Could retaining the dental recall interval save NHS dentistry?

Peter A. Mossey*[1] and Philip M. Preshaw[2]

Key points

- With oral disease on the increase and the participation in NHS dentistry on the decline, the current approach in the UK to managing oral disease in terms of both treatment and prevention is not working.
- Stimulated by the landmark resolution at the World Health Assembly in May 2021 that has included oral diseases among non-communicable diseases, dentistry has a unique opportunity to integrate in the quest for prevention of oral and other non-communicable diseases.
- Exemplary models of oral care, which involve integration and workforce modifications, are currently being adopted in the UK and other parts of the world and are worthy of consideration or roll out; one of which is the Scottish Government-supported Childsmile model.
- The global momentum in public health, driven by the Non-communicable Diseases Alliance, is aimed towards social determinants of health and aligns with the principles of FDI Vision 2030 and the preventative agenda advocated in the WHO Global oral health action plan 2023.

Abstract

The World Health Assembly in May 2021 was a watershed moment in oral health, with the landmark resolution that designated oral diseases as non-communicable diseases (NCDs). This was strongly supported by a host of other NCDs in recognition of the common risk factor principle and acknowledgement of the fact that oral diseases do not occur in isolation from other NCDs, but are commonly associated with cardiovascular disease, diabetes/obesity, respiratory diseases, metabolic syndrome, a range of other inflammatory disorders and cancers. Regular monitoring and early detection would potentially intercept these NCDs and this could form a central plank of a revamped holistic 'health'- as opposed to 'disease'-oriented health care system.

Consultation with patients and dentists reveals strong support for maintaining regular recall intervals, which maintains trust and optimises motivation and compliance. In-person visits could be minimised by using technology, such as remote consultations and longitudinal monitoring systems, making it adaptable to different health care settings and equitable, affordable, cost-effective and sustainable.

A new paradigm with dentists as oral health professionals, and the mainstreaming of oral health and population-level prevention, means the future of health care can be guided by integration and workforce modification producing a surveillance-based, early interceptive, preventive model of care.

Dentistry in the post-pandemic arena

Since the COVID-19 pandemic, the overwhelming theme in UK printed and social media regarding NHS dentistry is the lack of access to dental care. This has had a detrimental effect on patient self-care, opportunities for prevention and oral hygiene, which is observed in dental and orthodontic clinics on a daily basis, the resultant risk of which will be more dental caries and periodontal disease in the future. But, much more alarmingly, the lack of access to dental care is contributing to the increasing prevalence of oral cancer. The UK-based Oral Health Foundation have reported that the number of deaths in England due to oral cancer over a decade between 2011–2021 has increased by 46%[1] and is being associated with a corresponding decline in the number of active NHS dentists in England, and according to the British Dental Association (BDA), 90% of dental practices are no longer accepting new NHS patients. This was recently reported in *The Guardian* and *Daily Mail* newspapers.[2,3] A major factor in the oral cancer mortality rates is being attributed to the later presentation which also increases the complexity and cost of treatment, but the cost in terms of premature and preventable deaths and human distress is much more difficult to measure. BDA chairperson Eddie Crouch says 'every dental check-up doubles as an oral cancer screening', with signs of oral cancer often being detectable before any symptoms appear and 'late diagnosis of oral cancer radically reduces the chance of survival', as well as incurring massive costs in facial reconstructive surgery, a classic example highlighting the benefits of prevention being better than cure.

[1]Professor of Craniofacial Development, Dundee University Dental School, Park Place, Dundee, DD1 4HR, Scotland, UK; [2]Dean of Dentistry, Dundee University Dental School, Park Place, Dundee, DD1 4HR, Scotland, UK.
*Correspondence to: Peter A. Mossey
Email address: p.a.mossey@dundee.ac.uk

Submitted 22 December 2023
Accepted 9 January 2024
https://doi.org/10.1038/s41415-024-7233-y

