

# How sustainable is your dental workplace?

As the planning of our eco-themed issue was underway, Kate Quinlan asked a selection of dentists about their dental workplaces' 'green' credentials.



**Achieving the sustainability sweet spot**

*Ben Underwood*

Ben is the founder and CEO of Brush DJ Ltd. He has been a family dentist for 20 years and is passionate about preventing children and adults suffering from dental disease. Ben was one of the inaugural NHS Innovation Accelerator Fellows and named as one of the CQC's 70 individuals who had made a difference in primary medical services.

**Ben:** In the past I would consider if a treatment or product was clinically effective and cost effective, but this now includes sustainable – with the aim of hitting that sweet spot where all three are achieved (Fig. 1).

One area the practice has become more sustainable in is by moving as many parts as possible of the patient journey away from paper and printing to digital, with medical histories filled in on an online patient portal along with estimates being given and NHS forms signed. Instead of giving patients a leaflet I will email or text message them information. An example of

this is with parents – in the past I would give them a sheet of paper with all the basic oral health advice for their child taken from the *Delivering better oral health* toolkit – now I will send them a link to one of the age-relevant British Society of Paediatric Dentistry (BSPD) videos (<https://www.bspd.co.uk/kidsvids>) or get them to download the free Brush DJ app that has all these videos on.

Lots of other ideas are available here: <https://sustainablehealthcare.org.uk/dental-guide>.



**'Focus on quality, accessibility and convenience'**

*Edd Jones*

Edd is Co-Owner of Hartley Dental Practice in Plymouth and also owns C&E Consult, a dental specialist business consultant and advisor.

**Edd:** It's fair to say dentistry has been through the mill over the last few years, which has been stressful for everyone involved in the industry, not least for practice owners. The COVID-19 pandemic and closure period did see some dentists leave the industry and that coupled with the effects of Brexit (dentists not coming so freely from abroad) has put huge pressure on dentistry as a profession and public services provided via the NHS contracts.

Somewhat predictably, this has led to a furore in the dental Facebook forums and to a degree, the dental press. Stories of practices at 'breaking point' have abounded – yet here we are, bumbling along, fixing teeth.

Sustainability is something the CQC are now looking closely at, which has led to even more outrage, but in my view – it's fair enough, they are a regulator after all.

We must flip this negative narrative, it's soul destroying! Every human born, has teeth! This is a good thing – it's a bit like cars and spark plugs in that sense – there will always be plenty of work to go around. The real issue is how practices differentiate themselves from the rest. We all shout about the same things and hope we shout the loudest. Lunacy!

If you want a sustainable practice, ditch your NHS contracts, focus on quality, accessibility and convenience and stop being so negative!

There is hope yet for us all, but we have to move away from the 'we've always done it that way' mindset to ultimately being sustainable.



**'Reducing our environmental impact is an ongoing process'**

*Edd Burton*

Edd runs The Yorkshire Grey Dental Surgery in Colchester, Essex with his partner Izzy Margetts. They both studied at Sheffield University and graduated in 2015 (Edd) and 2016 (Izzy).

**Edd:** Protecting our environment is of the highest importance to us and is at the very core of how we run our practice. Reducing our environmental impact is an ongoing process. There are a number of steps we have already taken to do this:

- Our practice is amalgam-free for all patients. The refinement of mercury, one of the metals found in amalgam fillings, is very damaging to our environment
- The company who handle our clinical waste reclaim energy from their incineration process to heat and power homes. They run a fleet of vehicles

