

Population health profile of the Central Wheatbelt

Division of General Practice: supplement

Population Profile Series: No. 113a

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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 Central Wheatbelt Division of General Practice: supplement

This profile is a supplement to the *Population health profile of the Central Wheatbelt Division of General Practice*, dated November 2005, available from www.publichealth.gov.au. This supplement includes an update of the population of the Central Wheatbelt Division of General Practice, as well as additional indicators and aspects of the Division's socioeconomic status, use of GP services and health. The contents are:

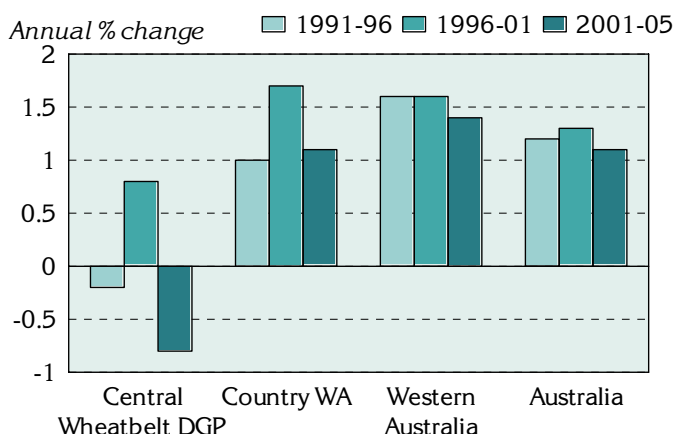
- Population [updated to June 2005]
- Additional socio-demographic indicators
- Unreferred attendances – patient flow/ GP catchment
- Additional prevalence estimates: chronic diseases and risk factors combined
- Avoidable hospitalisations: hospital admissions resulting from ambulatory care sensitive conditions
- Avoidable mortality

For further information on the way Division totals in this report have been estimated, please refer to the 'Notes on the data' section of the *Population health profile*, November 2005 (www.publichealth.gov.au).

Population

The Central Wheatbelt Division had an Estimated Resident Population of 47,484 at 30 June 2005.

Figure 1: Annual population change, Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 1991 to 1996, 1996 to 2001 and 2001 to 2005



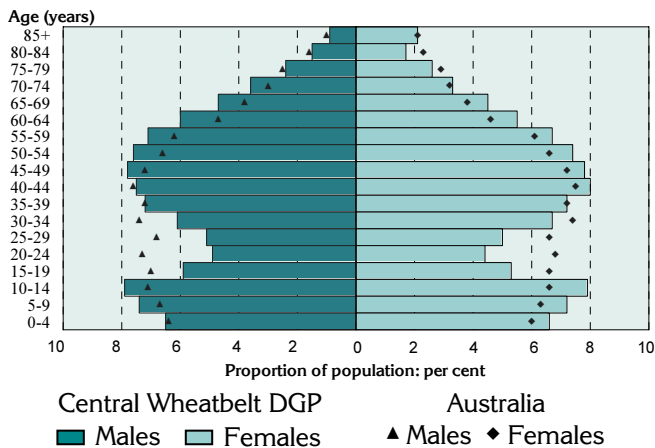
Over the five years from 1991 to 1996, the Division's population decreased by 0.2% on average each year, compared to increases in country Western Australia (1.0%) and Western Australia (1.6%). From 1996 to 2001, the population increased by 0.8%, half the growth rate in country Western Australia (1.7%) and Western Australia (1.6%). From 2001 to 2005, the Division's population again declined, by 0.8% on average each year, compared to increases in country Western Australia (1.1%) and Western Australia (1.4%).

Table 1: Population by age, Central Wheatbelt DGP and Australia, 2005

Age group (years)	Central Wheatbelt DGP		Australia	
	No.	%	No.	%
0-14	10,342	21.8	3,978,221	19.6
15-24	4,864	10.2	2,819,834	13.9
25-44	12,517	26.4	5,878,107	28.9
45-64	13,272	28.0	4,984,446	24.5
65-74	3,830	8.1	1,398,831	6.9
75-84	1,956	4.1	954,143	4.7
85+	702	1.5	315,027	1.5
Total	47,484	100.0	20,328,609	100.0

As shown in the accompanying table and the age-sex pyramid below (Figure 2), the Central Wheatbelt DGP had relatively more children than Australia as a whole, with 21.8% at ages 0 to 14 years (compared to 19.6% for Australia) (Table 1). The proportions of the Division's population aged 15 to 44 years (10.2% and 26.4%) were lower than for Australia (13.9% and 28.9%), while there were more people in the 45 to 74 year age groups (28.0% and 8.1%) compared to Australia (24.5% and 6.9%).

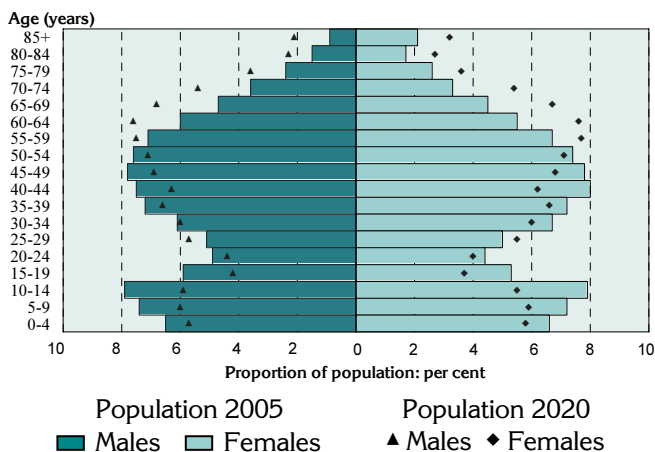
Figure 2: Population in Central Wheatbelt DGP and Australia, by age and sex, 2005



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

- at younger ages – relatively more males 5 to 14 years and females 0 to 14 years old;
- from 15 to 34 years – relatively fewer males and females;
- from 40 to 74 years – relatively more males (from 45 years) and females (to 69 years); and
- at the oldest ages – slightly lower proportions of females 75 to 84 years old.

