

# Population health profile of the Southern Highlands

## Division of General Practice: supplement

Population Profile Series: No. 32a

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Australian Government

Australian Institute of  
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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 Southern Highlands Division of General Practice: supplement

This profile is a supplement to the *Population health profile of the Southern Highlands 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 Southern Highlands 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:

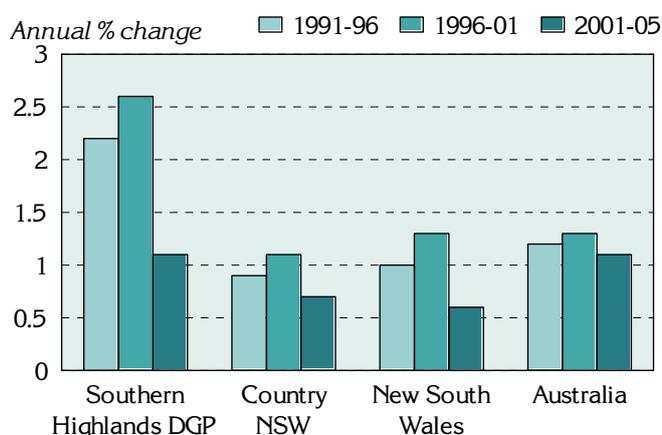
- Population [updated to June 2005]
- Additional socio-demographic indicators
- Unreferred attendances – patient flow/ GP catchment
- Additional prevalence estimates: chronic diseases and risk factors combined
- Avoidable hospitalisations: hospital admissions resulting from ambulatory care sensitive 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 Southern Highlands Division had an Estimated Resident Population of 49,221 at 30 June 2005.

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



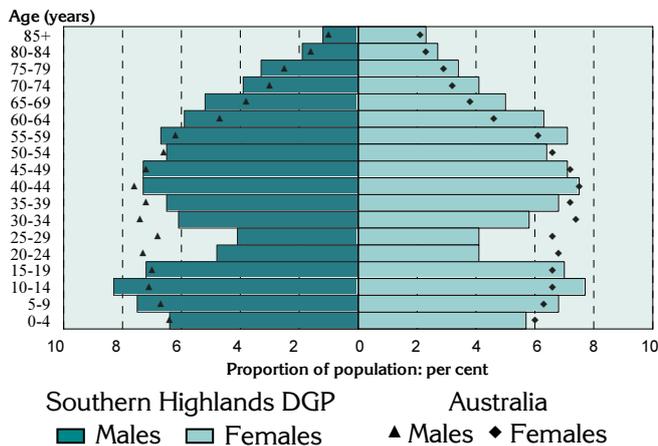
Over the five years from 1991 to 1996, the Division's population increased by 2.2% on average each year, over twice that in country New South Wales (0.9%) and New South Wales (1.0%). From 1996 to 2001, the annual percentage increase in the Division was 2.6%, again higher than in country New South Wales (1.1%) and New South Wales (1.3%). The growth rate decreased to 1.1% per year from 2001 to 2005, but was still higher than for country New South Wales and New South Wales (both 0.6%), and equal to that in Australia (1.1%).

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

Age group (years)	Southern Highlands DGP		Australia	
	No.	%	No.	%
0-14	10,440	21.2	3,978,221	19.6
15-24	5,673	11.5	2,819,834	13.9
25-44	11,859	24.1	5,878,107	28.9
45-64	13,126	26.7	4,984,446	24.5
65-74	4,490	9.1	1,398,831	6.9
75-84	2,765	5.6	954,143	4.7
85+	868	1.8	315,027	1.5
<b>Total</b>	<b>49,221</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), Southern Highlands DGP had a lower proportion of the population aged 15 to 24 and 25 to 44 years (11.5% and 24.1%, respectively) compared to Australia (13.9% and 28.9%, respectively) (Table 1). Conversely, the 0 to 14 and 45 years and over age groups had higher proportions compared to Australia as a whole.

