Rural & remote health
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Citation
AIHW

On average, Australians living in rural and remote areas have shorter lives, higher levels of disease and injury and poorer access to and use of health services, compared with people living in metropolitan areas. Poorer health outcomes in rural and remote areas may be due to multiple factors including lifestyle differences and a level of disadvantage related to education and employment opportunities, as well as access to health services.

Cat. no: PHE 255

Findings from this report:
- In 2016, people in Remote areas were more likely to report barriers accessing GPs and specialists than Major cities
- In 2017–18, potentially preventable hospitalisation rates in Very remote areas were 2.5 times as high as Major cities
- In 2015, the total disease burden rate in Remote and very remote areas was 1.4 times as high as Major cities
- In 2015–2017, life expectancy for both males and females decreased as remoteness increased
Summary

Rural and remote Australia encompasses many diverse locations and communities and people living in these areas face unique challenges due to their geographic isolation. Those living outside metropolitan areas often have poorer health outcomes compared with those living in metropolitan areas. For example, data show that people living in rural and remote areas have higher rates of hospitalisations, mortality, injury and poorer access to, and use of, primary health care services, compared with those living in metropolitan areas.

Health inequalities in rural and remote areas may be due to factors, including:

- challenges in accessing health care or health professionals, such as specialists
- social determinants such as income, education and employment opportunities
- higher rates of risky behaviours such as tobacco smoking and alcohol use
- higher rates of occupational and physical risk, for example from farming or mining work and transport-related accidents.

Despite poorer health outcomes for some, the Household, Income and Labour Dynamics in Australia (HILDA) survey found that Australians living in small towns (fewer than 1,000 people) and non-urban areas generally experienced higher levels of life satisfaction compared with those in urban areas (Wilkins 2015). Rural and remote Australians also report increased community interconnectedness and social cohesion, as well as higher levels of community participation, volunteering and informal support from their communities (Ziersch et al. 2009).

How is remoteness area classified?

This report uses the Australian Statistical Geography Standard Remoteness Structure, 2016, which defines remoteness areas into 5 classes of relative remoteness across Australia:

- Major cities
- Inner regional
- Outer regional
- Remote
- Very remote.

These remoteness areas are centred on the Accessibility/Remoteness Index of Australia which is based on the road distances people have to travel for services (ABS 2018a).

In this report, the term ‘rural and remote’ covers all areas outside Australia’s Major cities. Due to small population sizes, data for Outer regional, Remote and Very remote as well as Remote and Very remote areas are sometimes combined for reporting (ABS 2018b). Based on available data, these results have been presented as low level as possible.

What is missing from the picture?

Gaps exist in the availability and coverage of health data in rural and remote areas, and in information available at local level. For example, the Australian Bureau of Statistics’ National Health Survey, which provides information on the prevalence of long-term health conditions and health risk factors but, does not include Very remote areas of Australia.

References


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Profile of rural and remote Australians

Overall, more Australians live in Major cities compared with rural and remote areas. In 2017, the proportion of Australians by area of remoteness was:

- 72% in Major cities
- 18% in Inner regional areas
- 8.2% in Outer regional areas
- 1.2% in Remote areas
- 0.8% in Very remote areas (ABS 2019b).

On average, people living in Remote and very remote areas were younger than those living in Major cities (figures 1a and 1c).

Australians aged 25–44 were more likely to live in Remote and very remote areas and Major cities compared with Inner regional and outer regional areas. However, a higher proportion of people aged 65 and over lived in Inner regional and outer regional areas and Major cities, compared with Remote and very remote areas (figures 1a, 1b and 1c).

Figure 1a: Australian population, by age group and sex residing in Major cities, 2017

Source: ABS 2018c; Table S1.

Figure 1b: Australian population, by age group and sex residing in Inner regional and outer regional areas, 2017

Source: ABS 2018c; Table S1.

Figure 1c: Australian population, by age group and sex residing in Remote and very remote areas, 2017
Aboriginal and Torres Strait Islander people are more likely to have higher rates of chronic conditions, hospitalisations and poorer health outcomes than non-Indigenous Australians (AIHW 2015). The differences in health outcomes in Remote and Very remote areas may be due to the characteristics of these populations. The proportion of the population that is Indigenous, is much higher in more remote areas (ABS 2018b) (Table 1). However, more Indigenous Australians live in Major cities and Inner regional areas (61% of Indigenous Australians) compared with Remote and Very remote areas (19%) (ABS 2018b).

![Age group](image)

Source: ABS 2018c; Table S1.

