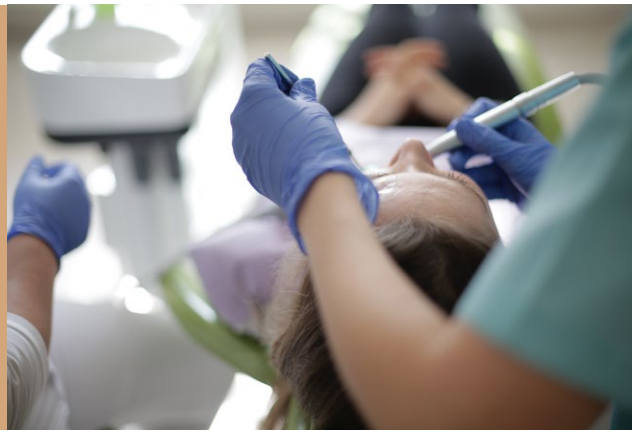
ORAL AND DENTAL HEALTH IN RURAL AUSTRALIA

National Rural Health Alliance

Healthy and sustainable rural, regional and remote communities across Australia

Tooth decay and gum disease are among the most common causes of morbidity in Australia. They can have serious negative effects on general health and quality of life. Rural Australians have access to fewer dental practitioners than their city counterparts and, overall, have poorer oral health than people in major cities. Oral health status generally declines as remoteness increases.[1]



Background

- Untreated dental caries (tooth decay) in permanent teeth is the most common health condition, according to the Global Burden of Disease 2019.[2]
- Poor oral health is also associated with a number of chronic diseases, including diabetes and cardiovascular disease.[1]
- Most oral diseases and conditions share modifiable risk factors such as tobacco use, alcohol consumption and an unhealthy diet high in free sugars, which are common to the four leading non-communicable diseases (cardiovascular disease, cancer, chronic respiratory disease and diabetes).[2]
- There is a causal link between the high consumption of sugar and diabetes, obesity and dental caries.[2]

In addition to being impacted by the above issues, rural Australians have reduced access to fluoridated drinking water and face higher costs for healthy food choices and oral hygiene products.[1] Rural adults are more likely than capital city residents to be missing teeth due to pathology, have inadequate dentition (fewer than 21 teeth) or suffer complete tooth loss.[1] Rural children are more likely than those living in major cities to have visible plaque accumulation, greater rates of dental decay, gingivitis (early gum disease) or missing teeth.[1]

Between 2016–17 and 2020–21, the rate of potentially preventable hospitalisations due to dental conditions[1] was consistently higher for females, Indigenous Australians and those living in very remote[a] areas.

In 2020–21, the rate of potentially preventable hospitalisations due to dental conditions[1] generally increased as remoteness increased, ranging from 3.0 per 1,000 population in major cities to 4.8 per 1,000 population in very remote areas.

In 2021–22[1], people living in major cities (51 per cent) were more likely to have seen a dental professional than those living in inner regional areas (45 per cent) or outer regional, remote and very remote areas (43 per cent).

In children, the incidence of dental caries and untreated tooth decay is higher for those living in remote and very remote areas, compared to those living in major cities.[1]

National policy

The key messages above are repeated elsewhere, including in *Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024* (NOHP).[3] The NOHP identifies four priority populations who experience the most significant barriers to accessing oral health care and the greatest burden of oral disease. One of these priority populations is people living in regional and remote Australia.

There are four strategies in the NOHP to improve oral health outcomes and reduce the impact of poor oral health for people in this priority population group:

- Promote fluoride in alternative forms to people without access to fluoridated water supplies.
- Explore mechanisms to reduce the cost of nutritious foods and oral hygiene products outside major population centres.

[a] ABS Australian Statistical Geography Standard remoteness structure

- Implement innovative service models and funding mechanisms to support delivery in regional and remote communities.
- Enhance programs to recruit and retain dental practitioner[b] students and professionals in regional and remote areas.