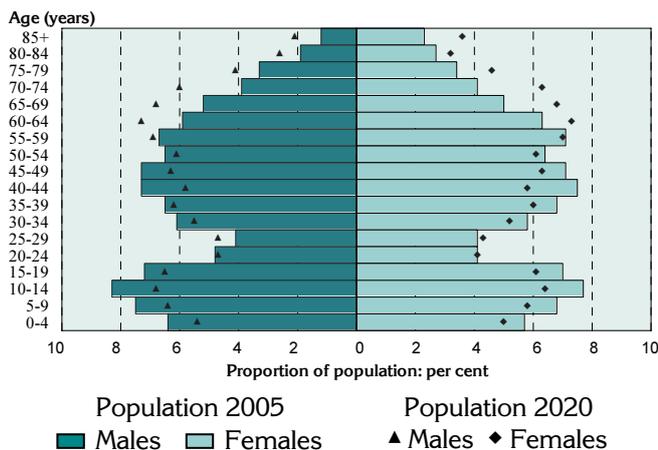
**Figure 2: Population in Southern Highlands DGP and Australia, by age and sex, 2005**



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

- at younger ages – higher proportions of children and young people aged 5 to 14;
- from 20 to 39 years – lower (and often substantially lower) proportions of both males and females (perhaps moving away to continue education, or to seek employment opportunities); and
- from 55 years and over – higher proportions of both males and females.

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



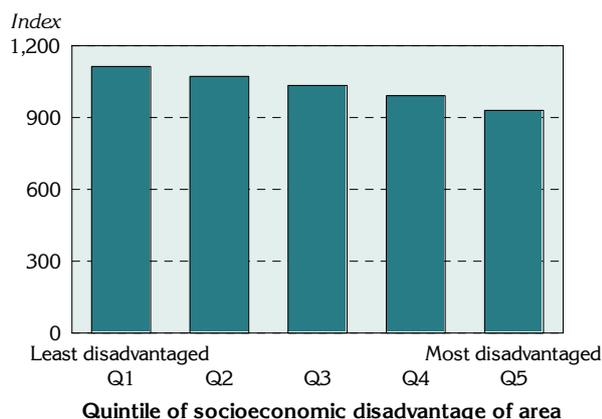
The population projections for the Division show a number of changes in age distribution, with the 2020 population projected to have:

- at younger ages – lower proportions of males and females aged 0 to 19 years;
- lower proportions of 30 to 54 year olds; and
- From age 60 years – higher proportions of males and females (most pronounced at ages 60 to 74 years).

## Additional socio-demographic indicators

Please refer to the earlier *Population health profile of the Southern Highlands 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, Southern Highlands DGP, 2001**



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

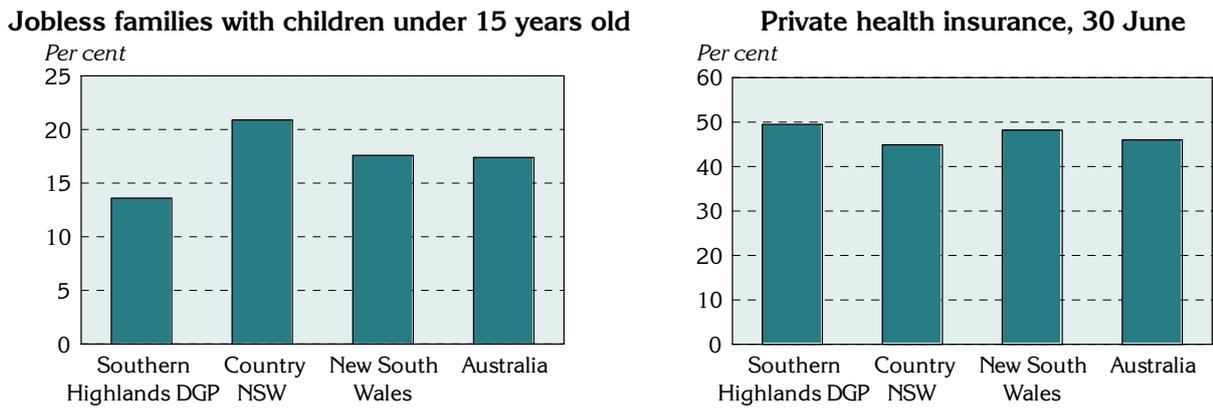
The Southern Highlands DGP has an index score of 1027, above the score for Australia of 1000: this score varies across the Division, from a score of 930 in the most disadvantaged areas to 1113 in the least disadvantaged areas.

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 markedly fewer jobless families in the Southern Highlands DGP (13.6%), compared to 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 notably higher proportion of the population with private health insurance (49.5%), compared to country New South Wales (44.9%) (Figure 5, Table 2).

