

no: 10

date: 27/06/2013

title How often should you have dental visits?

authors Associate Professor Mark G Gussy

Department of Dentistry and Oral Health, La Trobe Rural Health School, Faculty of Health Sciences, La Trobe University

Stacey A Bracksley

Department of Public & Community Health, La Trobe Rural Health School, Faculty of Health Sciences, La Trobe University

Dr Anne-marie Boxall

Deeble Institute for Health Policy Research, Australian Healthcare and Hospitals Association

policy issue

Dental diseases are a costly public health issue that disproportionately affect disadvantaged people.^{1,2} However in Australia, access to oral health care services is determined largely by the ability to pay. In recent years, there has been growing concern about inequities in access to care, with a particular focus on the length of time people are waiting to access state and territory-funded public dental services. In response to these concerns, the Gillard government established a National Advisory Council on Dental Health in 2011. In August 2012, the government announced a new dental reform package that would replace two of its existing dental programs – the Chronic Disease Dental Scheme and Medicare Teen Dental program – both of which provide benefits to patients through the Medicare scheme. In contrast, the new reform package provides more funding to state and territory governments so that they can reduce public dental waiting lists and establish more effective and efficient dental care for low income families and children.

To implement the new reform package, policymakers will need to make important decisions about access to publicly-funded dental care: who should be eligible, how often should they be able to access services, and what services should be covered. The decisions made will have a major bearing on how effective these programs are in reducing inequity. Experiences from other countries suggest that policymakers do not always get these decisions right. For example, data from the National Health Service (NHS) in the United Kingdom (UK) shows that 50 per cent of the courses of care provided in the NHS General Dental Service consist of an examination and a scale and polish.³ However, scaling and polishing teeth every six months in

otherwise dentally fit patients may not be beneficial.⁴ Encouraging frequent visits for patients who have no established disease or risk for future disease could also be a waste of scarce resources.

In Australia, the National Oral Health Plan 2004-2013 put forward a series of proposed minimum access standards as a starting point for further debate. They suggest that:

- Every two years, all children should receive at least one course of general oral health care, including appropriate oral health promotion. Children with greater dental needs should be recalled more frequently.
- All adults should receive at least one course of general dental care every three years, on average.

The Plan noted that there was an urgent need for debate about these access standards. To date this has not occurred, and consequently Australia still has not adopted an agreed set of national standards. A new oral health plan is currently being developed, and there is strong interest in including an agreed set of national access standards in it. To inform this debate, this Evidence Brief examines what the peer-reviewed literature says on how often people should have dental visits.

what does the evidence say?

General populations

The most commonly recommended recall period for all dental patients is six months.^{5,6,7} There is little supporting evidence for this, but in general professional opinion is that more frequent recalls allow disease to be detected and treated earlier and preventive interventions to be delivered.⁸ Some research studies have shown that having more frequent dental visits has no impact on dental health outcomes,⁹ while others show that the risk of disease is higher if the time between visits is longer.^{10,11} Others suggest that in patients seen more frequently there may be a tendency to over diagnose and treat conditions that may have restored themselves or improved over time.^{12,13}

Several systematic reviews, which are considered the highest quality evidence in healthcare, have been conducted in an attempt to resolve the debate about how often people should have dental visits. The first systematic review was commissioned in 2003 by the UK's National Institute of Clinical Excellence to inform the development of clinical guidelines on dental recall in the NHS.¹⁴ The review included twenty eight studies that compared outcomes such as caries (also known as tooth decay or a cavity), tooth loss, periodontal conditions, oral cancer and quality of life. All the studies in the review compared two groups of patients: one group that had 6-monthly visits and another that had a different frequency of visits (it differed from study to study). Only three of the studies were controlled trials, and all had several minor threats to their validity.

The review concluded that there was no high quality evidence to support or refute six-monthly dental visits. The clinical guideline that was subsequently developed recommended that recall periods be determined by individual patient need within certain time-related parameters.¹⁵ It suggests that the shortest recommended period between visits for any patient should be three months. The longest time between visits for patients less than 18 years of age should be 12 months, and for

what does the evidence say?

those aged 18 years and older, it should not be more than 2 years. The guidelines stipulated that the level of evidence underpinning these recommendations was considered low; ultimately it was the clinical experience of the Guideline Development Group that informed them. The guidelines were subsequently reviewed in 2008 and 2012 and no new evidence was found that changed the original guideline recommendations.

