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The perceptions of dental practitioners of their role as clinical teachers in a UK outreach dental clinic and of their preparedness for that task: a case study

ABSTRACT

Community based dental education supports the General Dental Council learning outcomes by enabling integrated clinical practice in a primary care setting. There is little available research to identify any additional demands on the outreach clinical teacher. A case study using mixed methods, including interviews, was used to identify the supposed skills and attributes required and the individuals' perception of their preparedness for their teaching role. An online questionnaire survey of student and staff groups (N=474) was analysed and the results informed a topic guide used in semi-structured interviews of outreach clinical teachers (N=8). The in-depth interviews were transcribed and analysed thematically. The most desirable skills and attributes of best clinical teachers were perceived to be clinical competence, being current and able to provide clinical demonstration of procedures and to serve as a positive role model. In addition, attributes of being very experienced clinicians and providers of a safe learning environment were expressed as being particularly important to the outreach clinicians, of whom the majority felt somewhat isolated and ill-prepared for their teaching role. Outreach clinicians perceive benefit from integration with the main dental hospital site and of specific induction to their teaching role.

INTRODUCTION

Clinical teaching involves purposeful engagement with the dental student who needs to link 'knowing that' to 'knowing how', so that their learning is contextualized to represent a more accurate reflection of the real world setting of a dental practitioner.¹ Outreach clinicians act in a vicarious role as overseers of the transition of dental students from mere repositories of knowledge to safe beginners as new registrants.² Over 85% of UK dental students will become primary care practitioners³ and thus greater use of community-based clinical teaching, which has become a success in its own right⁴ is particularly relevant in dentistry. Outreach teaching has been integrated into the dental undergraduate programme in UK dental schools^{5,6,7} and it is well

accepted and widely reported in the literature.^{3,4,9,10,11,12} The educational advantage of community based dental programmes has also been recognised.^{13,14} The expectations are that knowledge, acquired by the student in an academic setting, will be used appropriately and that skills will be nurtured and developed beyond the secondary care environment of the dental hospital.¹⁵

The clinical teacher plays an essential role in shaping the behaviour and attitudes of the emerging dental professional and thus outreach facilities should be manned by suitably appointed staff^{16,17,18} A key concern was whether the individual clinical teacher had the attributes to be an effective teacher, as well as an accomplished clinician, in this more demanding environment.^{17,18}

In 2010 clinicians were recruited to work part-time at a purpose built community-based dental clinic in Bristol. This model had already been adopted by the dental schools of Cardiff⁵ and Leeds.⁶ Owing to the delayed opening of this facility, all the recruited staff were employed as clinical teachers in the secondary care setting of the dental hospital for almost two years. Whilst the attributes and characteristics of a good clinical teacher may be common to both environments, the perceptions of their relative importance may be different.

AIMS AND OBJECTIVES

A case study was designed to identify the key skills and attributes of a clinical teacher, where the findings of a large scale questionnaire were used to shape the interview guide. The latter was used to explore the perceptions of eight dental practitioners of the skills and personal attributes required of them as outreach clinical teachers and of their preparedness for the task.

METHODS AND MATERIALS

Approval for this study was granted by King's College London Research Ethics Committee and University Hospitals Bristol NHS Trust. A case study of mixed methods was undertaken from July to September 2014. Data were collected electronically (questionnaire) and by audio recording (in-depth interviews). Extant literature¹⁹ informed description of the most recognised skills and attributes of a clinical teacher which were listed until saturation had been reached. The

assumption was made that “bed-side” teaching in medicine was akin to “chair-side” teaching in dentistry.²⁰ A questionnaire (Table 1) based on the skills list was piloted and distributed to: pre-clinical and clinical dental undergraduates (n1=358); dental care professionals which included dental nurses, hygienists and therapists (n2=50); part-time and full-time clinical teachers (n3=66). (N=474).

