

# Dental Foundation Trainers' Expectations of a Dental Graduate

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# EXECUTIVE SUMMARY

## Context

In the context of a perception that the new generation of graduates are not as well prepared for clinical practice as their predecessors, it is important to identify precise shortcomings in new graduates' training rather than rely on weak, non-specific anecdotal data.

## Aims

The overall aim of this study was to investigate Dental Foundation (DF1) trainers' expectations of the dental graduate specifically in relation to clinical skills, and explore whether these expectations were being met.

## Methods

Building on the pilot work in Wales in 2010, an on-line survey was distributed to all DF1 trainers via all 11 English Deaneries and Northern Ireland. The main section of the questionnaire listed 104 specific clinical skills and trainers indicated their expectations about whether a new trainee should be able to perform the skill on a 5-point scale (on own with confidence/on own with limited confidence, slowly/on own following advice/with difficulty, needing assistance/unable to undertake) and whether their expectations were met.

## Results

### *The sample*

Completed questionnaires were received from 510 trainers representing a 53% response rate. Response rate by Deanery varied widely (from 28% to 96%). The great majority of trainers had been qualified for at least 11 years and had significant experience as practitioners. Extent of training experience in terms of numbers of trainees varied (from 1 to more than 10).

These trainees (2010-11) graduated from 17 different dental schools in the UK and the sample included 40 trainees who had graduated from outside the UK. At the time of the study, the greatest percentage of graduates on DF1 schemes tended to originate from local Dental Schools.

### *General expectations of a new trainee*

Most commonly (modal response, 45%) these trainers expected the new graduate to be able to manage a full list of patients on their own, with limited confidence, slowly. A further sizable proportion (27%) expected them to manage on their own, following advice.

The majority of trainers (64%) had experienced no difficulty with their trainee. However, 21% thought their trainee that did not know when to seek help; 19% thought they had poor time management skills and around 10% had experienced difficulties related to integration with the team (11%), patient complaints (11%), lack of responsibility for care (9%) or excessive time off work (8%).

**Expectation and experience: non-clinical skills**

Overall, trainers' expectations of new graduates' non-clinical skills outstripped their experience. It was not possible to determine whether the trainees were under-performing or whether the expectations of the trainers were unrealistic. However, much of the disparity diminished when the *always* and *usually* responses were combined. Experience most closely matched expectations for the ability to describe the principles of consent and communicate bad news with sensitivity. Experience was most adrift from expectations for the ability to: explain a treatment plan effectively; communicate and work with other members of the team; listen to a patient effectively and respond appropriately; and keep accurate patient records.

**Expectations of DF1s' clinical skills (in 10 areas)**

A core skill rank score was calculated with values ranging from 1 (low expectation, not core) to 5 (high expectation, important). Trainers provided an indication of whether expectations were met/not met and if skills were not observed. We investigated further and comment on high expectations which were not met and high not-observed scores. For each of the ten areas of clinical skills we present summary points here.

## Treatment planning (clinical judgement)

- High expectation of trainee performance in simple treatment planning scenarios reducing as complexity increased.
- Disparity between expectation and experience related to complete denture management.

## Plastic Restorations

- High expectations of trainee performance of all of these skills and the majority of respondents reported no disparity between expectation and their experience.
- Some disparity was in evidence when cavity size increased in posterior restorations, notably with large broken down teeth.
- Free comments highlighted concerns related to caries removal and the lack of experience of graduates using amalgam.

## Fixed Prosthodontics

- Expectations in this section were lower than with plastic restorations. Again the majority of respondents reported no disparity between expectation and their experience.
- Some disparity was noted particularly with anterior veneers and post retained crowns.
- Not-observed scores were high for anterior veneers and bridgework.
- Open comments highlighted concerns with the experience of graduates in this area.

## Removable Prosthodontic Restorations

- High expectations of trainee performance of all of these skills and majority of respondents reported no disparity between expectation and their experience.

