AMA

2019 AMA REPORT CARD ON INDIGENOUS HEALTH

NO MORE DECAY: addressing the oral health needs of Aboriginal and Torres Strait Islander Australians

FOREWORD

AMA PRESIDENT, DR TONY BARTONE

The AMA's Report Cards on Indigenous Health highlight the successes, progress, obstacles and failures in Aboriginal and Torres Strait Islander health and continue to be important catalysts for further discussion about how Australia can improve the health and wellbeing of Aboriginal and Torres Strait Islander people.

Over recent years, the Report Cards have focussed on the Council of Australian Governments Closing the Gap strategy, ear health, rheumatic heart disease and incarceration. The 2019 Report Card focusses on the oral health of Aboriginal and Torres Strait Islander people in Australia.

Good oral health is important for our overall health and wellbeing. Having a healthy mouth allows us to eat and speak without pain and discomfort and allows us to confidently show a wide range of emotions in social settings. Yet, a significant proportion of the Australian population have experienced oral health problems, particularly tooth decay.

Aboriginal and Torres Strait Islander children and adults have much higher rates of dental disease than their non-Indigenous counterparts across Australia, which can be largely attributed to the social determinants of health. Aboriginal and Torres Strait Islander people are also less likely to receive the dental care that they need.

Aboriginal Health painting **Jillie Nakamarra**

Opportunities exist for all Australian governments to improve the oral health status of Aboriginal and Torres Strait Islander people. This includes fluoridating water supplies more broadly across Australia, enhancing oral health promotion, investing in growing the Indigenous dental workforce, and strengthening data collection to monitor and evaluate the oral health status of Aboriginal and Torres Strait Islander people, and the performance of oral health care services.

Critically, governments must ensure that Aboriginal and Torres Strait Islander people have access to affordable, culturally appropriate oral health care programs. Many Aboriginal and Torres Strait Islander people often rely on public oral health services - where they exist, particularly in rural and remote areas.

However, these services can be unsustainable due to piecemeal, arbitrary and short-term funding. As a consequence, a significant proportion of the Indigenous population live without regular dental care, which has adverse outcomes for their health and wellbeing. Oral health care is a fundamentally important part of primary health care and increased access to relevant services is essential.

We urge our political leaders at all levels of government to take note of the recommendations in this Report Card and act to implement solutions to improve the oral health of Aboriginal and Torres Strait Islander people in Australia.

Dr Tony Bartone

President, Australian Medical Association
November 2019

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EXECUTIVE SUMMARY

Oral health is fundamental to overall health and wellbeing. Good oral health allows people to eat, speak and socialise without pain, discomfort or embarrassment.

Five action areas present opportunities for governments to improve the oral health of Aboriginal and Torres Strait Islander people in Australia. They are:

- **Fluoridated water supplies**, especially in Queensland.
- **Oral health promotion** that works with fluoride varnish programs and a tax on sugar-sweetened beverages.
- **An effective dental workforce** with greater participation of Aboriginal and Torres Strait Islander people.
- **Better coordination and reduced institutional racism** in oral health care for Aboriginal and Torres Strait Islander people.
- **Data** to know that the work being done is making a difference.

Government action is needed because Aboriginal and Torres Strait Islander children and adults have dental disease at two to three times the rates of their non-Indigenous counterparts in urban, rural, and remote communities across Australia. They are also much less likely to get needed dental care.

The social determinants of health, such as poverty, racism, and colonialism contribute to a large proportion of the oral health gap between Aboriginal and Torres Strait Islander people and their non-Indigenous peers. As a result, Aboriginal and Torres Strait Islander pre-school and primary-school-aged children are much more likely to be hospitalised for dental problems.

Community water fluoridation is a safe, effective, and equitable way to reduce dental decay. In Australia, access to fluoridated water varies due to the lack of a national approach. This disadvantages Aboriginal and Torres Strait Islander people compared with non-Indigenous Australians because a greater proportion live in rural and regional areas, where water fluoridation is less common. The situation is particularly concerning in Queensland where nearly half of the Aboriginal and Torres Strait Islander population does not have water fluoridation. Australian Government funding for State and Territory dental services is a lever to push for more water fluoridation.

Fluoride varnish programs also help in preventing dental decay, with proven effect in Aboriginal and Torres Strait Islander communities. The application is simple and requires minimal training. Australian Government leadership is needed to identify and remove the regulatory, administrative and program barriers to effective fluoride varnish programs for Aboriginal and Torres Strait Islander children and adults.

Sugary drinks are a major source of sugar that fuels tooth decay. A tax on sugar-sweetened beverages will reduce consumption and tooth decay, as well as the incidence of obesity, diabetes, heart disease, and stroke. Nearly 70 per cent of Australians are in favour of taxes on soft drinks.

Aboriginal and Torres Strait Islander people are nearly twice as likely to suffer from dental pain as non-Indigenous Australians, and five times as likely to have missing teeth. Pain from dental disease, and damage to teeth, can be effectively managed by dental practitioners. Governments need to provide Aboriginal and Torres Strait Islander people with culturally safe dental care programs that are planned and implemented through collaborative and equal partnerships between communities and providers.

It is also well understood that health outcomes for Aboriginal and Torres Strait Islander patients are improved when they are treated by Aboriginal and Torres Strait Islander health professionals. However, Aboriginal and Torres Strait Islander people are grossly under-represented in the oral health workforce. The goal of 780 Aboriginal and Torres Strait Islander dental practitioners by 2040 should be set as a target to promote employment parity in the dental workforce.

Finally, more comprehensive, consistent and coordinated oral health data are needed to better monitor and evaluate oral health status, as well as the performance of oral health care services across Australia. This in turn will lead to improvements in the oral health of Aboriginal and Torres Strait Islander people.

Key recommendations

Water fluoridation

- Governments must commit to a minimum standard of 90 per cent population access to fluoridated water.

Dental workforce

- A strategic approach and additional investment are required to increase Aboriginal and Torres Strait Islander participation in the dental practitioner workforce.

Oral health promotion

- Australian Government investment in oral health promotion should be reinstated and evidence-based initiatives implemented.
- The Australian Government should introduce a tax on sugar-sweetened beverages.

Data

- The availability of comprehensive oral health data for Aboriginal and Torres Strait Islander people must be improved to enable effective monitoring and performance measurement.

Service provision

- Service models must be developed and implemented in collaboration with Aboriginal and Torres Strait Islander people.
- Funding arrangements must reflect the varying costs of providing services in regional and remote areas.

Further recommendations are provided throughout this Report Card.

INTRODUCTION

The two major dental diseases are tooth decay (caries) and gum disease (periodontal disease). Both diseases can cause pain, loss of function, and disfigurement.

