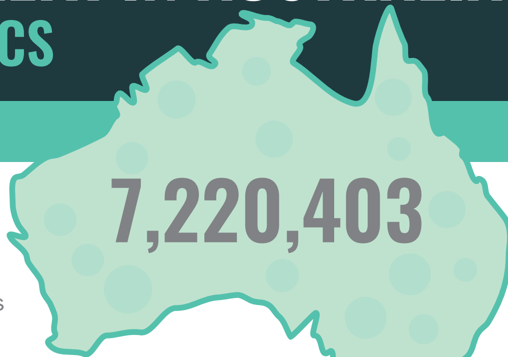
National Rural Health Alliance

Rural health in Australia SNAPSHOT 2023

RURAL HEALTH IN AUSTRALIA SNAPSHOT 2023

DEMOGRAPHICS



POPULATION

In 2022, 7,220,403 people[1] were spread across 12,670 rural, regional and remote (rural) localities[i], spanning 99.3% of Australia's land surface.

ECONOMIC CONTRIBUTION

Rural areas contribute at least 80% of Australia's exports[2] - valued at almost $500 billion a year[3,4], almost 50% of tourism revenue[5] and produce 90% of the food we consume.[6] The role of the National Rural Health Alliance (the Alliance) is to advance rural health reform to achieve equitable health outcomes for these people.

REMOTENESS CLASSIFICATIONS

ASGS-RA

Australian Statistical Geography Standard – Remoteness Area

Five classification groups based on service access.[7]

2022 Population[1]

MAJOR CITIES	18,785,137
INNER REGIONAL	4,623,207
OUTER REGIONAL	2,099,287
REMOTE	301,686
VERY REMOTE	196,223

GCCSA

Greater Capital City Statistical Areas

Two classification groups that define the functional extent of the eight capital cities and the 'rest of state', which encompasses several major regional cities.[7]

2022 Population[8]	CAPITAL CITIES	REST OF STATE
	17,466,179	8,534,436

TOTAL POPULATION 26,005,540[1,8]

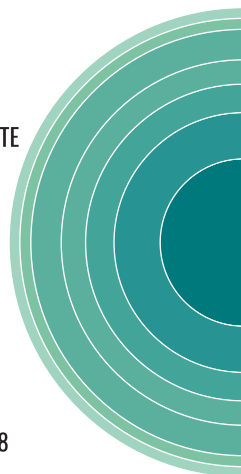
Population change

Between 2012 and 2022, major cities experienced the highest rate of population growth (+16.4%), followed by inner (+12.9%) and outer (+5.6%) regional areas. Over the same period, the population decreased in remote (-1.2%) and very remote (-7.7%) areas.

MMM

Modified Monash Model

Developed by the Australian Government Department of Health. Seven classification groups from 1 (major cities) to 7 (very remote), including regional centres, towns and smaller communities in between.[9]



2021 Population[10]

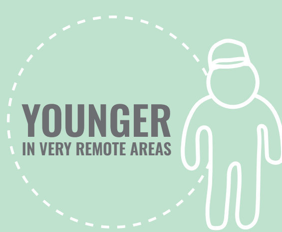
1	18,414,123
2	2,355,364
3	1,640,519
4	991,614
5	1,788,969
6	290,889
7	206,534

PEOPLE

More people outside major cities, as a percentage of the population, are

OLDER IN REGIONAL AREAS

Percentage of men and women aged 65 and over
Major cities: 16.0% women and 13.8% men
Inner regional areas: 21.5% women and 20.1% men
Very remote areas: 9.5% women and 10.1% men[11,ii]



YOUNGER IN VERY REMOTE AREAS

INDIGENOUS AUSTRALIANS

From 1.9% in major cities to 31.6% in remote areas (although the greatest Indigenous population is in regional areas).[12,iii]

SOCIAL DETERMINANTS OF HEALTH

LIVING IN RURAL AREAS

UPSIDES

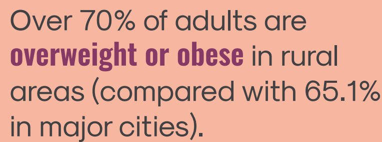
- Greator sense of belonging[13,14], less lonliness[14] and more volunteering.[15]
- Better work–life balance (including for health professionals).[16,17]
- Restorative environment due to rural scenery and natural sounds.[18,19]
- Shorter commute times for work.[20]
- More satisfied with relationships and secure in personal safety.[13]
- Lower levels of financial stress related to housing.[15]

DOWNSIDES

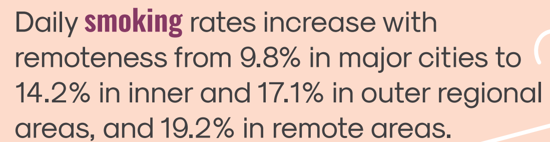
- The tyranny of distance–services and infrastructure[14]
- Poorer internet access[15,14] and mobile phone reception.[14]
- More people living with a disability.[21]
- Higher rates of unemployment in very remote areas.[15]
- Lower incomes.[11,22]
- Less people finish secondary school and participate in higher education[23,11]
- High levels of overcrowding[15], people living in social housing[15] and homelessness[24] in remote areas.

