

Population health profile of the Capricornia

Division of General Practice

Population Profile Series: No. 84

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 *Capricornia Division of General Practice*

Introduction

This profile has been designed to provide a description of the population of the Capricornia 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 19.

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 9);
- immunisation rates (page 9);
- rates of premature death (page 10); and
- estimates of the prevalence of chronic disease and selected risk factors (pages 11-15).

Key indicators

Location:	Queensland	
Division number:	419	
Population‡:	No.	%
Total	128,927	
65+	14,500	11.2%
<25	48,046	37.3%
Indigenous	5,548	4.5%

Disadvantage score¹: 973

GP services per head of population:

Division‡	4.5
Australia	4.7

Population per FTE GP:

Division‡	1,369
Australia	1,403

Premature death rate²:

Division‡	308.9
Australia	290.4

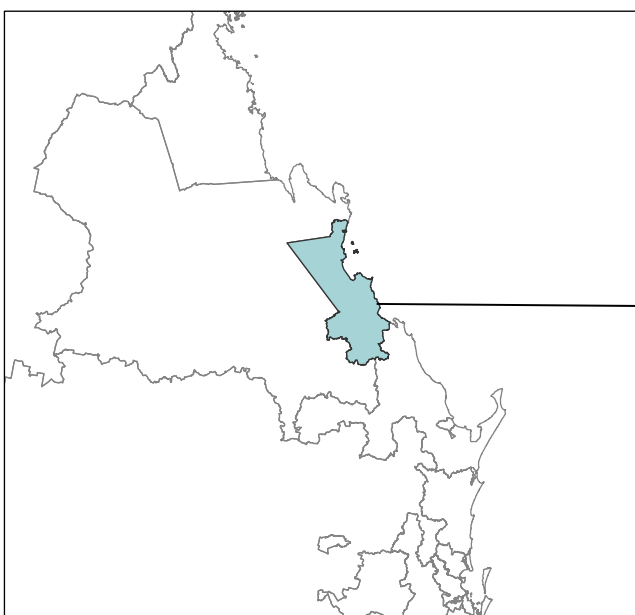
¹ Numbers below 1000 (the index score for Australia) indicate the Division is relatively disadvantaged

² Deaths at ages 0 to 74 years per 100,000 population

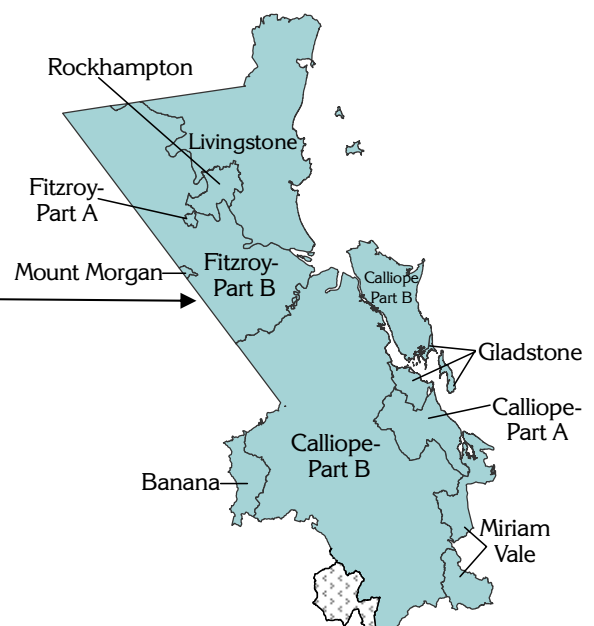
‡ See note "Data converters and mapping" re calculation of Division Total

Capricornia Division of General Practice

Queensland Divisions of General Practice



Capricornia DGP by SLA

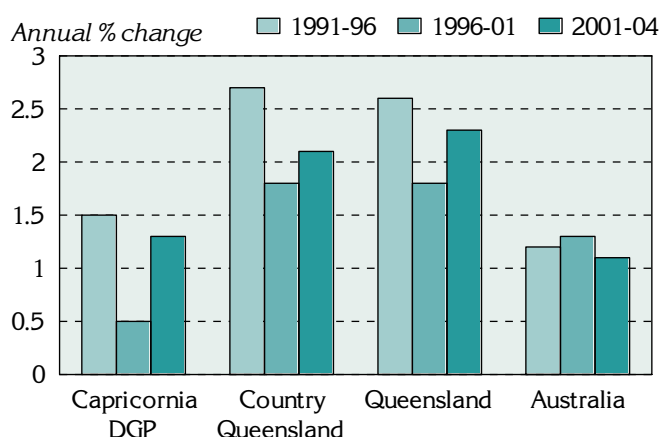


Socio-demographic profile

Population

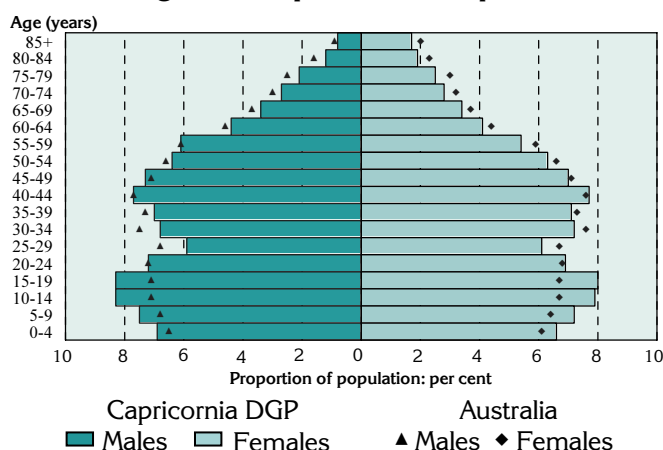
The Capricornia Division had an Estimated Resident Population of 128,927 at 30 June 2004.

Figure 1: Annual population change, Capricornia DGP‡, country Queensland¹, 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 1.5% on average each year, lower than in country Queensland (2.7%) and Queensland (2.6%). From 1996 to 2001, the annual percentage growth rate in the Division decreased to 0.5%, again lower than in country Queensland and Queensland (both 1.8%). The higher growth rate of 1.3% per year from 2001 to 2004 was still lower than the annual increases for country Queensland (2.1%), and Queensland (2.3%).

Figure 2: Population in Capricornia 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 higher proportion of children and young people aged 0 to 19 years;
- from 25 to 39 years – lower proportions of males and, in particular, females; and
- lower proportions of males from 60 years and females from 50 years.

Table 1: Population by age, Capricornia DGP‡ and Australia, 2004

Age group (years)	Capricornia DGP		Australia	
	No.	%	No.	%
0-14	28,560	22.2	3,978,751	19.8
15-24	19,487	15.1	2,762,769	13.8
25-44	35,919	27.9	5,881,048	29.3
45-64	30,462	23.6	4,864,037	24.2
65-74	7,959	6.2	1,374,792	6.8
75-84	4,973	3.9	934,505	4.7
85+	1,568	1.2	295,602	1.5
Total	128,927	100.0	20,091,504	100.0

As shown in the age-sex pyramid above, Capricornia DGP had higher proportions of children aged 0 to 14 years (22.2%) and young people aged 15 to 24 years (15.1%) than Australia as a whole (with 19.8% and 13.8%) (Table 1). Conversely, the proportions of the Division's population aged 25 years and over were slightly lower than those for Australia.

