Population health profile of the

Whitehorse

Division of General Practice: supplement

Population Profile Series: No. 46a

PHIDU

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Interpretation of differences between data in this profile and similar data from other sources needs to be undertaken with care, as such differences may be due to the use of different methodology to produce the data.

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This profile is a supplement to the *Population health profile of the Whitehorse 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 Whitehorse 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**


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

![Annual Population Change Graph](image)

Over the five years from 1991 to 1996, the Division’s population decreased by 0.3% on average each year, compared to increases of 0.8% in Melbourne, 0.6% in Victoria, and 1.2% for Australia as a whole. From 1996 to 2001, there was an annual percentage increase in the Division’s population of 0.6%, half that of the comparator areas (1.3%, 1.2% and 1.3% respectively). From 2001 to 2005 the population again decreased by 0.3%, compared to annual increases of 1.0% for Melbourne and Victoria, and 1.1% for Australia.

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

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Whitehorse DGP</th>
<th></th>
<th>Australia</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>0-14</td>
<td>42,885</td>
<td>17.0</td>
<td>3,978,221</td>
<td>19.6</td>
</tr>
<tr>
<td>15-24</td>
<td>33,266</td>
<td>13.2</td>
<td>2,819,834</td>
<td>13.9</td>
</tr>
<tr>
<td>25-44</td>
<td>70,383</td>
<td>27.9</td>
<td>5,878,107</td>
<td>28.9</td>
</tr>
<tr>
<td>45-64</td>
<td>64,944</td>
<td>25.7</td>
<td>4,984,446</td>
<td>24.5</td>
</tr>
<tr>
<td>65-74</td>
<td>21,544</td>
<td>8.5</td>
<td>1,398,831</td>
<td>6.9</td>
</tr>
<tr>
<td>75-84</td>
<td>14,482</td>
<td>5.7</td>
<td>954,143</td>
<td>4.7</td>
</tr>
<tr>
<td>85+</td>
<td>5,145</td>
<td>2.0</td>
<td>315,027</td>
<td>1.5</td>
</tr>
<tr>
<td>Total</td>
<td>252,649</td>
<td>100.0</td>
<td>20,328,609</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As shown in the accompanying table and the age-sex pyramid below (Figure 2), the Whitehorse DGP had relatively fewer children than Australia as a whole, with 17.0% at ages 0 to 14 years (compared to 19.6% for Australia) (Table 1). Conversely, the 45 year and over age groups had higher proportions compared to Australia.
The age distribution of the Division’s population is similar to that for Australia overall. The most notable differences are:

- at younger ages – a lower proportion of children aged 0 to 14 years and young people aged 15 to 19 years;
- from 20 to 54 years – lower proportions of males aged 20 to 29 and 40 to 54 years and females aged 20 to 49 years; and
- at older ages – higher proportions of males 55 years and over, and females aged 50 years and over.

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 34 and 40 to 44 years – lower proportions of both males and females; and
- at ages 45 to 54 and from 60 years onwards – higher proportions of both males and females, markedly so in the age groups 70 to 74 and 85+.

Additional socio-demographic indicators


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

The Whitehorse DGP has an index score of 1074, above the score for Australia of 1000: this score varies across the Division, from an above-average 1005 in the most disadvantaged areas to 1129 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 Whitehorse DGP (9.5%), 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 markedly higher proportion of people with private health insurance (64.8%), compared to Melbourne (49.2%) (Figure 5, Table 2).
Figure 5: Socio-demographic indicators, Whitehorse DGP, Melbourne, Victoria and Australia, 2001

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

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Whitehorse DGP</th>
<th>Melbourne</th>
<th>Victoria</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Jobless families with children under 15 years old</td>
<td>2,329</td>
<td>9.5</td>
<td>52,418</td>
<td>14.7</td>
</tr>
<tr>
<td>Private health insurance (30 June)</td>
<td>158,258</td>
<td>64.8</td>
<td>1,653,598</td>
<td>49.2</td>
</tr>
</tbody>
</table>

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, Whitehorse DGP, 2001

Map 2: People covered by private health insurance by SLA, Whitehorse DGP, 30 June 2001
GP services to residents of the Whitehorse 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.