Figure 3: Population projections for Central Wheatbelt DGP, by age and sex, 2005 and 2020



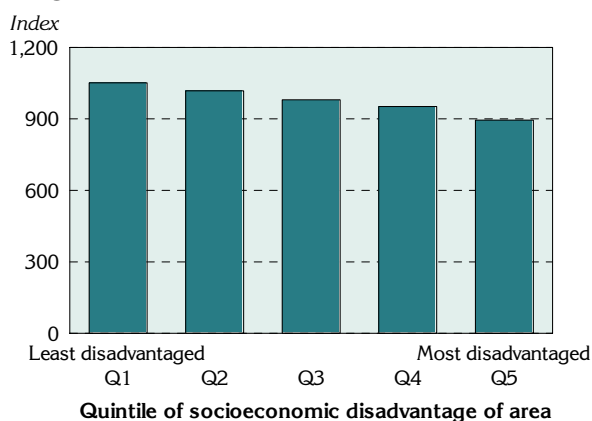
The population projections for the Division show a number of changes in age distribution, with the 2020 population projected to have:

- at younger ages – relatively fewer children, young people and young adults, aged 0 to 24 years;
- from 25 to 29 years – relatively fewer males and females;
- from 30 to 54 years – relatively more males (from 35 years) and females; and
- from 55 years of age – relatively more males and females.

Additional socio-demographic indicators

Please refer to the earlier *Population health profile of the Central Wheatbelt Division of General Practice*, dated November 2005, available from www.publichealth.gov.au, for other socio-demographic indicators.

Figure 4: Index of Relative Socio-Economic Disadvantage, Central Wheatbelt DGP, 2001



One of four socioeconomic indexes for areas produced at the 2001 ABS Census is the Index of Relative Socio-Economic Disadvantage.

The Central Wheatbelt DGP has an index score of 979, below the score for Australia of 1000: this score varies across the Division, from a low of 894 in the most disadvantaged areas to 1051 in the least disadvantaged areas.

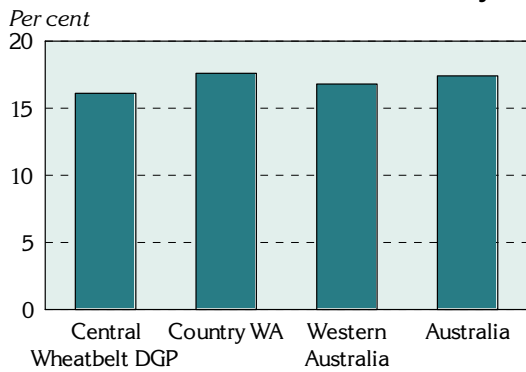
Note: each 'quintile' comprises approximately 20% of the population of the Division.

A new indicator, produced for the first time at the 2001 ABS Census, shows the number of jobless families with children under 15 years of age. There were fewer jobless families in the Central Wheatbelt DGP (16.1%), compared to country Western Australia as a whole (17.6%) (Figure 5, Table 2).

With the introduction of the 30% rebate for private health insurance premiums, there was a once-off registration process, providing information of the postcode and residence of those who had such insurance (these data are not available at this area level for later dates). In 2001, the Division had a notably higher proportion of people with private health insurance (35.7%), compared to country Western Australia (30.3%) (Figure 5, Table 2).

Figure 5: Socio-demographic indicators, Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 2001

Jobless families with children under 15 years old



Private health insurance, 30 June

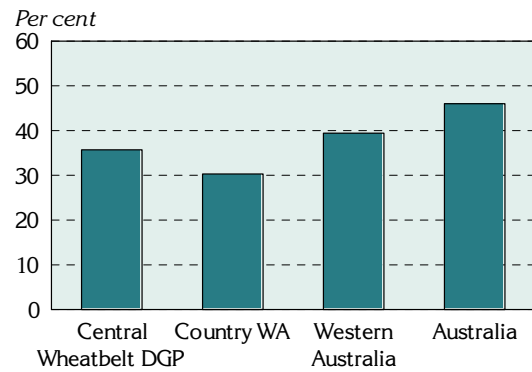
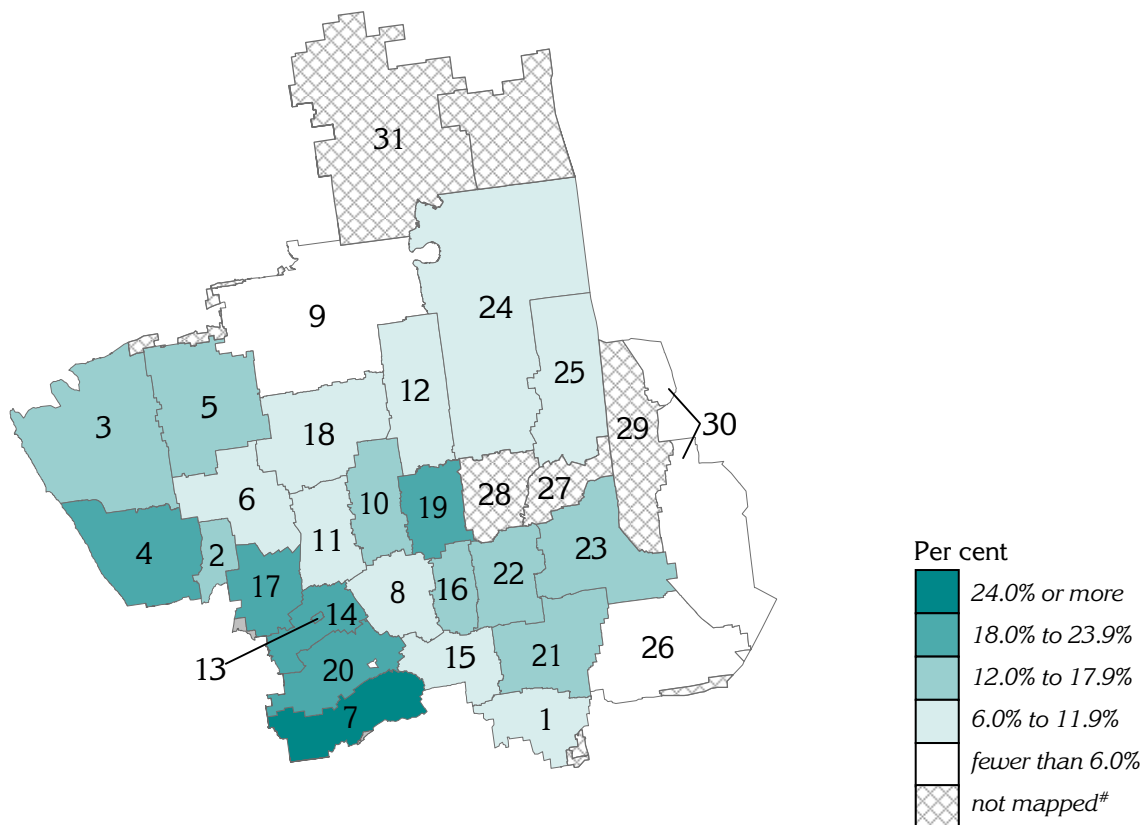


