Health outside major cities

The health that people enjoy impacts on many aspects of their lives, including the ability to socialise with family and friends, participate in the community, educate themselves or earn a living.

Health may be measured by the absence of disease or, alternatively, by the number and type of chronic conditions a person may have. The impact of risky behaviour they undertake is also an important consideration.

This article compares the health of people living outside Major Cities with that of those living in Major Cities. ‘Outside Major Cities’ is a geographical combination that encompasses regional and remote areas, and health may vary across these. A number of health programs administered by the Department of Health and Ageing, such as the Rural Primary Health Services Program, target the health outcomes of people living outside Major Cities.

For information regarding health service use and the experience of patients with some of these services, refer to the article ‘Health services: Use and patient experience’, Australian Social Trends March 2011 (cat. no. 4102.0).

Who lives outside Major Cities?

People may live outside Major Cities for a variety of reasons, such as commercial opportunities, a preference for living in smaller communities, and the different lifestyle which may be found there.

It is estimated that at 30 June 2009, nearly one third (31% or 6,886,600 people) of the Australian population resided outside Major Cities. The population in these areas grew by 11% (705,300 people) between 2001 and 2009 while the population of Major Cities areas grew by 14% (1,386,700 people).

It is estimated that in 2009, 5.4% of those who lived outside Major Cities were Indigenous, as were 1.2% of the population who lived in Major Cities.

For information on the health of the Indigenous population see ‘The city and the bush: Indigenous wellbeing across remoteness areas’, Australian Social Trends September 2010 (cat. no. 4102.0).

The age structure of those living outside and in Major Cities is different. A higher fertility rate outside Major Cities leads to a higher proportion of children living in areas outside Major Cities.

Australian population resided outside Major Cities. The population in these areas grew by 11% (705,300 people) between 2001 and 2009 while the population of Major Cities areas grew by 14% (1,386,700 people).

Future education and work opportunities.

Data sources and definitions

This article draws on a range of ABS sources including the 2007–08 National Health Survey (NHS), the 2007 Survey of Mental Health and Wellbeing (SMHWB), the 2006 Census of Population and Housing and the 2008 Causes of Death collection.

Outside Major Cities. In this article Outside Major Cities has been defined according to Remoteness Areas (a structure of the Australian Standard Geographical Classification (ASGC)), as all areas other than those classified as Major Cities. Therefore the Remoteness Areas of Inner Regional Australia, Outer Regional Australia, Remote Australia and Very Remote Australia (the latter not in scope for the NHS or SMHWB) are combined. The Remoteness Areas classification is derived using areas sharing common characteristics of remoteness. The remoteness of a point is measured by its physical distance by road to the nearest urban centre. For further information about Remoteness Areas see Chapter 8 of ABS Australian Standard Geographical Classification (ASGC) July 2006 (cat. no. 1216.0).

Major Cities are Sydney, Newcastle, Wollongong, Tweed Heads and the Tweed Coast, Melbourne and Geelong, Brisbane, most of the Gold Coast and much of the Sunshine Coast, Adelaide, Perth, and Canberra and Queanbeyan. Hobart and Darwin are not included in the Major Cities group.

Age standardised rates are used in this article to remove the effect of age in comparisons between groups which have different age structures (e.g. between people who lived in Major Cities and those who did not). The use of age standardised rates means that any differences between the two areas is not due to different age structures. Direct age standardisation to the 2001 estimated resident population has been used in this article.
Self-assessed health

Self-assessed health is a good indicator of the overall health of a population, providing some insight into how people perceive their own health at a given point in time. Research has shown that self-assessed health can be a strong predictor of mortality and morbidity for some population groups.

According to the ABS 2007–08 National Health Survey, people aged 15 years and over who lived outside Major Cities were less likely to think their health was excellent or very good than people who lived in Major Cities (4% less likely), and more likely to think that their health was fair or poor (15% more likely).

Diseases or conditions

Across Australia, as the number of people with chronic disease increases, more pressure is put on health services as people seek to manage and treat their conditions. Increasingly, emphasis is being placed on disease prevention programs.

...prevalence

Although there were many long-term health conditions which were more common outside Major Cities than in Major Cities, there were several where there was a marked difference between the two areas. People who lived outside Major Cities in 2007–08 were 23% more likely to have had back pain, 20% more likely to have had asthma, and 27% more likely to have been deaf than people who lived in Major Cities. People who lived outside Major Cities were also 16% more likely to report that they had a mental or behavioural problem.

