

# Population health profile of the Barwon

## Division of General Practice: supplement

Population Profile Series: No. 29a

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Australian Government

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

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# Population health profile of the Barwon Division of General Practice: supplement

This profile is a supplement to the *Population health profile of the Barwon Division of General Practice*, dated November 2005, available from [www.publichealth.gov.au](http://www.publichealth.gov.au). This supplement includes an update of the population of the Barwon 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:

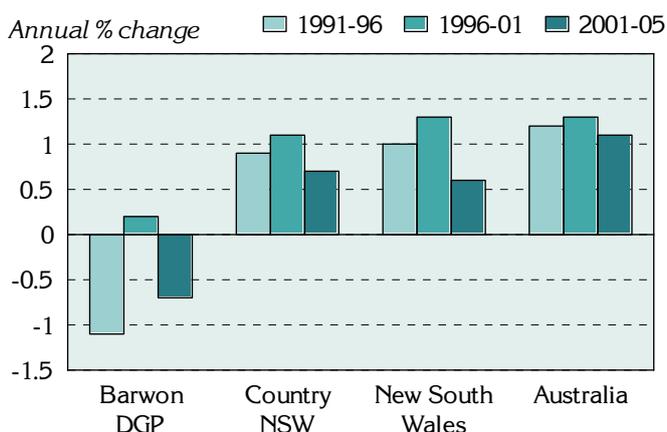
- Population [updated to June 2005]
- Additional socio-demographic indicators
- Unreferred attendances – patient flow/ GP catchment
- Additional prevalence estimates: chronic diseases and risk factors combined
- Avoidable hospitalisations: hospital admissions resulting from ambulatory care sensitive 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](http://www.publichealth.gov.au)).

## Population

The Barwon Division had an Estimated Resident Population of 54,141 at 30 June 2005.

**Figure 1: Annual population change, Barwon DGP, country New South Wales, New South Wales and Australia, 1991 to 1996, 1996 to 2001 and 2001 to 2005**



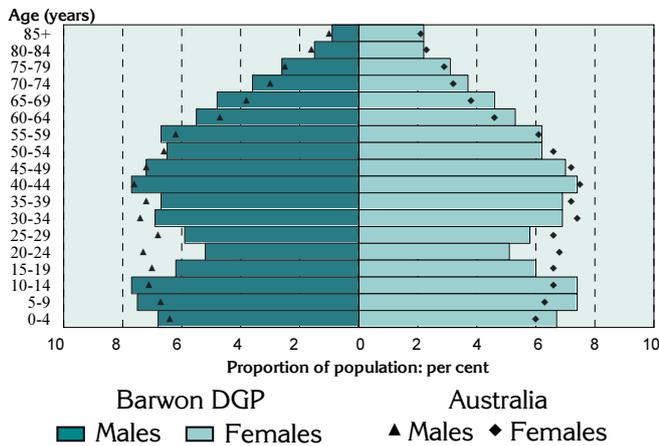
Over the five years from 1991 to 1996, the Division's population decreased by 1.1% on average each year, compared with growth in country New South Wales (0.9%), New South Wales (1.0%), and Australia (1.2%). From 1996 to 2001, the annual percentage increase was 0.2%, substantially lower than for country New South Wales (1.2%) and New South Wales (1.3%). The decline of 0.7% from 2001 to 2005 was again in contrast to the growth in country New South Wales (0.7%), New South Wales (0.6%), and Australia (1.1%).

**Table 1: Population by age, Barwon DGP and Australia, 2005**

Age group (years)	Barwon DGP		Australia	
	No.	%	No.	%
0-14	11,746	21.7	3,978,221	19.6
15-24	6,083	11.2	2,819,834	13.9
25-44	14,697	27.1	5,878,107	28.9
45-64	13,703	25.3	4,984,446	24.5
65-74	4,544	8.4	1,398,831	6.9
75-84	2,547	4.7	954,143	4.7
85+	821	1.5	315,027	1.5
<b>Total</b>	<b>54,141</b>	<b>100.0</b>	<b>20,328,609</b>	<b>100.0</b>

As shown in the accompanying table and the age-sex pyramid below (Figure 2), Barwon DGP had a higher proportion of its population aged 0 to 14 years (21.7%) compared to Australia (19.6%): however, there were lower proportions at ages 15 to 24 and 25 to 44 years (11.2% and 27.1%) compared to Australia (13.9% and 28.9%, respectively). Conversely, the 45 to 74 years age groups had higher proportions compared to Australia as a whole.

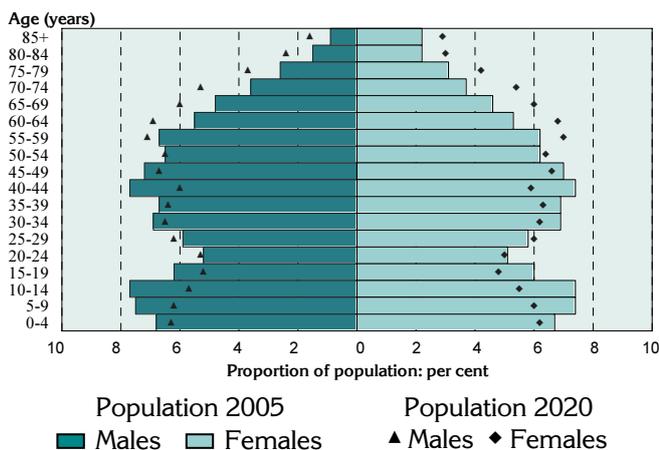
**Figure 2: Population in Barwon DGP and Australia, by age and sex, 2005**



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

- at younger ages – relatively more children at ages 0 to 14 years;
- from 15 to 39 years – substantially fewer people (perhaps with people moving away to continue education, or to seek employment opportunities); and
- at 55 to 79 years – relatively more males and, from age 60, females.

