

## Letter to the Editor

Dear Sir,

I read with interest the article ‘*Dentistry, e-health and digitalisation: A critical narrative review of the dental literature on digital technologies with insights from health and technology studies critical narrative review*’ by Patricia Neville and Marieke M. van der Zande (2020). Having spent the last 25 years researching and developing ICT in dental education and practice I welcome a new in-depth review of the topic as a staging post in the ongoing developments. However, many important areas were not covered in the review.

The authors admit that this was not an exhaustive review that spanned only the past ten years. It would have been helpful to have had the limitations of time in the title, so as not to disappoint the reader. Indeed, Cochrane reviews, being the gold standard of systematic reviews do not usually specify time limits, so it was surprising to see a time constraint was needed in this critical review. As a consequence, many key papers were missed.

Although the area of ICT in dental practice is rapidly changing, as with all innovations there are periods of hype and then lags before implementation (Gartner, 1995). There is also a certain amount of re-inventing the wheel as new technologies and their affordances emerge. By restricting the review to ten years, a foundational series in e-learning and ICT in dental practice published in 2008 was omitted. This series covered many areas mentioned in the text, especially e-learning and dental informatics (e.g. Wagner *et al.*, 2008). Additionally, reports from DentEd, a major European dental education Socrates programme and other major research projects were not included (Reynolds *et al.*, 2008; San Diego *et al.*, 2012).

It was disappointing that ‘e-learning’, ‘technology enhanced learning’, ‘ICT’, ‘haptics’, ‘digital administration’ or similar terms were not used. Such terms would have revealed many more papers worthy of inclusion. In addition, whilst not necessarily “scientific in approach”, the inclusion of some grey literature could have also offered insights into a wide range of social and political views and opinions on the topic.

Consequently, important aspects of digital dental practice and education were not mentioned, despite the author’s acknowledgement that an ‘instrumental’ approach of introducing digital technologies is not sufficient without patient or dentist involvement, I would have liked to have seen the inclusion of the following:

- Lack of access to the NHS England broadband system via N3 connection for UK general dental practitioners.
- Integrated information systems including patients’ records (with digital photography and 3D imaging) linked to dental units, such as those made by Planmeca.
- Distant consultations via videoconference links.

- Use of history taking software.
- Use of haptics in dental education.
- Role of webcasts especially in Continuing Professional Development.
- Barriers to the uptake of digital methods and e-learning.
- Use of other emerging technologies in dental education and dental practice such as serious games and artificial intelligence.
- Rise of poor-quality online journals globally, often driven by market forces, resulting in misuse of online publishing and poor peer reviewing.
- Nuisance scamming for academics arising from unsolicited email requests to review dubious journals and speak at international meetings run by commercial companies for profit.
- Other types of phishing and online criminal activity.
- More detail concerning issues about privacy and patient protection policies.

A positive outcome is the willingness of the authors to engage in further debate. It’s an important topic that will significantly impact the profession into the future, and so there must be robustness in all such reviews.

Finally, the authors noted that papers would not be included if there was no impact on dental education, surgeries, dentists or patients. However, Cvrkel (2018) discussed the ethical implications of m-health presented ‘no practical examples as applied to dentistry’, was included. Consistency is important so why was this paper included in the review?

P.A. Reynolds, King’s College London

### References:

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## The authors reply:

We appreciate the interest by Professor Reynolds in our recent paper, which sought to further understanding in dental research on digital technologies.

We limited the time period to publications over the past ten years in order to focus on developments that are currently relevant to dentistry and avoid including technologies which are no longer widely used, for example, the use of DVD's in dental education. This timescale incorporated many developments that have occurred over long periods, including several that were relevant more than ten years ago. For example, the use of digital radiography, which has seen many developments over the past decades, is currently widely used in dental practices, and was included in the review. Furthermore, our aim was to further current understanding about the use of digital technologies and its effect on patients, dentists, dental students and educators and dental policy makers. Tracing the longer, historical developments in the field of digital technologies in dentistry would be a fruitful area for further research.

Many of the examples of technologies given by Professor Reynolds were included in our review in more comprehensive terms. For example, we reviewed digital dental workflows, digital patient administration systems, teledentistry, and digital simulation training systems, which encompass many of the examples in Professor Reynolds' letter. Moreover, privacy and the penetration of market consumerism into dental care were discussed

throughout our paper. While other examples given by Professor Reynolds would be a useful addition in an exhaustive review, her letter does not point to omissions in the concepts we reviewed, which is the objective of our chosen method of a critical narrative review (Saunders and Rojon 2011).

Although Crvkel (2018) lacked practical examples it discussed the impact of digitalisation in dentistry, over-viewing ethical debates relevant to dental practitioners.

Critical reviews are a specific type of narrative review that should not be seen as systematic reviews. The objective is to critically appraise the *concepts* used in the literature, rather than give an exhaustive account of all the *data* in existing studies (Greenhalgh *et al.*, 2018). Indeed, methodological guidance advises against exhaustive cataloguing of existing studies (Saunders and Rojon, 2011). Systematic reviews are suited to very specific questions but cannot answer others (Greenhalgh *et al.*, 2018). Both approaches should be used equally to understand a topic from various angles.

Marieke M. van der Zande & Patricia Neville

## References

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