Tooth decay is a chronic disease caused by dietary sugar. Oral bacteria ferment sugar to produce acids that demineralise, and ultimately destroy, the teeth. Tooth decay progresses with age, creating a lifelong burden.[1] Gum disease damages the bone and gum supporting the teeth, and its progress is insidious, with symptoms of pain and loose teeth in the advanced stages. Gum disease susceptibility varies between individuals, with a genetic component, and is exacerbated by smoking and diabetes.[2,3,4]

Aboriginal and Torres Strait Islander oral health status

The social determinants of health have a profound influence on who suffers dental diseases.[5] There is strong evidence that this applies to Aboriginal and Torres Strait Islander people in Australia.[6,7,8,9,10] Social determinants of health - such as education, employment, income and housing - and risk factors account for 53 per cent of the health gap between Aboriginal and Torres Strait Islander and non-Indigenous Australians.[11] The remaining 47 per cent of the health gap may be attributed to institutional racism, interpersonal racism, intergenerational trauma and a lack of cultural safety.

Small[12,13,14,15,16,17,18,19,20,21,22] and large scale[23,24,25,26,27,28,29] oral health surveys report that Aboriginal and Torres Strait Islander adults and children have higher levels of dental disease and poorer oral health than their non-Indigenous counterparts. This disparity is present in urban[18], rural[12,17,20,21] and remote[12,15,20,21] communities. Water fluoridation improves oral health for Aboriginal and Torres Strait Islander people[30,31] but does not completely close the gap with non-Indigenous people.[26] Aboriginal and Torres Strait Islander children and adults have much higher levels of untreated tooth decay indicating poorer access to, and outcomes from, dental care.[13,16,19-23]

Impact of oral disease

Tooth decay is the most common chronic disease in both Australian adults and children. Nine out of ten Australians have experienced tooth decay[32] and three in ten Australian adults have untreated tooth decay.[33] Pain from tooth decay is a common experience amongst adult Australians with 17 per cent suffering a toothache every year, 20 per cent unable to chew properly, and 27 per cent reporting disfigurement.[34]

Dental treatment can alleviate pain and restore function, but its intensive and time-consuming characteristics have led the World Health Organization (WHO) to nominate dental disease as the fourth most expensive disease to treat.[35] Many Australians regard dental treatment as a large financial burden.[34] More people in low-income households report that dental treatment is a large financial burden than those in the highest income group.[34] Taking time off from work or school adds to the economic impact of dental care.[32]

Fear and anxiety about dental treatment is common with nearly 10 per cent of Australians very afraid or extremely afraid of dental treatment.[36]

A Key Performance Indicator (KPI) of Australia's National Oral Health Plan is potentially preventable hospitalisations (PPHs) due to dental conditions.[33] In 2016-17 there were more than 70,000 PPHs due to dental conditions in Australia.[37] Hospitalisations are generally related to a need for dental treatment under general anaesthetic; for example, wisdom teeth removal, treatment of patients with extreme anxiety, very young children or people with special needs. General anaesthesia rates for dental treatment of Aboriginal and Torres Strait Islander children, in both primary and pre-school, are much higher than their non-Indigenous peers.[34,38] Hospitalisation costs are also higher for Aboriginal and Torres Strait Islander children in Western Australia.[39]

Quality of life among Aboriginal and Torres Strait Islander families is impacted by poor child oral health with heightened stress and financial challenges.[40] Aboriginal and Torres Strait Islander adult dental patients also experience higher negative quality of life impacts due to oral health, compared with non-Indigenous adults.[41]

Dental diseases are associated with systemic diseases including cardiovascular disease, diabetes, and low birth weight, but the evidence for their causation by poor oral health is weak.[42,43,44] However, there is good evidence that uncontrolled diabetes increases the risk and severity of gum disease.[2-4]

Oral health and the role of service provision

Dentistry is efficient and effective at alleviating pain caused by dental diseases; it is also effective at restoring function after damage caused by disease or trauma. Dental attendance frequency should vary with individual disease level and disease risk.[45]

Gum disease harms the bone and gum supporting the teeth. Its progress is insidious; advanced disease can cause pain, loose teeth and tooth loss. Susceptibility varies between individuals, with a genetic component; the major predictors for disease onset and progression are smoking and uncontrolled diabetes. Dental treatment for patients with gum disease can slow progression, however, it does not return the teeth to their original condition.[46] There is no benefit from treatment for patients who do not have gum disease.[47]

The capacity of the dental practitioner to directly prevent, or reduce the risk, of tooth decay for individual patients is limited. Dental examinations, radiographs, plaque removal and oral hygiene instruction do not reduce tooth decay risk.[48,49] Reducing sugar consumption lowers the risk of decay but many people find this difficult because it requires behavioural change and there is little evidence that dental practitioners are able to initiate and sustain effective interventions to reduce sugar consumption by patients.[50]

Fissure sealants for susceptible pits in the biting surfaces of molar teeth in at-risk children and adolescents reduces decay risk in those surfaces, but not the rest of the tooth.[51] Regular topical fluoride applications can reduce tooth decay risk in at-risk individuals, and these applications are simple and do not need to be done by a dental practitioner.[52,53,54,55,56,57,58]

Value-based oral healthcare

Value-based health care is defined as the health outcomes achieved relative to the cost of achieving those outcomes.[59] Value is patient-focussed, including both clinical outcomes and patient experience; it must also include societal expectations when the community, rather than the individual, pays for care. Achieving best outcomes at the lowest cost involves moving away from a 'volume' driven system to a 'value' creating health care system.

In dentistry, delivering value requires improving oral healthcare outcomes that matter to patients whilst reducing low-value services that do not improve health outcomes.[60] Both patient-reported and clinical outcomes should be used to measure the change in health outcome provided by the service, demonstrating success and monitoring oral healthcare system performance.

Fee-for-service is the dominant funding model in the Australian oral healthcare system; it boosts output and volume over outcome and value.[60] For example, overly frequent recall visits along with scaling and polishing of teeth in healthy patients are low-value services encouraged by fee-for-service.[47,60] A blended funding model for dentistry with risk-adjusted capitation base and outcome-based components would facilitate value-based oral healthcare. A standard set of patient-centric outcome measures is required, such as the International Consortium for Health Outcomes Measurement.[61]

Oral disease prevention

Eliminating dietary sugar prevents tooth decay, but this behaviour change is very difficult for most people. Reduced sugar consumption lowers decay risk. Tooth brushing requires fluoride toothpaste to effectively lower decay risk.[52,53,62]

Oral health education and promotion can improve knowledge about oral health.[63] The translation of increased awareness and improved knowledge into oral health behaviour change, and consequent oral health improvement, is not supported by good evidence.[64,65,66] Small studies have reported a need for increased oral health awareness[12,67,68,69] as well as interventions that may improve oral health knowledge amongst Aboriginal and Torres Strait Islander people.[70,71,72] Oral health improvement has been reported in some studies of oral health education interventions[73,74] but not in others.[75] The involvement of Aboriginal and Torres Strait Islander workers in delivering oral health education is recommended.[71,76]

