

# Population health profile of the Knox

## Division of General Practice: supplement

Population Profile Series: No. 50a

PHIDU

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**Public Health Information Development Unit, The University of Adelaide**  
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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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Enquiries about or comments on this publication should be addressed to:

PHIDU, The University of Adelaide, South Australia 5005  
Phone: 08-8303 6236 or e-mail: [PHIDU@publichealth.gov.au](mailto:PHIDU@publichealth.gov.au)

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Contributors: Anthea Page, Sarah Ambrose, Kristin Leahy and John Glover

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

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

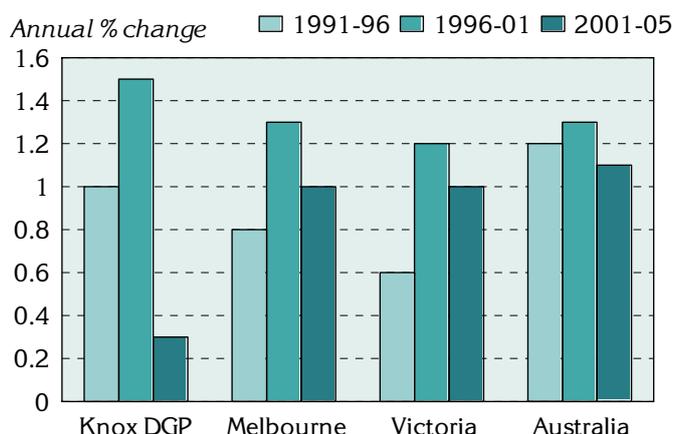
- Population [updated to June 2005]
- Additional socio-demographic indicators
- Unreferred attendances – patient flow/ GP catchment
- Additional prevalence estimates: chronic diseases and risk factors combined
- Avoidable hospitalisations: hospital admissions resulting from ambulatory care sensitive 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 Knox Division had an Estimated Resident Population of 199,129 at 30 June 2005.

**Figure 1: Annual population change, Knox DGP, Melbourne, Victoria and Australia, 1991 to 1996, 1996 to 2001 and 2001 to 2005**



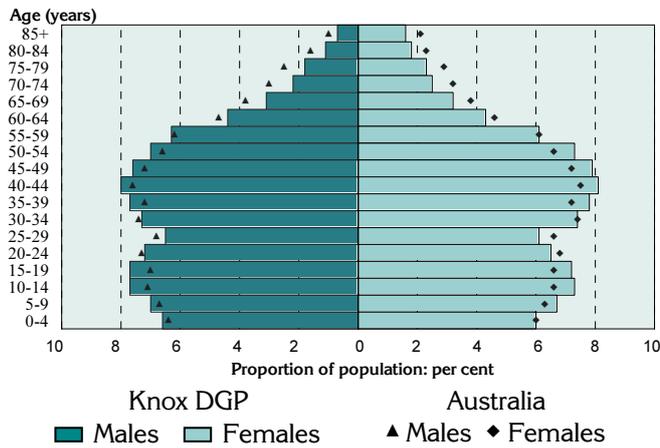
Over the five years from 1991 to 1996, the Division's population increased by 1.0% on average each year, higher than in Melbourne (0.8%) and Victoria (0.6%), but lower than Australia as a whole (1.2%). From 1996 to 2001, the annual percentage increase in the Division was 1.5%, greater than the increases for the other areas (1.3%, 1.2% and 1.3%, respectively). The Division's growth rate declined to 0.3% from 2001 to 2005, well below the annual increases of 1.0% for Melbourne and Victoria, and 1.1% for Australia.

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

| Age group (years) | Knox DGP       |              | Australia         |              |
|-------------------|----------------|--------------|-------------------|--------------|
|                   | No.            | %            | No.               | %            |
| 0-14              | 41,181         | 20.7         | 3,978,221         | 19.6         |
| 15-24             | 28,367         | 14.2         | 2,819,834         | 13.9         |
| 25-44             | 58,708         | 29.5         | 5,878,107         | 28.9         |
| 45-64             | 50,657         | 25.4         | 4,984,446         | 24.5         |
| 65-74             | 10,945         | 5.5          | 1,398,831         | 6.9          |
| 75-84             | 6,928          | 3.5          | 954,143           | 4.7          |
| 85+               | 2,343          | 1.2          | 315,027           | 1.5          |
| <b>Total</b>      | <b>199,129</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), the Knox DGP had relatively more children than Australia as a whole, with 20.7% at ages 0 to 14 years (compared to 19.6% for Australia). Conversely, the 65 years and over age groups had lower proportions compared to Australia as a whole.

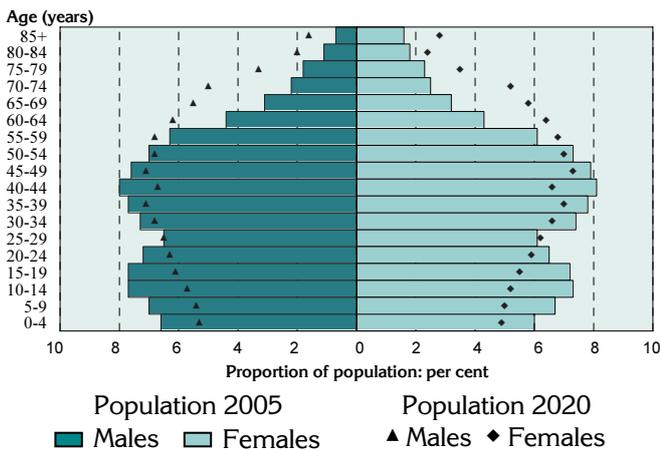
**Figure 2: Population in Knox DGP and Australia, by age and sex, 2005**