The Capricornia DGP comprised 2.3% of people born in predominantly non-English speaking countries and resident in Australia for five years or more (Table 2), compared to 4.3% in country Queensland as a whole. Recent arrivals (those resident in Australia for less than five years) from non-English speaking countries comprised 0.5% of the Division's population (less than the 0.9% in country Queensland).

¹References 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, Capricornia DGP, country Queensland, Queensland and Australia, 2001

People born in predominantly non-English speaking countries	Capricornia DGP		Country Queensland		Queensland		Australia	
	No.	%	No.	%	No.	%	No.	%
Resident in Australia for five years or more	2,750	2.3	81,800	4.3	204,783	5.8	2,019,410	10.8
Resident in Australia for less than five years	608	0.5	16,565	0.9	49,081	1.4	408,074	2.2
Poor proficiency in English ¹	220	0.2	8,683	0.5	30,109	0.9	425,399	2.4

¹ 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, Capricornia DGP, 2001

Australian-born people comprised 91.8% of the Division's population, well above the Australian figure of 72.6%. Of the 5.3% of people from English speaking countries, 3.0% were from the UK and Ireland. The major birthplaces of the non-English speaking population include Germany, The Netherlands and the Philippines (all 0.3%); all other birthplaces of non-English speaking populations represented 0.1% or less of the Division's population.

Socioeconomic status: Total population

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 Capricornia DGP had a slightly higher proportion of single parent families (12.5%), compared to country Queensland as a whole (11.8%), while the proportion of Aboriginal and Torres Strait Islanders was marginally lower (4.5%, 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 (78.6%) was higher than that for country Queensland (74.6%).

A slightly lower proportion of the Division's households received rent assistance from Centrelink (19.0%) compared to country Queensland (21.3%), but there were more dwellings rented from the State housing authority (4.1%, compared to 2.8%). The proportion of dwellings with no access to a motor vehicle (9.6%) was marginally higher than the rates for country Queensland (8.8%) and Queensland (9.3%).

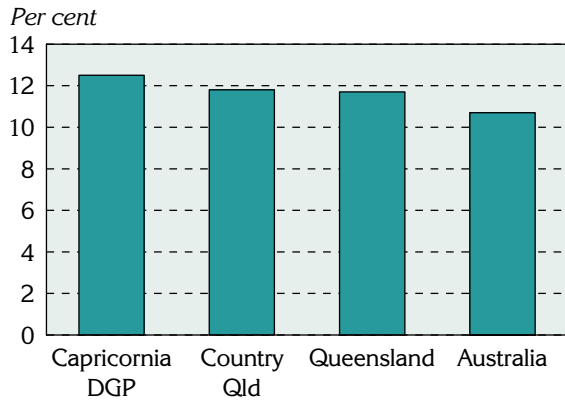
The Division had a higher proportions of people who reported using, at home, a computer (40.2%), and the Internet (24.9%), compared to country Queensland (37.5% and 23.7%).

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

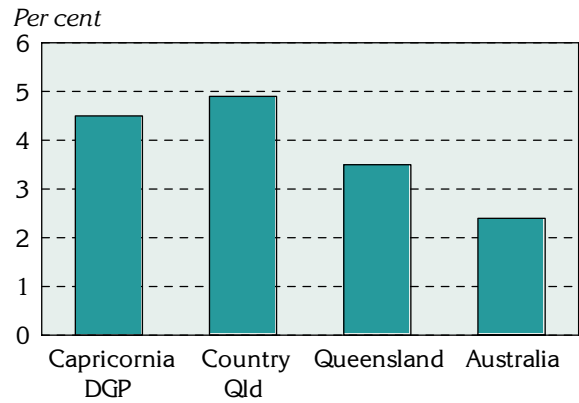
Figure 3: Socio-demographic indicators, Capricornia DGP, country Queensland, Queensland and Australia, 2001

Note the different scales

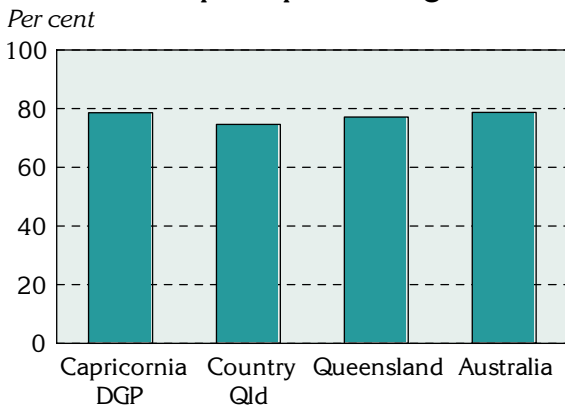
Single parent families



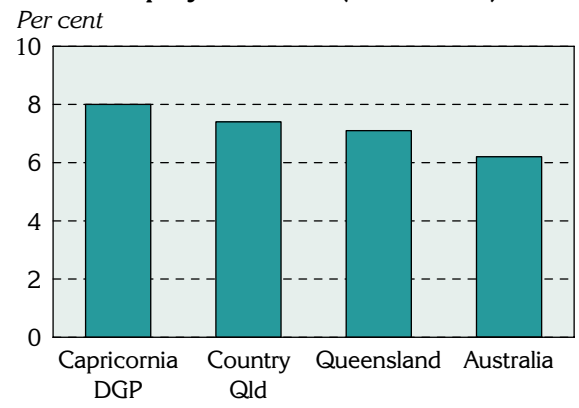
Indigenous‡



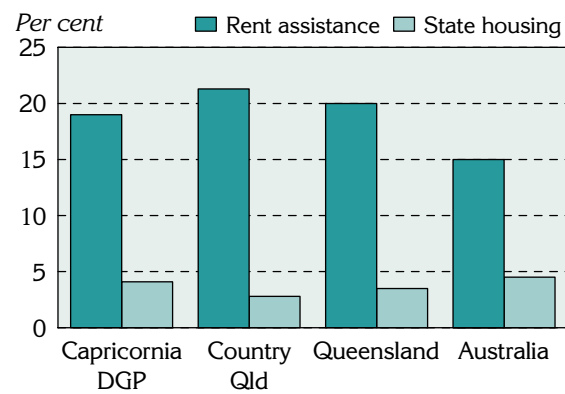
Education participation at age 16‡



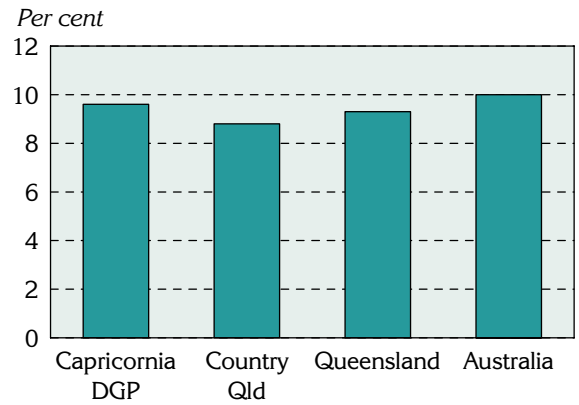
Unemployment rate (June 2003)‡



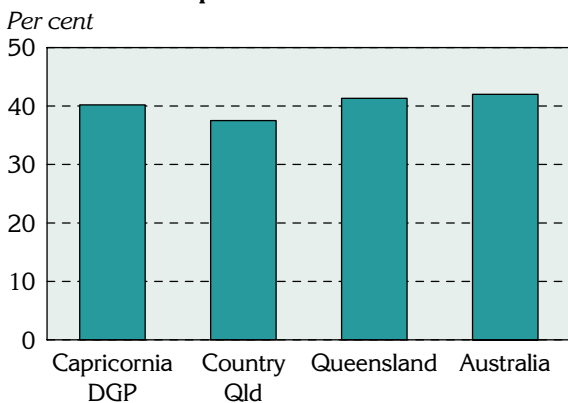
Households receiving rent assistance & Dwellings rented from State housing authority