**Figure 3: Population projections for Barwon DGP, by age and sex, 2005 and 2020**



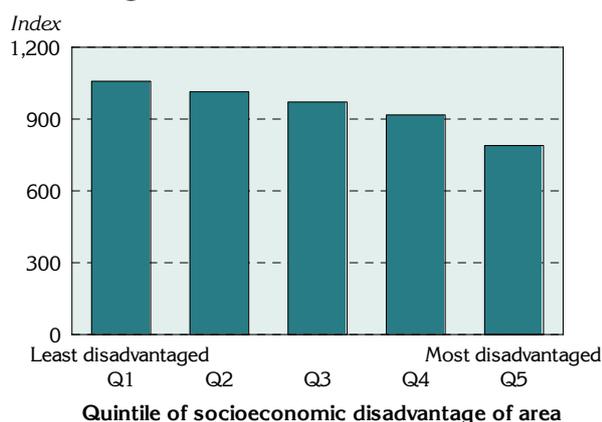
The population projections for the Division show a number of changes in age distribution, with the 2020 population projected to have:

- at younger ages – generally fewer males and females aged 0 to 19 years and 30 to 49 years; and
- from ages 55 years and over – relatively more males and females (most pronounced at ages 60 to 74 years, and for the 85+ age group).

## Additional socio-demographic indicators

Please refer to the earlier *Population health profile of the Barwon Division of General Practice*, dated November 2005, available from [www.publichealth.gov.au](http://www.publichealth.gov.au), for other socio-demographic indicators.

**Figure 4: Index of Relative Socio-Economic Disadvantage, Barwon DGP, 2001**



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

The Barwon DGP has an index score of 950, below the score for Australia of 1000: this score varies widely across the Division, from a low of 789 in the most disadvantaged areas to 1058 in the least disadvantaged areas.

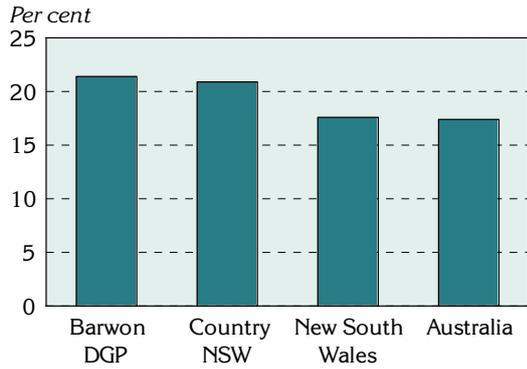
Note: each 'quintile' comprises approximately 20% of the population of the Division.

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. The proportion of jobless families in the Barwon DGP (21.4%) was slightly higher than for country New South Wales as a whole (20.9%), (Figure 5, Table 2).

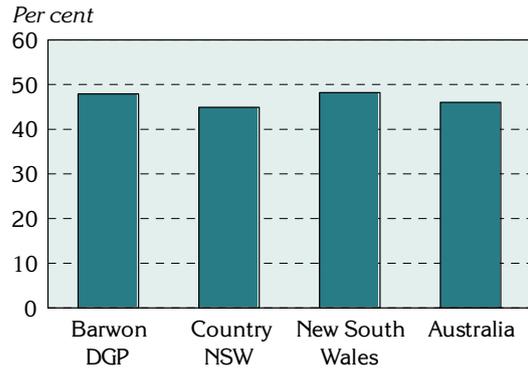
With the introduction of the 30% rebate for private health insurance premiums, there was a once-off registration process, providing information of the postcode and residence of those who had such insurance (these data are not available at this area level for later dates). In 2001, the Division had a higher proportion of the population with private health insurance (47.9%), compared to country New South Wales (44.9%) (Figure 5, Table 2).

**Figure 5: Socio-demographic indicators, Barwon DGP, country New South Wales, New South Wales and Australia, 2001**

**Jobless families with children under 15 years old**



**Private health insurance, 30 June**

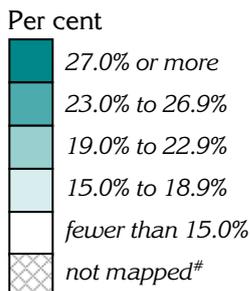
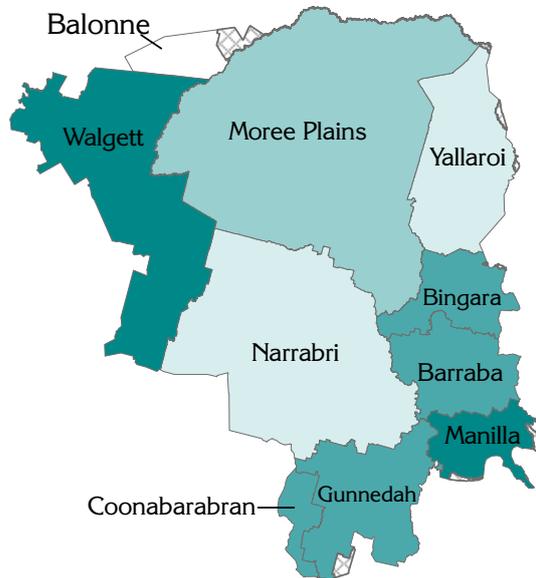