Table 2: Socio-demographic indicators, Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 2001

Indicator	Central Wheatbelt DGP		Country WA		Western Australia		Australia	
	No.	%	No.	%	No.	%	No.	%
Jobless families with children under 15 years old	859	16.1	10,142	17.6	34,396	16.8	357,563	17.4
Private health insurance (30 June)	15,196	35.7	148,821	30.3	708,743	39.4	8,671,106	46.0

Details of the distribution of jobless families (Map 1) and of the population covered by private health insurance (Map 2) are shown by Statistical Local Area (SLA) in Maps 1 and 2, respectively.

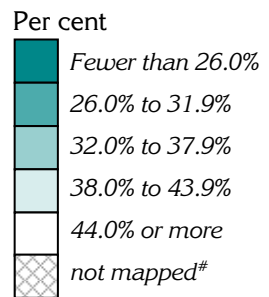
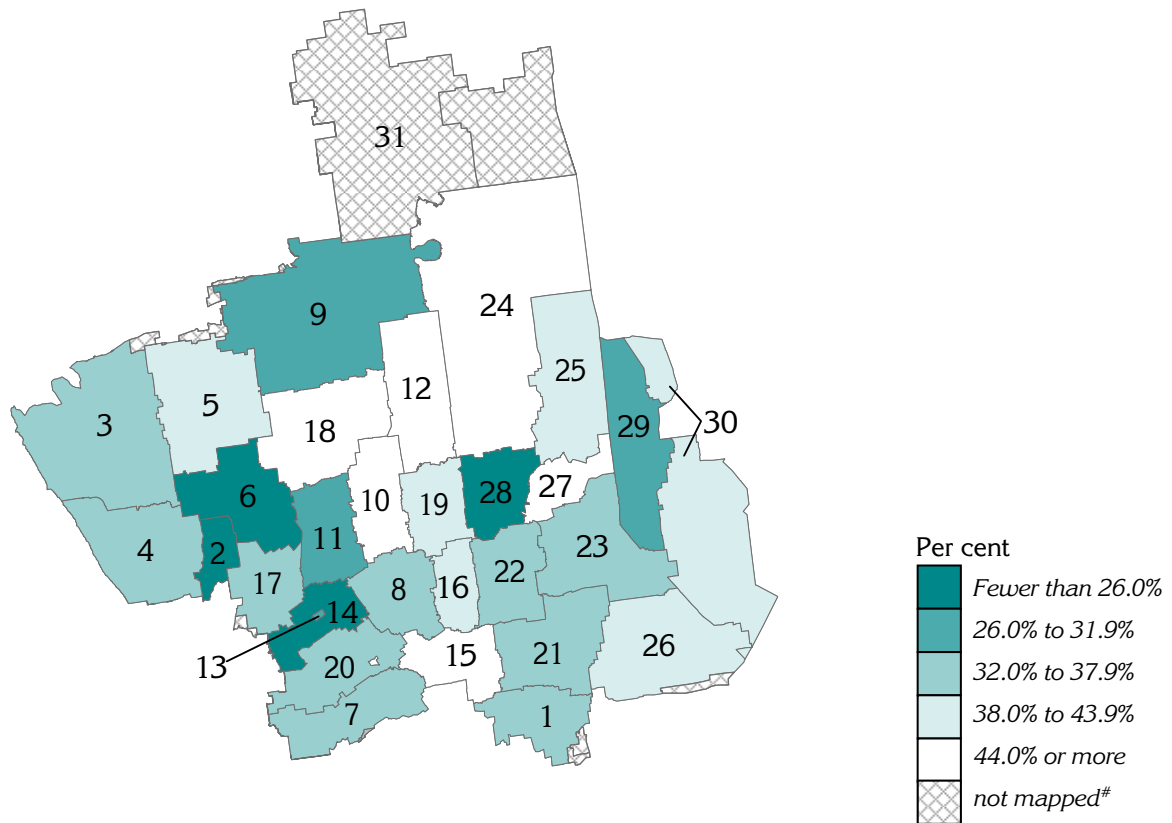
Map 1: Jobless families with children under 15 years of age by SLA, Central Wheatbelt DGP, 2001



For map labels: see next page

data were not mapped: see 'Mapping' note under Methods

Map 2: People covered by private health insurance by SLA, Central Wheatbelt DGP, 30 June 2001



data were not mapped: see 'Mapping' note under Methods

Alphabetical key to Statistical Local Areas, Central Wheatbelt DGP, 2001

Beverley	7	Narembeen	26
Bruce Rock	21	Northam (Town)	13
Chittering	2	Northam (Shire)	14
Corrigin	1	Nungarin	27
Cunderdin	8	Quairading	15
Dalwallinu	9	Tammin	16
Dandaragan	3	Toodyay	17
Dowerin	10	Trayning	28
Gingin	4	Victoria Plains	6
Goomalling	11	Westonia	29
Kellerberrin	22	Wongan-Ballidu	18
Koorda	12	Wyalkatchem	19
Merredin	23	Yalgoo	31
Moora	5	Yilgarn	30
Mount Marshall	24	York	20
Mukinbudin	25		

GP services to residents of the Central Wheatbelt DGP

The following tables include information, purchased from Medicare Australia, of the movement of patients and GPs between Divisions. Note that the data only include unreferral attendances recorded under Medicare: unreferral attendances not included are those for which the cost is met by the Department of Veterans' Affairs or a compensation scheme; or are provided by salaried medical officers in hospitals, community health services or Aboriginal Medical Services, and which are not billed to Medicare. At any attendance, one or more services may have been provided.