Purposeful sampling was then used to select participants for the second part of the study where the unit of analysis²¹ was a cohort of eight dentists recruited specifically for outreach teaching. Each of them, identified by an interview number, was interviewed using an interview guide (Table 2) informed by the questionnaire. A conceptual framework was devised, drawing upon the recurrent themes. This framework contained 30 sub-themes (Table 3).

Each interview was coded separately using the themes and sub-themes from the conceptual framework and links between the categories were also identified. The data were then analysed in tabular form across the whole data set. The number of times that each ranked item was mentioned or alluded to in the interviews was recorded.

Table 1 Questionnaire to determine the most desired skills and attributes of clinical teachers in the context of dentistry

Age < 20 years [] 20-30 years [] 30-40 years [] 40-50 years [] 50-60 years [] >60 years []		
Gender Male [] or Female []		
Current status Registered dental practitioner [] with(please state) years’ experience in clinical practice Registered dental care professional [] with(please state) years’ experience in clinical practice Dental student [] Please state which year of study		
Please rate how strongly you agree or disagree with each of the following statements by placing a circle round the appropriate number where: 1 = completely disagree; 2 = mostly disagree; 3 = slightly disagree; 4 = slightly agree; 5 = mostly agree and 6 = completely agree		
Rating scale: (Please circle)	No:	A good clinical teacher should:
1 2 3 4 5 6	1	Serve as a positive role model of a health care professional
1 2 3 4 5 6	2	Teach whilst providing care and whilst student is providing care
1 2 3 4 5 6	3	Be able to grade work effectively
1 2 3 4 5 6	4	Provide timely and helpful feedback
1 2 3 4 5 6	5	Encourage reflective clinical practice and self-assessment
1 2 3 4 5 6	6	Assess students’ competencies and preparedness for each clinical encounter

1	2	3	4	5	6	7	Brief the students before each clinic and debrief then at the end of the session
1	2	3	4	5	6	8	Set up situations that provide opportunities to gauge student understanding
1	2	3	4	5	6	9	Be clinically competent, current and able to provide clinical demonstrations of procedures
1	2	3	4	5	6	10	Teach appropriate respect for patient autonomy and patient confidentiality
1	2	3	4	5	6	11	Be prepared to put in extra effort
1	2	3	4	5	6	12	Be available, receptive and supportive – completing part of the clinical procedure if necessary
1	2	3	4	5	6	13	Be consistent and fair in the treatment of dental students
1	2	3	4	5	6	14	Be knowledgeable
1	2	3	4	5	6	15	Be very experienced
1	2	3	4	5	6	16	Be dynamic, enthusiastic and engaging
1	2	3	4	5	6	17	Provide a stimulating and challenging environment
1	2	3	4	5	6	18	Be an effective listener
1	2	3	4	5	6	19	Be a good communicator
1	2	3	4	5	6	20	Be compassionate and empathetic
1	2	3	4	5	6	21	Provide a safe learning environment
1	2	3	4	5	6	22	Regularly seek student evaluation and input
Please specify any additional skills and attributes that you feel are important or significant in the text box below:							
Please rank your top ten skills or attributes (by their number) in descending order of importance 1 to 10 or by name from any skills that you have identified above. A ranking of 1 is the most desirable.							
Ranking	Skill/Attribute						
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Table 2 Interview guide used for the in depth interviews

DEMOGRAPHICS
Q1. Can you tell me a bit about professional background? Prompts: Position in general/hospital practice, clinical experience/years in practice.