HEALTH RISK FACTORS

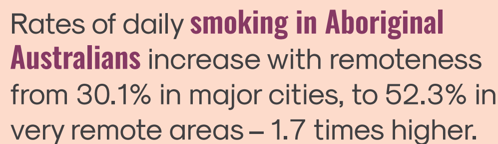
The health of rural Australians is impacted by disparities in rates of health and behavioural risk factors including: higher rates of **overweight and obesity**[25], **smoking**[26] (especially in Indigenous people[27]), **risky alcohol consumption**[26], some **illicit drug use**[26] and **psychological distress**[28,29]; poorer **diet**, including inadequate fruit consumption[30] and elevated consumption of sugar-sweetened drinks[30]; as well as lower levels of **physical activity**, particularly strength training[31]. Rural people experience higher rates of **family, domestic and sexual violence**.[32] The health of rural mothers and babies, over their lifetime, is also negatively impacted by more women **smoking during pregnancy**, more **babies being born prematurely**, and **lower rates of exclusive breastfeeding** (except in Indigenous infants).[33,34,iv]



Over 70% of adults are **overweight or obese** in rural areas (compared with 65.1% in major cities).



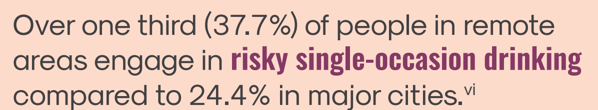
Daily **smoking** rates increase with remoteness from 9.8% in major cities to 14.2% in inner and 17.1% in outer regional areas, and 19.2% in remote areas.



Rates of daily **smoking in Aboriginal Australians** increase with remoteness from 30.1% in major cities, to 52.3% in very remote areas – 1.7 times higher.

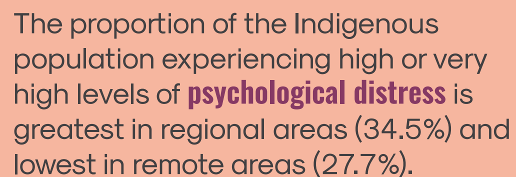
Rates of **lifetime risky drinking** increase from 15.5% in major cities to 18.6% in inner and 22.7% in outer regional areas, and 25.0% in remote areas.[v]

The rate of **lifetime risky drinking** in remote areas is 1.6 times that of major cities.



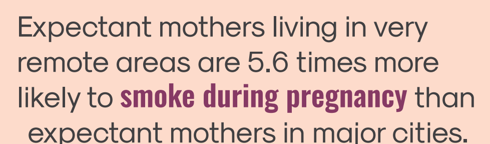
Over one third (37.7%) of people in remote areas engage in **risky single-occasion drinking** compared to 24.4% in major cities.[vi]

Non-medical use of painkillers, pain relievers and opioids is higher in outer regional (3.6%) and remote areas (4.0%) than in major cities and inner regional areas (both 2.6%).

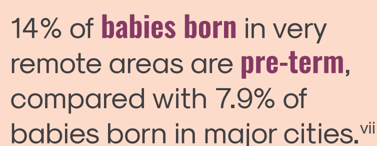


The proportion of the Indigenous population experiencing high or very high levels of **psychological distress** is greatest in regional areas (34.5%) and lowest in remote areas (27.7%).

People living in rural areas are 24 times more likely to be **hospitalised due to domestic violence** than those in major cities.



Expectant mothers living in very remote areas are 5.6 times more likely to **smoke during pregnancy** than expectant mothers in major cities.



14% of **babies born** in very remote areas are **pre-term**, compared with 7.9% of babies born in major cities.[vii]

Indigenous infants in very remote Australia are **exclusively breastfed** to at least six months at the highest rate in the country (40.9% compared with 12% in major cities).

LIFE EXPECTANCY AT BIRTH

Life expectancy at birth refers to the average number of years a newborn is expected to live.

Life expectancy (years) is generally lower for people living in remote areas.[35,36]

It varies between geographic areas[viii] by **14.1 years** (**males**) and **12.4 years** (**females**).

The **highest** levels for both males (**85.7 years**) and females (**88.2 years**) are in metropolitan Sydney.

The **lowest** levels for both males (**71.6 years**) and females (**75.8 years**) are in the Northern Territory.

The **gap** in life expectancy between **Indigenous and non-Indigenous Australians** is lowest in regional areas (**6.8 years** for males and **6.5 years** for females) and highest in remote areas (**12.4 years** for both males and females).