However, there was no significant difference in the prevalence of some other conditions e.g. diabetes, high cholesterol, and hayfever and allergic rhinitis. There was also no significant difference in the prevalence of cancer or ischaemic heart disease between the two areas.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Prevalence</th>
<th>Ratio to Major Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthritis</td>
<td>17.7</td>
<td>1.13</td>
</tr>
<tr>
<td>Asthma</td>
<td>11.1</td>
<td>1.20</td>
</tr>
<tr>
<td>Back pain(c)</td>
<td>16.0</td>
<td>1.23</td>
</tr>
<tr>
<td>Deafness</td>
<td>12.6</td>
<td>1.27</td>
</tr>
<tr>
<td>High blood pressure</td>
<td>11.3</td>
<td>1.15</td>
</tr>
<tr>
<td>Mental and behavioural problems</td>
<td>12.2</td>
<td>1.16</td>
</tr>
<tr>
<td>Short sightedness</td>
<td>20.4</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Selected conditions where the difference between the two areas is not significant

<table>
<thead>
<tr>
<th>Condition</th>
<th>Prevalence</th>
<th>Ratio to Major Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer(d)</td>
<td>1.9</td>
<td>1.19</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>4.7</td>
<td>1.14</td>
</tr>
<tr>
<td>Hayfever and allergic rhinitis</td>
<td>14.4</td>
<td>0.96</td>
</tr>
<tr>
<td>High cholesterol</td>
<td>6.3</td>
<td>1.00</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>4.0</td>
<td>1.19</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>3.4</td>
<td>0.90</td>
</tr>
</tbody>
</table>

(a) Conditions which have lasted, or are expected to last, six months or more.
(b) Based on age standardised rates. This ratio shows how many times more likely it was to have a condition when living outside Major Cities compared with in Major Cities e.g. 1.13 times (13%) more likely, or 0.83 times (17% less likely).
(c) Back pain or problems not elsewhere classified and disc disorders.
(d) Malignant neoplasms.

Health risk factors

Health affecting behaviours such as smoking, risky alcohol consumption and obesity have each been identified as key risk factors in developing chronic disease. Developing healthy exercise and eating habits can lead to positive health outcomes.
People outside Major Cities undertaking health risk behaviours(a) — 2007–08

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Proportion of people</th>
<th>Ratio to Major Cities (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current daily smoker</td>
<td>21.1</td>
<td>1.30</td>
</tr>
<tr>
<td>Risky drinker — long-term risk(c)</td>
<td>15.2</td>
<td>1.32</td>
</tr>
<tr>
<td>Risky drinker — short-term risk(c)</td>
<td>40.8</td>
<td>1.24</td>
</tr>
<tr>
<td>Overweight/obese(d)</td>
<td>65.7</td>
<td>1.13</td>
</tr>
<tr>
<td>Sedentary/low exercise level(e)</td>
<td>73.4</td>
<td>1.03</td>
</tr>
<tr>
<td>Met guidelines for fruit and vegetable consumption(f)</td>
<td>8.5</td>
<td>1.55</td>
</tr>
</tbody>
</table>

(a) People aged 15 years and over.
(b) Based on age standardised rates. This ratio shows how many times more likely it was to have this behaviour when living outside Major Cities compared with in Major Cities e.g. 1.30 times (30%) more likely.
(c) See the box ‘Alcohol guidelines’ for more information.
(d) Based on measured Body Mass Index. Excludes those for whom height or weight were not measured.
(e) Exercise undertaken for fitness, recreation or sport in the two weeks prior to interview.
(f) See the box ‘Nutrition guidelines’ for more information.

Source: ABS 2007–08 National Health Survey

According to the ABS 2007–08 National Health Survey, rates of risky behaviour were generally higher outside Major Cities in comparison with Major Cities. In many cases, although the rates were higher outside Major Cities, the pattern of risky behaviour in the different age groups was often similar.

Contributing to good health, more fruit and vegetables were consumed by people aged 15 years and over who lived outside Major Cities compared with those who lived in Major Cities.

...daily smoking

People aged 15 years and over who lived outside Major Cities in 2007–08 were 30% more likely to be a daily smoker than those in Major Cities. The difference in daily smoking rates for women was greater than for men. Women outside Major Cities were 50% more likely to smoke on a daily basis, while men were 15% more likely. The daily smoking rate for women who lived in Major Cities plateaued around 16% between the 25–34 and 55–64 years age groups.

Men and women living outside Major Cities had higher rates of smoking in most age groups. However, from 55 years of age the rates of smoking converged for those in and outside Major Cities.

...risky drinking

People living outside Major Cities are more likely to experience alcohol-related harm through violence, acute and chronic health problems, and drink driving. It has been suggested that the ongoing high levels of risky drinking outside Major Cities may be due to community acceptance of drinking as ‘usual’ behaviour and limited leisure and social venues.