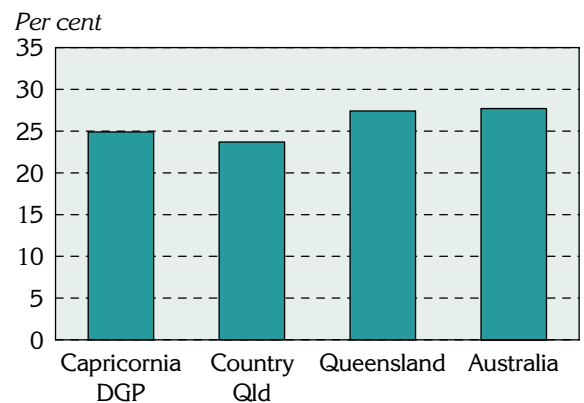
Dwellings with no motor vehicle



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, Capricornia DGP, country Queensland, Queensland and Australia, 2001

Indicator	Capricornia DGP		Country Queensland		Queensland		Australia	
	No.	%	No.	%	No.	%	No.	%
Single parent families	3,926	12.5	59,925	11.8	109,687	11.7	529,969	10.7
Indigenous‡	5,548	4.5	96,267	4.9	125,908	3.5	458,261	2.4
Full-time secondary school education at age 16‡	1,720	78.6	21,378	74.6	40,051	77.1	130,198	78.7
Households: rent assistance	8,085	19.0	145,862	21.3	253,773	20.0	1,006,599	15.0
Dwellings rented from the State housing authority	1,836	4.1	21,243	2.8	47,286	3.5	317,171	4.5
Dwellings: no motor vehicle	4,316	9.6	66,439	8.8	125,606	9.3	708,073	10.0
Computer use at home	49,215	40.2	741,419	37.5	1,481,238	41.3	7,881,983	42.0
Internet use at home	29,603	24.9	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 Division's unemployment rate of 8.0% was higher than for country Queensland (7.4%) and Queensland (7.1%) (Figure 3, Table 4). The labour force participation rate (76.9%) was above the rates for country Queensland (74.9%) and Queensland (75.4%), while the female participation rate (67.6%) was similar to that for country Queensland (67.8%) and slightly lower than for Queensland (69.5%).

Table 4: Unemployment and labour force participation, Capricornia DGP, country Queensland, Queensland and Australia, 2003

Labour force indicators	Capricornia DGP		Country Queensland		Queensland		Australia	
	No.	%	No.	%	No.	%	No.	%
Unemployment rate‡	5,310	8.0	77,047	7.4	136,589	7.1	623,791	6.2
Labour force participation‡	66,263	76.9	1,036,722	74.9	1,926,589	75.4	10,038,147	75.2
Female labour force participation (2001)	19,482	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

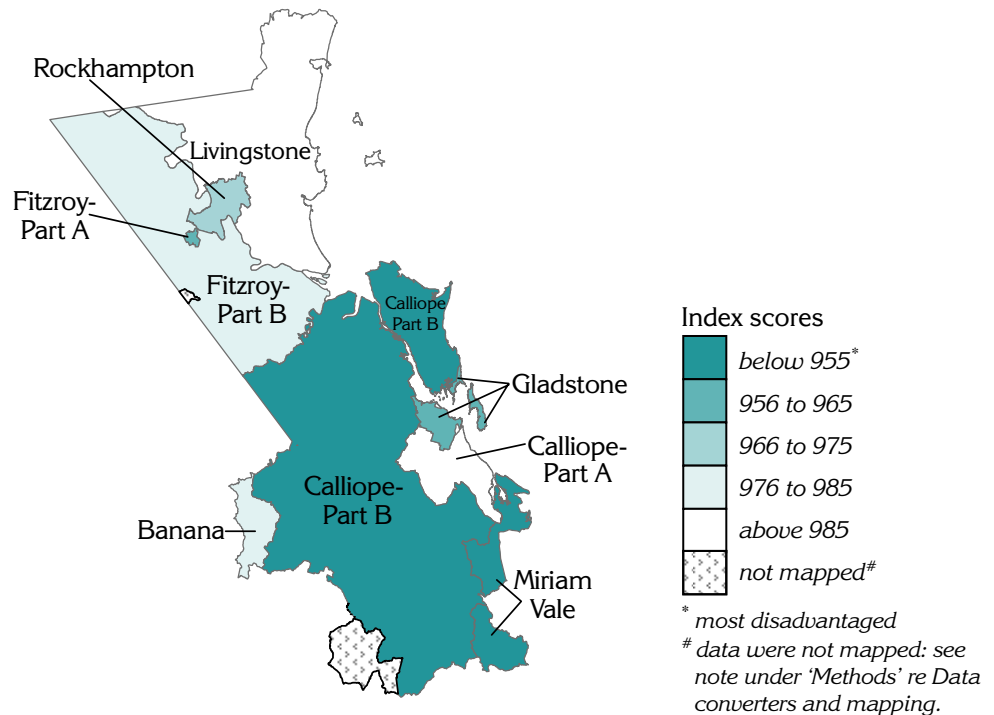
Summary of the socioeconomic ranking of the Capricornia DGP

Following the 2001 Census, the Australian Bureau of Statistics (ABS) produced four socioeconomic indexes for areas (SEIFA) which describe various aspects of the socio-economic profile of populations in area. The scores for these indexes for each Statistical Local Area (SLA) or part SLA in Capricornia DGP are shown in the supporting information, Table 12, page 19: SLAs are described on page 21.

The Capricornia DGP area's SEIFA Index of Relative Socio-Economic Disadvantage (IRSD) score is 973, marginally (2.7%) below the average for Australia (1000) and consistent with that for country Queensland (978); this highlights the marginally lower socioeconomic status profile of the Capricornia DGP population. Map 1 shows variations, over a very narrow range, in the IRSD at the SLA level within the Division.

Map 1: Index of Relative Socio-Economic Disadvantage by SLA, Capricornia 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.



Socioeconomic status: Indigenous population

At the 2001 Census, 4.5% of the population of the Capricornia DGP was estimated to be of Aboriginal or Torres Strait Islander origin, consistent with the proportion for Queensland as a whole. The largest Indigenous populations were in Rockhampton SLA (an estimated 3,279 people, 59.1% of the Indigenous population in the Division), Gladstone (1,048 people, 18.9%) and Livingstone (644 people, 11.6%).

