COMMENT

Letters to the editor

Submit your Letters to the Editor via the online submission system: https://mts-bdj.nature.com/cgi-bin/main.plex.
Letters must be less than 500 words *including* any references. Authors must sign the letter, which may be edited for reasons of space or clarity.

Artificial intelligence

Augmented intelligence instead of artificial intelligence

I suggest that UK dentistry adopts the term augmented intelligence (AuI) rather than artificial intelligence (AI). AuI means clinicians and machines work together to enhance human performance to improve safety, quality, and efficiency. It keeps clinical judgement, empathy, and responsibility with the dental professional. By definition, AI is the ability of a computer or machine to complete tasks in a humanised manner, while AuI focuses on AI's supportive role to enhances human intelligence rather than replacing it.

In practice, AI is good for repetitive, data-heavy tasks with low error tolerance. Examples include radiograph triage, caries-risk scoring, and document automation. Conversely, humans are better at generalising, contextualising, exercising values, and using emotional intelligence in patient care. The optimal pathway combines both. The useful example is modern driving in which we can use three different intelligence modes: human intelligence for complex manoeuvres like steering wheels, checking mirrors or pressing pedals timely. The self-driving feature uses AI, replacing drivers, while other assistance tools like lane-keeping and distance control are examples of applications of AuI in driving. Dentistry should follow the same logic: human in the loop, clinician sign-off, and clear lines of accountability.

UK guidance supports this direction. NHS England guidance calls for a safe, transparent approach that enhances clinical expertise and empowers staff through real-world evaluation. The aim is appropriate use with clear governance, not replacement of clinicians.[1] The General Dental Council's Rapid Evidence Assessment highlights promise and uncertainties for dental services, reinforcing that registrants remain fully accountable for clinical decisions.[2] The WHO also emphasises human oversight, equity, and accountability and extends these to large multimodal models now entering health care.[3,4]

Note: The author used OpenAI's ChatGPT-5 for grammar and wording edits only. No content was generated. The author retains full responsibility for the content.

M. Mehrabanian, Dingwall, UK and Isfahan, Iran

References

1. NHS England. Artificial intelligence (AI) and machine learning: guidance for the NHS. 2025. Available at https://www.england.nhs.uk/long-read/artificial-intelligence-ai-and-machine-learning/?utm_source=chatgpt.com (accessed 10 October 2025).
2. General Dental Council. Artificial Intelligence in Dental Service Provision: A Rapid Evidence Assessment. 2025. Available at: https://www.gdc-uk.org/about-us/what-we-do/research/our-research-library/detail/report/ai-dental-service-rapid-evidence-assessment (accessed 27 November 2025).
3. World Health Organization. Ethics and governance of artificial intelligence for health. 2021. Available at https://www.who.int/publications/i/item/9789240029200?utm_source=chatgpt.com (accessed 10 October 2025).
4. World Health Organization. Ethics and governance of artificial intelligence for health: guidance on large multi-modal models. 2025. Available at https://www.who.int/publications/i/item/9789240084759 (accessed 10 October 2025).

https://doi.org/10.1038/s41415-025-9445-1

AI, digital dentistry and patient equity

We read with great interest the article by Dave and Patel, which discussed how artificial intelligence (AI) is transforming healthcare and dental education.[1] More recently, the *British Dental Journal* featured 'AI in dentistry: Innovation meets accountability', which highlighted how AI is reshaping diagnosis, treatment planning, and patient communication.[2]

We contend that digital dentistry and AI should be appraised not only for accuracy and efficiency, but for their capacity to enable care for patients with special healthcare needs (SHCN). Responsible AI must deliver measurable inclusion, not merely technical progress. Its integration into inclusive, patient-centred care remains limited. Most AI-related research and applications focus on image interpretation or workflow optimisation rather than accessibility for patients with behavioural, cognitive, or physical barriers.

Virtual reality (VR) exemplifies the opportunity. Evidence shows immersive VR can reduce dental anxiety and pain.[3] Yet evidence on its use among adults with learning disabilities, autism, or complex medical conditions remains scarce – ironically, the groups most likely to benefit. A similar pattern is seen in other tools. A recent scoping review reported that intraoral scanners, CAD/CAM systems, and 3D imaging can improve diagnostic accuracy and patient comfort in special care dentistry.[4] Unfortunately, most research still involves cooperative participants. Adults with disabilities who may struggle with conventional impressions due to restricted mouth opening, strong gag reflexes, or involuntary movements are rarely represented.

Clinical experience suggests that an adapted digital workflow can make treatment more achievable for special care patients. As an example, using gentle stabilisation and short, paused scanning sequences with a papoose board has enabled adults with intellectual disabilities to complete full-arch scans safely and comfortably. These digital models supported prosthodontic planning before general anaesthesia, reducing repeated visits. With thoughtful adaptation and the right tools, technology can make care both efficient and humane.

Although these technologies offer clear benefits, current studies often prioritise technical performance over inclusivity. Just as ramps and communication aids make clinics physically accessible, the same spirit should guide how we design digital spaces in dentistry. AI, VR, and other innovations should not only optimise efficiency but also ensure that individuals with SHCN are not left out. Grounded by ethical safeguards, these innovations can make dentistry not only more advanced but also more equitable.[5] True progress should be measured not by how fast technology evolves, but by who it helps most. Innovation means little if it leaves the most vulnerable behind.

