

# Population health profile of the Sunshine Coast

## Division of General Practice

Population Profile Series: No. 83

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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 *Sunshine Coast Division of General Practice*

## Introduction

This profile has been designed to provide a description of the population of the Sunshine Coast 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. country Queensland and Australia). Specific topics covered include:

- a socio-demographic profile (pages 2-6);
- GP workforce data (page 7);
- immunisation rates (page 7);
- rates of premature death (page 8); and
- estimates of the prevalence of chronic disease and selected risk factors (pages 9-13).

## Key indicators

<b>Location:</b>	Queensland	
<b>Division number:</b>	418	
<b>Population‡:</b>	<b>No.</b>	<b>%</b>
Total	310,930	
65+	49,387	15.9%
<25	96,929	31.2%
Indigenous	3,879	1.4%
<b>Disadvantage score<sup>1</sup>:</b>	982	
<b>GP services per head of population:</b>		
Division‡	5.2	
Australia	4.7	
<b>Population per FTE GP:</b>		
Division‡	1,156	
Australia	1,403	
<b>Premature death rate<sup>2</sup>:</b>		
Division‡	231.4	
Australia	290.4	

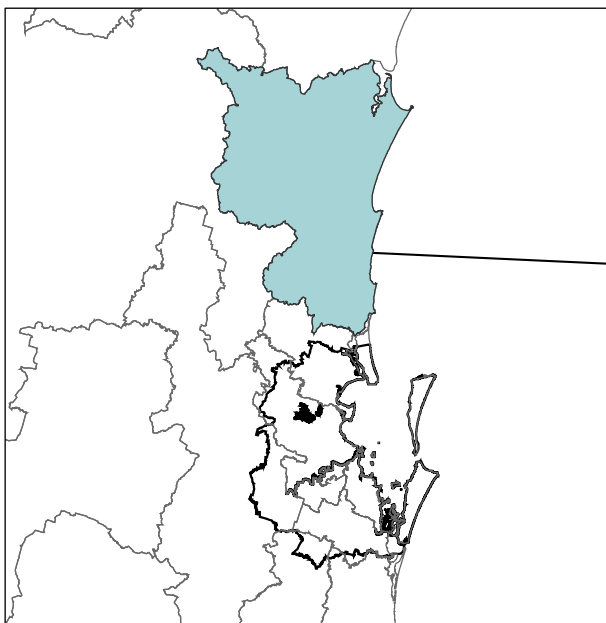
<sup>1</sup> Numbers below 1000 (the index score for Australia) indicate the Division is relatively disadvantaged

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

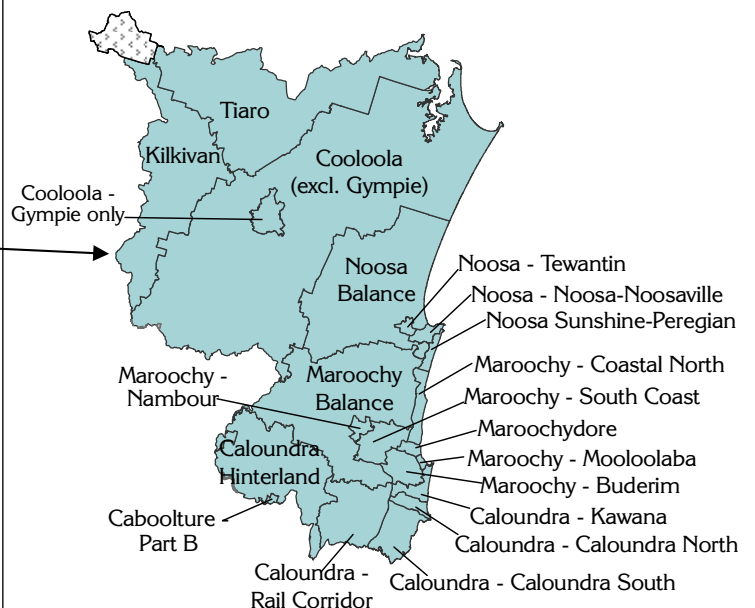
‡ See note "Data converters and mapping" re calculation of Division Total

## Sunshine Coast Division of General Practice

*Queensland Divisions of General Practice*



*Sunshine Coast DGP by SLA*



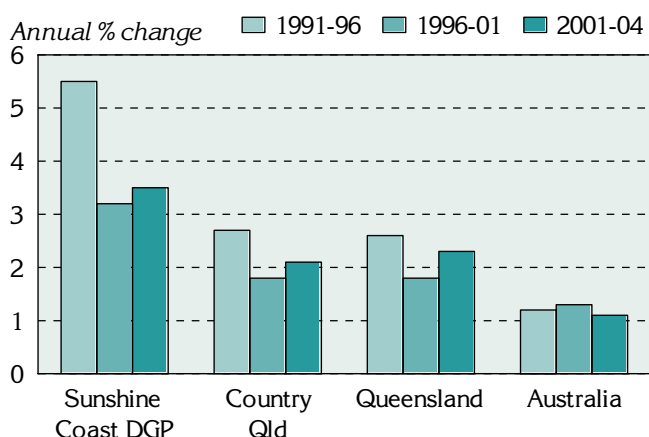
— Queensland Divisions of General Practice  
 — Brisbane Statistical Division

# Socio-demographic profile

## Population

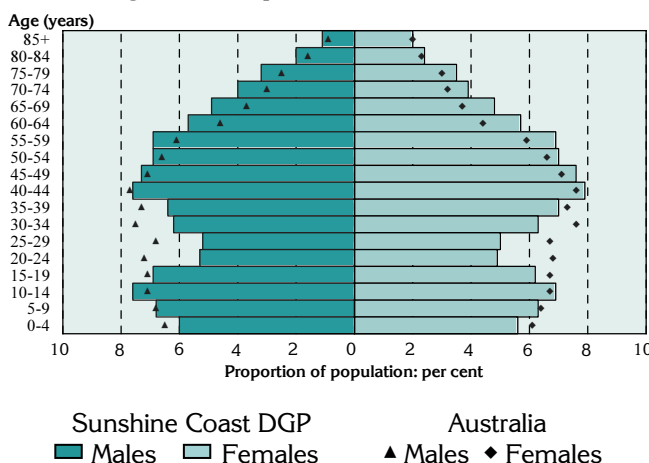
The Sunshine Coast Division had an Estimated Resident Population of 310,930 at 30 June 2004.

**Figure 1: Annual population change, Sunshine Coast DGP‡, country Queensland<sup>1</sup>, Queensland and Australia, 1991 to 1996, 1996 to 2001 and 2001 to 2004**



Over the five years from 1991 to 1996, the Division's population increased by 5.5% on average each year, more than twice the increases in country Queensland (2.7%) and Queensland (2.6%). From 1996 to 2001, the annual percentage increase in the Division was 3.2%, again higher than in country Queensland and Queensland (both 1.8%). The growth rate of 3.5% per year from 2001 to 2004 was higher than the annual increases for country Queensland (2.1%) and Queensland (2.3%).

**Figure 2: Population in Sunshine Coast DGP‡ and Australia, by age and sex, 2004**



The most notable differences in the age distribution of the Division's population (when compared to Australia overall) are:

- at younger ages – a lower proportion of children aged 0 to 4 years;
- from 15 to 39 years – notably lower proportions of both males and females;
- from 40 to 64 years – higher proportions of males (from 45 years) and females from 40 years; and
- at older ages – higher proportions of both males and females at age 65 years and over.