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

- at younger ages – a higher proportion of children and young people aged 5 to 19 years;
- From 20 to 34 years – lower proportions of males and females (to 29 years);
- from 35 to 54 years – higher proportions of both males and females; and
- from 60 years of age – lower proportions of both males and females

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



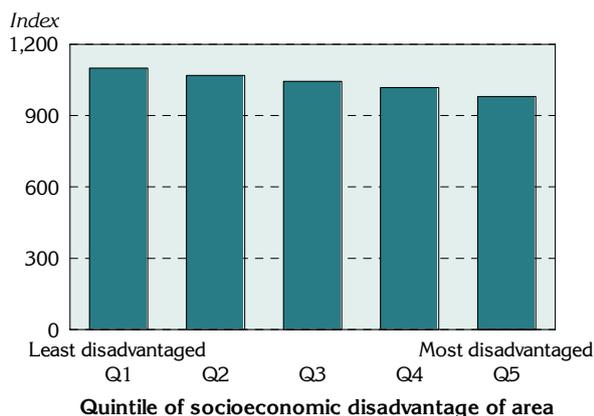
The population projections for the Division show a number of changes in age distribution, with the 2020 population projected to have:

- at younger ages – lower proportions of children, teenagers and young adults, aged 0 to 24 years;
- from 30 to 54 years – lower proportions of both males and females; and
- from 55 years of age – higher proportions of both males and females.

## Additional socio-demographic indicators

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



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

The Knox DGP has an index score of 1042, above the score for Australia of 1000: this score varies across the Division, from 979 in the most disadvantaged areas to 1099 in the least disadvantaged areas.

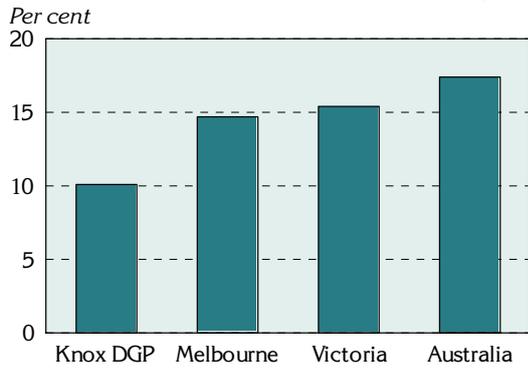
Note: each 'quintile' comprises approximately 20% of the population of the Division.

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 Knox DGP (10.1%), compared to Melbourne as a whole (14.7%) (Figure 5, Table 2).

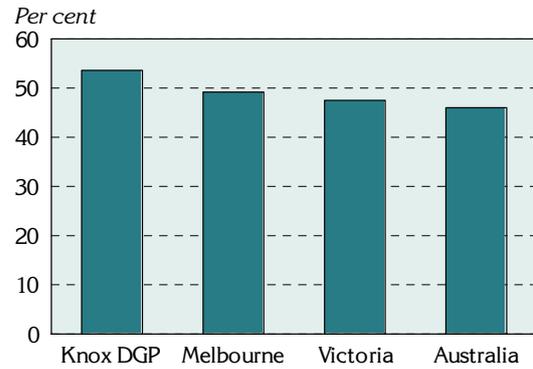
With the introduction of the 30% rebate for private health insurance premiums, there was a once-off registration process, providing information of the postcode and residence of those who had such insurance (these data are not available at this area level for later dates). In 2001, the Division had a higher proportion of people with private health insurance (53.6%), compared to Melbourne (49.2%) (Figure 5, Table 2).

**Figure 5: Socio-demographic indicators, Knox DGP, Melbourne, Victoria and Australia, 2001**

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



**Private health insurance, 30 June**

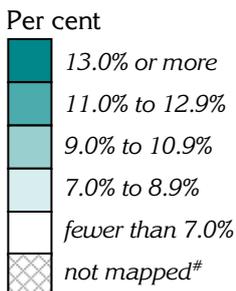
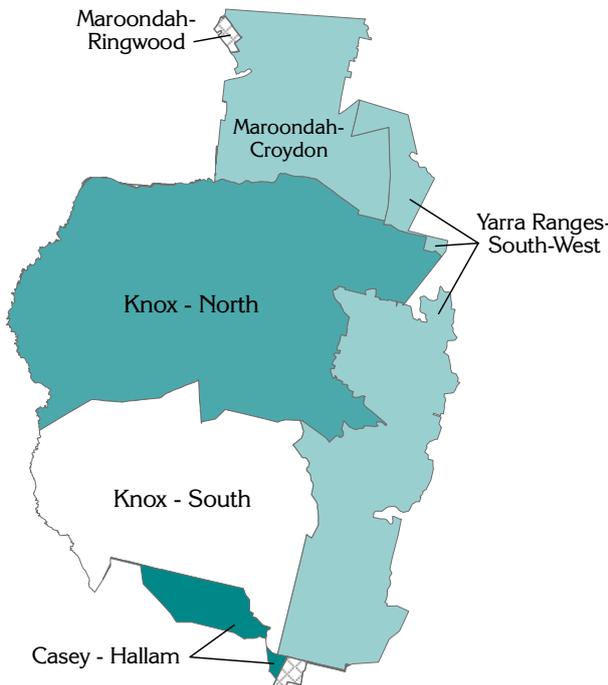