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

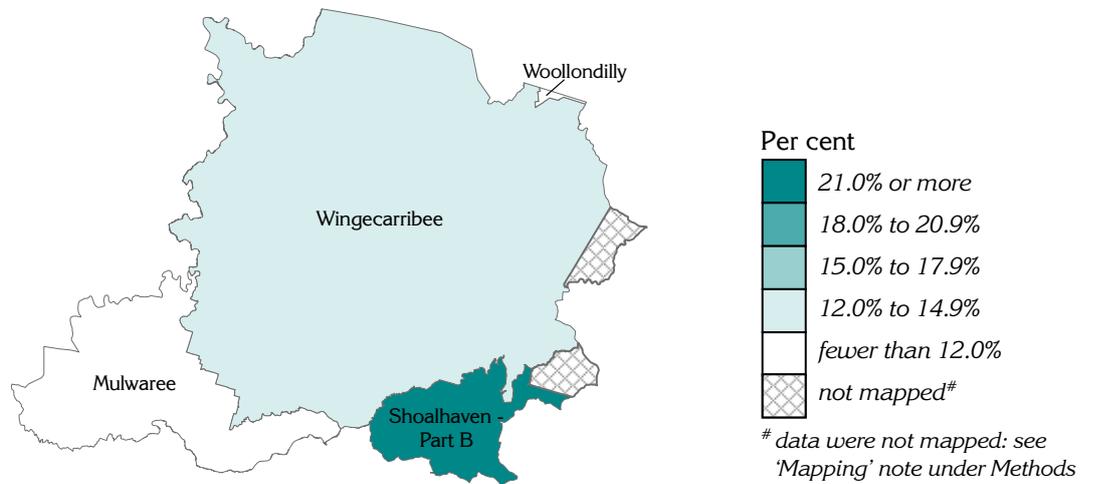


**Table 2: Socio-demographic indicators, Southern Highlands DGP, country New South Wales, New South Wales and Australia, 2001**

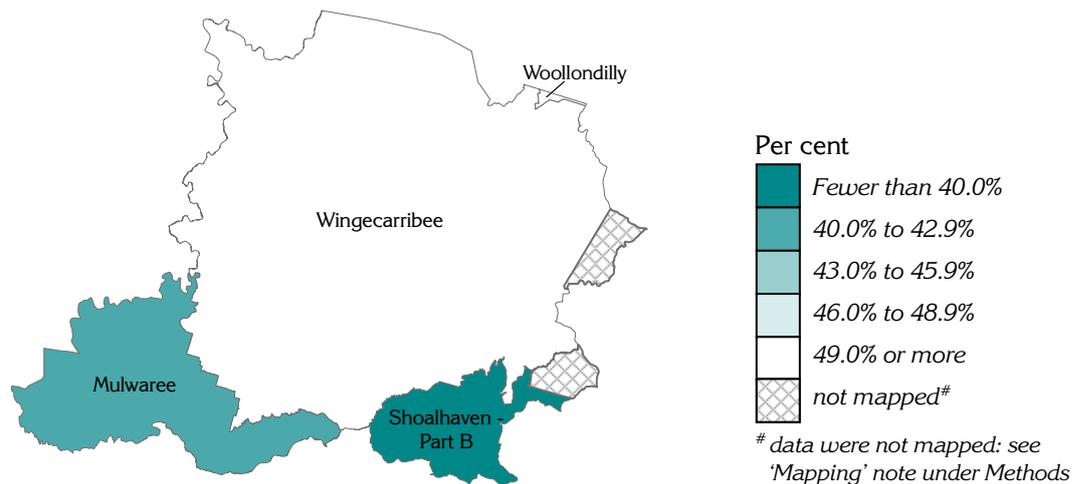
Indicator	Southern Highlands DGP		Country NSW		New South Wales		Australia	
	No.	%	No.	%	No.	%	No.	%
Jobless families with children under 15 years old	704	13.6	54,883	20.9	121,409	17.6	357,563	17.4
Private health insurance (30 June)	22,316	49.5	1,061,580	44.9	3,062,382	48.2	8,671,106	46.0

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, Southern Highlands DGP, 2001**



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



## GP services to residents of the Southern Highlands 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.

Over three quarters (78.5%) of all unreferred attendances to residents of Southern Highlands DGP were provided in the Division (ie. by a GP with a provider number in the Division): this represented 155,953 GP unreferred attendances (Table 3). A further 6.7% of unreferred attendances to residents were provided by GPs with a provider number in Macarthur DGP, with 2.5% provided by GPs in Illawarra DGP.