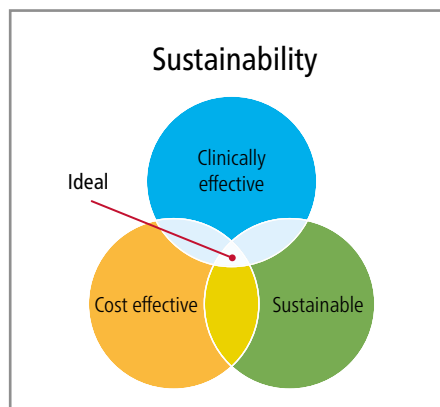


Fig. 1 The 'sweet spot' where sustainability is achieved. © Author

- ◀ that run on biofuel and are based in the South East, so our waste doesn't have to travel far to be processed
- To make crowns, bridges and dentures we use only local laboratories; this cuts down on the distance your work needs to travel and reduces its carbon footprint
- It is still necessary to print some treatment plans and consent forms: we use cartridge free tank printers which can print up to 11,000 pages on a single tank, reducing plastic waste from printer cartridges. Most patient paperwork is now done on tablets and saved straight to the patient notes
- We use computer-based practice management software to store patient notes and other information, reducing paper usage
- During the pandemic we have managed to reduce the amount of waste from PPE that we generate. We wear Scott Safety FH1 hoods and surgical gowns that are cleaned and laundered on site. Each mask can be cleaned over 250 times and each gown can be laundered over 100 times
- We have introduced digital x-rays which avoids the use of chemicals in x-ray processing and reduces the dose of radiation received when having an x-ray taken
- We have a hypochlorous acid generator, and use it to make surface cleaner. It reduces transport of disinfectants to the practice, reduces packaging and after seven days it breaks down again into salt and water

- Large recycling bins in the practice
- LED lighting: LED bulbs use less energy and are longer-lasting than other types of bulb
- Furniture sourced from companies who use sustainable materials
- Patient bibs that can be laundered in-house
- Compostable food grade bags used instead of plastic ziplock bags
- A water treatment unit that uses UV-C light instead of chemical additives for the water that supplies our dental chairs and autoclaves.



'I don't see sustainability as a "one-and-done"'

Maysa Hattab

Maysa is a general dental practitioner who qualified from the University of Sheffield in 2009.

Before buying her practice, Maysa worked in mixed corporate and independent practices, while developing interests including inhalation sedation and anxiety management for GDPs.

Since 2017, her practice, Plumfield Dental Practice in Carlisle city centre, has undergone extensive refurbishment and conversion from NHS to private, while

our energy needs, in respect of generating distilled water for chairs.

Pre-COVID, we were moving away from plastic disposables and towards paper and starch-polymer-based products, alongside recycling the endless packaging everything arrives in. While the PPE requirements during the pandemic did result in a backward step, I'm hopeful we can continue making strides here.

We've also shifted to almost paper-free for patient communications, though we're not done yet! I hope to keep digitising as much as possible in future. As an inhalation sedation provider, I'm also conscious of the limits on our waste gases.

Lastly, we're responding to increasing patient demand for compostable and recyclable oral hygiene aids. While there's still a way to go to reduce the extent of dental products contributing to landfill, I'm pleased to see some manufacturers beginning to step up.

Microplastics in toothpastes are also a concern for many of our patients: I'm seeking evidence-backed alternatives that we can confidently recommend to patients.

Commitment to sustainable practice and home care, while keeping it affordable, remains an ongoing challenge, especially as cost of living rises take effect.

As with so much in dentistry, I don't see sustainability as a 'one-and-done'. I look to my patients and team for more ideas on this as we grow, as well as innovations outside the dental sector.

'Commitment to sustainable practice and home care, while keeping it affordable, remains an ongoing challenge, especially as cost of living rises take effect.'



'We need to be well-informed, supported and incentivised to change'

Ian Mills

Ian is a partner in an eight-surgery mixed practice in North Devon and is immediate Past Dean of the Faculty of General Dental Practice (UK). He is an Associate Professor of Primary Care Dentistry at Peninsula Dental School where he is directly involved in undergraduate education and research. Ian was previously an NIHR Academic Clinical Fellow in General Dental Practice and has been the clinical lead and principal investigator in various research projects at his practice. His current research interests include recruitment and retention in dentistry within rural

- Bulb Business Energy: 100% of our electricity is from renewable sources and 100% of the gas used is offset making it carbon neutral
- Cleanable, lockable boxes for instrument storage instead of disposable plastic pouches
- A glass tumbler that can be autoclaved for patient rinsing
- Environmentally friendly oral health products stocked at reception
- Bee-friendly flowerbeds and garden around the practice
- Reusable aspirator tips and air/water tips

supporting the professional growth of staff and associates.

**Maysa:** For Plumfield, sustainability's a work in progress. We're building small steps into our renovations of a 150-year-old property and daily operations.

Making our Victorian building work sustainably meant improving energy efficiency: LED lights (motion sensor operated where possible), suspended ceilings, double-glazing and a complete overhaul of heating, insulation and plumbing. Installing a reverse osmosis machine has reduced

◀ areas; person-centred care in dentistry; and mental health and wellbeing within the dental profession.