BURDEN OF DISEASE

Burden of disease is a holistic measure of the impact of disease and injury in a population, taking both the effect of living with a disability, and death due to disease or injury, into account.

Total burden of disease increases with remoteness.[37,38] Major cities experience 173.7 disability adjusted life years (DALY) per 1000 population and remote areas experience 243.9 DALY. The burden of disease in remote areas is **1.4 times** that of major cities. This inequity remained static between 2015 and 2018.

When comparing **disease burden between remoteness categories by specific disease state**[39,40], there is a clear trend for increasing disease burden with increasing remoteness for coronary heart disease, chronic kidney disease, chronic obstructive pulmonary disease, lung cancer, stroke, suicide and self-inflicted injuries and type 2 diabetes.

Coronary heart disease burden in remote areas is **2.2 times** that of major cities. The disease burden due to suicide and self-inflicted injuries, along with type 2 diabetes in remote areas is **twice** that of major cities. Chronic kidney disease results in **3.2 times** the disease burden in remote areas compared to major cities.

Leading causes of disease burden vary with remoteness[39]

Back pain and problems and dementia are among the five leading causes of disease burden in all areas except remote/very remote.

Anxiety disorders and depressive disorders are among the top five in major cities, but not in regional, remote and very remote areas.

Coronary heart disease is the leading cause of disease burden in all remoteness areas.

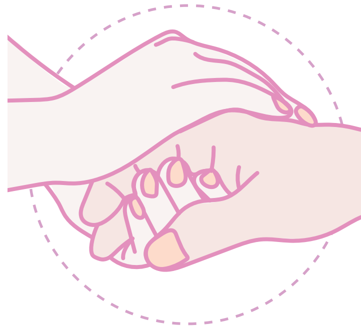
Chronic obstructive pulmonary disease and lung cancer fill out the top five leading causes outside of major cities.

Type 2 diabetes and suicide and self-inflicted injuries are within the top five leading causes of disease burden in remote/very remote areas only.

DEATHS

Potentially avoidable deaths are deaths in people under 75 years of age from conditions considered preventable given the context of the current health system.

People die at a higher rate outside of major cities.[11,41] The overall **death rate** (from all causes) increases with remoteness, per 100,000 population, in both males (from **569 deaths** in major cities to **925 deaths** in very remote areas) and females (from **409 deaths** in major cities to **644 deaths** in very remote areas).



People die from potentially avoidable causes at higher rates the further away they reside from major cities.

When compared to the rate in major cities, potentially avoidable deaths in very remote Australia are **2.5 times higher** in males and **2.8 times higher** in females.

MORBIDITY AND MORTALITY BY DISEASE

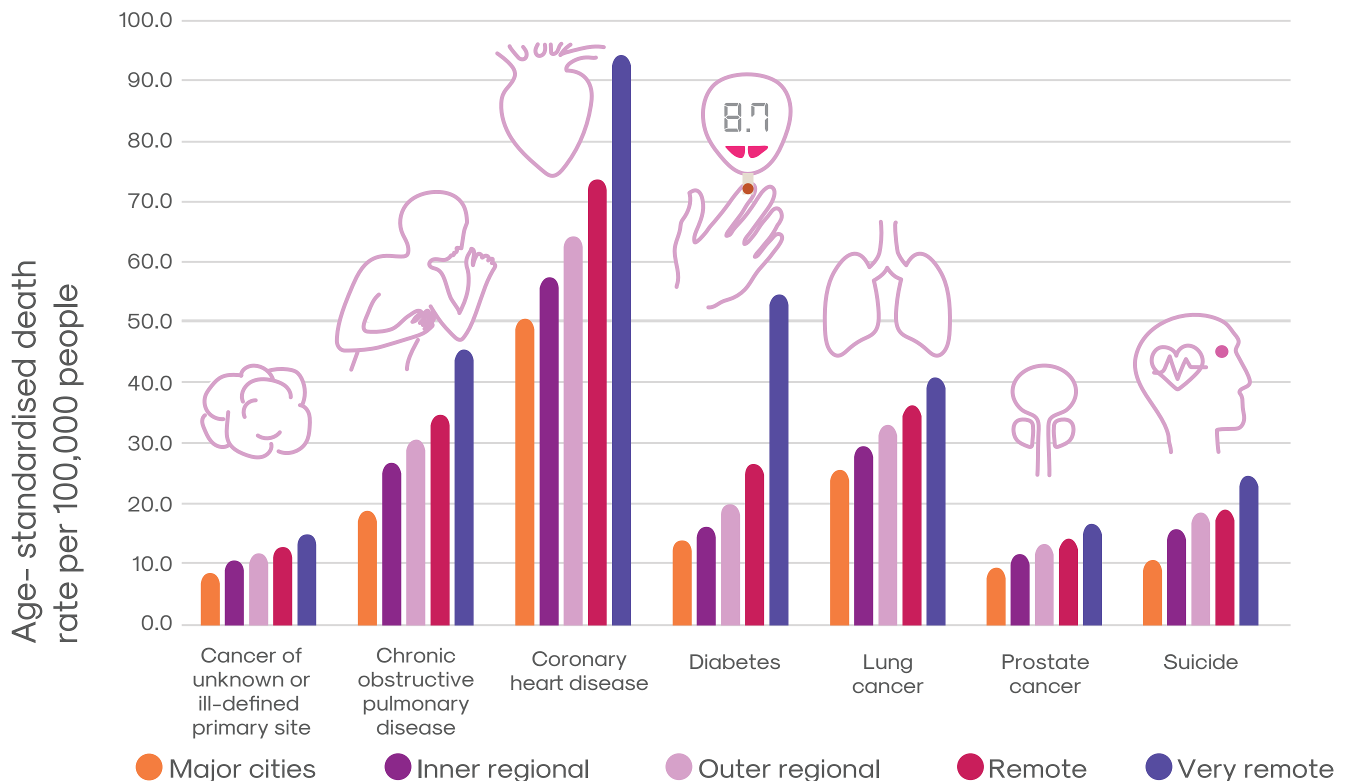
The **prevalence** of the following conditions is similar across remoteness areas: coronary heart disease[42], chronic obstructive pulmonary disease[43], back problems[44] and stroke.[42] The prevalence of diabetes is higher in outer regional and remote areas[45], asthma and mental and behavioural conditions in inner regional areas, and arthritis in all areas outside of major cities.[11]