**Table 1: Population by age, Sunshine Coast DGP‡ and Australia, 2004**

Age group (years)	Sunshine Coast DGP		Australia	
	No.	%	No.	%
0-14	60,904	19.6	3,978,751	19.8
15-24	36,025	11.6	2,762,769	13.8
25-44	80,587	25.9	5,881,048	29.3
45-64	84,027	27.0	4,864,037	24.2
65-74	27,489	8.8	1,374,792	6.8
75-84	17,150	5.5	934,505	4.7
85+	4,748	1.5	295,602	1.5
<b>Total</b>	<b>310,930</b>	<b>100.0</b>	<b>20,091,504</b>	<b>100.0</b>

As shown in the age-sex pyramid above, Sunshine Coast DGP had fewer people aged 15 to 44 years (11.6% and 25.9%) than Australia as a whole (with 13.8% and 29.3%) (Table 1). Conversely, the proportions of the Division's population aged 45 to 84 years were higher than those for Australia.

The Sunshine Coast DGP comprised 4.0% of people born in predominantly non-English speaking countries and resident in Australia for five years or more (Table 2), less than the 4.3% in country Queensland. Recent arrivals (resident in Australia for less than five years) from non-English speaking countries comprised 0.5% of the population (with 0.9% in country Queensland).

<sup>1</sup>References to 'country Queensland' relate to Queensland excluding the Brisbane Statistical Division  
 ‡ See note under 'Data converters and mapping' re calculation of Division totals on this page

Of these residents, 0.2% had poor proficiency in English (determined when people aged five years and over born overseas in predominantly non-English speaking countries reported in the Census speaking another language and speaking English 'not well' or 'not at all'), compared to higher proportions in country Queensland (0.5%), Queensland (0.9%) and Australia (2.4%).

**Table 2: Non-English speaking born, Sunshine Coast DGP, country Queensland, Queensland and Australia, 2001**

People born in predominantly non-English speaking countries	Sunshine Coast DGP		Country Queensland		Queensland		Australia	
	No.	%	No.	%	No.	%	No.	%
Resident in Australia for five years or more	10,846	4.0	81,800	4.3	204,783	5.8	2,019,410	10.8
Resident in Australia for less than five years	1,355	0.5	16,565	0.9	49,081	1.4	408,074	2.2
Poor proficiency in English <sup>1</sup>	498	0.2	8,683	0.5	30,109	0.9	425,399	2.4

<sup>1</sup> Calculated on persons aged 5 years and over who reported speaking another language and speaking English 'not well' or 'not at all'

### Major non-English speaking birthplaces, Sunshine Coast DGP, 2001

Australian-born people comprised 83.7% of the Division's population, well above the Australian figure of 72.6%. Of the 11.6% of people from English speaking countries, 6.7% were from the UK and Eire. The major birthplaces of the non-English speaking population include Germany (0.8%); The Netherlands (0.6%); Italy and the Philippines (both 0.2%); all other birthplaces of non-English speaking populations represented 0.1% or less of the Division's population.

## Socioeconomic 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.*

The Sunshine Coast DGP had a higher proportion of single parent families (12.8%) compared to country Queensland as a whole (11.8%), and a markedly lower proportion of Aboriginal and Torres Strait Islanders (1.4%, compared to 4.9% for country Queensland) (Figure 3, Table 3).

Full-time secondary school education participation of 16 year olds living in the Division (77.1%) was slightly higher than that for country Queensland (74.6%).

A higher proportion of the Division's households received rent assistance from Centrelink (25.3%) compared to country Queensland (21.3%), but there was a slightly lower rate of dwellings rented from the State housing authority (2.1%, compared to 2.8%). The proportion of dwellings with no access to a motor vehicle (8.0%) was lower than that for country Queensland (8.8%) and for Queensland (9.3%).

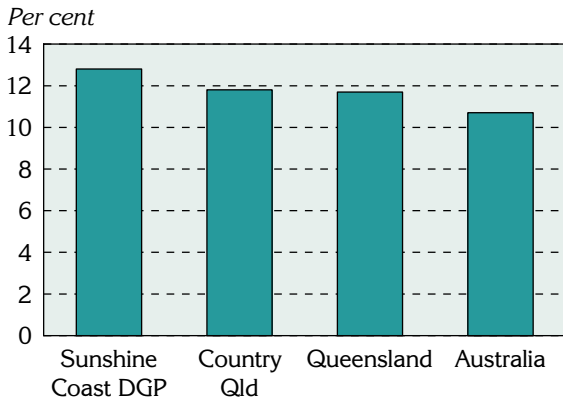
The Division had a greater proportion of people who reported using, at home, a computer (40.5%), and the Internet (27.0%), compared to country Queensland (37.5% and 23.7%).

These socioeconomic indicators show the Division to comprise a population of marginally lower than average socioeconomic status: see also the note on page 5 (Summary of socioeconomic ranking).

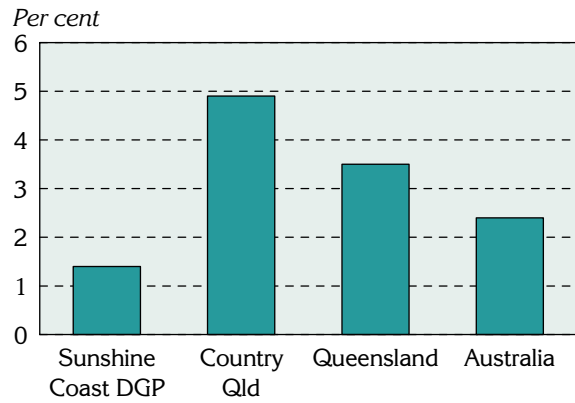
**Figure 3: Socio-demographic indicators, Sunshine Coast DGP, country Queensland, Queensland and Australia, 2001**