In 2007–08, people aged 15 years and over who lived outside Major Cities were 32% more likely than those in Major Cities to drink in the week prior to interview at levels which were risky for their health in the long term (see the box ‘Alcohol guidelines’ for more information).

Men living outside Major Cities were more likely to drink excessively than those in Major Cities (42% more likely), and this was also the case for women who were 20% more likely. One in four men aged 25–34 years (25%) who lived outside Major Cities drank at risky levels in the long term, while nearly one in six men of this age (15%) who lived in Major Cities drank at these levels.

In addition to the risk of long term harm from alcohol consumption, excessive drinking can also put the person at risk in the short term (also known as binge drinking — see the box ‘Alcohol guidelines’ for more information). In 2007–08, people aged 15 years and over who lived outside Major Cities were 24% more likely than those who lived in Major Cities to binge drink at some time in the previous 12 months.

Alcohol guidelines

In 2001, the National Health and Medical Research Council (NHMRC) provided guidelines for drinking alcohol. The main guidelines for reducing health risks in the longer term limit consumption to four standard drinks a day for men and two standard drinks a day for women. To minimise risks in the short term, consumption is limited to no more than six standard drinks a day for men and four standard drinks a day for women. Short-term risky drinking is commonly referred to as ‘binge’ drinking. Although these guidelines were revised in mid-2009, the 2001 guidelines have been used here as these were the guidelines in place when the data were collected in the 2007–08 National Health Survey.
Men who lived outside Major Cities were 27% more likely than those in Major Cities to have drunk more than six standard drinks in a day within the previous 12 months, the amount considered to be ‘binge’ drinking for men. The 25–34 year age group had the highest proportion of binge drinkers — seven in ten men (72%) in this age group who lived outside Major Cities drank at risky levels at some time in the previous 12 months, compared with six in ten (61%) in Major Cities.

The quality of data on alcohol consumption via recall methodology is known to have limitations, with people underestimating their consumption. This may particularly affect data related to the 15–24 years age group, where under-age drinking may have occurred.

...being overweight or obese
Excess body weight contributes to the risk of developing conditions such as diabetes, cardiovascular disease, osteoarthritis and some cancers.10

In 2007–08, people aged 15 years and over who lived outside Major Cities were 13% more likely to be overweight or obese than those in Major Cities. The difference in rates for women living outside Major Cities was more pronounced than for men — women were 19% more likely to be overweight or obese, while men were 8% more likely.

...inadequate exercise
Sporting clubs and facilities such as commercial gyms are less available outside Major Cities, and there may be limited transport to those which are available. There can also be a belief that ‘rural work’ provides sufficient physical activity for a healthy life.11

In 2007–08, the likelihood of people aged 15 years and over who lived outside Major Cities being sedentary or having a low level of exercise when measured by physical activity for fitness, recreation or sport was similar to those in Major Cities. However, occupations which involve physical activity are more common outside Major Cities so physical activity undertaken as part of their work duties may increase the difference in exercise level between the two areas. In 2007–08, 18% of employed people aged 15 years and over who lived outside Major Cities had employment which mainly involved heavy labour or physically demanding work compared with 11% in Major Cities.

There was no significant difference for either men or women in the level of exercise for fitness, recreation or sport between those who lived outside Major Cities and in Major Cities. This was also the case for different age groups.

...fruit and vegetable consumption
Access to a wide range of fruit and vegetables, and the cost, may make consumption of fruit and vegetables difficult outside Major Cities, particularly as remoteness increases. However, there can also be more opportunities for people to access locally grown produce.

In 2007–08, the fruit and vegetable consumption of people aged 15 years and over who lived outside Major Cities was 55% more likely to meet the Nutrition guidelines than those in Major Cities (see the box ‘Nutrition guidelines’ for more information on guidelines).

### Nutrition guidelines
The National Health and Medical Research Council (NHMRC) has recommended a minimum of two serves of fruit and five serves of vegetables per day for adults. Children aged 15–17 years should consume three serves of fruit and four serves of vegetables.
Men who lived outside Major Cities were 59% more likely to eat fruit and vegetables as advised in the guidelines than those in Major Cities. Similarly, women who lived outside Major Cities were more likely to meet the guidelines than those who lived in Major Cities (54% more).

**Mental wellbeing**

Mental wellbeing may be measured by the level of psychological distress a person may suffer. The ABS 2007 Survey of Mental Health and Wellbeing found that 8.3% of people aged 16–85 years who lived outside Major Cities had high or very high levels of psychological distress, not significantly different to those living in Major Cities. However, when very high levels of psychological distress are looked at separately, people who lived outside Major Cities were 34% less likely than those who lived in Major Cities to have this level of distress.