**Table 2: Socio-demographic indicators, Barwon DGP, country New South Wales, New South Wales and Australia, 2001**

Indicator	Barwon DGP		Country NSW		New South Wales		Australia	
	No.	%	No.	%	No.	%	No.	%
Jobless families with children under 15 years old	1,329	21.4	54,883	20.9	121,409	17.6	357,563	17.4
Private health insurance (30 June)	25,421	47.9	1,061,580	44.9	3,062,382	48.2	8,671,106	46.0

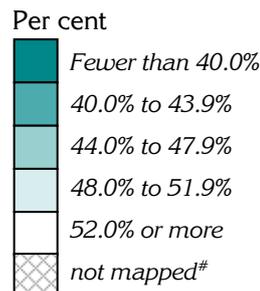
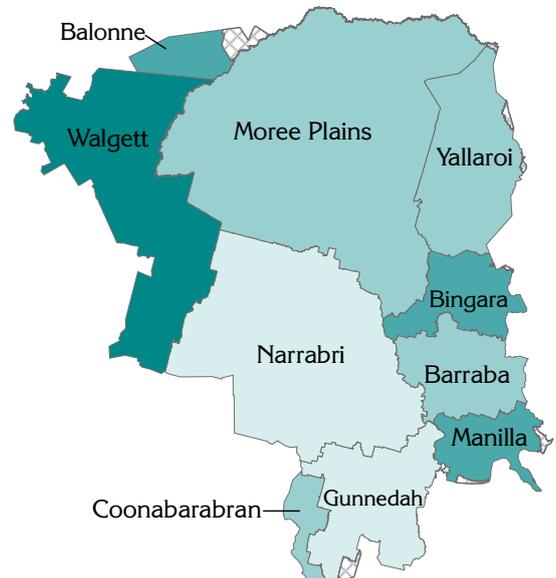
Details of the distribution of jobless families and of the population covered by private health insurance are shown by Statistical Local Area (SLA) in Maps 1 and 2, respectively.

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



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

**Map 2: People covered by private health insurance by SLA, Barwon DGP, 30 June 2001**



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

## GP services to residents of the Barwon 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 unreferred attendances recorded under Medicare: unreferred 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.

The majority (85.7%) of GP unreferred attendances to residents of Barwon DGP were provided in the Division (ie. by a GP with a provider number in the Division): this represented 193,803 GP unreferred attendances (Table 3). A further 3.6% of unreferred attendances to residents were provided by GPs with a provider number in Southern Queensland Rural DGP, with 1.4% provided by GPs in North West Slopes DGP.

**Table 3: Patient flow – People living<sup>1</sup> in Barwon DGP by Division where attendance occurred<sup>2</sup>, 2003/04**

Division		Unreferred attendances	
Number	Name	No.	% <sup>3</sup>
231	Barwon DGP	193,803	85.7
414	Southern Queensland Rural DGP	8,034	3.6
236	North West Slopes DGP	3,242	1.4
227	New England DGP	2,266	1.0
230	Dubbo/Plains DGP	1,503	0.7
217	Hunter Urban DGP	1,337	0.6
409	GP Connections DGP	1,242	0.5
Other	..	14,629	6.5
<b>Total</b>	<b>..</b>	<b>226,056</b>	<b>100.0</b>

<sup>1</sup> Based on address in Medicare records

<sup>2</sup> Division of GP based on provider number

<sup>3</sup> Proportion of all unreferred attendances of patients with an address in Division 231 by Division in which attendance occurred

The majority (92.0%) of unreferred attendances provided by GPs with a provider number in Barwon DGP were also to people living in the Division (ie. their Medicare address was in the Division) (Table 4). A further 2.1% of unreferred attendances by GPs in the Division were to residents of North West Slopes DGP, with 1.0% to people living in New England DGP.

**Table 4: GP catchment – Unreferred attendances provided by GPs<sup>1</sup> in Barwon DGP by Division of patient address<sup>2</sup>, 2003/04**

Division		Unreferred attendances	
Number	Name	No.	% <sup>3</sup>
231	Barwon DGP	193,803	92.0
236	North West Slopes DGP	4,515	2.1
227	New England DGP	2,101	1.0
230	Dubbo/Plains DGP	1,364	0.6
217	Hunter Urban DGP	721	0.3
233	NSW Outback DGP	685	0.3
414	Southern Queensland Rural DGP	543	0.3
Other	..	6835	3.3
<b>Total</b>	<b>..</b>	<b>210,567</b>	<b>100.0</b>

<sup>1</sup> Division of GP based on provider number

<sup>2</sup> Based on address in Medicare records

<sup>3</sup> Proportion of all unreferred attendances to GPs with a provider number in Division 231 by Division of patient address

## Additional prevalence estimates: chronic diseases and risk factors combined

Please refer to the earlier *Population health profile of the Barwon Division of General Practice*, dated November 2005, available from [www.publichealth.gov.au](http://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 Barwon DGP who had asthma and were smokers, compared to Australia as a whole, with a similar rate to that in country New South Wales (Figure 6, Table 5): that is, the prevalence rates per 1,000 population were higher than the national rates. However, there were fewer people in Barwon DGP who had type 2 diabetes and were overweight or obese, compared to country New South Wales and Australia.

