IN BRIEF

- Access to education for Scottish dental nurses should be improved.
- There are significant funding issues in relation to CPD.
- Issues of poor remuneration are widespread.
- More structured career pathways should be developed to encourage personnel into the profession.
- Dental nursing should evolve in a way which will promote parity with nurses in general medicine.

Educational needs and employment status of Scottish dental nurses

M. K. Ross¹ and R. J. Ibbetson²

Objective To investigate the educational needs and employment status of dental nurses in Scotland. **Subjects** One thousand, seven hundred and thirty dental nurses with postal addresses in Scotland. **Design** Structured questionnaire. **Results** A 65% response rate was achieved following three mailings. The majority of respondents were employed in the central belt of Scotland although comparatively, substantial numbers were also recorded as being employed in Highland and Grampian regions. A total of 70% of dental nurses stated they were in full-time employment, with 74% of all participants reporting they were qualified. Of those who were unqualified, 17% (n = 191) were not in the process of formal training which may mean they are unable to work in the future, unless they conform to the GDC 'grandparenting' requirements. Induction training had only been received by 34% (n = 377) of this group, and a mere 21% (n = 234) reported regular CPD involvement. Of the 75% (n = 832) who responded to a question on funding for CPD, only 50% (412) received financial assistance. Geographical location for many nurses generated a number of difficulties in accessing education, and the possibility of distance or e-learning was requested by 65% of the sample. **Conclusions** This study demonstrates clearly that there are many well-qualified dental nurses in employment in Scotland. However, unless structured career pathways are developed, access to education is simplified, and the problem of poor remuneration is addressed, then foreseeable problems may arise where there is insufficient enticement to encourage people to join what is an already underpopulated profession.

INTRODUCTION

Formal dental nurse training commenced in the 1930s in two centres in the United Kingdom, namely the University of Bristol Dental School and the Eastman Dental Hospital. The first full-time training course began at the Eastman Dental School in 1951, although similar courses were not provided in other dental hospitals until 1978.¹ In recent years, education and training have progressed significantly with training being offered in many centres throughout the UK, including Col-

leges of Further Education, on both a full and part-time basis. The National Examining Board for Dental Surgery Assistants was established in 1943 and, although the examination leading to the National Certificate is still in existence, it has been superseded in many areas by the NVQ/ SNVQ in Dental Nursing.

Historically, dental nurses needed neither to be in training nor qualified but, as a result of the advent of statutory registration with the General Dental Council (GDC) for all groups of Dental Care Professionals (DCP), this situation is in the process of change.² The Nuffield Enquiry (1993) originally recommended registration for all groups of DCP and, after a considerable period, this has now begun in 2006.¹ The primary role of the dental nurse is to undertake clinical tasks in relation to the scope of work of the dentist, and to provide pre-

and post-operative care for the patient undergoing treatment. Technological advancements in the clinical practice of dentistry dictate that the dental nurse should be a skilled professional with a broad range of knowledge of current techniques, materials and, most importantly, in patient care. The purpose of this study was to establish the current situation of dental nurses in Scotland, in order to inform those responsible for their educational and professional development in the future.

MATERIALS AND METHODS

In the absence of statutory registration, establishing absolute numbers of dental nurses in employment is an almost impossible task. In an attempt to locate as many of these individuals as possible, all general dental practices and Primary Care Trusts in Scotland were contacted

¹Senior Lecturer, ²Professor of Primary Dental Care & Director, Edinburgh Postgraduate Dental Institute, The University of Edinburgh, 4th Floor, Lauriston Building, Lauriston Place, Edinburgh EH3 9HA

*Correspondence to: Dr Margaret Ross
Email: margaret.k.ross@ed.ac.uk

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Fig. 1 Qualifications in dental nursing

Fig. 2 Area of employment

Fig. 3 Years in employment

during 2003-4 requesting details of dental nurses in employment. A request was made to distribute a proforma to dental nursing staff within each establishment. Individuals were asked to complete particulars about their name, address, employer's name and address, and the position held within their employment. Once these had been returned, details were placed on a database and a questionnaire, in relation to educational needs and employment status, was mailed to respondents. This questionnaire was based on that used successfully in two previous surveys by the same authors.^{3,4}

RESULTS

A total of 1,730 questionnaires were dis-

tributed and, following three mailings, 1,116 (65%) were returned.

SECTION A – ABOUT YOURSELF

1) Sex

It was reported that 1,097 (98%) were female with only eight (0.7%) being male. The remaining 11 (1%) were left blank.