**Table 2: Socio-demographic indicators, Knox DGP, Melbourne, Victoria and Australia, 2001**

| Indicator   | Knox DGP |      | Melbourne |      | Victoria  |      | Australia |      |
|---|----------|------|-----------|------|-----------|------|-----------|------|
|   | No.      | %    | No.       | %    | No.       | %    | No.       | %    |
| Jobless families with children under 15 years old | 2,341    | 10.1 | 52,418    | 14.7 | 77,142    | 15.4 | 357,563   | 17.4 |
| Private health insurance (30 June)                | 101,092  | 53.6 | 1,653,598 | 49.2 | 2,196,890 | 47.5 | 8,671,106 | 46.0 |

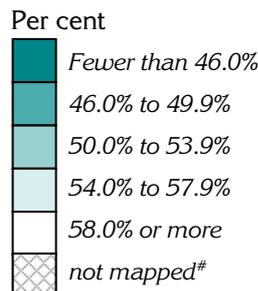
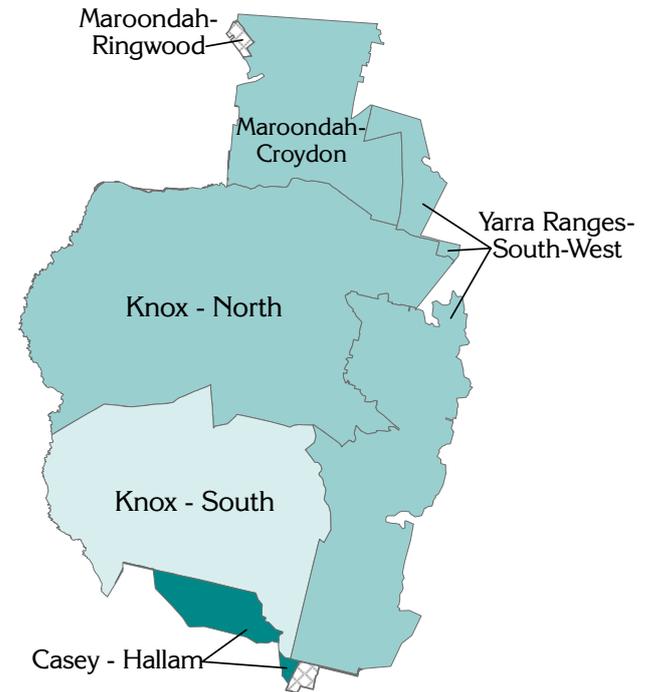
Details of the distribution of jobless families and of the population covered by private health insurance are shown by Statistical Local Area (SLA) in Maps 1 and 2, respectively.

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



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

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



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

## GP services to residents of the Knox 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.

More than two thirds (69.5%) of all unreferred attendances to residents of Knox DGP were provided in the Division (ie. by a GP with a provider number in the Division): this represented 683,693 GP unreferred attendances (Table 3). A further 8.6% of unreferred attendances to residents were provided by GPs with a provider number in Whitehorse DGP.

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

| Division     |                             | Unreferred attendances |                |
|--------------|-----------------------------|------------------------|----------------|
| Number       | Name                        | No.                    | % <sup>3</sup> |
| 314          | Knox DGP                    | 683,693                | 69.5           |
| 310          | Whitehorse DGP              | 84,671                 | 8.6            |
| 320          | Eastern Ranges DGP          | 61,768                 | 6.3            |
| 311          | Greater South Eastern DGP   | 46,267                 | 4.7            |
| 315          | Dandenong District DGP      | 29,090                 | 3.0            |
| 303          | Inner Eastern Melbourne DGP | 15,460                 | 1.6            |
| 301          | Melbourne DGP               | 13,836                 | 1.4            |
| 312          | Monash DGP                  | 13,115                 | 1.3            |
| Other        | ..                          | 36,480                 | 3.7            |
| <b>Total</b> | <b>..</b>                   | <b>984,380</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 314 by Division in which attendance occurred

Three quarters (74.2%) of unreferred attendances provided by GPs with a provider number in Knox DGP were to people living in the Division (ie. their Medicare address was in the Division) (Table 4). A further 11.1% of unreferred attendances provided by GPs in the Division were to people residents of Eastern Ranges DGP, with 6.3% to people living in Whitehorse DGP.

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

| Division     |                           | Unreferred attendances |                |
|--------------|---------------------------|------------------------|----------------|
| Number       | Name                      | No.                    | % <sup>3</sup> |
| 314          | Knox DGP                  | 683,693                | 74.2           |
| 320          | Eastern Ranges DGP        | 102,253                | 11.1           |
| 310          | Whitehorse DGP            | 57,686                 | 6.3            |
| 311          | Greater South Eastern DGP | 21,729                 | 2.4            |
| 315          | Dandenong District DGP    | 20,996                 | 2.3            |
| Other        | ..                        | 34,864                 | 3.7            |
| <b>Total</b> | <b>..</b>                 | <b>921,221</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 314 by Division of patient address

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

Please refer to the earlier *Population health profile of the Knox 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 fewer people in Knox 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 lower (although they were slightly above the rate in Melbourne). Similarly, there were relatively fewer people in Knox DGP who had type 2 diabetes and were overweight/ obese, compared to Melbourne and Australia.