Two thirds (66.7%) of all unreferred attendances to residents of Whitehorse DGP were provided in the Division (ie. by a GP with a provider number in the Division): this represented 851,858 GP unreferred attendances (Table 3). A further 11.8% of unreferred attendances to residents were provided by GPs with a provider number in Inner Eastern Melbourne DGP, with 4.5% provided by GPs in Knox DGP.

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

<table>
<thead>
<tr>
<th>Division</th>
<th>Unreferred attendances</th>
<th>No.</th>
<th>%³</th>
</tr>
</thead>
<tbody>
<tr>
<td>310 Whitehorse DGP</td>
<td>851,858</td>
<td>66.7</td>
<td></td>
</tr>
<tr>
<td>303 Inner Eastern Melbourne DGP</td>
<td>150,764</td>
<td>11.8</td>
<td></td>
</tr>
<tr>
<td>314 Knox DGP</td>
<td>57,686</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>311 Greater South Eastern DGP</td>
<td>50,268</td>
<td>3.9</td>
<td></td>
</tr>
<tr>
<td>301 Melbourne DGP</td>
<td>46,280</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>302 North East Valley DGP</td>
<td>25,833</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>320 Eastern Ranges DGP</td>
<td>21,393</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>304 Southcity DGP</td>
<td>18,964</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Other ..</td>
<td>53,973</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Total ..</td>
<td>1,277,019</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

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 310 by Division in which attendance occurred

Just over two thirds (67.0%), of unreferred attendances provided by GPs with a provider number in Whitehorse DGP were also to people living in the Division (ie. their Medicare address was in the Division) (Table 4). A further 8.8% of unreferred attendances provided by GPs in the Division were to residents of Inner Eastern Melbourne DGP.

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

<table>
<thead>
<tr>
<th>Division</th>
<th>Unreferred attendances</th>
<th>No.</th>
<th>%³</th>
</tr>
</thead>
<tbody>
<tr>
<td>310 Whitehorse DGP</td>
<td>851,858</td>
<td>67.0</td>
<td></td>
</tr>
<tr>
<td>303 Inner Eastern Melbourne DGP</td>
<td>111,511</td>
<td>8.8</td>
<td></td>
</tr>
<tr>
<td>314 Knox DGP</td>
<td>84,671</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>320 Eastern Ranges DGP</td>
<td>67,310</td>
<td>5.3</td>
<td></td>
</tr>
<tr>
<td>311 Greater South Eastern DGP</td>
<td>58,021</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>302 North East Valley DGP</td>
<td>23,936</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>301 Melbourne DGP</td>
<td>10,944</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>315 Dandenong District DGP</td>
<td>10,838</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Other ..</td>
<td>52,905</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Total ..</td>
<td>1,271,994</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

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 310 by Division of patient address
Please refer to the earlier *Population health profile of the Whitehorse 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 Whitehorse DGP who had asthma and were smokers, with rates well below those for Melbourne and Australia as a whole (Figure 6, Table 5). Similarly, there were fewer people (although only slightly so) in Whitehorse DGP who had type 2 diabetes and were overweight/obese, compared to Melbourne or Australia.

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

<table>
<thead>
<tr>
<th>Variable</th>
<th>Rate per 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had asthma and were smokers (18+ years)</td>
<td></td>
</tr>
<tr>
<td>Had type 2 diabetes and were overweight/obese (15+ years)</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Variable</th>
<th>Whitehorse DGP</th>
<th>Melbourne</th>
<th>Victoria</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N°1</td>
<td>Rate</td>
<td>N°1</td>
<td>Rate</td>
</tr>
<tr>
<td>Had asthma &amp; smoked</td>
<td>3,605</td>
<td>14.3</td>
<td>66,240</td>
<td>18.4</td>
</tr>
<tr>
<td>Had type 2 diabetes &amp; were overweight/obese</td>
<td>3,871</td>
<td>14.2</td>
<td>50,057</td>
<td>15.6</td>
</tr>
</tbody>
</table>

1. No. is a weighted estimate of the number of people in Whitehorse 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).