Q2.1 What attracted you to teaching?
Q2.2 Can you tell me what attracted you to teaching in the outreach setting?
Prompts: Previous teaching experience? - Relevant qualifications? - Word of mouth? Sounded interesting?
THE ROLE OF A CLINICAL TEACHER AT THE CHAIR-SIDE
Q3.1 What do you see as the main role or roles of a clinical teacher? Prompts: Teacher as an information provider, role model, facilitator and assessor Probe: How is your role affected by the presence of the patient?
Q3.2 What does being a clinical teacher mean to you? Prompts: Clinically and personally
Q4.1 What do you think your dental students expect from you? Probes: Do students' expectations vary a lot? In what ways? How do you deal with a failing student?
Q4.2 Are you aware of how you can find out what they know? Probe: Do you access Blackboard?
Q5. What extra challenges, if any, does teaching in an outreach setting present to you? Why? Probe: Working away from main site?
VIEWS OF YOURSELF AS A CLINICAL TEACHER
Q6. What do you think are your current strengths as a clinical teacher? Prompts: Focus on where you are now Probes: Most relevant and useful personal attributes? What are your strongest skills?
Q7. Which personal skills and attributes (if any) do you currently feel least confident about in relation to your outreach clinical teaching? Prepared for? Probe: Which skills and attributes do you need to enhance to address this?
COMPARISON WITH THE TOP TEN SKILLS AND ATTRIBUTES IDENTIFIED BY QUESTIONNAIRE
Here is a list of the 10 most important skills and attributes identified in this study by questionnaire.
Q8. What additional skills (if any) do you recognise in yourself from this list? Probe: (Show the rest of the list of 22) Are there any attributes you would put higher?
COMPETENCY IN CLINICAL TEACHING
Q9. Thinking back to when you were recruited, how prepared do you think you were to do the job? Probes: Were there any uncertainties on your part? Did you feel unprepared? What about?
Q10. Looking back, what skills did you lack – if you can remember?
Q11. How would you consider you have developed your skills and attributes that you consider to be important?
Q12. Can you identify the most important changes in your ability to do an effective job? Prompts: Personal reflection on their teaching and learning.
Q13. What are your career development plans for the future as an outreach clinical teacher?

Table 3 Conceptual framework

Conceptual framework for the study of being a clinical teacher in an outreach dental clinic	
The dentist	<ul style="list-style-type: none"> 1.1 Qualifications 1.2 Clinical experience 1.3 Clinical expertise 1.4 Other
The clinical teacher	<ul style="list-style-type: none"> 2. 1. Recruitment <ul style="list-style-type: none"> 2.1.1 Motivation 2.1.2 How they became involved 3. 1 Teaching experiences <ul style="list-style-type: none"> 3.1.1 Personal reflections e.g. job satisfaction 3.1.2 With dental care professionals (DCPs) 3.1.3 With undergraduate students 3.1.4 With postgraduate students

<ul style="list-style-type: none"> 3.1.5 Peer support 3.1.6 Faculty support 4.1 Roles of a clinical teacher <ul style="list-style-type: none"> 4.1.1 Personal reflections 4.1.2 With students <ul style="list-style-type: none"> Provide real work setting – contextualize learning Failing students 4.1.3 Patients 4.1.4 Peers 4.1.5 Faculty 4.1.6 Other 5.1 Skills and attributes <ul style="list-style-type: none"> 5.1.1 Skills and attributes required 5.1.2 Greatest skills offered 5.1.3 Skills lacking <p>The clinical setting</p> <ul style="list-style-type: none"> 6.1 Main hospital <ul style="list-style-type: none"> 6.1.1 Advantages 6.1.2 Disadvantages 6.2 Outreach <ul style="list-style-type: none"> 6.2.1 Advantages 6.2.2 Disadvantages 6.2.3 Personal reflections 6.3 Faculty 6.4 Other

RESULTS

Questionnaire

The overall response rate was 26% (122/474). Data derived from the questionnaire was analysed using the Stata® data analysis and statistical software (Table 4). The ranking analysis was based on 97 people since 1 person did not give any rankings and 24 people gave most/all the attributes a score out of ten.