**Figure 6: Estimates of selected chronic diseases and risk factors, Knox DGP, Melbourne and Australia, 2001**



**Table 5: Estimates of selected chronic diseases and risk factors, Knox DGP, Melbourne, Victoria and Australia, 2001**

| Variable  | Knox DGP         |                   | Melbourne        |                   | Victoria         |                   | 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 & smoked <sup>3</sup>                          | 3,665            | 18.9              | 66,240           | 18.4              | 95,664           | 19.9              | 397,734          | 20.8              |
| Had type 2 diabetes & were overweight/ obese <sup>4</sup> | 2,141            | 13.4              | 50,057           | 15.6              | 69,192           | 15.1              | 283,176          | 15.2              |

<sup>1</sup> No. is a weighted estimate of the number of people in Knox 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 4,413 admissions from ambulatory care sensitive (ACS) conditions accounted for 7.7% of all admissions in the Knox DGP (Table 6, Figure 7), notably below the levels in Victoria (8.8%) and Australia (8.7%).

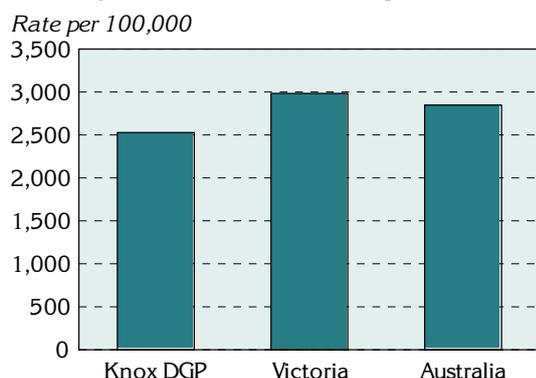
**Table 6: Avoidable<sup>1</sup> and unavoidable hospitalisations, Knox DGP, Victoria, and Australia, 2001/02**

| Category               | Knox DGP      |                   |              | Victoria         |                   |              | Australia        |                   |              |
|------------------------|---------------|-------------------|--------------|------------------|-------------------|--------------|------------------|-------------------|--------------|
|                        | No.           | Rate <sup>2</sup> | %            | No.              | Rate <sup>2</sup> | %            | No.              | Rate <sup>2</sup> | %            |
| Avoidable <sup>1</sup> | 4,413         | 2,528.3           | 7.7          | 145,135          | 2,983.2           | 8.8          | 552,786          | 2,847.5           | 8.7          |
| Unavoidable            | 52,871        | 29,194.3          | 92.3         | 1,510,437        | 31,088.3          | 91.2         | 5,818,199        | 29,970.7          | 91.3         |
| <b>Total</b>           | <b>57,284</b> | <b>31,730.7</b>   | <b>100.0</b> | <b>1,655,572</b> | <b>34,071.5</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>, Knox DGP, Victoria and Australia, 2001/02**



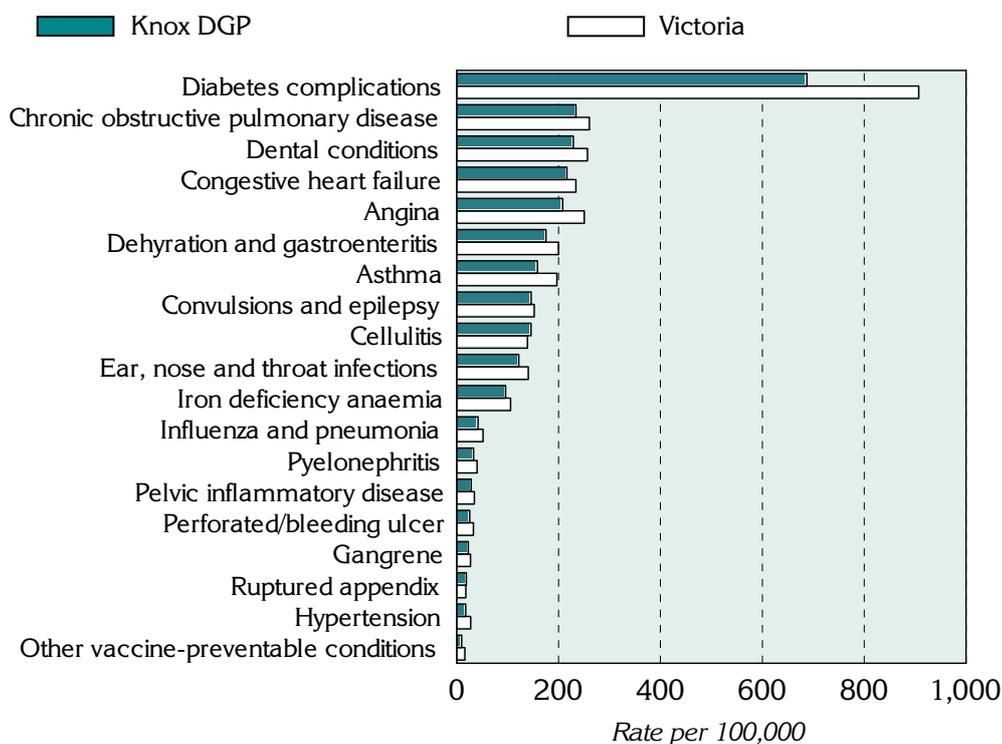
The rate of avoidable hospitalisations in Knox DGP, 2,528.3 admissions per 100,000 population, is notably lower than the rates for Victoria (a rate of 2,983.2) and for Australia (2,847.5).