Table 5: Population by Indigenous status*, SLAs in Capricornia DGP‡, 2001

Statistical Local Area	Indigenous		Non-Indigenous		Total	
	No.	%	No.	%	No.	%
Rockhampton	3,279	59.1	55,509	17.0	58,789	47.5
Gladstone	1,048	18.9	25,783	21.8	26,831	21.7
Livingstone	644	11.6	18,612	15.8	19,256	15.6
Calliope - Part A	287	5.2	11,982	10.1	12,269	9.9
Calliope - Part B	110	2.0	2,675	2.3	2,785	2.3
Other	180	3.2	3,560	3.0	3,740	3.0
Total	5,548	100.0	118,121	100.0	123,669	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

The proportion of Indigenous single parent families (29.7%) in the Division was higher than that for the Indigenous population in country Queensland (26.6%), and more than double that of the Division's non-Indigenous population (11.8%)(Table 6).

Over half (58.9%) of Indigenous 16 year olds living in the Division were involved in full-time secondary school education, similar to the Indigenous participation rate in country Queensland (56.8%), but notably lower than the rate for the Division's non-Indigenous 16 year olds (80.8%).

A higher proportion of the Indigenous population in the Division lived in dwellings rented from the State housing authority (20.3%) compared with the Indigenous population in country Queensland (16.0%), and five times that of the Division's non-Indigenous population (3.8%).

Table 6: Socio-demographic indicators, Capricornia DGP‡, country Queensland and Australia, 2001*

Indicator	Capricornia DGP‡		Country Queensland		Australia	
	No.	%	No.	%	No.	%
Population						
- Indigenous	5,548	4.5	96,267	4.9	458,261	2.4
- Non-Indigenous	118,121	95.5	1,882,257	95.1	18,952,407	97.6
Single parent families						
- Indigenous	384	29.7	5,495	26.6	26,587	25.8
- Non-Indigenous	3,631	11.8	54,430	11.2	503,382	10.4
Full-time secondary school education at age 16						
- Indigenous	74	58.9	1,041	56.8	5,997	50.5
- Non-Indigenous	1,635	80.8	20,143	78.3	327,055	80.3
Dwellings rented from State housing authority						
- Indigenous	309	20.3	3,642	16.0	23,974	20.8
- Non-Indigenous	1,531	3.8	17,056	2.7	284,502	4.5
People who used a computer at home						
- Indigenous	1,063	20.7	12,423	14.5	73,636	18.0
- Non-Indigenous	48,425	42.1	724,438	40.1	7,761,390	44.1
People who used the Internet at home						
- Indigenous	468	9.1	5,261	6.1	35,384	8.6
- Non-Indigenous	29,790	25.9	453,756	25.1	5,135,445	29.2

Note: The 'Total population' data are 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 proportion of the Indigenous population in Capricornia DGP who reported using a computer at home (20.7%) was notably higher than for the Indigenous population in country Queensland (14.5%); but was substantially lower than for the Division's non-Indigenous population (42.1%) (Table 6).

The rate of internet use at home by the Division's Indigenous population (9.1%) was also notably above the Indigenous rate for country Queensland (6.1%), but was much lower than that for the non-Indigenous population in the Division (25.9%).

The Indigenous population in Capricornia DGP had an unemployment rate of 25.8%, notably higher than the rate for the Indigenous population in country Queensland (19.6%), and three times the rate for the Division's non-Indigenous population (8.5%) (Table 7).

The Indigenous labour force participation rate (54.7%) was consistent with that for the Indigenous population in country Queensland (55.4%), but substantially lower than the rate for the Division's non-Indigenous population (72.0%).

The Indigenous female labour force participation rate in the Division (49.5%) was similar to that for country Queensland (48.8%), but much lower than the rate for the Division's non-Indigenous female population (68.1%).

Table 7: Unemployment and labour force participation, Capricornia DGP‡, country Queensland and Australia, 2003

Labour force indicators	Capricornia DGP‡		Country Queensland		Australia	
	No.	%	No.	%	No.	%
Unemployment rate						
- Indigenous	410	25.8	5,335	19.6	24,930	20.0
- Non-Indigenous	4,648	8.5	71,885	8.4	624,337	7.3
Labour force participation						
- Indigenous	1,590	54.7	27,155	55.4	124,517	52.4
- Non-Indigenous	54,771	72.0	854,115	71.8	8,609,525	72.9
Female labour force participation						
- Indigenous	685	49.5	11,395	48.8	52,981	46.6
- Non-Indigenous	22,102	68.1	345,139	69.2	3,564,409	69.8

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

General medical practitioner (GP) supply

A total of 93.2 full-time equivalent (FTE) GPs, and 108.8 full-time workload equivalent (FWE²) GPs worked in the Capricornia DGP in 2003/04 (Table 8). Of the FWE GPs, 29.5% were female, and 22.6% were over 55 years of age (compared to 27.0% and 25.0%, respectively, for Queensland).

There was minimal variation in the rates of population per FTE and FWE GP for all of the population measures shown, including the estimated day-time population. The rates of population per FWE GP were lower than the FTE rates.

Based on the Estimated Resident Population as at 30 June 2003 and 2004, the rates of population per GP in Capricornia DGP varied little from the rates for Queensland and Australia, indicating a similar level of provision of GP services in the Division.

Table 8: Population per GP in Capricornia DGP, Queensland and Australia, 2003/04

Population measure	Population	GPs		Population per GP	
		FTE	FWE	FTE	FWE
Capricornia DGP					
Census count (adjusted)*	126,434	93.2	108.8	1,356	1,162
Usual Resident Population (URP) (adjusted)*	122,746	..	..	1,316	1,128
Estimated Resident Population (ERP)	127,677	..	..	1,369	1,173
Day-time population (estimated on URP)* ‡	123,422	..	..	1,324	1,134
Queensland (ERP)	3,841,538	2,739	3,256	1,403	1,180
Australia (ERP)	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 2003 and 2004, 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 94.5% 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 9. The proportion of children in the Division who were immunised by a general practitioner was 65.1%, compared to 70.0% for Australia, with 19.5% immunised at a community health centre, or by a community health worker, 8.2% at a local government council and 5.7% immunised at an Aboriginal health service, or by an Aboriginal health worker.

Table 9: Childhood immunisation at ages 0 to 6 by provider type, Capricornia DGP and Australia, 2003/04

Provider	Capricornia DGP	Australia
	%	%
General practitioner	65.1	70.0
Local government council	8.2	16.6
Community health centre/ worker	19.5	9.8
Public hospital	1.4	2.1
Aboriginal health service/ worker	5.7	0.9
Other*	0.0	0.6
Total: Per cent	100.0	100.0
Number	28,534	3,843,610

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

²The 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 (308.9 deaths per 100,000 population) is higher 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.

