BDJ Team
MARCH 2018

Managing SEIZURES

BDA
British Dental Association

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If there was an award for fastest interview turnaround time, it would go to Joss Harding, the dental hygienist who says 'it's always good to laugh' as she describes her three decades working in dentistry in this issue of *BDJ Team*. Joss responded to my social media callout for DCPs willing to share their career story with other readers in the afternoon and had emailed me responses to my interview questions by bedtime. Thank you Joss!

I was also thrilled to have a number of other volunteers come forward: a hygienist working with head and neck cancer patients; an implant/sedation nurse and treatment coordinator; and an orthodontic therapist. I look forward to hearing more about these individuals working in different areas of dentistry, and sharing their stories with you.

Also this March we turn our attention to managing dental patients experiencing a fit or seizure in the dental practice. This article attracts one hour of verifiable CPD, so don't forget to visit the CPD Hub after reading it.

In an original piece of research conducted by authors at King's College, Dr Oluwatunmise Awojobi and colleagues investigate stakeholder views on an innovative pilot: training dental nurses in primary and secondary care concurrently. What can future training schemes learn from this pilot?

We also include a recap on correct waste disposal in the dental practice, and meet a dental hygienist originally from Poland who is now working at the London dental practice chain Smilepod.

Don't forget, the 2016 CPD hours will be closing on the CPD Hub at the end of this month (March 2018): don't miss out! https://cpd.bda.org/index.php

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k.quinlan@nature.com

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THE TEAM

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Editor-in-Chief
Stephen Hancocks OBE

Editor
Kate Quinlan

Production
Art Editor: Melissa Cassem
Production Editor: Betty Bohane
Digital Editions Production Controller: Natalie Smith

Advertising
European Team Leader – Academic Journals:
Andy May, +44 (0)20 7843 4785, a.may@nature.com

Publishing
Publisher: James Sleigh
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SUGAR, SNACKS AND ENERGY DRINKS IN THE SPOTLIGHT

A *BDJ Team* round up of news stories and campaign announcements making headlines this winter in the UK.

Sugar and its links to tooth decay and obesity continue to dominate news headlines as we begin 2018, and new campaigns are being launched that aim for improved oral and general health.

Energy drinks

A paper published in *BMJ Open* in December 2017 for the first time revealed the sugar, calorie and caffeine content of products marketed as 'energy drinks' sold in the UK between 2015 and 2017 (http://bit.ly/2BAzCUp). While the number of products available on the market in that period has fallen from 90 to 59, sugar, calorie and caffeine content remain high.

Certain manufacturers have started to reformulate ahead of the impending 'sugar tax' due in April 2018; the energy drinks surveyed show a 10% reduction in sugar from 10.6 g to 9.5 g per 100 ml in the two-year period.

However, the study found that typical serving sizes of energy drinks are larger than other sugar-sweetened drinks, at 500 ml (twice the standard serving). Furthermore, the average sugar content in energy drinks in both 2015 and 2017 (per serving) was more than an adult's entire maximum daily recommendation for sugar intake in the UK.

In 2015, Action on Sugar called for a ban on the sale of energy drinks to children. In November 2017, celebrity chef Jamie Oliver also announced that he would fight for new laws to stop children buying energy drinks.

On 12 January the British Society of Paediatric Dentistry (BSPD) added its voice in support of a ban on the sale of high energy drinks to under-16s. Claire Stevens, President of BSPD, said that energy drinks are 'doubly bad for teeth because these drinks have high levels of sugar and they are acidic. This means they can cause both dental decay and erosion of teeth.'

The BSPD added that it was delighted that Waitrose has decided to refuse to sell energy drinks to children under 16 as of 5 March this year. Aldi, Sainsbury's, Asda and Morrisons have also pledged to start asking for ID before approving the sale of highly-caffeinated drinks.

Healthier snacks

On 2 January, Public Health England (PHE) launched the first Change4Life campaign promoting healthier snacks. The campaign encourages parents to 'look for 100 calorie snacks, two a day max' to reduce children's sugar intake. PHE said that half of children's sugar intake – currently around seven sugar cubes a day – comes from unhealthy snacks and sugary drinks, leading to obesity and painful tooth decay.

PHE's healthier snack suggestions include fresh or tinned fruit; chopped vegetables and lower fat hummus; plain rice cakes; crackers; malt loaf; lower fat cheese; small, low fat, lower sugar yoghurt; sugar free jelly; crumpets and Scotch pancakes.

PHE's improved Change4Life 'Food Scanner' app also shows parents how many calories, sugar, salt and saturated fat is in their food to help make healthier choices easier. It can be downloaded from the App Store or Google Play.

As part of the campaign dentists are being provided with a free dental toolkit to act as a springboard for a discussion about dental prevention with parents and families. All Chairs of Local Dental Networks have been notified about the toolkits and invited to encourage practices to apply early. 'Top Tips for Teeth' includes posters, leaflets, badges and a briefing guide (http://bit.ly/2nrmYBY).

Perio and caries awareness

On 11 January, the European Federation of Periodontology (EFP) launched the 'Perio and Caries' awareness campaign, in order to call attention to the growing burden of tooth decay and severe gum disease. The campaign emphasises that caries and periodontal disease are the most common non-communicable diseases yet they are largely preventable, that they lead to tooth loss and that gum disease is linked to serious health issues such as diabetes, cardiovascular diseases and cancer.

The Perio and Caries initiative is directed towards dental and other health professionals, researchers, the public and policymakers. The 30 national societies that comprise the EFP will promote the campaign in their countries, with actions targeted at local communities and authorities. Recommendations are based on the consensus of over 75 experts in the field of periodontology and cariology who carefully analysed the existing scientific evidence during the EFP Perio Workshop 2016.

A dedicated website has been set up offering up to date information and recommendations, including infographics and key messages, all for stakeholders: perioandcaries.efp.org.

Growth in tooth extractions

New figures released on 13 January 2018 by the Local Government Association (LGA) revealed that there were 42,911 hospital operations to remove unhealthy teeth in children and teenagers in the last year, or 170 operations a day.

The Oral Health Foundation referred to the figures as 'appalling' and called for the Government to do more to help address the dangerous levels of sugar consumed by children in the UK, in addition to better oral health education for children and new water fluoridation schemes.

The extractions of multiple teeth in under-18s in England cost the NHS £36.2 million - a 17% increase on the 36,833 procedures carried out in 2012/13.

The British Dental Association (BDA) condemned ministerial indifference towards the new statistics. The Government's centrepiece policy 'Starting Well', aimed at improving oral health outcomes for 'high risk' children, has no new funding attached, and is operating in parts of just 13 local authorities in England. Activities in London are thought to cover just three wards in the Borough of Ealing.

BDA Chair Mick Armstrong said: 'This short-sightedness means just a few thousand children stand to benefit from policies that need to be reaching millions'.

Sharing bags

On 26 January Action on Sugar called for a complete ban on all confectionery price promotions and a sugar tax on all confectionery of at least 20%. This follows a new product survey by the group of leading experts, based at Queen Mary University of London, who have exposed the high amounts of sugar in chocolate confectionery 'sharing' bags.

Of the 95 chocolate confectioneries surveyed, the 'sharing' bag with the highest amount of sugar per pack contained 29 teaspoons, four times an adult's maximum daily sugar intake – almost 1,000 calories.

At the time of data collection (December 2017 – January 2018) from six leading supermarkets, each retailer was actively offering price promotions on some sharing bags, which made them comparatively better value for money than smaller pack sizes.

A poll in *The Grocer* (www.thegrocer.co.uk) conducted in 2014 revealed that over one in five adults (22.1%) do not share sharing bags, but consume them alone and in one sitting. This figure was even higher for 16-24-year-olds at 35.7%.

Action on Sugar said that consumption of confectionery is the second highest contributor to sugar intake in children, after soft drinks. If price promotions on high sugar products were removed, almost two teaspoons (7 g) of sugar on average could be cut from every individual's diet per day.

More infants seen in 2017

In late January BSPD President Claire Stevens announced that 33,000 extra children aged 0-2 years old were seen in NHS general dental practices in England in the year to November 2017: extremely positive news for the BSPD's Dental Check by One (#DCby1) campaign.

DCP students in Plymouth run hygiene workshop

A workshop run by dental therapy and hygiene students demonstrated that viruses can survive on hard surfaces for 24 hours and carry distances of around three metres.

Second-year students from the Plymouth University Peninsula Dental School ran a session at City College Plymouth for young adults with mild learning difficulties to talk about good hygiene and oral health.

They highlighted how simple steps such as good hand washing (30 seconds with thorough technique) and using a tissue when sneezing can help to stop the spread of viruses – with a virus only able to survive on a tissue for 15 minutes.

Cross-infection and how bacteria can be kept at bay were the overriding themes of the session, and students explained how good oral health is also very important to prevent oral infection and disease.

The event took place as part of the university students' Inter-Professional Engagement module – which is run on the BDS Dental Surgery and BSc Dental Therapy and Hygiene programmes in partnership with Peninsula Dental Social Enterprise (PDSE) and community engagement charity, Well Connected.

Damian Lemieszek, second-year Dental Therapy and Hygiene student, who helped deliver the session, said: 'We wanted to keep things as clear as possible, so the three key messages we focused on were good hand hygiene and its effectiveness in stopping diseases spreading, good oral hygiene and also good general hygiene.

'We were able to deliver an interactive quiz to get the students thinking about what they already knew and dispel a few myths, and we're really pleased with how the event was received.'

Rob Witton, Director of Social Engagement and Community-based Dentistry at PDSE, said: 'The second-year Inter-Professional Engagement module is so important to help students understand the social and organisational barriers facing community groups and organisations in delivering oral health messages.

'The City College Plymouth students were so engaged and receptive to the session – particularly the station on watching how far a sneeze can travel!'

Medical emergencies: seizures

CPD: ONE HOUR

CPD questions

*This article has four CPD questions attached to it which will earn you one hour of verifiable CPD. To access the **free** BDA CPD hub, go to **http://bit.ly/2e3G0sv***

Emma Hammett[1] discusses how to help someone experiencing a fit or seizure in the dental practice.