Aboriginal and Torres Strait Islander people are more likely to have higher rates of chronic conditions, hospitalisations and poorer health outcomes than non-Indigenous Australians (AIHW 2015). The differences in health outcomes in Remote and Very remote areas may be due to the characteristics of these populations. The proportion of the population that is Indigenous, is much higher in more remote areas (ABS 2018b) (Table 1). However, more Indigenous Australians live in Major cities and Inner regional areas (61% of Indigenous Australians) compared with Remote and Very remote areas (19%) (ABS 2018b).

Table 1: Proportion of people in each remoteness areas that are Indigenous Australians and non-Indigenous Australians, 2016

<table>
<thead>
<tr>
<th></th>
<th>Major cities</th>
<th>Inner regional</th>
<th>Outer regional</th>
<th>Remote</th>
<th>Very remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigenous</td>
<td>1.7%</td>
<td>4.4%</td>
<td>7.9%</td>
<td>18%</td>
<td>47%</td>
</tr>
<tr>
<td>Non-Indigenous</td>
<td>98%</td>
<td>96%</td>
<td>92%</td>
<td>82%</td>
<td>53%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: ABS 2018b.

For more information on Aboriginal and Torres Strait Islander health by remoteness see: The health and welfare of Australia’s Aboriginal and Torres Strait Islander peoples: 2015 and the Aboriginal and Torres Strait Islander Health Performance Framework (HPF) report

**Social determinants of health**

In general, people from poorer social or economic circumstances:

- are at greater risk of poor health
- have higher rates of illness, disability and death
- live shorter lives than those who are more advantaged (Mackenbach 2015).

Indicators such as education, occupation and income can be used individually or combined to define socioeconomic position. There is a complex interplay between health and welfare, where social factors such as an individual's education, employment, and relationships can impact their overall health, and vice versa.

**Education**

In 2018, people living in rural and remote areas were less likely than those in Major cities to have completed Year 12 or a non-school qualification (Figure 2). Around half of people living in Inner regional, Outer regional and Remote and very remote areas had completed Year 12, compared with nearly three-quarters (74%) of those in Major cities.

Likewise, fewer people living in Inner regional (20%), Outer regional (17%) and Remote and very remote (16%) areas had completed a Bachelor's degree or above, compared with those in Major cities (36%).

**Figure 2: Proportion of 20–64 year olds with a Year 12 certificate or above, by remoteness area, 2018**
compared with rural and remote areas. In 2017, the proportion of Australians by area of ABS 2018b. ABS 2018c; Outer regional 100% (AIHW 2015). The differences in health outcomes in (16%) areas had completed a 100% 53% 47% ABS 2019a; areas (61% of compared with cities areas (figures 1a, 1b and 1c). 96% 92% areas (19%) (ABS 2018b). areas and and the areas and ABS 2018c; Remote (17%) and (36%). ABS 2018a; 4.4% and and NRHA 2014. global public health peoples: 2015 AIHW (Australian Institute of Health and Welfare) 2015. ABS 2019b. ABS 2019a. estimated resident populations. ABS 2018c. ABS 2018b. ABS (Australian Bureau of Statistics) 2017. 2014). In 2015–16, Australians living outside of capital cities had, on average, 18% less household income per week compared with People living in rural and remote areas generally have lower incomes but have to pay higher prices for goods and services (NRHA 2014). In 2015–16, Australians living outside of capital cities had, on average, 18% less household income per week compared with those living in capital cities, and 29% less mean household net worth (ABS 2017).

Employment

The employment-to-population ratio shows the proportion of a country's working-age population, aged 15 and over that is employed. As at December 2018, the employment-to-population ratio across Australia was 63%. With the exception of Greater Perth, greater metropolitan areas had a higher proportion of employed people than did the rest of the states and territories (Figure 3). This may be due to lower levels of access to work outside of metropolitan areas and decreased range of employment and career opportunities in these areas (ABS 2019a; NRHA 2013).

Figure 3: Employment-to-population ratio, by greater metropolitan areas and the rest of states and territories, 2018

Income

People living in rural and remote areas generally have lower incomes but have to pay higher prices for goods and services (NRHA 2014). In 2015–16, Australians living outside of capital cities had, on average, 18% less household income per week compared with those living in capital cities, and 29% less mean household net worth (ABS 2017).

References


ABS 2018b. Estimates of Aboriginal and Torres Strait Islander Australians, June 2016. ABS cat. no. 3238.0.55.001. Canberra: ABS.


