tasmania DGP had an Estimated Resident Population of 106,826 at 30 June 2003. Aboriginal and Torres Strait Islander people comprised a relatively high proportion (5.3%) of the population of the Division, and had a markedly younger age structure than for the non-Indigenous population in the Division. The bars in the chart for the 0 to 4, 5 to 9, and 10 to 14 years age groups clearly show the effect of high Indigenous birth rates in the Division; this gives the chart a much broader base compared to the non-Indigenous population of the Division (Figure 1). The very marked drop in the proportion of the Indigenous population between each age group after 10 to 14 years suggests extremely high death rates are occurring from that group through to 29 years of age, after which the rate of decline in the population slows until 49 years.

The profile for the non-Indigenous population (shown by the shapes) is quite different and shows the impact of a lower birth rate and, from 15 to 24 years of age, possible out-migration for education and employment. The reductions in the population from age 40 through to 74 years are smaller than for the Indigenous population: the marked increase at the oldest ages (in particular for females) is suggestive of the non-Indigenous population moving into the Division from other areas to retire.



‡ See note under 'Data converters and mapping' re calculation of Division totals

The profile of the Division's Indigenous population is similar to that for Indigenous people across Australia (Figure 2). The major differences are that the Division had lower proportions of male children aged 0 to 9 years, and young females aged 0 to 4 years. There were also higher proportions of females in the 5 to 19 years age groups, and of males in the 10 to 19 age group. Table 1 provides the data on which the charts in Figures 1 and 2 are based. The data highlight the differences in the age distribution of the Indigenous and non-Indigenous populations in North West Tasmania DGP and Australia.

**Table 1: Population by Indigenous status and age\*, North West Tasmania‡ and Australia, 2001**

Age group (years)	North West Tasmania DGP‡				Australia			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	No.	%	No.	%	No.	%	No.	%
0-14	2,188	38.9	21,249	21.0	178,622	39.0	3,807,808	20.1
15-24	1,066	18.9	11,871	11.7	83,942	18.3	2,570,934	13.6
25-44	1,505	26.7	28,171	27.8	128,474	28.0	5,715,858	30.2
45-64	715	12.7	25,319	25.0	54,206	11.8	4,435,376	23.4
65-74	127	2.3	8,082	8.0	10,249	2.2	1,310,587	6.9
75+	30	0.5	6,503	6.4	2,768	0.6	1,111,844	5.9
Total	5,631	100.0	101,195	100.0	458,261	100.0	18,952,407	100.0

\* Experimental estimates of Aboriginal and Torres Strait Islander people, ABS 2001

‡ See note under 'Data converters and mapping' re calculation of Division totals

Just under one fifth (18.8%) of the Indigenous population in North West Tasmania DGP lived in Central Coast - (Part A) Statistical Local Area (SLA – see page 19), marginally higher than the non-Indigenous population (16.6%) (Table 2). A similar proportion (18.0%) of Indigenous people in the Division lived in Devonport SLA, with one-seventh (14.6%) in Burnie – Part A SLA.

**Table 2: Population by Indigenous status\*, SLAs in North West Tasmania DGP‡, 2001**

Statistical Local Area	Indigenous		Non-Indigenous		Total	
	No.	%	No.	%	No.	%
Central Coast - Part A	1,058	18.8	16,748	16.6	17,806	16.7
Devonport	1,015	18.0	23,242	23.0	24,257	22.7
Burnie - Part A	820	14.6	16,019	15.8	16,839	15.8
Waratah/Wynyard - Part A	722	12.8	10,319	10.2	11,041	10.3
Circular Head	635	11.3	7,412	7.3	8,047	7.5
Latrobe - Part A	383	6.8	7,154	7.1	7,537	7.1
West Coast	325	5.8	5,191	5.1	5,516	5.2
Kentish	235	4.2	5,264	5.2	5,499	5.1
Waratah/Wynyard - Part B	162	2.9	2,424	2.4	2,586	2.4
Central Coast - Part B	157	2.8	3,066	3.0	3,223	3.0
Other	119	2.1	4,356	4.3	4,475	4.2
<b>Total</b>	<b>5,631</b>	<b>100.0</b>	<b>101,195</b>	<b>100.0</b>	<b>106,826</b>	<b>100.0</b>

\* Experimental estimates of Aboriginal and Torres Strait Islander people, ABS 2001

‡ See note under ‘Data converters and mapping’ re calculation of Division totals

At 30 June 2004, the Estimated Resident Population of the Division was 107,918.

## Socioeconomic status and Indigenous status

*The indicators presented in this section describe geographic variations in the distribution of the population for a number of key socioeconomic influences, which impact on the health and wellbeing of populations. Where data are available, comparisons are made between the Indigenous and non-Indigenous populations.*

At the 2001 Census, 5.3% of the population of the North West Tasmania DGP was estimated to be of Aboriginal or Torres Strait Islander origin, more than double the Australian average of 2.4% (Figure 3 and Table 3).

The rate for Indigenous single parent families in the Division (13.4%) was lower than the Indigenous rate for Tasmania as a whole (17.0%) and marginally higher than that of the non-Indigenous population (11.3%).

Two fifths (40.2%) of Indigenous 16 year olds living in the Division were involved in full-time secondary school education which was consistent with that for Tasmania’s Indigenous 16 year olds (41.4%), but less than the non-Indigenous population (50%).

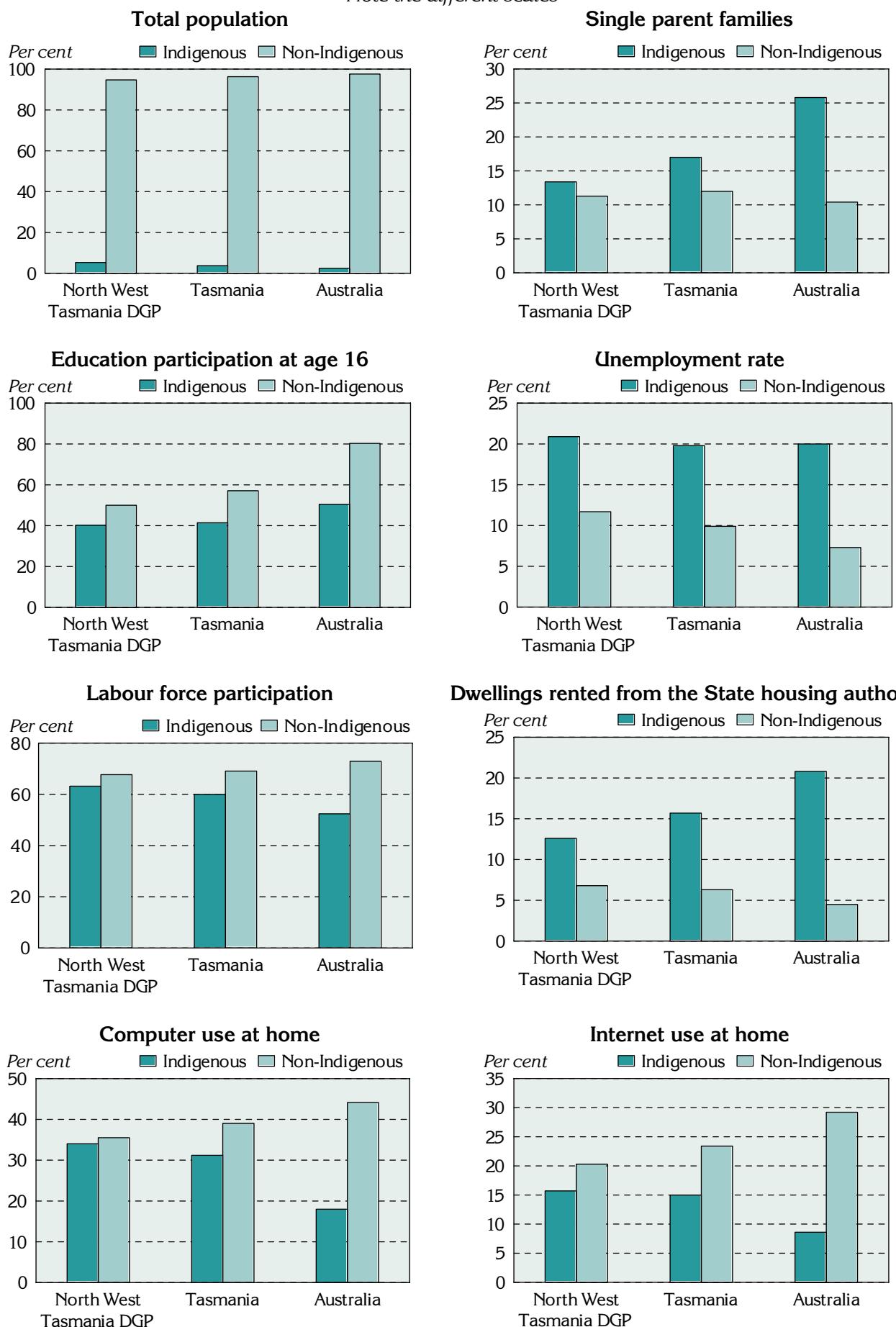
The Indigenous population with dwellings rented from the State housing authority (12.6%) was slightly less than the Indigenous rate in Tasmania (15.7%), and higher than the non-Indigenous population (6.8%). A similar proportion of the Division’s households received rent assistance from Centrelink (13.3%) compared to Tasmania (13.6%).