A staggering one in 20 people will experience some sort of seizure in their life, therefore it is possible that one of your patients may well experience one in your dental practice.

A seizure is defined as a fit or convulsion that occurs when a sudden burst of electrical activity in the brain temporarily interferes with the normal messaging processes. The brain controls the whole body, so depending on where the seizure occurs in the brain, different parts of the body may be affected.

There are many different types of seizures and a multitude of causes. Any head injury or stress to the brain can cause fitting, as can brain tumours, meningitis, malaria, eclampsia in pregnancy, poisoning, lack of oxygen, raised body temperature, epilepsy as well as drug and alcohol use and withdrawal…

It is possible that someone experiencing a cardiac arrest may appear to have a seizure as their brain struggles with depleted oxygen – always ensure they are breathing.

It is particularly common for babies and young children to experience febrile convulsions. These are seizures triggered by a rise in temperature when the child is unwell. These seizures don't usually cause any long-term problems and the child usually grows out of their pre-disposition.

Observing how someone behaves during a seizure can often be extremely helpful to aid the neurologist's diagnosis and treatment.

Different types of seizures

Fits, seizures or convulsions can take many forms. They may cause rigid out of control movements; the casualty may experience absence seizures where they become rigid and unresponsive; there may be full thrashing around tonic/clonic fits; or anything in between.

How to help someone experiencing a tonic-clonic fit or generalised seizure

What might happen

Tonic phase – the casualty will collapse as they lose consciousness. The body goes stiff and rigid and they may cry out as if in pain. This is due to an involuntary action as the muscles force air out of the lungs – the casualty is not in pain and is usually unaware of the noise they are making. They can begin to appear blue around their mouth and finger tips.

Clonic phase – They may rigidly jerk around as the muscles alternately relax and tighten. They may make a snoring noise as the tongue flops to the back of the airway; they could be incontinent and might bite their tongue.

Post-ictal phase – Once the jerking stops, they may be confused, sleepy, agitated or relatively unresponsive (if you are worried about their airway put them into the recovery position).

Help for a generalised seizure in a dental practice

1. Clear all dental instruments away from the patient.
2. If the patient is on the dental chair: place the dental chair in a supported, supine position as near to the floor as possible. If the patient is not on the chair, ease them onto the floor and protect their head from injury by gently cushioning with a pillow or coat. Move things away from them to protect from injury.

[1] *Emma Hammett RGN of First Aid for Life is an experienced nurse, trainer, first aid expert and published writer. First Aid for Life runs practical courses for medical professionals throughout London: training in Emergency Life Support, choking, fitting, anaphylaxis and AED. The course qualifies as verifiable CPD. It also offers online first aid courses to update and refresh knowledge between the practical training.* http://www.firstaidforlife.org.uk emma@firstaidforlife.org.uk *Tel: 020 8675 4036.*

Emma provides the information in this article for guidance and it is not in any way a substitute for medical advice. First Aid for Life is not responsible or liable for any diagnosis made, or actions taken based on this information.

If dental treatment has begun, try and ease the patient onto their side to reduce the possibility of them aspirating secretions and recent dental work.
3. Do not restrain the patient.
4. Do not put your fingers in his or her mouth (you might be bitten), or try and put anything in their mouth for them to bite on.
6. Time the seizure. Call the emergency services if the seizure lasts longer than five minutes or the patient experiences repeated seizures.
7. Loosen any tight clothes around their neck and loosen belts. Protect the patient's dignity.
8. Call the emergency services if the patient looks cyanotic [blue] from the onset.
9. Administering oxygen may be helpful.
10. If the seizure lasts longer than five minutes or for repeated seizures, administer buccal midazolam or appropriate emergency anti-epileptic drugs from your emergency drugs. Contact the emergency services if unsure.
11. Be aware of the possibility of compromised airway or uncontrollable seizure.

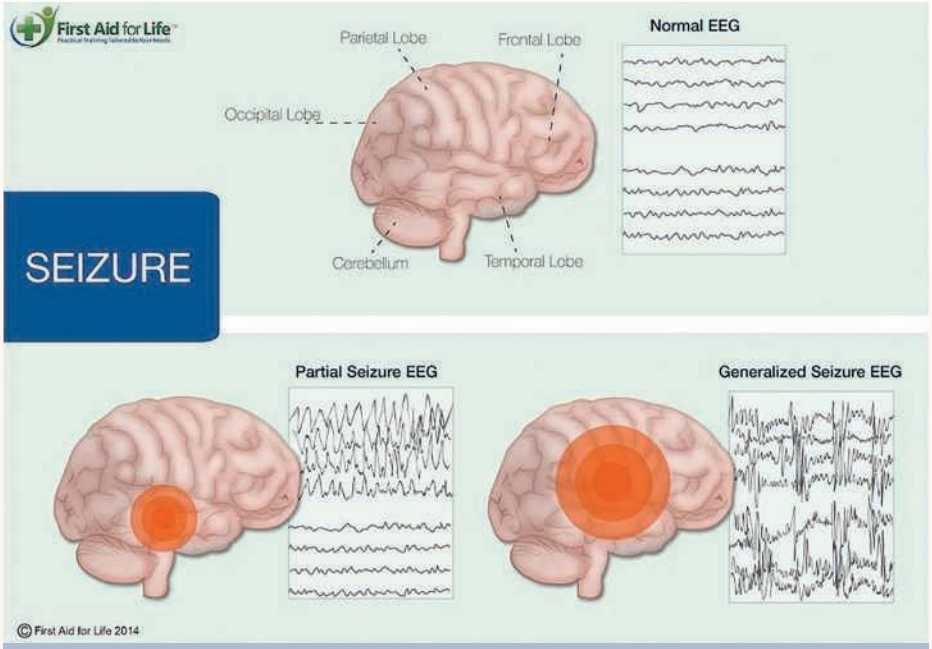
Once the seizure has finished, place the patient in the recovery position, on his or her side. These guidelines should also be followed:
1. Do not undertake further dental treatment that day.
2. Try to talk to the patient to evaluate the level of consciousness during the post-ictal phase.
3. Do not attempt to restrain the patient, as he or she might be confused.
4. Do not allow the patient to leave the practice until you are sure they have made a full recovery.
5. Contact the patient's family, if he or she is alone.
6. Do a brief oral examination for sustained injuries.
7. Depending on post-ictal state, discharge the patient home with a responsible person, to his or her family physician or call the emergency services.

Phone for an ambulance:

- If they are blue and appear not to be breathing
- If it is their first seizure
- If the seizure lasts for more than five minutes
- If they have another seizure immediately afterwards
- If they are injured
- If they are known to have seizures and this one is different
- If you are worried at all
- If they are unresponsive for more than five minutes after the seizure.

Important:

- Never put your fingers or anything in their mouth to try and prevent them biting their tongue – as this will cause serious injury
- Do not try and move them unless they are in immediate danger
- Do not restrain their movements whilst they are fitting
- Do not give them anything at all to eat and drink until fully recovered
- Never try and 'bring them round'.



How seizures affect the brain

Epilepsy and specific information all dental professionals should know

A diagnosis of epilepsy is made when someone has had at least two unprovoked seizures, that cannot be attributed to any other cause.

The management of an epileptic fit is exactly the same as managing any other fit. The person experiencing the fit may have an aura (a sound, taste, smell, sensation) in advance of the fit that they recognise as an indication of an imminent seizure and this can often give them sufficient warning to get themselves onto the floor and alert someone to help. Usually repeated seizures will follow a similar pattern, which can make the fits a bit more predictable. They may be taking medication to help control their seizures and dentists should ensure they have patients' up to date medical records that include information on medication being taken, the reason for the prescription and whether there have been any changes in the last year.

Specific dental considerations with anti-epileptic medication

Some antiepileptic drugs such as phenytoin and carbamazepine can cause gingival hyperplasia and gingival bleeding (valproate can also lead patients to be susceptible to gingival bleeding) and so dentists and dental hygienists should be particularly aware of these medications and offer additional advice around oral hygiene.

Repeated generalised tonic-clonic seizures may cause minor oral injuries, as patients may bite their tongue, but these seizures also often lead to tooth injuries and occasionally maxillofacial trauma. Enzyme-inducing antiepileptic drugs (eg phenytoin, phenobarbital, carbamazepine) can alter the metabolism and clearance of vitamin D and have been associated with osteopenia and osteomalacia, meaning patients on these medications can be at increased risk of fracture.

Some drugs frequently prescribed by dentists may jeopardise seizure control due to their interaction with anti-epileptic medication. For example, metronidazole, antifungal agents (such as fluconazole) and antibiotics (such as erythromycin) are known to interfere with the metabolism of certain antiepileptic drugs.

For a copy of the poster used as an illustration with this article, please email emma@firstaidforlife.org.uk.

CPD questions

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bdjteam201837

Dual training of dental nurses: stakeholder views on an innovative pilot

By O. Awojobi,[1] E. Jones[2] and J. E. Gallagher[3]

Background A pilot scheme to train NHS dental nurses across primary and secondary care settings was initiated by Health Education England (HEE) and delivered by local providers in London. This study explores stakeholders' views of the scheme in relation to structure, process and outcomes. **Methods** Sixteen semi-structured interviews were conducted with a purposive sample of stakeholders (education and training providers, representatives of HEE, a trainee) and one focus group discussion with trainees. Topic guides informed by literature and the initiative were used. Audio-recordings were transcribed and analysed using a framework approach. **Results** ***Structure*:** Support for the innovation in principle as it was perceived to deliver broad and complementary experience across primary and secondary care. It was also financially efficient over traditional hospital training. Structured communication between training partners and with trainees regarding finance and rotations would bolster the scheme. New ***Process*** established for the pilot delivered dual training but should be more explicit to stakeholders with recruitment to posts, practice placement allocations and on-site induction involving trainers at all sites. Informal mentoring which emerged was considered helpful and trainees would benefit from a structured mentoring programme. ***Outcome:*** Good examination success rates, support for the concept and an appreciation of the experience of working across environments and cultures. Overall, differences in workplace cultures and tensions were highlighted; these need to be given due consideration in future innovations. **Conclusion** The findings suggest that the value in cross-cultural training and learning from this innovation can be maximised by managing differences and expectations in future training schemes.