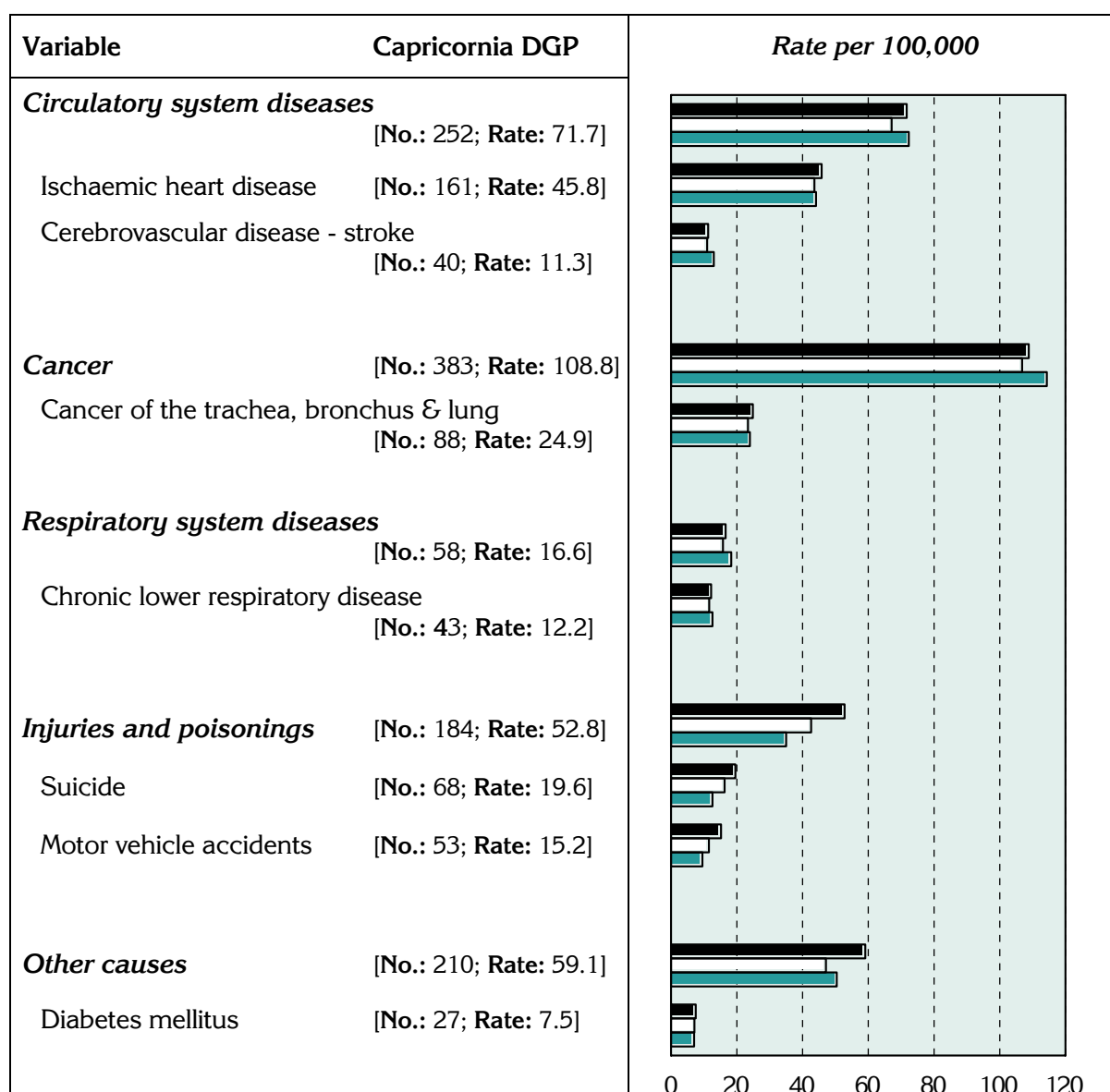
The major causes of premature mortality in the Division, as for country Queensland and Australia as a whole, are cancer and diseases of the circulatory system (Figure 4). With the exception of cerebrovascular disease (stroke) and cancer, death rates in the Division for the major conditions and selected causes are higher than, or similar to the rates for Australia. The Division's rates are generally higher than those for country Queensland.

The data on which the following chart is based are in Table 15.

Figure 4: Deaths before 75 years of age by major condition group and selected cause, Capricornia DGP‡, country Queensland and Australia, 2000-02*

Indirectly age standardised rate per 100,000 population

■ Capricornia 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 17-18. The data on which the following charts are based are in Table 16.

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 Mackay 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 slightly higher rates are consistent with the socioeconomic status profile of the population of the Division.

Prevalence estimates: self-reported health‡

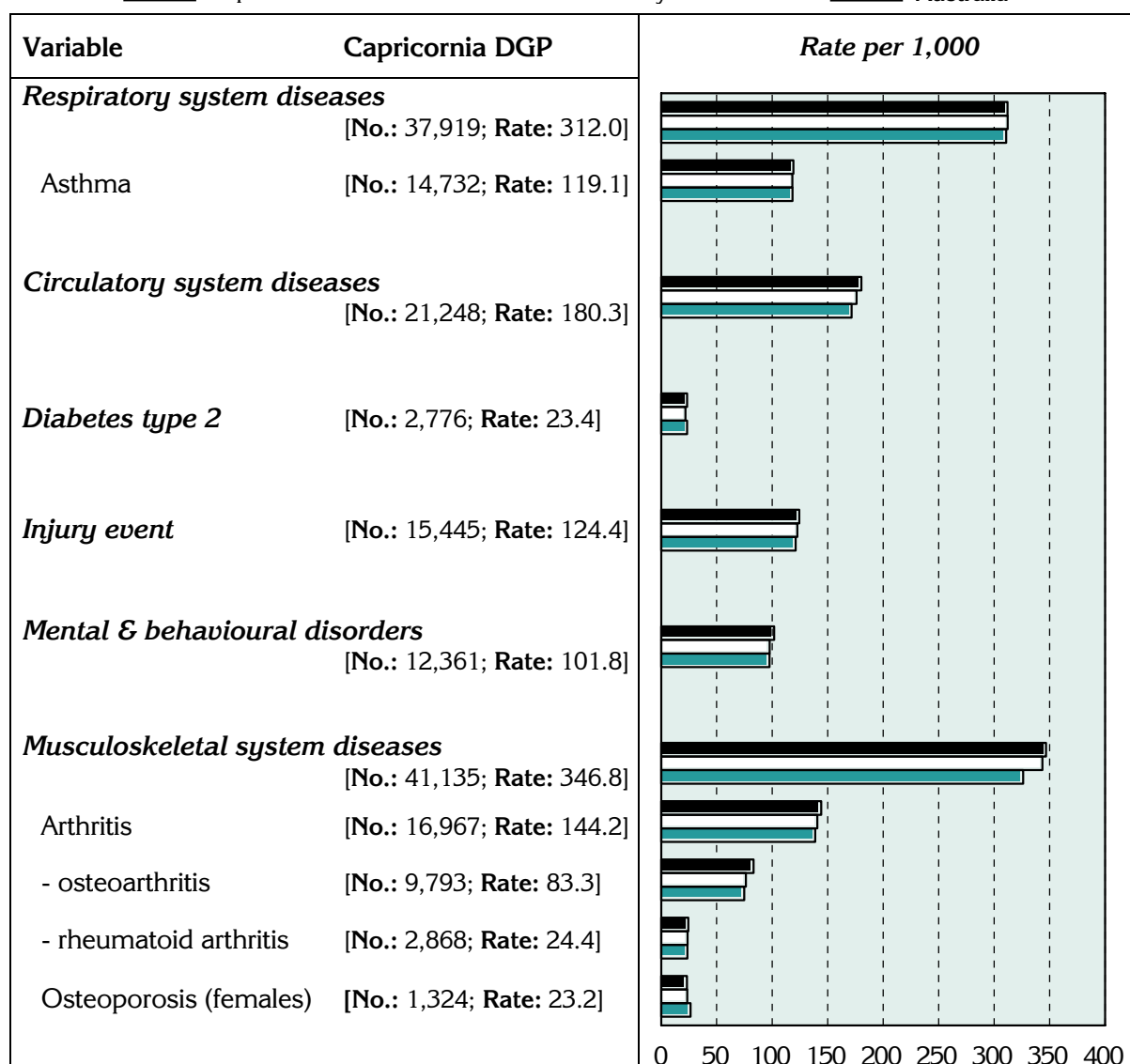
The NHS includes two measures of self-reported health. One is the Kessler Psychological Distress Scale–10 items (K–10). This is a scale of non-specific psychological distress based on 10 questions about negative emotional states in the four weeks prior to interview, asked of respondents 18 years and 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 is estimated to have marginally fewer people with very high psychological distress levels as measured by the K–10 compared to Australia as a whole (Figure 6). The proportion of the population aged 15 years and over estimated to have reported their health as ‘fair’ or ‘poor’ is slightly below the national average.

