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

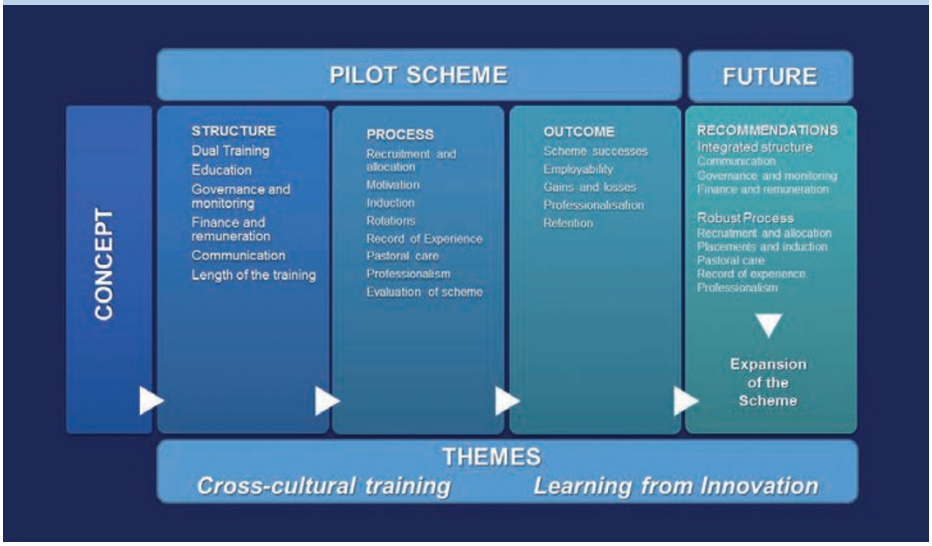


Figure 1 shows the themes and subthemes including views on the concept of dual training, opinions of the pilot scheme and recommendations for improvements.

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'

©sturti/E+/Getty Images Plus

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

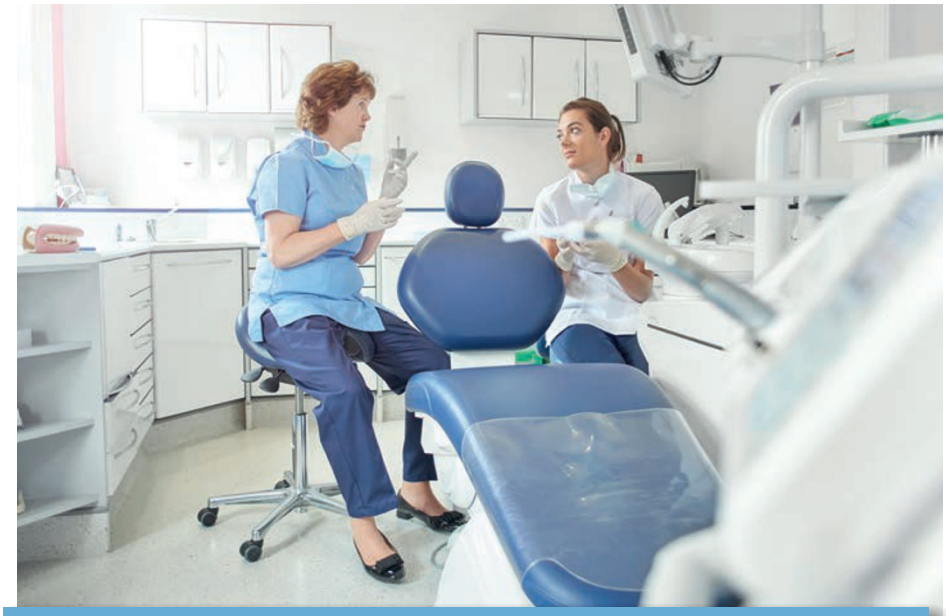
Two overarching key themes to emerge from this evaluation are around cross-cultural training and learning from innovation.

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.



©sturti/ E+/Getty Images Plus

'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


©sturti/ E+/Getty Images Plus

'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

The concept of this dual training was conceived, developed and delivered by Mrs Sana Movahedi and Mrs Elizabeth Jones at Health Education England. The authors would like to thank all the pilot scheme trainees that took part in this study along with Ms Rebecca Parr and the Dental Nurse Training Staff and Management at the hospital provider, HEE Representatives, Population and Patient Health research admin staff at KCL, and Ms Shiho Kino.

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.