*Note the different scales*

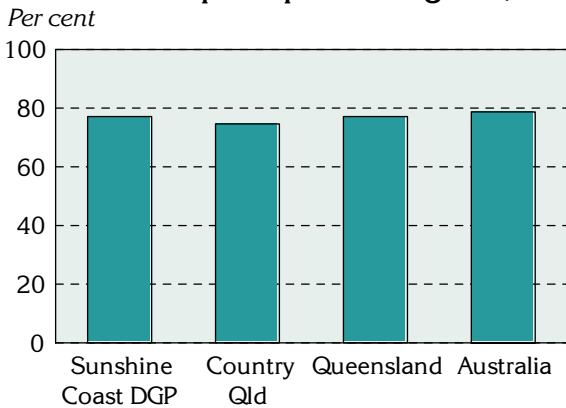
**Single parent families**



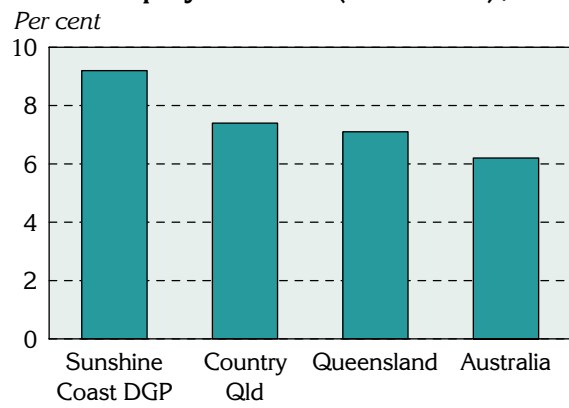
**Indigenous‡**



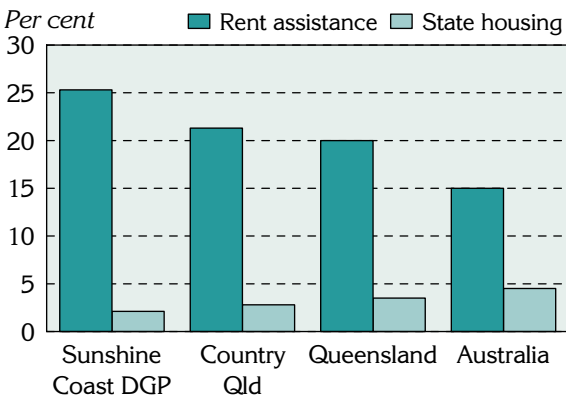
**Education participation at age 16‡**



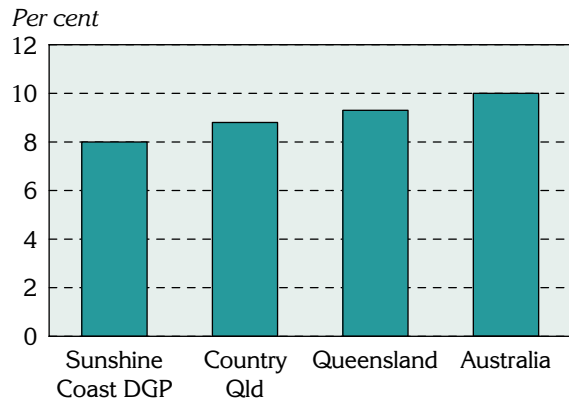
**Unemployment rate (June 2003)‡**



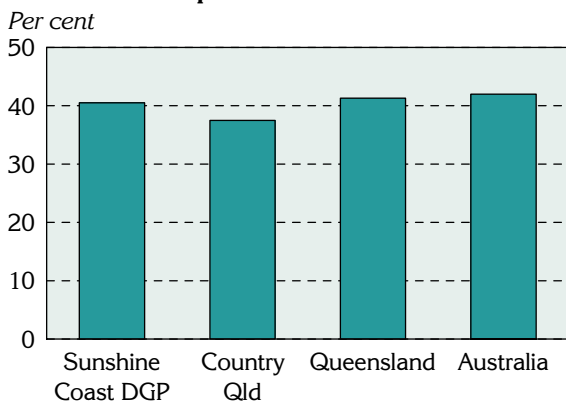
**Households receiving rent assistance & Dwellings rented from State housing authority**



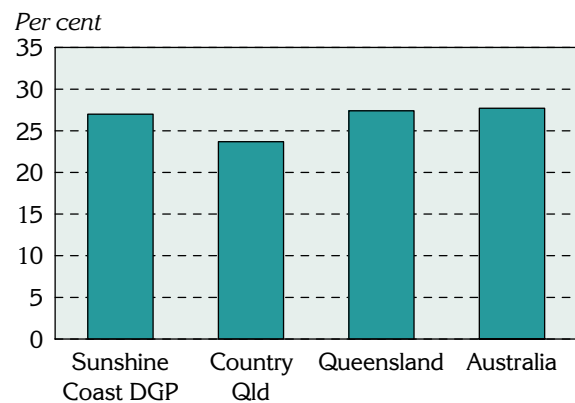
**Dwellings with no motor vehicle**



**Computer use at home**



**Internet use at home**



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

**Table 3: Socio-demographic indicators, Sunshine Coast DGP, country Queensland, Queensland and Australia, 2001**

Indicator	Sunshine Coast DGP		Country Queensland		Queensland		Australia	
	No.	%	No.	%	No.	%	No.	%
Single parent families	9,614	12.8	59,925	11.8	109,687	11.7	529,969	10.7
Indigenous‡	3,879	1.4	96,267	4.9	125,908	3.5	458,261	2.4
Full-time secondary school education at age 16‡	3,131	77.1	21,378	74.6	40,051	77.1	130,198	78.7
Households: rent assistance	25,835	25.3	145,862	21.3	253,773	20.0	1,006,599	15.0
Dwellings rented from the State housing authority	2,406	2.1	21,243	2.8	47,286	3.5	317,171	4.5
Dwellings: no motor vehicle	9,033	8.0	66,439	8.8	125,606	9.3	708,073	10.0
Computer use at home	113,275	40.5	741,419	37.5	1,481,238	41.3	7,881,983	42.0
Internet use at home	72,601	27.0	453,438	23.7	964,143	27.4	5,199,286	27.7

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

The unemployment rate of 9.2% in Sunshine Coast DGP was markedly higher than those for country Queensland (7.4%) and Queensland (7.1%) (Figure 3, Table 4). The labour force participation rate (71.6%) was below the rates for country Queensland rate (74.9%) and Queensland (75.4%), while the female labour force participation rate (67.6%) was similar to that for country Queensland (67.8%), but slightly lower than in Queensland (69.5%).

**Table 4: Unemployment and labour force participation, Sunshine Coast DGP, country Queensland, Queensland and Australia, 2003**

Labour force indicators	Sunshine Coast DGP		Country Queensland		Queensland		Australia	
	No.	%	No.	%	No.	%	No.	%
Unemployment rate‡	12,712	9.2	77,047	7.4	136,589	7.1	623,791	6.2
Labour force participation‡	138,410	71.6	1,036,722	74.9	1,926,589	75.4	10,038,147	75.2
Female labour force participation (2001)	42,938	67.6	315,746	67.8	618,570	69.5	3,306,521	69.7

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

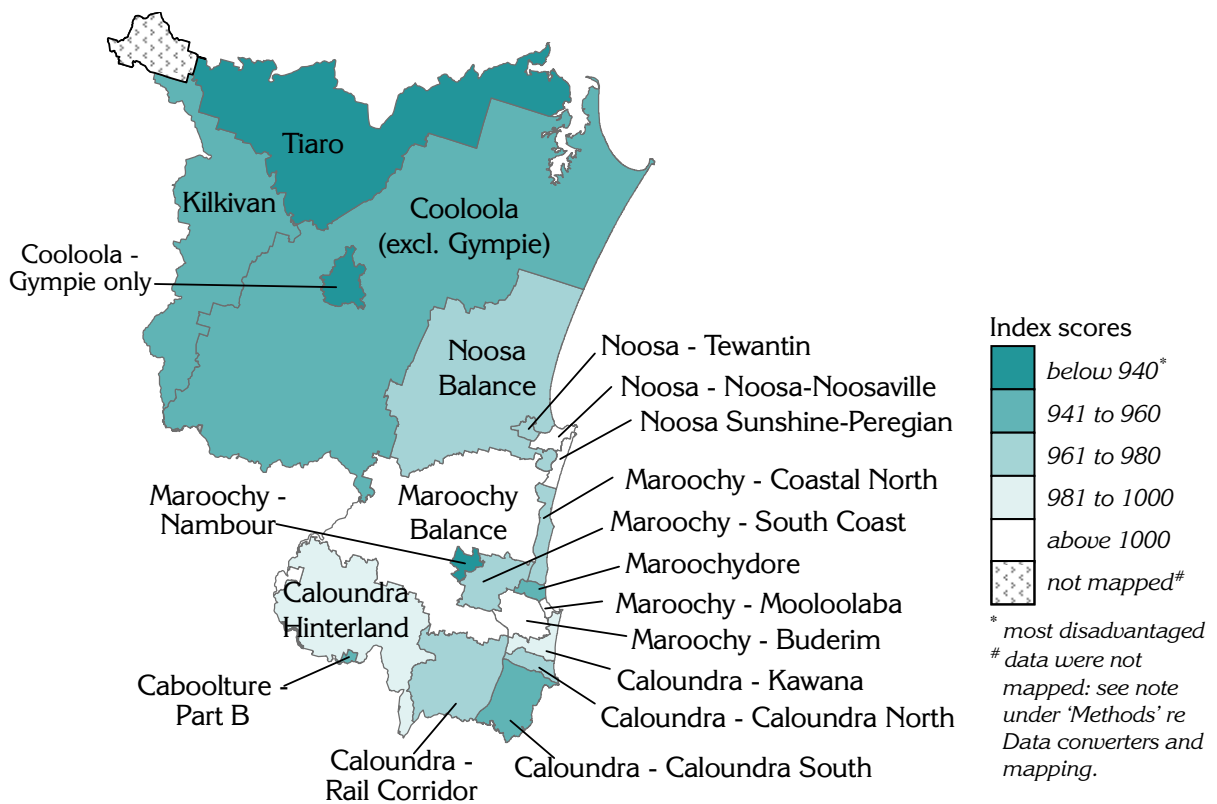
## Summary of the socioeconomic ranking of the Sunshine Coast DGP