NHS dentistry in crisis

On Friday 10 November 2023, a headline in the tabloid press in Scotland[4] read 'Dentist will stop treating NHS patients' and will leave 'several thousand patients without access to dental care', so this lack of access to NHS dentistry is now a crisis. The situation in Scotland with regard to access to NHS dentistry is at crisis point, with weekly coverage in local and national press about lack of NHS dentistry across all health board areas. Why has it all gone so badly wrong and is there a solution? This crisis is not down to any one single causative factor, but among the

reasons is the backlog of treatment need, flawed remuneration systems, increased expenditure on infrastructure and disposables related to cross-infection control in dental practices, and longer intervals between appointments. One element that has been quoted consistently by dentists leaving NHS dentistry is the new recommendation on the recall interval. In the aforementioned press article of 10 November 2023, it says 'new regulations introduced by the NHS on November 1 means that general dental check-ups for a large proportion of our patients will be carried out less frequently' and this has had a serious effect, not only on remuneration and viability of NHS dentistry, but has also caused distress to both dentists and their patients. Dentists are concerned that less frequent recalls undermine their professional autonomy and ability to provide optimum patient care in that early detection and treatment of the most common dental diseases, such as dental caries, gingivitis and periodontitis is affected, as well as the much more serious issue of a delayed diagnosis of oral cancer. The old adage that prevention is better than cure applies nowhere more strongly than in dentistry, and prevention and treatment of gingivitis (as an example, and readily achievable for most patients as long as it is detected early) is the treatment strategy for prevention of periodontitis, which is a highly prevalent condition (the most advanced forms of periodontitis affecting 10–15% of adult populations globally), that is more complex and time-consuming to treat, and that has evidence-based negative impacts on systemic health and general wellbeing. The argument for the reduction in recall frequency is that it aims to free up more time for dentists to carry out NHS work, but the fallacy in this argument is demonstrated by the consequent problems already being witnessed, which are: a) removal of the associated income has resulted in a shortage of NHS dentists and reduced capacity to deliver NHS dentistry; b) there may be short-term savings but in the long-term, there will be greater expenditure as a result of delayed detection of disease, thus requiring more complex future treatments; and c) the most vulnerable in society will inevitably suffer most!

Dentists as oral health professionals

There is, however, another overwhelming factor in favour of retaining the six-month recall interval in that it would provide dentistry with an unprecedented opportunity to reform and improve not only dental but overall health. Regular monitoring and early detection applies not only to oral diseases but also to other non-communicable diseases (NCDs), such as diabetes, cardiovascular disease, cancers, respiratory disorders, arthritis, neurological disorders and a range of conditions that have oral manifestations. This could form a central plank of a revamped holistic 'health'- as opposed to 'disease'-oriented health care system, integrating oral and general health that would be innovative, exciting and that dentists could buy in to; and in the longer-term, would be cost-effective and sustainable. Some aspects of dental recall may not require in-person visits and could be facilitated by technology such as remote consultations and new monitoring systems. By making NHS dentistry attractive again to dental professionals (in terms of autonomy, respect and remuneration), the flow of dentists into the private sector could be reversed. A very consistent message frequently heard from dentists is that they hugely support the concept of NHS dentistry and they would prefer to be able to provide NHS dentistry, but the system now makes it impossible for them to remain fully committed to NHS dentistry anymore.

An article published in the 10 November 2023 issue of the *British Dental Journal* (*BDJ*) entitled 'Opportunistic health screening for cardiovascular and diabetes risk factors in primary care dental practices'[5] makes a strong case for an expanded remit of the six-monthly visit to the dentist as a comprehensive health check looking for early signs of these other NCDs, such as cardiovascular disease, diabetes and cancers. The important factor is that dentistry has a unique and privileged access to the healthy population and therefore dentists and the wider dental team as oral health professionals can play this central and pivotal role in health care and disease prevention. Wellness management (including elements such as disease prevention, healthy lifestyle messaging, nutritional advice and behavioural support among others) should be the key underpinning concept for dentistry (and its organisation and funding), rather than disease management.

The interface with civil society

This brings us to the discussion of our relationship with the public and civil society. Dentistry has been significantly behind the curve in engaging meaningfully at all levels with our patients, the general public and civil society. This would appear to be a missed opportunity as, potentially, the public voice has been shown to be a tremendously important and powerful partner. Civil society has voiced opinions on health issues such as smoking in public spaces, sugar taxation and inequalities in access to health care. Through the press, the public have been vocal on the lack of access to NHS dentistry, and even in research studies, such as the recall interval trial (Clarkson *et al.*, 2021)[6] where their views have been canvassed, there was a clear expression from patients that they value their oral health and six-monthly dental recalls, and are highly motivated towards regular dental visits, even to the extent of being prepared to pay privately. Those bodies and organisations which implement (impose) contractual and remuneration systems for the profession, however, despite paying lip service to patient-centred care, appear to be unresponsive to the public voice on the recall interval, and this has emerged as one of the major drivers for dentists in Scotland abandoning the NHS in favour of private schemes. The unfortunate consequence of this is that it is those who are most vulnerable and impoverished who will suffer, as private dental visits will be unaffordable, thus widening the inequalities gap.