- Some disparity noted in relation to complete denture construction and copy denture skills. Also related to designing partial denture, modifying tooth position in a try-in and quality control issues related to laboratory work.
- Not-observed scores were high for construction of a chrome partial denture.
- Open comments highlighted the limited experience in this area and limited technical knowledge.

#### Endodontics

- High expectations of trainee performance of the simpler endodontic skills and majority of respondents reported no disparity between expectation and their experience.
- Some disparity was seen in relation to performing a root canal treatment on a molar tooth. This was also noted in the open comments.

#### Periodontal Therapy

- High expectations of trainee performance of the simpler periodontal skills and majority of respondents reported no disparity between expectation and their experience.

#### Paediatric Care

- High expectations of trainee performance of these skills and majority of respondents reported no disparity between expectation and their experience.
- Not-observed scores were high for the management of a traumatised anterior tooth, the use of stainless steel crowns and deciduous pulp treatments.

#### Orthodontic Treatment

- High expectations of trainee performance of these skills and majority of respondents reported no disparity between expectation and their experience.
- Not-observed scores were high in this area.

#### Oral Surgery

- High expectations of trainee performance of many of the skills described and majority of respondents reported no disparity between expectation and their experience.
- Some disparity was seen in relation to removal of simple erupted roots, recognition of the need for a surgical extraction and suturing.
- Open comments highlighted the limited experience of the new graduate in this area.

## Oral Medicine

- High expectations of trainee performance of these skills and majority of respondents reported no disparity between expectation and their experience.

Clearly there were a number of areas where disparity between trainers' expectations and their experiences of their current trainee's performance were seen. We summarise our interpretation of what this might mean and implications for action:

- **Core skill not met on graduation** – clearly some skills are basic skills that all undergraduates should possess on graduation. Where trainers report that this is not the case then this information needs to be fed back to the School and changes made to teaching. This study highlighted large variation between Schools therefore this needs to be done on an individual basis. This will require good communication between Schools and Foundation Training based on reliable data.
- **Variation in opinion** - What are the core skills? Variation of opinion is inevitable. Trainers may have high expectations for a skill that is no longer emphasised in the undergraduate curriculum. Schools alter their teaching of skills for a host of reasons including interpretation of guidance, changes in the evidence base or epidemiological changes. This variation of opinion leaves both the Schools and trainers at odds with each other with both feeling they are doing the best for the new graduate. The issue here is transparency and Dental Schools could do more to improve trainers' understanding of what is being taught at undergraduate level.
- **Trainers' expectations too high** - The new graduate works in the trainers' practice and trainers understandably have high expectations. However, it is important that everybody involved in the training of a dentist appreciates the complexity of the skills required and acknowledges that these skills can take many years to develop. Training starts at Dental School and at the end of this the new graduate is a "safe beginner" with the basic "building blocks" to allow them to develop and hone their skills in Foundation Training and through lifelong learning. The learning process is a continuum. There needs to be a forum through which views can be exchanged and differences resolved.
- **Not observed** - The implications of a high expectation, key skill procedure not being observed could be that this skill is straightforward and routine so does not require observation. In more complex skills the implication is that these skills are not being undertaken within the training practice which means the new graduate will not develop in these areas. Examination of skills not-observed by Deanery showed wide variation.

## Conclusions and Recommendations

Robust data facilitates informed discussions between Dental Foundation trainers and Dental Schools and could lead to improving the new graduate's preparedness for the next stage in their training.

- Tailored reports will be provided for both Schools and Deaneries from this work. These reports will highlight areas that need improvement and areas that need to be discussed further. However the reports will need local interpretation.
- Improved communication and transparency between Schools and Foundation Training should be encouraged. This is key to improving the transition from the undergraduate environment to the workplace (Foundation Training). Discussion could be between individual Schools and Deaneries where this is appropriate or through larger meetings. This could be discussed by COPDEND and the DSC and for them to take a lead.
- Schools could be encouraged to produce a clinical experience log for all new graduates. This would help trainers target their training and supervision of the new graduate.