2) Qualifications in dental nursing

Of those who responded (n = 1,105; 99%), 75% (n = 826) stated they held a qualification in dental nursing, 17% (n = 191) were unqualified and 8% (n = 88) were in training (Fig. 1).

3) Additional qualifications

Of the 678 (61%) who responded to this question, 338 (50%) held additional

Table 1 Qualifications	
Qualification	No. holding qualification
Oral Health Education	105
Sedation	84
Radiography	42
Special Care	36
Further Et Adult Education Teaching Certificate	12
Diploma in Dental Health Education	10
D32/33 Teaching Units	10
Orthodontics	8
Dental Reception	6
Foundation Certificate in Oral Health Promotion	5
Practice Management	5
C23/24 Teaching Units	4
General Anaesthesia for Dental Nurses	4
State Registered Nurse	2
Dental Technician	2
HNC/HND in Management	1
Certificate in Health Education	1

qualifications. These are detailed in Table 1.

4) Voluntary register

Those subjects who were qualified were asked whether they had enrolled on the National Examining Board for Dental Nursing (NEBDN) Voluntary Register for dental nurses, and it was revealed that 67% (n = 551) had done so.

SECTION B – ABOUT YOUR EMPLOYMENT

1) Employment status

Respondents were questioned about their employment status and it was demonstrated that 70% (n = 784) were in full-time employment, 29% (n = 319) worked on a part-time basis and 1% (n = 13) did not respond.

Of those who were employed on a part-time basis, 74% (n = 237) worked 1-4 sessions, 18% (n = 58) 5-9 sessions, 5% (n = 16) worked 10 or more sessions, and 3% (n = 8) of subjects did not respond.

2) Area of employment

Subjects were asked to state the branch of dentistry in which they were employed, and it was revealed that the majority (42%; n = 467) worked in mixed NHS/private practice. Results are demonstrated in Figure 2.

Fig. 4 Geographical location

3) Time in current employment

Of those who responded ($n = 1,103$), the majority had been in employment for between 1-4 years (32%; $n = 354$) with only 4% ($n = 46$) having worked as a dental nurse in excess of 25 years. Results are demonstrated in Figure 3.

4) Geographical location of employment

Geographical locations of employment were identified and, of those who responded ($n = 1,097$), it was revealed that the highest proportion were employed in the Lothian & Borders area ($n = 289$), with the Highland region having the next highest number ($n = 123$) and Greater Glasgow reportedly having 114 nurses in employment. Given the significantly higher population found within the central belt of Scotland, these figures are merely an indicator of those dental nurses who responded to this question. Figures for other geographical areas are demonstrated in Figure 4.

5) Administrative duties

In addition to clinical duties, additional administrative tasks were undertaken by 90% ($n = 1,007$) individuals.

6) Induction course

Prior to commencing work within the dental surgery, only 34% ($n = 377$) had received an induction course, with 63% ($n = 702$) reporting they had not received any core training (Fig. 5). The remaining 3% ($n = 34$) did not respond.

SECTION C – ABOUT YOUR CONTINUING PROFESSIONAL DEVELOPMENT

1) Member of professional organisations

Of those 826 dental nurses who were qualified, 37% ($n = 306$) were members of their professional organisation.

2) Notification of forthcoming educational events

Intimation of forthcoming education-related events was received by 48% ($n = 536$) of subjects, although 49% ($n = 548$) received no such information. Notification was received only occasionally by 1% ($n = 7$) of respondents and the remaining 2% ($n = 25$) did not respond. The bulk of information was received via personal letter.

3) Attendance at educational events

It was reported that only 21% ($n = 234$) of nurses attended scientific meetings or courses on a regular basis. A total of 76% ($n = 849$) stated they did not, and the remaining 3% ($n = 33$) did not respond.

4) Number of educational events attended in previous 12 months

Of those who responded to this question ($n = 787$), 51% ($n = 403$) stated they had attended between 1-4 events in the preceding 12 month period, with 46% ($n = 365$) reporting they had not received any educational update. Of the remaining subjects, 2% ($n = 18$) had attended between 5-9 events and < 1% ($n = 1$) in excess of 10.

5) Last participation in educational events

Subjects were asked when they last attended a scientific meeting or course and it was revealed that in the majority of those who responded ($n = 559$), 458 (82%) had done so between 1-4 years ago. A total of 58 (10%) stated they had done so 5-9 years previously, and 43 (8%) reported that 10 years had elapsed since their last attendance.