The progression of gum disease can be slowed by improving personal oral hygiene with effective tooth cleaning, but this requires behavioural change by affected patients.[46]

Tobacco and oral cancer

In Australia, 600 new cases of oral cancer are detected each year with a mortality rate of nearly 50 per cent.[77] Most oral cancers are initiated by tobacco.[78] The social determinants of health have a strong influence on oral cancer.[79] Tobacco smoking rates are much higher amongst Aboriginal and Torres Strait Islander Australians at 42 per cent compared with 15 per cent for non-Indigenous Australians - a difference of 27 per cent.[80]

WATER FLUORIDATION

Community water fluoridation is a safe, effective and equitable way to reduce dental decay. The National Health and Medical Research Council restated its support for water fluoridation in a public statement in 2017.[81]

The establishment, maintenance and expansion of water fluoridation programs in Australia has been limited by the absence of a national approach and varying jurisdictional legislative and administrative processes. The National Oral Health Plan called for:

- A national standard for access to fluoridated water or fluoride in other forms; and
- A multidisciplinary national panel to provide technical advice and assistance to jurisdictions to support the implementation and maintenance of water fluoridation.[33]

Despite endorsement of the National Oral Health Plan by Commonwealth, State and Territory Health Ministers, no action has been taken on the above points.

Regional variation

Water fluoridation population coverage varies between and within jurisdictions across Australia.[82]

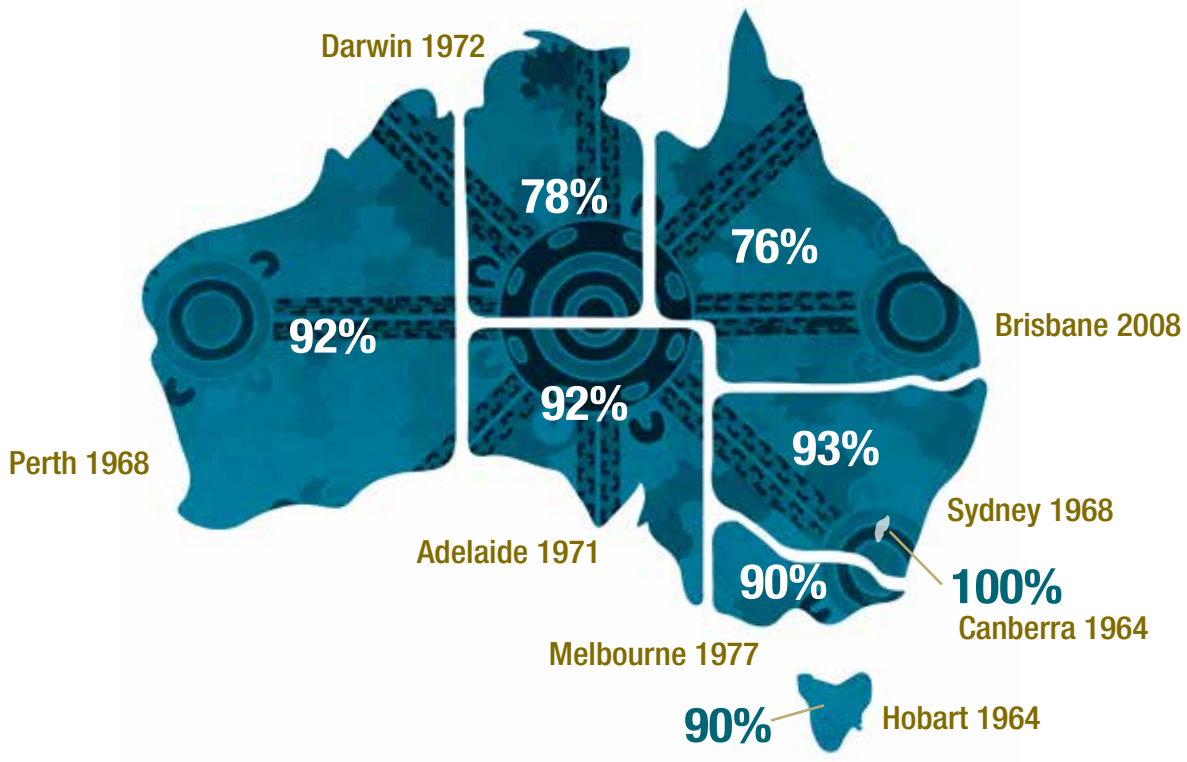


Figure 1: Community water fluoridation and population coverage.

Before 2008, only five per cent of the Queensland population had access to fluoridated water with clear differences in the dental decay rates between fluoridated and non-fluoridated areas (Figure 2).[82]

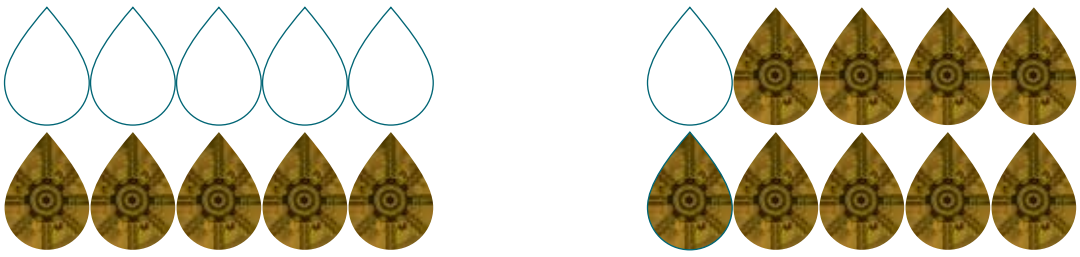
Non-fluoridated North Queensland **Fluoridated Queensland**

Figure 2: Proportion of 9-10-year-old children with decay experience in primary dentition.

In 2008, the Queensland Labor Government legislated mandatory fluoridation of water supplies servicing more than 1,000 people - 134 supplies were identified.[83] Over the next four years, population coverage increased to 90 per cent[84] and dental decay levels reduced.[31]

However, in 2012 the Newman Liberal-National Party government reversed the mandate and returned to a voluntary system. The subsequent cessation of fluoridation in 18 shire or council areas reduced the population coverage to around 76 per cent.

More Aboriginal and Torres Strait Islander people live in areas that either did not implement fluoridation or ceased fluoridation after 2012. Thus, about 50 per cent of Aboriginal and Torres Strait Islander people in Queensland do not have access to fluoridated water, although the access rate for the total Queensland population is around 76 per cent. In contrast, the access differential in Victoria is around four percentage points with approximately 90 per cent of Aboriginal and Torres Strait Islander people having access compared with 94 per cent of non-Indigenous people.



Queensland **Victoria**

Figure 3: Proportion of Aboriginal and Torres Strait Islander people with access to fluoridated water supplies.

