

## Addressing the oral health needs of Indigenous Australians through water fluoridation

TO THE EDITOR: Poor oral health profoundly affects a person's ability to eat, speak, socialise, work and learn.<sup>1</sup> It has an impact on social and emotional wellbeing, productivity in the workplace, and quality of life. Pain from dental caries is a common experience. In children, dental caries may require treatment under a hospital-based general anaesthetic — at considerable cost and itself not without risk.<sup>2</sup> Poor oral health in childhood is the leading cause of poor adult oral health.<sup>1</sup>

A higher proportion of Australians who are socially disadvantaged have dental caries. In the 2012–2014 National Child Oral Health Survey, the mean number of deciduous teeth with dental caries in Indigenous children aged 5–10 years was 6.3 (95% CI, 5.2–7.4) compared with 2.9 (95% CI, 2.7–3.1) among non-Indigenous children.<sup>3</sup> In the 2004–2006 National Survey of Adult Oral Health, almost 60% of Indigenous adults had untreated dental caries compared with 25% of non-Indigenous Australians.<sup>4</sup> In the interests of equity, it is desirable for water fluoridation to provide a greater benefit to groups carrying the highest burden of disease. In Australia, this is the Indigenous population.

Community water fluoridation is one of the most effective public health interventions of the 20th century. Its success has been attributed to wide population coverage with no concurrent behaviour change required. Evidence in Australia demonstrates that community water fluoridation has decreased both the prevalence (proportion of population) and severity (amount per person) of tooth decay by 44% in children and 27% in adults.<sup>5</sup> However, nearly 3 million Australians (11% of the population) cannot access a fluoridated water supply.<sup>5</sup>

Access to fluoridated water in Australia varies. In Queensland before 2008, access was limited to 5% of the population.<sup>5</sup> At that time, there were higher rates of untreated dental caries in non-fluoridated than in fluoridated communities. In 2008, the Queensland Government mandated water fluoridation for all community water supplies that serviced communities of more than 1000 people; 134 water supplies were identified. Within 4 years, 90% of Queenslanders had access to fluoridated water and rates of dental caries declined.<sup>6</sup> After the 2012 Queensland election, the new government overturned mandatory water fluoridation, with the decision to fluoridate community water reverting to water supply authorities. The subsequent deactivation of water fluoridation plants in 18 local government areas reduced the population coverage to around 76%.

This had a disproportionate impact on Indigenous Australians, who are more likely to reside in areas where water fluoridation ceased after 2012 or in areas where it was never implemented. The consequence is that only 50% of the Indigenous population in Queensland have access to fluoridated water compared with 76% of non-Indigenous Queenslanders.<sup>7</sup>

The denial of access to fluoridated drinking water for Indigenous Australians is of great concern. We urge the Commonwealth government, through current negotiations for funding agreements for public dental care, to mandate that all states and territories maintain a minimum standard of 90% population access to fluoridated water. Water fluoridation would then be an effective as well as socially equitable public health intervention to reduce the oral health inequalities between Indigenous and non-Indigenous Australians.

Andrew McAuliffe<sup>1</sup>  
Chris Bourke<sup>1</sup>  
Lisa M Jamieson<sup>2</sup>

<sup>1</sup> Australian Healthcare and Hospitals Association, Canberra, ACT.

<sup>2</sup> University of Adelaide, Adelaide, SA.

[lisa.jamieson@adelaide.edu.au](mailto:lisa.jamieson@adelaide.edu.au)

**Competing interests:** No relevant disclosures. ■

doi: [10.5694/mja2.50744](https://doi.org/10.5694/mja2.50744)

© 2020 AMPCo Pty Ltd

References are available online.

- 1 Peres MA, Macpherson LMD, Weyant RJ, Daly B, et al. Oral diseases: a global public health challenge. *Lancet* 2019; 394: 249–260.
- 2 Rogers J, Delany C, Wright C, et al. What factors are associated with dental general anaesthetics for Australian children and what are the policy implications? A qualitative study. *BMC Oral Health*. 2018; 18: 174.
- 3 Do LG, Spencer AJ; editors. Oral health of Australian children: the National Child Oral Health Study 2012–14. Adelaide: University of Adelaide Press, 2016. <https://www.adelaide.edu.au/press/titles/ncohs> (viewed Aug 2020).
- 4 Slade GD, Spencer AJ, Roberts-Thomson K. Australia's dental generations: the National Survey of Adult Oral Health 2004–06. Canberra: Australian Institute of Health and Welfare, 2007. <https://www.aihw.gov.au/reports/dental-oral-health/australias-dental-generations-survey-2004-06/contents/table-of-contents> (viewed Aug 2020).
- 5 National Health and Medical Research Council. Water fluoridation: dental and other human health outcomes. Canberra: National Health and Medical Research Council, 2017. <https://www.nhmrc.gov.au/about-us/publications/water-fluoridati>  
[on-dental-and-other-human-health-outcomes](https://www.nhmrc.gov.au/about-us/publications/water-fluoridation-dental-and-other-human-health-outcomes) (viewed Aug 2020).
- 6 Johnson NW, Lalloo R, Kroon J, et al. Effectiveness of water fluoridation in caries reduction in a remote Indigenous community in Far North Queensland. *Aust Dent J* 2014; 59: 366–371.
- 7 Australian Medical Association. 2019 AMA Report Card on Indigenous Health. No more decay: addressing the oral health needs of Aboriginal and Torres Strait Islander Australians. <https://ama.com.au/article/2019-ama-report-card-indigenous-health-no-more-decay-addressing-oral-health-needs-aboriginal> (viewed Aug 2020). ■