Table 4 Ranking of the skills and attributes derived from the usable questionnaire data

Overall Rank Number	Clinical teaching skill or attribute	Ranking by 28 dentists	Ranking by 11 DCPs	Ranking by 58 students
[1]	Be clinically competent, current and able to provide clinical demonstrations of procedures	2	1	1
[2]	Serve as a positive role model of a health care professional	1	4	4
[3]	Be available, receptive and supportive – completing part of the clinical procedure if necessary	7	5	2
[4]	Be consistent and fair in the treatment of dental students	9	2	3
[5]	Provide timely and helpful feedback	4	6	5
[6]	Teach whilst providing care and whilst student is providing care	6	16	7
[7]	Be knowledgeable	10	12	6

[8]	Be dynamic, enthusiastic and engaging	8	7	8
[9]	Be a good communicator	5	8	10
[10]	Be able to grade work effectively	14	10	9
[11]	Encourage reflective clinical practice and self-assessment	3	9	21
[12]	Be an effective listener	13	18	13
[13]	Assess students' competencies and preparedness for each clinical encounter	12	13	14
[14]	Be prepared to put in extra effort	22	15	11
[15]	Teach appropriate respect for patient autonomy and patient confidentiality	11	3	18
[16]	Be compassionate and empathetic	18	20	12
[17]	Provide a stimulating and challenging environment	17	19	17
[18]	Set up situations that provide opportunities to gauge student understanding	20	17	16
[19]	Be very experienced	19	NR	15
[20]	Brief the students before each clinic and debrief then at the end of the session	15	14	19
[21]	Provide a safe learning environment	16	11	20
[22]	Regularly seek student evaluation and input	21	NR	22

NR = not ranked

In-depth interviews

Demographics

A typical teacher graduated between 18 and 40 years ago and professional backgrounds included: independent and NHS general practice; Defence Dental Services; community dental service and the more specialised oral surgery, orthodontics and special care. Teaching qualifications varied from no formal qualification to diploma level. The reasons why clinical teachers were attracted to outreach teaching are shown in Table 5.

Table 5 Theme 2.1.1 Clinical teacher recruitment - motivation

<i>Some reasons why clinicians were attracted to outreach teaching</i>
• <i>Outreach was akin to general practice</i>
• <i>Real world dentistry</i>
• <i>Personal love of dentistry</i>
• <i>Felt they had a lot to offer</i>
• <i>Wanted to give something back to the profession</i>
• <i>Inspired by student enthusiasm</i>

- *Opportunity for holistic patient care*

The perceptions of the recruited cohort of outreach clinical teachers of the skills and attributes required in their teaching role

Table 6 Ranking of top skills and attributes referred to fifty times or more during the interviews with the outreach clinicians. The frequency of mention was regarded as an indication of their importance

Clinical teaching skill or attribute	Frequency of mention	Ranking by outreach clinicians	Overall ranking by all groups
Be clinically competent, current and able to provide clinical demonstrations of procedures	71	[1]	[1]
Serve as a positive role model of a health care professional	68	[2]	[2]
Be very experienced	58	[3]	[19]
Be available, receptive and supportive – completing part of the clinical procedure if necessary	52	[4]	[3]
Provide a safe learning environment	50	[5]	[21]

Whilst the first two attributes and skills are the same as those identified by questionnaire, two more were acknowledged as being important by the outreach clinicians namely, being very experienced ranked [19] and providing a safe learning environment ranked [21].

“I don't see the point in shouting at students and sort of belittling students.”
(Int5.Q4)

“I would like to feel they trust us, so they feel they can talk to us about dentistry and not feel threatened” (Int7.Q3)

“They want pastoral care as well as the personal mentoring and tutoring.”
(Int4.Q4)

Gaps identified in skills and attributes

The main concerns revolved around individual competence and expertise in certain dental specialties. Some worried about deskilling since their own career had become more specialised. Oral surgery was cited most often. Clinicians felt they could perform extractions but they felt less equipped to teach the skill. They expressed a desire to align outreach teaching more directly to that at the main hospital.

“I’d like to go back there [dental hospital] to make sure our teaching is what they are teaching” (Int7.Q7)

There was also some fear of “not knowing enough” and a concern that what they were teaching may not be completely relevant to the undergraduate course. Several practitioners found grading of students difficult.

The perceptions of this cohort of clinicians with respect to their individual preparedness for teaching in an outreach setting

Concern was expressed about feeling “good enough” and they preferred to know the standard of their peers. A feeling of isolation at outreach was expressed by nearly all and most wanted to keep in touch with the main hospital by rotating through the various departments.