6) Funding

Funding for courses was received by 37% ($n = 412$) of respondents, although 38% ($n = 420$) stated they did not. The remaining 25% ($n = 284$) did not respond.

Of those who responded to a question on the source of funding ($n = 452$; 41%), 78% ($n = 353$) stated it had been received from their employer, 5% ($n = 24$) by a combination of their employer and themselves, and < 1% ($n = 2$) reported self-funding. The remainder revealed they had received funding from 'other' sources (16%; $n = 72$), or via a combination of 'other' sources and self-funding (< 1%; $n = 1$). A number of subjects responded positively to more than one option in this question, possibly indicating that the source of funding did not always remain the same.

7) Access to education

Subjects were asked about problems in accessing continuing education and it was highlighted that 55% ($n = 613$) found this difficult, 38% ($n = 427$) did not and the remaining 7% ($n = 76$) did not respond. An open-ended section was included in this question to help identify the nature of difficulties encountered. Analysis revealed that these could be broadly divided into the following areas:

- Funding issues
- Travel
- Geographical location
- Lack of opportunity.

Fig. 5 Induction course

8) Team education in the workplace

Team education was reported as being available on-site by 37% (n = 409) of subjects, with 60% (n = 666) stating they did not undertake this. The remaining 3% (n = 41) did not respond. Respondents were asked to give examples of team education that had been undertaken within the workplace; the more common topics are listed in Table 2.

9) Distance learning and e-learning

Participants were asked whether they had undertaken either distance or electronic learning in the past, and it was found that only 8% (n = 94) had accessed this. The majority (90%; n = 1,001) had

Fig. 6 Option of distance/e-learning

Table 2 Team education given within the workplace

Health & Safety
CPR
First Aid
Infection Control
Clinical Governance
Sedation
Stress Management
Radiography
Patient Confidentiality
Business Planning
Dental Products
IT Skills
Four-handed dentistry
Medical Emergencies
Relative Analgesia

Table 3 Suggested CPD topics

Information Technology	661
Infection Control	636
Oral Surgery	526
Health & Safety	501
Restorative Techniques	411
Periodontology	376
Orthodontics	363
Confidentiality & Record Keeping	269

no experience of this, and the remaining 2% (n = 21) did not respond.

10) Option of distance or e-learning

Those nurses who had not experienced this type of education were asked whether this option would be useful to them (n = 1,001). A total of 652 (65%) reported it would be beneficial, 30% (n = 297) did not, and the remaining 5% (n = 52) did not respond (Fig. 6).

11) Desire for further qualifications

Respondents were asked whether they wished to gain further qualifications associated with dental nursing eg in oral health education, sedation, special care dentistry or radiography. A total of 73% (n = 814) stated they wished to undertake further education, with 23% (n = 260) stating they did not. The remaining 4% (n = 42) did not respond.

12) Accessibility of education leading to further qualifications

Of the 814 nurses who wished to gain further qualifications, 48% (n = 389) reported that this training was accessible to them, although 43% (n = 347) reported it was not. No response was given by the remaining 9% (n = 78).

13) Desire to move to other branches of dentistry

The possibility of moving away from dental nursing to another branch of dentistry was examined and it was found that the majority of nurses (58%; n = 643) wished to remain within the dental nursing profession. However, 35% (n = 387) reported that they would contemplate a move in the future, principally into the dental hygiene profession. The remaining 7% (n = 86) of subjects did not respond.

14) Professional education

Subjects were asked to state whether they felt up-to-date with their professional education and it was revealed that 33% (n = 374) agreed this was the case, whilst 32% (n = 352) did not. The remaining 35% (n = 390) did not respond.

15) Suggested CPD subjects

Dental nurses were invited to suggest topics which they felt would be of benefit to them in their future continuing professional development. Details of these are illustrated in Table 3.