In 2001 to 2002, the 6,172 admissions from ambulatory care sensitive (ACS) conditions accounted for 7.5% of all admissions in the Whitehorse DGP (Table 6, Figure 7), notably below the levels in Victoria (8.8%) and Australia (8.7%).

<table>
<thead>
<tr>
<th>Category</th>
<th>Whitehorse DGP</th>
<th>Victoria</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Rate(^2)</td>
<td>%</td>
</tr>
<tr>
<td>Avoidable(^1)</td>
<td>6,172</td>
<td>2,233.7</td>
<td>7.5</td>
</tr>
<tr>
<td>Unavoidable</td>
<td>75,897</td>
<td>27,791.5</td>
<td>92.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>82,069</td>
<td>30,020.9</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\(^1\) Admissions resulting from ACS conditions  
\(^2\) Rate is the indirectly age-standardised rate per 100,000 population

Diabetes complications, dental conditions and dehydration and gastroenteritis, were the three conditions with the highest rates of avoidable hospitalisations in the Whitehorse DGP (Figure 8, Table 7): however, the diabetes rate in the Division was well below that in Victoria.

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, Whitehorse DGP and Victoria, 2001/02

<table>
<thead>
<tr>
<th>Sub-category/ condition</th>
<th>Whitehorse DGP</th>
<th>Victoria</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccine-preventable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>184</td>
<td>3,293</td>
<td>16,573</td>
</tr>
<tr>
<td>Rate*</td>
<td>68.7</td>
<td>68.0</td>
<td>85.4</td>
</tr>
<tr>
<td>Influenza and pneumonia</td>
<td>139</td>
<td>2,525</td>
<td>13,021</td>
</tr>
<tr>
<td>Rate</td>
<td>51.1</td>
<td>52.0</td>
<td>67.1</td>
</tr>
<tr>
<td>Other vaccine preventable</td>
<td>45</td>
<td>768</td>
<td>3,552</td>
</tr>
<tr>
<td>Rate</td>
<td>17.6</td>
<td>16.0</td>
<td>18.3</td>
</tr>
<tr>
<td>Chronic(^2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes complications</td>
<td>3,983</td>
<td>97,133</td>
<td>352,545</td>
</tr>
<tr>
<td>Rate*</td>
<td>1,385.6</td>
<td>1,982.6</td>
<td>1,816</td>
</tr>
<tr>
<td>Iron deficiency anaemia</td>
<td>1,836</td>
<td>44,409</td>
<td>141,345</td>
</tr>
<tr>
<td>Rate</td>
<td>632.5</td>
<td>906.9</td>
<td>728.1</td>
</tr>
<tr>
<td>Hypertension</td>
<td>273</td>
<td>5,196</td>
<td>16,451</td>
</tr>
<tr>
<td>Rate</td>
<td>94.9</td>
<td>105.9</td>
<td>84.7</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>46</td>
<td>1,362</td>
<td>6,354</td>
</tr>
<tr>
<td>Rate</td>
<td>15.8</td>
<td>27.7</td>
<td>32.7</td>
</tr>
<tr>
<td>Angina</td>
<td>509</td>
<td>11,655</td>
<td>42,447</td>
</tr>
<tr>
<td>Rate</td>
<td>168.2</td>
<td>234.1</td>
<td>218.6</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>439</td>
<td>12,285</td>
<td>49,963</td>
</tr>
<tr>
<td>Rate</td>
<td>149.2</td>
<td>250.4</td>
<td>257.4</td>
</tr>
<tr>
<td>Asthma</td>
<td>471</td>
<td>12,850</td>
<td>54,853</td>
</tr>
<tr>
<td>Rate</td>
<td>158.2</td>
<td>260.7</td>
<td>282.6</td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dehydration and gastroenteritis</td>
<td>2,224</td>
<td>50,153</td>
<td>200,913</td>
</tr>
<tr>
<td>Rate</td>
<td>859.7</td>
<td>1,041.7</td>
<td>1,035</td>
</tr>
<tr>
<td>Convolusions and epilepsy</td>
<td>525</td>
<td>9,761</td>
<td>37,766</td>
</tr>
<tr>
<td>Rate</td>
<td>189.4</td>
<td>200.0</td>
<td>194.5</td>
</tr>
<tr>
<td>Ear, nose and throat infections</td>
<td>312</td>
<td>7,297</td>
<td>31,137</td>
</tr>
<tr>
<td>Rate</td>
<td>124.5</td>
<td>152.4</td>
<td>160.4</td>
</tr>
<tr>
<td>Dental conditions</td>
<td>243</td>
<td>6,653</td>
<td>32,075</td>
</tr>
<tr>
<td>Rate</td>
<td>102.6</td>
<td>140.5</td>
<td>165.2</td>
</tr>
<tr>
<td>Perforated/bleeding ulcer</td>
<td>527</td>
<td>12,235</td>
<td>43,667</td>
</tr>
<tr>
<td>Rate</td>
<td>215.8</td>
<td>256.7</td>
<td>224.9</td>
</tr>
<tr>
<td>Ruptured appendix</td>
<td>75</td>
<td>1,618</td>
<td>5,795</td>
</tr>
<tr>
<td>Rate</td>
<td>25.6</td>
<td>32.9</td>
<td>29.9</td>
</tr>
<tr>
<td>Pyelonephritis</td>
<td>44</td>
<td>855</td>
<td>3,866</td>
</tr>
<tr>
<td>Rate</td>
<td>17.7</td>
<td>17.9</td>
<td>19.9</td>
</tr>
<tr>
<td>Pelvic inflammatory disease</td>
<td>81</td>
<td>1,948</td>
<td>7,386</td>
</tr>
<tr>
<td>Rate</td>
<td>30.7</td>
<td>40.2</td>
<td>38.0</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>78</td>
<td>1,693</td>
<td>6,547</td>
</tr>
<tr>
<td>Rate</td>
<td>30.5</td>
<td>34.8</td>
<td>33.7</td>
</tr>
<tr>
<td>Gangrene</td>
<td>286</td>
<td>6,751</td>
<td>28,204</td>
</tr>
<tr>
<td>Rate</td>
<td>104.6</td>
<td>139.0</td>
<td>145.3</td>
</tr>
<tr>
<td>Total avoidable hospitalisations(^4)</td>
<td>6,172</td>
<td>2,233.7</td>
<td>552,786</td>
</tr>
<tr>
<td>Rate</td>
<td>2,233.7</td>
<td>2,983.2</td>
<td>2,847.5</td>
</tr>
</tbody>
</table>

