

Population health profile of the NSW Central West Division of General Practice

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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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This publication, the maps and supporting data, together with other publications on population health, are available from the PHIDU website (www.publichealth.gov.au).

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Population health profile

of the *NSW Central West Division of General Practice*

Introduction

This profile has been designed to provide a description of the population of the NSW Central West 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 New South Wales 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: New South Wales

Division number: 229

Population‡:	No.	%
Total	174,503	
65+	25,273	14.5%
<25	60,653	34.8%
Indigenous	7,254	4.2%

Disadvantage score¹: 975

GP services per head of population:

Division‡	3.6
Australia	4.7

Population per FTE GP:

Division‡	1,586
Australia	1,403

Premature death rate²:

Division‡	343.3
Australia	290.4

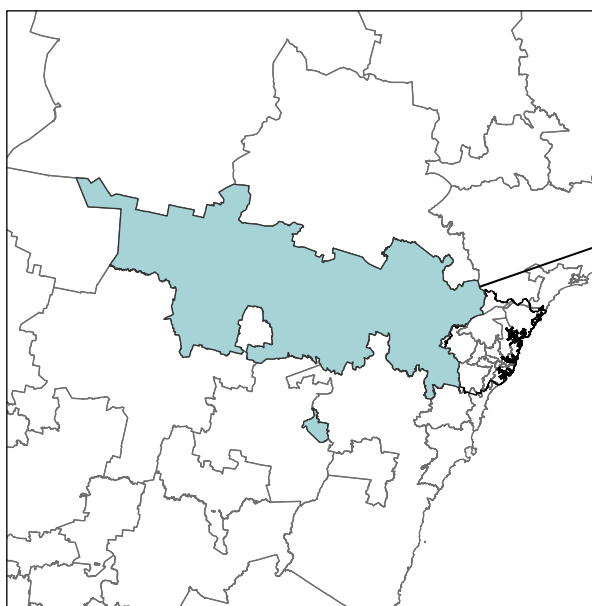
¹ Numbers below 1000 (the index score for Australia) indicate the Division is relatively disadvantaged

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

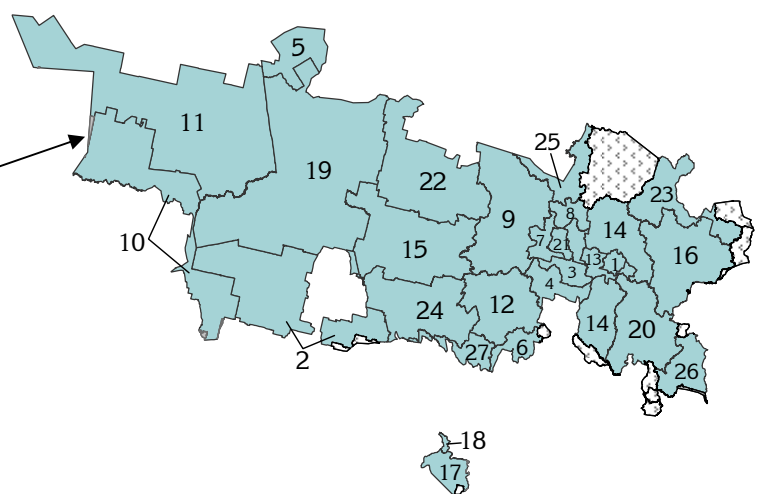
‡ See note "Data converters and mapping" re calculation of Division Total

NSW Central West Division of General Practice

NSW Divisions of General Practice



NSW Central West DGP by SLA



— NSW Divisions of General Practice
 — Sydney Statistical Division

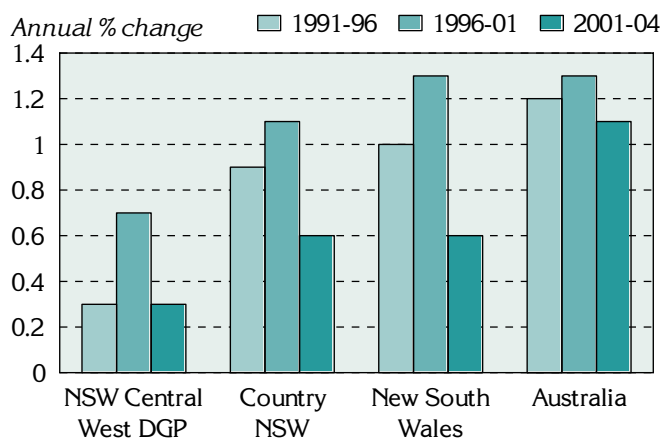
* Map legend: see page 6

Sociodemographic profile

Population

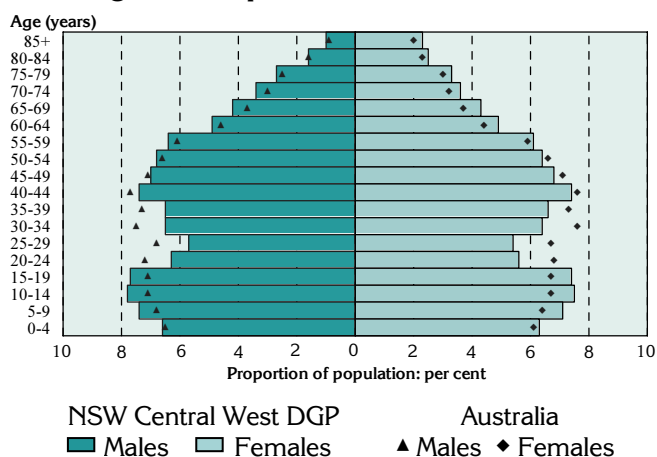
The NSW Central West DGP had an Estimated Resident Population of 174,503 at 30 June 2004.

Figure 1: Annual population change, NSW Central West DGP‡, country New South Wales¹, New South Wales 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 0.3% on average each year, lower than for country New South Wales (0.9%), New South Wales (1.0%), and Australia (1.2%). From 1996 to 2001, the annual percentage increase in the Division was 0.7%, again lower than for country New South Wales (1.2%), New South Wales (1.3%) and Australia (1.3%). The annual growth rate from 2001 to 2004 (0.3%) was lower than for country New South Wales and New South Wales (0.6%), and Australia (1.1%).

Figure 2: Population in NSW Central West DGP‡ and Australia, by age and sex, 2004



The age distribution of the Division's population is similar to that for Australia. The most notable differences are:

- at younger ages - higher proportions of children and young people aged 5 to 19 years;
- from 20 to 39 years - lower proportions of both males and females (perhaps moving away to continue education, or to seek employment opportunities); and
- 55 years and over - slightly lower proportions of males (to 79 years) and females.

Table 1: Population by age, NSW Central West DGP‡ and Australia, 2004

Age group (years)	NSW Central West DGP		Australia	
	No.	%	No.	%
0-14	37,236	21.3	3,978,751	19.8
15-24	23,416	13.4	2,762,769	13.8
25-44	45,392	26.0	5,881,048	29.3
45-64	43,186	24.7	4,864,037	24.2
65-74	13,565	7.8	1,374,792	6.8
75-84	8,856	5.1	934,505	4.7
85+	2,851	1.6	295,602	1.5
Total	174,503	100.0	20,091,504	100.0

As shown in the age-sex pyramid above, the NSW Central West DGP had a higher proportion of young people aged 0 to 14 years (21.3%) compared to Australia as a whole (with 19.8%). The proportion of the Division's population aged 25 to 44 years age was lower (26.0%) compared to Australia (29.53), while the 45 years and over age groups had higher proportions compared to Australia.

The NSW Central West DGP comprised 2.3% of people born in predominantly non-English speaking countries and resident in Australia for five years or more (Table 2), lower than for country New South Wales (4.1%) and New South Wales (12.7%). Recent arrivals (those resident in Australia for less than five years) from non-English speaking countries comprised 0.3% of the Division's population, lower than country New South Wales (0.5%), and New South Wales (2.9%).