16) General comments about CPD

Subjects were invited to comment on any aspect of their own professional development, the more significant of which are highlighted below.

a) Employment-related comments:

- No financial reward, support or encouragement for additional qualifications
- Employer not keen to give time off for continuing education
- Unlikely to get the chance to use any new skills
- I am currently working out my notice and intend to change jobs entirely
- The salary offered to staff, post-qualification, is an insult
- Despite being qualified, I am only being paid just above the minimum wage
- I left my dental nurse post last year due to poor pay and long hours
- Due to financial reasons, I had to leave the dental field to earn enough to fulfil other commitments.

b) Education/CPD-related comments:

- Geographical location makes access to education very difficult. Have to travel 3-4 hours to attend some courses – feel very isolated
- Desperate need for distance-learning, but access to computers would be required
- No financial help with attendance at courses
- No real opportunities exist to further knowledge or career therefore, some nurses may leave the profession to enable this
- Nurses' salaries do not permit further education
- Generally, GDPs are less supportive of staff doing CPD
- My employer attends courses and passes on the information he gets to me
- I have done my training but couldn't afford to sit the exam. The centre is a two hour drive away, and I didn't receive any funding. I couldn't spare the cost as I am raising two small children on my own
- The nearest course to me is 100 miles away.
- I'm not allowed time off work to attend courses
- It is difficult to develop as individuals in the workplace because of time

and money constraints. Historically, dentists/consultants never expected the dental nurse to want to consider further training

- We need to have 'video-link' tuition in remote and rural areas
- Any mail coming to the practice about courses is usually addressed to the dentist, therefore we don't get to know what is available
- There are plenty of opportunities for the dentists in our department to undertake CPD, but as soon as any nurses want to take time to do this, there are no resources, and no manpower to cover us
- Our boss doesn't encourage further education – time is a major factor. I am unsure whether I want to continue education in the dental field, as the wages are so low
- My employer won't give me time off, or financial backing to sit my nursing exam.

c) Domestic issues:

- I would like to continue my education, but I have a young family and my husband works shifts
- Family commitments dictate that I work part-time, and I am not willing to use family time to further my education. I feel my workplace should allow me to do it in their time
- Any form of education has been put on hold until the children are a bit older
- There are limits to how far one can travel for further education.

DISCUSSION

There is scant information relating to the education and employment of dental nurses in Scotland although clearly, these individuals are essential members of the dental team. This survey has highlighted a number of issues which need to be addressed as a matter of urgency to encourage those within the profession to remain, and to entice new individuals to join this increasingly important group of healthcare workers.

It is almost certain that the number participating in this survey is not the definitive number of dental nurses in employment in Scotland. Details of those employed within the salaried services in Scotland were reasonably accessible, although retrieving information about dental nurses via general dental practice

sources proved rather more problematic, and it is thought that an unknown number of individuals are still absent from our database. The response rate of 65% is considered to be acceptable in comparison to other reported postal questionnaire-based surveys of primary care practitioners.

In light of the recent arrival of mandatory registration, it was reassuring to note that 74% of the sample was qualified and therefore would be eligible to apply for inclusion in the GDC DCP Register. However, 191 (17%) reported being unqualified, and not in the process of formal training. This is a rather more worrying situation, as these individuals will be unable to work unless they conform to the requirements for 'grandparenting' which will allow them to register, or commence a formal period of training leading to registration. Given the acknowledged lack of dental nursing staff in Scotland, to lose this number would create further difficulties for the delivery of dentistry.

The majority of dental nurses (42%) were employed within combined NHS/private practices with only 23% being employed in a purely NHS setting. At the time of investigation, this probably correlated with the number of NHS practices found within Scotland although, in reality, this number will almost certainly diminish even further due to the much-publicised exodus by dentists from NHS dentistry. In terms of duration of employment, most respondents (32%) reported they had worked as a dental nurse for between 1-4 years. Only 11% (n = 124) stated that they had been employed for less than a year indicating that the number entering the profession is small, and it appears there is a decline in the number of dental nurses remaining in employment for more than four years, which is clearly a problem in terms of maintaining the workforce.

Another area of concern was in relation to the number of dental nurses entering the profession who did not receive an induction course (n = 702, 63%), despite the recommendation by the Scottish Executive that all new team members entering dental services undergo this training.⁵ This situation is unacceptable in terms of patient protection, and all new members of staff should be provided with information which will equip them with the knowledge necessary to under-

take tasks in a manner appropriate to standards required for acceptable clinical practice. This should be addressed by local Primary Care Management.

In terms of continuing professional development (CPD), it was disappointing to note that only 21% (n = 234) reported regular attendance at scientific meetings or courses. Of those who stated when they had last undertaken any CPD (n = 559), the majority (n = 458; 82%) reported having done so between 1-4 years ago. A number of individuals stated they were unable to undertake CPD because of access difficulties, or staff shortages within their place of employment. However, some reported they were denied access to further education by their employer. It should be realised that as part of the registration process, CPD will become mandatory for all members of the dental team, not just dentists, and therefore access to education will have to be granted to all members of staff, in order to fulfil the GDC requirements.