Infrastructure funding

The National Oral Health Plan calls for fluoridation of community water supplies supplying over 1,000 people.[33] While implementing water fluoridation costs more in small, regional and remote communities, due to distance and dis-economies of scale, the high benefit to cost ratio still enables cost-effectiveness with estimates between 16.5:1 and 38:1.[85,86] Analysis of costs and benefits in the Northern Territory identified a favourable cost benefit in communities as small as 600 people.[87]

The existing National Partnership Agreement on Public Dental Services for Adults (NPA) funding focuses on treatment services for a small proportion of the eligible population.[88] Redirecting a proportion of this funding to community water fluoridation would deliver a cost-effective health benefit to the whole community. A discount in the NPA funding, relative to the proportion of the population with fluoridated water, would offer an extra incentive; eg. 70 per cent access = 50 per cent NPA allocation, 80 per cent access = 75 per cent allocation, 90 per cent access = 100 per cent allocation.

Recommendation:

- **Governments must commit to a minimum standard of 90 per cent population access to fluoridated water.**
  - The Queensland Government should reinstate mandatory water fluoridation.
  - The Australian Government should allocate $50 million in grants over the next three years to fund new water fluoridation plants.
  - The Australian Government should require States and Territories to establish and maintain a minimum 90 per cent fluoridated population.

ORAL HEALTH WORKFORCE

Dental care is delivered by dental practitioners, registered by the Dental Board of Australia (DBA), in a divisional classification. The five divisions are dentists, dental hygienists, dental prosthetists, dental therapists and oral health therapists. Dental technicians and dental assistants support dental practitioners to provide care, however are not registered.

Benefit from an Aboriginal and Torres Strait Islander health workforce

Aboriginal and Torres Strait Islander health professionals may provide better outcomes for Aboriginal and Torres Strait Islander people in healthcare. Aboriginal health workers improve outcomes through professional collaboration with non-Indigenous health professionals, enabling deep knowledge about patients, their families and community.[89] For example, partnership with Aboriginal and Torres Strait Islander health staff was the key to the successful control of a glomerulonephritis outbreak in a remote community.[90]

In hospitals, Aboriginal and Torres Strait Islander health professionals improve cultural safety. Thus, fewer Aboriginal and Torres Strait Islander patients leave before treatment is completed and continuity of care with primary healthcare providers is improved.[91,92,93] Aboriginal and Torres Strait Islander patients receive higher quality care when Aboriginal and Torres Strait Islander health professionals are included.[94,95,96] Aboriginal and Torres Strait Islander patients highly value the presence of Aboriginal and Torres Strait Islander health professionals in healthcare organisations.[97]

An increase in the number of Aboriginal and Torres Strait Islander health professionals across all health disciplines is well supported by Australian Government policy through the 'National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework 2016-2023'.[98] The framework acknowledges the considerable published research that evidences improved health outcomes for Aboriginal and Torres Strait Islander patients when they are treated by Aboriginal and Torres Strait Islander health professionals. In turn, Australian States and Territories plan to increase the representation of Aboriginal and Torres Strait Islander people across their own health workforces.[99,100,101,102,103,104,105]

Aboriginal and Torres Strait Islander dental practitioners

A recent DBA newsletter reported 23,629 registered dental practitioners.[106] Within an equity framework, the proportion of Aboriginal and Torres Strait Islander people registered as dental practitioners should be equal to the proportion of Aboriginal and Torres Strait Islander people within Australia - 3.3 per cent[107]; and 780 dental practitioners. In 2017, across the five dental divisions, 98 Aboriginal and Torres Strait Islander people were registered as dental practitioners; see Table 1 below.[108]

YEAR	Dental hygienist	Dental prosthetist	Dental therapist	Dentist	Oral health therapist	TOTAL
2013	12	4	8	26	8	**58**
2014	12	5	6	31	14	**68**
2015	13	6	9	32	13	**73**
2016	17	7	6	34	15	**79**
2017	17	6	8	46	21	**98**

Table 1: Registered dental practitioners, identifying as Aboriginal and Torres Strait Islander, by year and occupation.[117]

The current rate of increase, around 10 to 20 per year (Figure 4), is insufficient to meet the modest target of 300 Aboriginal and Torres Strait Islander dental practitioners by 2030 set by the Indigenous Dentists' Association of Australia. Reaching parity by 2040 (780 in 2018 numbers) requires significant acceleration with at least 40 graduates per year; assuming the two per cent annual growth in total dental practitioner numbers continues.[37]

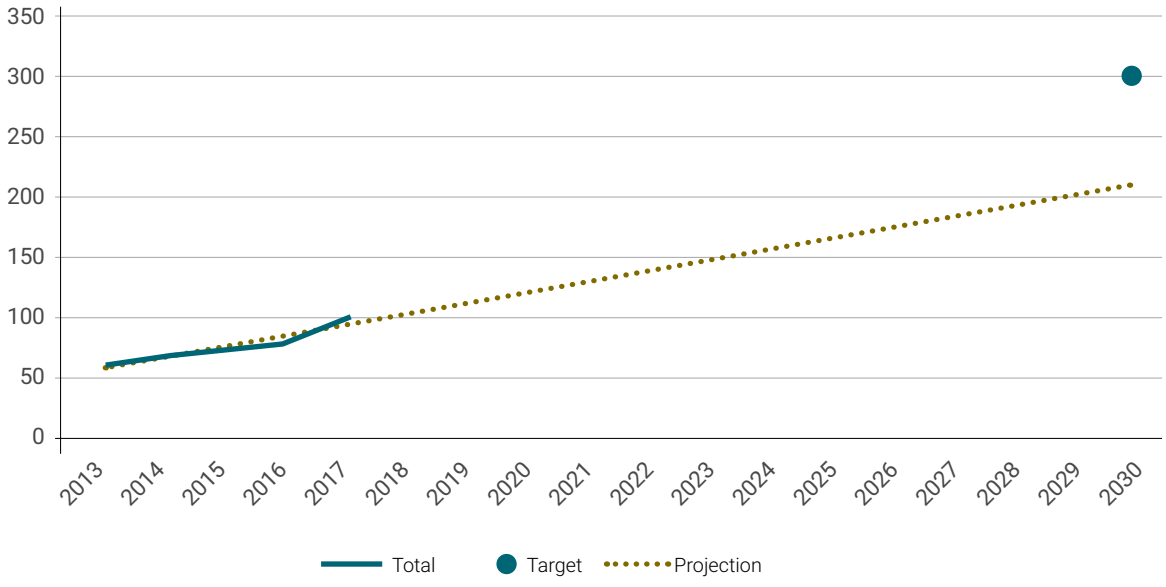


Figure 4: Registered dental practitioners, identifying as Aboriginal and Torres Strait Islander, by year.