\(^1\) Admissions resulting from ACS conditions: excludes nutritional deficiencies as less than ten admissions

\(^2\) 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 (69.0%) of all deaths in Whitehorse DGP at ages 0 to 74 years over the period 1997 to 2001 are considered to be avoidable, slightly lower than the proportion for Melbourne (71.0%) (Table 8). However, the rate in the Division is notably (18%) lower than that in Melbourne.

Deaths amenable to health care (amenable mortality, a subset of avoidable mortality) accounted for 30.1% of all deaths at ages 0 to 74 years in Whitehorse DGP, higher than the 28.7% in Melbourne.

<table>
<thead>
<tr>
<th>Mortality category</th>
<th>Whitehorse DGP</th>
<th>Melbourne</th>
<th>Victoria</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Rate¹</td>
<td>No.</td>
<td>Rate¹</td>
<td>No.</td>
</tr>
<tr>
<td>Avoidable</td>
<td>2,124</td>
<td>30,654</td>
<td>193.0</td>
<td>45,466</td>
</tr>
<tr>
<td>% of total</td>
<td>69.0</td>
<td>..</td>
<td>71.0</td>
<td>..</td>
</tr>
<tr>
<td>(Amenable)</td>
<td>(928)</td>
<td>(12,406)</td>
<td>(78.4)</td>
<td>(18,406)</td>
</tr>
<tr>
<td>(% of total)</td>
<td>(30.1)</td>
<td>(28.7)</td>
<td>(..)</td>
<td>(28.7)</td>
</tr>
<tr>
<td>Unavoidable</td>
<td>956</td>
<td>12,517</td>
<td>79.1</td>
<td>18,617</td>
</tr>
<tr>
<td>% of total</td>
<td>31.0</td>
<td>..</td>
<td>29.0</td>
<td>..</td>
</tr>
<tr>
<td>Total mortality</td>
<td>51,477</td>
<td>64,083</td>
<td>283.7</td>
<td>265,427</td>
</tr>
<tr>
<td>%</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

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. Whitehorse DGP’s rate of avoidable mortality for males was 194.7 deaths per 100,000 males, higher than the rate of 122.4 for females. The rate of amenable mortality for males in the Division was also higher, 73.1, compared to 64.4 for females, a rate ratio of 1.14 (Figure 9, Table 9).