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

Division		Unreferred attendances	
Number	Name	No.	% <sup>3</sup>
235	Southern Highlands DGP	155,953	78.5
215	Macarthur DGP	13,412	6.7
216	Illawarra DGP	4,913	2.5
202	Eastern Sydney DGP	2,668	1.3
220	Shoalhaven DGP	2,574	1.3
221	South East NSW DGP	2,377	1.2
201	Central Sydney DGP	2,246	1.1
Other	..	14,619	7.4
<b>Total</b>	<b>..</b>	<b>198,762</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 235 by Division in which attendance occurred

The majority (88.3%) of unreferred attendances provided by GPs with a provider number in Southern Highlands DGP were also to people living in the Division (ie. their Medicare address was in the Division) (Table 4). A further 4.3% of unreferred attendances by GPs in the Division were to people living in Macarthur DGP, with 2.2% to residents of South East NSW DGP.

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

Division		Unreferred attendances	
Number	Name	No.	% <sup>3</sup>
235	Southern Highlands DGP	155,953	88.3
215	Macarthur DGP	7,676	4.3
221	South East NSW DGP	3,800	2.2
216	Illawarra DGP	1,207	0.7
206	Western Sydney DGP (now WentWest & part Hawkesbury-Hills)	1,024	0.6
202	Eastern Sydney DGP	593	0.3
Other	..	6,292	3.6
<b>Total</b>	<b>..</b>	<b>176,545</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 235 by Division of patient address

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

Please refer to the earlier *Population health profile of the Southern Highlands 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 similar numbers of people in Southern Highlands DGP who had asthma and were smokers, compared to Australia as a whole, although the rate was well below that of country New South Wales (Figure 6, Table 5): that is, the prevalence rates per 1,000 population were consistent with the Australian rates. However, there were relatively fewer people in Southern Highlands DGP who had type 2 diabetes and were overweight or obese, compared to Australia and country New South Wales.

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



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

Variable	Southern Highlands 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>	828	21.3	54,344	24.7	126,542	19.7	397,734	20.8
Had type 2 diabetes & were overweight/ obese <sup>4</sup>	637	12.4	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 Southern Highlands 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 1,328 admissions from ambulatory care sensitive (ACS) conditions accounted for 8.6% of all admissions in the Southern Highlands DGP (Table 6, Figure 7), consistent with the levels in both New South Wales (8.6%) and Australia (8.7%).

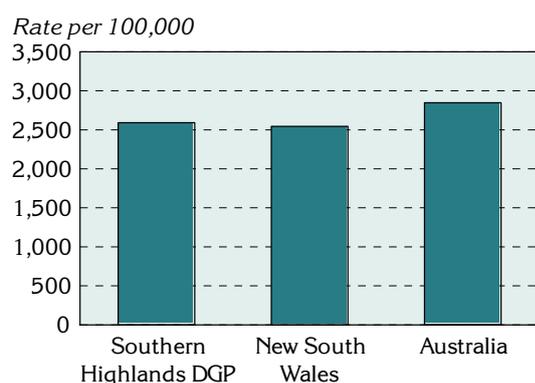
**Table 6: Avoidable<sup>1</sup> and unavoidable hospitalisations, Southern Highlands DGP, New South Wales, and Australia, 2001/02**

Category	Southern Highlands DGP			New South Wales			Australia		
	No.	Rate <sup>2</sup>	%	No.	Rate <sup>2</sup>	%	No.	Rate <sup>2</sup>	%
Avoidable <sup>1</sup>	1,328	2,591.1	8.6	170,066	2,543.8	8.6	552,786	2,847.5	8.7
Unavoidable	14,038	28,578.1	91.4	1,810,901	27,255.3	91.4	5,818,199	29,970.7	91.3
<b>Total</b>	<b>15,365</b>	<b>31,164.4</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>, Southern Highlands DGP, New South Wales and Australia, 2001/02**