AIHW (Australian Institute of Health and Welfare) 2015. The health and welfare of Australia’s Aboriginal and Torres Strait Islander peoples: 2015. Cat. no. IHW 147. Canberra: AIHW.
Overall, more Australians live in Major cities compared with rural and remote areas. In 2017, the proportion of Australians by area of areas were younger than those living in Inner regional areas and 4.4% 96% (AIHW 2015). The differences in health outcomes in ABS 2018c; 47% ABS 2018c; 100% Remote areas (figures 1a and 1c). The 100% 53% ABS 2018b. and the 100% 18% 100% cities areas (61% of compared with areas had completed Outer regional areas (19%) (ABS 2018b).

People living in rural and remote areas generally have lower incomes but have to pay higher prices for goods and services (NRHA 2013). People living in rural and remote areas (ABS 2018b) (Table 1). However, more Indigenous Australians live in remote areas (ABS 2018b) (Table 1). Nonetheless, more Indigenous Australians live in very remote areas (ABS 2018b) (Table S1).


NRHA 2014. Income inequality experienced by the people of rural and remote Australia. Canberra: NRHA.
Health status and outcomes

Health risk factors
Health risk factors are attributes, characteristics or exposures that increase the likelihood of a person developing a disease or health disorder. Many health problems can be prevented by reducing exposure to modifiable risk factors such as:

- tobacco smoking
- poor eating patterns
- risky alcohol consumption
- not getting enough exercise.

For more information see Risk factors.

Based on self-reported data from the ABS National Health Survey (NHS) 2017–18, after adjusting for age, the prevalence of many risk factors was higher for inner regional and outer regional and remote areas than for major cities (Figure 1).

Smoking
- People living outside of major cities had higher rates of current daily smoking. About 1 in 5 in outer regional and remote (19.6%) and inner regional (16.5%) areas smoked tobacco daily, compared with 12.8% in major cities.

Overweight and obesity
- More adults in inner regional (71%) and outer regional and remote (70%) areas were overweight or obese, compared with major cities (65%), based on measured height and weight.

Diet
- People living in inner regional and outer regional and remote areas (53%) were less likely to eat the recommended number of serves of fruit per day, compared with major cities (48%).
- Less than 1 in 10 people ate the recommended serves of vegetables in all remoteness areas.
- People in outer regional and remote areas were more likely to consume sugar sweetened drinks daily (14%) than major cities (8.3%).

Alcohol consumption
- People in outer regional and remote (24%) and inner regional (19%) areas were more likely to consume alcohol at levels that put them at risk of lifetime harm, compared with major cities (15%).

Physical activity
- Just under half of people met the physical activity guideline in all remoteness areas.

High blood pressure
- The proportion of people (about one quarter) with measured high blood pressure (hypertension) was similar across all remoteness areas.

Figure 1: Prevalence of health risk factors, by area of remoteness, 2017–18

Notes
Chronic conditions

Based on self-reported data from the ABS NHS, the prevalence of many chronic conditions was similar across all remoteness areas in 2017–18, after adjusting for differences in population age structure.

There were exceptions:

- mental and behavioural problems were higher in Inner regional areas (26%) compared with Outer regional and remote areas (22%) and Major cities (21%)
- arthritis was higher in Inner regional areas (21%) and Outer regional and remote areas (20%) compared with Major cities (17%)
- asthma was higher in Inner regional and Outer regional and remote areas (13%) compared with Major cities (11%)
- diabetes was higher in Outer regional and remote areas (7.0%) compared with Major cities (5.6%) (Figure 2).

Figure 2: Prevalence of the population with selected chronic conditions, by area of remoteness, 2017–18

Notes

1. Proportions were age standardised to the 2001 Australian Standard Population.
2. Excludes Very remote areas.

Cancer

The incidence of all cancers combined was highest in Inner regional and Outer regional areas in 2010–2014 (513 and 511 per 100,000 people, respectively), after adjusting for age. Incidence was:

- slightly lower in Remote areas (490) and Major cities (488);
- lowest in Very remote areas (445) (AIHW 2019b).

The lower incidence rate in Remote and Very remote areas may be partly due to lower population screening participation rates, later detection of a cancer and lower life expectancy due to death from other causes (Fox & Boyce 2014; AIHW 2019d).

However, the 5-year observed survival rate for all cancers combined decreased with increasing remoteness, from 62% for Major cities to 55% for Very remote areas.

Types of cancers diagnosed also varied by area, with people in rural and remote areas more likely to be diagnosed with low survival cancers, such as lung and unknown primary site cancers (AIHW 2019b).

For more information see: Cancer in Australia 2019.

Family, domestic and sexual violence

Family, domestic and sexual violence is a major health and welfare issue in Australia. The Australian Bureau of Statistics 2016 Personal Safety Survey estimated that 2.2 million adults had been victims of physical and/or sexual violence from a partner since the age of 15 (ABS 2017).