The rural oral and dental health workforce

How to build it for the future

Reporting for the NOHP in 2020 looked at the number of students enrolled in dental and oral health courses who have a rural background as an important strategy to build the workforce. Disappointingly, the proportion of rural students reduced from one in five (19 per cent) in 2014 to around one in six (17 per cent) in 2017.

In 2021, KBC Australia (KBC) was engaged by the Australian Government Department of Health to determine the feasibility and best approach to increase dental and oral health training through the Rural Health Multidisciplinary Training (RHMT) program and expand it into more rural locations. In its final report[4], KBC proposed several strategies to develop the rural dental and oral health workforce. They include:

- bringing training into alignment with rural health workforce evidence
- embedding oral health within the University Department of Rural Health system
- developing a rural dental and oral health clinical school
- building student supervisory capacity and rural academic capacity
- developing strategies specific to rural graduates and early career professionals
- growing the Aboriginal and Torres Strait Islander dental and oral health workforce.

The current workforce

Rural Australians have access to fewer dental practitioners than their city counterparts. Coupled with longer travel times and limited transport options to access services, this affects the oral health care that they can receive.[1]

Table 1 shows the prevalence in 2021 of relevant Australian Health Practitioner Regulation Agency (Ahpra) registered health professions as a full-time equivalent (FTE) per 100,000 population by Modified Monash Model (MMM) classification. For dentists: the prevalence is highest in MM1; the distribution remains similar through MM2 to MM4; and then drops markedly, with nearly 4.5 times fewer dentists in MM5 than in MM1.

Table 1: Prevalence of registered dental health professionals per 100,000 population (2021)

Modified Monash Model 2019[c]	Dentists	Oral health therapists	Dental hygienists	Dental therapists	Total non-dentist oral health[d]	Dental prosthetists
MM1	65.5	8.0	4.6	2.1	14.7	4.2
MM2	51.3	7.9	2.9	2.9	13.7	5.0
MM3	54.2	8.1	3.5	4.2	15.9	7.3
MM4	51.0	5.8	2.1	3.6	11.5	5.6
MM5	14.8	2.0	0.5	1.0	3.5	1.0
MM6	28.9	5.1	1.6	3.1	9.9	1.0
MM7	17.4	1.0	1.1	4.3	6.4	0.6

Source: National Rural Health Alliance analysis of National Health Workforce Dataset and ABS-estimated resident population data by MMM for 2021, sourced directly from the Australian Government Department of Health and Aged Care (January 2023). Data reported are for members of the stated professions who were employed in Australia and working in their registered profession.

Service provision and access to dental health care

Various authors have written about the inequity and inefficiency of public funding for dental care in Australia. Harford and Spencer (2004)[5] note that there are a number of impediments to improving oral health, including the lack of agreement on roles and responsibilities of the respective levels of government.

More recently, Nguyen et al (2023)[6] reflect on the World Health Organization (WHO) 2022 Global Strategy on Oral Health that identifies the importance of integrating oral health as part of universal health coverage. The authors argue for the need to steer national oral health policy in Australia towards prevention and early intervention.

In its 2023–24 pre-Budget submission[7], the National Oral Health Alliance (NOHA) called for the Australian Government to commit to delivering universal access to affordable oral health care. The NOHA put forward four key recommendations, pointing to the next NOHP (2025–2034) as the means to develop a national roadmap for implementation:

1. Appoint a Commonwealth Chief Dental Officer.
2. Implement the oral health recommendations of the Royal Commission into Aged Care Quality and Safety, including the establishment of the Seniors Dental Benefits Scheme.
3. Commit to increased funding by the Australian Government for public dental services.
4. Engage NOHA with Australia's next NOHP 2025–2034.

[b] Dental practitioner: a practitioner registered by the Dental Board of Australia; a dental hygienist, dental prosthetist, dental specialist, dental therapist, dentist or oral health therapist.

