Population health profile of the

Central Highlands

Division of General Practice: supplement

Population Profile Series: No. 54a

PHIDU

March 2007

Copyright

National Library of Australia Cataloguing in Publication entry

Public Health Information Development Unit, The University of Adelaide
A Collaborating Unit of the Australian Institute of Health and Welfare

Population health profile
of the Central Highlands Division of General Practice: supplement

This profile is a supplement to the *Population health profile of the Central Highlands Division of General Practice*, dated November 2005, available from www.publichealth.gov.au. This supplement includes an update of the population of the Central 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).

Population

The Central Highlands Division had an Estimated Resident Population of 172,315 at 30 June 2005.

Figure 1: Annual population change, Central Highlands DGP, country Victoria, Victoria and Australia, 1991 to 1996, 1996 to 2001 and 2001 to 2005
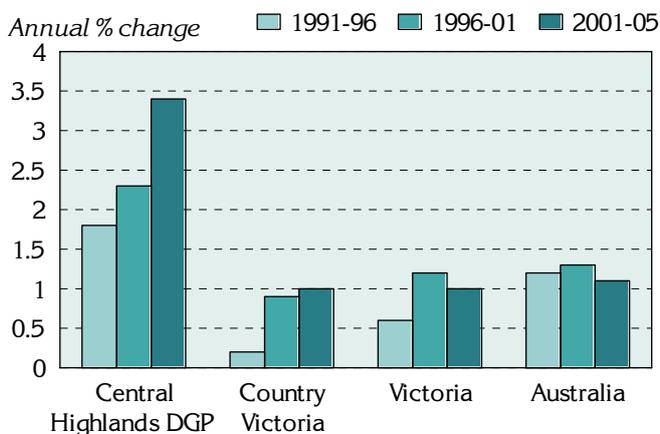
Over the five years from 1991 to 1996, the Division's population increased by 1.8% on average each year, above the levels in country Victoria (0.2%), Victoria (0.6%) and Australia as a whole (1.2%). From 1996 to 2001, the annual percentage increase in the Division (2.3%) was again greater than for country Victoria (0.9%), Victoria (1.2%) and Australia (1.3%). The growth rate of 3.4% per year from 2001 to 2005 was over three times the annual increases for country Victoria and Victoria (1.0%) and 1.1% for Australia.

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

Age group (years)	Central Highlands DGP		Australia	
	No.	%	No.	%
0-14	39,188	22.7	3,978,221	19.6
15-24	23,381	13.6	2,819,834	13.9
25-44	50,239	29.2	5,878,107	28.9
45-64	43,119	25.0	4,984,446	24.5
65-74	9,210	5.3	1,398,831	6.9
75-84	5,542	3.2	954,143	4.7
85+	1,635	0.9	315,027	1.5
Total	**172,315**	**100.0**	**20,328,609**	**100.0**

As shown in the accompanying table and the age-sex pyramid below (Figure 2), the Central Highlands DGP had more children aged 0 to 14 (22.7%) than in Australia as a whole (19.6%) (Table 1). Conversely, the 65 years and over age groups had lower proportions compared to Australia.

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

Central Highlands DGP ■ Males ■ Females
Australia ▲ Males ◆ Females
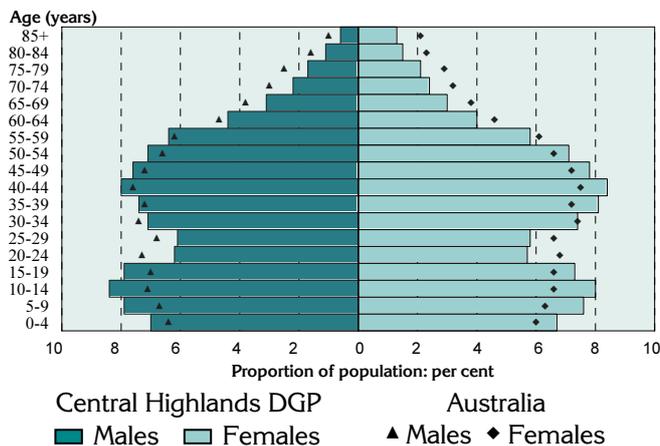
The most notable differences in the age distribution of the Division's population (when compared to Australia overall) are:

- at younger ages – higher proportions of children aged 0 to 14 years and young people aged 15 to 19 years;
- from 20 to 34 years – lower proportions of both males and females (to 29 years);
- from 35 to 54 years – higher proportions of males and females; and
- at older ages – lower proportions of males (from 60 years) and females (from 55 years).

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

Population 2005 ■ Males ■ Females
Population 2020 ▲ Males ◆ Females
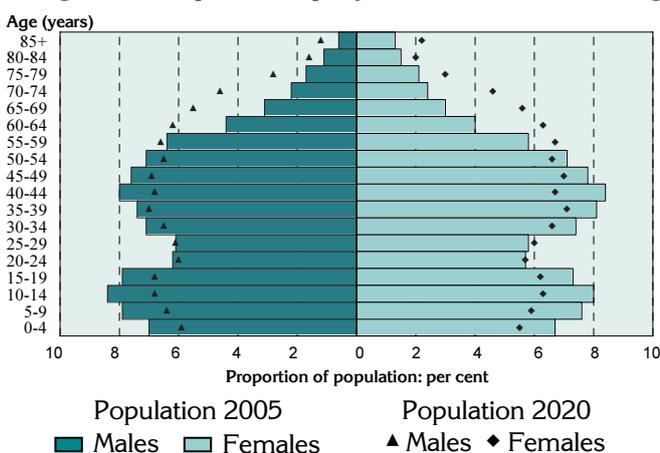
The population projections for the Division show a number of changes in age distribution, with the 2020 population projected to have:

- at younger ages – lower proportions of children and young people, aged 0 to 19 years;
- from 30 to 54 years – lower proportions of both males and females; and
- from 55 years onwards – higher proportions of both males and females.