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

Diabetes complications, chronic obstructive pulmonary disease, dental conditions, congestive heart failure and angina were the five conditions with the highest rates of avoidable hospitalisations in the Knox 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<sup>1</sup> by condition, Knox DGP and Victoria, 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, Knox DGP, Victoria and Australia, 2001/02**

| Sub-category/ condition                             | Knox DGP     |                   | Victoria       |                   | Australia      |                   |
|---|--------------|-------------------|----------------|-------------------|----------------|-------------------|
|   | No.          | Rate <sup>2</sup> | No.            | Rate <sup>2</sup> | No.            | Rate <sup>2</sup> |
| <b>Vaccine-preventable</b>                          | <b>93</b>    | <b>51.9</b>       | <b>3,293</b>   | <b>68.0</b>       | <b>16,573</b>  | <b>85.4</b>       |
| Influenza and pneumonia                             | 74           | 42.0              | 2,525          | 52.0              | 13,021         | 67.1              |
| Other vaccine preventable                           | 19           | 9.9               | 768            | 16.0              | 3,552          | 18.3              |
| <b>Chronic<sup>3</sup></b>                          | <b>2,643</b> | <b>1,618.9</b>    | <b>97,133</b>  | <b>1,982.6</b>    | <b>352,545</b> | <b>1,816</b>      |
| Diabetes complications                              | 1,116        | 687.6             | 44,409         | 906.9             | 141,345        | 728.1             |
| Iron deficiency anaemia                             | 164          | 96.2              | 5,196          | 105.9             | 16,451         | 84.7              |
| Hypertension  | 30           | 17.7              | 1,362          | 27.7              | 6,354          | 32.7              |
| Congestive heart failure                            | 327          | 216.6             | 11,655         | 234.1             | 42,447         | 218.6             |
| Angina  | 335          | 208.3             | 12,285         | 250.4             | 49,963         | 257.4             |
| Chronic obstructive pulmonary disease               | 356          | 234.0             | 12,850         | 260.7             | 54,853         | 282.6             |
| Asthma  | 315          | 158.5             | 9,376          | 196.9             | 41,009         | 211.3             |
| <b>Acute</b>  | <b>1,811</b> | <b>948.0</b>      | <b>50,153</b>  | <b>1,041.7</b>    | <b>200,913</b> | <b>1,035</b>      |
| Dehydration and gastroenteritis                     | 316          | 175.3             | 9,761          | 200.0             | 37,766         | 194.5             |
| Convulsions and epilepsy                            | 285          | 146.2             | 7,297          | 152.4             | 31,137         | 160.4             |
| Ear, nose and throat infections                     | 247          | 121.9             | 6,653          | 140.5             | 32,075         | 165.2             |
| Dental conditions                                   | 460          | 229.1             | 12,235         | 256.7             | 43,667         | 224.9             |
| Perforated/bleeding ulcer                           | 41           | 25.7              | 1,618          | 32.9              | 5,795          | 29.9              |
| Ruptured appendix                                   | 38           | 19.0              | 855            | 17.9              | 3,866          | 19.9              |
| Pyelonephritis                                      | 64           | 33.4              | 1,948          | 40.2              | 7,386          | 38.0              |
| Pelvic inflammatory disease                         | 58           | 28.5              | 1,693          | 34.8              | 6,547          | 33.7              |
| Cellulitis  | 264          | 146.0             | 6,751          | 139.0             | 28,204         | 145.3             |
| Gangrene  | 38           | 22.9              | 1,342          | 27.3              | 4,470          | 23.0              |
| <b>Total avoidable hospitalisations<sup>4</sup></b> | <b>4,413</b> | <b>2,528.3</b>    | <b>145,135</b> | <b>2,983.2</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).

Over two-thirds (71.1%) of all deaths in Knox DGP at ages 0 to 74 years over the period 1997 to 2001 are considered to be avoidable, consistent with the proportion for Melbourne (71.0%) (Table 8). Deaths amenable to health care (amenable mortality, a subset of avoidable mortality) accounted for 27.7% of all deaths at ages 0 to 74 years in Knox DGP, lower than the 28.7% in Melbourne.

**Table 8: Avoidable and unavoidable mortality (0 to 74 years) by area, Knox DGP, Melbourne, Victoria and Australia, 1997 to 2001**