¹References to 'country New South Wales' relate to New South Wales excluding the Sydney Statistical Division.

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

Of these non-English born residents aged five years and over, 0.3% had poor proficiency in English (determined when people born overseas in predominantly non-English speaking countries reported in the Census speaking another language and speaking English 'not well' or 'not at all'), a lower proportion than in country New South Wales (0.6%) and New South Wales (3.2%).

Table 2: Non-English speaking born, NSW Central West DGP, country New South Wales, New South Wales and Australia, 2001

People born in predominantly non-English speaking countries	NSW Central West DGP		Country New South Wales		New South Wales		Australia	
	No.	%	No.	%	No.	%	No.	%
Resident in Australia for five years or more	3,869	2.3	97,983	4.1	803,824	12.7	2,019,410	10.8
Resident in Australia for less than five years	558	0.3	12,392	0.5	182,972	2.9	408,074	2.2
Poor proficiency in English ¹	403	0.3	13,587	0.6	189,874	3.2	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, NSW Central West DGP, 2001

Australian-born people comprised 93.5% of the Division's population, well above the Australian figure of 72.6%. Of the 3.7% of people from English speaking countries, 2.6% were from the UK and Eire. The major birthplaces of the non-English speaking population include Germany and the Netherlands (both 0.3%), and Italy and the Philippines (both 0.2%); other birthplaces of the non-English speaking population comprised 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 NSW Central West DGP had a marginally lower proportion of single parent families (10.9%) compared to country New South Wales as a whole (11.7%), and a higher proportion of Aboriginal and Torres Strait Islanders (4.2%, compared to 3.7%) (Figure 3, Table 3).

Full-time secondary school education participation of 16 year olds living in the Division (74.1%) was consistent with that for country New South Wales (73.4%).

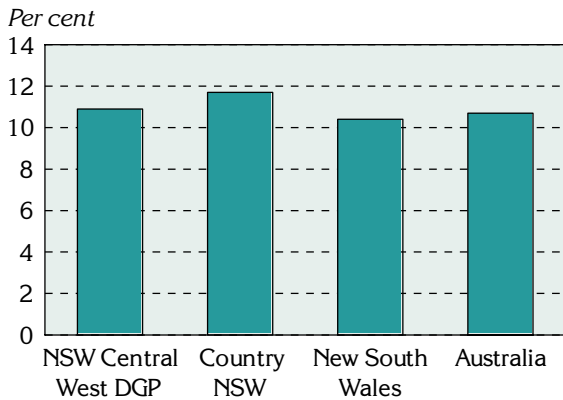
A lower proportion of the Division's households received rent assistance from Centrelink (14.5%) compared to country New South Wales (18.3%), but there were more dwellings rented from the State housing authority (5.1%, compared to 4.6%). The proportion of dwellings with no access to a motor vehicle (9.8%) was similar to that for country New South Wales (10.2%).

The Division had slightly lower proportions of the population who reported using, at home, a computer (35.8%) and the Internet (20.9%), compared to country New South Wales (37.0% and 22.2%).

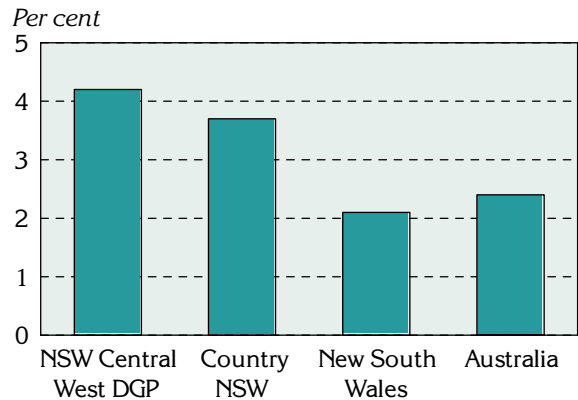
Figure 3: Socio-demographic indicators, NSW Central West DGP, country New South Wales, New South Wales and Australia, 2001

Note the different scales

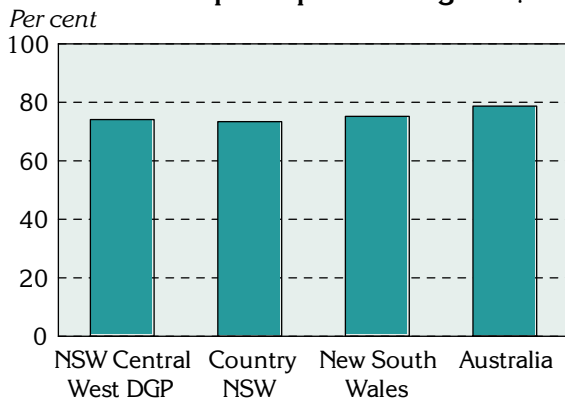
Single parent families



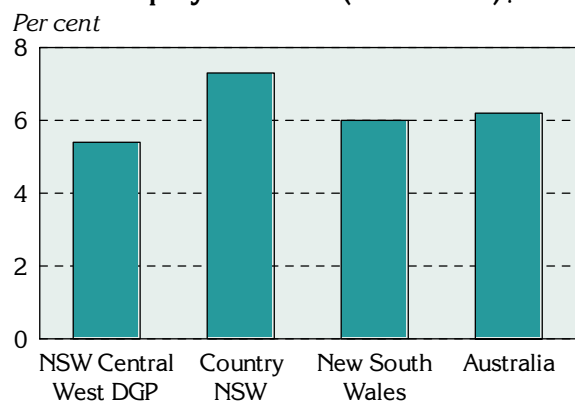
Indigenous‡



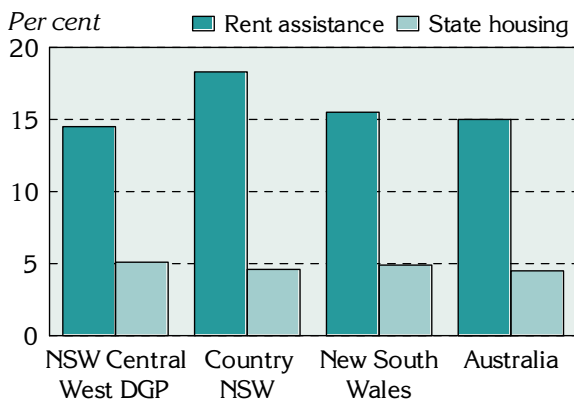
Education participation at age 16‡



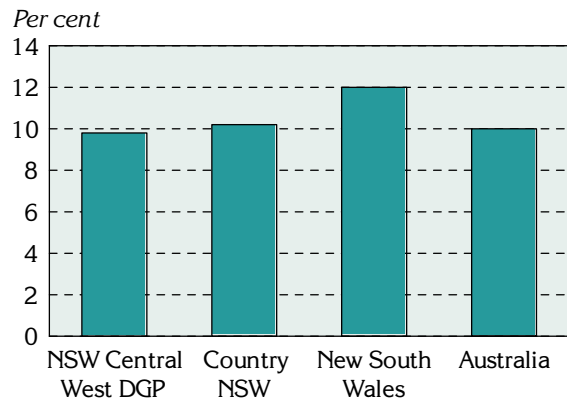
Unemployment rate (June 2003)‡



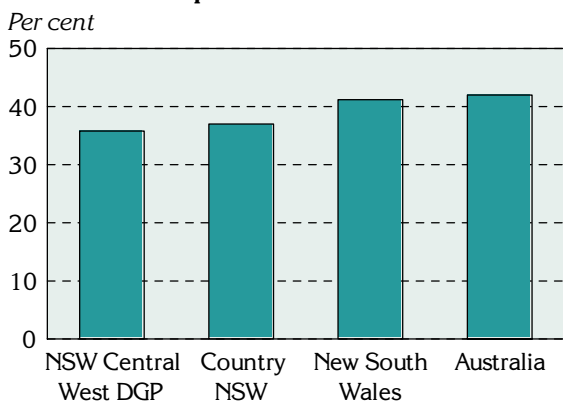
Households receiving rent assistance & Dwellings rented from State housing authority