Additional socio-demographic indicators

Please refer to the earlier *Population health profile of the Central Highlands 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 Highlands DGP, 2001
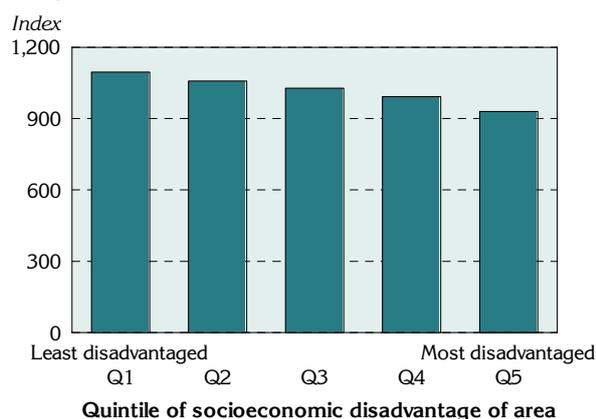
One of four socioeconomic indexes for areas produced at the 2001 ABS Census is the Index of Relative Socio-Economic Disadvantage.

The Central Highlands DGP has an index score of 1021, above the score for Australia of 1000: this score varies across the Division, from 930 in the most disadvantaged areas to 1095 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 Central Highlands DGP (13.5%), compared to country Victoria as a whole (17.4%) (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 similar proportion of people with private health insurance (43.7%), compared to country Victoria (43.0%) (Figure 5, Table 2).

Figure 5: Socio-demographic indicators, Central Highlands DGP, country Victoria, Victoria and Australia, 2001

Jobless families with children under 15 years old

Per cent

Private health insurance, 30 June

Per cent
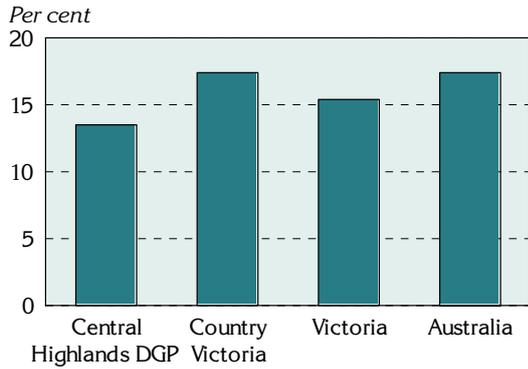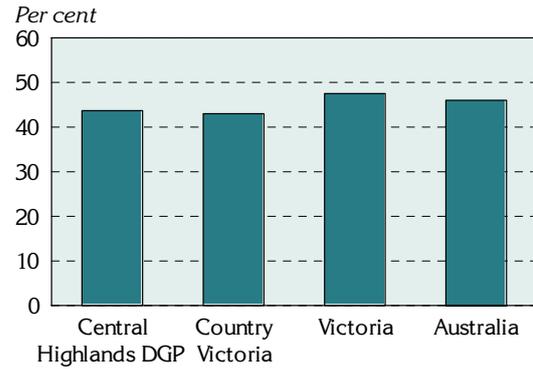
Table 2: Socio-demographic indicators, Central Highlands DGP, country Victoria, Victoria and Australia, 2001

Indicator	Central Highlands DGP		Country Victoria		Victoria		Australia	
	No.	%	No.	%	No.	%	No.	%
Jobless families with children under 15 years old	2,515	13.5	24,724	17.4	77,142	15.4	357,563	17.4
Private health insurance (30 June)	63,135	43.7	543,292	43.0	2,196,890	47.5	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, Central Highlands DGP, 2001