Following the 2001 Census, the Australian Bureau of Statistics (ABS) produced four socioeconomic indexes for areas (SEIFA) which describe various aspects of the socioeconomic profile of populations in areas. The scores for these indexes for each Statistical Local Area (SLA) or part SLA in the Division are shown in the supporting information, Table 9, page 17: SLAs are described on page 19.

Sunshine Coast DGP area's SEIFA Index of Relative Socio-Economic Disadvantage (IRSD) score is 982, marginally (1.8%) below the average for Australia (1000), but above that for country Queensland (978); this highlights the marginally lower socioeconomic status profile of the Sunshine Coast DGP population. There are notable variations in the IRSD within the Division at the SLA level (Map 1), although most are over a narrow range of index scores.

**Map 1: Index of Relative Socio-Economic Disadvantage by SLA, Sunshine Coast 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 264.3 full-time equivalent (FTE) GPs, and 310.2 full-time workload equivalent (FWE<sup>2</sup>) GPs worked in the Sunshine Coast DGP in 2003/04 (Table 5). Of the FWE GPs, 24.5% were female, and 17.2% were over 55 years of age (compared to 26.7% and 25.2%, respectively, for Queensland).

There was minimal variation in the rates of population per FTE and FWE GP for the population measures shown, other than for the estimated day-time population, for which rates were 5.7% below those on the calculated Usual Resident Population (usual residents of the Division counted in Australia on Census night). The rates of population per FWE GP were lower than the FTE rates.

Based on the average Estimated Resident Population (ERP) as at 30 June 2003 and 30 June 2004, the rates of population per GP in Sunshine Coast DGP were lower than for Queensland and Australia, indicating a higher level of provision of GP services in the Division.

**Table 5: Population per GP in Sunshine Coast DGP, Queensland and Australia, 2003/04**

Population measure	Population	GPs		Population per GP	
		FTE	FWE	FTE	FWE
<b>Sunshine Coast DGP</b>					
Census count (adjusted)*	303,726	264.3	310.2	1,149	979
Usual Resident Population (URP) (adjusted)*	292,211	..	..	1,106	942
Estimated Resident Population (ERP)	305,591	..	..	1,156	985
Day-time population (estimated on URP)* ‡	275,103	..	..	1,041	887
<b>Queensland (ERP)</b>	<b>3,841,538</b>	<b>2,739</b>	<b>3,256</b>	<b>1,403</b>	<b>1,180</b>
<b>Australia (ERP)</b>	<b>19,989,303</b>	<b>14,246</b>	<b>16,872</b>	<b>1,403</b>	<b>1,185</b>

\* 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

## Immunisation

Data from the Australian Childhood Immunisation Register show that 93.5% of children in the Division in 2002 were fully immunised at age one, below 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 general practitioner was 98.3% notably higher than the 70.0% for Australia, with 1.7% immunised at an Aboriginal health service or by an Aboriginal health worker.

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

Provider	Sunshine Coast DGP	Australia
	%	%
General practitioner	98.3	70.0
Local government council	0.0	16.6
Community health centre/ worker	0.0	9.8
Public hospital	0.1	2.1
Aboriginal health service/ worker	1.7	0.9
Other*	0.0	0.6
<b>Total: Per cent</b>	<b>100.0</b>	<b>100.0</b>
<b>Number</b>	<b>50,546</b>	<b>3,843,610</b>

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

<sup>2</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

## 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 (231.4 deaths per 100,000 population) is notably lower than for country Queensland (278.5) 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.

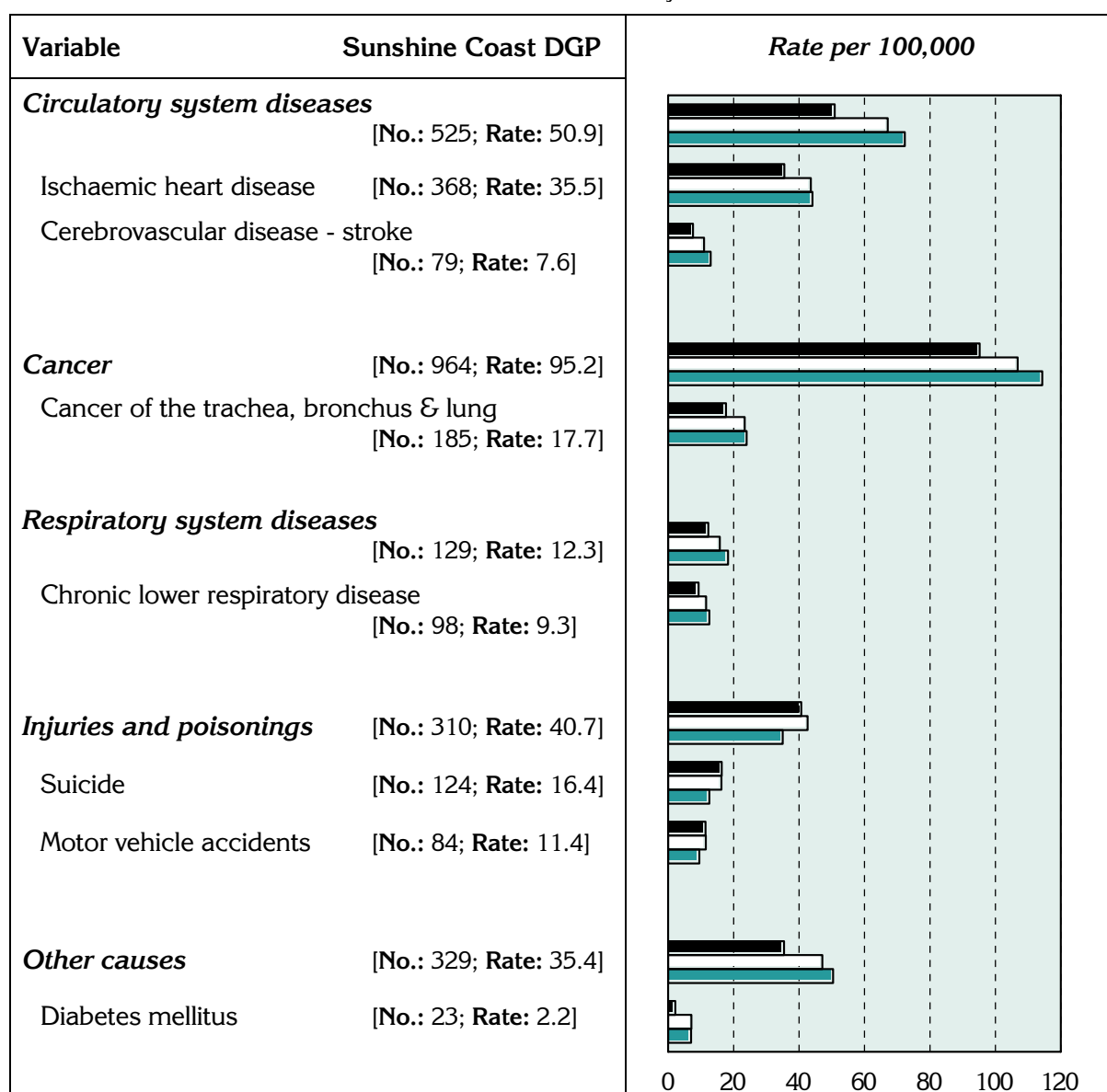
The major causes of premature mortality in the Division, as for country Queensland and Australia as a whole, are cancer and diseases of the circulatory system (Figure 4). For all of the major conditions and selected causes, other than injuries and poisonings, suicide and motor vehicle accidents, death rates in the Division were lower than for country Queensland 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, Sunshine Coast DGP‡, country Queensland and Australia, 2000-02\***

