Letters to the editor

Send your letters to the Editor, *British Dental Journal*, 64 Wimpole Street, London, W1G 8YS. Email bdj@bda.org. Priority will be given to letters less than 500 words long. Authors must sign the letter, which may be edited for reasons of space.

Carbon emissions

Dentistry in a sustainable NHS

Sir, following the Climate Change Act 2008, the UK is to cut its carbon emissions by 80% by 2050 and with the NHS being the largest carbon emitter in the UK, we hold an important role in making this achievable.

A report published in January 2016 on 2015 data shows there has been an 11% reduction in carbon emissions between 2007 and 2015.¹

The Centre for Sustainable Healthcare, a registered charity established in 2008, released four principles of sustainable dentistry – prevention, lean pathways, low carbon alternatives, and patient empowerment and self-care.

These principles provide a guide to reducing carbon emissions, while ensuring that clinical care pathways are providing high quality care which is both economically and environmentally sustainable.²

Examples of changes that can be made include using biodegradable cups, planning treatments to minimise travel or placing low energy bulbs throughout the practice.

In the dental world, practices, although commissioned by the NHS, also run as independent businesses. This raises the interesting question of how likely practices (both private and NHS) are to adopt similar measures to reduce their carbon footprint.

Obviously, these principles cannot be enforced with inspections or penalties.

In general it may not even be feasible for the NHS to enforce policies not directly related to patient health on what are essentially private businesses.

Perhaps in the future the policy may be to refuse contracts to practices that do not meet certain sustainability criteria, but this will bring its own issues as some areas of the UK are already facing difficulties in access to dental care.

This could mean that the NHS may not be in a position to be too selective about which practices to which it assigns contracts. If dental surgeries are left to implement sustainability measures voluntarily, can we expect them to do so?

B. Cheema, by email

1. The Stationery Office. Climate Change Act 2008. Available at http://www.legislation.gov.uk/ukpga/2008/27/pdfs/ukpga_20080027_en.pdf (accessed on 8 January 2019).
2. Centre for Sustainable Healthcare. Sustainability Series: 4 principles of sustainable dentistry. Available at <https://sustainablehealthcare.org.uk/blog/sustainability-series-4-principles-sustainable-dentistry> (accessed on 8 January 2019).

DOI: 10.1038/sj.bdj.2019.53

Quality of research

Improper evaluation of the quality of trials of retention rates

Sir, based on 11 trials, Bagherian and Shirazi¹ concluded 'flowable composite as fissure sealing material can slightly increase the retention of sealants compared with conventional resin-based sealants'.

We challenge this conclusion based on inadequate evaluation of trial quality. The risk of bias was assessed using a modified Jadad scoring system – asking four additional questions (for a total of nine) – which is still grossly incomplete.²

Moreover, a low risk of bias was concluded for any trial which answered yes to only seven of these questions, which was attained by just four of the 11 trials. Two of these trials^{3,4} received credit for proper randomisation; two more^{5,6} were rated low risk of bias despite improper randomisation.

But how can randomisation be demonstrated to be proper when there are no details whatsoever, beyond using a 'contingency number table' (to randomise by tooth instead of by patient, itself an error)³ and 'computer-generated randomisation'?⁴

There are many more improper randomisation methods than proper ones,⁷ so we cannot just assume proper randomisation, without which selection bias becomes an issue.

This can easily be ruled out with the Berger-Exner test,⁸ but none of the trial reports bothered to present this analysis. An inability to determine how randomisation was conducted, coupled with no credible claim that there was no selection bias, means that selection bias cannot be ruled out. The very real possibility of bias in and of itself carries a high risk of (selection) bias, tautologically.

The Jadad score, modified or otherwise, represents an appalling low standard that even the most flawed trials can meet. Its use benefits researchers, who can cut corners and still have their trials praised as rigorous, and also meta analysts, who claim to have sufficient evidence (flawed though it may be) to draw conclusions that may be of interest to both medical journals and consumers of medical research.