Per cent

19.0% or more
16.0% to 18.9%
13.0% to 15.9%
10.0% to 12.9%
fewer than 10.0%
not mapped#
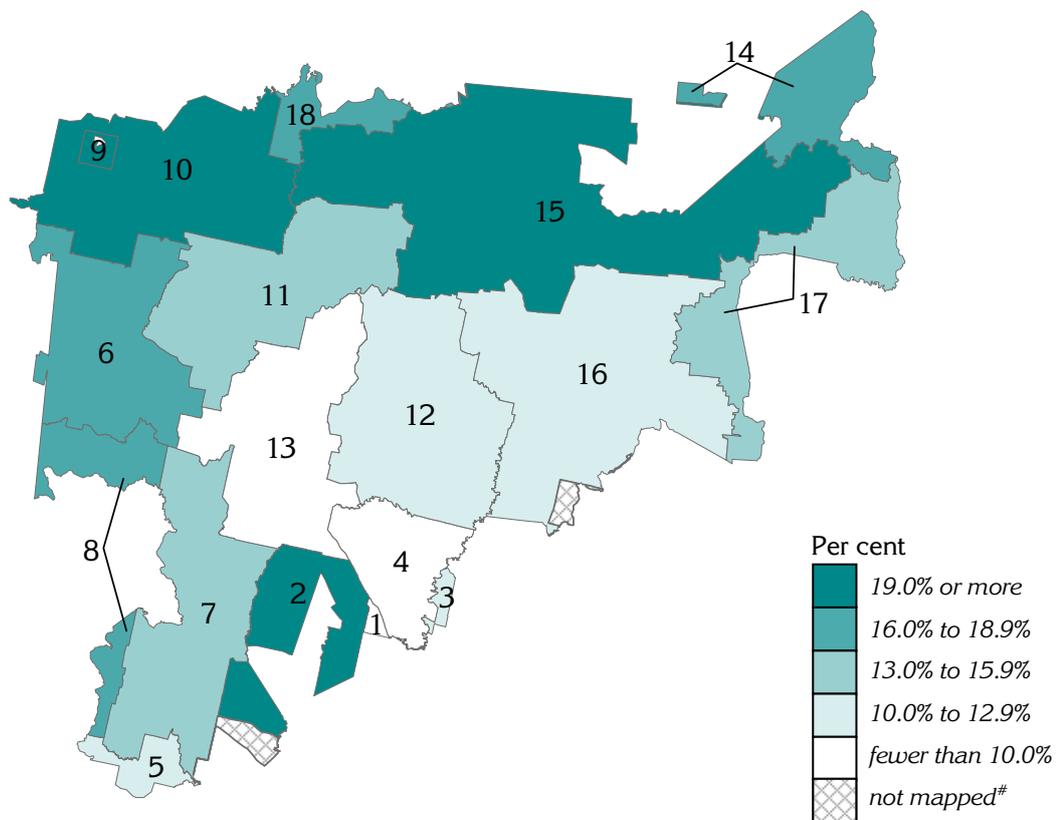
data were not mapped: see 'Mapping' note under Methods

For map labels: see next page

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

Per cent

- *Fewer than 32.0%*
- *32.0% to 37.9%*
- *38.0% to 43.9%*
- *44.0% to 49.9%*
- *50.0% or more*
- *not mapped#*
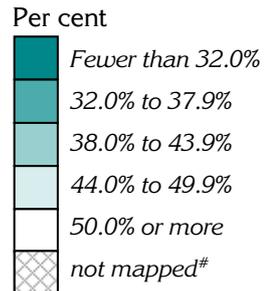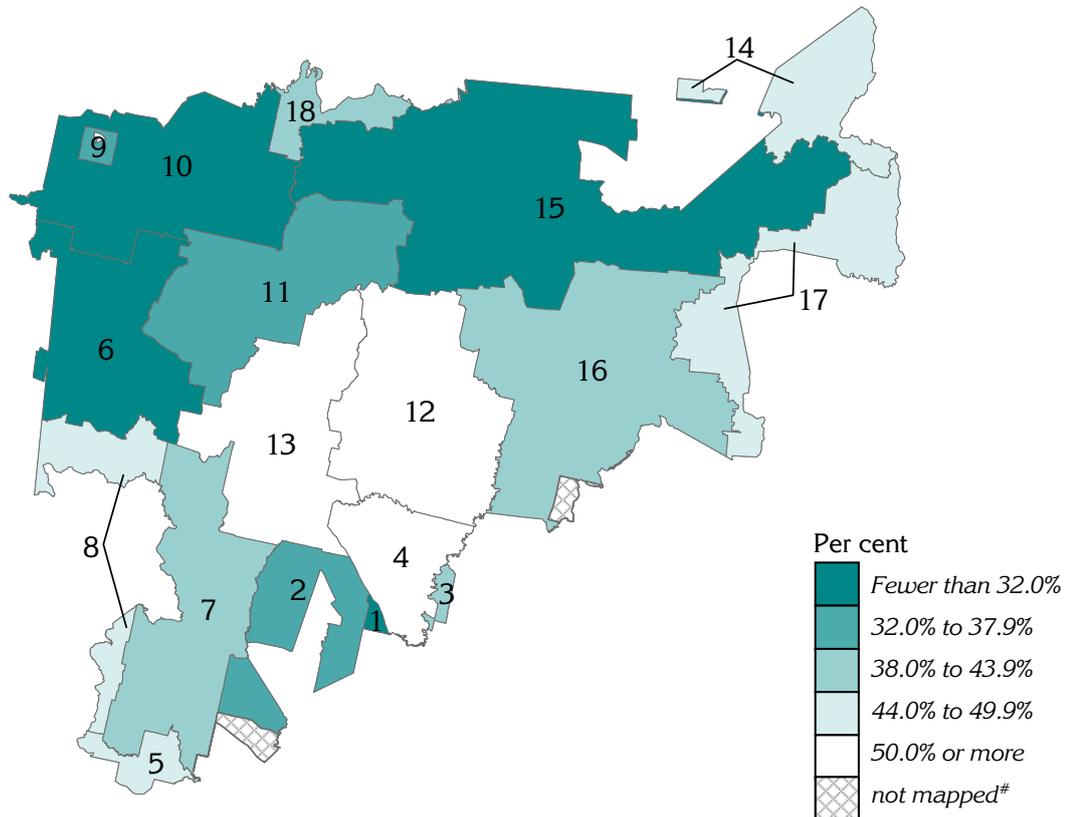
 # data were not mapped: see 'Mapping' note under Methods