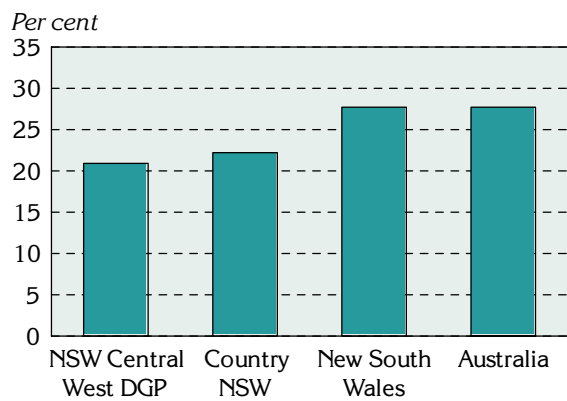
Dwellings with no motor vehicle



Computer use at home



Internet use at home



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

Table 3: Sociodemographic indicators, NSW Central West DGP, country New South Wales, New South Wales and Australia, 2001

Indicator	NSW Central West DGP		Country NSW		NSW		Australia	
	No.	%	No.	%	No.	%	No.	%
Single parent families	4,729	10.9	73,805	11.7	172,199	10.4	529,969	10.7
Indigenous‡	7,254	4.2	91,036	3.7	134,886	2.1	458,261	2.4
Full-time secondary school education at age 16‡	2,014	74.1	24,254	73.4	65,205	75.2	130,198	78.7
Households: rent assistance	8,647	14.5	156,074	18.3	343,540	15.5	1,006,599	15.0
Dwellings rented from the State housing authority	3,148	5.1	41,406	4.6	114,130	4.9	317,171	4.5
Dwellings: no motor vehicle	6,070	9.8	92,576	10.2	280,434	12.0	708,073	10.0
Computer use at home	59,319	35.8	874,207	37.0	2,600,257	41.2	7,881,983	42.0
Internet use at home	34,857	20.9	523,994	22.2	1,751,626	27.7	2,019,410	27.7

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

The unemployment rate of 5.4% in NSW Central West DGP was lower than the rates for country New South Wales (7.3%), and New South Wales (6.0%) (Figure 3, Table 4). The labour force participation rate (72.7%) was consistent with the rates for country New South Wales (72.3%), and New South Wales (74.6%), while the female labour force participation rate (68.2%) was lower than the rate for country New South Wales (66.8%) and similar to that for New South Wales (69.0%).

Table 4: Unemployment and labour force, NSW Central West DGP, country New South Wales, New South Wales and Australia, 2003

Labour force indicators	NSW Central West DGP		Country NSW		New South Wales		Australia	
	No.	%	No.	%	No.	%	No.	%
Unemployment rate ‡	4,378	5.4	83,231	7.3	198,946	6.0	623,791	6.2
Labour force participation‡	81,343	72.7	1,142,496	72.3	3,331,064	74.6	10,038,147	75.2
Female labour force participation (2001)	25,638	68.2	361,345	66.8	1,093,243	69.0	3,306,521	69.7

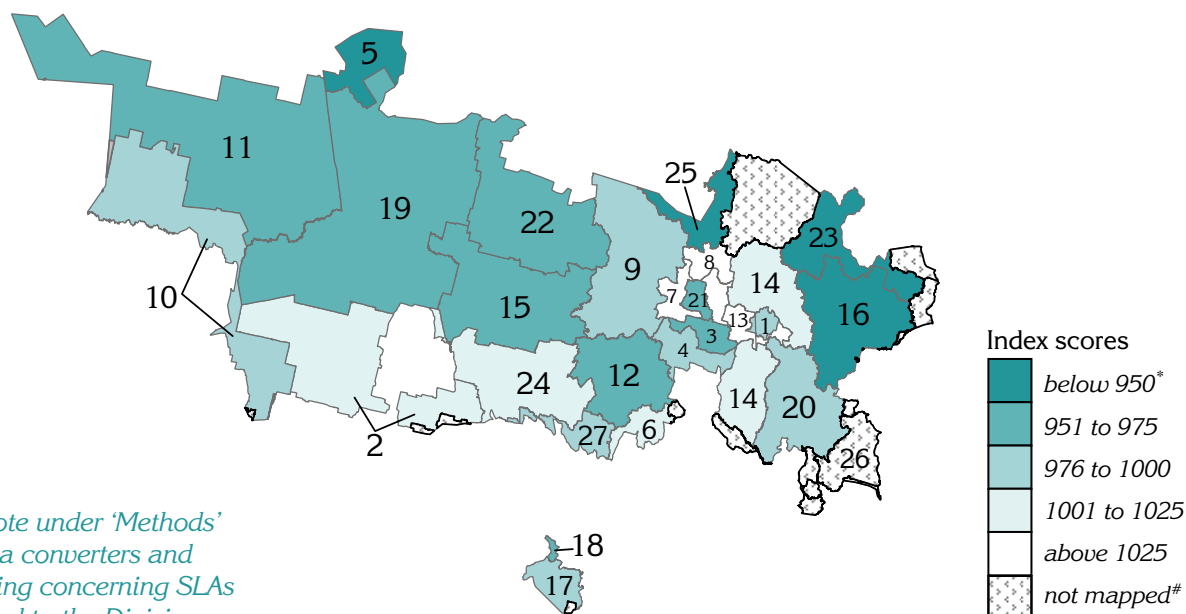
‡ See note under 'Data converters and mapping' re calculation of Division total

Summary of the socioeconomic ranking of the NSW Central West 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. Scores for these indexes for each Statistical Local Area (SLA) or part SLA in NSW Central West DGP are shown in the supporting information, Table 12, page 20: SLAs are described on page 21.

The NSW Central West DGP's SEIFA Index of Relative Socio-Economic Disadvantage (IRSD) score is 975, just (2.5%) below the average score for Australia (1000), and below that for country New South Wales (973); this highlights the marginally lower socioeconomic status profile of the Division's population, relative to Australia as a whole. Variations in the IRSD within the Division are shown at the SLA level in Map 1.

Map 1: Index of Relative Socio-Economic Disadvantage by SLA, NSW Central West DGP, 2001



Index scores

- below 950*
- 951 to 975
- 976 to 1000
- 1001 to 1025
- above 1025
- not mapped#

* most disadvantaged
data were not mapped: see note under 'Methods' re Data converters and mapping.

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.

Alphabetical key to Statistical Local Areas, NSW Central West DGP, 2001

Bathurst	1	Forbes	15
Bland	2	Greater Lithgow	16
Blayney - Part A	3	Gundagai	17
Blayney - Part B	4	Harden	18
Bogan	5	Lachlan	19
Boorowa	6	Oberon	20
Cabonne - Part A	7	Orange	21
Cabonne - Part B	8	Parkes	22
Cabonne - Part C	9	Rylstone	23
Carrathool	10	Weddin	24
Cobar	11	Wellington	25
Cowra	12	Wollondilly	26
Evans - Part A	13	Young	27
Evans - Part B	14		

Socioeconomic status: Indigenous population

At the 2001 Census, 4.1% of the population of the NSW Central West DGP were estimated to be of Aboriginal or Torres Strait Islander origin marginally higher than the proportion for country New South Wales (3.7%). The largest Indigenous populations were in the SLAs of Orange (an estimated 1,544 people, 21.3% of the Indigenous population), Bathurst (1,126 people, 15.5%) and Lachlan (963 people, 13.3%).