INTRODUCTION

Dental nurses provide clinical and other support to other members of the dental team eg dentists, dental hygienists and therapists as well as to patients.[1] In the United Kingdom (UK), dental nurses are the largest registrant group,[2] undertaking tasks including record-keeping, charting, infection control procedures, reassuring patients and giving oral health advice.[1] Additional skills in radiography, impression-taking, applying rubber dam or fluoride varnish may be developed. Although professionalisation of dental nursing as a career in the UK has evolved over many decades,[3] it was only in 2008 that it was formalised such that in order to work as a dental nurse in this country, a dental nursing qualification recognised by the General Dental Council (GDC) UK is required or participation in a training course leading to a recognised qualification.[4] The training of dental nurses takes various forms but mostly by applicants finding an employer willing to train (usually in general dental practice) and a course provider from which to gain the educational elements which will prepare them for their qualifying examination. Course providers may also arrange placements (mostly within primary care) or trainees can apply for a full time dental nurse training course at a dental teaching hospital where they undertake both education and training in preparation for formal assessment.

[1]Research Fellow in Dental Public Health, Division of Population and Patient Health, King's College London Dental Institute, Denmark Hill Campus, 2nd Floor, Dental Extension, Caldecot Road, London, SE5 9RW; [2]Former Postgraduate Dental Dean, Health Education England, London and the South East, Stewart House, 32 Russell Square, Bloomsbury, London, WC1B 5DN; [3]Newland-Pedley Professor of Oral Health Strategy, Division of Population and Patient Health, King's College London Dental Institute, Denmark Hill Campus, 2nd Floor, Dental Extension, Caldecot Road, London, SE5 9RW

Traditional models generally only allow for training in one setting, either in hospital or in practice, with little or no mix in training between primary and secondary care. However, most dental nurses will end up working in primary care and any dental nurse training which takes place needs to be fit-for-purpose, preparing dental nurses adequately for employment in any setting. In 2014, Health Education England North West London (HEE), which leads on dental education across London, established a pilot dental nurse training scheme to address the issues highlighted by single-setting training. This was a National Examining Board for Dental Nursing (NEBDN) General Dental Practice/National Health Service (NHS) Trust Shared Training Pilot between primary dental care practices and Barts Health Care NHS Trust in North East (NE) London. This pilot scheme allowed for trainee dental nurses to spend equal time training both in hospital and in general dental practice. The aim of the pilot scheme was *to provide trainees with a broader training programme with exposure to the rich but varying experiences that can be found in the different settings and help to produce a workforce that is better prepared.*

Scheme overview

One hospital provider was responsible for secondary care training as well as the one day a week didactic teaching received by all trainees every Friday (education element of the scheme). Each dental practice in the scheme was allocated two part-time dental nurse trainees who alternated between hospital and practice weekly so each practice had the equivalent of one full time trainee nurse. Further details of the scheme will be published in due course.

The main research questions were:

1. What are the views and opinions of key stakeholders on this combined pilot scheme and its introduction?
2. How can the pilot scheme be improved and what recommendations can be made for future training of dental nurses?

METHODS

This research involved a mixed methods approach to health services research combining qualitative and quantitative research in cross sectional components. This approach was informed by previous dental workforce research[5-13] and took place in four stages. Results of the qualitative research (Stages 2 and 3) are reported here. Ethical approval for the study was obtained from King's College London's Research Ethics Committee (**BDM/14/15-15).**

Interviews were conducted with a purposive sample of key stakeholders. An invitation letter and an information sheet were sent to stakeholders identified through HEE, including those that were no longer involved with the scheme. Subsequently, a member of the research team (OA) contacted stakeholders to assess their interest and arrange interviews. All interviewees provided written consent. Interviews lasted up to an hour and were audio-recorded. A topic guide was used to ensure important topics were covered while allowing for flexibility. It explored views on the vision, expectations for, and experiences of the scheme, and recommendations for improvements. Given the context, it was acknowledged from the outset that it might not always be possible to anonymise data from stakeholder interviews; this was clearly stated in the information sheet. Interviews continued until all relevant stakeholders who wished to participate had done so. Stakeholder interviews were conducted by OA and JEG.

A focus group discussion was also conducted with trainees towards the end of their training (Term 3) in order to investigate, in depth, some of the issues arising from the questionnaire survey and provide students with the opportunity to raise any other issues. The focus group lasted an hour and involved a series of open-ended questions which explored factors that influenced choice of career, views on the training and recommendations. Before the session began they were invited to ask questions and provide written consent. Confidentiality and anonymity in any final report were assured. The sessions were audio recorded and refreshments were provided at the end of the session. The focus group discussion was facilitated by OA.

Audio-recorded qualitative data were transcribed verbatim. Each focus group participant was given a code in order to distinguish between speakers within the transcript. Data were analysed using the Framework approach,[14] a two staged 'matrix based method for ordering and synthesising (qualitative) data'. The key steps involve familiarisation with the data, development of an index or conceptual framework of themes and sub themes; 'indexing' of the data; sorting by theme or concept; and finally, synthesising the data to provide descriptive and explanatory summaries. To facilitate analysis and retrieval, each line of the transcripts was coded so that through 'tagging of the themes' a link with the original data is maintained throughout the process. NVivo 10 software was used to support this process. The Donabedian model[15] was used as a framework for exploring and categorising findings. In this case, 'structure' refers to attributes of the scheme such as the way the employment contracts were set up, remuneration and finance while 'process' is what was actually being done including trainee recruitment and allocation. 'Outcome' refers to the effects and end-products of the training including retention and employability.

'THE INTERVIEWS INVOLVED 11 PRIMARY CARE TRAINERS, THREE PRACTICE MANAGERS, THREE REPRESENTATIVES FROM HEE, THREE FROM THE HOSPITAL PROVIDER AS WELL AS ONE FORMER TRAINEE…'

RESULTS

A total of 16 interview sessions were conducted during the training (February-November 2015). The interviews involved 11 primary care trainers (two of whom were no longer on the scheme), three practice managers, three representatives from HEE (the postgraduate dean and associate deans), three from the hospital provider (the training manager and two tutors) as well as one former trainee who had withdrawn from the scheme a few months prior. Three of those sessions were triad interviews. One primary care trainer was unavailable for interview but provided a written response which was included in the analysis. Three other trainers did not respond to request for interview throughout the course of the study. The focus group discussion involving eight trainees (seven females and one male) took place towards the end of the training (June 2015).

Fig. 1 The themes and subthemes including views on the concept of dual training, opinions of the pilot scheme and recommendations for improvements

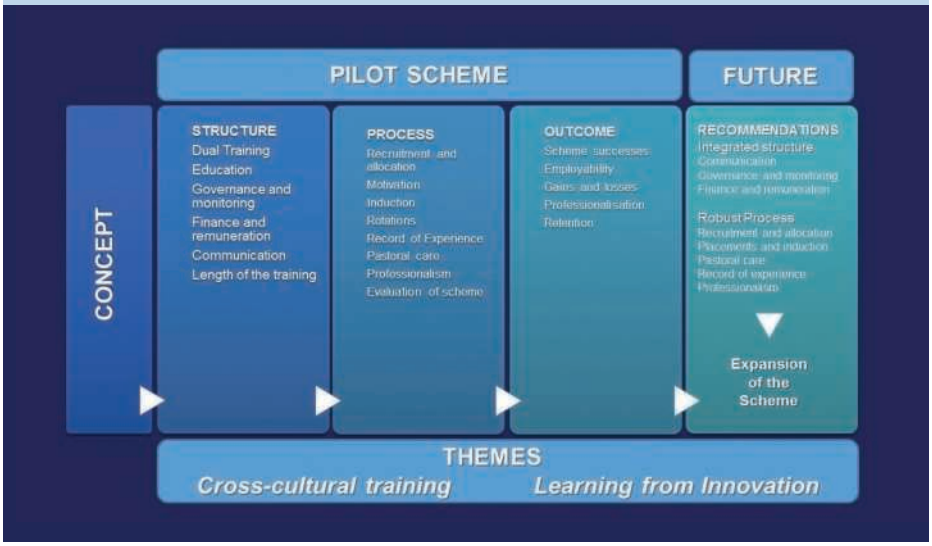

Figure 1 shows the themes and subthemes including views on the concept of dual training, opinions of the pilot scheme and recommendations for improvements.

STRUCTURE OF THE PILOT SCHEME

Dual training

Rotating between primary care and secondary care (alternate weeks) was a central feature of this scheme. Stakeholders perceived this as providing the dual benefits of the diversity and throughput of patients and procedures in primary care and the range of clinical specialty experience in dental hospital. It was also suggested that it would help their communication skills: combining skills focussed on improving the patient's journey (hospital) and efficient patient flow (practice). Although challenges included difficulties in settling into two workplace cultures and the frequent change, the dividends were highlighted by both a former trainee and those that remained on the course.

When we got back and we were working with [hospital trainees], they were saying 'oh how did you know to do that?' We said 'well we done it in practice', 'you lot are so lucky', because we were learning a lot of things. They were just in the hospital but in the practice we actually learned sterilisation, there is other things that we have done and it is busier so you have to learn quicker…I loved the experience, it was really good so all it is for better experience, you know, more skills, more knowledge of doing other things. Withdrawn Trainee

> ***'THE PILOT SCHEME INVOLVED THE STUDENTS BEING TAUGHT THE THEORETICAL ASPECTS OF DENTAL NURSING ONE DAY A WEEK IN THE HOSPITAL SETTING BY TUTORS.'***

Education

The pilot scheme involved the student being taught the theoretical aspects of dental nursing one day a week in the hospital setting by tutors. Trainees appreciated this and perceived it as a quality feature, preferable to alternatives such as evening sessions delivered by private providers. However, practice trainers opined that receiving the syllabus formally, rather than by asking the trainees what was taught, would help them tailor the training received in practice.