Just over three quarters (76.0%) of all unreferral attendances to residents of the Central Wheatbelt DGP were provided in the Division (ie. by a GP with a provider number in the Division): this represented 146,594 GP unreferral attendances (Table 3). A further 6.9% of unreferral attendances to residents were provided by GPs with a provider number in Perth & Hills DGP, with 5.3% provided by GPs in Osborne DGP.

Table 3: Patient flow – People living¹ in Central Wheatbelt DGP by Division where attendance occurred², 2003/04

Division		Unreferral attendances	
Number	Name	No.	% ³
615	Central Wheatbelt DGP	146,594	76.0
601	Perth & Hills DGP	13,397	6.9
603	Osborne DGP	10,165	5.3
604	Canning DGP	5,036	2.6
602	Perth Central Coast DGP	4,761	2.5
605	Fremantle Regional DGP	3,820	2.0
612	Mid West DGP	1,885	1.0
Other	..	7,141	3.7
Total	..	192,799	100.0

¹ Based on address in Medicare records

² Division of GP based on provider number

³ Proportion of all unreferral attendances of patients with an address in Division 615 by Division in which attendance occurred

The majority (89.9%) of unreferral attendances provided by GPs with a provider number in Central Wheatbelt DGP were also to people living in the Division (ie. their Medicare address was in the Division) (Table 4). A further 2.5% of unreferral attendances by GPs in the Division were to people living in Perth & Hills DGP, with 1.8% of unreferral attendances provided to residents of Great Southern DGP.

Table 4: GP catchment – Unreferral attendances provided by GPs¹ in Central Wheatbelt DGP by Division of patient address², 2003/04

Division		Unreferral attendances	
Number	Name	No.	% ³
615	Central Wheatbelt DGP	146,594	89.9
601	Perth & Hills DGP	4,032	2.5
609	Great Southern DGP	2,906	1.8
604	Canning DGP	1,661	1.0
612	Mid West DGP	1,645	1.0
Other	..	6,241	3.8
Total	..	163,079	100.0

¹ Division of GP based on provider number

² Based on address in Medicare records

³ Proportion of all unreferral attendances to GPs with a provider number in Division 615 by Division of patient address

Additional prevalence estimates: chronic diseases and risk factors combined

Please refer to the earlier *Population health profile of the Central Wheatbelt Division of General Practice*, dated November 2005, available from www.publichealth.gov.au, for the separate prevalence estimates of chronic disease; measures of self-reported health and risk factors. The process by which the estimates have been made, and details of their limitations, are also described in the 'Notes on the data' section of this earlier profile.

In this section two estimates, which combine the prevalence of selected chronic diseases with a risk factor, are shown for the Division. The measures are of people who *had asthma and were smokers*, and people who *had type 2 diabetes and were overweight or obese*: note that the estimates have been predicted from self-reported data, and are not based on clinical records or physical measures.

It is estimated that there were relatively more people in Central Wheatbelt DGP who had asthma and were smokers, compared to Australia as a whole (Figure 6, Table 5): that is, the prevalence rates per 1,000 population were higher. However, the rate in the Division was consistent with that for country Western Australia. There were relatively fewer people in Central Wheatbelt DGP who had type 2 diabetes and were overweight/ obese compared to country Western Australia or Australia.

Figure 6: Estimates of selected chronic diseases and risk factors, Central Wheatbelt DGP, country Western Australia and Australia, 2001



Table 5: Estimates of selected chronic diseases and risk factors, Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 2001

Variable	Central Wheatbelt DGP		Country WA		Western Australia		Australia	
	No. ¹	Rate ²	No. ¹	Rate ²	No. ¹	Rate ²	No. ¹	Rate ¹
Had asthma & smoked ³	1,039	25.0	11,045	25.2	38,731	21.1	397,734	20.8
Had type 2 diabetes & were overweight/ obese ⁴	560	11.7	5,869	13.2	25,290	15.0	283,176	15.2

¹ No. is a weighted estimate of the number of people in Central Wheatbelt DGP reporting these chronic conditions/ with these risk factors and is derived from synthetic predictions from the 2001 NHS

² Rate is the indirectly age-standardised rate per 1,000 population

³ Population aged 18 years and over

⁴ Population aged 15 years and over

Avoidable hospitalisations: hospital admissions resulting from ambulatory care sensitive conditions

The rationale underlying the concept of avoidable hospitalisations is that timely and effective care of certain conditions, delivered in a primary care setting, can reduce the risk of hospitalisation. Admissions to hospital for these ambulatory care sensitive (ACS) conditions can be avoided in three ways. Firstly, for conditions that are usually preventable through immunisation or nutritional intervention, disease can be prevented almost entirely. Secondly, diseases or conditions that can lead to rapid onset problems, such as dehydration and gastroenteritis, can be treated. Thirdly, chronic conditions, such as congestive heart failure, can be managed to prevent or reduce the severity of acute flare-ups to avoid hospitalisation.

This measure does not include other aspects of avoidable morbidity, namely potentially preventable hospitalisations (hospitalisations resulting from diseases preventable through population based health promotion strategies, e.g. alcohol-related conditions; and most cases of lung cancer) and hospitalisations avoidable through injury prevention (e.g. road traffic accidents).

For information on the ambulatory care sensitive conditions and ICD codes included in the analysis in this section, please refer to the *Atlas of Avoidable Hospitalisations in Australia: ambulatory care-sensitive conditions*, available from www.publichealth.gov.au.

In 2001 to 2002, the 1,674 admissions from ambulatory care sensitive (ACS) conditions accounted for 10.2% of all admissions in the Central Wheatbelt DGP (Table 6, Figure 7), notably above the levels in Western Australia (8.8) and Australia (8.7%).

