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Australia's oral health is suboptimal, particularly among disadvantaged people. One quarter of Australian adults have untreated decay and 23% have moderate or severe gum disease. Poor oral health is not only a source of pain, embarrassment, discrimination, and financial pressure for individuals, but also contributes to significant medical problems that impose a substantial burden on the community, the health system, and the economy. Expenditure on dental health accounts for more than 6% of total health funding. This *RESEARCH ROUNDup* discusses the problems and the potential solutions at a population and primary health care level, including the establishment of a universal dental care scheme.

Oral health

Oral (mouth) health, including dental (tooth and gum) health, is fundamental to overall health and wellbeing. However, almost all Australians have oral health problems at some point in their lives.¹ The 2004-06 National Survey of Adult Oral Health found that experience of dental decay was ubiquitous, 25.5% of adults had untreated decay, 22.9% had moderate or severe gum disease (periodon-titis), and 6.4% were edentulous (had no natural teeth).¹

As with many health indices, poor oral health is more prevalent among disadvantaged groups,² including Aboriginal & Torres Strait Islander (ATSI) people,¹ and people with physical disabilities³ or serious mental illnesses.⁴ People in rural and remote areas tend to have worse oral health than city dwellers.^{1,5} Age and cohort effects also influence oral health. Older cohorts have worse oral health on some but not all measures.¹

As with health more generally, the inverse care law⁶ is apparent: people with worse oral health tend to have less access to dental/oral treatment.⁷ There is evidence of growing inequalities. For example, concession cardholders (who are generally on low incomes) are consistently less likely than non-cardholders to report a dental visit at least once a year, but the gap increased from 5.4 to 15.3 percentage points between 1994 and 2008.⁸ Also the proportion of people reporting that dental visits are a large financial burden increased for rural/remote dwellers but not for urban dwellers.⁸ In addition, there is a maldistribution of dentists in Australia, with inadequate numbers in non-urban areas.⁹

Health and economic implications

Poor oral health imposes substantial demands on the healthcare system, beyond the direct effects of oral disease.¹⁰ Untreated or poorly managed oral disease is implicated in the development of systemic diseases, including cardiovascular disorders and respiratory diseases.¹¹ It is a significant cause of preventable hospitalisations.¹² In addition, the quality of life of people with chronic health problems is often reduced by poor oral health (eg. 18% of people with heart disease reported having toothache often or very often in the last year).¹³

Oral health has significant economic consequences. Expenditure on dental health accounts for more than 6% of total health

funding.⁷ Dental problems can reduce employment capacity,⁷ both by causing pain and ill-health and by causing stigma-triggering disfigurement.

Factors in oral health

Oral health is influenced by many factors, including nutrition, water fluoridation,¹⁴ hygiene, access to dental treatment, lifestyle factors¹⁵ and trauma (mainly from sport/playground accidents, road traffic accidents, and violence). The National Oral Health Promotion Clearinghouse provides a useful, concise overview of the evidence for many factors.¹⁶

Social determinants of health (SDOH) underpin many factors such as nutrition, hygiene, and lifestyle factors,³ but are often neglected in the literature.² When the relative concentration of poor oral health in disadvantaged groups is considered, there is often a narrow focus on access to professional dental care. However, the gradient in oral health is only partly due to differential treatment access. Early life circumstances, including parental socioeconomic status, are major determinants of adult oral health.²

Treatment access

Although most dentists are primary health care practitioners, they generally work in private practice, in isolation from the rest of primary health care. Their services are less affordable than most primary health care services because they are often not subsidised. Dental care has been largely excluded from Medicare, the universal healthcare insurance system that funds much primary health care, particularly medical services provided by general practitioners.⁷ Most dental care is provided by private dentists on a user-pays basis, albeit often subsidised by private health cover.

In 2009 The National Health and Hospitals Reform Commission strongly recommended a universal 'Denticare' scheme.¹⁷ This would not be the same as inclusion under Medicare, but would be partly funded by raising the Medicare Levy. However, there are major barriers to the establishment of Denticare or any other mechanism for the integration of oral healthcare in PHC, including fiscal constraints, systemic inertia, perceptions that dental care is non-essential cosmetic treatment, and dentists' opposition.¹⁸

Prevention

Although increased access to treatment of existing oral disease is needed, prevention is paramount. Oral diseases are preventable, particularly via population-level interventions, and primary health workers can play a valuable role.³

Upstream population-level prevention strategies include: water fluoridation, regulation of television advertisements promoting children's foods and drinks, legislation on food labelling and nutritional claims, food/nutrient standards for school meals and foods/drinks sold in schools, safety standards for school playgrounds and other leisure facilities, and legislation about wearing of seat-belts, helmets, and mouth guards.² There is little evidence of effectiveness of downstream approaches such as mass media campaigns and school-based tooth-brushing campaigns,¹⁴ except for targeted oral health promotion in relation to early childhood caries.¹⁰

Aboriginal & Torres Strait Islander people

ATSI people have substantially worse oral health than other Australians, particularly in terms of tooth loss, untreated decay, and tooth wear.¹⁹ They report higher rates of toothache and difficulty eating because of dental problems. Their poor oral health status is compounded by lack of access to dental care. The development of dental health services within or in collaboration with Aboriginal community controlled health services seems to be promising. In Far North Queensland, a volunteer dental program, 'Filling the Gap', has worked in partnership with the local ATSI community controlled primary health service to address the lack of dentists. An evaluation has found it both effective and appropriate.⁹ The Australian Research Centre for Population Oral Health (ARCPHO) is conducting a South Australian RCT of a culturally appropriate childhood caries intervention consisting of provision of dental care, fluoride tooth varnish, motivational interviewing, and anticipatory guidance for ATSI children.²⁰ In the Northern Territory, an RCT is being used to investigate the effects of periodontal treatment on periodontal inflammation and vascular health.²¹

Elderly people

Poor oral health is common in elderly Australians.¹⁹ Root decay and periodontitis are three times more prevalent in people aged over 75 than in the population at large.¹⁹ In 2010, approximately 21% of Australians aged 65-plus were edentulous,⁵ which is a risk factor for poor nutrition, weight loss, and impaired communication.¹¹

In Melbourne, a community-based oral health promotion intervention for independent-living older Italian people, culturally tailored and delivered at social clubs, has been successful at improving gingival health and oral health self-efficacy.²² The Centre of Research Excellence in Primary Oral Health Care is currently investigating better options for oral care in residential aged care facilities and the long-term success rate of screening by doctor and nurses linked to priority dental care.²³

Conclusion

There is room for improvement in Australian oral health particularly among disadvantaged groups. There are major problems in accessibility of dental services, including a maldistribution of dentists, and the lack of universal government-funded coverage. However, some promising interventions have been trialled or are currently being investigated.

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