You know, we can enhance their learning process if we knew what they had learnt recently then we can build up on that. So I think that would have been much better, much more effective for the nurses themselves. And for us as well because then we know exactly what they do know and what they don't know. Primary Care Trainer 7

Governance and monitoring

Oversight of the scheme fell to HEE; however, there were several instances when clarity was required in relation to lines of management and reporting. These included practical issues (eg trainees' lateness, sickness, lack of attendance), as well as issues of concern which had implications for finance and occupational health. Additionally, clarity over the recruiting (hospital) and employing (practice) organisations was not present for trainees at the outset. They were often uncertain where and whether to raise issues and when issues were raised, both the practice and the hospital staff were not clear on the procedures for dealing with them as this was a pilot out with the norm, adding confusion and uncertainty as demonstrated by the following:

When there is a problem, you come to the hospital you report it to your tutors, they don't have any idea, they say go to your practice they employ you, you go to the practice, we don't have any idea so the Deanery should know, they just didn't know what they should do. Focus Group Trainee 7

Employment by practices also had implications for their salary. The NHS *Agenda for Change* payment system used for hospital trainees in the UK did not apply to pilot trainees who were on the salary scale used for practice trainees (mostly school leavers) which is often the living wage. This posed a challenge even with regards to governance issues as highlighted later.

Recruitment is done effectively by the hospital, but we end up employing them and doing the wages and everything else so we become the employers which is a thing, you either recruit them, induct them and employ them, or you don't. So to have a half-way house where you recruit and induct them and then somebody else employs them and they carry the responsibility of the employment contract is slightly odd. Primary Care Trainer 1

Additionally, there was no unified system with relevant records easily accessible to all concerned to track trainees across settings and ensure payments were appropriate. Finally, trainees were also concerned about the effect of not being able to say they were employed by the hospital on their resume. Many felt they missed out on the status this may have afforded them and the chance to obtain a reference from the hospital.

Finance and remuneration

This pilot was informed by a strong vision for

change from commissioners. This included ensuring 'value for money', improving returns on investments and training more nurses with the same budget while improving employability. Practices received funding for the scheme from HEE via the hospital provider**.** There was confusion over the funding of the scheme, the worth of the training grant, benefits to trainers, and implications for trainees' wages and consequently their 'value' to the practice. The lack of clarity led to questions about the motive of the trainers for taking part in the scheme and the issue of financial benefits was addressed by trainers.

I think they got all the money, like a lot of money for us but they only give us the minimum [wage] and they kept the rest of the money… Focus Group Trainee 1

I mean the two things for us would be the fact that we, it wasn't a direct remuneration, it wasn't a direct remuneration model so basically their salary wasn't completely covered by the deanery. So effectively there's a shortfall which we've covered for and that was the risk… I didn't know that at the time. Primary Care Trainer 1

Remuneration concerns resulted in angst that may have contributed to attrition. Trainees were particularly unhappy with the discrepancy between their pay and that of hospital-based trainees especially as they had to fund their own travel between sites and the one-day per week education element was unpaid. This proved a major challenge within the programme and was said to be divisive. Pilot trainees tended to be older with families of their own to take care of and bills to pay compared with the average trainee who often are school leavers living with parents.

I think if they had gone to work solely in a general dental practice on the minimum wage as they were told, and that was how it was, it may not well have been such an issue until they come [to the hospital] and they see that it's a much slower pace, the demand of them isn't as it is in general dental practice. They come here and they see that other people are earning more than what they are doing but they are doing the same job. I think that was a big, big sticking point for a lot of them. Hospital Tutor 1

Communication

Whilst agreement on and communication of the structure to all parties was not clear at the outset, there was evidence that steps were taken to address this challenge and ensure clarity of structure and system. Examples included the fact that the job advert had not conveyed information on the two-site training, who their actual employer would be and a good approximation of the expected monthly wage. The trainees therefore thought they had applied for a job in the hospital but were appointed at a dental practice on a minimum wage. Although the intention on the part of HEE was to make all this clear in the advert, elements were missing from the advert placed by the recruiting team.

The amount of times I had to try and explain that we are their employer, they just couldn't grasp it. Because they had been interviewed by the hospital and it had all started at the hospital. Once they came to us, I just don't think they, I think they were slightly insecure I think in that sense. Practice Manager 8

The initial arrangement was for HEE to be the liaison between the two settings acting as the main point of contact through which the practices and hospital communicate but it became clear that this arrangement did not always suit everyone and may have aggravated the perceived lack of communication because there was very little interaction between the training practices and hospital even though they had a shared responsibility for the trainees. This inability to get together regularly to share concerns was found to be incredibly difficult for the hospital provider tutors in particular who felt like they were working in isolation. The ideal situation would have been to have built a relationship with all those who were involved in training; however, most of the time they only had contact when there were problems that needed to be resolved. When open lines of communication between training practice and hospital were achieved, trainers reported that this helped them build a much better relationship that felt more like a partnership between people with a common goal to ensure the trainee made progress.

And I think communication could have been improved or should have been improved I'm not quite sure who needed to do it but it definitely needed to be done...the communication I think is really key, that's as with most things in life I guess, lack of or poor communication causes problems and I think a lot of our problems if we really look back are all down to communication. Associate Dean 2, HEE

Length of the training

From the perspective of training commissioners, a financial argument was put forward for this shorter training course which costs less and gives the same outcomes (pilot trainees qualified in 12 months). However from a tutor's viewpoint, an accelerated rate of learning within a condensed and intensive programme was stressful for trainees.

PROCESS OF THE PILOT SCHEME

Recruitment and allocation

A centralised process led by the hospital provider was expected to ensure a 'fairer' system for all. However, stakeholders expressed the view that this recruitment process did not reflect the job (employment by a primary care practice) and attracted a different profile from the norm in hospital and practice. Whilst some trainers participated in the interview process they had no direct involvement in appointments or allocations and ultimately no choice in trainees that will fit their practice team. However, it was recognised that some of the 'poor fit' issues were resolved by trainees themselves, who realised that this was 'not for them' and left.

There was an additional issue regarding allocation within practices which resulted in some trainees feeling unwelcome. There was evidence that in some cases not all practice staff were aware or in support of the scheme leading to instances when dentists declined to work with trainees, who then felt undervalued.

'TRAINEES IN GENERAL EXPRESSED MOTIVATIONS INCLUDING A DESIRE TO WORK IN HEALTHCARE AND THE RANGE OF OPPORTUNITIES POST-QUALIFICATION…'

Motivation

Trainees in general expressed motivations including a desire to work in healthcare and the range of opportunities post-qualification including possible career progression to become dental hygienists and therapists. It was also a way to change careers swiftly for some as it was a 'crash course'. However, stakeholders who interviewed were concerned

by trainees' limited knowledge of the job and training demands (trainees agreed with this) and that some saw it as a route into in hygiene/therapy, not a career in itself.

But I perhaps, maybe I'm wrong, but I don't feel that the nurses really understood what they are signing up to, therefore their motivation perhaps would have changed after their job application and after they started, rather than really having that motivation to apply in the first place. So they really applied to a hospital and got given a job and a contract in a dental practice. Primary Care Trainer 2

Induction

Trainees had a series of induction sessions which was run by HEE, the hospital provider and their practices. Overall, these could have been more efficient and organised to give the trainees a better foundation. Most practices had their own induction processes which sometimes included shadowing senior nurses which trainees appreciated. Trainers in practice found the hospital induction meant trainees transitioned through practice induction well compared with the other trainees not involved in the scheme.

Rotations

Alternating between practice and hospital was agreed to by key stakeholders, but it frustrated trainees at the beginning. They reported insufficient time to learn and remember systems, get to know other staff or to prove their abilities in any one setting.

In the beginning it was actually not that helpful that she was then going to the hospital because then it would be a different way in hospital and then come back, got a new way to operate it. I think she's got used to it over time because obviously coming to the end of the year, but I think initially it was very confusing for them because we say no, no this is how it's got to be done and they are not doing that at all. The way of working is so different. Primary Care Trainer 4

Rotations also highlighted differences in workload compared with their apparently better-paid hospital-trained colleagues. However, being at each of the sites often, especially in practices, meant they had a lot of exposure and access to a wide range of procedures which was essential for the successful completion of the practical experience record sheets (PERS) required in order to register for examinations. There was recognition by all stakeholders including the trainees themselves of how quickly they learnt many of the procedures and processes compared with the hospital trainees, which trainees appreciated. The perceived conflict resulting from the difference in settings between the slower, corporate 'protective' environment of the hospital compared with a faster, smaller 'pressured' environment of the practice led to assumptions that hospital is the gold standard and practices are not compliant. This was likened to the sort of conflict that a newly qualified dentist may experience when moving from the training environment of the hospital to the foundation training year in practice. The difference being the foundation dentist does not always have the option to rotate between settings and they will perhaps put in more of an effort to understanding how the environment works.

'BEING AT EACH OF THE SITES OFTEN, ESPECIALLY IN PRACTICES, MEANT THEY HAD A LOT OF EXPOSURE AND ACCESS TO A WIDE RANGE OF PROCEDURES WHICH WAS ESSENTIAL FOR THE PERS REQUIRED'

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Record of experience

Students needed to complete PERS as part of their Record of Experience (ROEs). They found this very helpful in preparing them for practical examinations. However, effective communication between the training organisations was limited. Staff who assessed the PERS (known as 'witnesses') were not always trained and available when required, making completion of PERS a challenge at times. There was a view from the dental practice staff and trainees that the dental practices unfairly carried the main burden of this time-consuming process more than had been agreed.