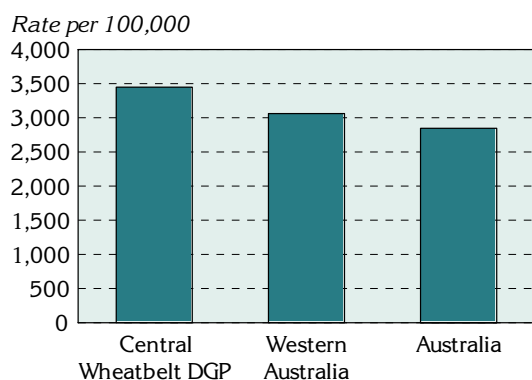
Table 6: Avoidable¹ and unavoidable hospitalisations, Central Wheatbelt DGP, Western Australia, and Australia, 2001/02

Category	Central Wheatbelt DGP			Western Australia			Australia		
	No.	Rate ²	%	No.	Rate ²	%	No.	Rate ²	%
Avoidable ¹	1,674	3,447.6	10.2	55,102	3,062.4	8.8	552,786	2,847.5	8.7
Unavoidable	14,683	30,369.9	89.8	568,402	31,010.0	91.2	5,818,199	29,970.7	91.3
Total	16,358	33,819.8	100.0	623,504	34,070.5	100.0	6,370,985	32,818.2	100.0

¹ Admissions resulting from ACS conditions

² Rate is the indirectly age-standardised rate per 100,000 population

Figure 7: Avoidable hospitalisations¹, Central Wheatbelt DGP, Western Australia and Australia, 2001/02



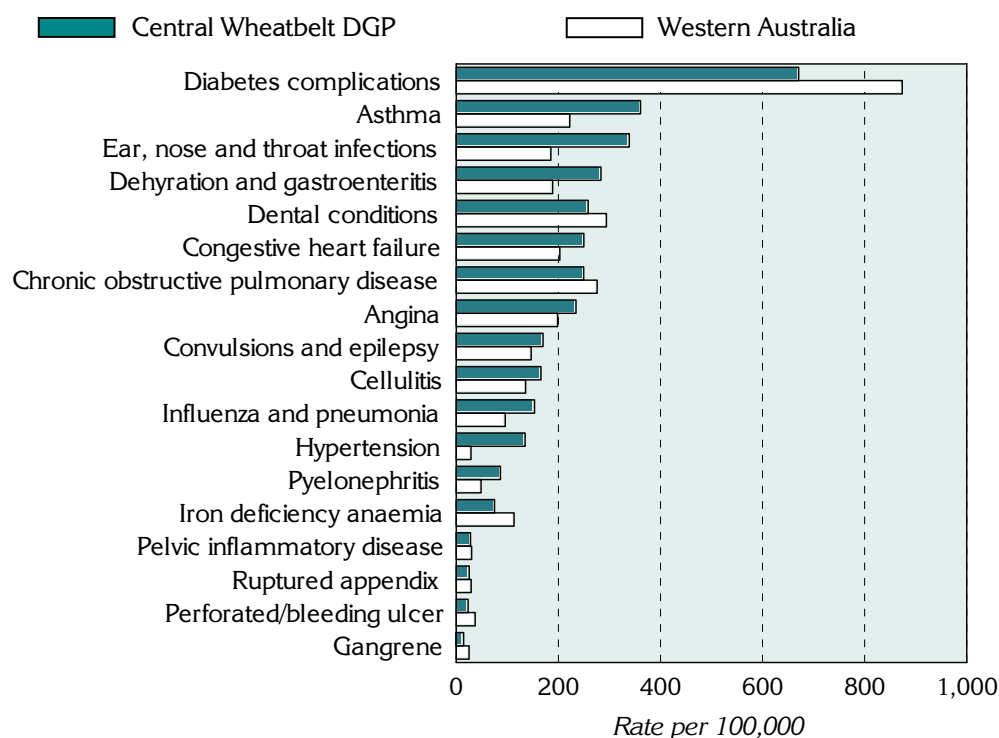
The rate of avoidable hospitalisations in Central Wheatbelt DGP is notably higher, a rate of 3,447.6 admissions per 100,000 population, compared to both Western Australia (a rate of 3,062.4) and Australia (2,847.5).

¹ Admissions resulting from ACS conditions

Diabetes complications; asthma; ear, nose and throat infections; and dehydration and gastroenteritis had the highest rates of avoidable hospitalisations in the Central Wheatbelt DGP (Figure 8, Table 7). Of note is the relatively lower rate in the Division, when compared with Western Australia as a whole, for diabetes complications: this is in contrast to the higher rates for the other conditions.

Table 7 shows the number, rate and proportion of avoidable hospitalisations, for the individual ACS conditions, as well as the vaccine-preventable; acute; and chronic sub-categories. The majority of avoidable hospitalisations are attributable to chronic health conditions. The predominance of hospitalisations for chronic conditions in this period can be primarily attributed to the large number of admissions for diabetes complications. Ear, nose and throat infections, and, dehydration and gastroenteritis, have the highest rates of avoidable hospitalisations for the acute conditions.

Figure 8: Avoidable hospitalisations¹ by condition, Central Wheatbelt DGP and Western Australia, 2001/02



¹ Admissions resulting from ACS conditions: excludes nutritional deficiencies as less than ten admissions, and other vaccine-preventable conditions as number of admissions insufficient

Table 7: Avoidable hospitalisations¹ by condition, Central Wheatbelt DGP, Western Australia and Australia, 2001/02

Sub-category/ condition	Central Wheatbelt DGP		Western Australia		Australia	
	No.	Rate ²	No.	Rate ²	No.	Rate ²
Vaccine-preventable	75	153.4	2,018	110.7	16,573	85.4
Influenza and pneumonia	75	153.4	1,743	96.2	13,021	67.1
Other vaccine preventable	#	..	275	14.5	3,552	18.3
Chronic³	955	1,976.2	33,628	1,915.6	352,545	1,816
Diabetes complications	329	670.8	15,323	873.6	141,345	728.1
Iron deficiency anaemia	35	75.0	2,009	113.4	16,451	84.7
Hypertension	63	134.9	510	29.0	6,354	32.7
Congestive heart failure	111	250.2	3,400	202.9	42,447	218.6
Angina	114	234.7	3,452	198.5	49,963	257.4
Chronic obstructive pulmonary disease	119	249.6	4,707	275.9	54,853	282.6
Asthma	184	361.0	4,227	222.3	41,009	211.3
Acute	683	1,395.2	21,021	1,121.4	200,913	1,035
Dehydration and gastroenteritis	132	283.6	3,443	188.7	37,766	194.5
Convulsions and epilepsy	85	170.1	2,779	146.7	31,137	160.4
Ear, nose and throat infections	173	339.1	3,550	185.3	32,075	165.2
Dental conditions	132	258.3	5,623	294.3	43,667	224.9
Perforated/bleeding ulcer	11	23.4	645	37.1	5,795	29.9
Ruptured appendix	12	25.6	566	29.4	3,866	19.9
Pyelonephritis	39	86.8	914	48.7	7,386	38.0
Pelvic inflammatory disease	12	28.0	577	30.2	6,547	33.7
Cellulitis	80	165.9	2,484	135.9	28,204	145.3
Gangrene	7	14.4	440	25.1	4,470	23.0
Total avoidable hospitalisations⁴	1,674	3,447.6	55,102	3,062.4	552,786	2,847.5

