Apps: A way to accelerate recovery?

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According to the latest data, in 2020, 84% of UK adults own a smartphone and, on average, Brits spend 2 hours and 34 minutes online on them every day. Speaking from personal experience, COVID-19 has certainly increased the latter of these numbers for me, particularly when it comes to accessing the latest news, guidance and seeking healthcare information.

This got me wondering; could smartphones and apps play a role in dentistry's recovery post-pandemic? I asked **Ben Underwood**, developer of the *Brush DJ* app, whether he thought the time – and the situation – is right?

How can dentistry take advantage of the increased use of apps to access health information forced upon us by COVID-19?

BU For dentistry to really make the most of the increased use of health apps that has resulted from the pandemic, it's important to take a step back and appreciate what it takes to build a health app that is helpful and safe. Yes, as you rightly point out there's an opportunity here, but regulation is stringent – for good reasons – and we want potential users of any health app developed to benefit from them, not be harmed. We also need to make sure an app is the appropriate solution rather than for example a website.

As a profession, are we slightly behind the 8-ball when it comes to integrating apps into dentistry?

BU I would agree we are in a difficult position, but for a good reason. Dentistry is a practical profession – I would say we need to see most patients face-to-face to provide the best care possible. The increased use of video consultations during the pandemic was necessary to triage patients and ensuring priority was given to those who needed to see us the most, but at present I don't feel this can replace face-to-face contact and probably more importantly take a radiograph, come to a diagnosis, and carry out the appropriate treatment.

There will not be a solution to this unless there becomes a way of carrying out a radiograph in a home setting. I see the value in GP's being able to adopt video consultations as a more permanent fixture in the care pathway for patients, but not as much in dentistry. I also worry about the risk of litigation when relying on apps and virtual consultations without seeing a patient in person.

Is the onus therefore on improving the patient-facing app technology and ideas that are out there?

BU It is certainly one area that could be improved upon, but I go back to my point about what makes a beneficial app. Handling personal information appropriately and not falling foul of GDPR regulations are significant hurdles to overcome. There is opportunity to improve the apps that are out there, but it should be done following guidelines set out in the NHSx Digital Technology Assessment Criteria.

Isn't the patient using the web to arm themselves with information – rightly or wrongly – before a visit?

BU In my experience this is often an urban myth rather than reality, but that might just reflect my patient base. There are some patients who do – the pandemic has sadly shown how easy it is to arm people with incorrect information – but in my experience patients still come to dental professionals for advice rather than searching the web. It may be more of an issue relating to cosmetic dentistry – you would expect a patient to do some research on the options available to them before undertaking significant and often expensive treatment. It might also have been an issue during the pandemic when patients were not being offered face-to-face consultations.

The priority for the dental community is to make sure accurate, unbiased, oral health information is found first when searching online for dental information rather than biased mis-information.

You mentioned earlier about the fear of litigation. Does this stop apps from becoming an integrated part of the profession's digital footprint?

BU It depends on what the app is designed to do. If it is an app to help diagnose pain, it is an issue which I feel comes from the inability to take a radiograph. If you can't do that then you're more likely to receive a complaint and potential GDC investigation. If it is an app that gives patients accurate evidence-based oral health information, and motivates effective

oral hygiene behaviour then I don't feel this is something where litigation should be feared.

There is a danger of comparing ourselves to GPs and thinking we're massively behind, and have to play catch-up, and as a result churn out apps at a rapid rate that perhaps haven't had the scrutiny they really need. Before the pandemic it was often quoted that it takes 17 years for a product that would help patients to be adopted by NHS. While that time has come down because of the pandemic, it's still a lengthy process and often for good reason because good things take time.

Do you see a situation where video consultations and apps could reduce the massive NHS dental waiting lists?

BU Video consultations have their place and can help us to complete remote welfare checks, ensuring that we prioritise patients for care based on clinical need, but I still don't think the technology is quite there for them help to significantly reduce NHS dental waiting list.

Apps that help patients improve their self-care and reduce their risk of dental disease have this potential in the long-term to reduce NHS waiting lists. But this is still – and will be for the foreseeable future – a job that requires the patient in the chair. The Brush DJ app has enjoyed success because it is an upstream initiative designed to engage people and especially children to brush their teeth effectively. Apps don't clean your teeth, but they can help you to use basic oral hygiene products effectively.

Could they really help to clear waiting times?

BU If a child uses the *Brush DJ* app, brushes their teeth effectively in the short and long-term, there is the potential for shorter waiting lists because the dental teams will be spending less time treating preventable disease, because there will be less of it! This would mean waiting list would go down and access would improve. It comes back to what should be at the heart of good dentistry, prevention.

It also doesn't have to be just the dental team that recommend oral health apps – oral health is everyone's business to help improve overall wellbeing. I have been working with the University of Manchester and the Institute of Health Visitors to develop an e-learning package for health visitors to make every contact count by promoting the app to parents.

At present apps aren't a solution for everyone. However we know from recent research that 97% of parents and carers taking a child for extraction of decayed teeth under a general anaesthetic do have access to a smartphone. We wouldn't want a situation where apps increase inequalities because prevention is only offered digitally, however they do offer a low cost and environmentally friendly solution for the vast majority of people with access to a smartphone or tablet. Apps are part of the solution to improving oral health and reducing the burden to the NHS of treating preventable dental disease – they are not a panacea. ♦

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Ben Underwood biography

Ben Underwood is the founder and CEO Brush DJ Ltd – the company who developed the free multi-award-winning Brush DJ oral health app. Ben 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 CQCs 70 individuals who had made a difference in primary medical services. Brush DJ is the only dental app in the NHS apps library and has been downloaded in 207 countries on to 450,000 devices.