# 1 Introduction

## *Context*

Over the last few years the number of dental undergraduates has grown. Dental Schools have been asked to increase the number of undergraduates they accept for dental training and three new graduate entry schools opened recently. In total, between 2005 and 2009, there was a 20% rise in the number of new registrations and this is set to intensify as the increased student numbers feed through the system. There is already a perception that the new generation of graduates are not as well prepared for clinical practice as their predecessors and the growing concern is that by increasing numbers of undergraduates in training this will further dilute their clinical experience and result in them being less well prepared for the clinical demands that they will encounter in foundation training. Clearly it is important to monitor this interface and be able to identify precise shortcomings in new graduates' training rather than rely on weak, non-specific anecdotal data. Robust data facilitates informed discussions between Dental Foundation trainers and Dental Schools so improving the new graduate's preparedness for the next stage in their training and clarifying the expectations of experience and competence by both undergraduate tutors and Dental Foundation trainers.

## *Background to the Study*

In order to work within an NHS General Dental Practice a new UK graduate must first undertake a vocational training period (VT) which has been mandatory in the UK since 1993<sup>1</sup>. The General Dental Council (GDC) strongly endorsed this arrangement, which “allows a gradual and controlled transition from the shelter of undergraduate education to unsupervised practise”<sup>2</sup>. Although students are supposed to have reached “basic clinical skills” on graduation before starting their VT period<sup>3</sup>, there is still no agreement on what exactly is meant by “basic clinical skills”, and the concept itself varies from one University to another. The recent GDC document “Preparing for Practice”<sup>4</sup> does little to help this situation and a number of relevant stakeholders including the Dental Schools Council and Dental Schools have raised concerns about the lack of detail in the clinical skills section of this guidance document.

In an attempt to address this problem, the thematic DentEd network proposed a consensus of European Dental Schools on the profile and competences that dental students should have acquired by graduation and this has recently been updated through the Association for Dental Education in Europe<sup>6</sup>. These competences are located across a wide range of domains including behaviour,

knowledge and manual skills which are deemed necessary for the successful practise of independent dentistry<sup>3, 6-8</sup>. Nonetheless, an integrated approach whereby competency is achieved, by graduation, through defining and assessing the required knowledge, skills and attitudes of students, is still a matter of some difficulty and concern<sup>9, 10</sup>.

These issues were raised at a liaison meeting in 2008, between academic staff from the Dental School in Cardiff and representatives of the Dental Vocational Trainers (Dental Foundation Year 1) in Wales. It was apparent from the meeting that there were subjective concerns about the basic clinical skills of new graduates but it was unclear which basic clinical skills were underdeveloped. However, there was obvious anxiety that the students were not fully equipped for clinical practice and there were questions about the dilution of clinical experience because of competing pressures on the University (such as increasing student numbers, financial and staffing pressures). It was also made clear that this problem did not only affect graduates from the School of Dentistry in Cardiff (60% of DF1 places were occupied by Cardiff students at that time). Similar issues were seen in graduates from other UK Schools who took up places on the Wales VT/Dental Foundation schemes.

In an attempt to develop a clearer understanding of the issues related to the interface between undergraduate education and Dental Foundation (vocational) training, all vocational trainers in Wales were surveyed in 2010. Feedback and discussion sessions were held with groups of trainers throughout Wales to confirm the findings and identify solutions. The survey and discussions demonstrated that in many areas new graduates were fulfilling trainers' expectations (e.g. simple treatment planning, most simple plastic restorations in adults and children) but in other areas there were clear and consistent concerns raised (e.g. management of the broken down tooth, ability to undertake inlays and a number aspects of minor oral surgery). This study also highlighted areas where clinical teaching had moved forward in the light of new research but that this was not fully appreciated by trainers – clearly a need for improved communication was necessary. Following this study a report was submitted to the Vice Dean for Learning, Teaching and Assessment at the Dental School and trainers are now involved in clinical teaching update sessions. In addition, trainers visit and observe teaching sessions with final year students and, “Training the Trainers” update sessions are planned for 2012.