¹ Admissions resulting from ACS conditions

² Rate is the indirectly age-standardised rate per 100,000 population

³ Excludes nutritional deficiencies as less than ten admissions

⁴ Sub-category and condition numbers and rates do not add to the reported total avoidable admissions: five conditions (influenza & pneumonia, other vaccine preventable, diabetes complications, ruptured appendix and gangrene) are counted in 'any diagnosis', so may be included in more than one condition group

Not shown or not calculated as there are fewer than five admissions over the period

Avoidable mortality

Avoidable and amenable mortality comprises those causes of death that are potentially avoidable at the present time, given available knowledge about social and economic policy impacts, health behaviours, and health care (the latter relating to the subset of amenable causes).

For information on the avoidable and amenable mortality conditions and ICD codes included in the analysis in this section, please refer to the *Australian and New Zealand Atlas of Avoidable Mortality*, available from www.publichealth.gov.au.

Almost three quarters (74.1%) of all deaths in Central Wheatbelt DGP at ages 0 to 74 years over the period 1997 to 2001 are considered to be avoidable, higher than the proportion for country Western Australia (72.7%) (Table 8). However, the rate in the Division is notably higher than that in country Western Australia, a differential of 0.88.

Deaths amenable to health care (amenable mortality, a subset of avoidable mortality) accounted for 28.1% of all deaths at ages 0 to 74 years in Central Wheatbelt DGP, compared to 27.6% in country Western Australia.

Table 8: Avoidable and unavoidable mortality (0 to 74 years) by area, Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 1997 to 2001

Mortality category	Central Wheatbelt DGP		Country WA		Western Australia		Australia	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹
Avoidable	491	205.1	5,122	233.8	16,602	201.0	189,845	211.8
% of total	74.1	..	72.7	..	71.2	..	71.5	..
(Amenable)	(186)	(77.4)	(1,943)	(89.6)	(6,517)	(79.6)	(76,249)	(85.1)
(% of total)	(28.1)	(..)	(27.6)	(..)	(28.0)	(..)	(28.7)	(..)
Unavoidable	172	71.7	1,925	88.3	6,708	81.6	75,582	84.3
% of total	25.9	..	27.3	..	28.8	..	28.5	..
Total mortality	663	276.7	7,047	322.1	23,310	282.6	265,427	296.1
%	100.0	..	100.0	..	100.0	..	100.0	..

¹ Rate is the indirectly age-standardised rate per 100,000 population

Rates of avoidable mortality were higher for males than for females in each of the comparator areas. Central Wheatbelt DGP's rate of avoidable mortality for males was 271.7 deaths per 100,000 males, higher than the rate of 136.0 for females. Similarly, the rate of amenable mortality for males in the Division was higher, 88.1, compared to 66.1, for females, a rate ratio of 1.33 (Figure 9, Table 9).

Figure 9: Avoidable and amenable mortality by sex (0 to 74 years), Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 1997 to 2001

Note: the different scales



Table 9: Avoidable and amenable mortality (0 to 74 years) by sex, Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 1997 to 2001

Mortality category and sex	Central Wheatbelt DGP		Country WA		Western Australia		Australia	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹
Avoidable								
Males	347	271.7	3,426	297.9	10,850	258.3	123,026	272.6
Females	144	136.0	1,696	169.3	5,752	142.9	66,819	150.1
Total	491	205.1	5,122	233.8	16,602	201.0	189,845	211.8
Rate ratio–M:F²	..	2.00**	..	1.76**	..	1.81**	..	1.82**
Amenable								
Males	115	88.1	1,130	98.6	3,646	87.7	42,568	94.3
Females	71	66.1	813	80.6	2,871	71.3	33,681	75.7
Total	186	77.4	1,943	89.6	6,517	79.6	76,249	85.1
Rate ratio–M:F²	..	1.33	..	1.22**	..	1.23**	..	1.25**

¹ Rate is the indirectly age-standardised rate per 100,000 population

² Rate ratio (M:F) is the ratio of male to female rates; rate ratios differing significantly from 1.0 are shown with * p < 0.05; ** p < 0.01

Another way of measuring premature mortality is to calculate the number of years of life lost (YLL)¹, which takes into account the years a person could have expected to live at each age of death based on the average life expectancy at that age.

The numbers of YLL for Central Wheatbelt DGP, country Western Australia, Western Australia and Australia over the period of analysis are shown in Table 10 by mortality category. However, given the substantial variation in the populations of these areas, a comparison of the proportion of YLL for each area is also shown.

YLL from avoidable mortality accounted for 74.7% of total YLL (0 to 74 years) for Central Wheatbelt DGP, higher than the 73.2% for country Western Australia. The proportion of YLL from amenable mortality of 26.8% for Central Wheatbelt DGP was consistent with the 26.5% for country Western Australia.

Table 10: Years of life lost from avoidable mortality (0 to 74 years), Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 1997 to 2001

Mortality category	Central Wheatbelt DGP		Country WA		Western Australia		Australia	
	No.	% of total	No.	% of total	No.	% of total	No.	% of total
Avoidable	9,008	74.7	95,572	73.2	300,008	71.7	3,327,375	71.9
(Amenable)	(3,227)	(26.8)	(34,657)	(26.5)	(113,010)	(27.0)	(1,298,430)	(28.0)
Unavoidable	3,055	25.3	35,020	26.8	118,618	28.3	1,303,289	28.1
Total	12,063	100.0	130,592	100.0	418,625	100.0	4,630,664	100.0

¹ Years of life lost were calculated using the remaining life expectancy method (this provides an estimate of the average time a person would have lived had he or she not died prematurely). The reference life table was the Coale and Demeny Model Life Table West level 26 female (for both males and females), with the YLL discounted to net present value at a rate of 3 per cent per year.