**Figure 6: Estimates of selected chronic diseases and risk factors, Barwon DGP, country New South Wales and Australia, 2001**



**Table 5: Estimates of selected chronic diseases and risk factors, Barwon DGP, country New South Wales, New South Wales and Australia, 2001**

Variable	Barwon DGP		Country NSW		New South Wales		Australia	
	No. <sup>1</sup>	Rate <sup>2</sup>	No. <sup>1</sup>	Rate <sup>2</sup>	No. <sup>1</sup>	Rate <sup>2</sup>	No. <sup>1</sup>	Rate <sup>1</sup>
Had asthma and smoked <sup>3</sup>	1,277	25.4	54,344	24.7	126,542	19.7	397,734	20.8
Had type 2 diabetes & were overweight/ obese <sup>4</sup>	746	13.0	40,784	15.5	100,235	15.7	283,176	15.2

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

<sup>2</sup> Rate is the indirectly age-standardised rate per 1,000 population

<sup>3</sup> Population aged 18 years and over

<sup>4</sup> 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](http://www.publichealth.gov.au).

In 2001 to 2002, the 2,410 admissions for ambulatory care sensitive (ACS) conditions accounted for 12.6% of all admissions in the Barwon DGP (Table 6, Figure 7), substantially above the levels for both New South Wales (8.6%) and Australia (8.7%).

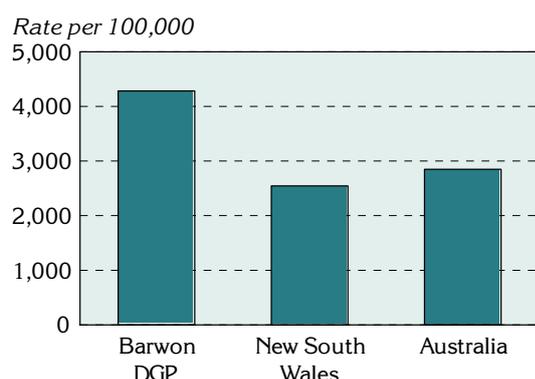
**Table 6: Avoidable<sup>1</sup> and unavoidable hospitalisations, Barwon DGP, New South Wales, and Australia, 2001/02**

Category	Barwon DGP			New South Wales			Australia		
	No.	Rate <sup>2</sup>	%	No.	Rate <sup>2</sup>	%	No.	Rate <sup>2</sup>	%
Avoidable <sup>1</sup>	2,410	4,284.9	12.6	170,066	2,543.8	8.6	552,786	2,847.5	8.7
Unavoidable	16,652	30,116.1	87.4	1,810,901	27,255.3	91.4	5,818,199	29,970.7	91.3
<b>Total</b>	<b>19,062</b>	<b>34,423.4</b>	<b>100.0</b>	<b>1,980,967</b>	<b>29,798.8</b>	<b>100.0</b>	<b>6,370,985</b>	<b>32,818.2</b>	<b>100.0</b>

<sup>1</sup> Admissions resulting from ACS conditions

<sup>2</sup> Rate is the indirectly age-standardised rate per 100,000 population

**Figure 7: Avoidable hospitalisations<sup>1</sup>, Barwon DGP, New South Wales and Australia, 2001/02**



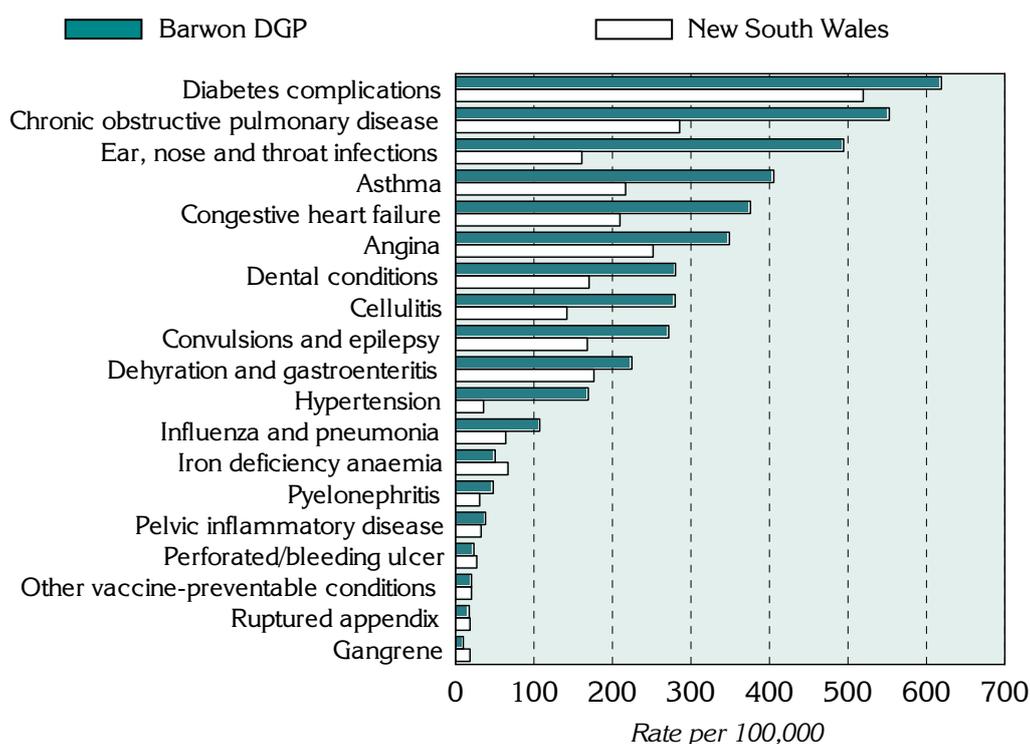
The rate of avoidable hospitalisations in Barwon DGP is substantially higher, a rate of 4,284.9 admissions per 100,000 population, compared to New South Wales (a rate of 2,543.8) and Australia (2,847.5).