However, this apparent symbiosis is embedded within a veiled zero-sum game, because the benefits to these two parties are offset by the harm accruing to patients who are misled by flawed evidence.

Flowable composite may increase the retention of sealants compared with conventional resin-based sealants, but there is no way to conclude that, or anything else of interest to patients, on the basis of these 11 trials.

In fact, about all we can conclude is that we need better studies, and that we need meta analysts to be more diligent in assessing trial quality.

C. E. Jones and V. W. Berger, by email

1. Bagherian A, Shirazi A S. Flowable Composite as Fissure Sealing Material? A Systematic Review and Meta-Analysis. *Br Dent J* 2018; **224**: 92–97
2. Berger V W. Is the Jadad score the proper evaluation of trials? *J Rheumatol* Aug 2006; **33**: 1710–1711.

3. Erdemir U, Sancakli H S, Yaman B C, Ozel S, Yucel T, Yildiz E. Clinical comparison of a flowable composite and fissure sealant: a 24-month split-mouth, randomized, and controlled study. *J Dent* 2014; **42**: 149–157.
4. Kucukyilmaz E, Savas S. Evaluation of Different Fissure Sealant Materials and Flowable Composites Used as Pitand-fissure Sealants: A 24-Month Clinical Trial. *Paediatr Dent* 2015; **37**: 468–473.
5. Jafarzadeh M, Malekafzali B, Tadayon N, Fallahi S. Retention of a Flowable Composite Resin in Comparison to a Conventional Resin-Based Sealant: One-year Follow-up. *J Dent (Tehran)* 2010; **7**: 1–5.
6. Cogo E, Calura G. Clinical evaluation of two materials used as pit and fissure sealants: 2 year follow-up. *Int J Clin Dent* 2009; **2**: 241–247.
7. Berger V W. *Selection Bias and Covariate Imbalances in Randomized Clinical Trials*. John Wiley & Sons: Chichester, 2005.
8. Berger V W, Exner DV. Detecting selection bias in randomized clinical trials. *Control Clin Trials* 1999; **20**: 319–327.

DOI: 10.1038/sj.bdj.2019.54

The following two letters are in response to a letter 'Tobacco control: Safer without snus' published in the BDJ on 26 October 2018.

Snus

Swedish snus is different

Sir, recently, a letter by Shanahan raised some concerns about a recent report by the Science and Technology Committee (STC) suggesting the discontinuation of the ban on snus.¹

However, I believe there are some inaccuracies in the letter that I would like to address. The letter cited a study by Warnakulasuriya² in associating snus with an increased risk for oral cancer. However, that study was mainly referring to oral tobacco products used in Asia, most of which are particularly harmful and associated with elevated risk for oral cancer.

Swedish snus is a very different product. Despite the high rate of snus use among Swedish men, the prevalence of oral cancer in Sweden is among the lowest in the European Union.³

There is strong epidemiological evidence that snus use is not associated with a demonstrable increase in oral cancer risk.^{4,5}

Therefore, it is particularly important to distinguish Swedish snus from other forms of oral tobacco products which have different toxic potential and substantially elevate the risk for disease.

While correctly mentioned by Shanahan that smoking cessation pharmacotherapies are available and safe, their popularity is limited and they are not used as alternatives by smokers unable or unwilling to quit smoking with the use of approved methods.

For the latter, snus and other tobacco harm-reduction products have a role in substituting for smoking and represent

a reasonable option considering that the alternative is to continue to smoke.

Tobacco harm-reduction products do not substitute but supplement other existing tobacco control measures, in an effort to rapidly reduce smoking prevalence and smoking-related disease and death.

Considering that Swedish snus has a long history of strong epidemiological evidence, the suggestion by the STC to review the ban seems reasonable and in fact should be followed by other authorities such as the European Union.