The prevalence of people living with two or more long-term health conditions is highest in regional areas.[23]

The **incidence** of lung cancer is highest in remote and very remote areas and lowest in major cities.[46]

A strong relationship between **hospitalisation** for self-harm and remoteness is evident; hospitalisations increase from 96.7 in major cities to 193.5 in very remote areas, per 100,000 population.[47] Hospitalisations for coronary heart disease, diabetes and chronic kidney disease are **1.5, 2.7** and **3.1 times** higher, when comparing remote areas to major cities.[42,45,48]

Death rate by cause and ASGS remoteness for selected diseases, 2017–21



Chronic obstructive pulmonary disease, coronary heart disease and lung cancer are among the five **leading causes of death** in all remoteness areas.[49,41] Diabetes and suicide are among the top five in very remote areas alone, while dementia including Alzheimer's disease and cerebrovascular disease are among the top five in all areas except very remote.

In very remote Australia, the death rates due to the following conditions are notably higher when compared to major cities: chronic obstructive pulmonary disease (**2.4 times**), diabetes (**3.8 times**), kidney failure (**2.8 times**) and suicide (**2.3 times**).

HEALTH SYSTEM FUNDING

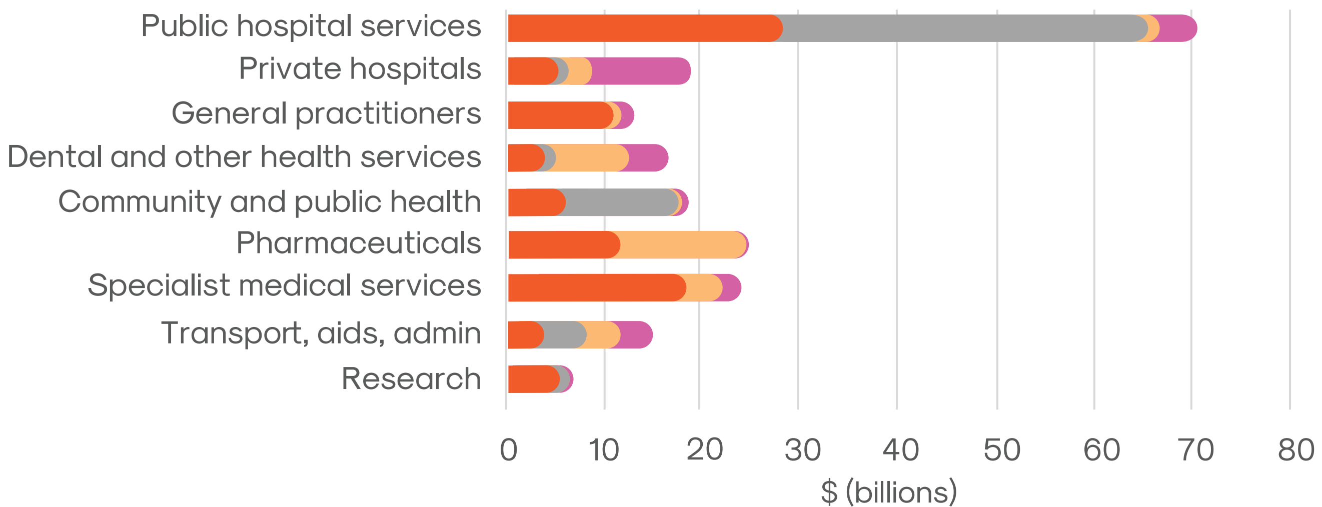
Australia has a complex public–private health system, with funding primarily from the federal and state or territory governments, as well as non-government funders such as private health insurers and individuals. Private for-profit and not-for-profit businesses also play an important role in filling gaps in health care.