Table 5: Population by Indigenous status*, SLAs in NSW Central West DGP‡, 2001

Statistical Local Area	Indigenous		Non-Indigenous		Total	
	No.	%	No.	%	No.	%
Orange	1,544	21.3	35,455	21.4	36,999	21.4
Bathurst	1,126	15.5	29,489	17.8	30,615	17.7
Lachlan	963	13.3	6,379	3.8	7,342	4.2
Cowra	805	11.1	12,968	7.8	13,773	8.0
Parkes	780	10.8	12,314	7.4	13,094	7.6
Greater Lithgow	638	8.8	19,676	11.9	20,314	11.7
Forbes	562	7.7	9,581	5.8	10,143	5.9
Cabonne - Part C	202	2.8	9,271	5.6	9,473	5.5
Oberon	125	1.7	4,875	2.9	5,000	2.9
Blayney - Part A	94	1.3	4,692	2.8	4,786	2.8
Wellington	71	1.0	423	0.3	494	0.3
Other	344	4.7	20,705	12.5	21,049	12.2
Total	7,254	100.0	165,827	100.0	173,082	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 in the Division (26.3%) was slightly less than that for the Indigenous population in country New South Wales (27.5%), but two and half times that for the Division's non-Indigenous population (10.3%) (Table 6).

More than half of the Division's Indigenous population aged 16 years (53.7%) were involved in full-time secondary school education, consistent with the Indigenous participation rate in country New South Wales (52.5%), but notably lower than for the Division's non-Indigenous 16 year olds (77.1%).

Table 6: Socio-demographic indicators, NSW Central West DGP‡, country New South Wales and Australia, 2001*

Indicator	NSW Central West‡		Country NSW		Australia	
	No.	%	No.	%	No.	%
Population						
- Indigenous	7,265	4.2	91,036	3.7	458,261	2.4
- Non-Indigenous	166,015	95.8	2,355,909	96.3	18,952,407	97.6
Single parent families						
- Indigenous	436	26.3	5,881	27.5	26,587	25.8
- Non-Indigenous	4,299	10.3	67,924	11.2	503,382	10.4
Full-time secondary school education at age 16						
- Indigenous	84	53.7	938	52.5	5,997	50.5
- Non-Indigenous	1,885	77.1	24,828	76.5	327,055	80.3
Dwellings rented from State housing authority						
- Indigenous	430	22.4	4,868	19.7	23,974	20.8
- Non-Indigenous	2,673	4.8	35,585	4.4	284,502	4.5
People who used a computer at home						
- Indigenous	1,139	17.5	14,924	18.4	73,636	18.0
- Non-Indigenous	57,909	37.7	854,211	38.9	7,761,390	44.1
People who used the Internet at home						
- Indigenous	485	7.4	6,454	8.0	35,384	8.6
- Non-Indigenous	34,337	22.3	518,491	23.6	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 living in dwellings rented from the State housing authority (22.4%) was notably lower than the Indigenous rate for the Indigenous population in country New South Wales (19.7%), and four times that of the Division's non-Indigenous population (4.8%) (Table 6).

The proportion of the Indigenous population in the Division reporting use of a computer at home (17.5%) was similar to that for the Indigenous population in country New South Wales (18.4%), but less than half the rate of the Division's non-Indigenous population (37.7%).

The rate of home Internet use by the Division's Indigenous population (7.4%) was slightly lower than the Indigenous rate for country New South Wales (8.0%), and one third that of the non-Indigenous population in the Division (22.3%).

The Indigenous population's unemployment rate of 28.0% was higher than the rates for the Indigenous population in country New South Wales (26.9%), and nearly four times the rate of the Division's non-Indigenous population (7.3%) (Table 7).

However, taking into account the Indigenous population receiving payments as part of the Community Development Employment Projects (CDEP) scheme (effectively an Aboriginal work-for-the-dole scheme), the 'real' Indigenous unemployment rate was a marginally higher 30.2%, lower than the 'real' Indigenous unemployment rate for country New South Wales (34.1%).

The Indigenous labour force participation rate (46.0%) and Indigenous female labour force participation rate (41.2%) were lower than the rates for country New South Wales (50.4% and 44.3% %), and notably lower than for the Division's non-Indigenous population (71.1%, and 67.4%).

Table 7: Unemployment and labour force participation, NSW Central West DGP‡, country New South Wales and Australia, 2001

Labour force indicators	NSW Central West DGP‡		Country NSW		Australia	
	No.	%	No.	%	No.	%
Unemployment rate						
- Indigenous	472	28.0	6,155	26.9	24,930	20.0
- Non-Indigenous	5,114	7.3	87,454	9.0	624,337	7.3
Labour force participation*						
- Indigenous	1,689	46.0	22,902	50.4	124,517	52.4
- Non-Indigenous	70,335	71.1	972,088	69.5	8,609,525	72.9
Female labour force participation*						
- Indigenous	659	41.2	9,403	44.3	52,981	46.6
- Non-Indigenous	27,524	67.4	390,835	67.2	3,564,409	69.8
Indigenous unemployment rate						
- excluding CDEP	472	28.0	6,155	26.9	24,930	20.0
- CDEP	38	2.2	1,650	7.2	17,662	14.2
- Total (including CDEP)	510	30.2	7,805	34.1	45,592	34.2

* Includes people paid through Community Development Employment Projects

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

General medical practitioner (GP) supply

A total of 110.0 full-time equivalent (FTE) GPs and 122.3 full-time workload equivalent (FWE²) GPs worked in the NSW Central West DGP in 2003/04 (Table 8). Of the FWE GPs, 26.4% were female, and 24.0% were over 55 years of age (compared to 26.4% and 33.4%, respectively, for New South Wales).

Apart from the estimated day-time population, the rates of population per FTE GP varied, depending on the population measure used, from a high of 1,586 per GP (calculated on the average Estimated Resident Population (ERP) as at 30 June 2003 and 30 June 2004), to a low of 1,512 people per GP (calculated on the 1 August 2001 Census count – all people counted in the Division on Census night, including visitors from Australia and overseas). The rates of population per FWE were lower, ranging from 1,360 (calculated on the Census count) to 1,427 (calculated on the ERP). When calculated on the estimated day-time population, the rates of population in the Division were 2.5% below those calculated on the Usual Resident Population (usual residents of the Division counted in Australia on Census night).

Based on the ERP, the rates of population per GP in NSW Central West DGP were higher than for New South Wales and Australia, indicating a lower level of provision of GP services in the Division.

Table 8: Population per GP in NSW Central West DGP, New South Wales and Australia, 2003/04

Population measure	Population	GPs		Population per GP	
		FTE	FWE	FTE	FWE
NSW Central West DGP					
Census count (adjusted)*	166,331	110.0	122.3	1,512	1,360
Usual Resident Population (URP) (adjusted)*	167,690	..	..	1,524	1,371
Estimated Resident Population (ERP)	174,471	..	..	1,586	1,427
Day Time Population (estimated on URP)* ‡	163,433	..	..	1,485	1,336
New South Wales (ERP)	6,706,674	4,819	5,969	1,392	1,124
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 2001 and 2003/2004, 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, consistent with 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 majority of children in the Division (63.1%) were immunised by a general practitioner, less than for Australia (70.0%), with 36.8% immunised at a community health centre, or by a community health worker.

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

Provider	NSW Central West DGP	Australia
	%	%
General practitioners	63.1	70.0
Local government council	0.0	16.6
Community health centre / worker	36.8	9.8
Public hospital	0.1	2.1
Aboriginal health service / worker	0.0	0.9
Other*	0.0	0.6
Total: Per cent	100.0	100.0
Number	34,376	3,843,610

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

² 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 (343.3 deaths per 100,000 population) is higher than for country New South Wales (318.3), and 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.