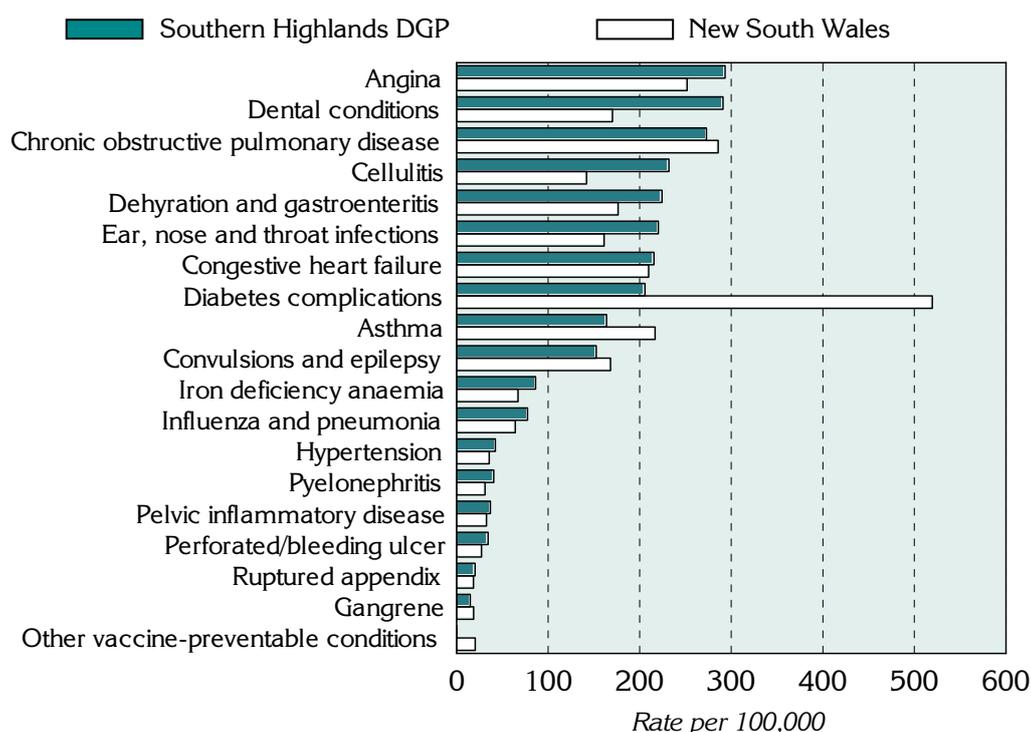
The rate of avoidable hospitalisations in Southern Highlands DGP, a rate of 2,591.1 admissions per 100,000 population, is marginally higher than New South Wales (a rate of 2,543.8), and lower than Australia (2,847.5).

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

Angina, dental conditions, chronic obstructive pulmonary disease and cellulitis were the four conditions with the highest rates of avoidable hospitalisations in the Southern Highlands DGP (Figure 8, Table 7). Notably, admissions from diabetes complications were substantially below the rate for New South Wales.

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 angina and chronic obstructive pulmonary disease. Dental conditions, and dehydration and gastroenteritis have the highest rates of avoidable hospitalisations for the acute conditions.

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

Sub-category/ condition	Southern Highlands 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>39</b>	<b>77.5</b>	<b>5,630</b>	<b>84.5</b>	<b>16,573</b>	<b>85.4</b>
Influenza and pneumonia	39	77.5	4,280	64.1	13,021	67.1
Other vaccine preventable	#	..	1,350	20.4	3,552	18.3
<b>Chronic<sup>3</sup></b>	<b>681</b>	<b>1,279.7</b>	<b>106,803</b>	<b>1,587.0</b>	<b>352,545</b>	<b>1,816</b>
Diabetes complications	110	205.7	34,975	519.5	141,345	728.1
Iron deficiency anaemia	45	86.3	4,494	67.0	16,451	84.7
Hypertension	22	42.3	2,398	35.7	6,354	32.7
Congestive heart failure	117	215.6	14,270	209.7	42,447	218.6
Angina	158	293.2	16,987	251.8	49,963	257.4
Chronic obstructive pulmonary disease	150	272.9	19,359	285.6	54,853	282.6
Asthma	79	163.7	14,289	216.8	41,009	211.3
<b>Acute</b>	<b>610</b>	<b>1,266.7</b>	<b>62,543</b>	<b>946.0</b>	<b>200,913</b>	<b>1,035</b>
Dehydration and gastroenteritis	108	224.4	11,725	176.4	37,766	194.5
Convulsions and epilepsy	72	152.4	11,093	168.1	31,137	160.4
Ear, nose and throat infections	105	220.2	10,615	161.1	32,075	165.2
Dental conditions	140	291.0	11,196	170.3	43,667	224.9
Perforated/bleeding ulcer	18	34.4	1,830	27.1	5,795	29.9
Ruptured appendix	9	20.2	1,212	18.5	3,866	19.9
Pyelonephritis	19	40.5	2,038	31.0	7,386	38.0
Pelvic inflammatory disease	16	36.8	2,134	32.7	6,547	33.7
Cellulitis	115	231.9	9,451	142.0	28,204	145.3
Gangrene	8	14.9	1,249	18.6	4,470	23.0
<b>Total avoidable hospitalisations<sup>4</sup></b>	<b>1,328</b>	<b>2,591.1</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