In major cities and large regional centres, health services are primarily supported through activity-based funding in hospitals, and fee-for-service funding through Medicare. While block funding is provided to support small rural hospitals and Aboriginal health services, rural primary health care is reliant on Medicare billing and rurally-targeted incentive payments.

In 2020-21, **$220.9 billion** was spent on health care in Australia – **$8,617 per person**, from federal ($94.4 billion) and state and local government ($61.6 billion) funding, individuals ($33.2 billion) and private business ($31.8).[50]

In 2023, the Alliance commissioned a report that found there is a **$6.55 billion deficit** in health funding for rural Australian communities, equating to almost **$850 per person**, per year.[51] This includes funding for public hospitals, private hospitals, Medicare, pharmaceuticals, dental care, the NDIS, aged care, Aboriginal and Torres Strait Islander health care, primary health networks and the Royal Flying Doctor Service.

Health system expenditure 2020–21



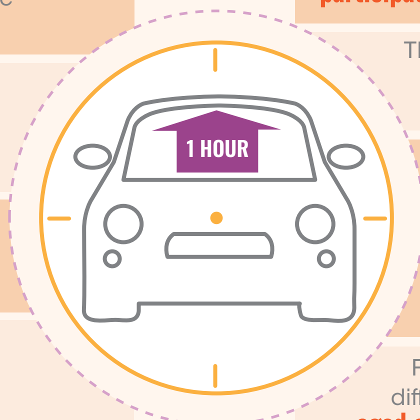
ACCESS TO HEALTH CARE SERVICES

44,930 people in remote Australia have **no access to primary healthcare services** within an hours drive time from their home (one way).[52]

People living in rural Australia **utilise Medicare** (such as for general practitioner (GP) visits) **up to 50% less** than those in major cities and inner regional areas.[11]

They are less likely to see a dental professional, medical specialist or after-hours GP.[53]

Those living in outer regional or remote areas experience **longer waiting periods** to see GPs and other medical specialists.[53]



People in very remote areas have **lower participation in cancer screening programs**.[11]

The proportion of people who have **private health insurance** is **lower** in rural and remote areas.[53]

The consequence of poorer access to primary health care in rural Australia is higher rates of potentially **preventable hospitalisations (PPHs)** in all areas outside of major cities. The rate is **2-3 times as high** in remote and very remote areas.[11]

People living outside of major cities also face difficulties utilising **disability** and **aged care services**.[54,55]

HEALTH WORKFORCE DISTRIBUTION

National Rural Health Alliance

For more information visit

ruralhealth.org.au

FOOTNOTES

i. Calculations by the National Rural Health Alliance based on the number of state suburbs (SSC) in Australian Government publications.
ii. Throughout this document, regional refers to both inner regional and outer regional areas, unless stated otherwise.
iii. Throughout this document, remote refers to both remote and very remote areas, unless stated otherwise.
iv. Throughout this document, data is age-standardised where accessible and appropriate and utilises the most recent source available prior to publication.
v. Lifetime risky drinking is an average of more than two standard drinks per day in the last 12 months.
vi. Risky single-occasion drinking is more than four standard drinks on one occasion at least monthly.
vii. Pre-term is less than 37 weeks gestation.
viii. When analysed by SA4. See Australian Bureau of Statistics for details.