Figure 5: Estimates* of chronic disease and injury, Capricornia DGP, country Queensland and Australia, 2001

Indirectly age standardised rate per 1,000 population

■ Capricornia DGP □ Country Qld ■ Australia



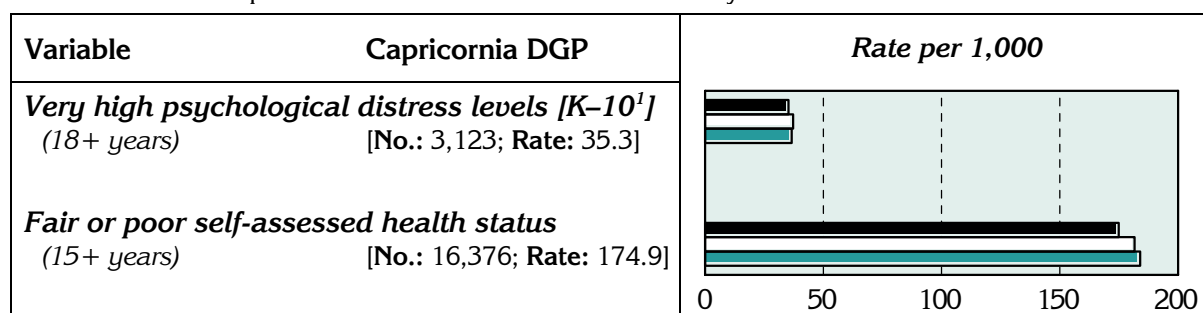
* 'No.' is a weighted estimate of the number of people in Capricornia DGP reporting each chronic condition and is derived from synthetic predictions from the 2001 NHS

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

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

Indirectly age standardised rate per 1,000 population

■ Capricornia DGP □ Country Qld ■ Australia



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

¹ Kessler 10

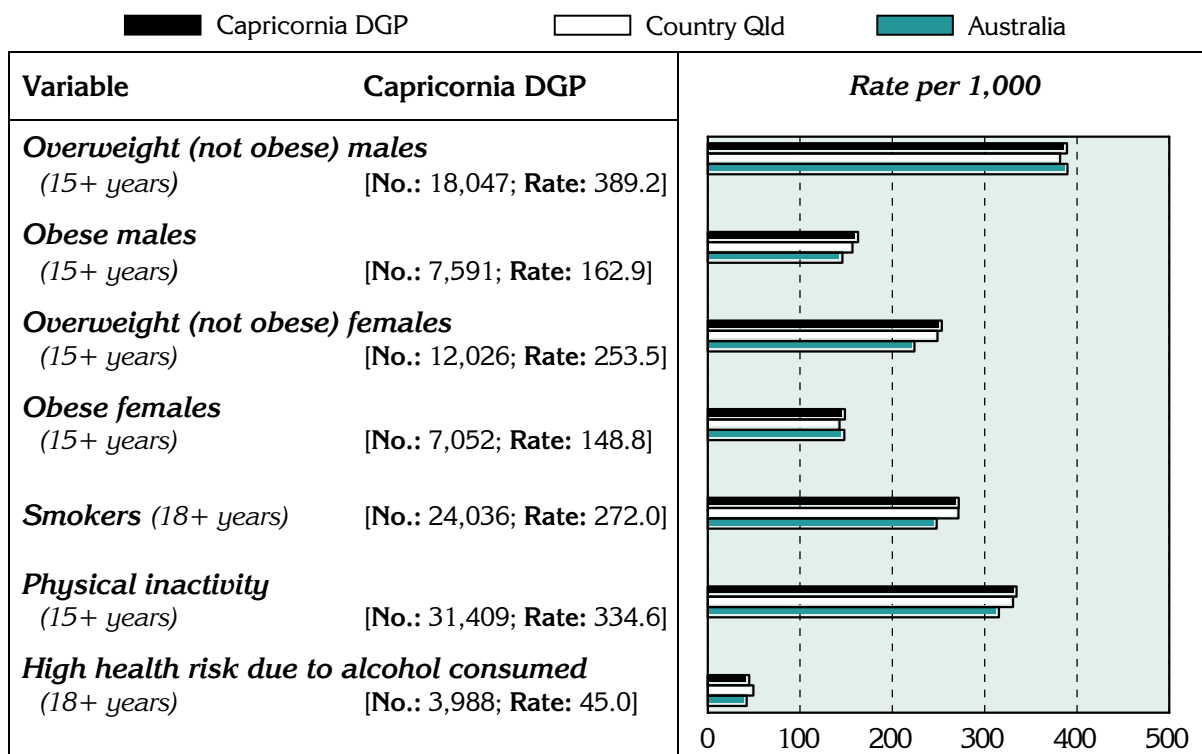
‡ See note under 'Data converters and mapping' re calculation of Division totals

Prevalence estimates: risk factors‡

The relatively higher rates (when compared with the Australian population) for all of the selected risk factors, except for overweight in males (Figure 7), are consistent with the socioeconomic status profile of the area.

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

Indirectly age standardised rate per 1,000 population



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

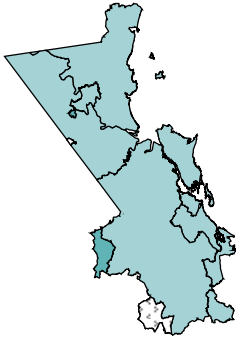
‡ See note under 'Data converters and mapping' re calculation of Division totals

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).