Aboriginal and Torres Strait Islander oral health workforce development

Aboriginal and Torres Strait Islander dental students

Aboriginal and Torres Strait Islander dental student numbers have been relatively stable in recent years (Figure 5). The number of years to complete a course varies across institutions and qualifications.

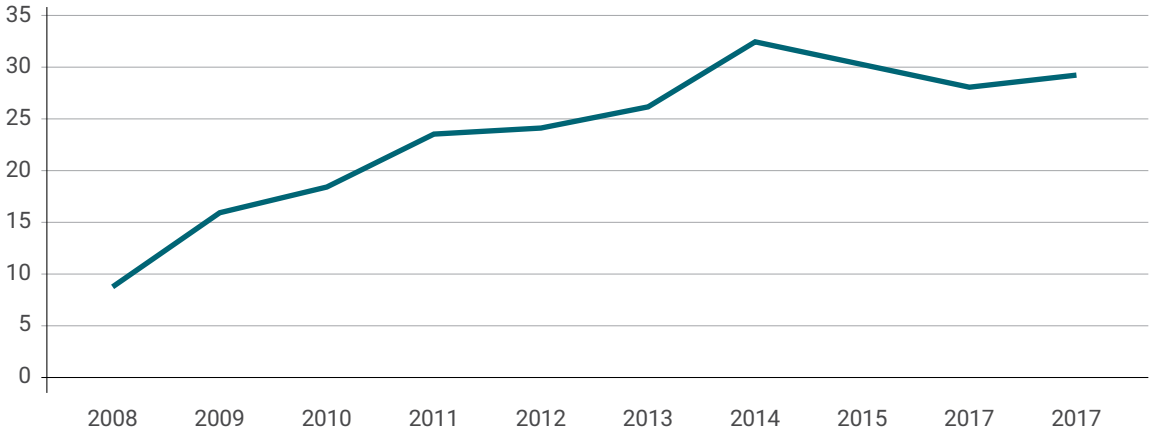


Figure 5: Aboriginal and Torres Strait Islander students enrolled in dental practitioner courses by year (data provided by Australian Department of Education).

Funding and support

The premier scholarship support for Aboriginal and Torres Strait Islander health students is the Puggy Hunter Memorial Scholarship (PHMS), established by the Australian Government in 2002.[109] Dental students were excluded from the scholarship but this changed in 2007 after representation from the Indigenous Dentists' Association of Australia. The scholarship is worth $15,000 per annum; this has not increased over the last 10 years. In 2019, the rules of the scholarship were changed to enable PHMS recipients to receive funding from other bursaries or scholarships without having to pay this extra money back to the Australian Government.

The scholarship supported the graduation of 25 dental practitioners between 2010 and 2018, nine students are currently supported (data provided by PHMS). In recent years, there have been twice as many Aboriginal and Torres Strait Islander dental students applying than there are PHMS scholarships available. The number of PHMS dental scholarships should be increased.

Abstudy, founded in 1969 by the Australian Government, supports Aboriginal and Torres Strait Islander students enrolled in tertiary studies. The Abstudy living allowance varies according to student circumstances; for example, the maximum fortnightly payment for a student (between 22 and 59 years) with no children or partner is $555.70 – about $14,448 per year. Abstudy is means tested; students with a personal income exceeding $437 per fortnight, or around $11,360 per year, have their living allowance reduced.[110]

Philanthropic financial support for Aboriginal and Torres Strait Islander dental students is available from the Australian Dental Association, Australian Rotary, and the Dental Hygienists Association of Australia. These scholarships and grants provide $5,000 a year per recipient, less than half the Abstudy personal income test. Therefore, these scholarship amounts could be doubled. Furthermore, the current numbers of Aboriginal and Torres Strait Islander dental students exceed the number of scholarships available, therefore the number of scholarships could be significantly increased.

Dental practitioners

Rural and remote oral health workforce

There is a maldistribution and an insufficiency of dental practitioners in remote and regional areas of Australia. The prevalence of dental practitioners in cities is three times higher than in remote Australia.[111] This is significant for Aboriginal and Torres Strait Islander oral health because many Aboriginal and Torres Strait Islander people live in remote and very remote areas; see Table 2 below.

Remoteness Areas	Aboriginal and Torres Strait Islander %	Non-Indigenous %	TOTAL %
Major Cities	37.4	72.7	71.6
Inner Regional	23.7	17.8	18.0
Outer Regional	20.3	8.0	8.4
Remote	6.7	1.0	1.2
Very Remote	11.9	0.5	0.8

Table 2: Estimated resident Aboriginal and Torres Strait Islander population, Remoteness Areas, 30 June 2016.[104]

Recent efforts to increase dental practitioner numbers and distribution within rural and remote Australia have focussed on financial incentives. This may have been ineffective because the major reasons for retention are personal – community and social connection, professional satisfaction, and rural experience during undergraduate training.[112]

Non-Indigenous dental practitioner development

The ability of non-Indigenous dental practitioners to deliver culturally safe care for Aboriginal and Torres Strait Islander patients depends upon their undergraduate education, regulatory requirements, professional relationships with Aboriginal and Torres Strait Islander health staff, and links with Aboriginal and Torres Strait Islander organisations.[113]

Non-Indigenous dental students can be developed to provide culturally safe care but this requires curriculum modification.[114] Useful strategies include educational seminars, community service learning, and reflective writing.[115] More Aboriginal and Torres Strait Islander dental academics and students also helps.[116] Teaching placements in Aboriginal Medical Services (AMS) are beneficial for dental students[117] but most dental schools have insufficient access. Capital investment is needed for every dental school to have a teaching clinic in a local AMS.

The regulatory environment is changing to promote cultural safety. The Australian Health Practitioner Regulation Agency, in partnership with Aboriginal and Torres Strait Islander health organisations, has commenced consultations about defining cultural safety.[118] The new National Safety and Quality in Health Services Standards include six actions explicitly focussed on supporting the culturally safe care for Aboriginal and Torres Strait Islander people.[120]

Aboriginal and Torres Strait Islander dental assistants

Several programs have focussed on increasing the number of Aboriginal and Torres Strait Islander dental assistants.[12,119,120] The rationale for this strategy is that the provision of cultural safety by non-Indigenous dental practitioners can be improved if they are supported by Aboriginal and Torres Strait Islander dental assistants.[121]

The Aboriginal and Torres Strait Islander Health Performance Framework 2017 Report reports 267 Aboriginal and Torres Strait Islander dental assistants.[122] The National Centre for Vocational Education Research data shows that, in 2017, 15 Aboriginal and Torres Strait Islander students completed a Certificate III in Dental Assisting and seven Aboriginal and Torres Strait Islander students completed a Certificate IV in Dental Assisting. Greater efforts have been proposed to increase the number of dental assistants.[112] A recent proposal for a school-based fluoride varnish program delivered by Aboriginal and Torres Strait Islander dental assistants could offer additional benefit.[123]