REFERENCES

1. Australian Bureau of Statistics. Regional population. 2021-22 financial year. Data downloads: Population estimates by LGA, Significant Urban Area, Remoteness Area and electoral division, 2001 to 2022 - Revised. Table 3. 31 Aug 2023 [cited 2023 Nov 2]. https://www.abs.gov.au/statistics/people/population/regional-population/latest-release
2. Reserve Bank of Australia. Composition of the Australian Economy Snapshot. 2023 May 4 [cited 2023 Mar]. https://www.rba.gov.au/snapshots/economy-composition-snapshot/
3. Australian Government Department of Industry, Science and Resources. Resources and energy quarterly: December 2022 - historical data [data table]. 2022 Dec 19 [cited 2023 Jul 14]. https://www.industry.gov.au/publications/resources-and-energy-quarterly-december-2022
4. Australian Bureau of Agricultural and Resource Economics and Sciences. Snapshot of Australian Agriculture 2023. 2023 Mar [cited 2023 Jul 14]. https://www.agriculture.gov.au/abares/products/insights/snapshot-of-australian-agriculture
5. Australian Regional Tourism Ltd. About ART [webpage]. 2023 [cited 2023 Jul 14]. https://regionaltourism.com.au/about-art/#whogov
6. Australian Government Department of Agriculture, Fisheries and Forestry. Food [webpage]. 2023 Mar 30 [cited 2023 July 14]. https://www.agriculture.gov.au/agriculture-land/farm-food-drought/f ood
7. Australian Bureau of Statistics. Australian Statistical Geography Standard (ASGS). 2023 Mar [2023 May 12]. https://www.abs.gov.au/statistics/standards/australian-statistical-ge ography-standard-asgs-edition-3/latest-release
8. Australian Bureau of Statistics. Regional population. 2021-22 financial year. Data downloads: Population estimates by SA2 and above, 2001 to 2022 - Revised. Table 4. 31 Aug 2023 [cited 2023 Nov 2]. https://www.abs.gov.au/statistics/people/population/regional-popula tion/latest-release
9. Australian Government Department of Health and Aged Care. Modified Monash Model. Commonwealth of Australia; 2021 Dec 14 [cited 2023 Jul 21]. www.health.gov.au/health-topics/health-workforce/health-workforce-classifications/modified-monash-model
10. Australian Department of Health and Aged Care. 2021 population by Modified Monash Model. 2023 Jan [cited 2023 May 05]. Sourced directly from the Commonwealth government department.
11. Australian Institute of Health and Welfare. Rural and remote health. 2023 Sep 11 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/rural-remote-australians/rural-and-remote-health
12. Australian Institute of Health and Welfare. Profile of Indigenous Australians. 2022 Jul 07 [cited 2023 May 05]. https://www.aihw.gov.au/reports/australias-health/profile-of-indigenous-australians
13. Cummins R, Mead R and the Australian Unity-Deakin University Wellbeing Research Partnership. The Australian Unity Wellbeing Index 20th Anniversary Commemorative Edition. Australian Unity and Deakin University; 2021 [cited 2021 Mar 9]. https://www.australianunity.com.au/about-us/wellbeing-index
14. Health Research Institute. 2020 Regional Wellbeing Survey data tables. The University of Canberra; 2021 Sep [cited 2022 Oct 28]. https://www.canberra.edu.au/research/centres/hri/research-projects /regional-wellbeing-survey/regional-wellbeing-results-reports
15. Population Health Information Development Unit. Remoteness in Australia. Data by Remoteness Areas. 2022 Dec [cited 2023 Mar 9]. h ttps://phidu.torrens.edu.au/social-health-atlases/data#social-healt h-atlas-of-australia-remoteness-areas
16. Wieland L, Ayton J and Abernethy G. Retention of general practitioners in remote areas of Canada and Australia: a meta-aggregation of qualitative research. Aust J Rural health. 2021;29;656-69 [cited 2021 Sep]. https://onlinelibrary.wiley.com/doi/10.1111/ajr.12762
17. Lennon M, O'Sullivan B, McGrail M et al. Attracting junior doctors to rural centres: a national study of work-life conditions and satisfaction. Aust J Rural Health, 2019;27;482-8 [cited 2021 Oct]. https://onlinelibrary.wiley.com/doi/10.1111/ajr.12577
18. Franco L, Shanahan D and Fuller R. A review of the benefits of nature experiences: more than meets the eye. Int J Environ Res Public Health. 2017;14(8);864 [cited 2021 Sep]. https://www.mdpi.com/1660-4601/14/8/864
19. Payne S. The production of a perceived restorativeness soundscape scale. Appl Acoust. 2013;74;255-63 [cited 2021 Oct]. https://www.sciencedirect.com/science/article/abs/pii/ S0003682X11 003008
20. Wilkins R, Laβ I and Butterworth P et al. The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 17 – The 14th Annual Statistical Report of the HILDA Survey. Melbourne Institute; 2019 [cited 2023 Mar]. https://melbourneinstitute.unimelb.edu.au/hilda/publications/hilda-st atistical-reports/past-reports
21. Australian Bureau of Statistics. Disability, ageing and carers, Australia: summary of findings [data download]. 2019 Oct 24 [cited 2023 Mar 9]. https://www.abs.gov.au/statistics/health/disability/ disability-ageing-a nd-carers-australia-summary-findings/latest-release
22. Australian Bureau of Statistics. Personal income in Australia. Data downloads: table 2 total income distribution by geography 2019-20 [data download]. 2022 Nov 8 [cited 2023 May 12]. http://www.abs.gov.au/statistics/labour/earnings-and-work-hours/ personal-income-australia/latest-release
23. Population Health Information Development Unit. Remoteness in Australia: 2021 Census (first release). Data by Remoteness Areas. 2022 Jul [cited 2022 Nov 8]. https://phidu.torrens.edu.au/social-health-atlases/data#2021-censu s-remoteness-areas-based-on-2016-remoteness-areas
24. Australian Bureau of Statistics. 2016 Census TableBuilder [data tool]. 2017 May 31 [cited 2021 Oct]. www.abs.gov.au/statistics/microdata-tablebuilder/log-your-accounts (with calculations by the National Rural Health Alliance).
25. Australian Institute of Health and Welfare. Overweight and obesity. Overweight and obesity [data tables]. 2023 May 19 [cited 2023 Jul 20]. https://www.aihw.gov.au/reports/overweight-obesity/overweight-and-obesity-an-interactive-insight/data
26. Australian Institute of Health and Welfare. National Drug Strategy Household Survey 2019 – Drug use in geographic areas (table 7.16) [data tables]. 2020 Jul 16 [cited 2021 Sep]. www.aihw.gov.au/reports/illicit-use-of-drugs/national-drug-strategy-household-survey-2019/data
27. Australian Bureau of Statistics. National Aboriginal and Torres Strait Islander Health Survey 2018–19. Selected health characteristics, by time series, state/territory, sex, Indigenous status (Tables 2.3 and 4.3) [data downloads]. 2020 May 26 [cited 2021 Sep]. https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/national-aboriginal-and-torres-strait-islander-heal th-survey/2018-19
28. Public Health Information Development Unit. Social Health Atlas of Australia: Remoteness in Australia – Prevalence of selected health risk factors (estimates) – High or very high psychological distress – persons [graph]. Torrens University Australia; 2020 Feb [cited 2023 Jul]. https://phidu.torrens.edu.au/current/graphs/sha-aust/remoteness-ti me-series/aust/risk-factors.html