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

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

<table>
<thead>
<tr>
<th>Mortality category and sex</th>
<th>Whitehorse DGP</th>
<th>Melbourne</th>
<th>Victoria</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Rate(^1)</td>
<td>No.</td>
<td>Rate(^1)</td>
</tr>
<tr>
<td>Avoidable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>1,289</td>
<td>194.7</td>
<td>19,378</td>
<td>244.5</td>
</tr>
<tr>
<td>Females</td>
<td>834</td>
<td>122.4</td>
<td>11,276</td>
<td>140.7</td>
</tr>
<tr>
<td>Total</td>
<td>2,124</td>
<td>159.0</td>
<td>30,354</td>
<td>193.0</td>
</tr>
<tr>
<td>Rate ratio–M:F(^2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>..</td>
<td>1.59(^*)</td>
<td>..</td>
<td>1.74(^**)</td>
</tr>
<tr>
<td>Amenable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>489</td>
<td>73.1</td>
<td>6,667</td>
<td>84.9</td>
</tr>
<tr>
<td>Females</td>
<td>439</td>
<td>64.4</td>
<td>5,739</td>
<td>71.8</td>
</tr>
<tr>
<td>Total</td>
<td>928</td>
<td>68.8</td>
<td>12,406</td>
<td>78.4</td>
</tr>
<tr>
<td>Rate ratio–M:F(^2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>..</td>
<td>1.14</td>
<td>..</td>
<td>1.18(^**)</td>
</tr>
</tbody>
</table>

\(^1\) 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 Whitehorse 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 69.2% of total YLL (0 to 74 years) for Whitehorse DGP, slightly lower than the proportion for Melbourne. The proportion of YLL from amenable mortality for Whitehorse DGP (29.5%) was slightly higher than that for Melbourne (28.1%).

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

<table>
<thead>
<tr>
<th>Mortality category</th>
<th>Whitehorse DGP</th>
<th>Melbourne</th>
<th>Victoria</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>% of total</td>
<td>No.</td>
<td>% of total</td>
</tr>
<tr>
<td>Avoidable</td>
<td>35,842</td>
<td>69.2</td>
<td>536,388</td>
<td>71.6</td>
</tr>
<tr>
<td>(Amenable)</td>
<td>(15,268)</td>
<td>(29.5)</td>
<td>(210,627)</td>
<td>(28.1)</td>
</tr>
<tr>
<td>Unavoidable</td>
<td>15,990</td>
<td>30.8</td>
<td>212,979</td>
<td>28.4</td>
</tr>
<tr>
<td>Total</td>
<td>51,832</td>
<td>100.0</td>
<td>749,368</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\(^1\) 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 1,087.1 deaths per 100,000 population in the Whitehorse 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 209.2 in the Whitehorse Division.

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

<table>
<thead>
<tr>
<th>Mortality category and age (years)</th>
<th>Whitehorse DGP</th>
<th>Melbourne</th>
<th>Victoria</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Rate¹</td>
<td>No.</td>
<td>Rate¹</td>
</tr>
<tr>
<td>Avoidable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-14</td>
<td>50</td>
<td>22.3</td>
<td>874</td>
<td>26.0</td>
</tr>
<tr>
<td>15-24</td>
<td>81</td>
<td>45.1</td>
<td>1,120</td>
<td>45.2</td>
</tr>
<tr>
<td>25-44</td>
<td>217</td>
<td>59.1</td>
<td>4,090</td>
<td>75.6</td>
</tr>
<tr>
<td>45-64</td>
<td>683</td>
<td>209.2</td>
<td>10,123</td>
<td>273.0</td>
</tr>
<tr>
<td>65-74</td>
<td>1,092</td>
<td>1,087.1</td>
<td>14,447</td>
<td>1265.1</td>
</tr>
<tr>
<td>Total</td>
<td>2,124</td>
<td>159.0</td>
<td>30,654</td>
<td>193.0</td>
</tr>
<tr>
<td>Amenable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-24</td>
<td>46</td>
<td>12.0</td>
<td>836</td>
<td>14.6</td>
</tr>
<tr>
<td>25-44</td>
<td>63</td>
<td>17.2</td>
<td>963</td>
<td>18.0</td>
</tr>
<tr>
<td>45-64</td>
<td>332</td>
<td>100.5</td>
<td>4,398</td>
<td>118.2</td>
</tr>
<tr>
<td>65-74</td>
<td>487</td>
<td>484.4</td>
<td>6,209</td>
<td>542.7</td>
</tr>
<tr>
<td>Total</td>
<td>928</td>
<td>68.8</td>
<td>12,406</td>
<td>78.4</td>
</tr>
</tbody>
</table>