The proportion of the Indigenous population reporting using a computer at home (34.0%) was slightly higher than the Indigenous rate in Tasmania (31.2%), and similar to the non-Indigenous in the Division (35.5%).

The rate of Internet use at home by the Indigenous population in the Division (15.7%) was consistent with the proportion for the Indigenous population in Tasmania (15.0%), but was lower than that for the non-Indigenous population (20.3%).

**Figure 3: Socio-demographic indicators by Indigenous status, North West Tasmania DGP‡, Tasmania and Australia, 2001**

*Note the different scales*



Note: The 'Total population' figure is based on the experimental estimates of Aboriginal and Torres Strait Islander people; the remaining figures are based on ABS Census data

‡ See note under 'Data converters and mapping' re calculation of Division totals

**Table 3: Socio-demographic indicators, North West Tasmania DGP‡, Tasmania and Australia, 2001**

Indicator	North West Tasmania DGP‡		Tasmania		Australia	
	No.	%	No.	%	No.	%
Population						
- Indigenous	5,631	5.3	17,384	3.7	458,261	2.4
- Non-Indigenous	101,195	94.7	454,411	96.3	18,952,407	97.6
Single parent families						
- Indigenous	227	13.4	849	17.0	26,487	25.7
- Non-Indigenous	3,037	11.3	14,291	12.0	503,382	10.4
Full-time secondary school education at age 16						
- Indigenous	53	40.2	159	41.4	5,997	50.5
- Non-Indigenous	718	50.0	3,675	57.1	327,055	80.3
Dwellings rented from State housing authority						
- Indigenous	248	12.6	921	15.7	23,974	20.8
- Non-Indigenous	2,509	6.8	10,335	6.3	284,502	4.5
People who used a computer at home						
- Indigenous	1,713	34.0	4,923	31.2	73,636	18.0
- Non-Indigenous	33,120	35.5	164,815	39.0	7,761,390	44.1
People who used the Internet at home						
- Indigenous	789	15.7	2,363	15.0	35,384	8.6
- Non-Indigenous	18,972	20.3	99,053	23.4	5,135,445	29.2
Households receiving rent assistance	5,246	13.3	23,944	13.6	1,006,599	15.0

Note: The 'Total population' data is based on the experimental estimates of Aboriginal and Torres Strait Islander people; the remaining data are based on ABS Census data

‡ See note under 'Data converters and mapping' re calculation of Division totals

The Indigenous population in North West Tasmania DGP had an unemployment rate of 20.9%, which was consistent with the rate for Tasmania's Indigenous population (19.8%), and almost twice that of the non-Indigenous population in the Division (11.7%) (Table 4).

The Indigenous labour force participation rate (63.2%) was higher than the Indigenous rate for Tasmania (60.0%) and marginally below that for the non-Indigenous population in the Division (67.7%). The Indigenous female labour force participation rate (55.9%) was slightly higher than the female Indigenous rate for Tasmania as a whole (53.6%), but lower than that for the non-Indigenous population in the Division (63.2%).

**Table 4: Unemployment and labour force participation, North West Tasmania DGP‡, Tasmania, and Australia, 2003**

Labour force indicators	North West Tasmania DGP‡		Tasmania		Australia	
	No.	%	No.	%	No.	%
Unemployment rate						
- Indigenous	388	20.9	1,082	19.8	24,930	20.0
- Non-Indigenous	4,785	11.7	19,156	9.9	624,337	7.3
Labour force participation						
- Indigenous	1,855	63.2	5,465	60.0	124,517	52.4
- Non-Indigenous	41,057	67.7	192,733	69.1	8,609,525	72.9
Female labour force participation						
- Indigenous	791	55.9	2,358	53.6	52,981	46.6
- Non-Indigenous	16,171	63.2	79,496	66.3	3,564,409	69.8

‡ See note under 'Data converters and mapping' re calculation of Division totals

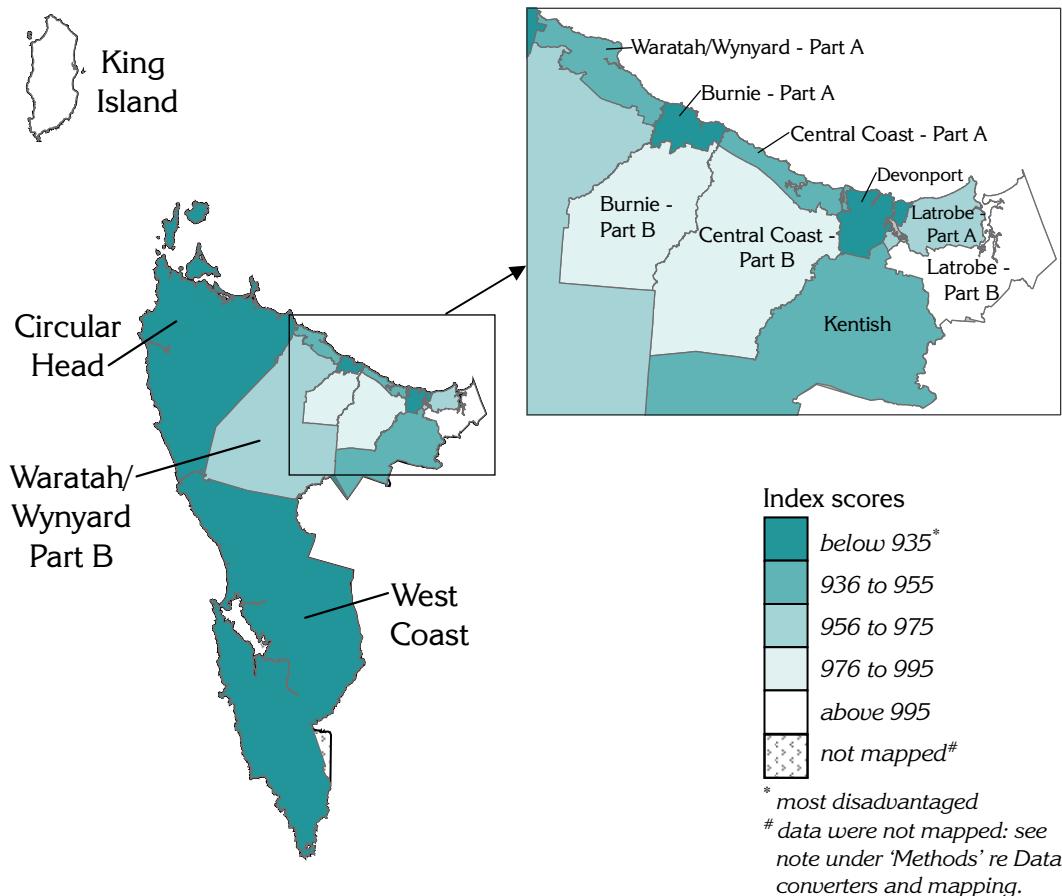
## Summary of the socioeconomic ranking of the North West Tasmania DGP

Following the 2001 Census, the Australian Bureau of Statistics (ABS) produced four socio-economic indexes for areas (SEIFA) which describe various aspects of the socio-economic profile of populations in areas. The scores for these indexes for each Statistical Local Area (SLA) or part SLA in North West Tasmania DGP are shown in the supporting information, Table 9, page 18: SLAs are described on page 19.

The North West Tasmania DGP area's SEIFA Index of Relative Socio-Economic Disadvantage (IRSD) is 940, well (6.0%) below the average score for Australia (1000), and below that for Tasmania as a whole (954); this highlights the relatively lower socioeconomic status profile of the Division's population. Variations in the IRSD within the Division are shown in Map 1 at the SLA level.