People living outside Major cities were 1.4 times as likely to have experienced partner violence than those living in Major cities. Additionally, people living in Remote and Very remote areas were 24 times as likely to be hospitalised for domestic violence as those in Major cities (AIHW 2019c).

For more information see: Family, domestic and sexual violence in Australia.

Burden of disease

Burden of disease measures the impact of disease and injury in a population. The summary measure ‘disability-adjusted life years’
In 2015, after adjusting for age, the total burden of disease increased with increasing remoteness. Major cities experienced the least burden per population, whilst Remote and very remote areas experienced the most. The total burden rate in Remote and very remote areas was 1.4 times as high as that for Major cities.

This pattern was mostly driven by fatal burden (years of life lost due to premature death). In Remote and very remote areas, rates were 1.7 times as high as Major cities, while non-fatal burden was 1.2 times as high.

For most disease groups, total burden rates increased with increasing remoteness. There was some variation by disease. A clear trend of greater burden rates was seen with increasing remoteness for:

- coronary heart disease
- chronic kidney disease
- chronic obstructive pulmonary disease (COPD)
- lung cancer
- stroke
- suicide
- self-inflicted injuries
- type 2 diabetes.

In contrast, anxiety disorders, dementia and depressive disorders showed lower rates of burden in more remote areas (AIHW 2019a).

For more information see: Australian Burden of Disease Study 2015.

Deaths
People living in rural and remote areas are more likely to die at a younger age than their counterparts in Major cities. They have higher mortality rates, higher rates of potentially avoidable deaths and lower life expectancy than those living in Major cities.

In 2017, age-standardised mortality rates increased as remoteness increased for males and females:

- males living in Very remote areas had a mortality rate 1.4 times as high as those living in Major cities (Table 1a)
- females living in Very remote areas had a mortality rate 1.8 times as high as those living in Major cities (Table 1b).

Overall, the difference in mortality rates between Major cities and regional and remote areas remained similar for the period 2013 to 2017.

Median age at death also decreased with increasing remoteness for males and females (tables 1a and 1b).

### Table 1a: Median age at death, mortality rate and rate ratio for males, by remoteness area, 2017

<table>
<thead>
<tr>
<th></th>
<th>Major cities</th>
<th>Inner regional</th>
<th>Outer regional</th>
<th>Remote</th>
<th>Very remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age at death (years)</td>
<td>79</td>
<td>78</td>
<td>76</td>
<td>73</td>
<td>68</td>
</tr>
<tr>
<td>Age-standardised rate (deaths per 100,000)(a)</td>
<td>592</td>
<td>662</td>
<td>722</td>
<td>763</td>
<td>822</td>
</tr>
<tr>
<td>Rate ratio(b)</td>
<td>1.0</td>
<td>1.1</td>
<td>1.2</td>
<td>1.3</td>
<td>1.4</td>
</tr>
</tbody>
</table>

a. Rates are age-standardised to the 2001 Australian standard population.
b. Rate ratio is the age-standardised mortality rate for each area divided by the age-standardised rate for Major cities.

Source: AIHW 2019d.

### Table 1b: Median age at death, mortality rate and rate ratio for females, by remoteness area, 2017

<table>
<thead>
<tr>
<th></th>
<th>Major cities</th>
<th>Inner regional</th>
<th>Outer regional</th>
<th>Remote</th>
<th>Very remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age at death (years)</td>
<td>85</td>
<td>84</td>
<td>82</td>
<td>79</td>
<td>69</td>
</tr>
<tr>
<td>Age-standardised rate (deaths per 100,000)(a)</td>
<td>426</td>
<td>477</td>
<td>486</td>
<td>505</td>
<td>748</td>
</tr>
<tr>
<td>Rate ratio(b)</td>
<td>1.0</td>
<td>1.1</td>
<td>1.1</td>
<td>1.2</td>
<td>1.8</td>
</tr>
</tbody>
</table>

a. Rates are age-standardised to the 2001 Australian standard population.
b. Rate ratio is the age-standardised mortality rate for each area divided by the age-standardised rate for Major cities.

Source: AIHW 2019d.
Potentially avoidable deaths

The rate of potentially avoidable deaths increased as remoteness increased.

These are deaths among people aged 75 and under from conditions considered potentially preventable through individualised care, and/or treatment through existing primary or hospital care. For example, transport accidents and cancers that can be detected early through screening programs (such as breast, cervical and colorectal cancers).

For more details on examples and definitions of potentially avoidable deaths see: Potentially avoidable deaths International Classification of Disease (ICD-10) codes.