“We are quite isolated from the main hospital site.... I know we are not teaching different things, but we are in a different setting. I do think it would be quite nice to have some kind of rolling programme to keep us in touch with the dental hospital more.” (Int1.Q5)

The benefits of outreach teaching

The clinicians were in no doubt that outreach teaching offered additional advantages to the students (Table 6).

Table 6 Benefits of outreach teaching

<i>Identified benefits of outreach teaching</i>
<i>• There was more obvious caries to be seen</i>
<i>• More emergency cases were likely to present for treatment</i>
<i>• More holistic care was expected</i>
<i>• Any treatments would be single surgery based rather than inter-departmental</i>
<i>• Consistency of student contact with the same supervisors on set days</i>

DISCUSSION

This study considers the pooled perspectives of all the study participants and the specific perspectives of the outreach clinicians. The first aspect was addressed by the questionnaire and although the response rate was low, it did not affect the development of the interview guide, since the questionnaire was simply used to identify and develop themes. *Clinical competency* was highly regarded by all groups and this mirrors other studies with respect to dentists,^{22,23} students²⁴ and student

nurses.²⁵ It is not surprising that *servicing as a role model* was highly regarded by the dentists.²⁶ Attitudes are learnt through observation of seniors and thus teachers must be aware of the need to provide good role modelling in the presence of the student.²⁷ One obvious difference between dentists and students was their opinion on *reflective practice* which is considered to be an important step for learning.²⁸ This was ranked much lower by the students. Maybe they felt that they did not have enough time to reflect²⁹ and thus did not rank it as highly as their supervisors did.

Analysis of the interviews revealed that outreach clinicians additionally highly valued *being very experienced* and *being providers of a safe learning environment*, but these were at variance to the overall rankings. A wealth of experience and qualifications was seen in the outreach cohort but experience alone is not an indicator of expertise.³⁰ Immediacy of the triad of the patient, student and the supervisor might require staff to be very experienced, to be able to deal with any unexpected events in an outreach clinic. *To be available, receptive and supportive*³¹ was also a valued attribute.

Based on the interviews, recommendations to improve and enhance the role of clinical teachers were made (Table 5).

Table 5 Recommendations based on the in-depth interviews

<i>Recommendations based on the in-depth interviews</i>
<ul style="list-style-type: none"> • <i>A full job description should be provided pre-employment so that the practitioner is aware of the knowledge, attributes and skills required of them</i>
<ul style="list-style-type: none"> • <i>A role profile should be agreed on appointment and this should be regularly reviewed</i>
<ul style="list-style-type: none"> • <i>There should be a comprehensive induction so that the new teacher has a knowledge of learning styles and an awareness of students' experience and knowledge</i>
<ul style="list-style-type: none"> • <i>Faculty could provide further training in assessment etc. as part of a personal development plan (PDP)</i>
<ul style="list-style-type: none"> • <i>Outreach clinicians should be encouraged to gain/develop teaching skills/qualifications</i>
<ul style="list-style-type: none"> • <i>Outreach clinicians should rotate on a regular basis to all departments involved with undergraduate teaching in the dental school</i>
<ul style="list-style-type: none"> • <i>Faculty should recruit staff so that there is a balance of all the competencies required in an outreach clinical setting</i>
<ul style="list-style-type: none"> • <i>Faculty could involve outreach clinicians with the curriculum</i>
<ul style="list-style-type: none"> • <i>Faculty should identify gaps to drive personal development plans and hiring decisions</i>

CONCLUSION

This case study found that outreach clinicians could be better prepared for their teaching role. A full job description and a role profile along with comprehensive induction may help with individual preparation. Personal development plans, guided by the needs of the School, should include training as a teacher in addition to maintenance of clinical competency. With a range of professional profiles, this cohort of outreach clinicians collectively offered all the skills and attributes required in this “community of practice”. Clinical education is increasingly delivered in primary care settings and further research of the demands on outreach clinical teachers is recommended.

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