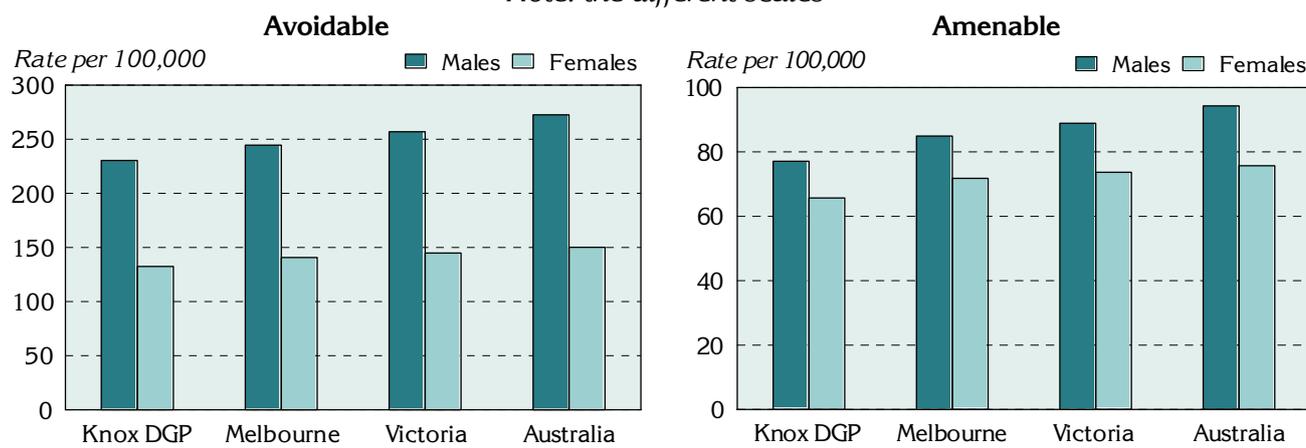
| Mortality category     | Knox DGP      |                   | Melbourne     |                   | Victoria      |                   | Australia      |                   |
|------------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|----------------|-------------------|
|                        | No.           | Rate <sup>1</sup> | No.           | Rate <sup>1</sup> | No.           | Rate <sup>1</sup> | No.            | Rate <sup>1</sup> |
| Avoidable              | 1,389         | 181.8             | 30,654        | 193.0             | 45,466        | 201.3             | 189,845        | 211.8             |
| % of total             | <b>71.1</b>   | ..                | <b>71.0</b>   | ..                | <b>70.9</b>   | ..                | <b>71.5</b>    | ..                |
| (Amenable)             | (541)         | (71.5)            | (12,406)      | (78.4)            | (18,406)      | (81.4)            | (76,249)       | (85.1)            |
| (% of total)           | <b>(27.7)</b> | (..)              | <b>(28.7)</b> | (..)              | <b>(28.7)</b> | (..)              | <b>(28.7)</b>  | (..)              |
| Unavoidable            | 565           | 74.6              | 12,517        | 79.1              | 18,617        | 82.4              | 75,582         | 84.3              |
| % of total             | <b>28.9</b>   | ..                | <b>29.0</b>   | ..                | <b>29.1</b>   | ..                | <b>28.5</b>    | ..                |
| <b>Total mortality</b> | <b>1,954</b>  | <b>256.4</b>      | <b>51,477</b> | <b>272.1</b>      | <b>64,083</b> | <b>283.7</b>      | <b>265,427</b> | <b>296.1</b>      |
| %                      | <b>100.0</b>  | ..                | <b>100.0</b>  | ..                | <b>100.0</b>  | ..                | <b>100.0</b>   | ..                |

<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. Knox DGP's rate of avoidable mortality for males was 230.4 deaths per 100,000 males, higher than the rate of 132.5 for females. The rate of amenable mortality for males in the Division was also higher, 77.1, compared to 65.7 for females, a rate ratio of 1.17 (Figure 9, Table 9).

**Figure 9: Avoidable and amenable mortality by sex (0 to 74 years), Knox DGP, Melbourne, Victoria and Australia, 1997 to 2001**

*Note: the different scales*



**Table 9: Avoidable and amenable mortality (0 to 74 years) by sex, Knox DGP, Melbourne, Victoria and Australia, 1997 to 2001**

| Mortality category and sex        | Knox DGP     |                   | Melbourne     |                   | Victoria      |                   | 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                             | 877          | 230.4             | 19,378        | 244.5             | 29,042        | 257.0             | 123,026        | 272.6             |
| Females                           | 512          | 132.5             | 11,276        | 140.7             | 16,424        | 144.8             | 66,819         | 150.1             |
| <b>Total</b>                      | <b>1,389</b> | <b>181.8</b>      | <b>30,354</b> | <b>193.0</b>      | <b>45,466</b> | <b>201.3</b>      | <b>189,845</b> | <b>211.8</b>      |
| <b>Rate ratio-M:F<sup>2</sup></b> | <b>..</b>    | <b>1.74**</b>     | <b>..</b>     | <b>1.74**</b>     | <b>..</b>     | <b>1.77**</b>     | <b>..</b>      | <b>1.82**</b>     |
| <b>Amenable</b>                   |              |                   |               |                   |               |                   |                |                   |
| Males                             | 285          | 77.1              | 6,667         | 84.9              | 10,052        | 88.9              | 42,568         | 94.3              |
| Females                           | 255          | 65.7              | 5,739         | 71.8              | 8,354         | 73.7              | 33,681         | 75.7              |
| <b>Total</b>                      | <b>541</b>   | <b>71.5</b>       | <b>12,406</b> | <b>78.4</b>       | <b>18,406</b> | <b>81.4</b>       | <b>76,249</b>  | <b>85.1</b>       |
| <b>Rate ratio-M:F<sup>2</sup></b> | <b>..</b>    | <b>1.17</b>       | <b>..</b>     | <b>1.18**</b>     | <b>..</b>     | <b>1.21**</b>     | <b>..</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 Knox DGP, Melbourne, 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 71.4% of total YLL (0 to 74 years) for Knox DGP, consistent with the proportion for Melbourne. The proportion of YLL from amenable mortality for Knox DGP (26.6%) was lower than that for Melbourne (28.1%).