*Indirectly age standardised rate per 100,000 population*

■ Sunshine Coast DGP      □ Country Qld      ■ Australia



\* '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 intra-uterine 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 15-16. 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 similar or relatively higher proportions of the population in Sunshine Coast 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 similar or higher.

### 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.

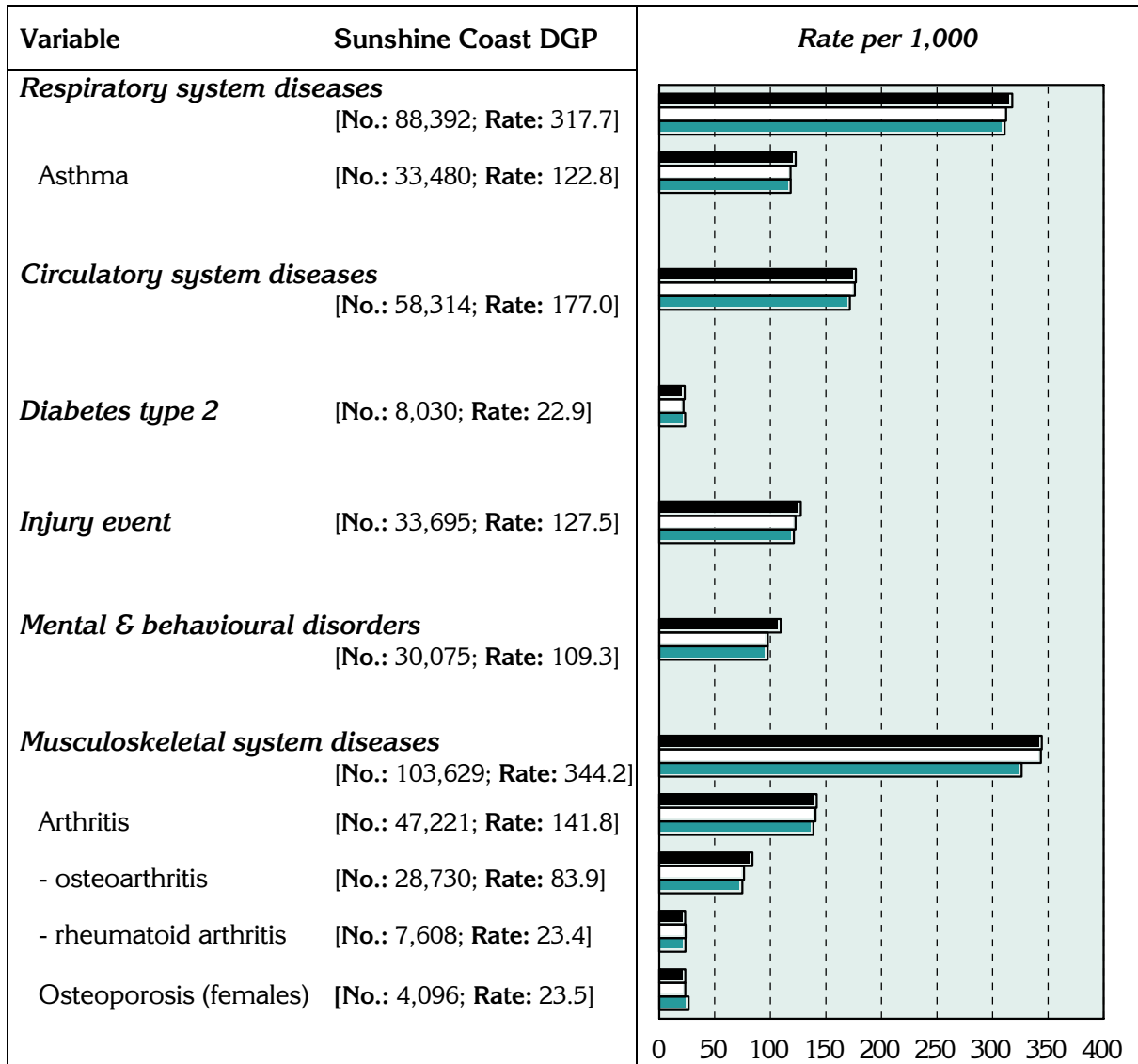
The population of the Division aged 18 years and over is estimated to have relatively more people with very high psychological distress levels as measured by the K–10 (Figure 6). Conversely, the proportion of the population aged 15 years and over estimated to have reported their health as ‘fair’ or ‘poor’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

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

**Figure 5: Estimates\* of chronic disease and injury, Sunshine Coast DGP‡, country Queensland and Australia, 2001**

*Indirectly age standardised rate per 1,000 population*

■ Sunshine Coast DGP    □ Country Qld    ■ Australia



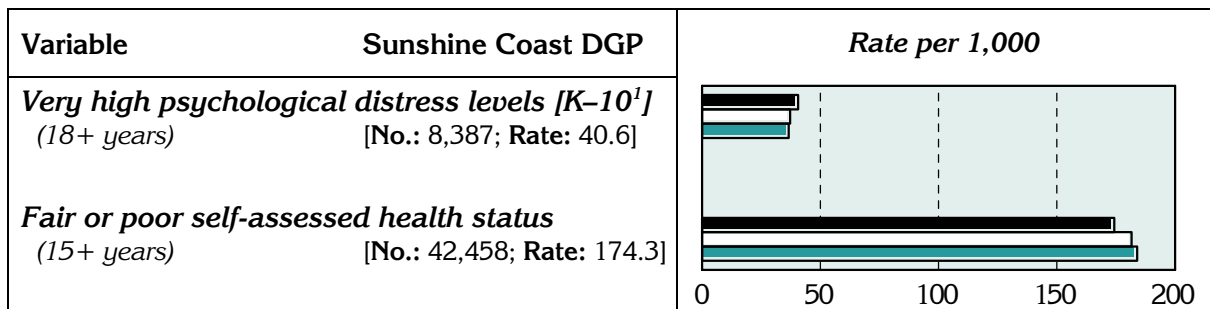
\* 'No.' is a weighted estimate of the number of people in Sunshine Coast DGP reporting each chronic condition and is derived from synthetic predictions from the 2001 NHS