My principal was really frustrated because there is a lot of pressure on the tutors, there are like three tutors available here, there's supposed to be witnesses here, this is a teaching hospital, I've got three PERS completed here and the other 42 in practice so it wasn't 50/50 so he found that quite frustrating…we're [in hospital] half the time, so why not? And there's a lot more departments here, you see a lot more different things, so there's a lot of opportunity but there's not really the willingness of the staff to actually be a witness. Focus Group Trainee 5

Pastoral care

There were strong opinions from the trainees that they did not always receive the care and support that those in the traditional hospital training would normally receive. This was thought to be as a result of the scheme's structure. In general, mentoring seemed to be lacking but was later provided by staff at HEE. Trainees clearly benefitted from the input of a particular member of staff at HEE who understood both cultures, assisted in troubleshooting and was significant in helping trainees resolve issues and carry on to complete the programme successfully.

Professionalism

In general, some of the trainees did not think they were dealt with as professionals when in practice. They also grappled with issues

of professionalism themselves in relation to behaviour and relationships. Hospital tutors were inclined to think that professionalism was instilled in the hospital-trained nurses more readily because of the clarity of policies and processes. Stakeholders were concerned that these issues would counter their employability irrespective of the quality of the training or their ability as dental nurses with some suggestion that the professionalism of trainees as measured by their attendance should also contribute towards their ability to be entered into the final examinations.

And you do get some dental nurses who are amazing dental nurses, their clinical skills are excellent, they are good with their patients but it is a case of okay well are they going to be here today? Don't know. Because they are unreliable and we are trying to develop the whole package. Hospital Training Manager

Evaluation of scheme

Stakeholders emphasised a range of measures that need to be considered in order to judge the scheme as a success. These included completion of training, receipt of qualification, and retention over time, along with enthusiasm for and a long-term commitment to dental nursing as a profession. Trainers also stressed employability, the numbers that got dental nurse jobs and the settings these jobs are based in were important. Another important measure from the viewpoint of trainers would be whether all who were involved in the scheme would be willing to be involved in such a scheme in the future based on their experience. Cost-effectiveness would also be very important from the perspective of HEE representatives and commissioners as would comparing results with those of previous traditionally-trained dental nurses.

OUTCOMES OF THE PILOT SCHEME

Scheme successes

There was a general view that trainees learnt and advanced quickly with all but one of those entered into the final examinations passing at the first attempt and receiving their qualification within a clear timescale of one year. This was better than the national pass rates for the examination. Hospital staff found the trainees to be competent and at times more efficient because of their primary care experience. Moreover, some practices felt confident enough in the quality and competence of nurses produced to employ them upon qualification; although this was not the case universally.

The plus side, I have to say, was the feedback we got from the dentists who worked with the pilot nurses on the clinic in [the hospital], they were extremely impressed and…they were constantly turning around and saying gosh their impression of nurses was different for the pilot nurses than the nurses that have just been trained in hospital. These sort of nurses actually get on, do the work Associate Dean 1, HEE

Well the nurses are very well rounded, they have experience and you can talk to them about something and they know what the other side is in hospital. Practice Manager 1

There was also a view from stakeholders at HEE to suggest considerable savings were made on the usual cost of training the same number of dental nurses so it was financially efficient from the perspective of HEE, the commissioners.

Employability

There was a general view from all stakeholders that this pilot scheme improved the employability of the trainees as a result of having experience of both primary and secondary care environments. The trainees could make an informed choice about which best suits them, and prospective primary care employers would be reassured by the fact that they had dual training. Furthermore, trainees would profit from the reputation of hospital training giving them an even greater advantage. This was evidenced by the fact that many had been retained by their training practices following qualification and a few were employed by the hospital. Nevertheless, there was a suggestion that any employability, career development and future prospects would also depend on the motivation, characteristics, work ethic and professionalism of the individual trainee. There was also a view that references from both organisations would be helpful in bolstering future employment chances.

Gains and losses

Both the hospital and the training practices considered that they benefited from involvement in the scheme. For practices, it included receiving a considerable proportion of the cost of employing a nurse and the satisfaction of supporting the trainees to become fully qualified. Practice staff reported that they learnt from trainees who shared what they learnt in hospital. Equally, hospital tutors who had to take on more trainees highlighted better time management and personal development.

We changed the recruitment process now, we've changed that and I think it is more robust…it's more objective, I think the actual overall scoring of the students would have come out very differently. What we look at now, we have an initial numeracy and literacy assessment. We also have written question assessment and then we have the multiple mini interviews. And obviously being very objective, we're not looking at factual knowledge, we're looking at testing behaviours. Hospital Training Manager

Whilst there were clear gains, practice staff also spoke of the losses they had to absorb including the cost of getting temporary cover as a result of poor attendance and frustrations that came with trainees leaving mid-way through the scheme. Concerns were also raised about the effect that having the trainees in their practice had on the rest of their staff as it sometimes seemed that the trainees were 'getting away' with behaviours that regular staff would not have. There was also the burden of completing the PERS which created added pressure when a higher than agreed proportion were undertaken in practice.

> ***'[TRAINEES] REPORTED A STRONG HIERARCHICAL AND PATRIARCHAL SYSTEM WITHIN DENTISTRY THAT REVOLVED AROUND THE DENTIST…'***

Professionalisation

Trainees reported that they did not always feel valued or respected as professionals in their own right. They identified a strong hierarchical and patriarchal system within dentistry that revolved around the dentist. There was a sense that dental nurses were not on par with their medical counterparts and they wondered if this was because it was relatively 'easier' to become a dental nurse although compulsory training courses still represent a huge financial burden for some depending on their route to qualification. It

Table 1 Recommendations for an integrated structure and a robust process for future schemes

AN INTEGRATED STRUCTURE	A ROBUST PROCESS
Communication ■ Clear job advertisements with vital information on pay, settings and structures ■ Obvious lines of accountability, contractual obligations, roles and responsibilities ■ Detailed syllabus information on education and training components and timings to all involved ■ Closer partnership working with regular meetings between primary care trainers and personal tutors in hospital ■ Establishment of an official mentoring scheme to support trainees ■ Centralised system for holiday and leave bookings using online absence management software accessible to both primary and secondary care staff and signed off by both	**Recruitment and allocation** ■ Shared vision, sense of ownership and prominent role at every stage for primary care trainers if main employers ■ Robust person specification with very clear essential and desirable qualities ■ Consider an open day for potential applicants ■ Objective, 'values-based' recruitment process drawing on multiple mini interviews, situation judgement tests and exploring motivation ■ Consider recruitment at primary care level and/or involvement of primary care in final decision-making on allocations while ensuring a fair system ■ All clearances and processes done in a timely manner ■ Trial days or probationary period during with flexibility to make changes if unsuitable ■ A hybrid model combining the pilot scheme with apprenticeships
Governance and monitoring ■ Regular monitoring visits from the hospital as provider and/or HEE as commissioners so concerns are dealt with early ■ Consider attendance counting towards entrance into their final exams to guard against undermining the integrity of the scheme	**Placements and induction** ■ Consolidating learning through longer inductions at each setting before switching to shorter rotations which aid trainees' adaptability and pace ■ Timescale for completion of ROEs or other requirements to determine how long each rotation is ■ All practices must have demonstrable vacancies to ensure adequate hands-on experience for trainees ■ All key persons in day-to-day running of scheme within practices must be directly involved in planning meetings
Finance and remuneration ■ Greater transparency on how the funds are allocated and salaries paid ■ Only one type of training programme should be established in settings to avoid disparities in wages ■ Consider appropriate reimbursement for inter-site travel in addition to their wages ■ Allocate protected time during the work week for completion of PERS and provide financial incentive	**Pastoral care** ■ Establishment of an official mentoring scheme to support trainees; senior dental nurses within practice could serve as mentors ■ Regular support meetings between the trainees and leads at HEE or other suitably qualified dental nurses that are not too closely involved in training to ensure problems are addressed early on
	Record of experience ■ Compulsory training for all staff in practices who act as 'witnesses' for the completion of PERS in order to ensure consistency and accuracy ■ Printable checklists for recording PERS for online transfer later; make process less cumbersome
	Professionalism ■ Trainees must be made aware of the student professionalism and fitness to practise guidance very early on in the training and the consequences of not meeting the required standards including attitudes and behaviours that are not in the best interest of patients

is interesting to note that one of the issues raised was the fact that training practices that were invited to take part were those who were already training dentists. There was suggestion that you need a different set of skills and abilities in addition to being familiar with the content of the curriculum in order to train a dental nurse and that training dentists should not automatically mean you would also be good training practices for dental nurses.

Retention

Stakeholders and commissioners were particularly concerned about the high rates of attrition in the first term, some of which appears to have been related to remuneration as discussed previously. However, long term retention would be even more important so trainees stay on as dental nurses and develop their careers instead of re-training as a different dental care professional which was the opinion of some trainers and the impression that was given by a few trainees although not all.

In order to deliver a positive outcome, recommendations were broadly to do with the need for an integrated structure and a robust process in any such schemes in the future (Table 1).

EMERGING THEMES

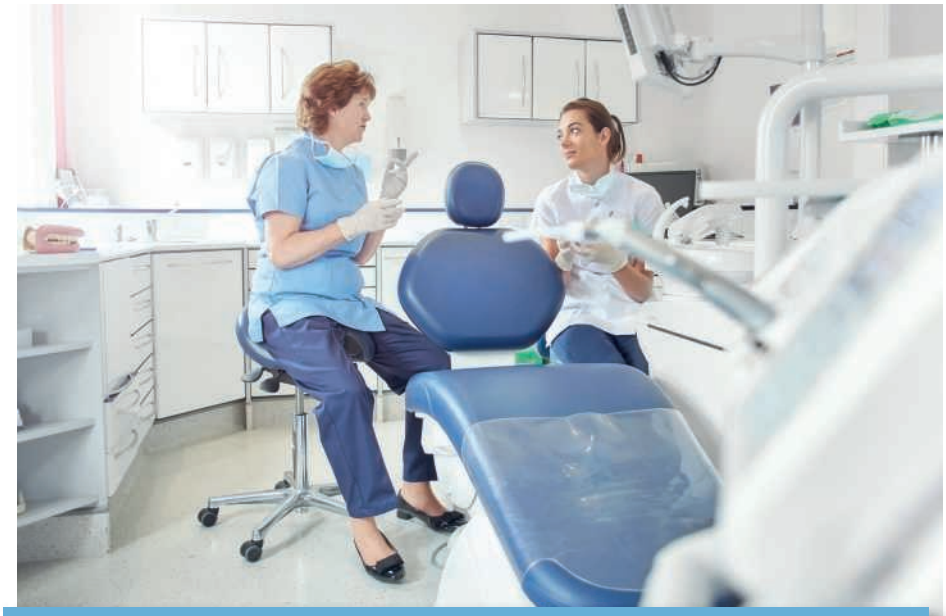
Two overarching key themes to emerge from this evaluation are around cross-cultural training and learning from innovation.