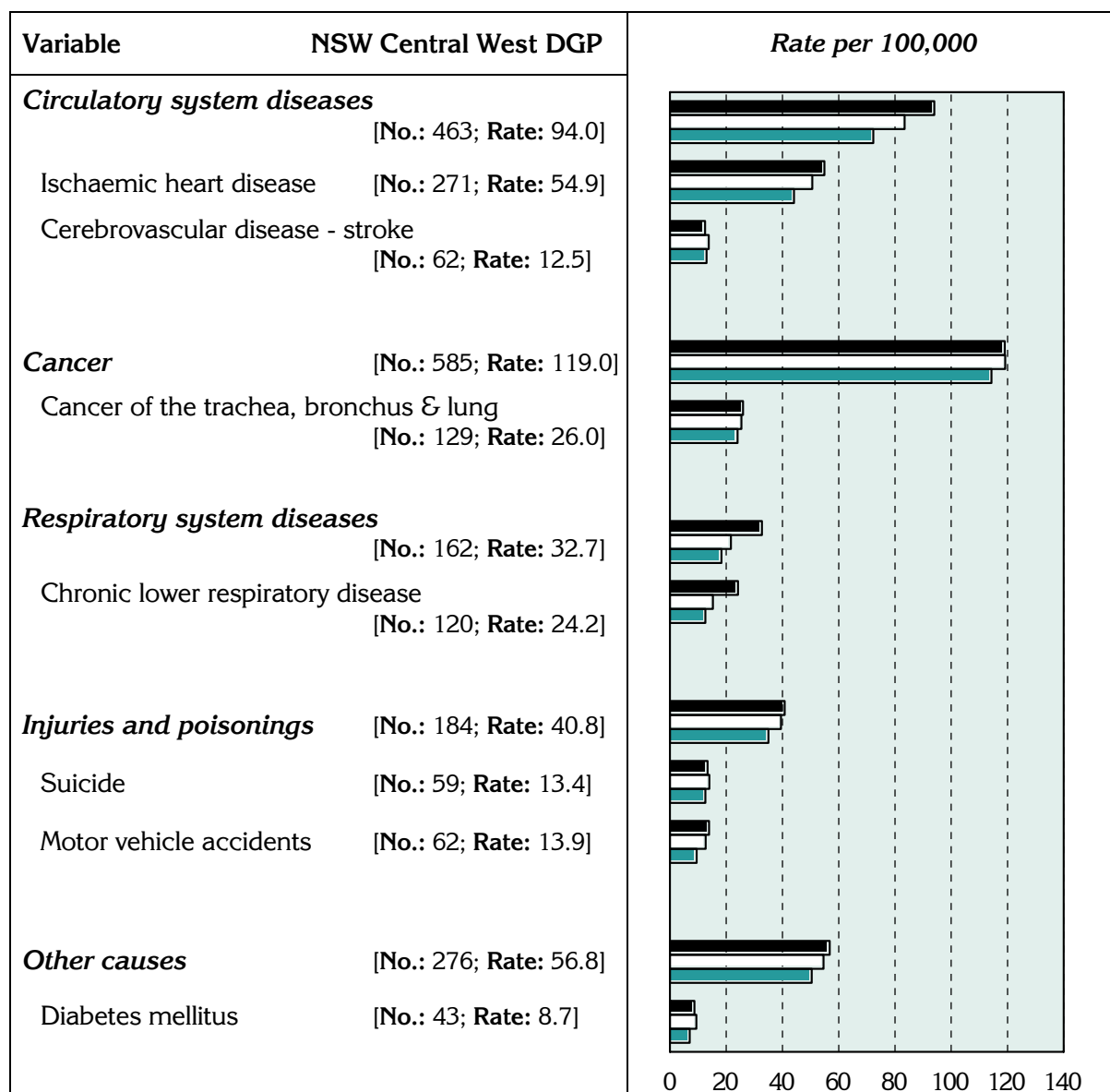
The major causes of premature mortality in the Division, as for country New South Wales and Australia as a whole are cancer and diseases of the circulatory system (Figure 4). With the exceptions of cerebrovascular disease (stroke), and suicide, death rates in the Division for all the major conditions and selected causes were higher than those for Australia, and higher than, or similar to, those for country New South Wales.

The data on which the following chart is based are in Table 14.

Figure 4: Deaths before 75 years of age by major condition group and selected cause, NSW Central West DGP‡, country New South Wales and Australia, 2000-02*

Indirectly age standardised rate per 100,000 population

■ NSW Central West DGP □ Country NSW ■ 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 non-remote SLAs within the Division. These estimates are only available for some SLAs in this Division – generally the ‘non-remote’ areas – as remote areas were not included in the 2001 National Health Survey. 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 15.

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, with the exceptions of diabetes type 2, musculoskeletal system diseases and osteoporosis (females), more people in NSW Central West 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.

Prevalence estimates: self-reported health‡

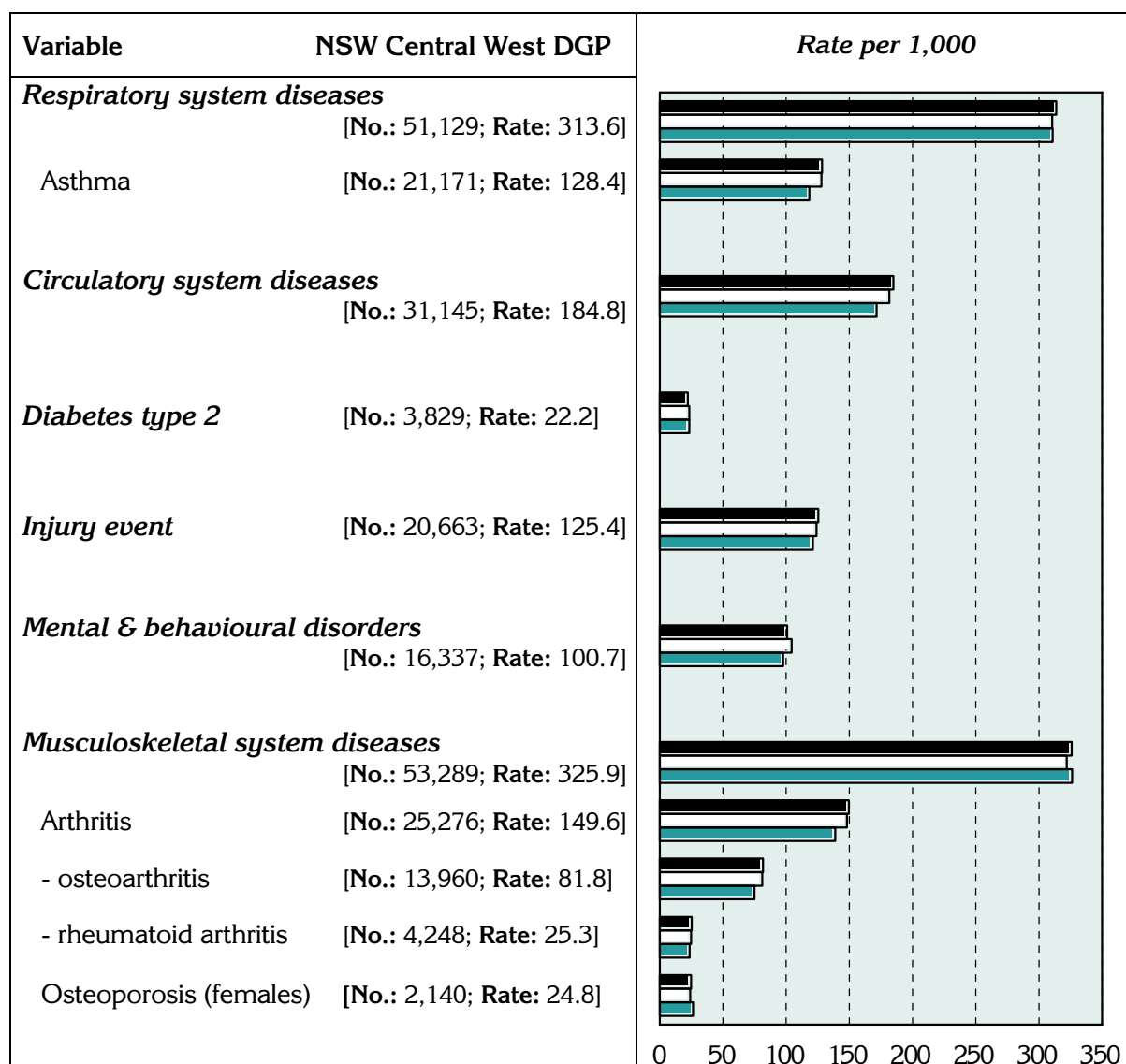
The NHS includes two measures of self-reported health. One is the Kessler Psychological Distress Scale-10 items (K-10). This is a scale of non-specific psychological distress based on 10 questions about negative emotional states in the four weeks prior to interview, asked of respondents 18 years and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