Alphabetical key to Statistical Local Areas, Central Highlands DGP, 2001			
Greater Bendigo - Part B	18	Melton Balance	2
Greater Geelong - Part C	5	Mitchell - North	15
Hepburn - East	6	Mitchell - South	16
Hume - Craigieburn	3	Moorabool - Bacchus Marsh	7
Hume - Sunbury	4	Moorabool - Ballan	8
Macedon Ranges - Kyneton	11	Mount Alexander - Castlemaine	9
Macedon Ranges - Romsey	12	Mount Alexander Balance	10
Macedon Ranges Balance	13	Murrindindi - West	17
Melton - East	1	Strathbogie	14

GP services to residents of the Central 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 four fifths (82.0%) of all unreferred attendances to residents of Central Highlands DGP were provided in the Division (ie. by a GP with a provider number in the Division): this represented 613,554 GP unreferred attendances (Table 3). A further 3.8% of unreferred attendances to residents were provided by GPs with provider numbers in North West Melbourne DGP.

Table 3: Patient flow – People living[1] in Central Highlands DGP by Division where attendance occurred[2], 2003/04

Division		Unreferred attendances	
Number	Name	No.	%[3]
318	Central Highlands DGP	613,554	82.0
307	North West Melbourne DGP	28,066	3.8
306	Western Melbourne DGP	27,330	3.7
301	Melbourne DGP	14,621	2.0
308	Northern Melbourne DGP	12,198	1.6
326	Bendigo and District DGP	7,879	1.1
325	Ballarat and District DGP	6,098	0.8
Other	..	38,539	5.2
Total	..	**748,285**	**100.0**

[1] **Based on address in Medicare records**
[2] **Division of GP based on provider number**
[3] **Proportion of all unreferred attendances of patients with an address in Division 318 by Division in which attendance occurred**

The majority (90.4%) of unreferred attendances provided by GPs with a provider number in Central Highlands DGP were to people living in the Division (ie. their Medicare address was in the Division) (Table 4). A further 1.5% of unreferred attendances provided by GPs in the Division were to residents of Western Melbourne DGP, with another 1.5% to people living in Bendigo and District DGP.

Table 4: GP catchment – Unreferred attendances provided by GPs[1] in Central Highlands DGP by Division of patient address[2], 2003/04

Division		Unreferred attendances	
Number	Name	No.	%[3]
318	Central Highlands DGP	613,554	90.4
306	Western Melbourne DGP	10,189	1.5
326	Bendigo and District DGP	10,164	1.5
325	Ballarat and District DGP	8,454	1.2
307	North West Melbourne DGP	7,311	1.1
308	Northern Melbourne DGP	4,580	0.7
Other	..	24,088	3.6
Total	..	**678,340**	**100.0**

[1] **Division of GP based on provider number**
[2] **Based on address in Medicare records**
[3] **Proportion of all unreferred attendances to GPs with a provider number in Division 318 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 Highlands 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 Highlands 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 is below that in country Victoria. There were fewer people in Central Highlands DGP who had type 2 diabetes and were overweight/ obese, compared to country Victoria: the rate in the Division was consistent with that for Australia.

Figure 6: Estimates of selected chronic diseases and risk factors, Central Highlands DGP, country Victoria and Australia, 2001
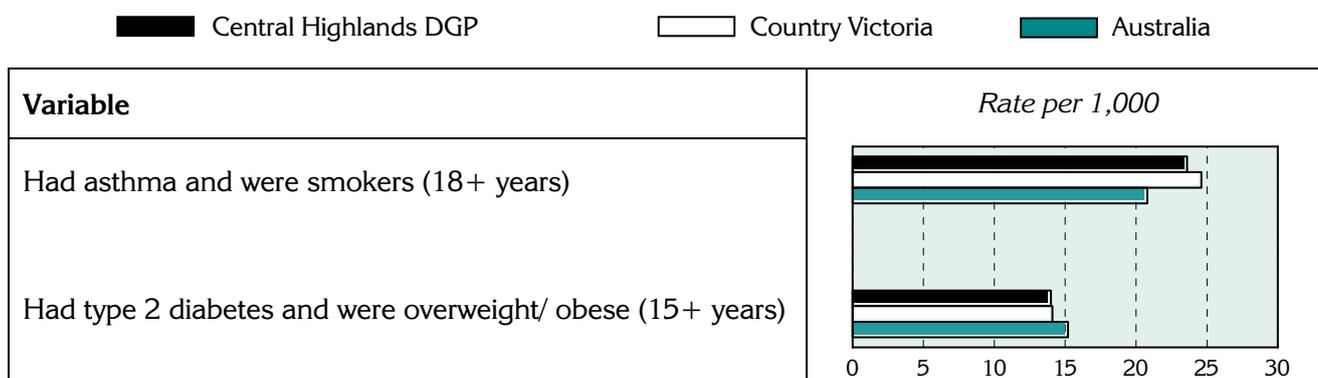
Table 5: Estimates of selected chronic diseases and risk factors, Central Highlands DGP, country Victoria, Victoria and Australia, 2001

Variable	Central Highlands DGP		Country Victoria		Victoria		Australia	
	No.[1]	Rate[2]	No.[1]	Rate[2]	No.[1]	Rate[2]	No.[1]	Rate[1]
Had asthma & smoked[3]	3,302	23.6	29,424	24.6	95,664	19.9	397,734	20.8
Had type 2 diabetes & were overweight/ obese[4]	1,716	14.0	19,136	14.1	69,192	15.1	283,176	15.2

[1] No. is a weighted estimate of the number of people in Central Highlands 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 3,609 admissions from ambulatory care sensitive (ACS) conditions accounted for 8.1% of all admissions in the Central Highlands DGP (Table 6, Figure 7), below the levels in Victoria (8.8%) and Australia (8.7%).