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

Almost three quarters (71.1%) of all deaths in Southern Highlands DGP at ages 0 to 74 years over the period 1997 to 2001 are considered to be avoidable, consistent with the proportion for country New South Wales (71.6%) (Table 8). However, the rate in the Division is markedly (21%) lower than that in country New South Wales, a differential of 0.79.

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 Southern Highlands DGP, compared to 28.3% in country New South Wales.

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

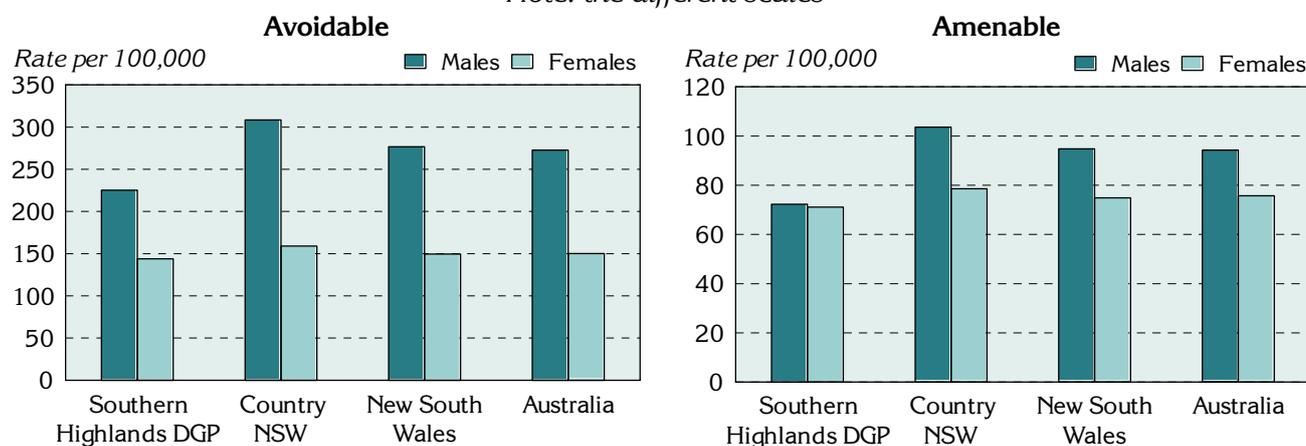
Mortality category	Southern Highlands DGP		Country NSW		New South Wales		Australia	
	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>	No.	Rate <sup>1</sup>
Avoidable	440	184.8	29,442	234.3	66,151	213.6	189,845	211.8
% of total	71.1	..	71.6	..	71.4	..	71.5	..
(Amenable)	(174)	(71.6)	(11,638)	(91.2)	(26,374)	(85.0)	(76,249)	(85.1)
(% of total)	(28.1)	(..)	(28.3)	(..)	(28.5)	(..)	(28.7)	(..)
Unavoidable	179	74.1	11,700	92.1	26,468	85.3	75,582	84.3
% of total	28.9	..	28.4	..	28.6	..	28.5	..
<b>Total mortality</b>	<b>619</b>	<b>259.0</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. Southern Highlands DGP's rate of avoidable mortality for males was 225.2 deaths per 100,000 males, one and a half times the rate of 143.9 for females. Similarly, the rate of amenable mortality for males in the Division was marginally higher, 72.3, compared to 71.1 for females, a rate ratio of 1.02 (Figure 9, Table 9).