[c] The Modified Monash Model is used to define whether a location is a city, rural, remote or very remote. The model measures remoteness and population size on a scale of Modified Monash (MM) categories MM1 to MM7; MM1 is classified as a major city and MM7 as very remote.

[d] Oral health therapists, dental hygienists and dental therapists have been grouped as 'non-dentist oral health'. Within this group, there is a lower prevalence in MM5–7. For dental prosthetists, there is a very low prevalence in MM5–7.

Australian Government

The Australian Government provides funding to the state and territory governments to support public dental services for adults. In 2022–23, total funding was $107.75 million.[8]

The Australian Government is also responsible for the Child Dental Benefits Schedule (CDBS), which supports access to dental services for eligible children. A review of the CDBS commenced in 2022. In its submission to this review, the National Rural Health Alliance identified that, in order to enhance the benefits of the CDBS for rural children, the maldistribution of dental practitioners needs to be addressed as part of national-level workforce strategies and programs.[9]

States and territories

Each jurisdiction is responsible for providing public dental and oral health services to eligible children and adults. The following information is from the Australian Dental Association (ADA) website[10]:

> Public dental care is only available to a limited segment of the Australian population. Adults must generally have a healthcare card or pensioner concession card to be eligible. Depending on the state or territory in which you live, dental treatments may be free of charge or a partial payment for the treatment may be required. Approximately one in three Australians are eligible for public dental care, however the waiting list to receive treatment can be very long, sometimes years.

Waiting times

As noted by the ADA, while one in three people are eligible for public dental services, the waiting times for any service can be very lengthy. The Report on Government Services (RoGS) provides information on the equity, effectiveness and efficiency of government services in Australia.[11] This includes detailed data reports on waiting times for a range of public dental services, broken down by jurisdiction.

Data from the 2023 RoGS shows that waiting times in 2021–22 for an offer of public dental care were as long as 1,531 days in the Northern Territory (at the 90th percentile[e]). The days waited for the first visit at the 90th percentile was 1,659 days. New South Wales, Victoria and Tasmania all had waiting times at the 90th percentile of over 1,000 days.

Private health insurance

Most dental care in Australia is provided in private dental clinics. Private health insurance general treatment cover – often referred to as extras cover – can help pay for costs for many services outside of hospital that Medicare does not cover. This includes most dental treatment.

Extras cover only includes some of the cost for most services. Many health insurance policies only allow policy holders to claim a certain percentage of the cost of a service or up to a capped amount each year, for example, cover for up to $500 each year for dental treatments.

In 2017–18, the proportion of people aged five years and over with some level of private health insurance cover for dental expenses[1] was higher for:

- children aged five to 14 (55 per cent) than adults aged 65 and over (46 per cent)
- dentate[f] people (53 per cent) than edentulous[g] people (22 per cent).

Further, more dentate people living in major cities (56 per cent) had some level of private health insurance cover for dental expenses than those living in any other area.

The proportion of people who have any private health insurance reduces with geographic remoteness.[12]

Royal Flying Doctor Service

The Royal Flying Doctor Service (RFDS) provides a comprehensive range of primary healthcare services throughout rural and remote Australia.

In its *Best for the bush*[13] report, the RFDS refers to the Australian Institute of Health and Welfare's proposed measure of reasonable access to primary health care: that people should have access to, at a minimum, general practitioner, nursing, oral health, mental health and Indigenous health services within a 60-minute drive.

The RFDS has identified locations where this measure is not met. In relation to dental services, it determined that 118,943 people did not have access to general dental services.

After recognising that a large proportion of people living in remote and rural Australia do not have access to a regular dental service[14], the RFDS established its dental service, designed to support communities in parts of remote and rural Australia. These services are provided using fly-in fly-out, mobile and outreach delivery models.