In 2017, potentially avoidable deaths made up 17% of all deaths in Australia. For males and females, the rate increased with remoteness. The rate for:

- females in Very remote areas was 3.3 times as high as Major cities (216 per 100,000 population compared with 67)
- males in Very remote areas was 2.3 times as high as Major cities (275 per 100,000 population compared with 118) (Figure 3).

![Figure 3: Potentially avoidable deaths per 100,000, by remoteness area and sex, 2017](image)

*Note: Rates are age-standardised to the 2001 Australian standard population.*

*Source: AIHW 2019d.*

Leading causes of death

Figure 4 shows the 10 leading causes of death for each remoteness area for the period 2013–2017, with comparison to mortality rates for Australia overall (AIHW 2019d).

In this period:

- The top 7 causes of death were the same for Major cities, Inner regional and Outer regional areas.
- Coronary heart disease was the leading cause of death across all remoteness areas. Age-standardised rates were higher in Very remote (1.5 times) and Remote areas (1.3 times) than for Australia overall.
- People living in Remote and Very remote areas were more likely to die from diabetes (1.8 and 3.5 times respectively), compared with Australia overall.
- Suicide was one of the top 10 leading causes of death in Outer regional, Remote and Very remote areas. Australians living in Remote and Very remote areas were about twice as likely to die from suicide when compared with Australia overall. The rate of suicide was 11 per 100,000 population in Major cities and increased with remoteness and was highest for Remote (19) and Very remote areas (24).
- Land transport accidents were a leading cause of death in Remote and Very remote areas. The rate of dying due to land transport accidents was nearly 3 times as high for Remote areas and nearly 4 times as high for Very remote areas, compared with Australia overall (AIHW 2019d) (Figure 4).

![Figure 4: Leading cause of death by remoteness area, with comparison mortality rates with Australia overall, 2013-2017](image)
and areas (7.0%) compared with areas.

1.0 (216 per 100,000 population compared with 67) areas (24).

ABS 2018.

areas were more likely to die from diabetes (1.8 and 3.5 times respectively), compared with Inner and outer regional areas (19) and 1.1 (24%) and areas were 24 times as likely to be hospitalised for domestic violence as those in areas.

477 (70%) areas were overweight or obese, compared with areas had a mortality rate 1.4 times as high as those living in Outer regional 83 years.

68 to (275 per 100,000 population compared with 118) (Figure 3).

Very remote Very remote 822 69 were 1.4 times as likely to have experienced partner violence than those living in (15%).


Last updated 8/10/2019 v53.0 © Australian Institute of Health and Welfare 2019
and regional and remote areas remained similar for the period 2013 to 2017, with a 5.6% increase in mortality rates (Figure 2).

In terms of the top causes of death, 1.2% overall were due to chronic conditions such as diabetes, compared with 1.1% in 2010–2014 (Table S5: Leading causes of death by remoteness area, with comparison mortality rates with Australia overall, 2013–2017). Figure 1 shows the top 10 leading causes of death for each remoteness area for the period 2013–2017, with comparison to mortality rates for Australia overall (AIHW 2019d).

In 2017, 82% of adults (445 per 100,000 population) in remote and very remote areas smoked tobacco daily, compared with 85% (26%) in Major cities (275 per 100,000 population) and nearly 4 times as high for Remote and very remote areas (1.3 times) than for Australia overall. The rate of daily smoking was 16.5% areas (477) compared with 12.8% in 477 areas in 2010–2014 (513 and 511 per 100,000 population) and 82 areas (22%)

People living in rural and remote areas are more likely to die at a younger age than their counterparts in Major cities. For both sexes, life expectancy decreased as remoteness increased (Table 2) (ABS 2018). Median age at death also decreased with increasing remoteness for males and females (Tables 1a and 1b). For males living in Very remote areas (1.3 times) and 4 times as high for Very remote areas were more likely to die from diabetes (1.8 and 3.5 times respectively), compared with 1.5 times for Australia overall (AIHW 2019d).

Deaths from suicide were about twice as likely to die from suicide when compared with Australia overall. The rate of suicide was 2.5 times as high as in rural and remote areas (1.3 times) and 1.5 times as high in Remote and very remote areas (24) compared with Australia (71%).

The lower incidence rate in Very remote areas (24) compared with Australia (71%) and 1.5 times as high, and nearly 4 times as high for Remote and very remote areas (1.3 times) than for Australia overall. The rate of suicide was 1.5 times as high as in rural and remote areas (1.3 times) and 1.5 times as high in Remote and very remote areas (24) compared with Australia (71%).