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

Mortality category and sex	Southern Highlands 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	270	225.2	19,569	308.5	43,074	276.8	123,026	272.6
Females	170	143.9	9,873	159.1	23,077	149.6	66,819	150.1
<b>Total</b>	<b>440</b>	<b>184.8</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>1.56**</b>	..	<b>1.94**</b>	..	<b>1.85**</b>	..	<b>1.82**</b>
<b>Amenable</b>								
Males	90	72.3	6,743	103.6	14,811	94.8	42,568	94.3
Females	85	71.1	4,895	78.6	11,562	74.9	33,681	75.7
<b>Total</b>	<b>174</b>	<b>71.6</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>1.02</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 Southern Highlands 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 71.5% of total YLL (0 to 74 years) for Southern Highlands DGP, consistent with the 71.8% for country New South Wales. At the same time, the proportion of YLL from amenable mortality for Southern Highlands DGP (26.8%) was lower than that for country New South Wales (27.6%).

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

Mortality category	Southern Highlands DGP		Country NSW		New South Wales		Australia	
	No.	% of total	No.	% of total	No.	% of total	No.	% of total
Avoidable	7,547	71.5	502,860	71.8	1,147,183	71.8	3,327,375	71.9
(Amenable)	(2,826)	(26.8)	(192,960)	(27.6)	(444,143)	(27.8)	(1,298,430)	(28.0)
Unavoidable	3,012	28.5	197,182	28.2	451,496	28.2	1,303,289	28.1
<b>Total</b>	<b>10,558</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 1,119.9 deaths per 100,000 population in Southern Highlands 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 287.3 in Southern Highlands Division.

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

Mortality category and age (years)	Southern Highlands 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	10	19.8	738	29.0	1,836	27.5	5,669	28.8
15-24	20	81.5	938	62.6	2,241	50.9	7,045	52.8
25-44	38	64.0	3,317	99.6	8,119	82.9	24,356	83.9
45-64	159	287.3	9,755	343.5	22,358	311.1	64,282	304.9
65-74	212	1,119.9	14,694	1,464.0	31,597	1,375.8	88,493	1,358.1
<b>Total</b>	<b>440</b>	<b>184.8</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	9	10.8	645	15.5	1,658	14.8	5,083	15.4
25-44	9	14.4	784	23.0	1,878	19.2	5,946	20.5
45-64	59	106.1	4,060	142.9	9,444	131.4	27,464	130.3
65-74	97	516.7	6,148	613.7	13,394	582.9	37,756	579.4
<b>Total</b>	<b>174</b>	<b>71.6</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 Southern Highlands DGP were for cardiovascular diseases, with a rate of 60.7 deaths per 100,000 population, and cancer, 57.3 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 lung cancer, with rates of 42.6 per 100,000 population and 17.8 per 100,000, respectively.