Table 6: Avoidable[1] and unavoidable hospitalisations, Central Highlands DGP, Victoria, and Australia, 2001/02

Category	Central Highlands DGP			Victoria			Australia		
	No.	Rate[2]	%	No.	Rate[2]	%	No.	Rate[2]	%
Avoidable[1]	3,609	2,685.5	8.1	145,135	2,983.2	8.8	552,786	2,847.5	8.7
Unavoidable	40,972	29,688.6	91.9	1,510,437	31,088.3	91.2	5,818,199	29,970.7	91.3
Total	**44,581**	**32,377.3**	**100.0**	**1,655,572**	**34,071.5**	**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 hospitalisations[1], Central Highlands DGP, Victoria and Australia, 2001/02
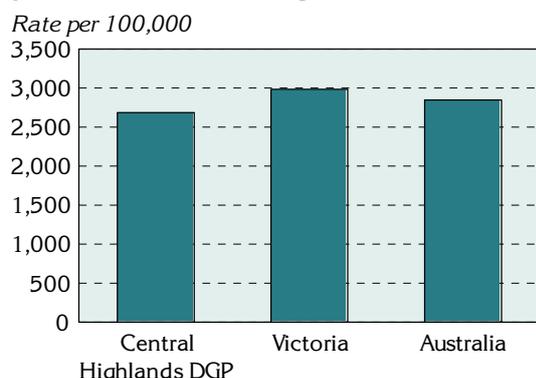
The rate of avoidable hospitalisations in Central Highlands DGP is notably lower, a rate of 2,685.5 admissions per 100,000 population, compared to both Victoria (a rate of 2,983.2) and Australia (2,847.5).

[1] Admissions resulting from ACS conditions

Diabetes complications, chronic obstructive pulmonary disease, dental conditions and congestive heart failure were the four conditions with the highest rates of avoidable hospitalisations in the Central Highlands 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. 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. Dental conditions, and dehydration and gastroenteritis, have the highest rates of avoidable hospitalisations for the acute conditions.

Figure 8: Avoidable hospitalisations[1] by condition, Central Highlands DGP and Victoria, 2001/02
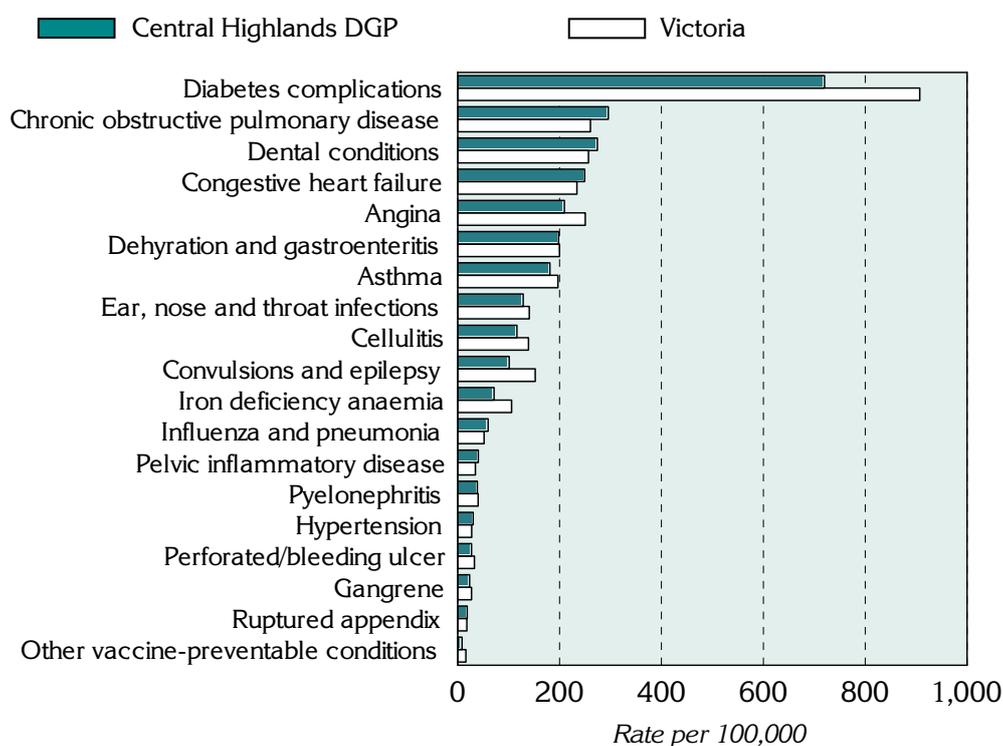
[1] Admissions resulting from ACS conditions: excludes nutritional deficiencies as less than ten admissions

Table 7: Avoidable hospitalisations[1] by condition, Central Highlands DGP, Victoria and Australia, 2001/02