In each of the areas in Table 11, the majority of avoidable mortality at ages 0 to 74 years occurred in the 65 to 74 year age group (Table 11), with 1,201.3 deaths per 100,000 population in the Central Wheatbelt Division. The 45 to 64 year age group accounted for the next highest rate of avoidable death in all of the comparators, with a rate 275.8 in the Central Wheatbelt Division.

Table 11: Avoidable and amenable mortality by age, Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 1997 to 2001

Mortality category and age (years)	Central Wheatbelt DGP		Country WA		Western Australia		Australia	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹
Avoidable								
0-14	11	19.7	196	32.5	548	27.9	5,669	28.8
15-24	38	145.0	309	96.4	826	60.7	7,045	52.8
25-44	70	96.4	883	110.1	2,479	85.3	24,356	83.9
45-64	169	275.8	1,718	325.2	5,546	275.2	64,282	304.9
65-74	202	1,201.3	2,016	1360.4	7,203	1282.7	88,493	1,358.1
Total	491	205.1	5,122	233.8	16,602	201.0	189,845	211.8
Amenable								
0-24	11	12.4	153	15.6	454	13.8	5,083	15.4
25-44	18	25.2	223	28.3	594	20.5	5,946	20.5
45-64	69	112.8	706	135.1	2,381	118.5	27,464	130.3
65-74	88	528.9	861	585.9	3,088	550.9	37,756	579.4
Total	186	77.4	1,943	89.6	6,517	79.6	76,249	85.1

¹ Rate is the indirectly age-standardised rate per 100,000 population

Table 12 shows the number and age-standardised death rate by selected major condition group and selected causes included in the avoidable mortality classification.

The highest rates of avoidable mortality for the selected major condition groups in the Central Wheatbelt DGP were for cancer, with a rate of 65.7 deaths per 100,000 population, and cardiovascular diseases, 56.6 deaths per 100,000 population (Table 12, Figure 10). For the selected causes within the condition groups, the two major causes of avoidable mortality were ischaemic heart disease and road traffic injuries, with rates of 43.9 per 100,000 population and 25.9 per 100,000, respectively.

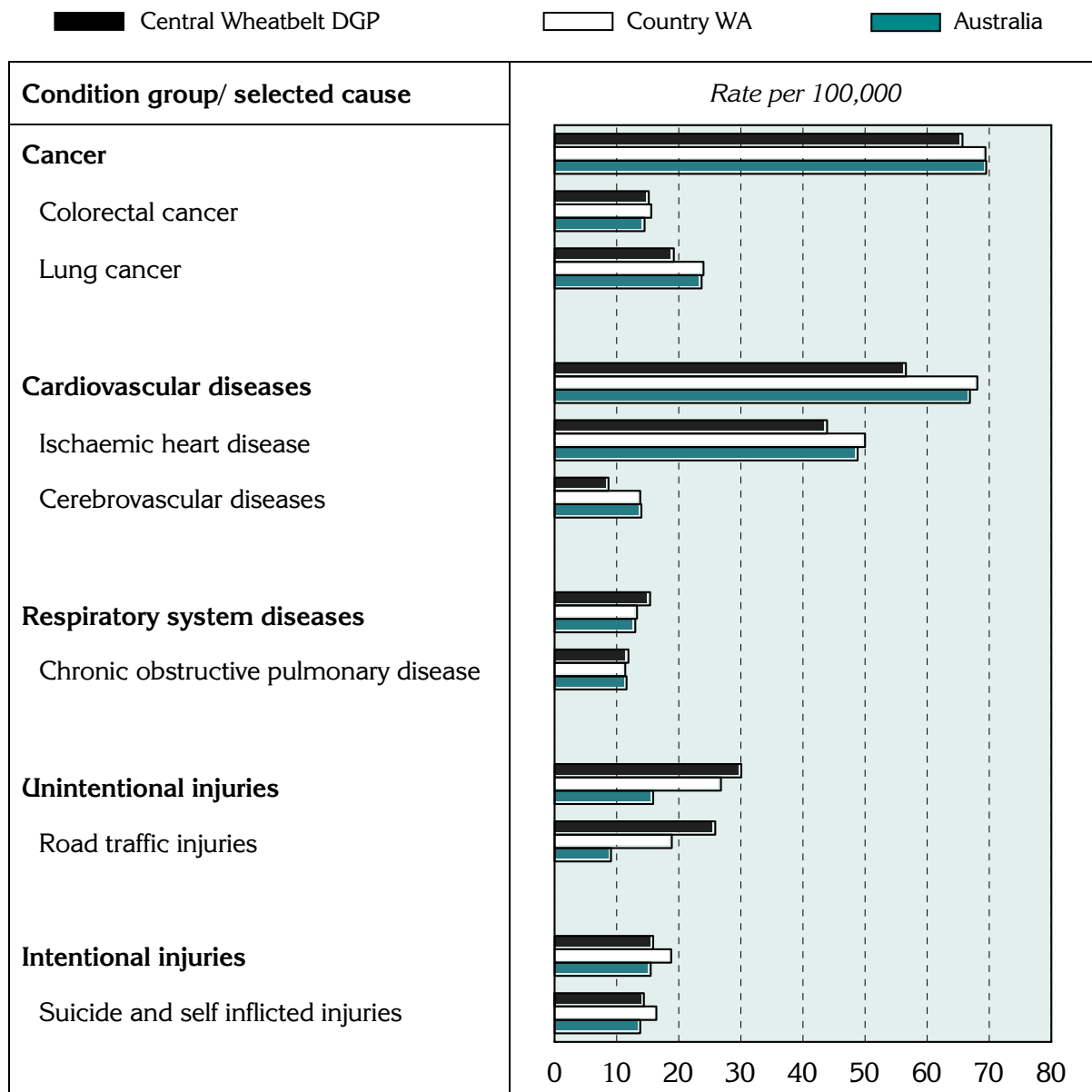
Table 12: Avoidable mortality (0 to 74 years) by major condition group and selected cause, Central Wheatbelt DGP, country Western Australia, Western Australia and Australia, 1997 to 2001