29. National Indigenous Australians Agency. Aboriginal and Torres Strait Islander Health Performance Framework Summary report 2020 – Health status and outcomes – 1.18 Social and emotional wellbeing (Tables D1.18.3 and D1.18.35) [data tables]. Australian Institute of Health and Welfare; 2020 [cited 2021 May]. https://www.indigenoushpf.gov.au/measures/1-18-social-emotional-wellbeing/data
30. Australian Institute of Health and Welfare. Rural and remote health - supplementary data [data tables]. 2022 Jul 07 [cited 2022 Oct]. https://www.aihw.gov.au/reports/rural-remote-australians/rural-and-remote-health
31. Australian Institute of health and Welfare. Risk factors – Insufficient physical activity supplementary tables (Tables S2a and S2b) [data tables]. 2020 Oct 20 [cited 2021 Sep]. https://www.aihw.gov.au/reports/risk-factors/insufficient-physical-activity/contents/about
32. Australian Institute of Health and Welfare. Family, domestic and sexual violence in Australia: continuing the national story 2019. 2019 Jun 5 [cited 2023 Nov 29]. https://www.aihw.gov.au/reports/domestic-violence/family-domestic-sexual-violence-australia-2019/data
33. Greenhalgh E, Maddox R, van der Sterren A, et al. Tobacco in Australia: Facts and issues – 8.3 Prevalence of tobacco use among Aboriginal and Torres Strait Islander peoples. Cancer Council Victoria. 2020 Sep [cited 2021 Sep]. https://www.tobaccoinaustralia.org.au/chapter-8-aptsi/8-3-prevalence-of-tobacco-use-among-aboriginal-peo#x8.3.7
34. Australian Institute of Health and Welfare. Australia's mothers and babies. 2023 Nov 23 [cited 2023 Nov 29]. https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/about
35. Australian Bureau of Statistics. Life expectancy. 2020-2022. 2023 Nov 8 [cited 2023 Nov 29]. https://www.abs.gov.au/statistics/people/population/life-expectancy/latest-release
36. Australian Bureau of Statistics. Aboriginal and Torres Strait Islander life expectancy. 2020-2022. 2023 Nov 29 [cited 2023 Nov 29]. https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/aboriginal-and-torres-strait-islander-life-expectan cy/latest-release
37. Australian Institute of Health and Welfare. Australian Burden of Disease Study 2018: Interactive data on disease burden. 2021 Nov 24 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-disease-burden/contents/remoteness-areas
38. Australian Institute of Health and Welfare. Australian burden of disease study 2015: Interactive data on disease burden [web report]. 2020 Aug 06 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/burden-of-disease/abds-2015-interactive-data-disease-burden/contents/remoteness-areas
39. Australian Institute of Health and Welfare. Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2018. 2021 Nov 24 [cited 2023 Nov 2]. https://www.aihw.gov.au/reports/burden-of-disease/abds-impact-and-causes-of-illness-and-death-in-aus/summary
40. Australian Institute of Health and Welfare. Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2018. National estimates for Australia: Supplementary tables [Table 8.3]. 2021 Nov 24 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/burden-of-disease/abds-impact-and-causes-of-illness-and-death-in-aus/data
41. Australian Institute of Health and Welfare. Mortality Over Regions and Time (MORT) books. Remoteness area, 2017-2021 [data tables]. 2023 Jul 23 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/life-expectancy-deaths/mort-books/contents/mort-books
42. Australian Institute of Health and Welfare. Heart, stroke and vascular disease – Australian facts. 2023 Jun 30 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/heart-stroke-vascular-diseases/hsvd-facts/contents/about
43. Australian Institute of Health and Welfare. Chronic obstructive pulmonary disease (COPD). 2020 Aug 25 [cited 2022 Oct 27]. https://www.aihw.gov.au/reports/chronic-respiratory-conditions/copd/contents/about