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

**Figure 6: Estimates\* of measures of self-reported health, Sunshine Coast DGP‡, country Queensland and Australia, 2001**

*Indirectly age standardised rate per 1,000 population*

■ Sunshine Coast DGP    □ Country Qld    ■ Australia



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

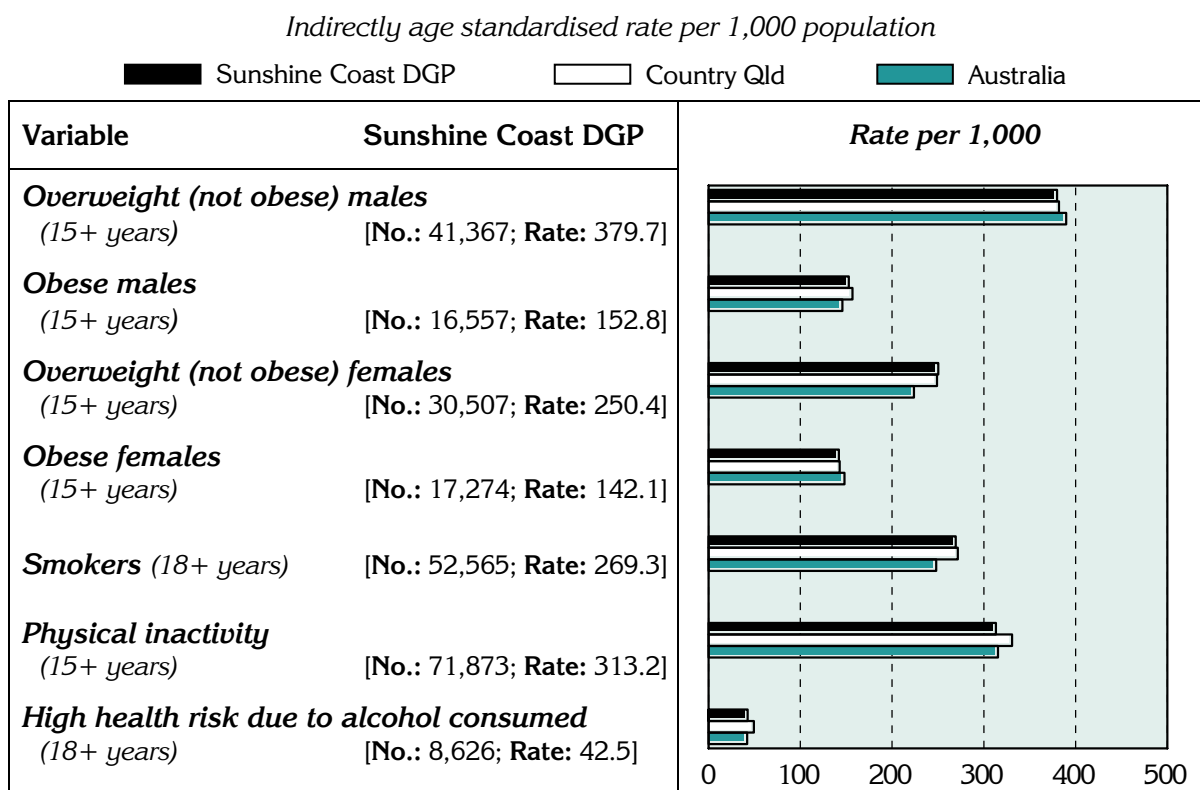
<sup>1</sup> Kessler 10

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

## Prevalence estimates: risk factors‡

There Sunshine Coast DGP reported higher rates (when compared with the Australian population) for obesity in males, overweight in females, and smoking (Figure 7). The rates for the other selected risk factors were similar to, or lower than, the national rates.

**Figure 7: Estimates\* of selected risk factors, Sunshine Coast DGP‡, country Queensland and Australia, 2001**



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

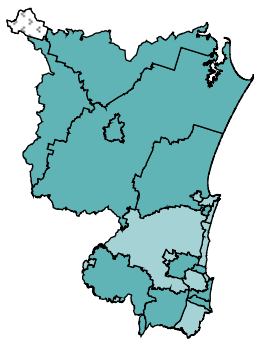
‡ See note under 'Data converters and mapping' re calculation of Division totals

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).

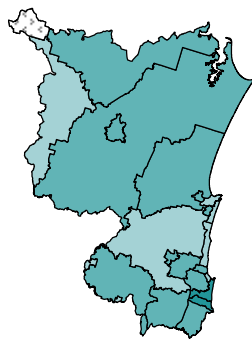
In the following maps, users should note that the estimates shown for part SLAs in the Division (see Table 10 page 19, for per cent of SLA population in the Division) represent the estimates for the whole SLA, and not just the part shown. However, SLAs with only a small proportion of their population 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, Sunshine Coast DGP, 2001

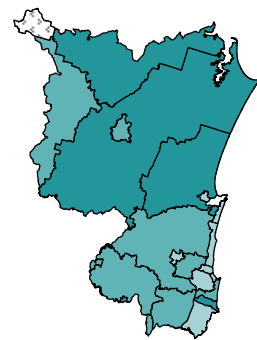
**Respiratory system diseases**



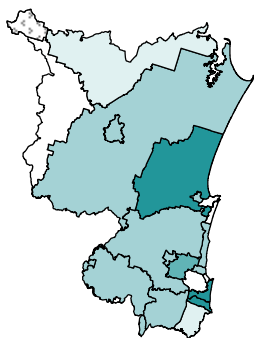
**Respiratory system diseases: Asthma**



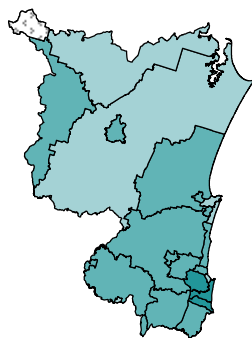
**Circulatory system diseases**



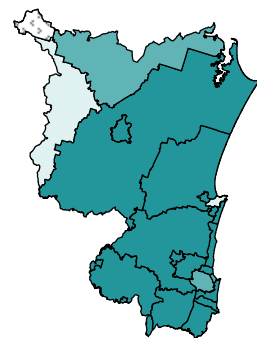
**Diabetes type 2**



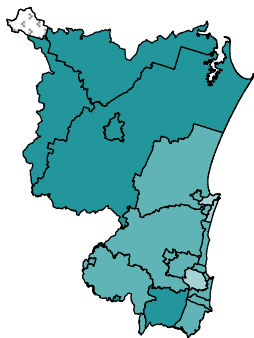
**Injury event**



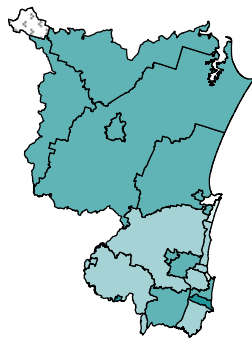
**Mental & behavioural disorders**



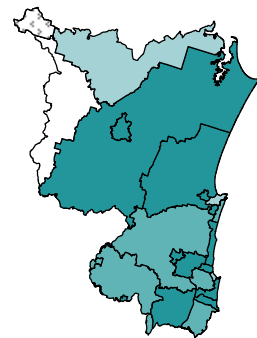
**Musculoskeletal system diseases**



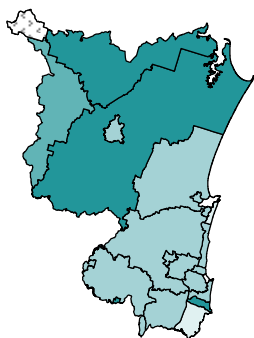
**Musculoskeletal system diseases: Arthritis**