**Map 1: Index of Relative Socio-Economic Disadvantage by SLA, North West Tasmania DGP, 2001**

*See note under  
'Methods' re  
Data converters  
and mapping  
concerning SLAs  
mapped to the  
Division. This is  
of particular  
relevance where  
part of an SLA is  
mapped to the  
Division.*



## General medical practitioner (GP) supply

A total of 73.5 full-time equivalent (FTE) GPs and 83.1 full-workload equivalent (FWE<sup>1</sup>) GPs worked in the Division over 2003/04 (Table 5). Of the FWE GPs, 25.3% were female, and 25.6% were over 55 years of age (compared to 30.3% and 25.4%, respectively, for Tasmania).

Apart from the day-time population, the rates of population per FTE GP varied, depending on the population measure used, from a high of 1,462 people per GP (calculated on the average Estimated Resident Population (ERP) as at 30 June 2003 and 2004) to a low of 1,395 people per GP (calculated on 1 August 2001 Census count – all people counted in the Division on Census night, including visitors from Australia and overseas). The rates of the population per FWE GP were lower, ranging from 1,234 (calculated on the Census count) to 1,293 (calculated on the ERP). When calculated on the estimated day-time population, the rates of population in the Division were 2.6% below those calculated on the Usual Resident Population (usual residents of the Division counted in Australia on Census night).

Based on the ERP, the rate of population per FTE GP in North West Tasmania DGP was slightly higher than the rates for Tasmania and Australia, indicating a lower level of provision of GP services in the Division. The FWE rate varied little from the rate for Tasmania, and was higher than for Australia.

**Table 5: Population per GP in North West Tasmania DGP, Tasmania and Australia, 2003/04**

Population measure	Population	GPs		Population per GP	
		FTE	FWE	FTE	FWE
<b>North West Tasmania DGP</b>					
Census count (adjusted)*	102,616	73.5	83.1	1,395	1,234
Usual Resident Population (URP) (adjusted)*	104,379	..	..	1,419	1,255
Estimated Resident Population (ERP)	107,517	..	..	1,462	1,293
Day-time population (estimated on URP)*‡	101,635	..	..	1,382	1,222
<b>Tasmania (ERP)</b>	479,717	350	374	1,371	1,283
<b>Australia (ERP)</b>	19,989,303	14,246	16,872	1,403	1,185

\* The Census count, Usual Resident Population and Day-time population were adjusted to reflect population change between 2001 and 2003/04, as measured by the ERP

‡ See note under 'Data converters and mapping' re calculation of Division totals

<sup>1</sup> The FWE value is calculated for each GP location by dividing the GP's total Medicare billing (Schedule fee value of services provided during the reference period) by the mean billing of full-time doctors in that derived major speciality for the reference period. Thus, a GP earning 20% more than the mean billing of full-time doctors is shown as 1.2 FWE: this differs from full-time equivalent (FTE) counts, where the FTE value of any GP cannot exceed 1.0

## Immunisation

Data from the Australian Childhood Immunisation Register show that 95.6% of children in the Division in 2002 were fully immunised at age one, marginally above the Australian proportion of 94.2%.

Immunisation by provider type for children between the ages of 0 to 6 is shown in Table 6. The proportion of children in the Division who were immunised by a Medicare GP was 90.3%, compared to 70.0% for Australia, with 9.7% immunised at a local government council.

**Table 6: Childhood immunisation at ages 0 to 6 by provider type,  
North West Tasmania DGP and Australia, 2003/04**

Provider	North West Tasmania DGP	Australia
	%	%
General practitioner	90.3	70.0
Local government council	9.7	16.6
Community health centre/ worker	0.0	9.8
Public hospital	0.0	2.1
Aboriginal health service/ worker	0.0	0.9
Other*	0.0	0.6
<b>Total: Per cent</b>	<b>100.0</b>	<b>100.0</b>
<b>Number</b>	<b>20,125</b>	<b>3,843,610</b>

\* Includes immunisations in/ by State Health Departments, RFDS and private hospitals

## Premature mortality

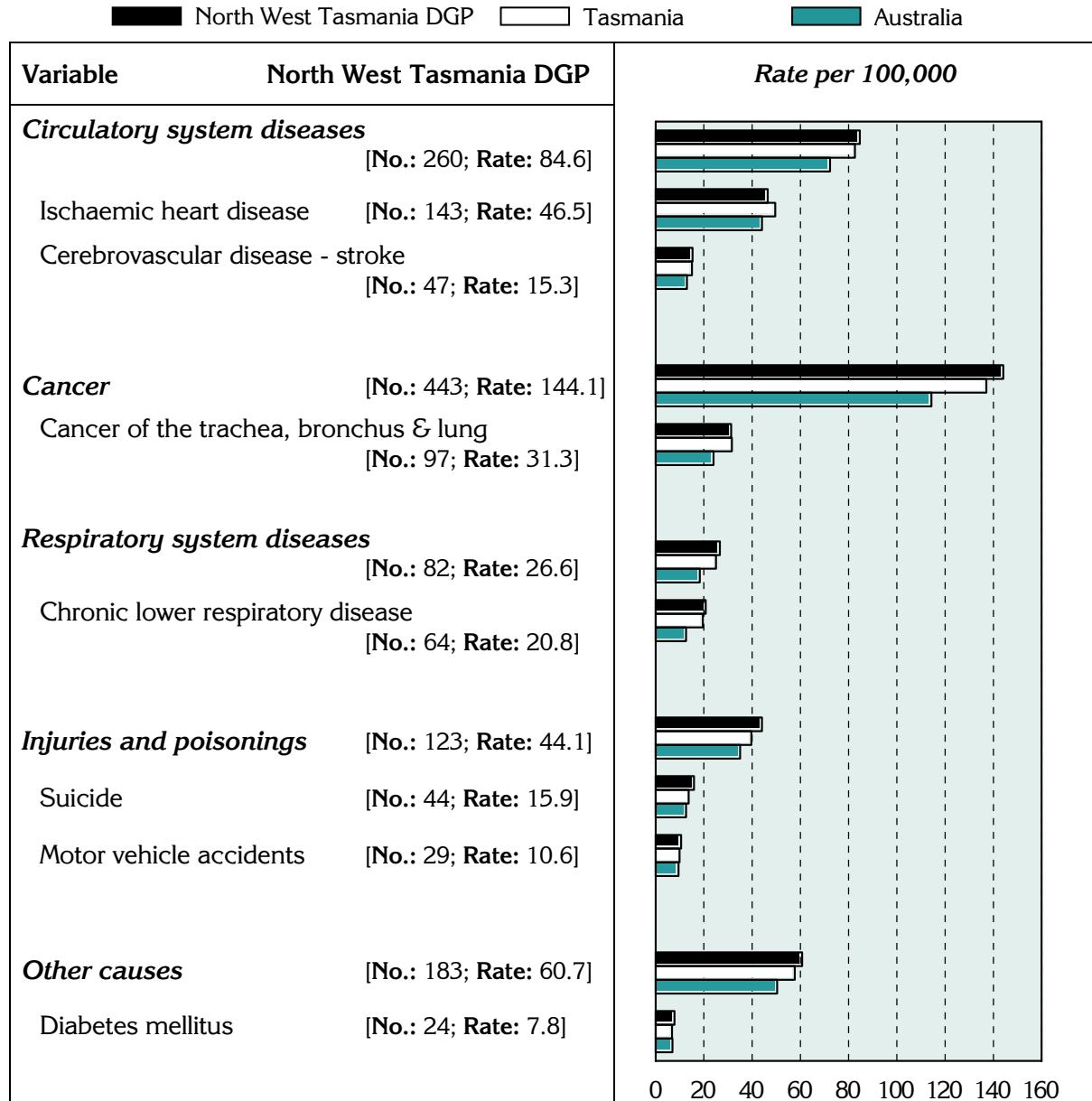
Deaths at ages below 75 years are used as an indicator of health status, as they largely reflect premature deaths, given the current levels of life expectancy in Australia.

The 'all causes' death rate in the Division at ages 0 to 74 years (360.1 deaths per 100,000 population) is higher than for Tasmania (342.2), and for Australia (290.4): the rates have been age standardised to allow for comparisons between areas, regardless of differences in age profiles between the Division and Australia.