44. Australian Institute of Health and Welfare. Chronic musculoskeletal conditions: Back problems [web article]. 2023 Jun 30 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/chronic-musculoskeletal-conditions/back-problems
45. Australian Institute of Health and Welfare. Diabetes: Australian facts. 2023 Jun 30 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/diabetes/diabetes/contents/summary
46. Australian Institute of Health and Welfare. Cancer in Australia 2021 Supplementary tables for Chapter 10: Key population groups. 2021 Dec 01 [cited 2022 Oct 27]. https://www.aihw.gov.au/reports/cancer/cancer-in-australia-2021/summary
47. Australian Institute of Health and Welfare. Suicide and self-harm monitoring. Data. 2023 Oct 24 [cited 2023 Nov 3]. https://www.aihw.gov.au/suicide-self-harm-monitoring/data
48. Australian Institute of Health and Welfare. Data tables: Chronic kidney disease Australian facts. 2023 Jun 30 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/chronic-kidney-disease/chronic-kidney-disease-australian-facts/data
49. Australian Institute of Health and Welfare. Deaths in Australia [web report]. 2023 Jul 11 [cited 2023 Nov 3]. https://www.aihw.gov.au/reports/life-expectancy-deaths/deaths-in-australia/contents/summary#Variation
50. Australian Institute of Health and Welfare. Health expenditure Australia 2020-21. 2022 Nov 23 [cited 2023 Jul 21]. https://www.aihw.gov.au/reports/health-welfare-expenditure/health-expenditure-australia-2020-21/contents/summary
51. Nous Group. Evidence base for additional investment in rural health in Australia. National Rural Health Alliance; 2023 Jun 23 [cited 2023 Jul 21]. https://www.ruralhealth.org.au/sites/default/files/publications/evidence-base-additional-investment-rural-health-australia-june-2023.pdf
52. Bishop L, Gardiner F, Spring B et al. Best for the Bush. Rural and remote health base line 2022. 2023 [cited 2023 Oct 31]. Royal Flying Doctor Service: Canberra. https://www.flyingdoctor.org.au/download-document/best-bush-rural-and-remote-health-base-line-2022/
53. Australian Bureau of Statistics. Patient experiences. 2021-2022 financial year. 2022 Nov 18 [cited 2023 Oct 31]. https://www.abs.gov.au/statistics/health/health-services/patient-experiences/2021-22
54. National Rural Health Alliance. Disability and access to the NDIS in rural Australia [fact sheet]. 2023 Feb [cited 2023 Oct 31]. nrha-disability-factsheet-feb-2023-final.pdf (ruralhealth.org.au)
55. National Rural Health Alliance. Aged care access in rural Australia [fact sheet]. 2023 Feb [cited 2023 Oc 31]. nrha-aged-care-factsheet-dec2022.pdf (ruralhealth.org.au)
56. Department of Health and Aged Care. General Practice Workforce providing Primary Care services in Australia (2014-2022 Calendar Years). 2023 Jun 23 [cited 2023 Jul 22]. https://hwd.health.gov.au/resources/data/gp-primarycare.html
57. Pashen D, Chater B, Murray R, et al. The expanding role of the rural generalist in Australia – a systematic review. Australian Primary Health Care Research Institute; 2007 Nov [cited 2021 Sep]. https://www.researchgate.net/publication/43511135_The_expanding_role_of_the_rural_generalist_In_Australia_a_systematic_review
58. Australian Government Department of Health and Aged Care. Nursing and Midwifery Dashboards. 2023 Jun 13 [cited 2023 Aug 22]. hwd.health.gov.au/resources/dashboards/nhwds-nursing-factsheets. html
59. Australian Government Department of Health and Aged Care. Summary Statistics, Modified Monash Model. Commonwealth of Australia; 2023 Feb 15 [cited 2023 Jul 22]. https://hwd.health.gov.au/resources/data/summary-mmm.html
60. Calculations by the National Rural Health Alliance based on National Health Workforce Dataset data and population figures provided by the Australian Government Department of Health for 2021.