S. H. Ibrahim, Selangor, Malaysia and Kuantan, Malaysia; A. F. Luai, Kuala Lumpur, Malaysia; M. S. Ahmad, Selangor, Malaysia

References

1. Dave M, Patel N. Artificial intelligence in healthcare and education. *Br Dent J* 2023; **234:** 761–764.
2. AI in dentistry: Innovation meets accountability. *Br Dent J* 2025; **238:** 826.
3. Goodship N, Taylor G. Can virtual reality reduce anxiety and pain in dental patients? *Evid Based Dent* 2025; **26:** 59–60.
4. Kammer P V, Souza B B, Sobral M B *et al.* Role of digital technologies in special care dentistry: a scoping review. *Spec Care Dentist* 2025; DOI: 10.1111/scd.70071.
5. Luai A F, Cho J W, Sabri B A M *et al.* AI and immersive technology in dentistry. *Br Dent J* 2025; **239:** 442.

https://doi.org/10.1038/s41415-025-9424-6

Dental education

Advancing social accountability through community engagement

We read with interest the recent *British Dental Journal* article by Plessas and colleagues[1] and welcome its clear case for community engaged dental education as integral to the General Dental Council's Safe Practitioner Framework, particularly the competency of social accountability. Their argument is persuasive because it locates learning within real contexts of need, and shows how such experiences strengthen empathy, advocacy, cultural competence and reflective judgement, which are invaluable to safe and effective practice across diverse communities and to advancing public health at the population level.[1]

Social accountability is more than a curricular theme. It is a guiding purpose that should be visible in the mission of the school, the structure of programmes, assessment strategies and partnerships with civic actors. If dental schools are to produce graduates who are ready to serve the public good, community engaged learning should be longitudinal, purposefully supervised and assessed with authentic inputs from community partners. Mapping these activities to the Safe Practitioner outcomes would make the accountability pathway transparent for students, staff and regulators.

There are practical exemplars. For almost two decades, the Southeast Asian Association for Dental Education (SEAADE) has organised the Student Community Engagement Competition among member institutions across Southeast Asia and the Asia Pacific, showcasing student-led health promotion and advocacy projects in partnership with local communities and relevant stakeholders. The SEAADE initiative, which first began in Jakarta, Indonesia in 2006 and continuing this year in Taipei, Taiwan, offers a ready template for dental schools to embed social accountability through project planning, implementation and evaluation with community voices at the table. Community engagement education should be a core strand at all training levels, co-designed with communities which grounded with theoretical principles, reflective practice and practicum experiences, so that graduates are well equipped to address structural barriers and advance health equity.[2,3] Wider adoption by schools and national bodies worldwide would accelerate the spread of good practice and the establishment of shared standards of evidence

What should be done? First, treat social accountability as an organising principle by integrating community engaged learning across the curriculum, with programme assessment and partner feedback. Second, ensure all dental undergraduates undertake sustained, assessed community engagement, with structured activities that develop and evidence communication, ethical reasoning, and commitment to the public good. Third, build interprofessional and intersectoral coalitions so that learners engage with upstream determinants and able to co-produce solutions with public health principles, education and social care.

A modern dental curriculum must align skills with social purpose, embedding sustained community engagement and interprofessional learning so graduates improve population oral health, not only individual care. Dental education should assess empathy, teamwork, communication and advocacy alongside clinical competence, with community partners helping to shape outcomes. When education is accountable to public need, every graduate becomes credible evidence of dentistry's contract with society.

A. F. Luai, Kuala Lumpur, Malaysia; N. A. M. Nor, Kuala Lumpur, Malaysia; Z. Shinan, Kunming, China; R. A. Kadir, Kuala Lumpur, Malaysia

References

1. Plessas A, Paisi M, Ahmed N, Brookes Z, Witton R. The role of community engaged dental education in producing socially accountable graduates in the context of the General Dental Council's Safe Practitioner Framework. *Br Dent J* 2025; **239:** 417–422.
2. Chan K. Socially accountable dentists of the future: Community-based learning for recruitment of community-minded students. *BDJ Student* 2025; DOI: 10.1038/s41406-025-1545-5.
3. Doubeni C A, Nelson D, Cohn E G *et al.* Community engagement education in academic health centers, colleges, and universities. *J Clin Transl Sci* 2022; DOI: 10.1017/cts.2022.42.

https://doi.org/10.1038/s41415-025-9446-0

Paediatric dentistry

Caution over ankyloglossia surgery for infants

I read with concern the letter 'Early diagnosis of ankyloglossia in newborns' by Dr Mladenovic encouraging early surgical intervention for ankyloglossia.[1]

The contemporary increase in number of surgeries for ankyloglossia in infants has led to advocacy to reduce such surgical interventions.[2,3] Based upon a summary review of evidence, it has been stated 'surgery for ankyloglossia should be the last resort for infants with difficulty breastfeeding'.[2] The Academy of Breastfeeding Medicine, in their 2021 position statement, as well as the American Academy of Pediatrics in their 2024 clinical report, advise caution, alternate strategies, and multidisciplinary assessment prior to surgical intervention for ankyloglossia in breastfeeding infants.[2,3] A patient decision-aid regarding tongue-tie surgery for breast-fed infants has been described to improve parental awareness and facilitate shared decision-making.[3] Surgery for ankyloglossia in infants has also been considered for indications such as speech disorders, malocclusion, and pediatric sleep disordered breathing, though the evidence remains inconclusive.[3,4,5]

While the surgical procedure for ankyloglossia is generally safe, complications