The major causes of premature mortality in the Division, as for Tasmania and Australia as a whole, are cancer and diseases of the circulatory system (Figure 4). With the exception of than ischaemic heart disease, death rates in the Division for all of the major condition groups and selected causes were higher than those for Tasmania and Australia.

The data on which the following chart is based are in Table 11.

**Figure 4: Deaths before 75 years of age by major condition group and selected cause,  
North West Tasmania DGP‡, Tasmania and Australia\***  
*Indirectly age standardised rate per 100,000 population*



\* 'No.' is the total number of deaths for the 2000-02 period; 'Rate' is an annual rate, based on the 3-year average

‡ See note under 'Data converters and mapping' re calculation of Division totals

## Chronic diseases and risk factors

The term “chronic disease” describes health problems that persist across time and require some degree of health care management (WHO 2002). Chronic diseases tend to have complex causes, are often long lasting and persistent in their effects, and can produce a range of complications (Thacker et al. 1995). They are responsible for a significant proportion of the burden of disease and illness in Australia and other westernised countries. Given the ageing of the population, this trend is likely to continue.

At different life stages, risk factors for chronic diseases and their determinants include genetic predisposition; poor diet and lack of exercise; alcohol misuse and tobacco smoking; poor intrauterine conditions; stress, violence and traumatic experiences; and inadequate living environments that fail to promote healthy lifestyles (NPHP 2001). Risk factors are also more prevalent in areas of low socioeconomic status, and in communities characterised by low levels of educational attainment; high levels of unemployment; substantial levels of discrimination, interpersonal violence and exclusion; and poverty. There is a higher prevalence of risk factors among Indigenous communities, and other socioeconomically disadvantaged Australians (NPHP 2001).

## Background

In this section, estimates of the prevalence of selected chronic diseases and risk factors, and two summary measures of health, are shown for the Division‡, and for SLAs within the Division: note that the estimates have been predicted from self-reported data, and are not based on clinical records or physical measures. The chronic diseases and risk factors are those for which sufficiently reliable estimates can be made for the Division from national survey data. The process by which the estimates have been made, and details of their limitations, are described in the Notes section, pages 16-17. The data on which the following charts are based are in Table 12.

The estimates provide information of relevance to a number of the National Health Priority Areas (NHPAs – asthma; cardiovascular health; diabetes mellitus; injury prevention and control; mental health; and arthritis and musculoskeletal conditions: estimates have not been made for cancer control, the other NHPA). The risk factors for which estimates have been made are those which are accepted as being associated with these important chronic conditions. They are overweight (not obese), obesity, smoking, lack of exercise and high-risk alcohol use.

*The numbers are estimates for an area, not measured events as are death statistics: they should be used as indicators of likely levels (and not actual levels) of a condition or risk factor in an area.*

### Prevalence estimates: chronic disease‡

It is estimated that relatively more people in North West Tasmania DGP reported having any of the selected chronic conditions than in Australia as a whole (Figure 5). That is, the prevalence rates per 1,000 population were higher. The generally higher rates are consistent with the low socioeconomic status profile of the population of the Division.

### Prevalence estimates: self-reported health‡

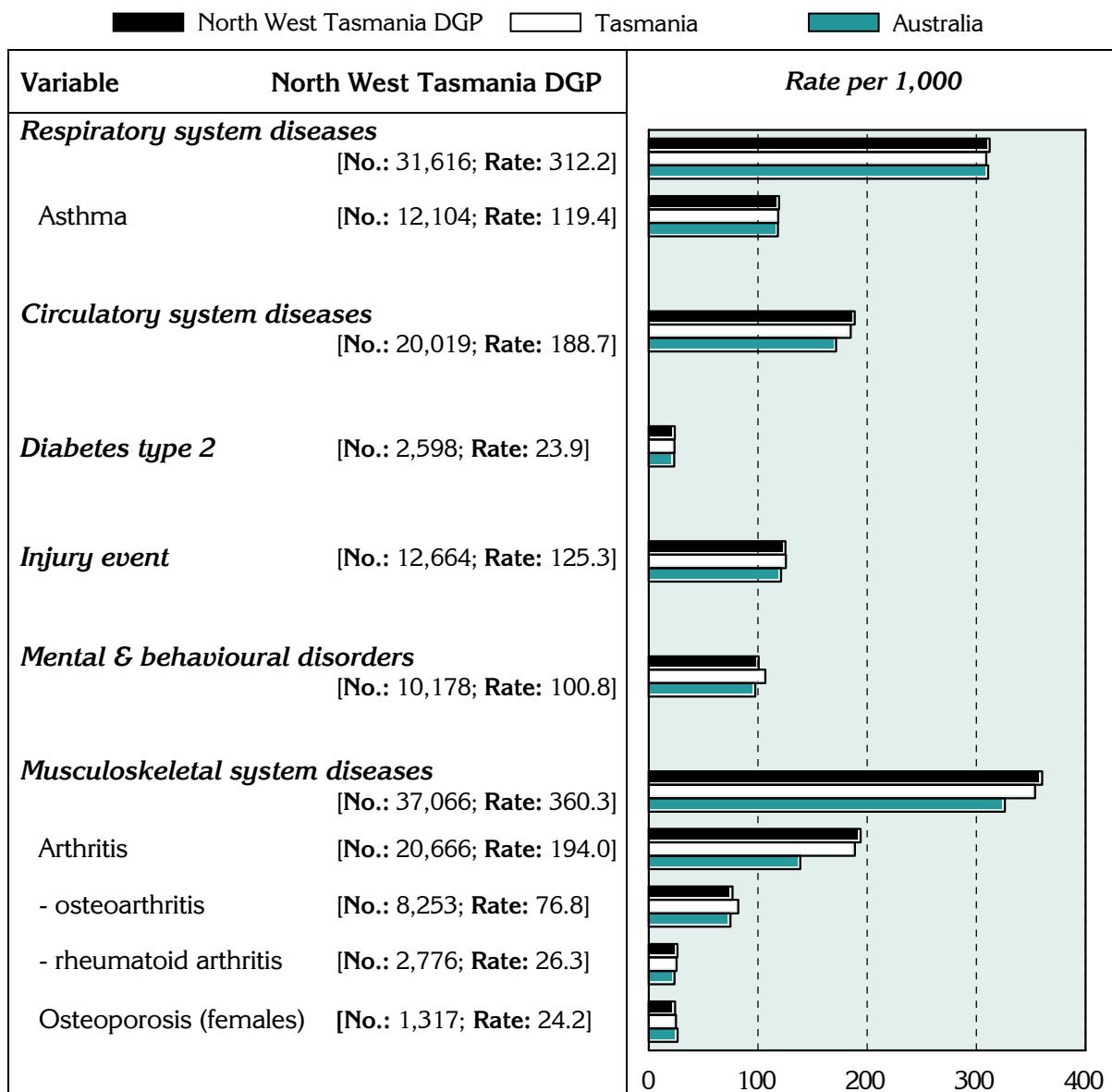
The NHS includes two measures of self-reported health. One is the Kessler Psychological Distress Scale–10 items (K-10). This is a scale of non-specific psychological distress based on 10 questions about negative emotional states in the four weeks prior to interview, asked of respondents 18 years and over (ABS 2002). The other asks respondents aged 15 years and over to rate their health on a scale from ‘excellent’, through ‘very good’, ‘good’ and ‘fair’, to ‘poor’ health.

The population of the Division aged 18 years and over are estimated to have relatively more people with very high psychological distress levels as measured by the K-10 (Figure 6). The proportion of the population aged 15 years and over estimated to have reported their health as ‘fair’ or ‘poor’ is also above the national average.