<sup>1</sup> Admissions resulting from ACS conditions

Diabetes complications; chronic obstructive pulmonary disease; ear, nose and throat infections; asthma; and congestive heart failure had the highest rates of avoidable hospitalisations in the Barwon DGP (Figure 8, Table 7).

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. Almost two-thirds 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 dental conditions have the highest rates of avoidable hospitalisations for the acute conditions.

**Figure 8: Avoidable hospitalisations<sup>1</sup> by condition, Barwon DGP and New South Wales, 2001/02**



<sup>1</sup> Admissions resulting from ACS conditions: excludes nutritional deficiencies as less than ten admissions

**Table 7: Avoidable hospitalisations<sup>1</sup> by condition, Barwon DGP, New South Wales and Australia, 2001/02**

Sub-category/ condition	Barwon DGP		New South Wales		Australia	
	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>2</sup>
<b>Vaccine-preventable</b>	<b>72</b>	<b>127.8</b>	<b>5,630</b>	<b>84.5</b>	<b>16,573</b>	<b>85.4</b>
Influenza and pneumonia	60	107.3	4,280	64.1	13,021	67.1
Other vaccine preventable	12	20.5	1,350	20.4	3,552	18.3
<b>Chronic<sup>3</sup></b>	<b>1,413</b>	<b>2,522.1</b>	<b>106,803</b>	<b>1,587.0</b>	<b>352,545</b>	<b>1,816</b>
Diabetes complications	350	619.1	34,975	519.5	141,345	728.1
Iron deficiency anaemia	27	50.6	4,494	67.0	16,451	84.7
Hypertension	93	169.3	2,398	35.7	6,354	32.7
Congestive heart failure	200	375.8	14,270	209.7	42,447	218.6
Angina	196	349.0	16,987	251.8	49,963	257.4
Chronic obstructive pulmonary disease	309	552.7	19,359	285.6	54,853	282.6
Asthma	238	405.6	14,289	216.8	41,009	211.3
<b>Acute</b>	<b>963</b>	<b>1,688.5</b>	<b>62,543</b>	<b>946.0</b>	<b>200,913</b>	<b>1,035</b>
Dehydration and gastroenteritis	121	224.9	11,725	176.4	37,766	194.5
Convulsions and epilepsy	156	271.7	11,093	168.1	31,137	160.4
Ear, nose and throat infections	296	494.5	10,615	161.1	32,075	165.2
Dental conditions	163	280.4	11,196	170.3	43,667	224.9
Perforated/bleeding ulcer	13	23.5	1,830	27.1	5,795	29.9
Ruptured appendix	10	17.6	1,212	18.5	3,866	19.9
Pyelonephritis	25	48.0	2,038	31.0	7,386	38.0
Pelvic inflammatory disease	19	38.2	2,134	32.7	6,547	33.7
Cellulitis	155	279.9	9,451	142.0	28,204	145.3
Gangrene	5	9.8	1,249	18.6	4,470	23.0
<b>Total avoidable hospitalisations<sup>4</sup></b>	<b>2,410</b>	<b>4,284.9</b>	<b>170,066</b>	<b>2,543.8</b>	<b>552,786</b>	<b>2,847.5</b>

<sup>1</sup> Admissions resulting from ACS conditions

<sup>2</sup> Rate is the indirectly age-standardised rate per 100,000 population

<sup>3</sup> Excludes nutritional deficiencies as less than ten admissions

<sup>4</sup> 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

## 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](http://www.publichealth.gov.au).

Almost three quarters (73.7%) of all deaths in Barwon DGP at ages 0 to 74 years over the period 1997 to 2001 are considered to be avoidable, higher than the proportion for country New South Wales (71.6%) (Table 8). However, the rate in the Division is markedly (24%) higher than that in country New South Wales, a differential of 1.24.

Deaths amenable to health care (amenable mortality, a subset of avoidable mortality) accounted for 28.4% of all deaths at ages 0 to 74 years in Barwon DGP, compared to 28.3% in country New South Wales.