Aboriginal and Torres Strait Islander oral health coaching

Intensive primary healthcare support, using Aboriginal and Torres Strait Islander health coaches, has demonstrated reduction in the biomedical risk factors for cardiovascular disease, high blood pressure and abnormal blood lipids in remote communities.[124,125] Health coaching aligns with national policies including the National Aboriginal and Torres Strait Islander Health Implementation Plan,[126] National Safety and Quality Health Service Standard 2 (Partnering with Consumers),[127] and the National Strategic Framework for Chronic Conditions.[128]

The health coaching approach could be applied to the chronic oral diseases of tooth decay and gum disease using locally recruited, trained and managed Aboriginal and Torres Strait Islander people as health coaches. Micro-credential training within the Aboriginal and Torres Strait Islander Health Workers training pathway would enable health coaches to intensively encourage patients to take control of their oral disease by addressing modifiable risk factors and using fluorides. Sustainability is supported by using local people who are more likely to stay in community, as well as utilising their superior language skills, local knowledge and community links.

Recommendation:

- **A strategic approach and additional investment are required to increase Aboriginal and Torres Strait Islander participation in the dental practitioner workforce.**
  - The DBA should provide more detailed reports on the participation of Aboriginal and Torres Strait Islander people in the dental practitioner workforce.
  - The number of PHMS scholarships for Aboriginal and Torres Strait Islander dental students should be trebled.
  - Philanthropic organisations providing scholarships for Aboriginal and Torres Strait Islander dental students should consider increasing the number of scholarships provided and the amount paid.
  - The Australian Dental Council (ADC) should develop a strategy that will enable dental schools to produce 40 Aboriginal and Torres Strait Islander dental practitioners a year.
  - The ADC, in partnership with the Indigenous Dentists' Association of Australia, should review cultural safety training within dental schools.
  - The Australian Government should provide capital funding for a dental teaching clinic within a local AMS for each dental school to enable cultural safety training.

Photo: Supplied by the Melbourne Dental School, The University of Melbourne

Melbourne Dental School partnership with Miwatj Health Aboriginal Corporation

The East Arnhem based Miwatj Health Aboriginal Corporation – Melbourne Dental School partnership is built on a community-led oral health plan that includes better access to fluorides, incorporating oral health into primary health care programs, expanding preventive oral health interventions, collaborative service models and workforce development for local communities.

ORAL HEALTH PROMOTION

Policy environment

In 2011, a suite of evidence-based oral health promotion messages was published following development through a national consensus workshop process.[129] These messages were consistent with broader health messages recommendations and remain relevant today. Messages included:

- Encouraging a healthy diet;
- Twice daily toothbrushing with an appropriate fluoride toothpaste;
- A first oral health assessment by age two and regular subsequent care relative to individual risk factors;
- Quitting smoking; and
- Use of mouthguards to minimise trauma.

In 2012, the Australian Government committed $10.5 million to support the development and implementation of a National Oral Health Promotion Plan.[130] Following extensive stakeholder consultation, a draft plan was provided to the then Minister for Health. However, the process stalled and the funding allocation was removed in subsequent budgets.

The draft plan included recommendations and strategies such as:

- Establishing a prevention system for oral health;
- Developing a national approach to improving oral health literacy;
- Developing evidence-based clinical guidelines to maximise the efficiency and appropriateness of funded programs (eg the Child Dental Benefits Schedule); and
- Integrating the dental care services and enabling family-based care.

The failure to implement a consistent national approach to oral disease prevention and health promotion is resulting in increasing expenditure on oral health treatment by both individuals and Government.[131] This impacts on the health of all Australians but disproportionately affects Aboriginal and Torres Strait Islander people.

Individual jurisdictions and non-government organisations have developed resources to engage Aboriginal and Torres Strait Islander people (Figure 6) but the absence of a national approach results in unnecessary duplication, effort and expenditure.

What works?

While there are many varied approaches to oral health promotion, the evidence base for some strategies is limited. In 2011, the Victorian Department of Health published an *Evidence-based oral health promotion resource*[132] which reported the strength of evidence for a range of oral health promotion interventions, and was updated in 2013.[133]

Programs considered to effectively improve the oral health of Aboriginal and Torres Strait Islander peoples included:

- Water fluoridation;
- Community fluoride varnish programs with oral health education and community promotion;
- Use of Aboriginal Health Workers and other primary health workers as oral health champions; and
- Community-based oral health promotion.

Figure 6: Oral health promotion materials

Fluoride varnish

The application of fluoride varnish to both primary and secondary teeth to prevent dental decay is supported by high quality evidence, including among Aboriginal and Torres Strait Islander communities.[134]

Fluoride varnish application is a well-accepted and safe procedure. The application is simple and requires minimal training. An endorsed training package was developed in 2011 for inclusion in Certificate and Diploma level training in Aboriginal and/or Torres Strait Islander Primary Health Practice[135] (and later for Allied Health Assistance, Disability and Ageing Support) and comprehensive support materials have been developed.[136]

Despite the strong evidence, there has been slow progress towards community-level fluoride varnish programs. A major barrier is inconsistent jurisdictional legislation restricting the use of fluoride varnish (Table 3).

Jurisdiction	Status
New South Wales	Restricted to registered dental practitioners
Northern Territory	Use by appropriately trained Aboriginal Health Workers or Registered Nurses can be authorised by the Chief Health Officer
Queensland	Restricted to registered dental practitioners
Western Australia	Use by Aboriginal Health Workers and registered Nurses in country areas of Western Australia authorised by the CEO, Western Australian Department of Health

Table 3: Examples of jurisdictional restrictions on the use of fluoride varnish.

Debate within the dental professions relating to scope of practice has created further barriers.

The engagement of Aboriginal Health Workers in promotion of fluoride varnish programs and an increased Aboriginal and Torres Strait Islander oral health workforce, particularly dental assistants, will assist to establish a pool of local oral health champions within communities – an approach which is further supported by the evidence base and provides a foundation for other community-based prevention and promotion activities.

The Northern Territory Remote Aboriginal Investment Oral Health Program is the current structure for a sequence of programs funded by the Australian Government and implemented by the Northern Territory Department of Health. A key component of these programs was the focus on delivery of preventive oral health interventions as a performance measure with the volume of fluoride varnish and fissure sealants being publicly reported.[137] This reporting model could be translated to the NPA funding.

Photo: Supplied by the Poche Centre for Indigenous Health, The University of Sydney

Dental assistants applying fluoride varnish

The Poche Centre for Indigenous Health, University of Sydney has implemented a school-based fluoride varnish program across 21 schools in New South Wales with high enrolments of Aboriginal people and is delivered by Aboriginal Dental Assistants. Most children participating in the program have received three or four applications of fluoride. Initial findings suggest the program is efficient, effective, scalable and sustainable.