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

Figure 5: Estimates* of chronic disease and injury, NSW Central West DGP‡, country New South Wales and Australia, 2001

Indirectly age standardised rate per 1,000 population

■ NSW Central West DGP □ Country NSW ■ Australia



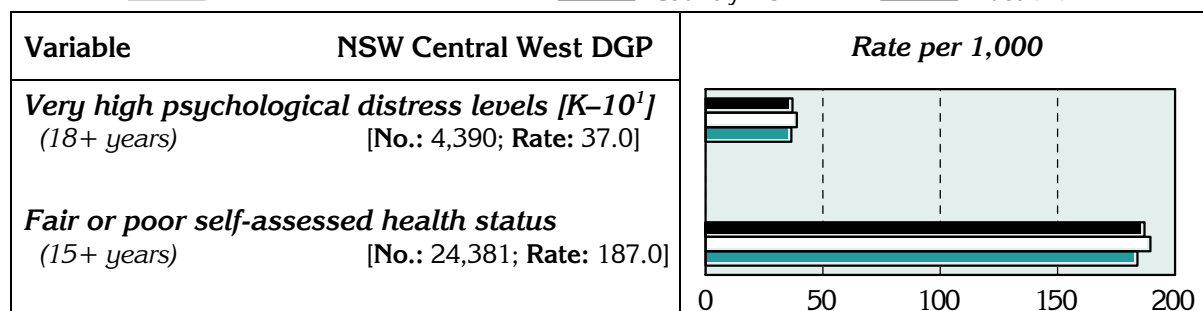
* 'No.' is a weighted estimate of the number of people in NSW Central West DGP reporting each chronic condition and is derived from synthetic predictions from the 2001 NHS

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

Figure 6: Estimates* of measures of self-reported health, NSW Central West DGP‡, country New South Wales and Australia, 2001

Indirectly age standardised rate per 1,000 population

■ NSW Central West DGP □ Country NSW ■ Australia



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

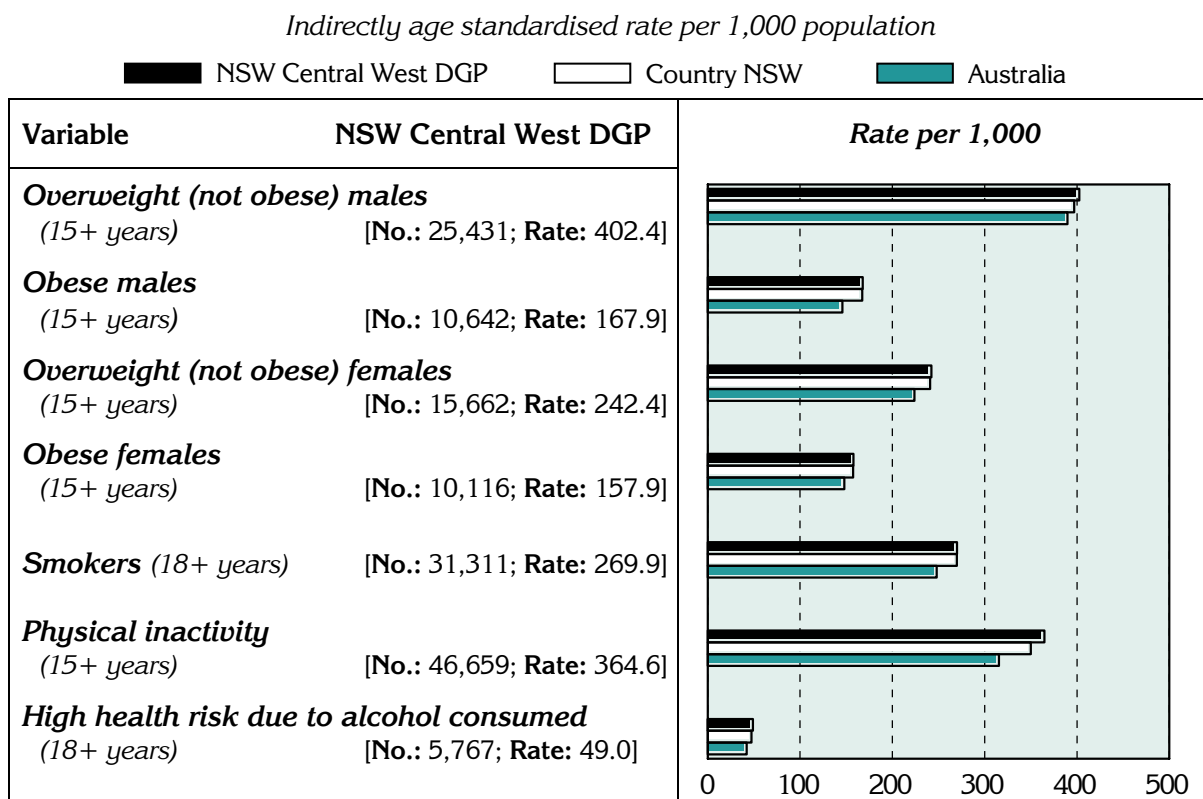
¹ Kessler 10

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

Prevalence estimates: risk factors‡

The higher rates in the Division (when compared with the Australian population) for all of the selected risk factors (Figure 7) were consistent with the socioeconomic status profile of the Division.