K. Farsalinos, by email

1. Shanahan D. Tobacco control: Safer without snus. *Br Dent J* 2018 **225**: 685–686.
2. Warnakulasuriya S, Sutherland G, Scully C. Tobacco, oral cancer, and treatment of dependence. *Oral Oncol* 2005 **41**: 244–260.
3. La Vecchia C, Lucchini F, Negri E, Levi F. Trends in oral cancer mortality in Europe. *Oral Oncol* 2004 **40**: 433–439.
4. Luo J, Ye W, Zendehele K, Adami J, Adami HO, Boffetta P, Nyrén O. Oral use of Swedish moist snuff (snus) and risk for cancer of the mouth, lung, and pancreas in male construction workers: a retrospective cohort study. *Lancet* 2007 **369**: 2015–2020.
5. Lee P N. Summary of the epidemiological evidence relating snus to health. *Regul Toxicol Pharmacol* 2011 **59**: 197–214.

DOI: 10.1038/sj.bdj.2019.55

Much safer with snus

Sir, I was alarmed to see that poor acquaintance with current oral cancer evidence can lead to backward conclusions as stated in the letter by Dr D. Shanahan.

The referenced study by Foulds *et al.* was a relevant piece when published 15 years ago, but today several later studies provide much more robust data on the public health benefits that have been reaped from snus use in Sweden.^{1,2}

The study by Warnakulasuriya *et al.* is not only highly outdated but is totally irrelevant with respect to Swedish snus, since it is based on Indian smokeless tobacco products with totally different characteristics. Modern Indian researchers do make the appropriate distinctions resulting in summary statements such as: 'Nasal snuff and snus were not associated with oral cancer risk.'³

The most comprehensive modern summary has been given by the Global Burden of Disease Study 2016 by stating: 'Based on available evidence, for chewing tobacco RRs were significantly higher than one for oral cancer and oesophageal cancer, while for snus or snuff we did not find sufficient evidence of a RR greater than one for any health outcome.'⁴

The suggestions by the Science and Technology Committee (17 August 2018) are actually well supported by the available scientific evidence.

L. M. Ramström, by email

1. Ramström L, Borland R, Wikmans T. Patterns of Smoking and Snus Use in Sweden: Implications for Public Health. *Int J Environ Res Public Health*. 2016; **13**: 1110.
2. Ramström L M, Wikmans T. Mortality attributable to tobacco among men in Sweden and other European countries: An analysis of data in a WHO report. *Tob Induc Dis* 2014; **12**: 14.
3. Asthana S, Labani S, Kailash U, Sinha D N, Mehrotra R. Association of Smokeless Tobacco Use and Oral Cancer: A Systematic Global Review and Meta-Analysis. *Nicotine Tob Res* 2018; DOI: 10.1093/ntr/nty074.
4. GBD 2016 Mortality Collaborators. Global, regional, and national under-5 mortality, adult mortality, age-specific mortality, and life expectancy, 1970–2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 2017; **390**: 1084–1150.

DOI: 10.1038/sj.bdj.2019.56

Adrenaline use

The use of pre-filled adrenaline syringes in anaphylaxis kits

Sir, I am writing with regards to the recent correspondence by the Office of Chief Dental Officer England (OCDO) titled 'Adrenaline for anaphylaxis kits – a reminder to health care professionals'.¹

This document highlighted the current supply disruption of EpiPen and EpiPen Junior adrenaline auto-injectors (AAIs) and therefore guided dental practitioners and dental care professionals to stock and use adrenaline ampoules in the management of anaphylaxis in order to help preserve national stock of AAIs.

This reminder failed to fully appreciate the use of adrenaline 1:1000 1 mg/1 ml pre-filled syringes when stocking medical emergency kits and their use in the management of anaphylaxis. The use of pre-filled syringes negates the need to stock adrenaline ampoules and to complete the drawing up process.

Reference to pre-filled syringe use is seen in SDCEP guidance and should be more greatly acknowledged as a viable and suitable alternative to stocking adrenaline ampoules in the reminder sent by the OCDO.²

Dental professionals are expected to have competency in the use of ampoules and drawing up solutions, however, medical emergencies are rare occurrences, with anaphylaxis accounting for only 1% of emergencies encountered in the dental setting.³

Therefore, the completion of administering adrenaline with the use of ampoules is rarely practiced in real-life emergency situations. We are unaware of any current national