Condition group/ selected cause	Central Wheatbelt DGP		Country WA		Western Australia		Australia	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹
Cancer	160	65.7	1,488	69.4	5,531	67.8	62,338	69.5
Colorectal cancer	37	15.2	335	15.6	1,189	14.6	13,008	14.5
Lung cancer	48	19.2	515	24.0	1,842	22.8	21,208	23.7
Cardiovascular diseases	137	56.6	1,456	68.1	4,750	58.9	59,945	66.9
Ischaemic heart disease	108	43.9	1,075	50.0	3,469	42.9	43,712	48.8
Cerebrovascular diseases	21	8.7	289	13.8	1,000	12.5	12,558	14.0
Respiratory system diseases	37	15.4	278	13.3	871	11.0	11,612	13.0
Chronic obstructive pulmonary disease	28	11.9	238	11.4	748	9.5	10,395	11.6
Unintentional injuries	67	30.1	626	26.8	1,549	17.5	14,224	15.9
Road traffic injuries	57	25.9	439	18.9	918	10.3	8,138	9.1
Intentional injuries	36	15.9	444	18.8	1,412	15.9	13,891	15.5
Suicide and self inflicted injuries	32	14.4	386	16.4	1,270	14.3	12,393	13.8

¹ Rate is the indirectly age-standardised rate per 100,000 population

Rates in the Division for the condition groups and selected causes for cancer and cardiovascular diseases were below the rates for country Western Australia and Australia other than for colorectal cancer where rates were consistent with those for the comparators (Figure 10). For respiratory system diseases and the injury condition groups and selected causes rates in the Division were above those for Australia with the exception of COPD (where the rates were consistent): they were also above the rates for country Western Australia, other than for intentional injuries and suicide and self inflicted injuries.

Figure 10: Avoidable mortality (0 to 74 years) by major condition group and selected cause, Central Wheatbelt DGP, country Western Australia and Australia, 1997 to 2001



Notes on the data

Data sources and limitations

General

References to 'country Western Australia' relate to Western Australia excluding the Perth Statistical Division.

Data sources

Table 13 details the data sources for the material presented in this profile.

Table 13: Data sources

Section	Source
Population	
Figures 1 and 2; Table 1	Estimated Resident Population, ABS, 30 June for the periods shown
Figure 3	Estimated Resident Population, ABS, 30 June 2005; Population Projections, ABS, 30 June 2020 (unpublished) ¹
Additional socio-demographic indicators	
Figure 4	ABS SEIFA package, Census 2001
Table 2; Figure 5; Map 1	Jobless families, ABS, 2001 (unpublished)
Table 2; Figure 5; Map 2	Private health insurance, from Hansard
GP services – patient flow/ GP catchment	
Tables 3 and 4	Medicare Australia, 2003/04
Additional prevalence estimates: chronic diseases and risk factors combined	
Figure 6; Table 5	Estimated from 2001 National Health Survey (NHS), ABS (unpublished)
Avoidable hospitalisations: hospital admissions resulting from ambulatory care sensitive conditions	
Tables 6 and 7; Figures 7 and 8	National Hospital Morbidity Database at Australian Institute of Health & Welfare, 2001/02; data produced in HealthWIZ by Prometheus Information (not available in public release dataset)
Avoidable mortality	
Tables 8, 9, 10, 11 and 12; Figures 9 and 10	ABS Deaths 1997-2001; data produced in HealthWIZ by Prometheus Information (not available in public release dataset)

¹ The projected population at June 2020 is based on the 2002 ERP. As such, it is somewhat dated, and does not take into account more recent demographic trends: it is however the only projection series available at the SLA level for the whole of Australia.

Methods

For background information on the additional prevalence estimates presented in this profile, please refer to the 'Notes on the data' section of the *Population health profile*, November 2005 (www.publichealth.gov.au).

Please also refer to the November 2005 profile for information on the data converters.

Mapping

In some Divisions the maps may include a very small part of an SLA which has not been allocated any population; or has a population of less than 100 or has less than 1% of the SLAs total population; or there were less than five cases (ie. jobless families, people with health insurance): these areas are mapped with a pattern.

Statistical geography of the Central Wheatbelt DGP

For information on the postcodes in the Division, please refer the Department of Health and Ageing website <http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-divisions-divspc.htm>; also included in table format in the 'Notes on the data' section of the *Population health profile*, November 2005 (www.publichealth.gov.au).

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, SLAs are equivalent to local government areas. All or parts of the SLAs listed in Table 14 comprise the Division.

Table 14: SLAs and population in Central Wheatbelt DGP, 2005 on 2001 boundaries

SLA code	SLA name	Per cent of the SLA's population in the Division *	Estimate of the SLA's 2005 population in the Division
50560	Beverley	100.0	1,582
51120	Bruce Rock	100.0	1,006
51680	Chittering	36.3	1,281
52100	Corrigin	91.1	1,061
52450	Cunderdin	100.0	1,255
52520	Dalwallinu	100.0	1,507
52590	Dandaragan	52.8	1,536
52940	Dowerin	100.0	790
53570	Gingin	100.0	4,574
53710	Goomalling	100.0	959
54410	Kellerberrin	100.0	1,151
54690	Koorda	100.0	450
55460	Merredin	100.0	3,428
55600	Moora	100.0	2,574
55880	Mount Marshall	100.0	615
55950	Mukinbudin	100.0	637
56370	Narembeen	100.0	909
56650	Northam (Town)	100.0	6,227
56720	Northam (Shire)	100.0	3,715
56860	Nungarin	100.0	271
57350	Quairading	88.3	895
58190	Tammin	100.0	438
58330	Toodyay	79.0	3,409
58400	Trayning	100.0	345
58540	Victoria Plains	100.0	927
59030	Westonia	100.0	238
59310	Wongan-Ballidu	100.0	1,462
59450	Wyalkatchem	100.0	652
59590	Yalgoo	13.5	#
59660	Yilgarn	13.2	204
59730	York	100.0	3,342

* 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

Not shown as the total population is less than 100

Acknowledgements

Funding for these profiles was provided by the Population Health Division of the Department of Health and Ageing (DoHA).

Further developments and updates

When the re-aligned boundaries are released and DoHA have made known their geographic composition, PHIDU will examine the need to revise and re-publish these profiles (*Population health profile*, dated November 2005, and the *Population health profile: supplement*, dated March 2007).

PHIDU contact details

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