Figure 7: Estimates* of selected risk factors, NSW Central West DGP‡, country New South Wales and Australia, 2001



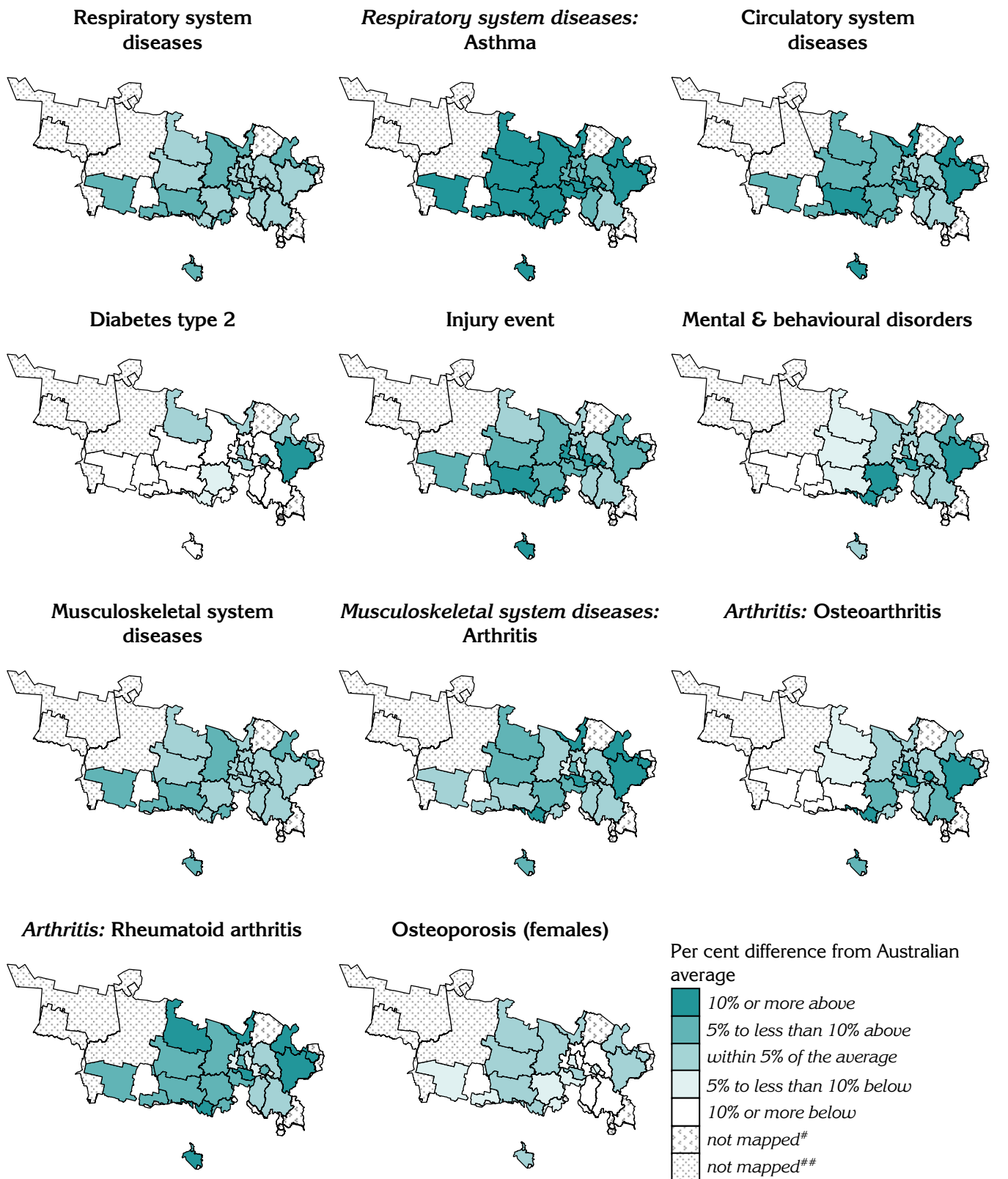
*'No.' is a weighted estimate of the number of people in NSW Central West DGP with these risk factors and has been predicted using data from the 2001 NHS and known data for the Division

‡ 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 13, 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, NSW Central West DGP, 2001



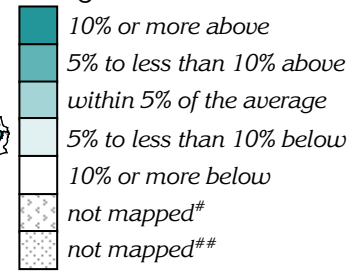
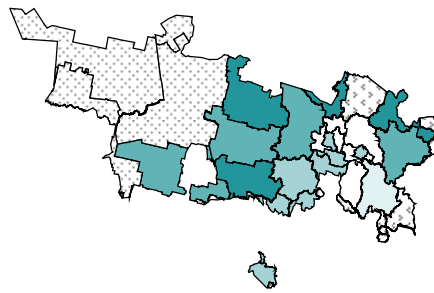
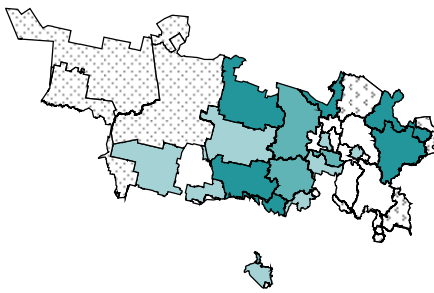
* See Notes on the data re these estimates.
[#] Data not mapped: see 'Data converters and mapping' section under Notes on the data.
^{##} Estimates not available for remote areas

Map 3: Estimates* of measures of self-reported health by SLA, NSW Central West 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



¹ Kessler 10

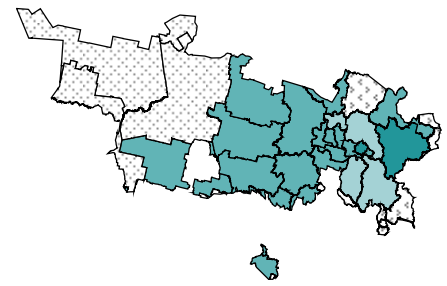
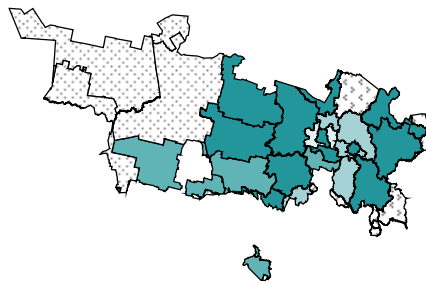
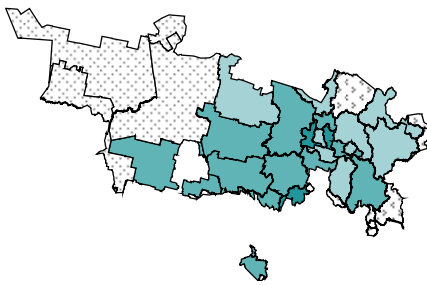
* See Notes on the data re these estimates.
 # Data not mapped: see 'Data converters and mapping' section under Notes on the data.
 ## Estimates not available for remote areas

Map 4: Estimates* of selected risk factors by SLA, NSW Central West DGP, 2001

Overweight (not obese) males (15+ years)

Obese males (15+ years)

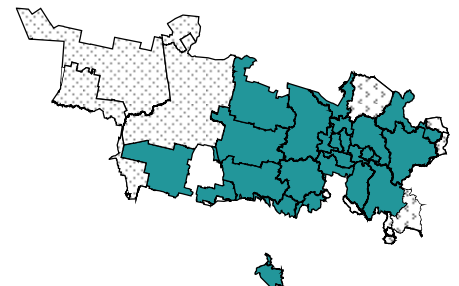
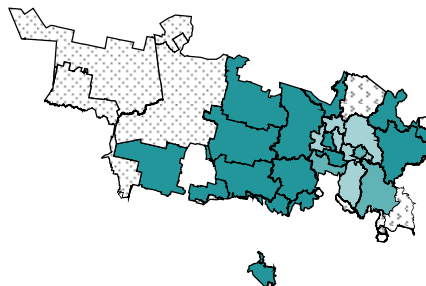
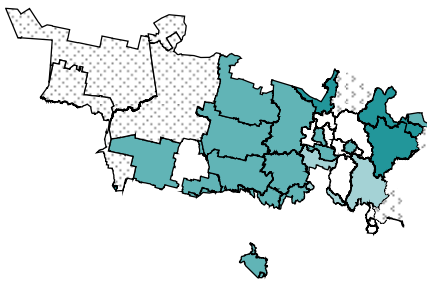
Overweight (not obese) females (15+ years)



Obese females (15+ years)