‡ See note under ‘Data converters and mapping’ re calculation of Division totals

**Figure 5: Estimates\* of chronic disease and injury, North West Tasmania DGP‡, Tasmania and Australia, 2001**

Indirectly age standardised rate per 1,000 population

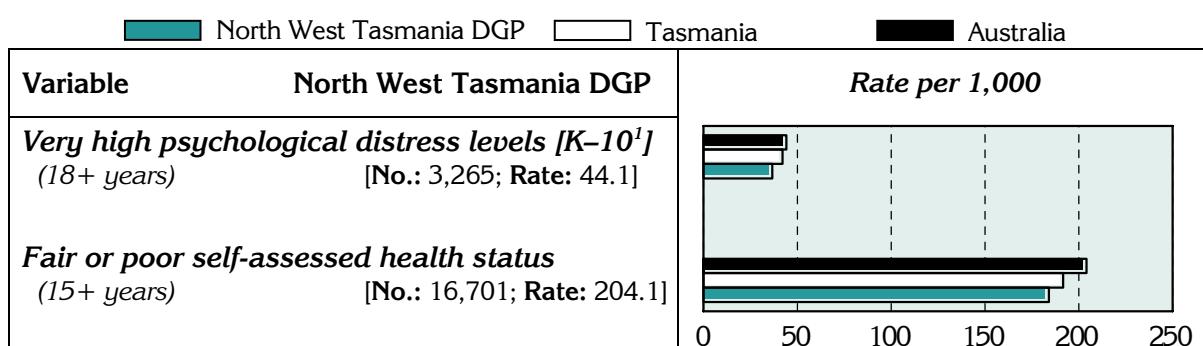


\* 'No.' is a weighted estimate of the number of people in North West Tasmania DGP reporting each chronic condition and is derived from synthetic predictions from the 2001 NHS

‡ See note under 'Data converters and mapping' re calculation of Division totals

**Figure 6: Estimates\* of measures of self-reported health, North West Tasmania DGP‡, Tasmania and Australia, 2001**

Indirectly age standardised rate per 1,000 population



\* 'No.' is a weighted estimate of the number of people in North West Tasmania DGP reporting under these measures and is derived from synthetic predictions from the 2001 NHS

<sup>1</sup> Kessler 10

‡ See note under 'Data converters and mapping' re calculation of Division totals

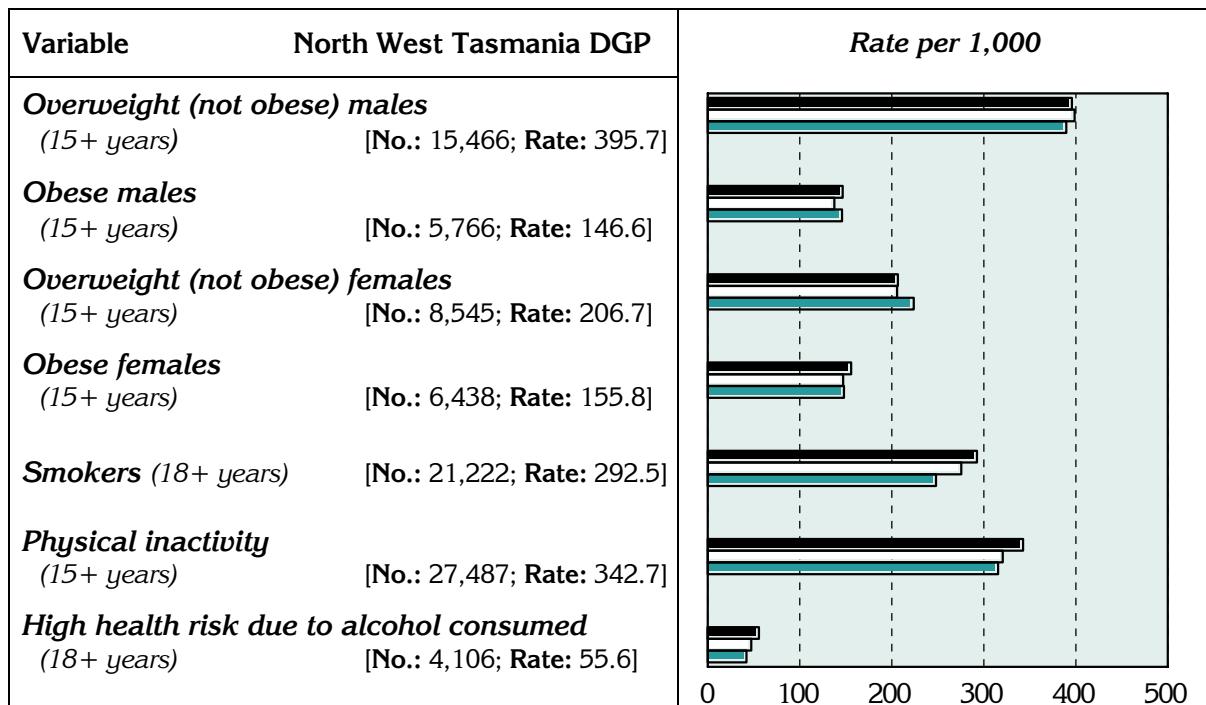
## Prevalence estimates: risk factors‡

The relatively higher rates (when compared with the Australian population) for obesity, smoking, lack of exercise and high-risk alcohol consumption (Figure 7) are consistent with the relatively low socioeconomic status profile of the area. The proportion of the population aged 15 years and over estimated to be overweight (not obese) is marginally below the Australian average rate.

**Figure 7: Estimates\* of selected risk factors, North West Tasmania DGP‡, Tasmania and Australia, 2001**

*Indirectly age standardised rate per 1,000 population*

■ North West Tasmania DGP ■ Tasmania ■ Australia



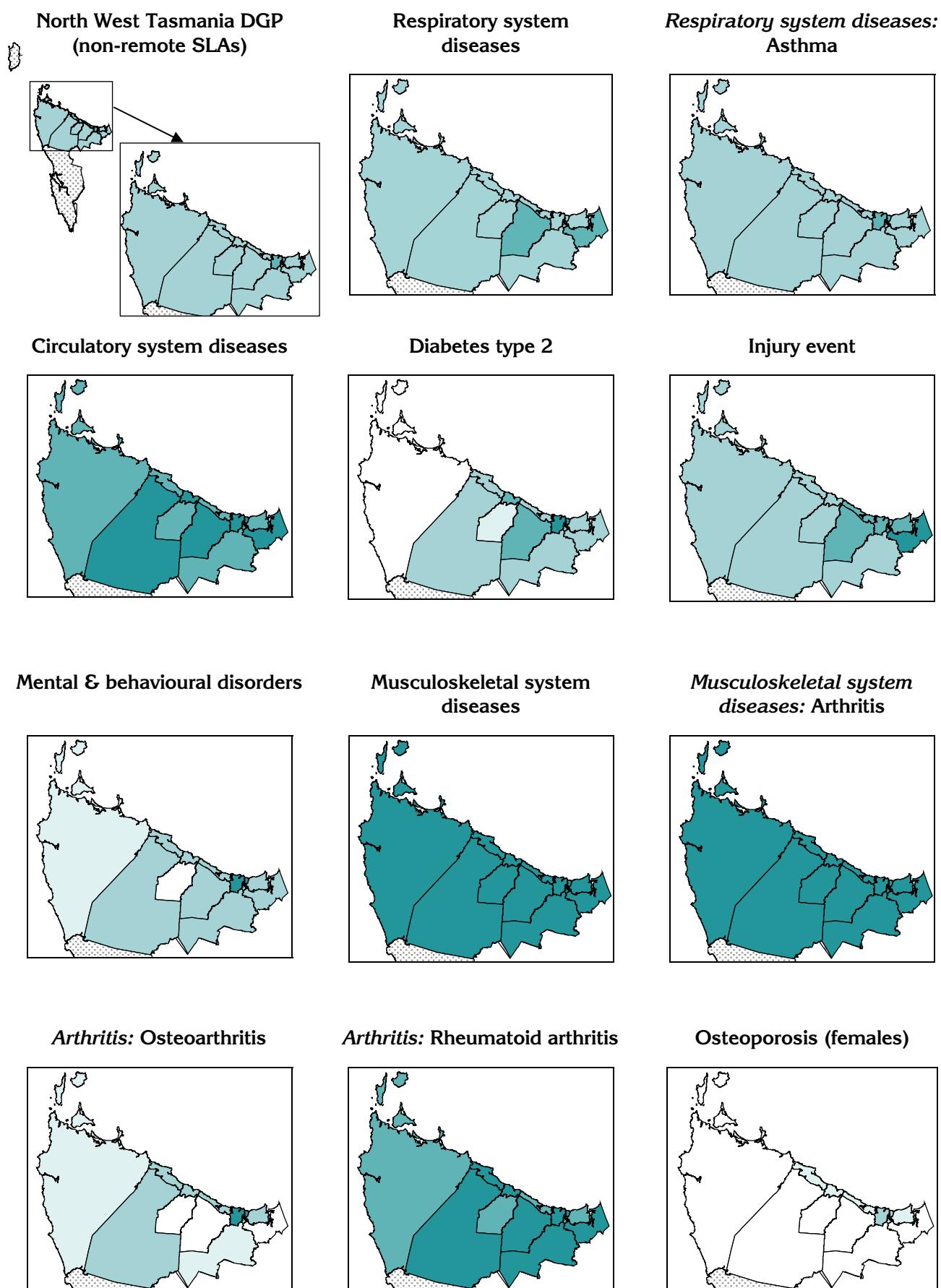
\* 'No.' is a weighted estimate of the number of people in North West Tasmania DGP with these risk factors and has been predicted using data from the 2001 NHS and known data for the Division

‡ See note under 'Data converters and mapping' re calculation of Division totals

The following maps provide details of the geographic distribution, at the SLA level, of the estimated prevalence of chronic disease (Map 2), self-reported health (Map 3) and risk factors associated with chronic disease (Map 4).