While there was no significant difference between men living outside Major Cities and in Major Cities for high or very high levels of psychological distress, men outside Major Cities were half as likely to have very high levels of psychological distress. Women had different results – women who lived outside Major Cities were 22% less likely than those in Major Cities to have high or very high levels of psychological distress, but as likely as women in Major Cities to have very high psychological distress.

**Measures of mental wellbeing outside Major Cities — 2007**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Proportion of people(a)</th>
<th>Ratio to Major Cities (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High or very high psychological distress(c)</td>
<td>8.3</td>
<td>0.84</td>
</tr>
<tr>
<td>Very high psychological distress(d)</td>
<td>2.0</td>
<td>0.66</td>
</tr>
<tr>
<td>Seriously thought about or planned suicide</td>
<td>14.2</td>
<td>1.10</td>
</tr>
<tr>
<td>Mental health disorder in lifetime</td>
<td>47.8</td>
<td>1.08</td>
</tr>
<tr>
<td>Symptom of mental health disorder in last</td>
<td>18.6</td>
<td>0.93</td>
</tr>
<tr>
<td>12 months(c)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) People aged 16–85 years.
(b) Based on age standardised rates. This ratio shows how many times more likely it was to have this measure when living outside Major Cities compared with in Major Cities e.g. 1.05 times (5% more likely), or 0.89 times (11% less likely).
(c) Difference in rates between outside Major Cities and in Major Cities is not statistically significant.
(d) Based on Kessler 10 score.

Source: ABS 2007 Survey of Mental Health and Wellbeing

**People who had a mental health disorder(a) at some point in their life — 2007**

In 2007, 14% of 16–85 year olds who lived outside Major Cities had seriously thought about or planned suicide at some time in their life, and 2.0% had seriously thought about or planned it in the last 12 months. In both cases, this was not significantly different to people who lived in Major Cities. There was no significant difference in the rates for either men or women between the two areas for either time frame.

**...thoughts or plans of suicide**

**...mental disorders**

Those aged 16–85 years who lived outside Major Cities in 2007 were no more likely to have had a symptom of a mental disorder in the last 12 months than those who lived in Major Cities. However, those who lived outside Major Cities were slightly (8.0%) more likely to have had a mental disorder at some point in their life.

There was no significant difference between the two areas in the proportion of men who had a mental disorder at some point in their life, or between the women in the two areas. The age group with the largest difference between the two areas was in the 35–44 years age group — six in every ten people (60%) in this age group who lived outside Major Cities had experienced a mental disorder compared with five in every ten people (51%) who lived in Major Cities.

In 2007, people aged 16–85 years who lived outside Major Cities were 25% more likely to have had a substance use disorder in their lifetime compared with people who lived in Major Cities. Men aged 16–85 years who lived outside Major Cities were 28% more likely to have had a substance use disorder, whereas there was no significant difference between areas for women. In both areas, the vast majority of men with a substance use disorder...
were diagnosed with an alcohol use disorder (96% of those who lived outside Major Cities with a substance use disorder and 92% of those who lived in Major Cities).

In contrast to the ABS 2007–08 National Health Survey, where respondents volunteered whether they currently had a mental or behavioural problem, the ABS 2007 Survey of Mental Health and Wellbeing used an internationally recognised questionnaire to determine whether a person had a mental disorder (of which the person may not have been aware). Consequently, data between the two surveys may not be comparable.

Mortality

It has been estimated that life expectancy is up to four years lower outside Major Cities than it is in Major Cities.1 In 2008 it was calculated that the number of deaths for every 100,000 people who usually resided outside Major Cities was 42% higher than those who lived in Major Cities.

...heart disease

For people who usually resided outside Major Cities, the cause of death with the highest death rate was ischaemic heart disease, with 144 deaths per 100,000 people. Although this was also the most common cause of death for people who resided in Major Cities, people outside Major Cities were 44% more likely to have died from this disease than those in Major Cities.

Dying from a stroke was the second most common cause of death in those who lived in either area, but was 31% more likely to be a cause of death outside Major Cities. Those who lived outside Major Cities were also nearly twice (1.90 times) as likely to die from hypertensive disease (high blood pressure) and 70% more likely to die from heart failure.