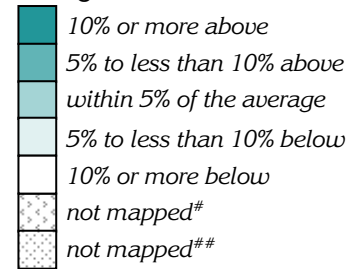
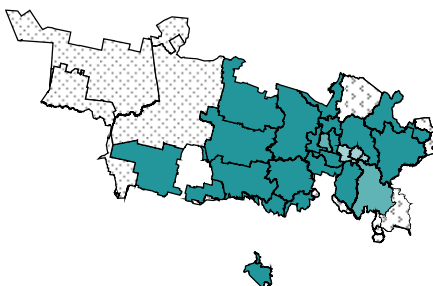
Smokers (18+ years)

Physical inactivity (15+ years)



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

Per cent difference from Australian average



* See Notes on the data re these estimates.
 # Data not mapped: see 'Data converters and mapping' section under Notes on the data.
 ## Estimates not available for remote areas

Notes on the data

Data sources and limitations

General

References to 'country New South Wales' relate to New South Wales, excluding Sydney 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 14	ABS Deaths, 2000 to 2002
Chronic diseases and associated risk factors⁴	
Figures 5, 6 and 7; Maps 2, 3 and 4; Table 15	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	- Respondents 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 21).

[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 13.

[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 (labeled ‘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 NSW Central West 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, NSW Central West DGP, 2001

SLA code	SLA name (% per cent of SLA in the Division)	Index score				
		Disadvantage	Advantage	Economic Resources	Education & Occupation	
10450	Bathurst	(100.0)	988	993	989	995
10800	Bland	(26.8)	1010	935	912	942
10851	Blayney - Part A	(100.0)	961	937	955	925
10852	Blayney - Part B	(86.2)	981	932	915	938
10950	Bogan	(3.2)	949	917	916	926
11050	Boorowa	(9.2)	1015	942	915	948
11401	Cabonne - Part A	(100.0)	1086	1062	1035	1058
11402	Cabonne - Part B	(100.0)	1026	977	975	961
11403	Cabonne - Part C	(100.0)	992	934	921	938
11600	Carrathool	(8.1)	986	936	951	907
11750	Cobar	(9.6)	960	961	990	929
12350	Cowra	(100.0)	968	923	913	930
12801	Evans - Part A	(100.0)	1068	1035	1010	1031
12802	Evans - Part B	(96.4)	1022	987	958	997
12900	Forbes	(100.0)	971	934	916	944
13300	Greater Lithgow	(100.0)	937	927	953	907
13500	Gundagai	(8.2)	987	922	907	928
13700	Harden	(6.5)	965	915	909	919
14600	Lachlan	(97.1)	962	931	923	937
16100	Oberon	(100.0)	978	941	962	919
16150	Orange	(100.0)	973	974	989	967
16200	Parkes	(91.5)	966	933	921	941
16750	Rylstone	(74.5)	926	903	898	906
18100	Weddin	(100.0)	1001	936	891	955
18150	Wellington	(5.6)	937	912	888	941
18750	Young	(6.0)	978	928	921	935

* 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

Note: Scores are not shown for SLAs in the Division with estimated populations of less than 100 or with less than 1% of the SLA's total population (refer to Table 13)

Statistical geography of the NSW Central West DGP

The NSW Central West DGP covers 61,961 square kilometres, based on 2001 SLA data.

The postcodes in the Division (all 100%) are: 2668-2669, 2672, 2721, 2726-2727, 2787, 2790-2795, 2797-2799, 2800, 2803-2810, 2845-2849, 2864-2868, 2870-2871, and 2873-2877³.

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 have been split into SLAs. For example, Cabonne is comprised of three SLAs, Cabonne - Part A, Cabonne - Part B and Cabonne Part - C (all wholly within the Division). These SLAs, and all or parts of other SLAs listed in Table 13, comprise the Division.

Table 13 : SLAs in NSW Central West 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
10450	Bathurst	100.0	31,515
10800	Bland	26.8	1,754
10851	Blayney - Part A	100.0	4,938
10852	Blayney - Part B	86.2	1,499
10950	Bogan	3.2	100
11050	Boorowa	9.2	227
11401	Cabonne - Part A	100.0	2,230
11402	Cabonne - Part B	100.0	934
11403	Cabonne - Part C	100.0	9,443
11600	Carrathool	8.1	267
11750	Cobar	9.6	480
12350	Cowra	100.0	13,126
12801	Evans - Part A	100.0	1,207
12802	Evans - Part B	96.4	3,993
12900	Forbes	100.0	9,958
13300	Greater Lithgow	100.0	20,532
13500	Gundagai	8.8	330
13700	Harden	6.5	244
14600	Lachlan	97.1	7,205
16100	Oberon	100.0	5,098
16150	Orange	100.0	37,517
16200	Parkes	91.5	13,740
16750	Rylstone	74.5	2,840
18100	Weddin	100.0	3,817
18150	Wellington	5.6	486
18400	Wollondilly	0.8	309
18750	Young	6.0	716

* 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

³ 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 14.

Table 14: Deaths before 75 years of age by major condition group and selected cause, NSW Central West DGP‡, country New South Wales and Australia, 2000-02*

Indirectly age standardised rate per 100,000 population

Variable	NSW Central West DGP‡		Country New South Wales		Australia	
	No.	Rate	No.	Rate	No.	Rate
Circulatory system diseases	463	94.0	6,468	83.4	38,357	72.3
Ischaemic heart disease	271	54.9	3,929	50.6	23,364	44.1
Cerebrovascular disease – stroke	62	12.5	1,080	13.8	6,920	13.0
Cancer	585	119.0	9,113	119.2	60,603	114.3
Cancer of the trachea, bronchus & lung	129	26.0	1,980	25.4	12,715	24.0
Respiratory system diseases	162	32.7	1,700	21.7	9,726	18.3
Chronic lower respiratory disease	120	24.2	1,209	15.3	6,657	12.6
Injuries and poisonings	184	40.8	2,541	39.5	18,573	35.0
Suicide	59	13.4	888	14.0	6,706	12.6
Motor vehicle accidents	62	13.9	809	12.7	5,014	9.5
Other causes	276	56.8	3,998	54.6	26,735	50.4
Diabetes mellitus	43	8.7	442	9.4	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 rates 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 15 below.

Table 15: Estimates of chronic disease and associated risk factors, NSW Central West DGP‡, country New South Wales and Australia, 2001

Indirectly age standardised rate per 1,000 population

Variable	NSW Central West DGP‡	Country NSW	Australia
Chronic disease and injury (Figure 5)			
Respiratory system diseases	313.6	310.4	310.8
Asthma	128.4	127.9	118.3
Circulatory system diseases	184.8	181.6	171.5
Diabetes type 2	22.2	23.4	23.4
Injury event	125.4	124.0	121.2
Mental & behavioural disorders	100.7	104.3	97.6
Musculoskeletal system diseases	325.9	322.0	326.2
Arthritis	149.6	148.1	138.8
- Osteoarthritis	81.8	81.1	74.9
- Rheumatoid arthritis	25.3	24.8	23.6
Osteoporosis (females)	24.8	24.1	26.4
Measures of self-reported health (Figure 6)			
Very high psychological distress levels (18+ years)	37.0	38.9	36.6
Fair or poor self-assessed health status (15+ years)	187.0	189.5	184.0
Risk factors (Figure 7)			
Overweight (not obese) males (15+ years)	402.4	397.0	389.7
Obese males (15+ years)	167.9	167.5	145.9
Overweight (not obese) females (15+ years)	242.4	240.9	223.9
Obese females (15+ years)	157.9	157.5	148.0
Smokers (18+ years)	269.9	269.8	248.0
Physical inactivity (15+ years)	364.6	349.9	315.5
High health risk due to alcohol consumed (18+ years)	49.1	47.4	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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