Financial support for CPD is a major issue for many dental nurses and other DCP, although in Scotland, CPD is funded by NHS Education for Scotland and is free at the point of delivery. While it is generally accepted that those employed within the salaried service are funded for CPD, this situation would appear to be less frequent in the GDS. This survey revealed that of those who replied to a question on funding, (n = 832), only 412 received financial assistance, principally from their employing body. When mandatory CPD is implemented, the entire CPD funding structure will have to be re-examined. It seems unjust, and indeed verging on immoral, that those for whom further education is a financially viable prospect in terms of income, should be in a position to claim loss of NHS earnings, and travel and subsistence to undertake CPD, when those who are clearly less well-remunerated often have to self-fund their education. There is a need for equity in education, with all members of the team having access to the same funding routes.

The number of geographical areas throughout Scotland which can be viewed as rural or remote is vast, and the need for an e-learning facility is again highlighted. Of those dental nurses who answered the question about previous use of distance, or internet-based learning (n = 1,095), only 8% (n = 94) reported

they had done so. A total of 65% said that this type of education would enhance their access to education considerably, as many of the 'open-section' comments alluded to. The difficulty of only being able to access formal education in major centres such as Edinburgh, Glasgow and Aberdeen, which often incurred several hours of travelling, frequently after a full day's work, was reportedly a major problem and in some cases, totally prohibitive to education. The development of video-linked lectures and more comprehensive e-learning packages could alleviate this problem for those in outlying areas. Although this is available for some aspects of teaching, it should perhaps be explored as a possibility for widening access to education for dental nurses, and others, in the future.

When asked about the desire to undertake further qualifications associated with dental nursing, 73% (n = 814) reported they would like to do so, although of these, 43% (n = 347) reported that courses were not accessible to them. This situation is similar to that reported by the same authors for other DCP groups.^{3,4} To be able to offer a structured career pathway for all involved in dentistry is of paramount importance, and therefore access is vital. The profession will find it difficult, if not impossible, to encourage additional people into it in the absence of a career pathway. It is no longer acceptable that individuals can enter this profession without a defined training pathway, and it is the public's right to expect that those who are involved in their oral healthcare, are appropriately educated and trained, as is the case in medicine. The Scottish Executive has recommended that courses and opportunities should be identified and developed for all DCP to fulfil

the requirements of a modernised NHS in Scotland.⁵

Statutory registration of dental nurses is likely to provide a powerful impetus for widening the professional remit of this group, reflecting developments in general medical practice. It is not beyond the realms of possibility that dental nurses could be trained to place temporary dressings, apply fissure sealants, remove sutures and even administer local analgesia, amongst other clinical tasks, should the GDC agree extension of their clinical remit. It could be said that dental nurses are an under-used resource who could, following appropriate training, contribute more significantly to patient care, as is the case in medicine. Of our survey, the majority (58%) had no desire to leave dental nursing, but it was clear from respondents' comments, that much frustration existed in terms of the perceived profile they held within their employment, and that any additional skills received little, if any, recognition. The hierarchical structure of dentistry has perhaps retained an historical perspective for too long where the dental nurse, or dental surgery assistant as they were known, was viewed as an essential part of the practice, but not necessarily one which deserved professional recognition.

Statutory registration is perhaps only the beginning of the journey for those in the dental nursing profession. Formal education, culminating in qualification and subsequent registration, will undoubtedly raise the profile of the dental nurse, and hopefully give them the recognition they deserve as an integral part of those directly concerned with patient care.

As techniques in dentistry become increasingly more complex and sophis-

ticated, then so must the skills of the dentist and the dental nurse. Issues of education, remuneration and status are central to the developing evolution of this group of DCP.

CONCLUSIONS

1. Dental nursing consists of a comparatively young, predominantly female workforce, the majority of whom do not remain in the profession on a long-term basis
2. There is no apparent career progression, although the workforce is anxious to see this develop
3. There is a distinct lack of equity in access and funding of CPD for dental nurses
4. Arrangements for the provision of CPD are overdue and will intensify at the point of mandatory registration
5. Poor remuneration and conditions of employment play a significant role in the loss of dental nurses from the workforce
6. There is a need to encourage individuals into this profession by way of a defined career structure, as exists in medicine, with the certainty of appropriate financial reward.

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