Sub-category/ condition	Central Highlands DGP		Victoria		Australia	
	No.	Rate[2]	No.	Rate[2]	No.	Rate[2]
Vaccine-preventable	**95**	**68.6**	**3,293**	**68.0**	**16,573**	**85.4**
Influenza and pneumonia	82	59.9	2,525	52.0	13,021	67.1
Other vaccine preventable	13	8.7	768	16.0	3,552	18.3
Chronic[3]	**2,197**	**1,757.6**	**97,133**	**1,982.6**	**352,545**	**1,816**
Diabetes complications	901	720.1	44,409	906.9	141,345	728.1
Iron deficiency anaemia	92	71.4	5,196	105.9	16,451	84.7
Hypertension	39	30.5	1,362	27.7	6,354	32.7
Congestive heart failure	276	249.3	11,655	234.1	42,447	218.6
Angina	257	209.6	12,285	250.4	49,963	257.4
Chronic obstructive pulmonary disease	346	295.6	12,850	260.7	54,853	282.6
Asthma	286	181.1	9,376	196.9	41,009	211.3
Acute	**1,429**	**966.2**	**50,153**	**1,041.7**	**200,913**	**1,035**
Dehydration and gastroenteritis	266	198.0	9,761	200.0	37,766	194.5
Convulsions and epilepsy	153	101.2	7,297	152.4	31,137	160.4
Ear, nose and throat infections	207	128.4	6,653	140.5	32,075	165.2
Dental conditions	437	274.2	12,235	256.7	43,667	224.9
Perforated/bleeding ulcer	33	27.2	1,618	32.9	5,795	29.9
Ruptured appendix	29	18.7	855	17.9	3,866	19.9
Pyelonephritis	55	38.5	1,948	40.2	7,386	38.0
Pelvic inflammatory disease	61	40.3	1,693	34.8	6,547	33.7
Cellulitis	159	116.2	6,751	139.0	28,204	145.3
Gangrene	29	23.5	1,342	27.3	4,470	23.0
Total avoidable hospitalisations[4]	**3,609**	**2,685.5**	**145,135**	**2,983.2**	**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**

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.

Over two-thirds (70.6%) of all deaths in Central 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 Victoria (70.8%) (Table 8). Deaths amenable to health care (amenable mortality, a subset of avoidable mortality) accounted for 29.3% of all deaths at ages 0 to 74 years in Central Highlands DGP, slightly higher than the 28.7% in country Victoria.

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

Mortality category	Central Highlands DGP		Country Victoria		Victoria		Australia	
	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]
Avoidable	1,198	203.9	14,812	221.0	45,466	201.3	189,845	211.8
% of total	**70.6**	..	**70.8**	..	**70.9**	..	**71.5**	..
(Amenable)	(498)	(85.1)	(6,001)	(88.2)	(18,406)	(81.4)	(76,249)	(85.1)
(% of total)	**(29.3)**	**(..)**	**(28.7)**	**(..)**	**(28.7)**	**(..)**	**(28.7)**	**(..)**
Unavoidable	501	85.3	6,100	90.0	18,617	82.4	75,582	84.3
% of total	**29.5**	..	**29.2**	..	**29.1**	..	**28.5**	..
Total mortality	**1,698**	**289.2**	**20,912**	**311.0**	**64,083**	**283.7**	**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 Highlands DGP's rate of avoidable mortality for males was 255.7 deaths per 100,000 males, higher than the rate of 151.6 for females. The rate of amenable mortality for males in the Division was also higher, 89.7, compared to 80.4 for females, a rate ratio of 1.12 (Figure 9, Table 9).

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

Note: the different scales
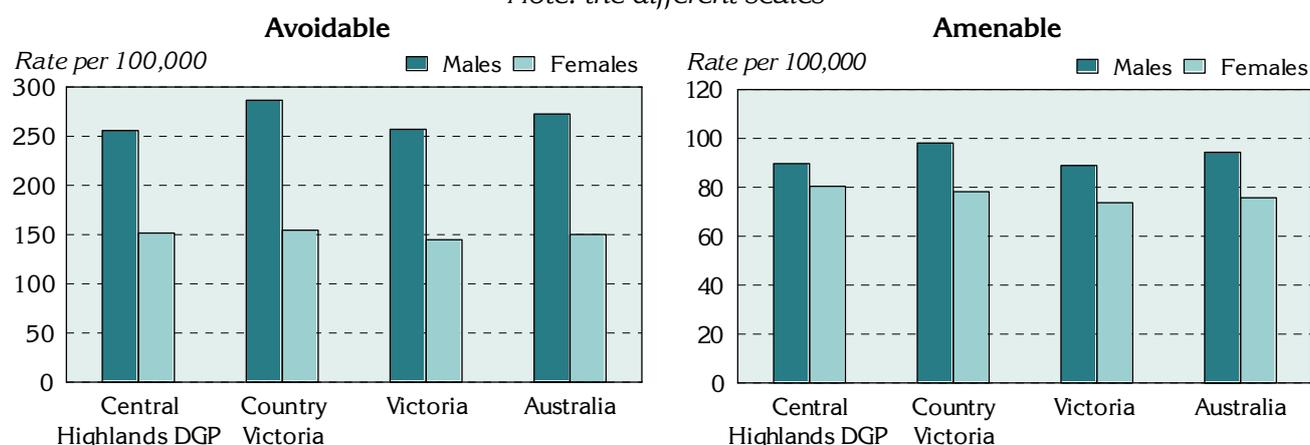
Table 9: Avoidable and amenable mortality (0 to 74 years) by sex, Central Highlands DGP, country Victoria, Victoria and Australia, 1997 to 2001