For most disease groups, total burden rates increased with increasing remoteness. There was some variation by disease. A clear trend of increased burden per population, whilst DALY combines the years of healthy life lost due to living with and dying prematurely from disease and injury. Burden of disease measures the impact of disease and injury in a population. The summary measure 'disability-adjusted life years' (DALY) combines the years of healthy life lost due to living with and dying prematurely from disease and injury.

People living outside of Major cities were nearly 2 times as likely to die from chronic conditions such as diabetes, compared with 1.8% (513 and 511 per 100,000 population) and 3.5 times as high for Remote and very remote areas (1.3 times) than for Australia overall. The rate of daily smoking was 16.5% areas (477) compared with 12.8% in 477 areas in 2010–2014 (513 and 511 per 100,000 population) and 82 areas (22%)

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For more information see: Family, domestic and sexual violence in Australia: continuing the national story 2019 (ABS 2017).

For more information see: Family, domestic and sexual violence in Australia: continuing the national story 2019 (ABS 2017).
Access to health care

People living in Remote and Very remote areas generally have poorer access to health services than people in regional areas and Major cities. They also have lower rates of bowel, breast and cervical cancer screening and higher rates of potentially preventable hospitalisations (AIHW 2018a, 2018b, 2019a, 2019b).

People living in remote areas of Australia may need to travel long distances or relocate to attend health services or receive specialised treatment. For example, based on combined data for 2005–2010, 57% of people with end-stage kidney disease who lived in Very remote areas at the start of their treatment moved to less remote areas within 1 year (AIHW 2013).

Primary health care

Primary health care is the entry level to the health system. As such, it is usually a person’s first encounter with the system. It includes a broad range of activities and services, from health promotion and prevention, to treatment and management of acute and chronic conditions (AIHW 2016).

The way people in rural and remote areas access primary health care often differs to those in metropolitan areas. For example, facilities are generally smaller, have less infrastructure and provide a broader range of services to a more widely distributed population. Rural and remote populations also rely more on general practitioners (GPs) to provide health care services, due to less availability of local specialist services (Department of Health 2016).

Medicare claims data from 2017–18 shows that the number of non-hospital non-referred attendances per capita were less in Outer regional (6.0 per capita) and Remote and Very remote areas (4.9 and 3.6 per capita respectively), compared with Major cities (6.3 per capita). Bulk billing rates were highest in Very remote areas and Major cities; rates were slightly lower but similar in regional areas (Department of Health 2018) (Table 1).

<table>
<thead>
<tr>
<th>Area of Remoteness</th>
<th>Number of services</th>
<th>Number of services per capita</th>
<th>Bulk Billing Rate</th>
<th>Average out of pocket cost for non-bulk billed services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major cities</td>
<td>112,015,315</td>
<td>6.3</td>
<td>87%</td>
<td>$38.37</td>
</tr>
<tr>
<td>Inner regional</td>
<td>27,742,916</td>
<td>6.3</td>
<td>94%</td>
<td>$34.73</td>
</tr>
<tr>
<td>Outer regional</td>
<td>12,273,644</td>
<td>6.0</td>
<td>91%</td>
<td>$35.72</td>
</tr>
<tr>
<td>Remote</td>
<td>1,431,221</td>
<td>4.9</td>
<td>80%</td>
<td>$39.44</td>
</tr>
<tr>
<td>Very remote</td>
<td>731,445</td>
<td>3.6</td>
<td>89%</td>
<td>$40.59</td>
</tr>
</tbody>
</table>


Notes

a. Financial Year is determined by the date the claim for service was processed by the Department of Human Services, not the date the service was rendered.
b. Medicare services refer to services funded through the Medicare Benefits Schedule (MBS).
c. Remoteness area is determined by the patient’s Medicare enrolment postcode as at the date their claim was processed.
d. Numbers are based on out of hospital data.
e. Number of services per capita is derived from the total Estimated Resident Population for financial years based on ABS catalogue 3218.0 Regional Population Growth, Australia, table 1 Estimated Residential Population, Remote Areas, Australia, released March each year. ERP used are based on June quarter population. However, there are people in the population who are not eligible for Medicare therefore this number is an estimate.
f. Bulk billing is reported on a year-to-date (YTD) basis over the course of the financial year. The bulk billing rates are rounded to whole numbers for reporting purposes.
g. Bulk Billing Rate represents the percentage of services bulk billed.
h. Average Patient Contribution Per Service is for patient billed services rendered out of hospital. The number of services is the total number of non-hospital, non-referred attendances, excluding practice nurse items, that were bulk billed or patient billed.