Cross cultural training

This pilot was informed by a strong vision for change from commissioners and generally supported by participants as providing cross-cultural training in terms of broad and complementary experience across primary and secondary care settings for dental nurses and ensuring they were fit for contemporary dental care in the two main dental healthcare settings in the UK. Stakeholders including trainees on the scheme were generally very positive about the concept and the importance of such an initiative.

I think the vision and the idea was very forward thinking and positive. I think that in a field of dentistry where we're becoming a lot more reliant on dental nurses as healthcare professionals, we need more rigorous training and I think there needs to be a bigger career pathway for dental nurses as well yeah. And I think it starts with this kind of scheme. Withdrawn Primary Care Trainer 1

This pilot scheme initially felt brutal as one of the challenges of training in dual settings is that trainees are required to adapt to two different contexts in a short amount of time and to negotiate two often contrasting cultures in the workplace. Manley *et al.*[16] define workplace culture within the healthcare setting as 'the most immediate culture experienced and/or perceived by staff, patients, users and other key stakeholders' which directly impacts how care is delivered and both influences and is influenced by other cultures and subcultures with which it interfaces. Workplace culture in itself is able to directly affect staff perceptions, work experiences, stress levels, job satisfaction and the work environment as a whole, thereby contributing to retention levels.[17,18] Primary care practices are inherently different from secondary care settings, both having cultures that can often be seen to be at odds with each other, therefore trainees on this scheme had to deal with the tensions that this generated. The importance of managing differences and expectations cannot be overemphasised if the true value of cross-cultural training is to be realised. This value includes enhancing their preparedness for practice, exposing them to a richness of diversity and teaching them to negotiate cultures which may have contributed to employability and longer term retention and aspirations. Overall, trainees should continue to be supported in managing differences through better communication and coordination which will be made possible in future based on this learning.



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'ONE OF THE CHALLENGES OF TRAINING IN DUAL SETTINGS IS THAT TRAINEES ARE REQUIRED TO ADAPT TO TWO DIFFERENT CONTEXTS IN A SHORT AMOUNT OF TIME AND NEGOTIATE TWO OFTEN CONTRASTING CULTURES…'

Learning from innovation

Omachonu and Einspruch[19] define healthcare innovation as the introduction of a new concept, idea, service, process, or product aimed at improving treatment, diagnosis, education, outreach, prevention and research, and with the long term goals of improving quality, safety, outcomes, efficiency and costs. An interesting outcome of the introduction of this innovative pilot scheme is that it challenged and disrupted the status quo leading key stakeholders to evaluate and improve their own processes. For instance, the recruitment process for the scheme which was led by the hospital helped highlight the need to update some of their recruitment processes and changes were made as a direct result. Although it is impossible to say if these changes would have taken place without the pilot scheme, its introduction appeared to hasten the actions. Furthermore, it became apparent to commissioners that it is possible to train dental nurses at a fraction of the cost

and for a shorter duration. Although this pilot scheme seemed to attract a different type of trainee (older with care roles) the dental nurses trained this way were no less employable than other cohorts. This can be likened to the 'disruptive innovation' that Christensen, Bohmer and Kenagy[20] argue the healthcare industry is ripe for. They suggest that the healthcare industry is involved in the phenomenon of overshooting the needs of average customers such that they are no longer providing for the level of care needed or used by the vast majority of patients and for where the need is greatest. A similar argument was highlighted in this evaluation wherein the need to train dental nurses at undergraduate level in a secondary care setting was challenged as they are more likely to work in primary care practices and perhaps never need some of the skills they acquire. The cost of training dental nurses to undergraduate level in secondary care can therefore not be justified although there is still a need for some dental nurse training to take place in secondary care in order to support the training of dental students and specialists. Findings from this scheme show the importance of innovation in healthcare as it fuelled the energy to bring possible suggestions for how things can be done differently and highlight issues with the current system allowing improvements to be made.

perceived as delivering learning in relation to structure, process and outcomes as discussed above. Donabedian[15] suggests that structure, process and outcome are intrinsically linked, with good structure increasing the likelihood of good process, and good process leading to good outcomes. Shortcomings with regards to logistics and the effective communication of expectations, roles and responsibilities to all involved could have resulted from insufficient time between final conceptualisation of the scheme and its implementation but are to be expected in a new pilot programme. Despite the challenges experienced, good success rates for the examinations, good feedback

hospital, less time allocated between patients, trainees decontaminating instruments in practice and not in hospital all contributed towards tension for the trainees. Nevertheless, there was agreement that these differences enhanced the trainees' agility so they were flexible and adapted much quicker than single-site trainees. In order to support them, it is important to put the right structures in place including suitable induction processes at both settings, mentorship such that they have senior colleagues in each setting to provide pastoral care, direction and a sense of belonging. There may also be the need to teach trainees cultural competence. Although

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'THIS RESEARCH SUGGESTS THAT DUAL TRAINING OF DENTAL NURSES ACROSS PRIMARY AND SECONDARY SETTINGS HAS THE POTENTIAL TO DELIVER A STRONG, WELL-PREPARED DENTAL WORKFORCE…'

DISCUSSION

The findings of this evaluation have implications for future practice with regards to innovative training; in particular several of the issues raised by stakeholders appear to have been strongly related to the initial setting up of the scheme. There was strong support for the programme in principle as it delivered complementary experience in dental nursing across primary and secondary care realising the vision of a dental nursing workforce that is robust and well-prepared. The project was on the concept of it and appreciation of the experience working across environments and cultures means that this approach is worth refining as a model for dental nurse training.

This research also highlights the need to recognise and acknowledge the existence of the workplace cultures that exist in different healthcare settings. Trainees valued being able to gain experience from two settings through a single scheme. However, challenges around the changing pace of work, varied case mix in a single day in practice compared with

cultural competence has been defined by Suarez-Balcazar and Rodakowski[21] as 'an ongoing contextual, developmental and experiential process of personal growth that results in professional understanding and ability to adequately serve individuals who look, think and behave differently from us', Pecukonis *et al.*[22] have expanded that to encompass interprofessional education where healthcare professionals are taught to be skilled and comfortable in working across professions. Additionally, this should incorporate awareness of the differences and expectations for different settings and being able to adapt. Adapting recommendations from Pecukonis *et al.*,[22] cultural competence training can be promoted by early exposure to other settings, educational elements being carried out by trainers from different settings and promotion of these standards by accrediting bodies requiring training to include cultural competence at varying levels.

Significant changes to dental nurse training have been announced since this

pilot scheme took place including a shift towards apprenticeships[23] with dental nurse apprenticeships being offered more widely throughout England.[24] They are considered 'advanced level apprenticeships' but as with all others are open to anyone who is aged 16 years or over, eligible to work in England and not in full-time education.[24]

The limitation of this study includes the fact that this research evaluates a unique and innovative training programme which may not be generalisable to other settings. However, findings and recommendations from it will be useful for future schemes and have directly informed the design and delivery of similar training schemes that have taken place since its completion. Not all stakeholders and staff involved in the scheme were willing to be interviewed and it is unclear if the views of those who were not interviewed differ from the views of those who were. However, those who were interviewed proffered varying views and data saturation was reached.

CONCLUSION

Incorporating dual training into any new models of training of dental nurses and other members of the dental team requires due consideration as this research suggests that dual training across primary and secondary settings has the potential to deliver a strong, well-prepared dental workforce. The value in cross-cultural training and learning from innovation can be maximised by managing differences and expectations in future training schemes.

Acknowledgements

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Conflicts of interest

One of the authors (EJ) had the shared vision, developed and delivered this concept of training dental nurses in London across both primary and secondary care settings. Furthermore, EJ was the former Postgraduate Dental Dean for Dentistry at Health Education England, London when HEE funded this pilot scheme. HEE also commissioned this evaluation which was undertaken by OA and JEG at King's College London. EJ was interviewed as part of the stakeholder group associated with this pilot. Finally JEG was chair of the Dental Workforce Advisory Group for Health Education England and Honorary Consultant in DPH for Public Health England. The views expressed in this paper are those of the authors and do not represent the views of these organisations.