Mortality category and sex	Central Highlands DGP		Country Victoria		Victoria		Australia	
	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]
Avoidable								
Males	766	255.7	9,664	286.5	29,042	257.0	123,026	272.6
Females	432	151.6	5,148	154.5	16,424	144.8	66,819	150.1
Total	**1,198**	**203.9**	**14,812**	**221.0**	**45,466**	**201.3**	**189,845**	**211.8**
Rate ratio–M:F[2]	..	1.69**	..	1.85**	..	1.77**	..	1.82**
Amenable								
Males	267	89.7	3,386	98.1	10,052	88.9	42,568	94.3
Females	231	80.4	2,615	78.2	8,354	73.7	33,681	75.7
Total	**498**	**85.1**	**6,001**	**88.2**	**18,406**	**81.4**	**76,249**	**85.1**
Rate ratio–M:F[2]	..	1.12	..	1.25**	..	1.21**	..	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 Highlands DGP, country Victoria, Victoria 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 71.0% of total YLL (0 to 74 years) for Central Highlands DGP, consistent with the proportion for country Victoria. The proportion of YLL from amenable mortality for Central Highlands DGP (28.8%), was marginally higher than that for country Victoria (28.1%).

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

Mortality category	Central Highlands DGP		Country Victoria		Victoria		Australia	
	No.	% of total	No.	% of total	No.	% of total	No.	% of total
Avoidable	21,903	71.0	253,666	71.2	790,054	71.5	3,327,375	71.9
(Amenable)	(8,882)	(28.8)	(100,131)	(28.1)	(310,758)	(28.1)	(1,298,430)	(28.0)
Unavoidable	8,959	29.0	102,576	28.8	315,555	28.5	1,303,289	28.1
Total	**30,862**	**100.0**	**356,242**	**100.0**	**1,105,610**	**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 1,314.5 deaths per 100,000 population in the Central 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 297.6 in the Central Highlands Division.

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

Mortality category and age (years)	Central Highlands DGP		Country Victoria		Victoria		Australia	
	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]
Avoidable								
0-14	47	26.7	416	29.9	1,290	27.1	5,669	28.8
15-24	68	70.7	507	61.8	1,627	49.3	7,045	52.8
25-44	152	69.0	1,615	88.6	5,705	78.9	24,356	83.9
45-64	448	297.6	4,881	320.7	15,004	286.9	64,282	304.9
65-74	484	1,314.5	7,393	1396.1	21,840	1306.6	88,493	1,358.1
Total	**1,198**	**203.9**	**14,812**	**221.0**	**45,466**	**201.3**	**189,845**	**211.8**
Amenable								
0-24	45	15.8	352	15.5	1,189	14.9	5,083	15.4
25-44	45	19.5	419	22.3	1,382	19.1	5,946	20.5
45-64	196	131.4	2,091	137.4	6,489	123.8	27,464	130.3
65-74	212	578.4	3,139	593.1	9,348	558.6	37,756	579.4
Total	**498**	**85.1**	**6,001**	**88.2**	**18,406**	**81.4**	**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 Highlands DGP were for cancer, with a rate of 72.4 deaths per 100,000 population, and cardiovascular diseases, 61.0 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 45.3 per 100,000 population and 25.5 per 100,000, respectively.

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

Condition group/ selected cause	Central Highlands DGP		Country Victoria		Victoria		Australia	
	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]
Cancer	**416**	**72.4**	**5,074**	**74.2**	**15,813**	**69.8**	**62,338**	**69.5**
Colorectal cancer	84	14.8	1,133	16.5	3,351	14.8	13,008	14.5
Lung cancer	143	25.5	1,739	25.0	5,244	23.1	21,208	23.7
Cardiovascular diseases	**341**	**61.0**	**4,666**	**67.0**	**13,612**	**60.0**	**59,945**	**66.9**
Ischaemic heart disease	254	45.3	3,432	49.3	9,809	43.3	43,712	48.8
Cerebrovascular diseases	58	10.5	934	13.4	2,947	12.9	12,558	14.0
Respiratory system diseases	**58**	**10.8**	**977**	**13.9**	**2,621**	**11.5**	**11,612**	**13.0**
Chronic obstructive pulmonary disease	49	9.3	888	12.5	2,339	10.2	10,395	11.6
Unintentional injuries	**121**	**18.5**	**1,142**	**19.3**	**3,536**	**15.9**	**14,224**	**15.9**
Road traffic injuries	81	12.3	739	12.5	1,931	8.7	8,138	9.1
Intentional injuries	**90**	**13.7**	**946**	**16.2**	**3,020**	**13.6**	**13,891**	**15.5**
Suicide and self inflicted injuries	86	13.2	875	15.0	2,752	12.3	12,393	13.8

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

Rates in the Division were generally above or consistent with those in country Victoria (with the only exception being Cerebrovascular diseases), and generally below or consistent with those in Australia (with the exception of cancer – total and lung cancer; and unintentional injuries – total and road traffic injuries) (Figure 10).