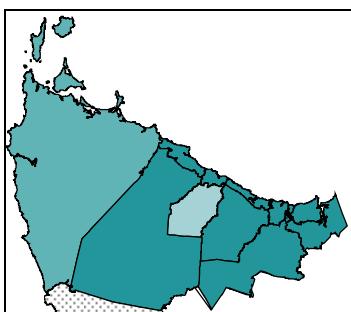
**In the following maps, users should note that the estimates shown for part SLAs in the Division (see Table 10, page 19, for per cent of SLA population in the Division) represent the estimates for the whole SLA, and not just the part shown. However, SLAs with only a small proportion of their population in the Division are likely to have little influence on the total estimates for the Division, which have been based on the percentage of the SLA population in the Division.**

**Map 2: Estimates\* of chronic disease and injury by SLA, North West Tasmania DGP, 2001**

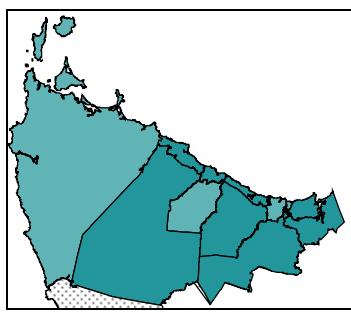


### Map 3: Estimates\* of measures of self-reported health by SLA, North West Tasmania DGP, 2001

**Very high psychological distress levels [K-10<sup>1</sup>] (18+ years)**



**Fair or poor self-assessed health status (15+ years)**



Per cent difference from Australian average

- 10% or more above
- 5% to less than 10% above
- within 5% of the average
- 5% to less than 10% below
- 10% or more below
- not mapped<sup>#</sup>
- not mapped<sup>##</sup>

\* See Notes on the data re these estimates.

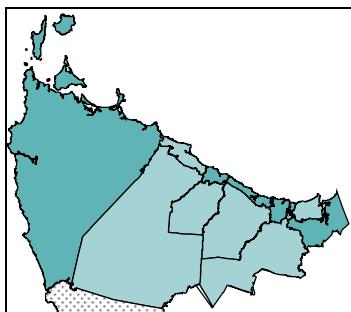
# Data not mapped: see 'Data converters and mapping' section under Notes on the data.

## Estimates not available for remote areas

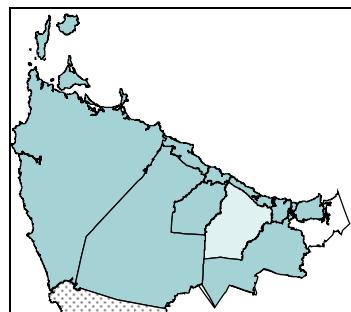
<sup>1</sup> Kessler 10

### Map 4: Estimates\* of selected risk factors by SLA, North West Tasmania DGP, 2001

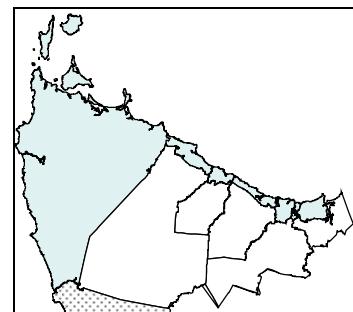
**Overweight (not obese) males (15+ years)**



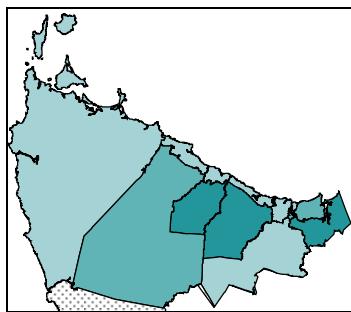
**Obese males (15+ years)**



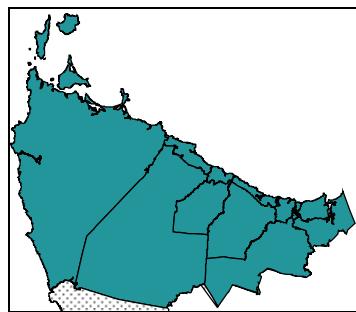
**Overweight (not obese) females (15+ years)**



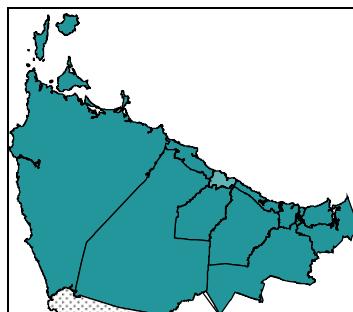
**Obese females (15+ years)**



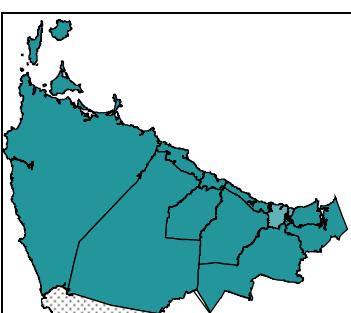
**Smokers (18+ years)**



**Physical inactivity (15+ years)**



**High health risk due to alcohol consumed (18+ years)**



Per cent difference from Australian average

- 10% or more above
- 5% to less than 10% above
- within 5% of the average
- 5% to less than 10% below
- 10% or more below
- not mapped<sup>#</sup>
- not mapped<sup>##</sup>

\* See Notes on the data re these estimates.

# Data not mapped: see 'Data converters and mapping' section under Notes on the data.

## Estimates not available for remote areas

# Notes on the data

## Data sources and limitations

### Data sources

Table 7 details the data sources for the material presented in this profile.

**Table 7: Data sources**

Section	Source
<b>Key indicators</b>	
GP services per head of population	GP services data supplied by Department of Health and Ageing, 2003/04 Population data: Estimated Resident Population, ABS, mean of 30 June 2003 and 30 June 2004 populations
<b>Socio-demographic profile</b>	
Figures 1 and 2; Table 1	Estimated Resident Population, ABS, 30 June for the periods shown
Tables 2, 3 and 4; Figure 3	Data were extracted by postal area from the ABS Population Census 2001 <sup>1</sup> , except for the following indicators: <ul style="list-style-type: none"> <li>- Indigenous – Experimental estimates of Aboriginal and Torres Strait Islander people, ABS 2001 (unpublished)</li> <li>- Full-time secondary education participation at age 16 – Census 2001 (unpublished)</li> <li>- Households receiving rent assistance – Centrelink, December Quarter 2001 (unpublished)</li> <li>- Unemployment rate / Labour force participation – extracted from Small Area Labour Markets Australia, June Quarter 2003, Department of Employment and Workplace Relations</li> </ul>
Map 1; Table 9	ABS SEIFA package, Census 2001
<b>General medical practitioner (GP) supply</b>	
Table 5	GP data supplied by Department of Health and Ageing, 2003/04  Population estimates used in calculating the population per GP rates are the: <ul style="list-style-type: none"> <li>- Census count<sup>2</sup>, ABS Population Census 2001, scaled to 2003/04</li> <li>- Usual Resident Population<sup>3</sup>, ABS Population Census 2001, scaled to 2003/04</li> <li>- Day-time population: calculated from journey to work data, ABS Population Census (URP) 2001 (unpublished); and 2001 Census URP, scaled to 2003/04</li> <li>- Estimated Resident Population, ABS, June 2003/2004</li> </ul>
<b>Immunisation</b>	
Text comment 1 year olds	National Centre for Immunisation Research and Surveillance, 2002
Table 6	Australian Childhood Immunisation Register, Health Insurance Commission, 2003/04 (unpublished)
<b>Premature mortality</b>	
Figure 4; Table 11	ABS Deaths, 2000 to 2002
<b>Chronic diseases and associated risk factors<sup>4</sup></b>	
Figures 5,6 and 7; Maps 2, 3 and 4; Table 12	Estimated from 2001 National Health Survey (NHS), ABS (unpublished)

<sup>1</sup> All data extracted from Usual Residents Profile, except for data variables only released in the Basic Community Profile

<sup>2</sup> Census count - those counted in the Division on Census night, including tourists, business people and other visitors

<sup>3</sup> Usual Resident Population - those who usually live there and who were in Australia at the time and would have provided details in the Census at the address where they were counted

<sup>4</sup> See notes below

## Chronic diseases and associated risk factors

The data for chronic conditions and risk factors for SLAs have been estimated from the 2001 National Health Survey (NHS), conducted by the ABS: see note below on synthetic estimates. The NHS sample includes the majority of people living in private households, but excludes the most remote areas of Australia. These areas cover 86.4% of Australia's land mass and comprise just 3% of the total population, however, 28% of Australia's Indigenous population live in these areas. Thus it has not been possible to produce these estimates for Divisions with relatively high proportions of their population in the most remote areas of Australia.