Survey of Health Care: Patient experiences

Based on self-reported data from the Australian Bureau of Statistics Survey of Health Care, in 2016, Australians aged 45 and over living in regional and Remote and Very remote areas were more likely than those living in Major cities to report barriers to receiving health care. When compared to Major cities, the rate of people reporting not having a GP nearby as a barrier to seeing one was:

- 2.5 times as high for Outer regional areas
- 6 times as high for Remote and very remote areas.

The proportion of people reporting not having a specialist nearby as a barrier to seeing one increased from:
6.0% in Major cities to 22% in Inner regional areas to 30% in Outer regional areas and 58% in Remote and very remote areas (Figure 1) (AIHW 2018c).

Figure 1: Patient experiences in adults aged 45 and over, by remoteness, 2016

Source: AIHW 2018c.

For more information see: Survey of Health Care: selected findings for rural and remote Australians.

Health workforce

Health workforce is measured by the number of full-time equivalent (FTE) health professionals in an area divided by the estimated resident population of the area.

Australians living in Remote and Very remote areas experience health workforce shortages, despite having a greater need for medical services and practitioners with a broader scope of practice (AMA 2017). Data from the National Health Workforce Dataset show that the total clinical FTE for health professionals per 100,000 population generally decreased as remoteness increased. In 2017, the rate of allied health professionals, dentists and pharmacists was lower in regional areas and lowest in Remote and Very remote areas compared with Major cities (figures 2 and 3).

The rate of specialists also substantially declined with increasing remoteness from 145 per 100,000 population in Major cities to 22 per 100,000 population Very remote areas.

The clinical FTE rate for nurses and midwives was highest out of all health professionals. The rate declined from 1050 per 100,000 in Major cities to 1018 in Inner regional and 983 in Outer regional areas. However, the rate increased in Remote (1163) and Very remote areas (1221) (Department of Health 2019) (Figure 2).

GP supply was also unequally distributed as remoteness increased. Data indicate that the rate of GPs in 2017 increased with remoteness, however, care should be taken in interpreting the data as work arrangements in these areas have the potential to be more complicated (NRHA 2017). For example, there may be poor differentiation between general practice for on-call hours, activity for procedures and hospital work for GPs working in rural and remote areas (Walters et al. 2017).

Figure 2: Employed medical health professionals, clinical full-time equivalent rate, by remoteness area, 2017
Access to health care

People living in Remote and Very remote areas generally have poorer access to health services than people in regional areas and cities. However, the rate increased in Very remote areas were hospitalised at almost twice the rate as those living in Major cities and 1.3 times in Inner regional areas. In part, this may reflect the distribution of private hospitals across remoteness areas, as private hospitals accounted for 80% of rehabilitation care separations (AIHW 2019a). For more details on hospitalisations see glossary.

Hospitalisations

In 2017–18, people living in Very Remote areas were hospitalised at almost twice the rate as those living in Major cities and 1.3 times in Remote areas. There was no difference in rate of hospitalisations for regional areas compared with Major cities.

People in Major cities had higher rates of rehabilitation care compared to people living in other remoteness areas (19 hospitalisations per 1,000 population compared with 11 for Inner regional areas, 6.9 for Outer regional areas, 6.2 for Remote areas and 5.1 for Very remote areas). In part, this may reflect the distribution of private hospitals across remoteness areas, as private hospitals accounted for 80% of rehabilitation care separations (AIHW 2019a). For more details on hospitalisations see glossary.

Potentially preventable hospitalisations

Potentially preventable hospitalisations (PPH) are conditions where hospitalisation could have potentially been prevented through the provision of appropriate individualised preventative health interventions and early disease management, usually delivered in primary care and community-based settings.

In 2017–18, the PPH rate increased with increasing remoteness. When compared with Major cities, the rate for those in Very remote areas was 2.5 times as high and in Remote areas was 1.7 times as high. For regional areas the PPH rates were slightly higher than for Major cities (Figure 4) (AIHW 2019a).


For more in depth data see: Potentially preventable hospitalisations in Australia by small geographic areas.

Figure 4: Hospitalisations per 1,000 population for selected potentially preventable hospitalisations, by area of remoteness, 2017–18
Areas generally have poorer access to health services than people in regional areas and in 2017, 87% of Australians living in remote areas were more likely than those living in major cities to report barriers to receiving health care (Figure 2). Areas experience health workforce shortages, despite having a greater need for medical and allied health professionals. However, the rate increased in very remote areas, 6.2 for every 1,000 people compared with 1.3 times in remote areas and 2.5 times in areas (Department of Health 2019) (Figure 2).