**Table 10: Years of life lost from avoidable mortality (0 to 74 years), Knox DGP, Melbourne, Victoria and Australia, 1997 to 2001**

| Mortality category | Knox DGP      |              | Melbourne      |              | Victoria         |              | Australia        |              |
|--------------------|---------------|--------------|----------------|--------------|------------------|--------------|------------------|--------------|
|                    | No.           | % of total   | No.            | % of total   | No.              | % of total   | No.              | % of total   |
| Avoidable          | 25,274        | 71.4         | 536,388        | 71.6         | 790,054          | 71.5         | 3,327,375        | 71.9         |
| (Amenable)         | (9,432)       | (26.6)       | (210,627)      | (28.1)       | (310,758)        | (28.1)       | (1,298,430)      | (28.0)       |
| Unavoidable        | 10,127        | 28.6         | 212,979        | 28.4         | 315,555          | 28.5         | 1,303,289        | 28.1         |
| <b>Total</b>       | <b>35,401</b> | <b>100.0</b> | <b>749,368</b> | <b>100.0</b> | <b>1,105,610</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 1,266.0 deaths per 100,000 population in the Knox 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 244.7 in the Knox Division.

**Table 11: Avoidable and amenable mortality by age, Knox DGP, Melbourne, Victoria and Australia, 1997 to 2001**

| Mortality category and age (years) | Knox DGP     |                   | Melbourne     |                   | Victoria      |                   | 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                               | 39           | 18.2              | 874           | 26.0              | 1,290         | 27.1              | 5,669          | 28.8              |
| 15-24                              | 79           | 56.4              | 1,120         | 45.2              | 1,627         | 49.3              | 7,045          | 52.8              |
| 25-44                              | 207          | 67.9              | 4,090         | 75.6              | 5,705         | 78.9              | 24,356         | 83.9              |
| 45-64                              | 491          | 244.7             | 10,123        | 273.0             | 15,004        | 286.9             | 64,282         | 304.9             |
| 65-74                              | 573          | 1,266.0           | 14,447        | 1265.1            | 21,840        | 1306.6            | 88,493         | 1,358.1           |
| <b>Total</b>                       | <b>1,389</b> | <b>181.8</b>      | <b>30,654</b> | <b>193.0</b>      | <b>45,466</b> | <b>201.3</b>      | <b>189,845</b> | <b>211.8</b>      |
| <b>Amenable</b>                    |              |                   |               |                   |               |                   |                |                   |
| 0-24                               | 36           | 10.1              | 836           | 14.6              | 1,189         | 14.9              | 5,083          | 15.4              |
| 25-44                              | 44           | 14.3              | 963           | 18.0              | 1,382         | 19.1              | 5,946          | 20.5              |
| 45-64                              | 219          | 109.3             | 4,398         | 118.2             | 6,489         | 123.8             | 27,464         | 130.3             |
| 65-74                              | 241          | 530.8             | 6,209         | 542.7             | 9,348         | 558.6             | 37,756         | 579.4             |
| <b>Total</b>                       | <b>541</b>   | <b>71.5</b>       | <b>12,406</b> | <b>78.4</b>       | <b>18,406</b> | <b>81.4</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 Knox DGP were for cancer, with a rate of 62.7 deaths per 100,000 population, and cardiovascular diseases, 52.9 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 37.3 per 100,000 population and 20.2 per 100,000, respectively.

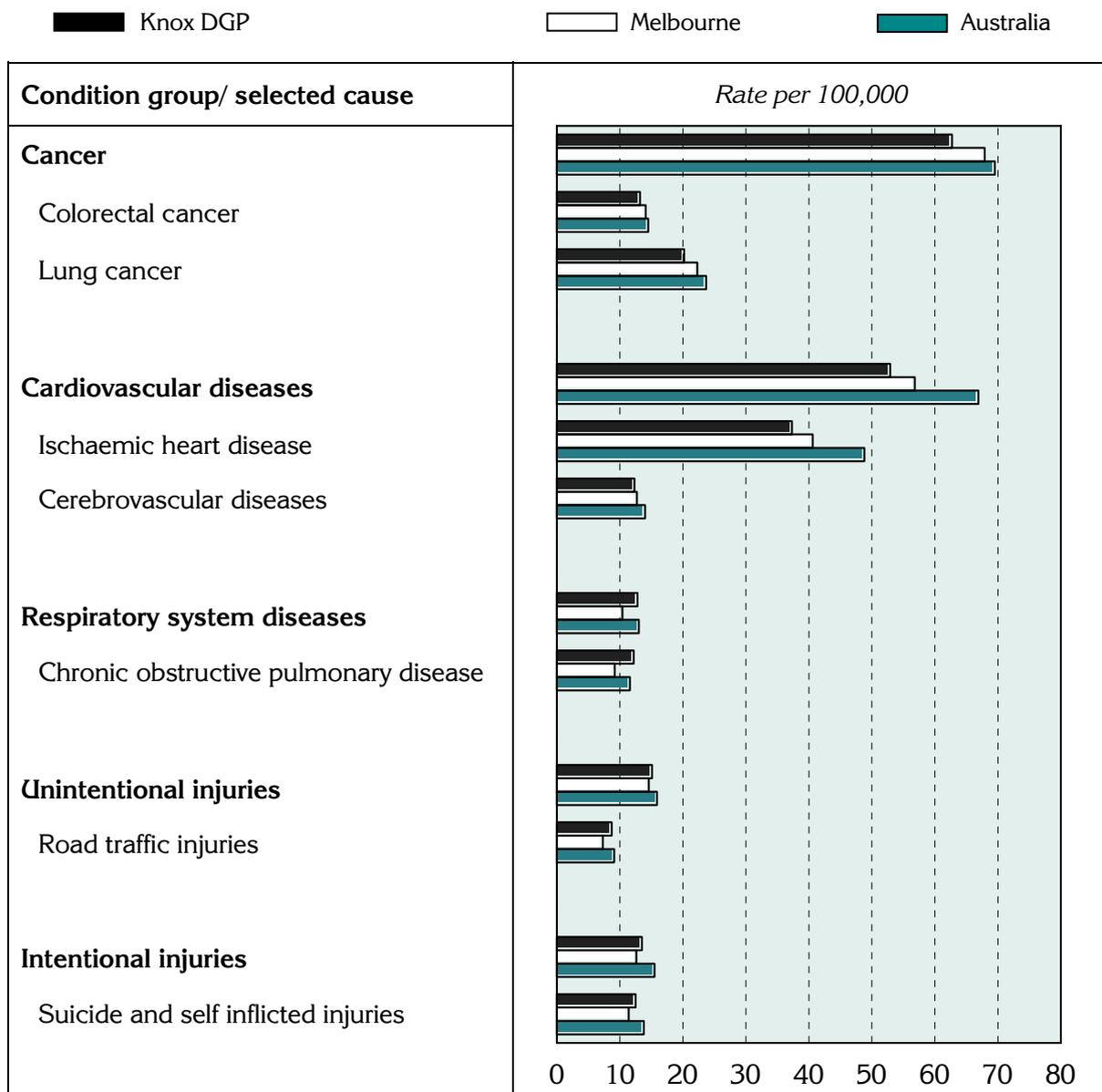
**Table 12: Avoidable mortality (0 to 74 years) by major condition group and selected cause, Knox DGP, Melbourne, Victoria and Australia, 1997 to 2001**