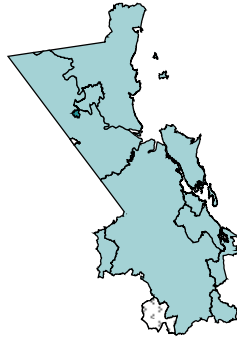
In the following maps, users should note that the estimates shown for part SLAs in the Division (see Table 14, page 21, for per cent of SLA population in the Division) represent the estimates for the whole SLA, and not just the part shown. However, SLAs with only a small proportion of their population 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, Capricornia DGP, 2001

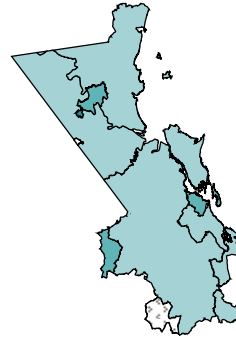
Respiratory system diseases



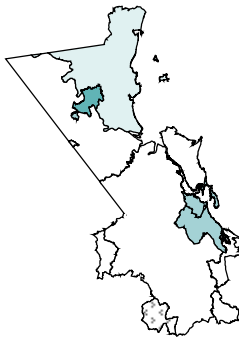
Respiratory system diseases: Asthma



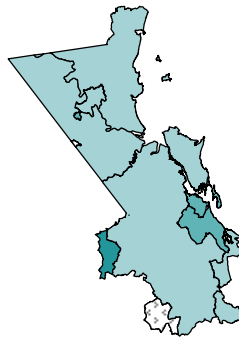
Circulatory system diseases



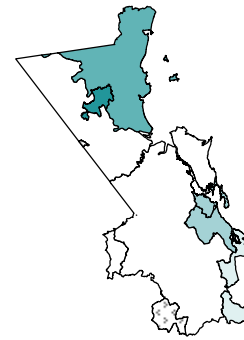
Diabetes type 2



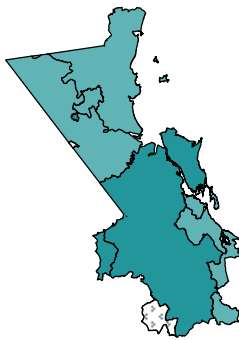
Injury event



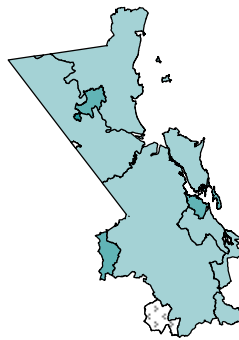
Mental & behavioural disorders



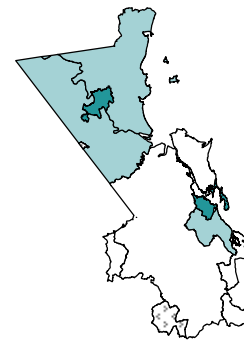
Musculoskeletal system diseases



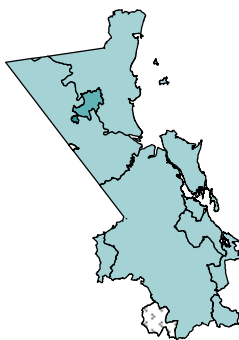
Musculoskeletal system diseases: Arthritis



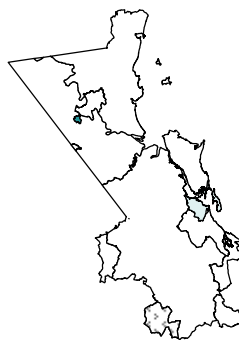
Arthritis: Osteoarthritis



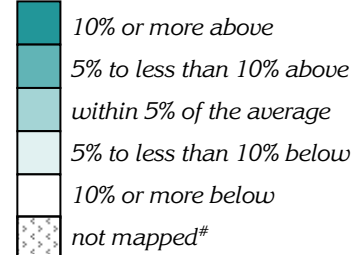
Arthritis: Rheumatoid arthritis



Osteoporosis (females)



Per cent difference from Australian average



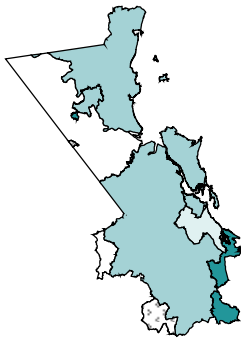
* The estimates are synthetic predictions of the prevalence of these conditions: see Notes on the data.

Data not mapped: see Notes on the data.

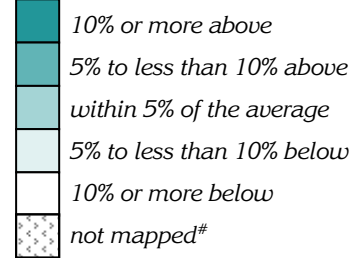
Map 3: Estimates* of measures of self-reported health by SLA, Capricornia DGP, 2001

Very high psychological distress levels [K-10¹] (18+ years)

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.

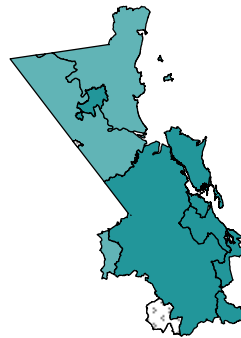
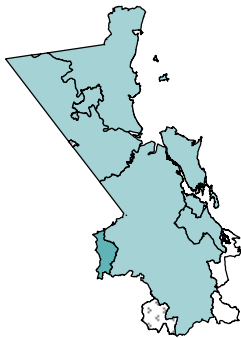
¹ Kessler 10

Map 4: Estimates* of selected risk factors by SLA, Capricornia DGP, 2001

Overweight (not obese) males (15+ years)

Obese males (15+ years)

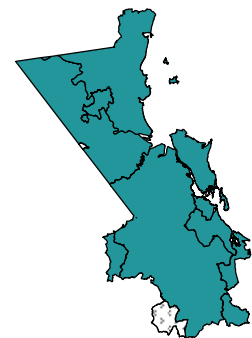
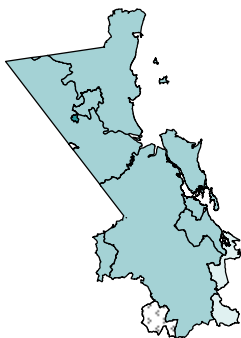
Overweight (not obese) females (15+ years)



Obese females (15+ years)

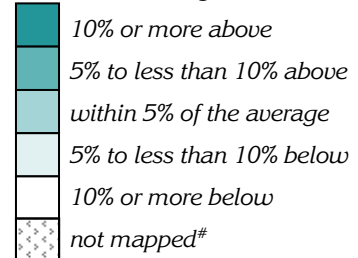
Smokers (18+ years)

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 10 details the data sources for the material presented in this profile.

Table 10: Data sources

Section	Source
Key indicators	
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
Socio-demographic profile	
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 ¹ , 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 12	ABS SEIFA package, Census 2001
Tables 5, 6 and 7	For all indicators, data were from the ABS Population Census 2001 (unpublished), except for the data in <i>Table 5</i> and the <i>Total population</i> figures which were based on the Experimental estimates of Aboriginal and Torres Strait Islander people, ABS 2001 (unpublished)
General medical practitioner (GP) supply	
Table 8	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 ² , ABS Population Census 2001, scaled to 2003/04 - Usual Resident Population ³ , 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
Immunisation	
Text comment: 1 year olds	National Centre for Immunisation Research and Surveillance, 2002
Table 9	Australian Childhood Immunisation Register, Health Insurance Commission, 2003/04 (unpublished)
Premature mortality	
Figure 4; Table 15	ABS Deaths, 2000 to 2002
Chronic diseases and associated risk factors⁴	
Figures 5, 6 and 7; Maps 2, 3 and 4; Table 16	Estimated from 2001 National Health Survey (NHS), ABS (unpublished)

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

² *Census count* - those counted in the Division on Census night, including tourists, business people and other visitors

³ *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

⁴ 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 11 includes notes relevant to this data.