**Table 8: Avoidable and unavoidable mortality (0 to 74 years) by area, Barwon DGP, country New South Wales, New South Wales and Australia, 1997 to 2001**

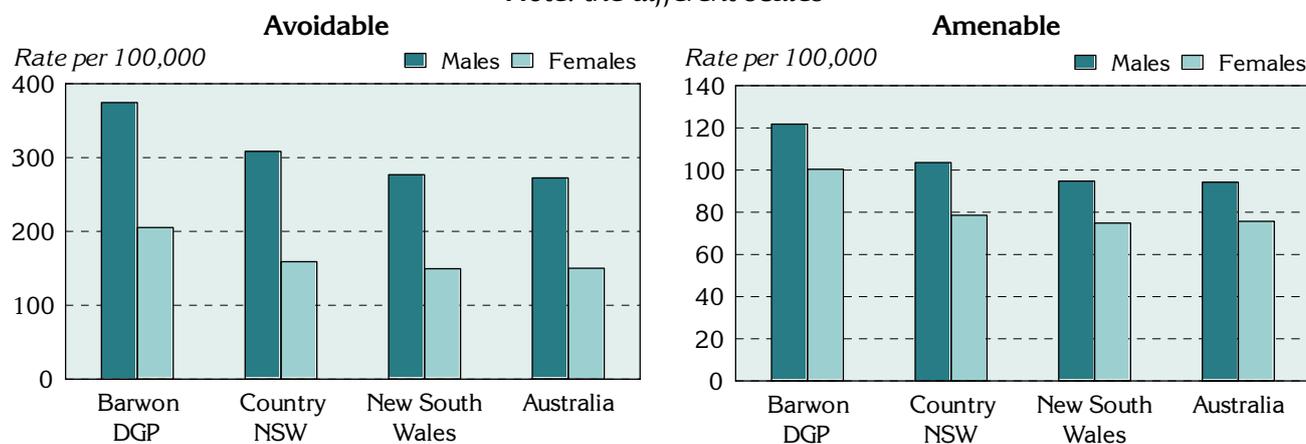
Mortality category	Barwon DGP		Country NSW		New South Wales		Australia	
	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>
Avoidable	792	290.6	29,442	234.3	66,151	213.6	189,845	211.8
% of total	73.7	..	71.6	..	71.4	..	71.5	..
(Amenable)	(305)	(111.1)	(11,638)	(91.2)	(26,374)	(85.0)	(76,249)	(85.1)
(% of total)	(28.4)	(..)	(28.3)	(..)	(28.5)	(..)	(28.7)	(..)
Unavoidable	282	102.8	11,700	92.1	26,468	85.3	75,582	84.3
% of total	26.3	..	28.4	..	28.6	..	28.5	..
<b>Total mortality</b>	<b>1,074</b>	<b>393.4</b>	<b>41,142</b>	<b>326.4</b>	<b>92,619</b>	<b>299.0</b>	<b>265,427</b>	<b>296.1</b>
%	100.0	..	100.0	..	100.0	..	100.0	..

<sup>1</sup> 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. Barwon DGP's rate of avoidable mortality for males was 374.7 deaths per 100,000 males, notably higher than the rate of 205.3 for females. Similarly, the rate of amenable mortality for males in the Division was higher, 121.8, compared to 100.4 for females, a rate ratio of 1.21 (Figure 9, Table 9).

**Figure 9: Avoidable and amenable mortality by sex (0 to 74 years), Barwon DGP, country New South Wales, New South Wales and Australia, 1997 to 2001**

*Note: the different scales*



**Table 9: Avoidable and amenable mortality (0 to 74 years) by sex, Barwon DGP, country New South Wales, New South Wales and Australia, 1997 to 2001**

Mortality category and sex	Barwon DGP		Country NSW		New South Wales		Australia	
	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>
<b>Avoidable</b>								
Males	530	374.7	19,569	308.5	43,074	276.8	123,026	272.6
Females	262	205.3	9,873	159.1	23,077	149.6	66,819	150.1
<b>Total</b>	<b>792</b>	<b>290.6</b>	<b>29,442</b>	<b>234.3</b>	<b>66,151</b>	<b>213.6</b>	<b>189,845</b>	<b>211.8</b>
<b>Rate ratio-M:F<sup>2</sup></b>	..	<b>1.83**</b>	..	<b>1.94**</b>	..	<b>1.85**</b>	..	<b>1.82**</b>
<b>Amenable</b>								
Males	176	121.8	6,743	103.6	14,811	94.8	42,568	94.3
Females	129	100.4	4,895	78.6	11,562	74.9	33,681	75.7
<b>Total</b>	<b>305</b>	<b>111.1</b>	<b>11,638</b>	<b>91.2</b>	<b>26,374</b>	<b>85.0</b>	<b>76,249</b>	<b>85.1</b>
<b>Rate ratio-M:F<sup>2</sup></b>	..	<b>1.21</b>	..	<b>1.32**</b>	..	<b>1.27**</b>	..	<b>1.25**</b>

<sup>1</sup> Rate is the indirectly age-standardised rate per 100,000 population

<sup>2</sup> 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)<sup>1</sup>, 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 Barwon DGP, country New South Wales, New South Wales 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 73.4% of total YLL (0 to 74 years) for Barwon DGP, higher than the 71.8% for country New South Wales. The proportion of YLL from amenable mortality for Barwon DGP (28.1%) was marginally higher than that for country New South Wales (27.6%).