Figure 10: Avoidable mortality (0 to 74 years) by major condition group and selected cause, Central Highlands DGP, country Victoria and Australia, 1997 to 2001
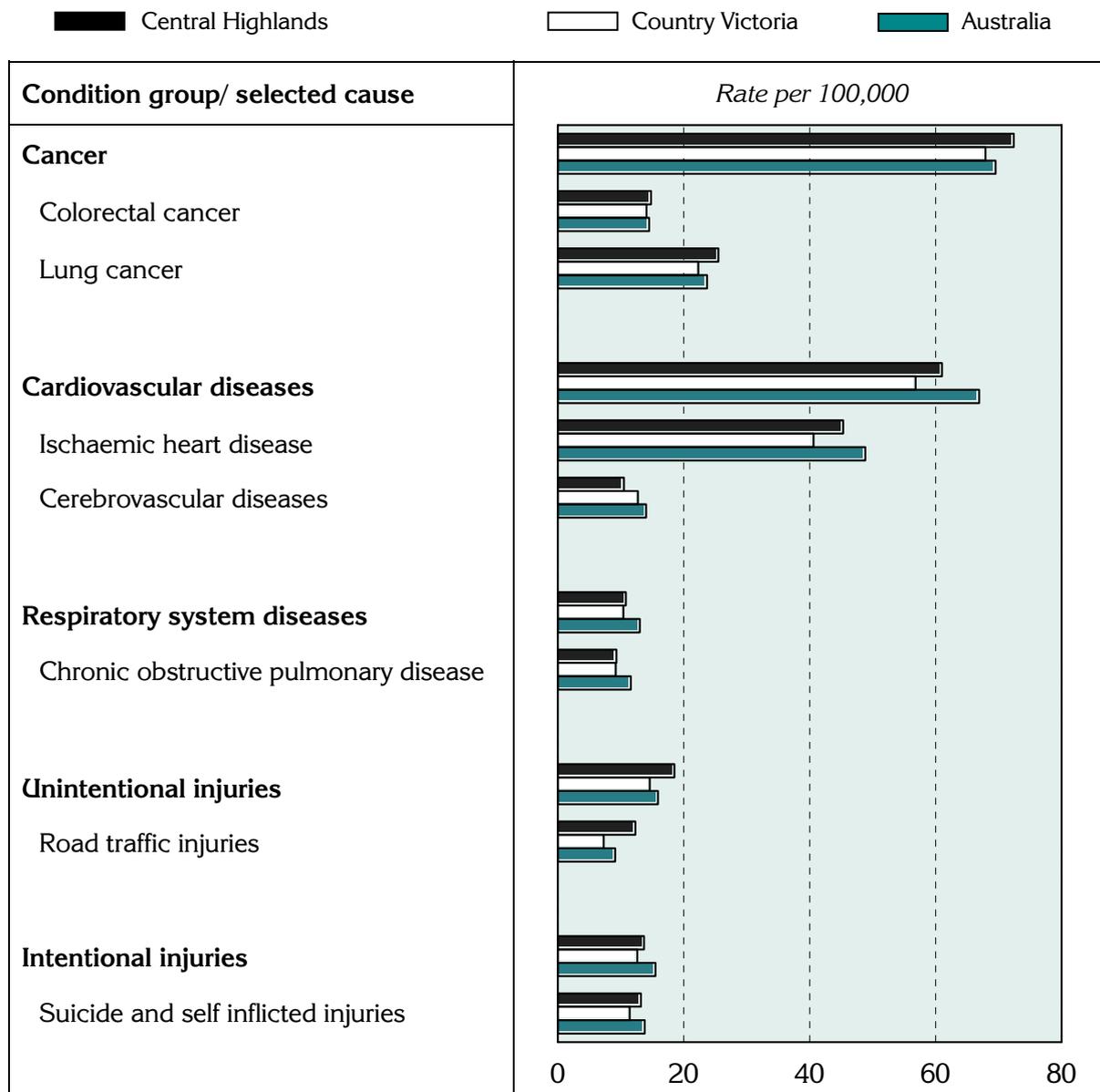
Notes on the data

Data sources and limitations

General

References to 'country Victoria' relate to Victoria excluding the Melbourne 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 (i.e. jobless families, people with health insurance): these areas are mapped with a pattern.

Statistical geography of the Central 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).

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, a number of Local Government Areas (LGAs) have been split into SLAs. For example, Hume has two SLAs, Craigieburn (a small part is in the Division) and Sunbury (wholly in the Division). These SLAs and parts of other SLAs listed comprise the Division (Table 14).

Table 14: SLAs and population in Central 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
22628	Greater Bendigo - Part B	2.7	308
22758	Greater Geelong - Part C	9.3	253
22911	Hepburn - East	58.6	4,591
23274	Hume - Craigieburn	1.0	530
23275	Hume - Sunbury	100.0	33,697
24131	Macedon Ranges - Kyneton	100.0	8,727
24134	Macedon Ranges - Romsey	100.0	11,462
24135	Macedon Ranges Balance	100.0	20,654
24651	Melton - East	25.5	9,142
24654	Melton Balance	65.3	26,318
24851	Mitchell - North	57.3	6,492
24854	Mitchell - South	100.0	21,217
25151	Moorabool - Bacchus Marsh	100.0	16,700
25154	Moorabool - Ballan	5.4	342
25431	Mount Alexander - Castlemaine	70.0	5,114
25434	Mount Alexander Balance	48.8	4,852
25622	Murrindindi - West	15.7	1,205
26430	Strathbogie	7.4	712

* **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

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:

Phone: 08-8303 6236   or   e-mail: PHIDU@publichealth.gov.au