Table 11: Notes on estimates of chronic diseases and associated risk factors

Indicator	Notes on the data
Estimates of chronic disease and injury (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
Estimates of measures of self-reported health (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
Estimates of selected risk factors (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 (Table 13).

[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 14.

[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.

A definition of population health

Population health, in the context of general practice, has been defined¹ 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”.² This recognises the importance of achieving improvements to Aboriginal and Torres Strait Islander health and respects the particular health issues facing Indigenous people.

¹ “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)

² 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 12) 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. The scores for these indexes for each Statistical Local Area (SLA) or part SLA in Capricornia DGP are shown in Table 12.

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 12: SEIFA scores by SLA, Capricornia DGP, 2001

SLA code	SLA name (% per cent of SLA in the Division)	Index score			
		Disadvantage	Advantage	Economic Resources	Education & Occupation
30350	Banana (3.1)	985	963	989	927
30500	<i>Bauhinia</i> (5.3)	1007	975	989	942
32101	Calliope - Part A (100.0)	993	975	1006	935
32104	Calliope - Part B (100.0)	932	903	923	887
32850	<i>Duaringa</i> (5.1)	920	972	1046	889
33000	<i>Emerald</i> (1.9)	991	988	1032	941
33151	Fitzroy - Part A (15.0)	959	929	946	922
33154	Fitzroy - Part B (21.4)	983	930	941	916
33350	Gladstone (100.0)	964	967	1002	932
34550	Livingstone (73.0)	992	962	948	973
35100	Miriam Vale (7.2)	912	871	866	890
35850	<i>Peak Downs</i> (7.3)	1015	1015	1066	935
36350	Rockhampton (100)	968	958	956	963

* 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. In addition, in a small number of cases, part(s) of an SLA can be allocated to another Division, sometimes several hundred kilometres away. Although adjustments have not been made to the concordance to correct these errors, the affected SLAs are highlighted in the table (shown in bold italic typeface)

Note: Scores are not shown for SLAs in the Division with estimated populations of less than 100 (refer to Table 14)

Statistical geography of the Capricornia DGP

The Capricornia DGP covers 23,451 square kilometres, based on 2001 SLA data.

The postcodes in the Division (as per the Department of Health and Ageing web site) are shown below (Table 13).

Table 13: Postcodes in Capricornia DGP, 2004

Postcode	Per cent of postcode population in the Division*	Postcode	Per cent of postcode population in the Division*	Postcode	Per cent of postcode population in the Division*
4680	100	4699	100	4703	100
4694	100	4700	100	4704	100
4695	100	4701	100	4710	100
4697	100	4702	15		

* Proportions are approximate

Source: 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>

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, the LGA of Calliope has two SLAs, Part A and Part B. All of these SLAs and all or parts of the other SLAs listed in Table 14 comprise the Division.

Table 14: SLAs in Capricornia 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
30350	Banana	3.1	441
30450	Barcoo	2.3	#
30500	Bauhinia	5.3	118
32101	Calliope - Part A	100.0	13,420
32104	Calliope - Part B	100.0	2,815
32850	Duaringa	5.1	391
33000	Emerald	1.9	261
33151	Fitzroy - Part A	15.0	660
33154	Fitzroy - Part B	21.4	1,265
33350	Gladstone	100.0	28,548
34100	Jericho	7.0	#
34550	Livingstone	73.0	20,642
35100	Miriam Vale	7.2	371
35350	Mount Morgan	1.9	#
35850	Peak Downs	7.3	231
36350	Rockhampton	99.8	59,618

* 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. In addition, in a small number of cases, part(s) of an SLA can be allocated to another Division, sometimes several hundred kilometres away. Although adjustments have not been made to the concordance to correct these errors, the affected SLAs are highlighted in the table (shown in bold italic typeface)

Not shown as the total population is less than 100

Supporting data

The data used in Figure 4 to illustrate the rates of premature mortality in the Division are shown below in Table 15.

Table 15: Deaths before 75 years of age by major condition group and selected cause, Capricornia DGP, country Queensland and Australia, 2000-02*

Indirectly age standardised rate per 100,000 population

Variable	Capricornia DGP‡		Country Qld		Australia	
	No.	Rate	No.	Rate	No.	Rate
Circulatory system diseases	252	71.7	4,146	67.1	38,357	72.3
Ischaemic heart disease	161	45.8	2,705	43.6	23,364	44.1
Cerebrovascular disease – stroke	40	11.3	681	11.0	6,920	13.0
Cancer	383	108.8	6,591	106.8	60,603	114.3
Cancer of the trachea, bronchus & lung	88	24.9	1,460	23.4	12,715	24.0
Respiratory system diseases	58	16.6	984	15.8	9,726	18.3
Chronic lower respiratory disease	43	12.2	725	11.6	6,657	12.6
Injuries and poisonings	184	52.8	2,377	42.6	18,573	35.0
Suicide	68	19.6	907	16.3	6,706	12.6
Motor vehicle accidents	53	15.2	635	11.5	5,014	9.5
Other causes	210	59.1	2,829	47.1	26,735	50.4
Diabetes mellitus	27	7.5	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 average

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

The data used to illustrate the prevalence estimates of chronic disease (Figure 5), measures of self-reported health (Figure 6), and selected risk factors (Figure 7), are shown in Table 16 below.

Table 16: Estimates of chronic disease and associated risk factors, Capricornia DGP‡, country Queensland and Australia, 2001

Indirectly age standardised rate per 1,000 population

Variable	Capricornia DGP‡	Country Qld	Australia
Chronic disease and injury (Figure 5)			
Respiratory system diseases	312.0	312.2	310.8
Asthma	119.1	118.2	118.3
Circulatory system diseases	180.3	176.1	171.5
Diabetes type 2	23.4	21.9	23.4
Injury event	124.4	122.7	121.2
Mental & behavioural disorders	101.8	97.7	97.6
Musculoskeletal system diseases	346.8	343.5	326.2
Arthritis	144.2	140.7	138.8
- Osteoarthritis	83.3	76.3	74.9
- Rheumatoid arthritis	24.4	23.8	23.6
Osteoporosis (females)	23.2	23.5	26.4
Measures of self-reported health (Figure 6)			
Very high psychological distress levels (18+ years)	35.3	37.2	36.6
Fair or poor self-assessed health status (15+ years)	174.9	181.6	184.0
Risk factors (Figure 7)			
Overweight (not obese) males (15+ years)	389.2	381.8	389.7
Obese males (15+ years)	162.9	156.8	145.9
Overweight (not obese) females (15+ years)	253.5	248.9	223.9
Obese females (15+ years)	148.8	142.8	148.0
Smokers (18+ years)	272.0	271.7	248.0
Physical inactivity (15+ years)	334.6	330.7	315.5
High health risk due to alcohol consumed (18+ years)	45.0	49.5	42.1

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

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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

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