**Ian:** Environmental sustainability is one of the most critical issues facing the world today. It is important that healthcare professionals take the issue seriously and become part of the solution, rather than simply compounding the problem.

**'For the dental profession to make a meaningful contribution, we need to be well-informed, supported and incentivised to change.'**

For the dental profession to make a meaningful contribution, we need to be well-informed, supported and incentivised to change. There appears to be a rising level of interest in environmental sustainability within dentistry, with publications and resources increasingly available. To translate this into action requires support and incentivisation, particularly at a time when dental practices face so many other pressures.

The challenge needs to be addressed at all levels, individual, practice and system level, as it is incredibly difficult to shift attitudes, let alone behaviours, when so many barriers exist. Dental practices are under huge pressure with escalating costs, NHS underfunding, a discredited dental contract, burdensome regulation, and challenges of recruitment and retention of staff. It is little wonder that environmental sustainability is struggling to gain any level of prioritisation within dental practices when it has to rely on altruism to gain a foothold.

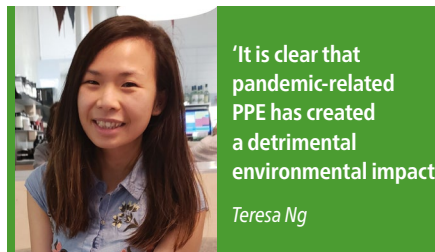
Our own practice was previously involved in a number of research projects on sustainability with the University of Plymouth, which included assessment of attitudes within the dental team<sup>1</sup> and analysis of waste management.<sup>2</sup> The research indicated a strong desire to act responsibly in terms of the environment, although there were few drivers to influence such change. There was little direct benefit for the individual, the practice or patients, but despite this, there was an enthusiasm amongst many staff members to make a difference.

A number of practice-based initiatives were implemented in an attempt to reduce our own carbon footprint, which led to

greater personal and collective responsibility in trying to reduce, reuse, recycle wherever possible.<sup>3</sup> One of the areas we focused on was around PPE and waste management, where there appeared to be significant scope to reduce usage and recycle non-clinical plastic and paper. Unfortunately, the COVID pandemic caused massive disruption on many levels, including waste generation.

The environmental impact of COVID IPC guidelines appeared to be largely ignored, and we are still living with the consequences as dental professionals adhere to the mantra 'if in doubt, chuck it out'.

As a consequence of our research engagement, the practice also looked at energy usage, which led to installation of solar panels, low-energy light bulbs, light sensors, and insulation to reduce our energy consumption. Some staff have even purchased electric cars and scooters. At the time, these changes were primarily driven by environmental considerations, but with escalating fuel and energy costs, this could be a significant driver for many practices to implement change. Despite the ominous future for the economy, there may be an upside in terms of embracing environmental sustainability to reduce costs. Perhaps a small but significant silver lining.



Teresa is a community dentist in Shropshire.

**Teresa:** The UK Climate Change Act 2008<sup>4</sup> aims to reduce carbon emissions; it is reported that NHS dental services contribute to 3% of the carbon footprint of the NHS.<sup>5</sup>

Within the community dental service, the biggest transition towards sustainability

has been through the advancement and acceptance of technological systems due to COVID-19; using electronic communication and forms has led to a substantial reduction in paper waste. The use of technology allows for patient contact without them travelling to the clinic. Consequently, mitigating unnecessary travelling for the patient, in conjunction with the decrease of postal services, leads to a reduction in carbon emissions. Furthermore, the challenges faced with the supply chain and the limited availability of dental materials has effectively allowed us to re-evaluate and propose changes to our ordering systems to reduce waste from expired products.

However, the existence of single use items and the associated packaging generates a significant amount of dental waste, and it is clear that pandemic-related PPE has created a detrimental environmental impact. The continuous challenges with sustainability faced within the community dental service include the travel required for staff to reach different clinic sites and hospitals and the provision of domiciliary care. Though car sharing is encouraged, it is not always practical, especially so during the pandemic. NHS organisations and employers can support staff benefits packages which facilitate electric vehicle leasing, reducing the impact from CO<sub>2</sub> emissions.

Additionally, the provision of dental care under nitrous oxide or general anaesthetic inevitably will contribute towards the carbon footprint; therefore, there is an emphasis towards reducing excessive waste gas products through estate maintenance and good sedation techniques. ■

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