The Childsmile model

This ongoing dilemma surrounding access to dental care is developing while the Scottish Government-supported Childsmile programme, introduced in 2006,[7] is acknowledged worldwide as an example of an intervention in primary dental care which has been shown to be highly effective in reducing the prevalence of tooth decay in children. This programme, targeting mothers and their infants at birth, involves simple preventive interventions, such as supervised toothbrushing, fluoride applications and dietary advice. The impact of this extends well beyond dental health and evaluation of cost-effectiveness demonstrates the considerable savings that can be achieved.[8] This model is based on proportionate universalism with more resource to those schools, communities and individuals in greatest need in an attempt to deal with inequality in care, and was presented as an exemplary model in the FDI World Dental Federation's *Vision 2030* in January 2021.[9] It is strongly supported globally by the World Health Organisation (WHO) Department of Maternal Newborn and Child Health and the NCD Alliance, organisations which see the tremendous significance in the early detection and prevention of other NCDs such as cardiovascular disease, diabetes/obesity, respiratory disorders and cancers.

Health and social care integration

The role of improved oral health in reducing systemic inflammation and in the prevention of other NCDs has also been highlighted in recent years and ought to drive the adoption of improved oral hygiene, better diet and lifestyle factors, cessation of smoking, reduction of stress and more exercise. Adopting the principles of precision medicine and precision public health will involve working in an integrated health care system with colleagues in medicine, pharmacy, nursing and other health professionals, alongside downstream community-based initiatives based on social prescribing and healthy lifestyles. The current systems of dental remuneration that have been adopted in NHS dentistry, such as the payment for units of dental activity, pays little attention to these determinants of health, encourages treatment of disease, and so is fundamentally flawed and no longer fit for purpose. So-called item-of-service remuneration systems are equally inappropriate in that they similarly encourage treatment of disease rather than prevention and promotion of lifestyle and behaviour change. The solution must include both upstream and downstream changes with integration of health and social care and shifting the balance of care to community resources as a key objective. This will involve changes in attitude, motivation and behaviour of those who deliver the care underpinned by incentives to change built into the remuneration system. Behavioural change at the patient level is also needed, similar to the aforementioned Childsmile model, based on motivational interviewing as an example, so that families are empowered and incentivised to look after their own health. The integration of oral, medical, pharmacological and other health care sectors and amalgamating health and social care can provide a health care and volunteer workforce that is adapted to the community's particular circumstances. However, for this to be successfully applied to primary care, a new dental remuneration system to incentivise and reward preventative as opposed to restorative interventions, improve oral health from birth, improve access, be affordable to all and be delivered via a sustainable workforce model, is now essential.

Looking to the future: is the tide turning?

It was heartening to note that in the *BDJ* of 10 November 2023, in addition to the Doughty *et al.* article mentioned here,[5] there were another five articles[10,11,12,13,14] dealing with aspects of and possibilities for preventive intervention in dentistry and the notion of dental professionals being involved in holistic care and the overall health and wellbeing of our patients. These articles reinforce the incredibly powerful message coming out of the May 2021 World Health Assembly effectively placing oral health at the centre of the NCDs agenda. There is now irrefutable evidence that those with periodontal inflammation have an increased risk of elevated glycated haemoglobin (HbA1c) and insulin resistance[15] and Herrera *et al.* (2023)[16] point to the fact that as well as diabetes, periodontitis is also associated with cardiovascular disease, chronic obstructive pulmonary disease, obstructive sleep apnoea and COVID-19 complications. This consensus report calls for closer collaboration between oral health professionals and family doctors in the early detection and management of NCDs and in promoting healthy lifestyles. This evidence and the articles in the *BDJ* serve as part of the WHO translational agenda expressed via the WHO *Global oral health action plan*,[17] published in January 2023, and they reveal that there is a developing impetus around the integrated preventative approach, and highlighting how dentists can and must play a key role in this going forward. There is the opportunity, through education in undergraduate and postgraduate dental (and medical) curricula, to move from a profession that is largely introverted to an integrated system where the beneficial synergies between oral and general health can be realised and tailor our workforce accordingly. This could represent a revamped model for NHS dentistry which puts the dental profession at the centre of prevention of NCDs, that incorporates regular and frequent screening appointments, disease prevention and healthy lifestyle messaging, and that could be the basis for a global proposal that aligns with the WHO Sustainable Development Goals and the principle of universal health coverage.