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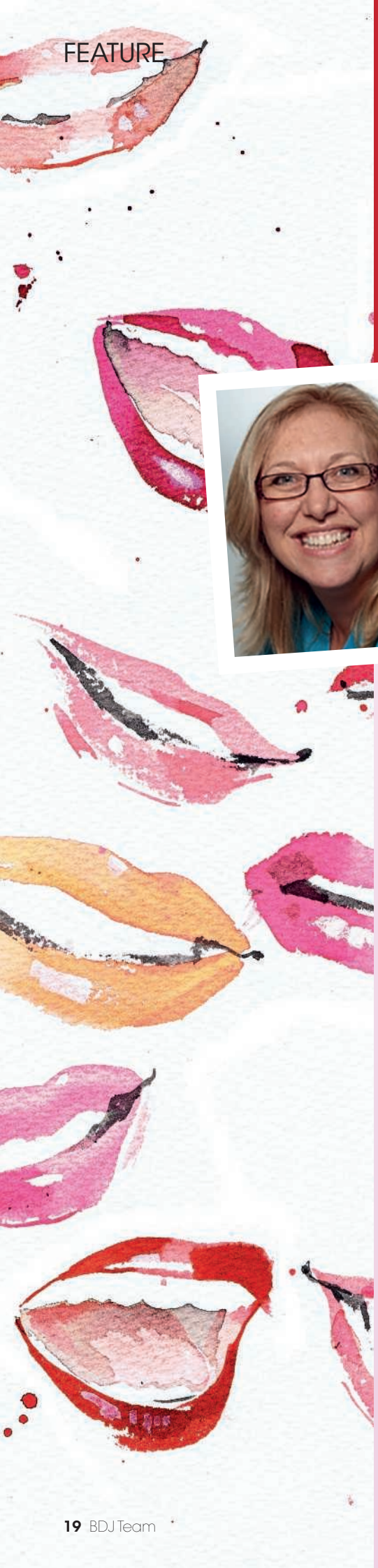

‘It’s *always* good to *laugh!*’

Jocelyn Harding, or Joss, has been working in dentistry for 30 years and is currently a dental hygienist at Confident Dental and Implants Centre in Stroud, Gloucestershire.

I get up at 7 am to walk the dog. I’m originally from Peterborough but now live in Gloucester with my husband and our two teenagers, aged 16 and 18. I have fruit for breakfast, usually in the car on the way to work, but if I’m organised it’ll be porridge. Work is nine miles away.

I work 30 hours a week as a dental hygienist. Our practice is private but as a referral practice we see patients from many areas and practices. I also treat patients of all ages which is fabulous.

In my dental team there are implant, endodontic and orthodontic specialists, three general dentists, three hygienists, management staff and lots of lovely, well trained and enthusiastic nursing support.

I originally got the dental bug 30 years ago after work experience at the local dentist’s and sitting in with a lovely ex-Navy dental hygienist called Becky. That is when the idea of being a dental hygienist in the Navy began.

I spent nine years in the Royal Navy, four years as a dental nurse and the rest as a dental hygienist, qualifying in Aldershot with the Army. I served abroad in Gibraltar, Hong Kong and Hawaii and was lucky to work in oral surgery and for a periodontist. I worked in Wiltshire when I left the Navy and then moved to Gloucestershire and have been here ever since.

I get a real buzz when patients say great things about their appointment. I enjoy the professional relationship I have with the patient and their families over the years and what a privilege it is to help them and to improve their oral hygiene. Having been at my current practice for over ten years it is great to recognise if a patient is struggling or if they wish to confide in me about a particular problem. I especially enjoy the trust I have from the young patients and how over ten years many have come back after university or are on their chosen career path and love to chat about what they are up to. It makes me feel very honoured.

Sometimes my most frustrating challenge is time management. I do have a habit of talking a little too much. There’s never enough time!

I have recently been involved with patients on their cancer journey and so my dental career has taken a different path. I love being involved and helping cancer patients with their mouths and help with symptoms that can occur with their treatment and beyond*. I gave a presentation to Macmillan Nurses and other cancer charities which was a fabulous opportunity. Mouths are often overlooked with cancer treatments as the priority is to get patients through their treatment but it is much improved if they have help and options for their dry mouths and ulcers. I have been asked to present and help professionals with products which are available to cancer patients and I have been able to attend cancer support days to help patients and their families.

I am also a member of Gloucestershire Independent Dentists - Hygienist & Therapist Group. I am treasurer of this group and have been involved for the almost 15 years that it

has been running. It is fab, on our doorstep and we get awesome speakers! It also provides most of my CPD hours through attending meetings four to five times a year.

I usually get home around 6 pm. Outside work I enjoy socialising, going to the theatre, historical buildings and we love comedy clubs: it's always good to laugh! At weekends I like going out with the family and dog, catching up with friends and having meals out.

As a family we have a good, varied diet; like most people we are not 100% virtuous but we try. We love to cook and with having a coeliac member of the family we try many foods and concoctions. Obviously, I am keen on good oral health in my family and this is a challenge with a busy family. I have to say I think we are motivated and the same as many families. I think my husband is as good as me at giving oral hygiene advice! Fingers crossed the good habits will continue in the future.

It is my big '5-0' this year so we are off to Portsmouth with 54 friends and family and then visiting Liverpool and The Cavern Club. For our anniversary we are going to Plymouth and watching 'War Horse' - all very exciting.

was honoured to speak at the BDA annual dental conference and the BSDHT annual conference. This was completely out of my comfort zone as I never thought I would be presenting but the feedback has been fabulous. Stories I have been lucky to listen to have been both emotional and motivating. And so this journey carries on...

I try to be in bed by 10 pm. I am a bit of an early bird and it has to be said, I'm not great without my eight hours' sleep.

Interview by Kate Quinlan

Jocelyn 'larking about with other colleagues from the oral surgery department in Gibraltar in 1990'

'I GET A REAL BUZZ WHEN PATIENTS SAY GREAT THINGS ABOUT THEIR APPOINTMENT. I ENJOY THE PROFESSIONAL RELATIONSHIP I HAVE WITH THE PATIENT AND THEIR FAMILIES OVER THE YEARS AND WHAT A PRIVILEGE IT IS TO HELP THEM AND TO IMPROVE THEIR ORAL HYGIENE.'

I love where my career is going at the moment with the care for cancer patients. This all came about from asking the question 'how can we help these patients when they come back to general practice?' So, from this question and not getting an adequate answer I decided to take on the challenge and a learning curve; I knew I wasn't the only professional to need a reply to this question. I have been given lots of support to write my articles from specialists, patients and friends. I have attended Macmillan support days and got the appetite for further research. I have now started presenting my topic and

*Jocelyn published the article *Dental care of cancer patients before, during and after treatment* in *BDJ Team* in January 2017: https://www.nature.com/articles/bdjteam20178.

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‘Helping people smile is a huge part of my job’

Newly qualified dental hygienist **Paula Gontowicz**, who came to the UK from Poland in 2012, talks about her passion for her role, her motivations and aspirations.

Tell us a bit about your background Paula and how you ended up as a dental hygienist?

I have always had an interest in orthodontics from a very early age. When I was a teenager I had a lot of dental work done. Until I had had my braces I didn’t have the confidence to smile. There is a huge lack of education around oral hygiene and diet so I also had a number of fillings!

I came to the UK from Poland in my gap year in 2012 and then I decided I loved it here so much that I wanted to stay. My mother is a pharmacist and it was naturally assumed that I would follow in her footsteps, but I felt my motivation lay within a dental career rather than a pharmacy based one so I applied to train as a dental nurse. Helping people smile is now a huge part of my job!

So how did you end up in your current role?

When I was a student dental nurse I was head hunted by one of the directors at Smilepod [a London-based chain of dental studios offering easy access to dental and dental hygiene treatment] so I moved to the Bank branch in July 2014. I was GDC registered in April 2015 after which I was made the lead dental nurse for the Bank studio. I thought it was going to be really awkward as I had already applied to go on dental hygienist training in the September at the Eastman Dental Education Centre but in fact the company

were really supportive and let me work the odd Saturday as and when my studies allowed so I could help fund my continuing education.

As my hygienist training was nearing completion I was asked to apply for a hygienist role within the Smilepod group. I did so and am currently working in the Soho studio following completion of my training in August 2017.

How did you find the training?

I really enjoyed it. I was fortunate enough to be the recipient of the Carol Chivers Memorial Award (a memorial award given annually to a student hygienist who has demonstrated the most desirable attributes in theoretical knowledge and practical skills with patients). It was obviously difficult financially as studying is never cheap but it was worth it in the long term.

You mentioned autonomy. Is autonomy important to you?

Absolutely! The great thing about my job is that there is such a huge element of involvement in patient care. I am able to advise and advocate as well as treat patients without the need for them to have been referred by a dentist prior to their treatment. In fact it is not unusual for a patient who hasn't visited a dentist in years to come into our studios for a cleaning treatment as they are worried about stained teeth and although I can only advise I often can tell them other concerns that I think would benefit from a dental visit (in turn the dentists will direct patients to me so it works well).

Where do you see yourself in the future?

Hang on a minute, I only started this role in August! I have been fortunate enough to be involved in some education sessions in schools teaching children about oral hygiene and diet and going forward that is something I would like to do more of. I have a keen interest in periodontal work so who knows, maybe I will look at getting into the dentistry field and gain experience in a hospital setting one day or even run my own studio. In the meantime I will concentrate on educating my patients and creating confidence in their smiles.

'THE GREAT THING ABOUT MY JOB IS THAT THERE IS SUCH A HUGE ELEMENT OF INVOLVEMENT IN PATIENT CARE. I AM ABLE TO ADVISE AND ADVOCATE AS WELL AS TREAT PATIENTS WITHOUT THE NEED FOR THEM TO HAVE BEEN REFERRED BY A DENTIST PRIOR TO THEIR TREATMENT.'

What do you enjoy about your role?

I love the team here at Smilepod. They are all very positive and supportive. Even though we are based across six different sites we are a young group who regularly meet up for team building and socials. All of our studios are modern and cheerful (the disposables are all pink and purple) and although we have the autonomy of our own workloads we work very much as a team. For example if I have a patient who is also seeing a periodontist I am able to schedule time in explaining to that patient what their treatment will entail and as we all know each other well I can tell them a bit about the person treating them so they feel at ease. I also enjoy the hustle and bustle of Soho and the variety of patients we have coming through the doors.

Outside of work where would we find you?

I live just outside London in Kingston and whilst I love the vibrancy of London and the buzz that goes with it I also like escaping to the forests for walks and quiet time in the fresh air. I also love socialising, movies and going on motorcycle rides (I used to own a Vespa and I love that feeling of freedom) as well as being a keen photographer.

bdjteam201840

BIN IT.
An update

Does every member of your dental team know which type of waste goes in which type of bag or container? Let **Lynn Woods**, health and safety adviser in the BDA's compliance team, refresh your knowledge.