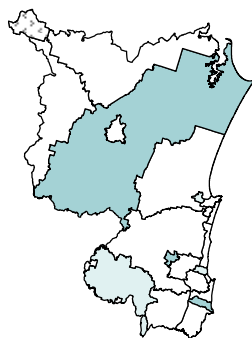
**Arthritis: Osteoarthritis**



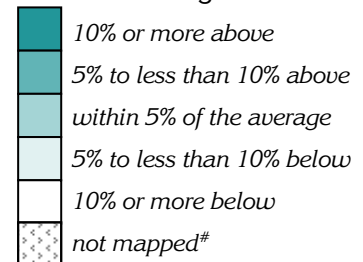
**Arthritis: Rheumatoid arthritis**



**Osteoporosis (females)**



Per cent difference from Australian average

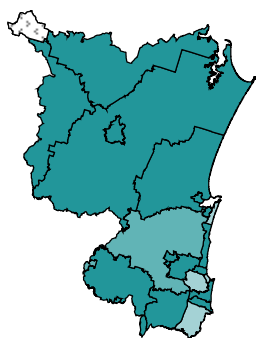


\* The estimates are synthetic predictions of the prevalence of these conditions: see Notes on the data.

# Data not mapped: see Notes on the data.

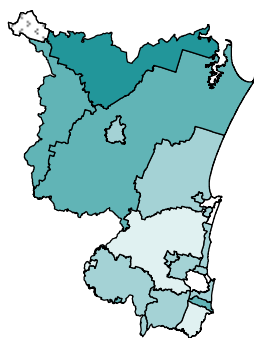
Map 3: Estimates\* of measures of self-reported health by SLA, Sunshine Coast DGP, 2001

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

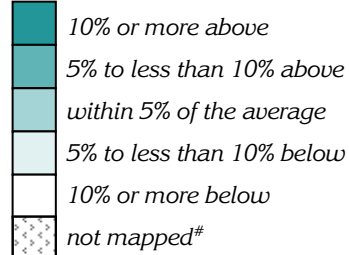


<sup>1</sup> Kessler 10

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



Per cent difference from Australian average

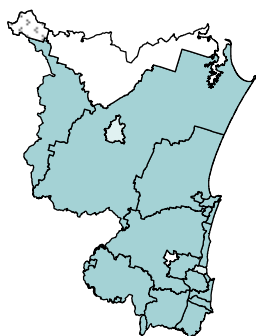


\* The estimates are synthetic predictions of the prevalence of these conditions: see Notes on the data.

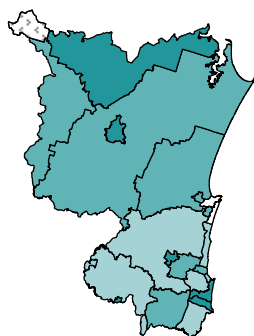
# Data not mapped: see Notes on the data.

Map 4: Estimates\* of selected risk factors by SLA, Sunshine Coast DGP, 2001

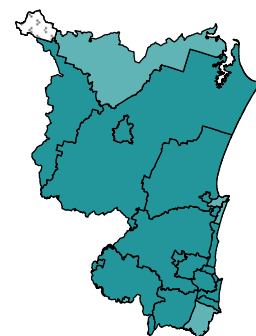
Overweight (not obese) males (15+ years)



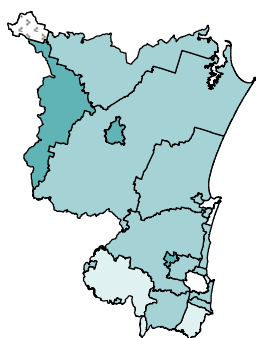
Obese males (15+ years)



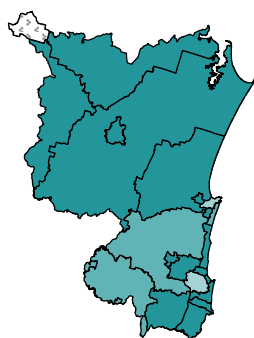
Overweight (not obese) females (15+ years)



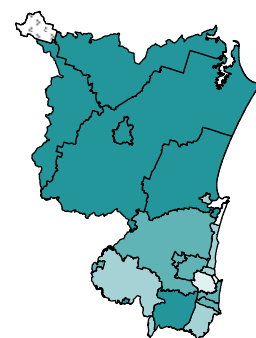
Obese females (15+ years)



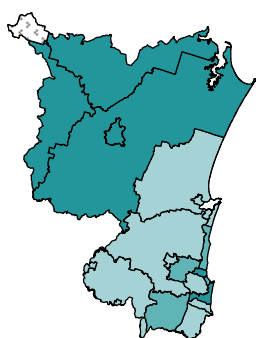
Smokers (18+ years)



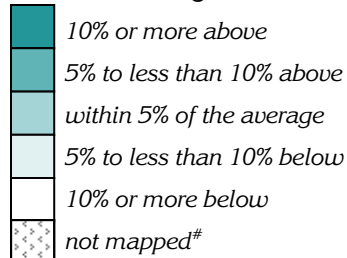
Physical inactivity (15+ years)



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



Per cent difference from Australian average



\* The estimates are synthetic predictions of the prevalence of these conditions: see Notes on the data.

# Data not mapped: see Notes on the data.

# Notes on the data

## Data sources and limitations

### General

References to 'country Queensland' relate to Queensland excluding the Brisbane Statistical Division.

### 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: - <i>Indigenous</i> – Experimental estimates of Aboriginal and Torres Strait Islander people, ABS 2001 (unpublished) - <i>Full-time secondary education participation at age 16</i> – Census 2001 (unpublished) - <i>Households receiving rent assistance</i> – Centrelink, December Quarter 2001 (unpublished) - <i>Unemployment rate / Labour force participation</i> – extracted from <i>Small Area Labour Markets Australia</i> , June Quarter 2003, Department of Employment and Workplace Relations
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: - Census count <sup>2</sup> , ABS Population Census 2001, scaled to 2003/04 - Usual Resident Population <sup>3</sup> , ABS Population Census 2001, scaled to 2003/04 - Day-time population: calculated from journey to work data, ABS Population Census (URP) 2001 (unpublished); and 2001 Census (URP, scaled to 2003/04 - Estimated Resident Population, ABS, June 2003/2004
<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</b> (Figure 5 and Map 2)	
Long term conditions	- 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
Injury event	- Injuries which occurred in the four weeks prior to interview
<b>Estimates of measures of self-reported health</b> (Figure 6 and Map 3)	
Very high psychological distress levels (K10)	- 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)
Fair or poor self-assessed health status	- 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
<b>Estimates of selected risk factors</b> (Figure 7 and Map 4)	
Overweight (not obese)	- 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
Obese	- 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
Smokers	- Respondent's undertaking regular (or daily) smoking at the time of interview
Physical inactivity	- 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
High health risk due to alcohol consumed	- 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

**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 19).

#### [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) or part SLA in Sunshine Coast DGP are shown in Table 9.

In using this table, users should note that the index score shown for SLAs with less than 100 per cent in the Division represents the score for the whole SLA, and not just the part shown. However, SLAs with small proportions may have little influence on the average index score for the Division which has been based on the postcodes in the Division.