The data for chronic conditions and risk factors are self-reported data, reported to interviewers in the 2001 NHS. Table 8 includes notes relevant to this data.

**Table 8: Notes on estimates of chronic diseases and associated risk factors**

Indicator	Notes on the data
<b>Estimates of chronic disease and injury (Figure 5 and Map 2)</b>	
Long term conditions	<ul style="list-style-type: none"> <li>- Respondents were asked whether they had been diagnosed with any long term health condition (a condition which has lasted or is expected to last for 6 months or more), and were also asked whether they had been told by a doctor or nurse that they had asthma, cancer, heart and circulatory conditions, and/or diabetes</li> </ul>
Injury event	<ul style="list-style-type: none"> <li>- Injuries which occurred in the four weeks prior to interview</li> </ul>
<b>Estimates of measures of self-reported health (Figure 6 and Map 3)</b>	
Very high psychological distress levels (K10)	<ul style="list-style-type: none"> <li>- Derived from the Kessler Psychological Distress Scale-10 items (K-10), which is a scale of non-specific psychological distress based on 10 questions about negative emotional states in the 4 weeks prior to interview. 'Very high' distress is the highest level of distress category (of a total of four categories)</li> </ul>
Fair or poor self-assessed health status	<ul style="list-style-type: none"> <li>- Respondent's general assessment of their own health, against a five point scale from excellent through to poor – 'fair' or 'poor' being the two lowest in the scale</li> </ul>
<b>Estimates of selected risk factors (Figure 7 and Map 4)</b>	
Overweight (not obese)	<ul style="list-style-type: none"> <li>- Based on self-reported height and weight; BMI calculated and grouped into categories (to allow reporting against both WHO and NHMRC guidelines) - overweight: 25.0 to less than 30.0</li> </ul>
Obese	<ul style="list-style-type: none"> <li>- Based on self-reported height and weight; BMI calculated and grouped into categories (to allow reporting against both WHO and NHMRC guidelines) – obese: 30.0 and greater</li> </ul>
Smokers	<ul style="list-style-type: none"> <li>- Respondent's undertaking regular (or daily) smoking at the time of interview</li> </ul>
Physical inactivity	<ul style="list-style-type: none"> <li>- Did not exercise in the two weeks prior to interview through sport, recreation or fitness (including walking) – excludes incidental exercise undertaken for other reasons, such as for work or while engaged in domestic duties</li> </ul>
High health risk due to alcohol consumed	<ul style="list-style-type: none"> <li>- Respondent's estimated average daily alcohol consumption in the seven days prior to interview (based on number of days and quantity consumed). Alcohol risk levels were grouped according to NHMRC risk levels for harm in the long term, with 'high risk' defined as a daily consumption of more than 75 ml for males and 50 ml for females</li> </ul>

Note: For a full description, refer to *ABS 2001 National Health Survey*, Cat. No. 4364.0 and *ABS 2001 Health Risk Factors*, Cat. No. 4812.0

## Methods

### Synthetic estimates

The estimates of the prevalence of chronic disease and associated risk factors have been predicted for a majority of SLAs across Australia, using modelled survey data collected in the 2001 ABS National Health Survey (NHS) and known characteristics of the area. A synthetic prediction can be interpreted as the likely value for a 'typical' area with those characteristics: the SLA is the area level of interest for this project (where SLAs had small populations they were grouped to larger areas). This work was undertaken by the Australian Bureau of Statistics, as they hold the NHS unit record files: the small area data were compiled by PHIDU.

The approach used is to undertake an analysis of the survey data for Australia to identify associations in the NHS data between the variables that we wish to predict at the area level (eg. prevalence of chronic conditions and risk factors) and the data we have at the area level (eg. socioeconomic status, use of health services). The relationship between these variables for which we have area level data (the predictors) and the reporting of chronic conditions in the NHS is also a part of the model that is developed by the ABS. For example, such associations might be between the number of people reporting specified chronic conditions in the NHS and:

- the number of hospital admissions (in total, to public and to private hospitals, by age, sex and diagnosis),
- socioeconomic status (as indicated by Census data, or for recipients of government pensions and benefits), and
- the number of visits to a general medical practitioner.

The results of the modelling exercise are then applied to the SLA counts of the predictors. The prediction is, effectively, the likely value for a typical area with those characteristics. The raw numbers were then age-standardised, to control for the effects of differences in the age profiles of areas.

*The numbers are estimates for an area, not measured events as are death statistics: they should be used as indicators of likely levels of a condition or risk factor in an area.*

### Premature deaths

Details of deaths by SLA were purchased from the ABS. The raw numbers were then age-standardised, by the indirect method, to control for the effects of differences in the age profiles of areas.

### Data converters and mapping

#### Conversion to Division of data available by postcode

The allocation of postcodes to Divisions was undertaken using information from the Department of Health and Ageing's web site, which shows the proportion of a postcode in a Division (see page 18).

#### Conversion to Division of data available by SLA

(marked in this profile as ‡ See note under 'Data converters and mapping' re calculation of Division total)

Where the data presented in these profiles were only available by SLA they have been converted to Division of General Practice areas using a concordance based on data at the 2001 Census. A copy of the concordance is included in the Population data: A Guide for Divisions of General Practice: it is also available from the Divisions' data area on PHIDU web site.

In brief, the concordance splits the data (eg number of deaths) for each SLA across one or more Divisions. The proportion of an SLA's data that is allocated to each Division was calculated from (a) CD level Census 2001 data that splits SLAs across approximations to postcodes (referred to as postal areas) and (b) data on the DoHA website that splits postcodes across Divisions. This concordance can be adjusted to meet any new configuration of Division boundaries based on the 2001 Collection Districts, or combinations thereof.

The estimated population of each SLA in this Division is shown in Table 10.

#### Mapping

In some Divisions the maps may include a very small part of an SLA which has not been allocated any population, or either has a population of less than 100 or has less than 1% of the SLA's total population: these areas are mapped with a pattern.

## Supporting information

This and other information is also available at [www.publichealth.gov.au](http://www.publichealth.gov.au).

### A definition of population health

Population health, in the context of general practice, has been defined<sup>1</sup> as:

*"The prevention of illness, injury and disability, reduction in the burden of illness and rehabilitation of those with a chronic disease. This recognises the social, cultural and political determinants of health. This is achieved through the organised and systematic responses to improve, protect and restore the health of populations and individuals. This includes both opportunistic and planned interventions in the general practice setting."*

The key determinants of health are social support networks, employment and working conditions, social environments, physical environments, geographical isolation, personal health practices, healthy child development, ageing and disability, biology and genetic endowment, health services, gender and culture. In the Aboriginal and Torres Strait Islander context this means that a population health approach to health services will assist in ensuring "that Aboriginal and Torres Strait Islander people enjoy a healthy life equal to that of the general population, that is enshrined by a strong living culture, dignity and justice".<sup>2</sup> This recognises the importance of achieving improvements to Aboriginal and Torres Strait Islander health and respects the particular health issues facing Indigenous people.

<sup>1</sup> "The role of general practice in population health – A Joint Consensus Statement of the General Practice Partnership Advisory Council and the National Public Health Partnership Group" (Joint Advisory Group on General Practice and Population Health 2001)

<sup>2</sup> As defined in the Strategic Framework for Aboriginal and Torres Strait Islander Health

### SEIFA scores

Following the 2001 Census, the Australian Bureau of Statistics (ABS) produced four socioeconomic indexes for areas (SEIFA). The indexes describe various aspects of the socioeconomic make-up of populations in areas, using data collected in the 2001 Census. The Index of Relative Socio-Economic Disadvantage (labelled 'Disadvantage' in Table 9) includes all variables that either reflect or measure disadvantage. The Index of Advantage/Disadvantage is used to rank areas in terms of both advantage and disadvantage: any information on advantaged persons in an area will offset information on disadvantaged persons in the area. The Index of Economic Resources and the Index of Education and Occupation were targeted towards specific aspects of advantage/disadvantage.