In 2021–22, the RFDS delivered dental services to people in rural and remote Australia via 16,873 patient contacts and 1,994 dental clinics.[13]

Public health intervention: fluoride

In 2017, the National Health and Medical Research Council (NHMRC) released a *Public statement on water fluoridation and human health in Australia*.[15] Based on a comprehensive review of the evidence, the NHMRC's public statement strongly recommends community water fluoridation as a safe, effective and ethical way to help reduce tooth decay across the population. The NHMRC states that 'There is no reliable evidence of an association between community water fluoridation at current Australian levels and any health problems.'

The NHMRC's review of recent evidence and studies found that water fluoridation reduces tooth decay in the range of 26–44 per cent for both children and adolescents and by 27 per cent in adults.

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[e] 90th percentile data represents the number of days within which 90 per cent of patients were offered care.
[f] Dentate: having one or more natural teeth.
[g] Edentulous: a state of complete loss of all natural teeth.

Australian research states that access to fluoridated water from an early age is associated with less tooth decay in adults.[15]

For the almost 90 per cent of Australians who have access to fluoridated drinking water, this is good news. However, some communities still rely on non-fluoridated water. While this is common for communities with populations of less than 1,000, a La Trobe University study published in 2023[16] found that lack of fluoridation impacts almost 150,000 Victorians living in 66 (33 per cent) of the 203 towns with populations over 1,000.

The impact on children is telling; over 50 per cent of children aged up to 12 years living in these rural local government areas with non-fluoridated water have rates above the state average of decayed, missing and filled teeth. This rate is highest in those aged up to five years, with 78 per cent above the state average.

Special populations: older people

In its final report[17], the Royal Commission into Aged Care Quality and Safety recommended the establishment of a Senior Dental Benefits Scheme. The report noted that older people are far more likely to have poor oral health and be affected by its consequences, including social isolation, functional impairment, pain and discomfort, ill health and even death. Older people with a low socioeconomic status and people receiving residential aged care are at particularly high risk of experiencing oral health problems due to barriers in accessing dental care, such as public dental service wait lists and private dental costs.

The report also noted that the availability of aged care in rural areas is poor and worsening. Clearly, the oral health of older people in rural Australia is of great concern. The Royal Commission recommended the establishment of a Senior Dental Benefits Scheme that would fund dental services for people who live in residential aged care, live in the community, receive the age pension or qualify for a Commonwealth Seniors Health Card. The proposed scheme would cover services necessary to maintain functional dentition – that is, 20 or more teeth – and to maintain and replace dentures.

Conclusion

Maintaining good oral health is important, including for our overall health. There is a strong link between poor oral health and several chronic diseases. For people living in rural areas, there are barriers to good oral health including: limited access to fluoridated water supplies; higher cost of nutritious foods and oral hygiene products; and fewer dental practitioners. For vulnerable rural populations such as older people living in residential aged care, these issues are heightened.

While there are dedicated oral and dental health services in some rural communities, including the RFDS, people in the bush need better access to these services to enable them to continue to look after their oral health.

Resources

The ADA provides a comprehensive summary page of each jurisdiction's dental program, eligibility requirements and links to the public dental services across Australia: www.teeth.org.au/government-dental-care

The Department of Health and Aged Care has a guide with detailed information on the CDBS: www.health.gov.au/resources/publications/cdbs-guide-to-the-child-dental-benefits-schedule

The Australian Research Centre for Population Oral Health's 'Guidelines for use of fluorides in Australia: update 2019' provides comprehensive information and advice on a number of fluoride sources and their risks and benefits: doi.org/10.1111/adj.12742