Knowing what to do with the different types of waste created in your practice is something the whole dental team needs to bear in mind. The waste requirements for general dental practices are quite detailed, setting out specific ways to handle each category – from extracted teeth to out-of-date medicines and the colour-coded bags you must use for specific items.

Waste bags

The colour-coding for waste has been developed to ensure that it is sorted, stored, collected and, of course, ultimately disposed of in the correct way. The system is well known with yellow bags and containers indicating hazardous clinical waste that requires incineration. This includes syringes that are only partially discharged and contaminated with residual medicines, which must go in the yellow-lidded sharps receptacle.

Orange bags are used to indicate that the waste is suitable for alternative treatment processes at the waste disposal site, such as autoclaving, rather than incineration.

Black bags would be used for domestic type waste such as food packaging, non-recyclable paper, including paper towels and magazines and, for example, used plastic cups from the reception or waiting area.

The reason behind this is that if gypsum is disposed of at a normal landfill, it reduces to produce toxic hydrogen sulphide gas. However, your waste contractor will be aware of these rules and will be able to advise.

You may use an orange bag, but only (rarely) when the model is contaminated and poses a risk of infection.

'WHERE THEY ARE TO BE THROWN AWAY, NON-AMALGAM FILLED TEETH AND SPICULES SHOULD BE PLACED IN THE YELLOW-LIDDED SHARPS CONTAINER, WHEREAS ANY TEETH CONTAINING AMALGAM SHOULD BE PLACED IN A WHITE AMALGAM TOOTH POT.'

Extracted teeth

Patients may often ask for their extracted teeth, in which case you can give them to them. Although they are considered waste produced by the dental practice, where a patient has asked for it, the extracted tooth is not considered as such, since it has not been discarded. However, in these cases, the tooth should be cleaned or disinfected and the patient can be advised they can return it to the practice for disposal if they change their mind.

Where they are to be thrown away, non-amalgam filled teeth and spicules should be placed in the yellow-lidded sharps container, whereas any teeth containing amalgam should be placed in a white amalgam tooth pot.

Dental amalgam

Dental amalgam and mercury should all be placed in a white amalgam container. This includes spent and out-of-date capsules, excess mixed amalgam and the contents of your amalgam separators.

In relation to the amalgam separator, all practices should have one installed. These should be to an appropriate ISO standard and fitted so as to capture any amalgam contained in waste waters. This means that spittoon waste can then be discharged to the drain or foul sewer without the need for a trade effluent consent.

Gypsum-made study models

Waste gypsum-made study (or working) models must be segregated into appropriate containers and either recycled as gypsum or disposed of via a specifically-designed landfill.

Out of date medicines

Generally, pharmaceutical and medicinal wastes must not be placed in the domestic waste stream for disposal. Medicines that have passed their expiry date can – if they agree to take them – be returned to your local pharmacy, but the same legal requirements apply as transferring them to a waste contractor. You must discharge the duty of care and, in particular, you must use waste documentation and keep appropriate records.

Alcohol hand gel containers

Alcohol hand gels which do not contain siloxanes and whose safety data sheet (SDS) does not prohibit discharge to the sewer, may be rinsed out and the packaging recycled. If you do not rinse them, they should be treated as though they contained the product and treated accordingly.

Your waste management contractor will advise on the safe disposal requirements for those materials that contain siloxanes. It has been known to cause significant damage to the environment and equipment used in the sewage treatment process.

Waste transfer and waste consignment notes

Record keeping is vital. Waste transfer notes are to be used for non-hazardous wastes and need to be kept for at least two years, whereas waste consignment notes are to be used for hazardous wastes (called 'special wastes' in Scotland) and these need to be kept for at least three years.

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Product news

Product news is provided as a service to readers using text and images from the manufacturer, supplier or distributor and does not imply endorsement by *BDJ Team*. Normal and prudent research should be exercised before purchase or use of any product mentioned.

FOR VISIBLY WHITER TEETH

Young Dental presents a range of new pastes for professional teeth cleaning. They remove discoloration, achieve significant teeth whitening, and impress with their remarkable efficiency. The pH-neutral pastes are less abrasive than similar products, so have a particularly gentle feel, and are vegan as well as sugar-, lactose- and gluten-free.

The 'mint' and 'berry' varieties are supplied in single doses, and come with a handy finger-ring holder.The hygienic disposable packaging minimises the risk of cross-contamination. A fluoride-free polishing paste with fine granulation and a stain remover in medium granulation with 1.23% fluoride are available. To reduce splatter, Young Dental has developed an especially adhesive consistency for the pastes.

Xylitol reduces the development of plaque and tooth-damaging acids and has a proven cariostatic and even anti-cariogenic effect. Natron shortens the cleaning time and enhances teeth whitening. It also improves the buffering capacity of saliva and removes harmful microorganisms in plaque. Thanks to the acid-neutralising effect, the growth of caries bacteria is slowed.

Young Innovations is a leading developer, manufacturer and retailer of high-quality dental products.

www.youngdental.eu

BE READY FOR ANY EMERGENCY

Seek out the Zoll AED Plus when you need to take action to save a life.

Available from Dental Express (a trading division of Surgery Express LLP), the Zoll AED Plus is the only automatic external defibrillator that can track your movements as you apply CPR.

Featuring a unique feedback system, the Zoll AED Plus is able to monitor the quality of CPR and provide real-time feedback of depth and rate of chest compressions. The audio and visual prompts of the device help guide you through the process so you can be confident in your rescue.

The durable design of the Zoll AED Plus is dust- and water-resistant, and comes with a 5-year warranty to give you peace of mind. Powerful lithium batteries and automatic self-testing ensure this AED is ready for any emergency at any time.

Trust in the Zoll AED Plus to save lives in your practice. Plus, you'll benefit from the specialist support of Dental Express and a next-day delivery guarantee.

For more information, visit www.dental-express.co.uk, call 0800 707 6212 or email sales@dental-express.co.uk.

ALL THE BENEFITS WITHOUT THE SIDE EFFECTS

For the benefits of chlorhexidine without common side effects such as discoloration, irritation and impairment of taste, recommend CURASEPT ADS (Anti-Discoloration System) to your patients.

The CURASEPT ADS 205 oral rinse combines 0.05% chlorhexidine digluconate and 0.05% sodium fluoride for ultimate plaque control and prevention of caries and gingivitis. It's also ideal for patients with impaired motor skills.

Other rinses using the Anti-Discoloration System available from Curaprox can be used before and after mouth operations, as preparation for chemo- and radiation therapy and as a toothpaste replacement with orthodontic devices. CURASEPT ADS not only ensures high tolerance and acceptance, but can significantly reduce inflammation, plaque, bleeding and dental pigmentation, and help to accelerate wound healing and minimise post-surgery complications.

To get the best results for your patients, try recommending CURASEPT ADS from Curaprox.

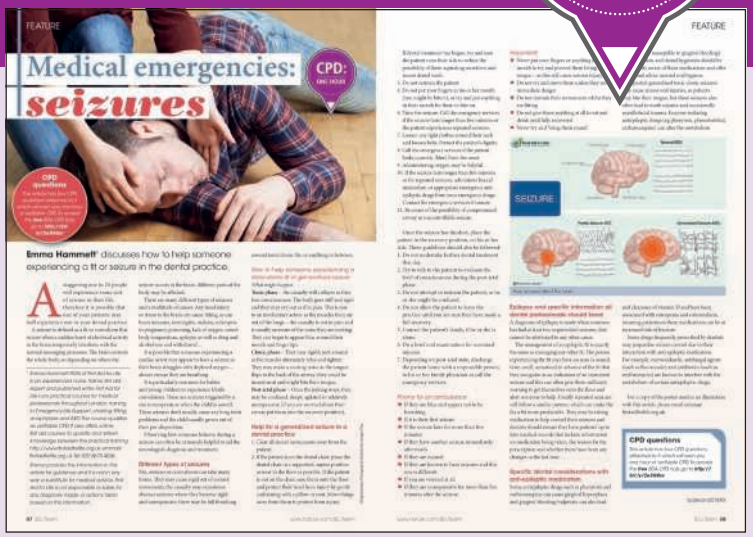
For more information call 01480 862084, email info@curaprox.co.uk or visit www.curaprox.co.uk.

BDJ Team CPD

CPD questions: March 2018

CPD: ONE HOUR

Medical emergencies: seizures



1. Select the **incorrect** statement.

A) a seizure occurs as a result of a sudden burst of electrical activity in the brain
B) one in ten people will experience some sort of seizure in their life
C) someone having a heart attack may appear to have a seizure
D) febrile convulsions are common in young children

2. A casualty begins to appear blue around their mouth during a fit. Which stage of a tonic-clonic fit or generalised seizure might this be?

A) post-ictal phase
B) tonic phase
C) clonic phase
D) none of the above

3. Which of the following is **not** an advised course of action if a patient in your dental practice is experiencing a generalised seizure?

A) calling emergency services if it lasts longer than five minutes
B) loosening any tight clothes around the patient's neck and loosening their belt
C) placing an object in the patient's mouth for them to bite on
D) if the patient is not on the dental chair, easing them onto the floor and protecting their head

4. Select the **false** statement.

A) metronidazole may interfere with the metabolism of certain antiepileptic drugs
B) some antiepileptic drugs can cause gingival bleeding
C) a patient who is experiencing a seizure should not be moved unless they are in immediate danger
D) a patient experiencing a seizure should be put into the recovery position immediately

BDJ Team is offering all readers **10 hours of free** *CPD a year on the BDA CPD Hub! Simply visit* **https://cpd.bda.org/login/index.php** *to take part!*

How to take part in *BDJ Team* CPD

BDJ Team CPD is available through the BDA CPD Hub. This site is user-friendly and easy to use. There are still 20 hours of free *BDJ Team* CPD on the CPD Hub from 2016 and 2017, in addition to this year's CPD hours.

Please note! The 2016 hours will be closing at the end of March 2018!

Just visit https://cpd.bda.org/login/index.php.

To send feedback, email **bdjteam@nature.com.**