Sugar-sweetened beverage tax

Sugar-sweetened beverages (SSBs) are a major source of added sugar in the diet. They include cordials, soft drinks, energy drinks, sports drinks, fruit and vegetable drinks, and fortified waters. Consumption of SSBs is associated with obesity, type 2 diabetes, cardiovascular disease, bone density problems, and tooth decay.[138,139] SSBs are discretionary as they do not contribute significantly to essential nutritional requirements and can be substituted with water, making preventive health interventions to reduce their consumption ideal. Australians are among the highest consumers of SSBs globally,[140] purchasing approximately 377 kilojoules per person per day,[141] or the equivalent of 76 litres of cola soft-drink per year.

SSB taxes have been implemented in many countries and there are early signs that modest taxation rates have led to reductions in the purchase of SSBs.[142] Current evidence suggests that increasing the price of SSBs through taxation or other means will reduce consumption[142,143,144] particularly for younger Australians.[145] A 20 per cent tax, as supported by the WHO,[146] is estimated to reduce rates of dental disease,[147] type 2 diabetes, heart disease and stroke, with an estimated 1,600 extra people alive after 25 years as a result of the tax, providing considerable health system savings and generating an estimated $400 million in revenue annually.[146] 64-69 per cent of Australians are in favour of taxes on soft drinks with revenues subsidising the cost of healthy foods for low income earners.[148,149]

Recommendations:

- **Australian Government investment in oral health promotion should be reinstated and evidence-based initiatives implemented.**
- **The Australian Government should introduce a tax on SSBs.**
  - The Australian Government should lead a taskforce to identify and remove the regulatory, administrative and program barriers to an Aboriginal and Torres Strait Islander dental assistant or health coach delivered fluoride varnish program for Aboriginal and Torres Strait Islander children and adults.
  - The Australian Government should quarantine NPA funding for, and inclusion of specific NPA KPIs related to fluoride varnish programs and other evidence-based preventive interventions for Aboriginal and Torres Strait Islander children and adults.
  - Australian Government investment in a National Oral Health Promotion Plan should be reinstated and the draft plan refreshed and implemented.
  - Funding allocations should be provided to improve Aboriginal and Torres Strait Islander oral health literacy.
  - Food and beverage labelling regulations should be amended to require a graphic warning when sugar has been added to the product.

DATA

What's available and reported

Good data drives good policy. Data indicates if policies are working to achieve the desired health outcomes. In Aboriginal and Torres Strait Islander oral health, the data is poor. An analysis of 32 studies of Aboriginal and Torres Strait Islander child oral health found variations in the way data is collected and inconsistencies in the ages studied.[150] It was recommended that future studies undertake a consistent approach to reporting caries data including age, location, risk factors, and fluoridation status. Most studies only described oral disease rather than exploring solutions. Similar concerns have been reported for Aboriginal and Torres Strait Islander adults where small sample sizes and inconsistent data collection are commonplace.[151]

There is a rich source of data already available within public dental services, private health insurers, AMSs and Australian Government dental programs such as the Child Dental Benefit Scheme and the Department of Veterans Affairs. Dismantling the various barriers to gathering and analysing the Aboriginal and Torres Strait Islander oral health data present within these organisations requires Australian Government action. Subsequent analysis and reporting ought to be undertaken by the Australian Institute of Health and Welfare (AIHW) in partnership with Aboriginal and Torres Strait Islander organisations such as the National Aboriginal Community Controlled Health Organisation and the Indigenous Dentists' Association of Australia. Additional surveys and studies should then be commissioned to fill data gaps and seek solutions for the prevention and treatment of oral diseases. A summary of this oral health reporting should be included in the Australian Government's annual Closing the Gap report.

Recommendation:

- **The availability of comprehensive oral health data for Aboriginal and Torres Strait Islander people must be improved to enable effective monitoring and performance measurement.**
  - The AIHW should develop an Aboriginal and Torres Strait Islander oral health data set using data from public dental providers, Australian Government oral health programs, private health insurers and AMSs.
  - Aboriginal and Torres Strait Islander oral health KPIs should be included in the NPA.

SERVICE PROVISION

Models of care

Oral health services are provided through a mix of public, private, non-government organisation and community-controlled programs. Eligibility for public programs is primarily means tested with some variability in criteria between jurisdictions.[152]

Care models need to be supported by appropriate funding models. Aboriginal and Torres Strait Islander people are more likely to forgo recommended dental treatment due to cost,[153] which particularly for those in regional and remote areas where this can include the cost of travel. The National Pricing Framework used by the Australian Government to fund public hospital activity includes adjustments (weightings) related to Aboriginal and Torres Strait Islander status and patient residential remoteness.[154] The NPA does not include any weightings to reflect the additional costs of service provision to high needs groups or in remote areas.

As described in following sections, the key to engagement of Aboriginal and Torres Strait Islander people in oral health care programs is the provision of a culturally appropriate, acceptable and safe environment and the planning and implementation of programs through collaborative and equal partnerships between communities and providers.[155,156,157]

Photo: Supplied by the Poche Centre for Indigenous Health, The University of Sydney

NSW Central Tablelands

Two Aboriginal Health Services, two Local Health Districts, five community health services, 18 schools, six pre-schools and a university have partnered to deliver a comprehensive oral health service providing thousands of services including preventive care across eight communities. The model of service delivery costs less and delivers more than conventional fly in fly out operations.

In regional and remote areas with limited service availability, there has been an historical reliance on intermittent transient visiting services, with a primary focus on pain relief. Unsurprisingly this approach has done little to improve oral health at a community level.

A comparison of the visiting service model with a collaborative model involving a local Aboriginal and Torres Strait Islander community controlled health service and a university centre found that the embedded partnership approach delivered more services at a lower cost.[158] This occurred in the context of both models having a focus on culturally appropriate care with high proportions of Aboriginal and Torres Strait Islander clinical and support staff.

As with the broader population, Aboriginal and Torres Strait Islander people are more likely to seek dental care for a problem rather than for regular preventive care,[154,159] however, there is ample evidence that preventive care, including non-surgical periodontal services,[160] can significantly improve oral health and avoid complications.

Future investment in oral health models of care should prioritise programs that have community partnerships as their foundation and those that provide comprehensive evidence-based oral health promotion and clinical care.

Cultural safety

Cultural safety was first described in Aotearoa/New Zealand in the Maori health context.[161] The translation of this concept from its bicultural origins to the multicultural milieu of Aboriginal and Torres Strait Islander Australia displays both convergence and divergence. Aboriginal and Torres Strait Islander people are continuing to develop a shared understanding of cultural safety within their health professions, organisations, and academies. The Australian Health Practitioner Regulation Agency has recently begun public consultation, in partnership with the peak Aboriginal and Torres Strait Islander health organisations, about a definition of cultural safety for health practitioners.