**Table 9: SEIFA scores by SLA, Sunshine Coast DGP, 2001**

SLA code	SLA name (% per cent of SLA in the Division)	Index score			
		Disadvantage	Advantage	Economic Resources	Education & Occupation
32132	Caloundra - Caloundra North (100.0)	979	949	945	956
32133	Caloundra - Caloundra South (100.0)	954	923	916	947
32135	Caloundra - Kawana (100.0)	984	951	951	951
32136	Caloundra - Hinterland (100.0)	1000	979	917	1025
32138	Caloundra - Rail Corridor (75.3)	970	927	920	932
32532	Cooloola (excl. Gympie) (100.0)	957	898	884	919
32535	Cooloola - Gympie only (100.0)	932	908	920	912
34300	Kilkivan (37.5)	946	889	868	912
34902	Maroochy - Buderim (100.0)	1037	1020	1001	1027
34905	Maroochy - Coastal North (100.0)	972	954	940	976
34907	Maroochy - Maroochy-dore (100.0)	947	926	924	949
34911	Maroochy - Mooloolaba (100.0)	1006	1002	990	1023
34914	Maroochy - Nambour (100.0)	934	914	902	937
34917	Maroochy - Bal in S'shine Coast (100.0)	980	951	939	960
34918	Maroochy Balance (100.0)	1003	970	936	990
35752	Noosa - Noosa-Noosaville (100.0)	1038	1033	1019	1060
35755	Noosa - Sunshine-Peregian (100.0)	1024	1016	975	1049
35756	Noosa - Tewantin (100.0)	967	930	917	948
35758	Noosa Balance (100.0)	977	940	915	960
36850	Tiaro (58.4)	886	842	843	867

\* 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 Sunshine Coast DGP

The Sunshine Coast DGP covers 8,489 square kilometres, based on 2001 SLA data.

The postcodes in the Division (all 100%) are: 4519, 4550-4575, 4580, and 4581<sup>3</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, most Local Government Areas (LGAs) have been split into SLAs. For example, the LGA of Noosa is comprised of four SLAs – Noosa-Noosaville, Sunshine-Peregian, Tewantin, and Balance. All of these SLA, and all or parts of other SLAs listed in Table 10, comprise the Division.

**Table 10: SLAs in Sunshine Coast 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
32132	Caloundra - Caloundra North	100.0	20,494
32133	Caloundra - Caloundra South	100.0	19,741
32135	Caloundra - Kawana	100.0	20,279
32136	Caloundra - Hinterland	100.0	8,075
32138	Caloundra - Rail Corridor	75.3	13,571
32532	Cooloola (excl. Gympie)	100.0	19,466
32535	Cooloola - Gympie only	100.0	16,213
34300	Kilkivan	37.5	1,233
34902	Maroochy - Buderim	100.0	38,498
34905	Maroochy - Coastal North	100.0	21,961
34907	Maroochy - Maroochydore	100.0	16,474
34911	Maroochy - Mooloolaba	100.0	10,939
34914	Maroochy - Nambour	100.0	12,463
34917	Maroochy Balance in South Coast SSD	100.0	15,159
34918	Maroochy Balance	100.0	25,795
35752	Noosa - Noosa-Noosaville	100.0	10,164
35755	Noosa - Sunshine-Peregian	100.0	9,738
35756	Noosa - Tewantin	100.0	11,643
35758	Noosa Balance	100.0	16,135
36850	Tiaro	58.4	2,889

\* 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

<sup>3</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-divisions-divspc.htm>

## 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, Sunshine Coast DGP‡, country Queensland and Australia, 2000-02\***

*Indirectly age standardised rate per 100,000 population*

Variable	Sunshine Coast DGP‡		Country Queensland		Australia	
	No.	Rate	No.	Rate	No.	Rate
<b>Circulatory system diseases</b>	525	50.9	4,146	67.1	38,357	72.3
Ischaemic heart disease	368	35.5	2,705	43.6	23,364	44.1
Cerebrovascular disease – stroke	79	7.6	681	11.0	6,920	13.0
<b>Cancer</b>	964	95.2	6,591	106.8	60,603	114.3
Cancer of the trachea, bronchus & lung	185	17.7	1,460	23.4	12,715	24.0
<b>Respiratory system diseases</b>	129	12.3	984	15.8	9,726	18.3
Chronic lower respiratory disease	98	9.3	725	11.6	6,657	12.6
<b>Injuries and poisonings</b>	310	40.7	2,377	42.6	18,573	35.0
Suicide	124	16.4	907	16.3	6,706	12.6
Motor vehicle accidents	84	11.4	635	11.5	5,014	9.5
<b>Other causes</b>	329	35.4	2,829	47.1	26,735	50.4
Diabetes mellitus	23	2.2	442	7.1	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

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

**Table 12: Estimates of chronic disease and associated risk factors, Sunshine Coast DGP‡, country Queensland and Australia, 2001**

*Indirectly age standardised rate per 1,000 population*

Variable	Sunshine Coast DGP‡	Country Qld	Australia
<b>Chronic disease and injury (Figure 5)</b>			
Respiratory system diseases	317.7	312.2	310.8
Asthma	122.8	118.2	118.3
Circulatory system diseases	177.0	176.1	171.5
Diabetes type 2	22.9	21.9	23.4
Injury event	127.5	122.7	121.2
Mental & behavioural disorders	109.3	97.7	97.6
Musculoskeletal system diseases	344.2	343.5	326.2
Arthritis	141.8	140.7	138.8
- Osteoarthritis	83.9	76.3	74.9
- Rheumatoid arthritis	23.4	23.8	23.6
Osteoporosis (females)	23.5	23.5	26.4
<b>Measures of self-reported health (Figure 6)</b>			
Very high psychological distress levels (18+ years)	40.6	37.2	36.6
Fair or poor self-assessed health status (15+ years)	174.3	181.6	184.0
<b>Risk factors (Figure 7)</b>			
Overweight (not obese) males (15+ years)	379.7	381.8	389.7
Obese males (15+ years)	152.8	156.8	145.9
Overweight (not obese) females (15+ years)	250.4	248.9	223.9
Obese females (15+ years)	142.1	142.8	148.0
Smokers (18+ years)	269.3	271.7	248.0
Physical inactivity (15+ years)	313.2	330.7	315.5
High health risk due to alcohol consumed (18+ years)	42.5	49.5	42.1

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

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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.

## Acknowledgements

Funding for these profiles was provided by the Population Health Division of the Department of Health and Ageing (DoHA). Assistance, by way of comment on the profiles and assistance in obtaining some datasets, has also been received from the Primary Care Division of the DoHA, the ABS and the ACIR.

## 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:**

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