EDITORIAL

Health and science: evidence, policy and advocacy

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It is an honour to write this editorial after having recently been appointed Chief Scientific Advisor for the BDA.

Dentistry has generated much new knowledge and understanding in recent times, with seminal applied health research answering important questions around filling primary teeth, the need for routine scaling and fixed recall intervals, and the predictors of outcomes following root canal therapy.[1,2,3,4] Equally, we have had cutting-edge translational science on the aetiology of common chronic facial pain conditions, identified SARS-CoV-2 in the oral cavity, and made exciting progress towards combatting caries and periodontal disease.[5,6,7,8] Despite these enormous steps forwards, we still have some way to go.

To achieve new understanding and generate new evidence we need more voices in research. A good example of this is work recently published in the *BDJ*,[9] aiming to ensure the whole dental team across all care settings can influence the research agenda. I am delighted to see the depth and diversity of perspective and talent on the BDA's pre-existing Health and Science Committee (HSC). Additionally, we have recently invited four new members with different perspectives and expertise, strengthening the mix of early, mid and senior career researchers and clinical academics, and adding to the variety of expertise on the committee. A good example of the importance, and the BDA's success, in using science to advocate and lobby for change is the HSC's role in working with non-oral health groups to secure HPV vaccination for adolescent men.

I have been struck by the duality of the committee's name and wanted to reflect on this. Clearly, health is what we as dental professionals all try to protect, maintain and restore. As our primary purpose, it goes without saying that most major authorities acknowledge there can be no health without oral health. Indeed, as we are unfortunately seeing time and time again, the state of one's oral health is a proxy for the level of deprivation and general health risk. This is because the inequalities and factors that influence oral health combine, sometimes exponentially, to affect more than just the mouth. We heard some eminent experts in this area talk more about this in the inaugural Conversation of Steele event so please listen to this if you'd like to learn more.

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The second part of the committee's name is science. Science is about critically appraising and adjusting according to new knowledge, but also requires us to use the right tools for the right job. Science in dentistry is now correctly, and more routinely, embracing many more disciplines than ever before including economics, anthropology and sociology. We should look to continue to expand our repertoire in dentistry to help solve some of our knottiest problems rather than adhere to perceived dogma such as: 'RCTs are always the best way to test a new intervention'. It has never been more important for us to: ensure we look to challenge anecdote with science and new understanding; translate this new understanding into new therapies providing better care or outcomes of care; and ensure these new therapies are implemented into routine oral healthcare as an appropriately structured and remunerated evidence-based oral healthcare system. It would be foolish to promise a utopia in such challenging times, but I can promise that I will engage and work with the widest possible group of colleagues to try and use the broadest scope of science to its best effect for all of our population, patients and professional group. ■

References

1. Clarkson J E *et al.* Risk-based, 6-monthly and 24-monthly dental check-ups for adults: the INTERVAL three-arm RCT. *Health Technol Assess* 2020; **24:** 1–138.
2. Maguire A *et al.* Best-practice prevention alone or with conventional or biological caries management for 3- to 7-year-olds: the FiCTION three-arm RCT. *Health Technol Assess* 2020; **24:** 1–174.
3. Nixdorf D R *et al.* Large-scale clinical endodontic research in the National Dental Practice-Based Research Network: study overview and methods. *J Endod* 2012; **38:** 1470–1478.
4. Ramsay C R *et al.* Improving the Quality of Dentistry (IQuaD): A cluster factorial randomised controlled trial comparing the effectiveness and cost-benefit of oral hygiene advice and/or periodontal instrumentation with routine care for the prevention and management of periodontal disease in dentate adults attending dental primary care. *Health Technol Assess* 2018; **22:** 1–144.
5. Huang N *et al.* SARS-CoV-2 infection of the oral cavity and saliva. *Nat Med* 2021; **27:** 892–903.
6. Liu Y, Ren Z, Hwang G, Koo H. Therapeutic Strategies Targeting Cariogenic Biofilm Microenvironment. *Adv Dent Res* 2018; **29:** 86–92.
7. Silva L M *et al.* Fibrin is a critical regulator of neutrophil effector function at the oral mucosal barrier. *Science* 2021; DOI: 10.1126/science.abl5450.
8. Slade G D *et al.* Painful Temporomandibular Disorder: Decade of Discovery from OPPERA Studies. *J Dent Res* 2016; **95:** 1084–1092.
9. O'Connor C, Bridges-Smith F, Docherty C, NDPBRN, Holliday R. General dental practitioner views on the current and future provision of advanced NHS restorative dentistry services: a cross-sectional survey in England. *Br Dent J* 2022; DOI: 10.1038/s41415-022-4035-y.

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