The Cochrane Collaboration (an international and independent non-profit organisation dedicated to evidence-based health care) has also conducted a systematic review on this topic. The review, which was published in 2008, focused specifically on the relationship between the frequency of dental visits and health outcomes such as dental caries, periodontal diseases and oral mucosal lesions.¹⁶ Only one study satisfied the Cochrane's inclusion criteria: a randomised controlled trial conducted in a public dental facility in a fluoridated region of Norway.¹⁷ In this study, children in three age groups were randomised to be recalled at either 12 or 24 months, after they had had an initial dental examination. The results showed that although there was a trend towards more dental caries in the group that was recalled every 24 months, this difference was not statistically significant. The only significant findings in the study was that over the course of the study, the total time spent examining children who were recalled every 24 months was less than that for children who were recalled every 12 months (this is not surprising given they were recalled less often). The time spent providing the required treatment to the children was the same regardless of recall period. From these results the researchers concluded that extending the recall interval from 12 to 24 months had no significant impact on the incidence of disease.

The most recent systematic review in this field was published in 2010 and looked at the association between recall intervals and a single health outcome: dental caries.¹⁸ Using less stringent inclusion criteria than the Cochrane review, these researchers included seven studies, but only one randomised controlled trial, the same Norwegian study that was included in the Cochrane review. This shows that in the intervening period no new good quality research was conducted. It is no surprise then that this review also concluded that the evidence to support a one-recall-fits-all protocol was weak, and that recall intervals should instead be customised to fit a patient's individual needs, based on a risk-assessment.

Specific population groups

No high quality studies have been conducted that examine how often people with greater dental health needs should have dental visits. There are some cross-sectional and retrospective studies that have shown higher levels of disease in disadvantaged and vulnerable population groups, which suggest that they may benefit from more frequent visits than the general population. However there is no current evidence to support or refute this assumption beyond professional opinion.

Fixed versus individually determined recall periods

What is clear from the available evidence is that there the growing consensus for a move away from fixed recall periods. One experienced Australian researcher in this field, John Spencer, makes the point that setting fixed recall periods is meaningless given that there are many reasons for having a dental 'check-up', ranging from protection in the orally healthy through to detection of those at risk, to the diagnosis and control of disease.¹⁹ Therefore, the frequency of dental visits should

logically vary according to an individual's or group's risk or disease profile. Individuals with lower oral health needs would need less frequent visits, thus freeing up resources so they can be used to treat those people with greater needs. Taking a risk-based approach to determining the frequency of dental visits could potentially improve the efficiency of services and make services available to more patients.

what is the quality of the evidence available?

There is significant professional debate about how often people should have dental visits but remarkably little good quality research to draw upon. Most of the research done has been conducted in the UK where the NHS provides a large and costly General Dental Care service, so results may not be relevant here in Australia.

Systematic reviews are considered to be the highest quality evidence in healthcare but are only really useful if they include a number of high quality studies, generally randomised controlled trials with large numbers of participants. Unfortunately, however, what often occurs is that the stringent selection criteria applied in systematic reviews mean that very few studies are included. With only a small number of studies to draw upon, systematic reviews often conclude that there is no good quality evidence available, and this is of little use to policymakers.

For example, the 2008 Cochrane systematic review discussed earlier included only one primary study. Even though this was the only one that met the Cochrane's inclusion criteria, it was considered to be of low quality, mainly because its design increased the likelihood of biases in the results. The main problems were that the researchers did not report clearly how people were randomised to groups in the study, which makes it difficult to know if the groups were different in some way that might have affected the results (for example, if more patients in one group were from disadvantaged backgrounds, they might have had poorer outcomes regardless of the frequency of visits). Another problem with the study was that about one quarter of the participants dropped out of the study before it was completed. Attempts by the researchers to determine why these participants dropped out were considered to be inadequate, and data analysis was confined only to those who completed the study. Together, these limitations undermined the validity of the results.

The first systematic review, published in 2003, included three controlled trials however each of these trials had several flaws that affected the reliability of the results.²⁰ This review also included some observational studies and these types of studies are particularly prone to selection bias and confounding. The most important limitations are the lack of randomisation or use of a comparison group.

The final systematic review, published in 2010, also had several limitations in its design including an unconventional search strategy using only one database, meaning that its findings should also be interpreted with caution. It is worth pointing out that all three systematic reviews in this field have identified and included the only one RCT that has addressed the issue of dental recall intervals and clinical outcomes – the Norwegian study outlined early that was conducted in 1992.²¹

Although based only on professional opinion, which is considered the lowest level of evidence in healthcare, the UK's NHS guidelines on dental recalls makes an important contribution to discussion.²² In the absence of any useful scientific

evidence, it offers a basis for considering risk-based recall periods in preference to a fix-period recall interval for all. To date, no high quality trials have been conducted that compare individualised risk-based recall intervals with traditional fixed-interval approaches. However currently there is a four-year multi-centre study underway in the UK that is comparing risk-based recall intervals with fixed-interval recalls of 6 and 24 months for adult patients. It is hoped that this large, well designed trial will provide a basis for future decisions.

what does this mean for policymakers?