**Table 10: Years of life lost from avoidable mortality (0 to 74 years), Barwon DGP, country New South Wales, New South Wales and Australia, 1997 to 2001**

Mortality category	Barwon DGP		Country NSW		New South Wales		Australia	
	No.	% of total	No.	% of total	No.	% of total	No.	% of total
Avoidable	13,673	73.4	502,860	71.8	1,147,183	71.8	3,327,375	71.9
(Amenable)	(5,238)	(28.1)	(192,960)	(27.6)	(444,143)	(27.8)	(1,298,430)	(28.0)
Unavoidable	4,961	26.6	197,182	28.2	451,496	28.2	1,303,289	28.1
<b>Total</b>	<b>18,634</b>	<b>100.0</b>	<b>700,042</b>	<b>100.0</b>	<b>1,598,679</b>	<b>100.0</b>	<b>4,630,664</b>	<b>100.0</b>

<sup>1</sup> 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 1,817.2 deaths per 100,000 population in Barwon 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 466.7 in Barwon Division.

**Table 11: Avoidable and amenable mortality by age, Barwon DGP, country New South Wales, New South Wales and Australia, 1997 to 2001**

Mortality category and age (years)	Barwon DGP		Country NSW		New South Wales		Australia	
	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>
<b>Avoidable</b>								
0-14	27	40.4	738	29.0	1,836	27.5	5,669	28.8
15-24	31	97.3	938	62.6	2,241	50.9	7,045	52.8
25-44	73	92.4	3,317	99.6	8,119	82.9	24,356	83.9
45-64	299	446.7	9,755	343.5	22,358	311.1	64,282	304.9
65-74	362	1,817.2	14,694	1464.0	31,597	1,375.8	88,493	1,358.1
<b>Total</b>	<b>792</b>	<b>290.6</b>	<b>29,442</b>	<b>234.3</b>	<b>66,151</b>	<b>213.6</b>	<b>189,845</b>	<b>211.8</b>
<b>Amenable</b>								
0-24	27	25.1	645	15.5	1,658	14.8	5,083	15.4
25-44	14	17.8	784	23.0	1,878	19.2	5,946	20.5
45-64	125	187.7	4,060	142.9	9,444	131.4	27,464	130.3
65-74	140	706.3	6,148	613.7	13,394	582.9	37,756	579.4
<b>Total</b>	<b>305</b>	<b>111.1</b>	<b>11,638</b>	<b>91.2</b>	<b>26,374</b>	<b>85.0</b>	<b>76,249</b>	<b>85.1</b>

<sup>1</sup> 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 Barwon DGP were for cardiovascular diseases, with a rate of 99.0 deaths per 100,000 population, and cancer, 78.3 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 chronic obstructive pulmonary disease, with rates of 70.9 per 100,000 population and 29.4 per 100,000, respectively.

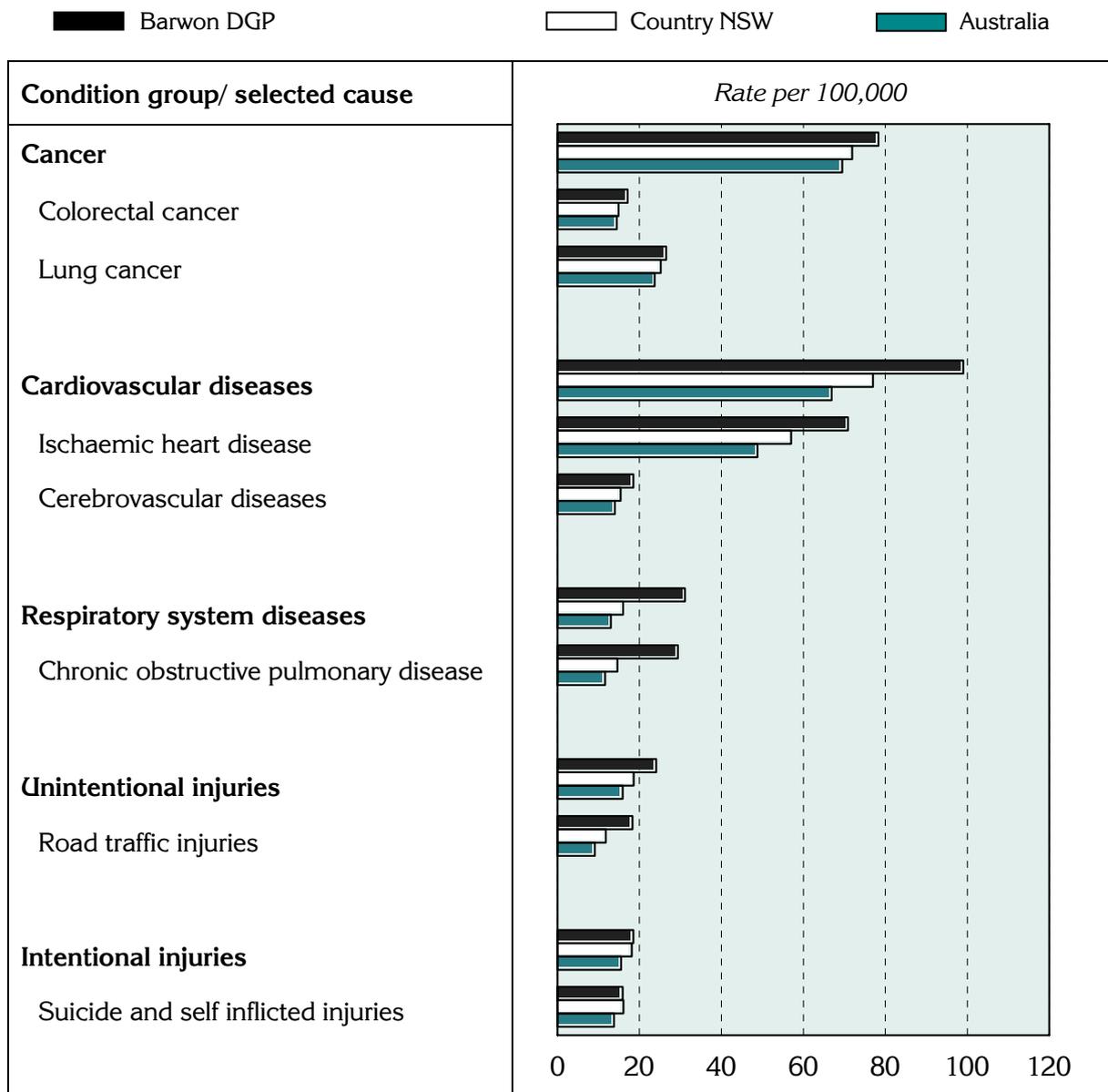
**Table 12: Avoidable mortality (0 to 74 years) by major condition group and selected cause, Barwon DGP, country New South Wales, New South Wales and Australia, 1997 to 2001**