Death rates(a) from transport accidents — 2008

![Graph showing death rates from transport accidents in 2008 for Major Cities and Outside Major Cities for males and females.](image)

Source: ABS 2008 Causes of Death collection

Selected causes of death(a) outside Major Cities —2008(b)

<table>
<thead>
<tr>
<th>Cause of death and ICD-10 Code</th>
<th>Death rate(c) Per 100,000</th>
<th>Ratio to Major Cities (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ischaemic heart diseases (I20-I25)</td>
<td>143.6</td>
<td>1.44</td>
</tr>
<tr>
<td>Strokes (I60-I69)</td>
<td>68.2</td>
<td>1.31</td>
</tr>
<tr>
<td>Trachea and lung cancer (C33-C34)</td>
<td>48.7</td>
<td>1.36</td>
</tr>
<tr>
<td>Dementia and Alzheimer disease (F01-F03)</td>
<td>43.6</td>
<td>1.20</td>
</tr>
<tr>
<td>Chronic lower respiratory diseases (J40-J47)</td>
<td>40.8</td>
<td>1.59</td>
</tr>
<tr>
<td>Diabetes mellitus (E10-E14)</td>
<td>27.5</td>
<td>1.61</td>
</tr>
<tr>
<td>Heart failure (I50-I51)</td>
<td>22.2</td>
<td>1.70</td>
</tr>
<tr>
<td>Suicide (X60-X84, Y87.0)</td>
<td>13.6</td>
<td>1.66</td>
</tr>
<tr>
<td>Hypertensive diseases(e) (I10-I15)</td>
<td>12.8</td>
<td>1.90</td>
</tr>
<tr>
<td>Transport accidents (V01-V99, Y85)</td>
<td>11.7</td>
<td>3.08</td>
</tr>
<tr>
<td><strong>Total deaths</strong></td>
<td><strong>870.5</strong></td>
<td><strong>1.42</strong></td>
</tr>
</tbody>
</table>

(a) Top six leading causes of death for those usually residing outside Major Cities, plus other causes which were also a leading cause at the Australian population level and had a high outside Major Cities/Major Cities ratio. ‘Transport accidents’ is not a leading cause of death at the Australian population level but has been included due to the high outside Major Cities/Major Cities ratio.

(b) Causes of death data for 2008 are preliminary and subject to a revisions process. See ABS Causes of Death, 2008: Technical Note 1 (cat. no. 3303.0).

(c) Crude death rate.

(d) Based on age standardised death rates. This ratio shows how many times more likely it was to have had a particular cause of death when living outside Major Cities compared with in Major Cities e.g. 1.44 times (44%) more likely.

(e) High blood pressure.

Source: ABS 2008 Causes of Death collection

...transport accidents

People living outside Major Cities may need to travel long distances, at speeds which are often greater than those used in Major Cities. In addition, road conditions may be worse and, in the event of an accident, possibly have longer retrieval times. These factors expose people living outside Major Cities to greater risks when using transport.2

People living outside Major Cities in 2008 were three times (3.08 times) as likely to die because of a transport accident as those living in Major Cities. This was similar for men and women (3.05 times as likely and 3.02 times as likely, respectively).

The difference between the two areas is particularly evident in certain age groups. In 2008, men outside Major Cities aged 20–24 years had a death rate due to transport accidents that was four times as high as those in Major Cities (42 per 100,000 men and 10 per 100,000 men respectively).
...suicide

In 2008, suicide was ranked the 14th highest leading cause of death in Australia, with 78% (1,709) of these deaths related to men. People living outside Major Cities in 2008 were much more likely to die from suicide than those in Major Cities (66% more likely). Overall, death rates from suicide were higher for men than for women. Men who usually resided outside Major Cities were 68% more likely to have committed suicide than those who lived in Major Cities; the likelihood of women who lived outside Major Cities to have committed suicide in 2008 was 51% higher than for women who lived in Major Cities.

For men aged 15–29 years, the death rate from suicide for those who lived outside Major Cities was twice as high as that in Major Cities. Unemployment, greater availability of lethal means of self-harm, barriers to mental health care services and loneliness are seen as reasons for suicide in this age group. Men aged 85 years and over who lived outside Major Cities had the highest death rate from suicide (40 deaths per 100,000 men). Changes in economic circumstances leading to financial insecurity and vulnerability, which is known to be a reason for suicide in older age groups, is also likely to affect this age group.

Looking ahead

The National Healthcare Agreement has stated that all Australians should have timely access to quality health services based on their needs, not ability to pay, regardless of where they live in the country. A variety of programs have been implemented under the National Rural and Remote Health Infrastructure Program with the aim of achieving this and consequently improving the health status of those living outside Major Cities. New developments in technology will enable the extension of services such as teledmedicine and e-Health which will greatly benefit those living outside Major Cities.

Endnotes

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