In 2017–18, people living in remote areas of Australia may need to travel long distances or relocate to attend health services or receive specialised treatments. They also have lower rates of bowel, breast and cervical cancer screening and higher rates of potentially preventable hospitalisations (AIHW 2016). Access to primary health care is critical to improving health outcomes. Primary health care is the entry level to the health system. As such, it is usually a person’s first encounter with the system. It includes a range of services offered in general practice, primary health care centres, local community health centres and public hospitals.

Hospitalisation rates are directly age-standardised using populations by remoteness areas, which do not include persons with unknown migratory area of usual residence.

Source: AIHW 2019a; Table S7.

References


AIHW 2018c. Survey of Health Care: selected findings for rural and remote Australians. Cat. no. PHE 220. Canberra: AIHW.


Technical notes

Rural and remote classification

The term 'rural and remote' encompasses all areas outside Australia's Major cities. Using the Australian Standard Geographical Classification System, these areas are classified as Inner regional, Outer regional, Remote or Very remote.

For more information, see the Australian Standard Geographical Classification System.

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Technical notes

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Technical notes

Australian Bureau of Statistics National Health Survey

This web report uses results from the Australian Bureau of Statistics (ABS) National Health Survey (NHS) 2017–18, collected between July 2017 and June 2018.

The survey is the most recent in a series of Australia-wide health surveys conducted by the ABS. It was designed to collect a range of information about the health of Australians, including:

- prevalence of long-term health conditions
- health risk factors such as smoking, overweight and obesity, alcohol consumption and physical activity
- use of health services such as consultations with health practitioners and actions people have recently taken for their health
- demographic and socioeconomic characteristics.

The 2017–18 NHS collected data on children and adults living in private dwellings. It excluded those living in non-private dwellings, Very remote areas and discrete Aboriginal and Torres Strait Islander communities.

For more information, see ABS National Health Survey: First Results, 2017–18.

It can be difficult to assess the implications of remoteness for health due to:

- interactions between remoteness, low socioeconomic position and the higher proportion of Indigenous Australians in many of these areas compared with Major cities.
- variability in the distribution of disadvantage and of Indigenous Australians across all areas—for example, levels of disadvantage on the fringe of Major cities can be more akin to those in rural and remote areas than to inner-city areas.
- gaps in the availability and coverage of health data in rural and remote areas, and in information available at local area level.

It is also difficult to measure if there is adequate supply of medical services because of the influence of factors such as:

- varying health-seeking behaviours
- professional scope of practice
- health system efficiency across remoteness areas.

Data quality statement

For more information on the ABS 2017–18 National Health Survey see:

ABS cat. no. 4324.0.55.001 - Microdata: National Health Survey, 2017–18
Technical notes

Further information
For more information on other data sources used in the report see the following:

Cancer
Deaths
Burden of disease
Health Workforce data
Coordination of health care
Hospitals

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Medicare Benefits Schedule 2017–18

Data for the report were sourced from the Medicare Benefits Schedule (MBS) claims data, which are administered by the Australian Government Department of Health. The claims data are derived from administrative information on services that qualify for a Medicare benefit under the Health Insurance Act 1973 and for which a claim has been processed by the Department of Human Services. Data are reported for claims processed between 1 July 2017 and 30 June 2018.

Scope and coverage

Under MBS arrangements, Medicare claims can be made by persons who reside permanently in Australia. This includes New Zealand citizens and holders of permanent residence visas. Applicants for permanent residence may also be eligible depending on circumstances. In addition, persons from countries with which Australia has reciprocal health care agreements might also be entitled to benefits under MBS arrangements.

It is important to note that some Australian residents may obtain medical services through other arrangements. This includes services that were fully or partially subsidised by the Department of Veterans’ Affairs, compensation arrangements, or through other publicly funded programs including jurisdictional salaried GP services provided in remote outreach clinics. Some areas have a higher proportion of services that are not Medicare funded than other areas and this may affect comparability.

Out-of-pocket costs

Out-of-pocket costs for services to private in-patients and for privately insured episodes of hospital substitute treatment are not included, since data on supplementary benefits paid by private health benefits organisations are not available through the Medicare claims system. The out-of-pocket costs associated with services included in this report cannot be further subsidised under other insurance schemes.

Statistics in this report do not include persons who did not claim on Medicare, either because they did not have Medicare eligible services, or because they did not claim for Medicare eligible services. The report does not include costs related to pharmaceuticals, either purchased privately or subsidised by the Pharmaceutical Benefits Scheme.

Where patients have claimed on Medicare before paying the treating practitioner and have not subsequently produced proof to Medicare of the fee paid, the amount is included in the ‘out-of-pocket’ costs.

For more detailed information on the MBS services and item types, see the Australian Government Department of Health MBS Online website.
Data

- Data tables: Rural and remote health supplementary tables
  Download XLSX 67Kb

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