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 Whitehorse DGP were for cancer, with a rate of 61.0 deaths per 100,000 population, and cardiovascular diseases, 46.7 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 34.5 per 100,000 population and 17.7 per 100,000, respectively.

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

<table>
<thead>
<tr>
<th>Condition group/ selected cause</th>
<th>Whitehorse DGP</th>
<th>Melbourne</th>
<th>Victoria</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Rate¹</td>
<td>No.</td>
<td>Rate¹</td>
<td>No.</td>
</tr>
<tr>
<td>Cancer</td>
<td>841</td>
<td>61.0</td>
<td>10,739</td>
<td>67.9</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>169</td>
<td>12.2</td>
<td>2,218</td>
<td>14.1</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>246</td>
<td>17.7</td>
<td>3,505</td>
<td>22.3</td>
</tr>
<tr>
<td>Cardiovascular diseases</td>
<td>640</td>
<td>46.7</td>
<td>8,946</td>
<td>56.8</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>472</td>
<td>34.5</td>
<td>6,377</td>
<td>40.6</td>
</tr>
<tr>
<td>Cerebrovascular diseases</td>
<td>130</td>
<td>9.5</td>
<td>2,013</td>
<td>12.7</td>
</tr>
<tr>
<td>Respiratory system diseases</td>
<td>93</td>
<td>6.7</td>
<td>1,644</td>
<td>10.4</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>79</td>
<td>5.7</td>
<td>1,451</td>
<td>9.2</td>
</tr>
<tr>
<td>Unintentional injuries</td>
<td>139</td>
<td>11.5</td>
<td>2,394</td>
<td>14.6</td>
</tr>
<tr>
<td>Road traffic injuries</td>
<td>75</td>
<td>6.2</td>
<td>1,192</td>
<td>7.3</td>
</tr>
<tr>
<td>Intentional injuries</td>
<td>121</td>
<td>10.0</td>
<td>2,074</td>
<td>12.6</td>
</tr>
<tr>
<td>Suicide and self inflicted injuries</td>
<td>112</td>
<td>9.3</td>
<td>1,877</td>
<td>11.4</td>
</tr>
</tbody>
</table>

¹ 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 those in Melbourne and Australia (Figure 10).

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

<table>
<thead>
<tr>
<th>Condition group/ selected cause</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cancer</strong></td>
<td></td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td></td>
</tr>
<tr>
<td>Lung cancer</td>
<td></td>
</tr>
<tr>
<td><strong>Cardiovascular diseases</strong></td>
<td></td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td></td>
</tr>
<tr>
<td>Cerebrovascular diseases</td>
<td></td>
</tr>
<tr>
<td><strong>Respiratory system diseases</strong></td>
<td></td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td></td>
</tr>
<tr>
<td><strong>Unintentional injuries</strong></td>
<td></td>
</tr>
<tr>
<td>Road traffic injuries</td>
<td></td>
</tr>
<tr>
<td><strong>Intentional injuries</strong></td>
<td></td>
</tr>
<tr>
<td>Suicide and self inflicted injuries</td>
<td></td>
</tr>
</tbody>
</table>

Whitehorse DGP | Melbourne | Australia
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>
<thead>
<tr>
<th>Section</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>Figures 1 and 2; Table 1</td>
</tr>
<tr>
<td></td>
<td>Figure 3</td>
</tr>
</tbody>
</table>