| Condition group/ selected cause       | Knox DGP   |                   | Melbourne     |                   | Victoria      |                   | 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>467</b> | <b>62.7</b>       | <b>10,739</b> | <b>67.9</b>       | <b>15,813</b> | <b>69.8</b>       | <b>62,338</b> | <b>69.5</b>       |
| Colorectal cancer                     | 96         | 13.2              | 2,218         | 14.1              | 3,351         | 14.8              | 13,008        | 14.5              |
| Lung cancer                           | 144        | 20.2              | 3,505         | 22.3              | 5,244         | 23.1              | 21,208        | 23.7              |
| <b>Cardiovascular diseases</b>        | <b>376</b> | <b>52.9</b>       | <b>8,946</b>  | <b>56.8</b>       | <b>13,612</b> | <b>60.0</b>       | <b>59,945</b> | <b>66.9</b>       |
| Ischaemic heart disease               | 266        | 37.3              | 6,377         | 40.6              | 9,809         | 43.3              | 43,712        | 48.8              |
| Cerebrovascular diseases              | 87         | 12.3              | 2,013         | 12.7              | 2,947         | 12.9              | 12,558        | 14.0              |
| <b>Respiratory system diseases</b>    | <b>88</b>  | <b>12.8</b>       | <b>1,644</b>  | <b>10.4</b>       | <b>2,621</b>  | <b>11.5</b>       | <b>11,612</b> | <b>13.0</b>       |
| Chronic obstructive pulmonary disease | 82         | 12.2              | 1,451         | 9.2               | 2,339         | 10.2              | 10,395        | 11.6              |
| <b>Unintentional injuries</b>         | <b>136</b> | <b>15.1</b>       | <b>2,394</b>  | <b>14.6</b>       | <b>3,536</b>  | <b>15.9</b>       | <b>14,224</b> | <b>15.9</b>       |
| Road traffic injuries                 | 79         | 8.7               | 1,192         | 7.3               | 1,931         | 8.7               | 8,138         | 9.1               |
| <b>Intentional injuries</b>           | <b>122</b> | <b>13.5</b>       | <b>2,074</b>  | <b>12.6</b>       | <b>3,020</b>  | <b>13.6</b>       | <b>13,891</b> | <b>15.5</b>       |
| Suicide and self inflicted injuries   | 113        | 12.5              | 1,877         | 11.4              | 2,752         | 12.3              | 12,393        | 13.8              |

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

Rates in the Division for all of the condition groups and selected causes were below or consistent with those in Australia: however rates in Melbourne were frequently somewhat lower than in the Division (Figure 10).

**Figure 10: Avoidable mortality (0 to 74 years) by major condition group and selected cause, Knox DGP, Melbourne and Australia, 1997 to 2001**



# Notes on the data

## Data sources and limitations

### General

References to 'Melbourne' relate to 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  |
|--|---|
| <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;<br>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;<br>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;<br>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 Knox 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, Local Government Areas (LGAs) have been split into SLAs. For example, the Knox LGA has two SLAs – North and South. Both of these SLAs and parts of the other SLAs in Table 14 comprise the Division.

**Table 14: SLAs and population in Knox 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 |
|----------|---------------------------|---|---|
| 21616    | Casey - Hallam            | 1.2   | 614   |
| 23671    | Knox - North              | 100.0   | 108,974   |
| 23674    | Knox - South              | 100.0   | 40,956  |
| 24411    | Maroondah - Croydon       | 55.6  | 32,690  |
| 24412    | Maroondah - Ringwood      | 0.9   | 383   |
| 27455    | Yarra Ranges - South West | 13.6  | 15,512  |

\* 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:

Phone: 08-8303 6236 or e-mail: [PHIDU@publichealth.gov.au](mailto:PHIDU@publichealth.gov.au)