Condition group/ selected cause	Barwon DGP		Country NSW		New South Wales		Australia	
	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>
<b>Cancer</b>	<b>217</b>	<b>78.3</b>	<b>9,239</b>	<b>71.9</b>	<b>21,158</b>	<b>68.1</b>	<b>62,338</b>	<b>69.5</b>
Colorectal cancer	48	17.1	1,936	14.9	4,318	13.9	13,008	14.5
Lung cancer	75	26.5	3,314	25.2	7,297	23.4	21,208	23.7
<b>Cardiovascular diseases</b>	<b>275</b>	<b>99.0</b>	<b>10,101</b>	<b>77.0</b>	<b>21,925</b>	<b>70.3</b>	<b>59,945</b>	<b>66.9</b>
Ischaemic heart disease	198	70.9	7,474	57.0	15,935	51.1	43,712	48.8
Cerebrovascular diseases	50	18.5	2,015	15.4	4,656	14.9	12,558	14.0
<b>Respiratory system diseases</b>	<b>86</b>	<b>31.1</b>	<b>2,136</b>	<b>16.0</b>	<b>4,313</b>	<b>13.8</b>	<b>11,612</b>	<b>13.0</b>
Chronic obstructive pulmonary disease	82	29.4	1,966	14.6	3,882	12.4	10,395	11.6
<b>Unintentional injuries</b>	<b>60</b>	<b>24.1</b>	<b>2,027</b>	<b>18.6</b>	<b>4,540</b>	<b>15.0</b>	<b>14,224</b>	<b>15.9</b>
Road traffic injuries	45	18.3	1,279	11.8	2,528	8.4	8,138	9.1
<b>Intentional injuries</b>	<b>46</b>	<b>18.5</b>	<b>1,939</b>	<b>18.1</b>	<b>4,497</b>	<b>14.9</b>	<b>13,891</b>	<b>15.5</b>
Suicide and self inflicted injuries	40	15.9	1,730	16.1	3,941	13.0	12,393	13.8

<sup>1</sup> Rate is the indirectly age-standardised rate per 100,000 population

Rates in the Division were above those for country New South Wales and Australia for the condition groups and selected causes (Figure 10).

**Figure 10: Avoidable mortality (0 to 74 years) by major condition group and selected cause, Barwon DGP, country New South Wales and Australia, 1997 to 2001**



# Notes on the data

## Data sources and limitations

### General

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

### Data sources

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

**Table 13: Data sources**

Section	Source
<b>Population</b>	
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) <sup>1</sup>
<b>Additional socio-demographic indicators</b>	
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
<b>GP services – patient flow/ GP catchment</b>	
Tables 3 and 4	Medicare Australia, 2003/04
<b>Additional prevalence estimates: chronic diseases and risk factors combined</b>	
Figure 6; Table 5	Estimated from 2001 National Health Survey (NHS), ABS (unpublished)
<b>Avoidable hospitalisations: hospital admissions resulting from ambulatory care sensitive conditions</b>	
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)
<b>Avoidable mortality</b>	
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)

<sup>1</sup> 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](http://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 Barwon 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](http://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, generally, equivalent to Local Government Areas (LGAs): the exception is Dubbo LGA (split into two SLAs, Part A and Part B, both wholly in the Division). The majority of the Division comprises SLAs from within the ABS North Western Statistical Division and from three of the four ABS Statistical Subdivisions of Dubbo, Central Macquarie and Macquarie-Barwon. The SLAs, and the proportion of their population estimated to be in Dubbo Plains Division (based on their 2001 Census Population), are shown in Table 14.

**Table 14: SLAs and population in Barwon 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
10400	Barraba	100.0	2,178
10700	Bingara	94.3	1,914
12100	Coonabarabran	3.4	227
13550	Gunnedah	94.9	11,606
15100	Manilla	93.8	3,099
15300	Moree Plains	100.0	15,936
15750	Narrabri	100.0	14,172
17900	Walgett	21.3	1,709
18600	Yallaroi	100.0	3,097
30300	Ballone	3.6	204

\* 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

## 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

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

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