Ethics declaration

The authors declare no conflicts of interest.

Philip M. Preshaw, Associate Editor, was not involved in the decision-making process of this manuscript.

Author contributions

Peter A. Mossey conceived the topic for the manuscript and produced the first draft. Philip M. Preshaw revised the manuscript and both authors agreed on the wording for the final draft.

References

1. Oral Health Foundation. The State of Mouth Cancer UK Report 2022. 2022. Available at https://www.dentalhealth.org/thestateofmouthcancer (accessed February 2024).
2. Weaver M. Rise in mouth cancer deaths linked to NHS dentist shortages, say campaigners. *The Guardian* (London) 2023 November 8.
3. Craig E. NHS dental crisis is fuelling spike in mouth cancer deaths, charity fears. *Daily Mail* (London) 2023 November 8.
4. Aitken E. Carnoustie dental practice to stop serving NHS patients after 'significant losses'. *The Courier* (Dundee) 2023 November 9.
5. Doughty J, Gallier S M, Paisi M, Witton R, Daley A J. Opportunistic health screening for cardiovascular and diabetes risk factors in primary care dental practices. *Br Dent J* 2023; **235:** 727–733.
6. Clarkson J E, Pitts N B, Fee P A *et al.* Examining the effectiveness of different dental recall strategies on maintenance of optimum oral health: the INTERVAL dental recalls randomised controlled trial. *Br Dent J* 2021; **230:** 236–243.
7. Childsmile. Homepage. Available at https://www.childsmile.nhs.scot/ (accessed November 2023).
8. Anopa Y, McMahon A D, Conway D I, Ball G E, McIntosh E, Macpherson L M. Improving Child Oral Health: Cost Analysis of a National Nursery Toothbrushing Programme. *PLoS One* 2015; DOI: 10.1371/journal.pone.0136211.
9. FDI World Dental Federation. Vision 2030: Delivering Optimal Oral Health for All. 2021. Available at https://www.fdiworlddental.org/vision2030 (accessed November 2023).
10. Yonel Z, Dietrich T, Gray L, Chapple I. Early case, detection of diabetes, and dental practice: a missed opportunity. *Br Dent J* 2023; **235:** 667.
11. British Dental Journal. BSPD and FDS welcome supervised toothbrushing plan. *Br Dent J* 2023; **235:** 671.
12. British Dental Journal. Tobacco: Government needs to show same ambition across prevention agenda. *Br Dent J* 2023; **235:** 677.
13. Mathew J E. Nurturing little smiles: insights from primary care dental professionals in England. *Br Dent J* 2023; **235:** 716.
14. Cherian K K. Streamlining referrals for optimal cancer, diagnosis and care. *Br Dent J* 2023; **235:** 718.
15. Sanz M, Ceriello A, Buysschaert M *et al.* Scientific evidence on the links between periodontal diseases and diabetes: Consensus report and guidelines of the joint workshop on periodontal diseases and diabetes by the International Diabetes Federation and the European Federation of Periodontology. *J Clin Periodontol* 2018; **45:** 138–149.
16. Herrera D, Sanz M, Shapira L *et al.* Association between periodontal diseases and cardiovascular diseases, diabetes and respiratory diseases: Consensus report of the Joint Workshop by the European Federation of Periodontology (EFP) and the European arm of the World Organisation of Family Doctors (WONCA Europe). *J Clin Periodontol* 2023; **50:** 819–841.
17. World Health Organisation. Draft Global Oral Health Action Plan (2023–2030). 2023. Available at https://www.who.int/publications/m/item/draft-global-oral-health-action-plan-(2023-2030) (accessed November 2023).