1. General Dental Council. Scope of practice. Annual Report. London: General Dental Council, 2013.
2. General Dental Council. GDC registrants to date. *In*: Date G R T (ed). General Dental Council, 2017.
3. Swain P. BADN - how it all began 2009. 14 July 2009. Available at: http://www.bdia.org.uk/news/15/62/BADN---How-it-all-began.html (accessed 7 February 2018).
4. General Dental Council. Annual Reports 2008. London: 2008.
5. Al-Haboubi M, Eliyas S, Briggs P F A, Jones E, Rayan R R, Gallagher J E. Dentists with extended skills: the challenge of innovation. *Br Dent J* 2014; **217:** E6.
6. Belsi A, Asimakopoulou K, Donaldson N, Gallagher J. Motivation to study dental professions in one London Dental Institute. *Eur J Dent Educ* 2014; **18:** 24-30.
7. Carter E, Parker M, Gallagher J E. The impact of fluoride application training: survey of trained dental nurses from King's College Hospital NHS Trust. *Br Dent J* 2012; **212:** E15.
8. Durkan C, Belsi A, Johnson R, Gallagher J. Career choice, pathways and continuing professional development of dental nurses at one institution. *Br Dent J* 2012; **213:** E1.
9. Gallagher J E, Clarke W, Wilson N H F. The emerging dental workforce: short-term expectations of, and influences on dental students graduating from a London Dental School in 2005. *Prim Dent Care* 2008; **15:** 91-101.
10. Gallagher J E, Clarke W, Wilson N H F. Why dentistry: a qualitative study of final year dental students' views on their professional career? *Eur J Dent Educ* 2008; **12:** 89-98.
11. Gallagher J E, Patel R, Donaldson N, Wilson N H F. The emerging dental workforce: why dentistry? A quantitative study of final year dental students' views on their professional career. *BMC Oral Health* 2007; **7:** 7.
12. Gallagher J E, Patel R, Wilson N H F. The emerging dental workforce: long-term career expectations and influences. A quantitative study of final year dental students' views on their long-term career from one London Dental School. *BMC Oral Health* 2009; **9:** 35.
13. Sembawa S, Wanyonyi K L, Gallagher J E. Career motivation, expectations and influences of trainee dental nurses *BDJ Team* 2014; doi:10.1038/bdjteam.2014.99. Available at: https://www.nature.com/articles/bdjteam201499.
14. Ritchie J, Lewis J, Nicholls C M, Ormston R. *Qualitative research practice: A guide for social science students and researchers.* Sage, 2013.
15. Donabedian A. The quality of care: How can it be assessed? *JAMA* 1988; **260:** 1743-1748.
16. Manley K, Sanders K, Cardiff S, Webster J. Effective workplace culture: the attributes, enabling factors and consequences of a new concept. *Int Practice Dev J* 2011; **1**. Available at: https://www.fons.org/Resources/Documents/Journal/Vol1No2/IPDJ_0102_01.pdf (accessed 7 February 2018).
17. Hahtela N, Paavilainen E, McCormack B, Helminen M, Slater P, Suominen T. Nurses' perceptions of workplace culture in primary health care in Finland. *Int Nurs Rev* 2015; **62:** 470-478.
18. Kutney-Lee A, Wu E S, Sloane D M, Aiken L H. Changes in hospital nurse work environments and nurse job outcomes: an analysis of panel data. *Int J Nurs Stud* 2013; **50:** 195-201.
19. Omachonu V K, Einspruch N G. Innovation in healthcare delivery systems: a conceptual framework. *The Innovation Journal: The Public Sector Innovation Journal* 2010; **15:** 1-20.
20. Christensen C M, Bohmer R, Kenagy J. Will disruptive innovations cure health care? *Harvard Business Review* 2000; **78:** 102-112.
21. Suarez-Balcazar Y, Rodakowski J. Becoming a culturally competent: Occupational therapy practitioner. *OT Pract* 2007; **12:** 14-17.
22. Pecukonis E, Doyle O, Bliss D L. Reducing barriers to interprofessional training: Promoting interprofessional cultural competence. *J Interprofessional Care* 2008**; 22:** 417-428.
23. Skills for Health. Healthcare Apprenticeships 2017. Available from: https://haso.skillsforhealth.org.uk/ (accessed 15 August 2017).
24. Skills Funding Agency. Dental nursing apprenticeships 2012. Available from: https://www.gov.uk/guidance/dental-nursing-apprenticeships.

bdjteam201838