Contemporary discussions have focussed on cultural safety as a practice philosophy for health practitioners; it is about how care is provided, not what care is provided. Health practitioners must recognise that there is a power differential with patients in each occasion of care. Health practitioners must understand their own culture and its impact upon their care for patients, including understanding white privilege. Cultural safety is about decolonisation, depending upon power sharing and negotiation between health practitioner and patient with effective communication.

Cultural safety is a patient-centred concept, therefore it can only be detected and assessed by the Aboriginal and Torres Strait Islander people receiving care.

Institutional racism

Detrimental healthcare outcomes for Aboriginal and Torres Strait Islander people caused by institutional racism have been acknowledged by Australian governments in the National Aboriginal and Torres Strait Islander Health Plan 2013-2023[162] – 'Australian health system free of racism and inequality'. International examples of institutional racism abound.[163,164,165,166,167,168,169,170,171,172,173,174]

Two Australian examples of poor outcomes for Aboriginal and Torres Strait Islander people arising from institutional racism are longer wait times for elective surgery[175] and lower rates of appropriate cardiac care after hospitalisation for acute coronary syndrome.[176]

Institutional racism occurs when an organisation's policies, structure, governance, and practices exclude Aboriginal and Torres Strait Islander people. Inevitably organisations that are established, staffed, managed and held accountable by non-Indigenous Australians deliver poorer outcomes for Aboriginal and Torres Strait Islander people. Institutional racism is independent from staff behaviour and the presence, or absence of interpersonal racism.

Institutional racism in healthcare settings can be measured and monitored across five domains of governance, policy, financial accountability, employment, and service delivery.[177] Using only publicly available information with this external assessment tool enables transparency and verification.

Recommendations:

- **Service models must be developed and implemented in collaboration with Aboriginal and Torres Strait Islander people.**
- **Funding arrangements must reflect the varying costs of providing services in regional and remote areas.**
  - The NPA and other dental service funding models must reflect the variable costs of service delivery in regional and remote areas.
  - Health organisations receiving Government funding for Aboriginal and Torres Strait Islander oral health care should be required to have a formal partnership with an Aboriginal and Torres Strait Islander organisation.
  - Public dental services should reduce institutional racism against Aboriginal and Torres Strait Islander people by:
    + Including Aboriginal and Torres Strait Islander people in their governance and staffing at all levels;
    + Implementing Aboriginal and Torres Strait Islander health policy;
    + Publicly reporting on their outcomes for Aboriginal and Torres Strait Islander people; and
    + Enabling accountability, including financial accountability, for outcomes of the organisation to Aboriginal and Torres Strait Islander people.

Photo: Supplied by the South Australian Dental Service

South Australian Dental Service

Access to public dental services in South Australia for Aboriginal and Torres Strait Islander people is supported through community engagement in partnership with an Aboriginal Community Liaison Officer based in community dental clinics. This initiative, along with revised eligibility criteria, has resulted in a dramatically increased uptake of public dental services by Aboriginal and Torres Strait Islander adults in South Australia.

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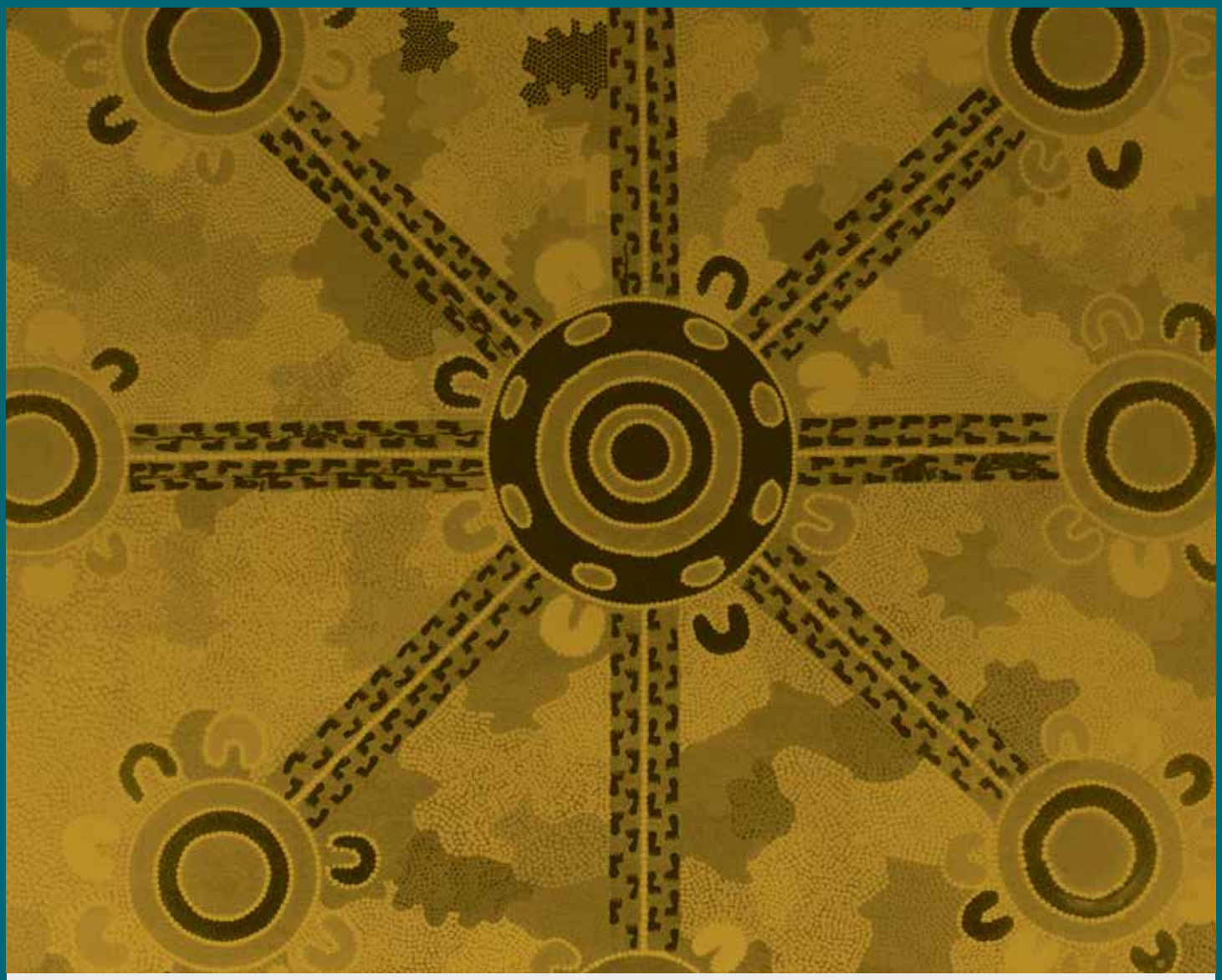

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