A large minority of the Australian population cannot access dental care in a timely way, and those that can, may not require dental care at the frequency at which they are receiving it. The recent Commonwealth government reforms, which include additional funding for the states and territories to reduce waiting lists for public dental patients must be allocated in a way that ensures those who need care the most get it. Fixed recall intervals appear to be based on historical patterns of dental care, and there is little high-quality evidence evaluating how often people should have dental visits. As a result, policymakers must rely on a cautious assessment of the existing literature, expert opinion or clinical guidelines already in use, both here and overseas. Taken together, these sources of evidence suggest that it might be better to move away from fixed-interval recalls to a risk-based approach. It is unclear whether risk-based recall decisions would improve effectiveness and efficiency of dental care but there appears to be growing professional support for such an approach. In the longer term, research on the optimal frequency of dental visits for the general population and certain population groups will be valuable in informing future dental policy initiatives.

key readings

DoH, *Modernising NHS dentistry - implementing the NHS plan*, 2000, Department of Health UK: London.

NHS, *Dental recall, in Recall interval between routine dental examinations: Clinical Guideline 192004*, National Institute for Clinical Excellence: London.

Beirne, PV, Clarkson, JE, and Worthington, HV, *Recall intervals for oral health in primary care patients (Review)*, 2008, The Cochrane Database of Systematic Reviews.

Spencer, AJ, *Frequency of Dental Check-ups, in Working Paper: No 112009*, Australian Research Centre for Population Oral Health: Adelaide. p. 1-11.

references

1. Costa, SM, et al., A Systematic review of socioeconomic indicators and dental caries in adults. *International Journal of Environmental Research and Public Health*, 2012. 9(10): p. 3540-3574.
2. Slade, GD and Sanders, A, Trends in oral health 1987-2006, in *Australia's dental generations: the National Survey of Adult Oral Health 2004-06*, Slade, GD, Spencer, AJ, and Roberts-Thompson, KF, Editors. 2007, Australian Institute of Health and Welfare: Canberra. p. 196-231.
3. DoH, *Modernising NHS dentistry - implementing the NHS plan*, 2000, Department of Health UK: London.

4. Jones, CL, et al., Clinical Outcomes of Single-Visit oral Prophylaxis: A Practice-based Randomised Controlled Trial. BMC Oral Health, 2011. 11(35): p. 13.
5. Anthonappa, RP and King, NM, Six-monthly recall dental appointments, for all children, are (un)justifiable. The Journal of Clinical Pediatric Dentistry, 2008. 33: p. 1-8.
6. Davenport, CF, et al., The effectiveness of routine dental checks: a systematic review of the evidence base. British Dental Journal 2003. 195: p. 87-98.
7. Bader, J, Risk-based recall intervals recommended. Evidence Based Dentistry, 2005. 6(1): p. 2-4.
8. Ibid
9. Wang, N, et al., Extending recall intervals - effect on resource consumption and dental health. Community Dentistry and Oral Epidemiology, 1992. 20(3): p. 122-4.
10. Axelsson, P and Lindhe, J, Effect of controlled oral hygiene procedures on caries and periodontal disease in adults. Journal of Clinical Periodontology, 1978. 5(2): p. 133-151.
11. Axelsson, P and Lindhe, J, Effect of controlled oral hygiene procedures on caries and periodontal disease in adults: results after 6years. Journal of Clinical Periodontology, 1981. 8(3): p. 239-248.
12. Sheiham, A, Is the six-monthly dental examination generally necessary? British Dental Journal, 1980. 148(4): p. 94-95.
13. Sheiham, A, et al., Dental attendance and dental status. Community Dentistry and Oral Epidemiology, 1985. 13(6).
14. Davenport, CF, et al., 2003.
15. NHS, Dental recall, in Recall interval between routine dental examinations: Clinical Guideline 192004, National Institute for Clinical Excellence: London.
16. Beirne, PV, Clarkson, JE and Worthington, HV, Recall intervals for oral health in primary care patients (Review), 2008, The Cochrane Database of Systematic Reviews.
17. Wang, N, et al., 1992.
18. Patel, S, Curtis Bay, R and Glick, M, A Systematic Review of Dental Recall Intervals and Incidence of Dental Caries, Journal of the American Dental Association, May 2010 141(5): 527-539.
19. Spencer, AJ, Frequency of Dental Check-ups, in Working Paper: No 112009, Australian Research Centre for Population Oral Health: Adelaide. p. 1-11.
20. Davenport, CF, et al., 2003.
21. Wang, N, et al., 1992.
22. Bader, J, 2005.

© Australian Healthcare and Hospital Association, 2013. All rights reserved.

contact

Dr Anne-marie Boxall
Director
Deeble Institute
Australian Healthcare and Hospitals Association
E: aboxall@ahha.asn.au
T: [@DeebleInstitute](https://www.facebook.com/DeebleInstitute)