For further information on the composition and calculation of these indexes see the ABS Information Paper ABS Cat No. 2039.0 available on the ABS web site [www.abs.gov.au](http://www.abs.gov.au). The scores for these indexes for each Statistical Local Area (SLA) in North West Tasmania DGP are shown in Table 9.

Table 9: SEIFA scores by SLA, North West Tasmania DGP, 2001

SLA code	SLA name (& per cent of SLA in the Division)	Index score			
		Disadvantage	Advantage	Economic Resources	Education & Occupation
60611	Burnie - Part A (100.0)	925	907	905	918
60612	Burnie - Part B (100.0)	981	920	925	909
60811	Central Coast - Part A (100.0)	949	911	899	929
60812	Central Coast - Part B (100.0)	994	927	908	937
61210	Circular Head (100.0)	935	890	909	877
61610	Devonport (100.0)	926	906	905	918
63210	Kentish (100.0)	936	883	870	897
63410	King Island (100.0)	996	947	956	930
63811	Latrobe - Part A (100.0)	960	909	908	919
63812	Latrobe - Part B (100.0)	1003	923	921	913
65411	Waratah/Wynyard - Part A (100.0)	938	905	896	918
65412	Waratah/Wynyard - Part B (100.0)	959	915	894	930
65610	West Coast (100.0)	930	913	938	891

\* Proportions are approximate and are known to be incorrect in some cases, due to errors in the concordance used to allocate CDs to form postal areas

## Statistical geography of the North West Tasmania DGP

The North West Tasmania DGP covers 20,691 square kilometres, based on 2001 SLA data.

The postcodes in the Division (all 100%) are: 7256, 7305-7307, 7310, 7315-7316, 7320-7322, 7325, 7329-7331, and 7466-7470<sup>2</sup>.

Statistical Local Areas (SLAs) are defined by the Australian Bureau of Statistics to produce areas for the presentation and analysis of data. In this Division, some Local Government Areas (LGAs) have been split into SLAs. For example, Burnie has two SLAs, Part A and Part B. These SLAs and all of the other SLAs listed in Table 10 comprise the Division.

**Table 10: SLAs in the North West Tasmania DGP by 2001 boundaries**

SLA code	SLA name	Per cent of the SLA's population in the Division*	Estimate of the SLA's 2004 population in the Division
60611	Burnie - Part A	100.0	17,137
60612	Burnie - Part B	100.0	2,006
60811	Central Coast - Part A	100.0	17,947
60812	Central Coast - Part B	100.0	3,137
61210	Circular Head	100.0	8,107
61610	Devonport	100.0	24,985
63210	Kentish	100.0	5,677
63410	King Island	100.0	1,632
63811	Latrobe - Part A	100.0	7,990
63812	Latrobe - Part B	100.0	722
65411	Waratah/Wynyard - Part A	100.0	11,018
65412	Waratah/Wynyard - Part B	100.0	2,472
65610	West Coast	100.0	5,088

\* Proportions are approximate and are known to be incorrect in some cases, due to errors in the concordance used to allocate CDs to form postal areas

## Supporting data

The data used in Figure 4 to illustrate the rates of premature mortality in the Division are shown below in Table 11.

**Table 11: Deaths before 75 years of age by major condition group and selected cause, North West Tasmania DGP‡, Tasmania, and Australia, 2000-02\***

*Indirectly age standardised rate per 100,000 population*

Variable	North West Tasmania DGP‡		Tasmania		Australia	
	No.	Rate	No.	Rate	No.	Rate
<b>Circulatory system diseases</b>	260	84.6	1,107	82.6	38,357	72.3
Ischaemic heart disease	143	46.5	666	49.6	23,364	44.1
Cerebrovascular disease – stroke	47	15.3	203	15.1	6,920	13.0
<b>Cancer</b>	443	144.1	1,838	137.1	60,603	114.3
Cancer of the trachea, bronchus & lung	97	31.3	426	31.6	12,715	24.0
<b>Respiratory system diseases</b>	82	26.6	336	25.0	9,726	18.3
Chronic lower respiratory disease	64	20.8	264	19.6	6,657	12.6
<b>Injuries and poisonings</b>	123	44.1	498	39.7	18,573	35.0
Suicide	44	15.9	171	13.7	6,706	12.6
Motor vehicle accidents	29	10.6	123	9.9	5,014	9.5
<b>Other causes</b>	183	60.7	761	57.7	26,735	50.4
Diabetes mellitus	24	7.8	92	6.8	3,734	7.0

\* 'No.' is the total number of deaths for the 2000-02 period; 'Rate' is an annual rate, based on the 3-year average

‡ See note under 'Data converters and mapping' re calculation of Division totals

<sup>2</sup> As per the Department of Health and Ageing web site (accessed online version as at February 2005): <http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-divspc.htm>

The rates used to illustrate the prevalence estimates of chronic disease and injury (Figure 5), measures of self-reported health (Figure 6), and selected risk factors (Figure 7), are shown in Table 12 below.

**Table 12: Estimates of chronic disease and associated risk factors, North West Tasmania DGP‡, Tasmania and Australia, 2001**

*Indirectly age standardised rate per 1,000 population*

Variable	North West Tasmania DGP‡	Tasmania	Australia
<b>Chronic disease and injury (Figure 5)</b>			
Respiratory system diseases	312.2	309.1	310.8
Asthma	119.4	118.6	118.3
Circulatory system diseases	188.7	185.0	171.5
Diabetes type 2	23.9	23.7	23.4
Injury event	125.3	125.7	121.2
Mental & behavioural disorders	100.8	106.8	97.6
Musculoskeletal system diseases	360.3	353.7	326.2
Arthritis	194.0	188.8	138.8
- Osteoarthritis	76.8	82.0	74.9
- Rheumatoid arthritis	26.3	25.6	23.6
Osteoporosis (females)	24.2	25.0	26.4
<b>Measures of self-reported health (Figure 6)</b>			
Very high psychological distress levels (18+ years)	44.1	42.1	36.6
Fair or poor self-assessed health status (15+ years)	204.1	191.6	184.0
<b>Risk factors (Figure 7)</b>			
Overweight (not obese) males (15+ years)	395.7	398.7	389.7
Obese males (15+ years)	146.6	137.6	145.9
Overweight (not obese) females (15+ years)	206.7	205.8	223.9
Obese females (15+ years)	155.8	147.2	148.0
Smokers (18+ years)	292.5	275.6	248.0
Physical inactivity (15+ years)	342.7	320.5	315.5
High health risk due to alcohol consumed (18+ years)	55.6	47.4	42.1

‡ See note under 'Data converters and mapping' re calculation of Division totals

## References

- Australian Bureau of Statistics (ABS) (2002). *2001 National Health Survey: summary of results*. Australia. (ABS Cat. No. 4364.0). Canberra: ABS.
- National Public Health Partnership (NPHP) (2001). *Preventing Chronic Disease: A Strategic Framework*. Melbourne, Victoria.
- Thacker S, Stroup D & Rothenberg R (1995). Public health surveillance for chronic conditions: a scientific basis for decisions. *Statistics in Medicine* 14: 629-641.
- World Health Organization (2002). *The World Health Report 2002: Reducing Risks, Promoting Healthy Life*. Geneva: World Health Organization.

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## Further developments and updates

Subject to agreement and funding, a number of developments could be undertaken:

- Details of hospitalisations potentially avoidable through ambulatory care interventions are currently being prepared and will be forwarded to Divisions (and posted on the PHIDU web site) when they are available. Other enhancements will be considered as appropriate datasets become available.

The profiles could be updated as the data are updated. For example:

- Population estimates, avoidable hospitalisations, immunisation, and GP activity and workforce data – annually;
- Chronic disease estimates – three-yearly;
- Census data – five-yearly.

Any developments would be informed by consultation, including with Divisions.

## PHIDU contact details

For general comments, data issues or enquiries re information on the web site, please contact PHIDU:

Phone: 08-8303 6236 or e-mail: [PHIDU@publichealth.gov.au](mailto:PHIDU@publichealth.gov.au)