Additional socio-demographic indicators
<table>
<thead>
<tr>
<th>Section</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 4</td>
<td>ABS SEIFA package, Census 2001</td>
</tr>
<tr>
<td>Table 2; Figure 5; Map 1</td>
<td>Jobless families, ABS, 2001 (unpublished)</td>
</tr>
<tr>
<td>Table 2; Figure 5; Map 2</td>
<td>Private health insurance, from Hansard</td>
</tr>
</tbody>
</table>

GP services – patient flow/ GP catchment
<table>
<thead>
<tr>
<th>Section</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tables 3 and 4</td>
<td>Medicare Australia, 2003/04</td>
</tr>
</tbody>
</table>

Additional prevalence estimates: chronic diseases and risk factors combined
<table>
<thead>
<tr>
<th>Section</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 6; Table 5</td>
<td>Estimated from 2001 National Health Survey (NHS), ABS (unpublished)</td>
</tr>
</tbody>
</table>

Avoidable hospitalisations: hospital admissions resulting from ambulatory care sensitive conditions
<table>
<thead>
<tr>
<th>Section</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tables 6 and 7; Figures 7 and 8</td>
<td>National Hospital Morbidity Database at Australian Institute of Health &amp; Welfare, 2001/02; data produced in HealthWIZ by Prometheus Information (not available in public release dataset)</td>
</tr>
</tbody>
</table>

Avoidable mortality
<table>
<thead>
<tr>
<th>Section</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tables 8, 9, 10, 11 and 12; Figures 9 and 10</td>
<td>ABS Deaths 1997-2001; data produced in HealthWIZ by Prometheus Information (not available in public release dataset)</td>
</tr>
</tbody>
</table>

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

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

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

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


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, some Local Government Areas (LGAs) have been split into SLAs: for example, Whitehorse has three SLAs – Box Hill (part in the Division), Nunawading East, and Nunawading West. These SLAs and parts of the other SLAs in Table 14 comprise the Division.

### Table 14: SLAs and population in Whitehorse DGP, 2005 on 2001 boundaries

<table>
<thead>
<tr>
<th>SLA code</th>
<th>SLA name</th>
<th>Per cent of the SLA’s population in the Division</th>
<th>Estimate of the SLA’s 2005 population in the Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>21111</td>
<td>Borrondara - Camberwell North</td>
<td>0.9</td>
<td>386</td>
</tr>
<tr>
<td>21112</td>
<td>Boroondara - Camberwell South</td>
<td>7.7</td>
<td>3,883</td>
</tr>
<tr>
<td>24211</td>
<td>Manningham - East</td>
<td>77.5</td>
<td>12,050</td>
</tr>
<tr>
<td>24214</td>
<td>Manningham - West</td>
<td>65.4</td>
<td>64,188</td>
</tr>
<tr>
<td>24411</td>
<td>Maroondah - Croydon</td>
<td>8.0</td>
<td>4,726</td>
</tr>
<tr>
<td>24412</td>
<td>Maroondah - Ringwood</td>
<td>98.2</td>
<td>41,514</td>
</tr>
<tr>
<td>24975</td>
<td>Monash - Waverley West</td>
<td>1.3</td>
<td>812</td>
</tr>
<tr>
<td>25713</td>
<td>Nillumbik - South</td>
<td>9.4</td>
<td>2,673</td>
</tr>
<tr>
<td>26981</td>
<td>Whitehorse - Box Hill</td>
<td>56.1</td>
<td>28,121</td>
</tr>
<tr>
<td>26984</td>
<td>Whitehorse - Nunawading East</td>
<td>100.0</td>
<td>44,266</td>
</tr>
<tr>
<td>26985</td>
<td>Whitehorse - Nunawading West</td>
<td>100.0</td>
<td>50,029</td>
</tr>
</tbody>
</table>

*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. In addition, in a small number of cases, part(s) of an SLA can be allocated to another Division, sometimes several hundred kilometres away. Although adjustments have not been made to the concordance to correct these errors, the affected SLAs are highlighted in the table (shown in bold italic typeface)*

### 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)