References

1. Australian Institute of Health and Welfare. Oral health and dental care in Australia [Web report]. Australian Government. 2023 Mar 17 [accessed 2023 May 22]. www.aihw.gov.au/reports/dental-oral-health/oral-health-and-dental-care-in-australia/contents/about
2. World Health Organization. Oral health [Fact sheet]. 2023 Mar 14 [accessed 2023 Mar 20]. www.who.int/news-room/fact-sheets/detail/oral-health
3. COAG Health Council. Healthy mouths, healthy lives: Australia's National Oral Health Plan 2015–2024. Australian Government. 2015 [accessed 2023 Mar 13]. www.health.gov.au/resources/publications/healthy-mouths-healthy-lives-australias-national-oral-health-plan-2015-2024
4. KBC Australia. Increasing dental and oral health training in rural and remote Australia: feasibility study [Final report]. 2022 Sep 06 [accessed 2023 Mar 07]. www.health.gov.au/resources/publications/increasing-dental-and-oral-health-training-in-rural-and-remote-australia-feasibility-study-final-report
5. Harford J and Spencer A. Government subsidies for dental care in Australia. Aust NZ J Public Health, 28: 363–8. 2004 Aug [accessed 2023 Mar 20]. doi.org/10.1111/j.1467-842X.2004.tb00445.x
6. Nguyen T, Arora A, Sethi S, Gavanescu D et al. Is Australia's lack of national clinical leadership hampering efforts with the oral health policy agenda? Aust Health Rev. 2023 Feb 09 [accessed 2023 Mar 20]. Epub ahead of print. doi.org/10.1071/ah22278
7. National Oral Health Alliance. 2023-24 Pre-Budget submission. 2023 Jan 27 [accessed 2023 Mar 21]. www.oralhealth.asn.au/statement
8. Federal Financial Relations. Public dental services for adults – 2022–23: Federation funding agreement – Health. Australian Government. 2022 [accessed 2023 Mar 13]. www.federalfinancialrelations.gov.au/agreements/public-dental-services-adults-2022-23
9. National Rural Health Alliance. Child Dental Benefits Schedule review – submission to the stakeholder consultation. 2022 Aug 23 [unpublished]
10. Australian Dental Association. Government dental care. 2023 Jul 05 [accessed 2023 Mar 28]. www.teeth.org.au/government-dental-care
11. Productivity Commission. Report on Government Services 2023, Part E. Australian Government. 2023 Feb 02 [accessed 2023 Mar 29]. www.pc.gov.au/ongoing/report-on-government-services
12. Australian Bureau of Statistics. Patient Experiences. 2022 Nov 18 [accessed 2023 July 7]. www.abs.gov.au/statistics/health/health-services/patient-experiences/latest-release
13. Bishop L, Gardiner F, Spring B, Gale L, Schofield Z and Quinlan F. Best for the Bush: rural and remote health base line 2022. Royal Flying Doctor Service of Australia. 2023 [accessed 2023 Mar 20]. www.flyingdoctor.org.au/download-document/best-bush-rural-and-remote-health-base-line-2022
14. Gardiner F, Bishop L, de Graaff B, Campbell J, Gale L, Quinlan F. Equitable patient access to primary healthcare in Australia. Royal Flying Doctor Service of Australia. 2020 Dec [accessed 2023 Mar 08]. www.flyingdoctor.org.au/download-document/euitable-patient-access-primary-healthcare-australia
15. National Health and Medical Research Council. 2017 Public Statement – Water fluoridation and human health in Australia. Australian Government. 2017 Nov 09 [accessed 2023 Mar 20]. www.nhmrc.gov.au/about-us/publications/2017-public-statement-water-fluoridation-and-human-health#block-views-block-file-attachments-content-block-1
16. Dickson-Swift V, Crocombe L, Bettiol S, Bracksley-O'Grady S. Access to community water fluoridation in rural Victoria: It depends where you live. Aust J Rural Health. 2023 Feb 24 [accessed 2023 Mar 07]. doi.org/10.1111/ajr.12973
17. Royal Commission into Aged Care Quality and Safety. Final report: care, dignity and respect. Volume 1 summary and recommendations. Commonwealth of Australia. 2021 [accessed 2023 Mar 13]. www.agedcare.royalcommission.gov.au/publications/final-report