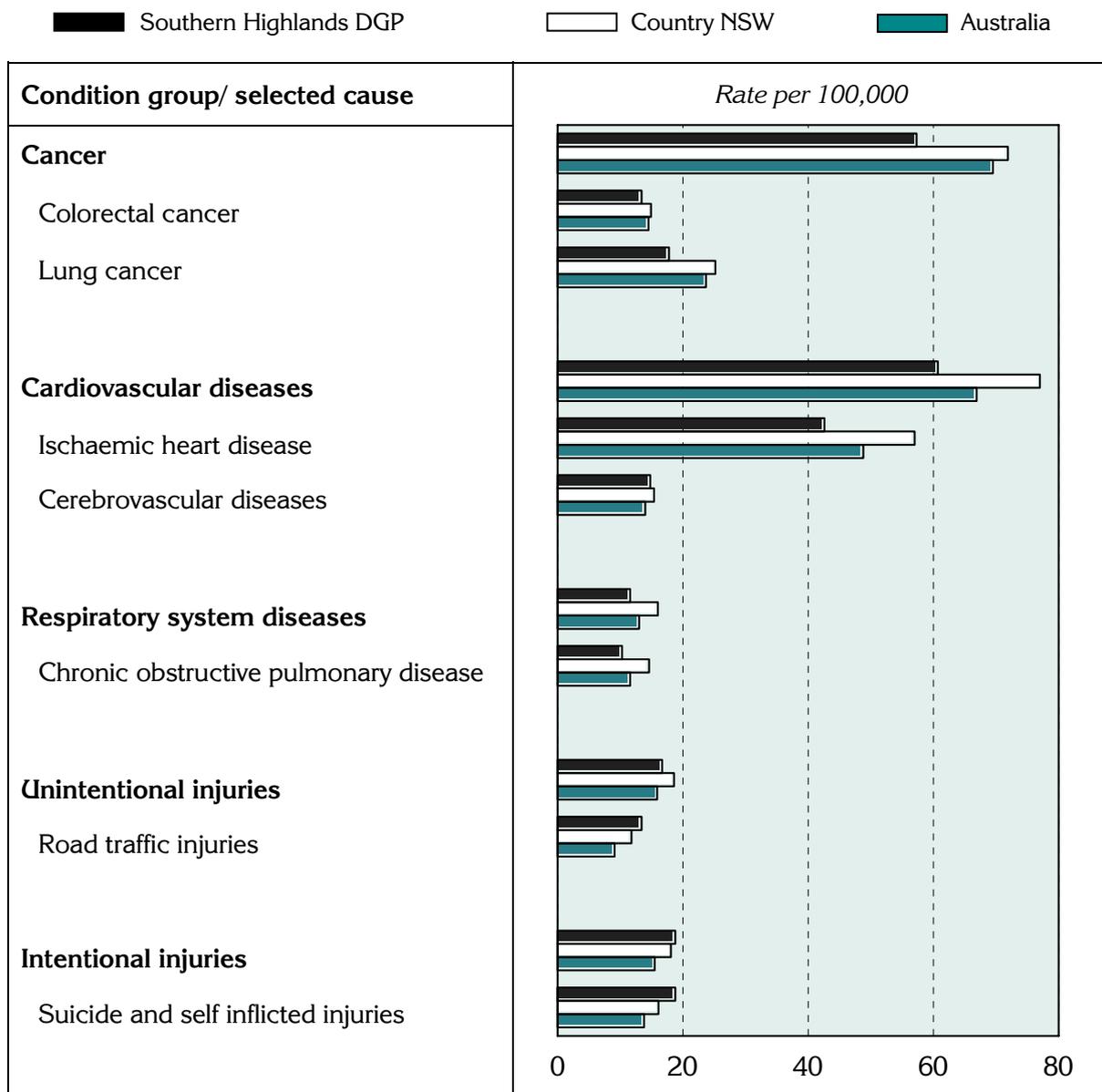
**Table 12: Avoidable mortality (0 to 74 years) by major condition group and selected cause, Southern Highlands DGP, country New South Wales, New South Wales and Australia, 1997 to 2001**

Condition group/ selected cause	Southern Highlands 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>141</b>	<b>57.3</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	33	13.4	1,936	14.9	4,318	13.9	13,008	14.5
Lung cancer	45	17.8	3,314	25.2	7,297	23.4	21,208	23.7
<b>Cardiovascular diseases</b>	<b>151</b>	<b>60.7</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	106	42.6	7,474	57.0	15,935	51.1	43,712	48.8
Cerebrovascular diseases	37	14.8	2,015	15.4	4,656	14.9	12,558	14.0
<b>Respiratory system diseases</b>	<b>29</b>	<b>11.6</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	26	10.3	1,966	14.6	3,882	12.4	10,395	11.6
<b>Unintentional injuries</b>	<b>33</b>	<b>16.7</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	26	13.4	1,279	11.8	2,528	8.4	8,138	9.1
<b>Intentional injuries</b>	<b>36</b>	<b>18.8</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	36	18.8	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 below those in Australia and country New South Wales for the condition groups and selected causes for cancer, circulatory (other than for cerebrovascular diseases for all of Australia) and respiratory system diseases; and generally above for the injury categories (Figure 10).

**Figure 10: Avoidable mortality (0 to 74 years) by major condition group and selected cause, Southern Highlands 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 (i.e. jobless families, people with health insurance): these areas are mapped with a pattern.

## Statistical geography of the Southern Highlands 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. The Shoalhaven Local Government Area (LGA) has been split into two SLAs, Shoalhaven - Part A and Shoalhaven - Part B, with just 2% of Shoalhaven - Part B in this Division: the other SLAs in this Division are equivalent to LGAs. The SLAs (or parts of SLAs) which comprise the Southern Highlands Division are shown in Table 14.

**Table 14: SLAs and population in Southern Highlands 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
15450	Mulwaree	13.5	1,004
16952	Shoalhaven - Part B	2.0	1,221
18350	Wingecarribee	98.6	44,044
18400	Wollondilly	7.1	2,952

\* 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

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## 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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