The move from full time education into a training practice is a daunting step for a new graduate. That move should be facilitated and this requires transparency and continuity across the interface. Dental foundation (DF1) trainers should be prepared for a new graduate's lack of experience and not

expect the “finished package” of a fully experienced dentist. However, the graduate’s experiences vary within and between Dental Schools and clearer guidance of what trainers can expect would be useful. This study assists in the clarification of expectations.

## 2 Aims and Objectives

The overall aim of this study was to investigate current dental foundation (DF1) trainers' expectations of the dental graduate specifically in relation to clinical skills, and explore whether these expectations were being met. Building on the pilot work in Wales in 2010, this study was undertaken in England and Northern Ireland. Scotland and the Defence Services were not included because of differences in approaches to foundation training and assessment.

The intention is to use the outcomes to clarify expectations and enhance the continuity between the phases, for the benefit of the new dental graduate as well as the trainers and patients.

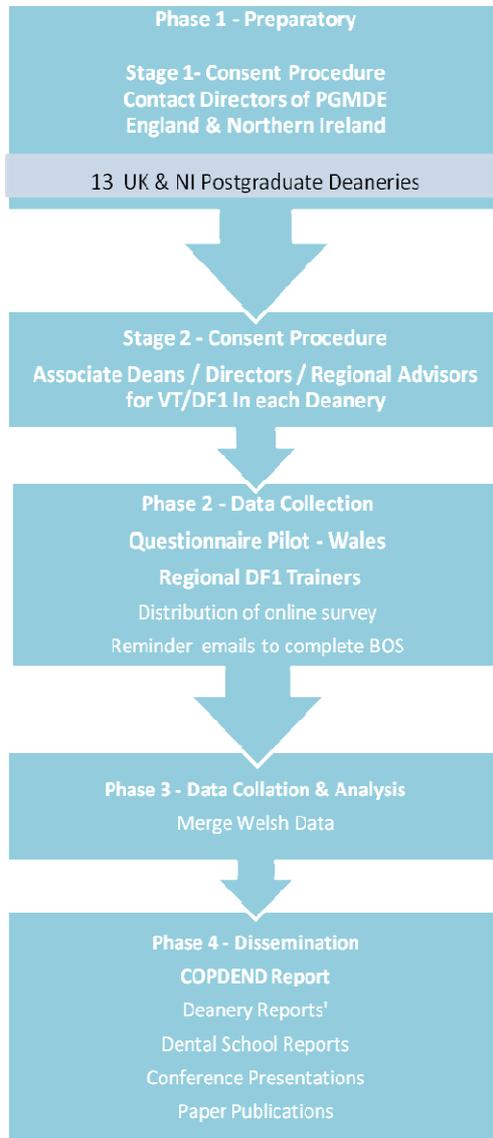
### *Objectives*

The specific objectives of the study were:

1. To investigate the clinical skills expected by foundation trainers of their new trainees.
2. To elicit whether these expectations are being met.
3. To map these against GDC guidelines (GDC "Preparing for Practice" document<sup>4</sup>), European guidelines ("Profile and Competences for the Graduating European Dentist" – ADEE 2009)<sup>6</sup> and "A Curriculum for UK Dental Foundation Programme Training" (COPDEND)<sup>5</sup>.
4. To produce a main report plus tailored reports to Vice Deans of Dental Schools and to Postgraduate Deaneries.
5. To present findings at the national meeting of Dental Tutors/ COPDEND Educational Conference (COPDEND).
6. To present findings at an international meeting (ADEE).
7. To publish results (European Journal of Dental Education, BDJ).

### 3 Overview of Method

**Figure 1: An overview of method**



Undertaken in the 12-month period from April 2011, the study used an online survey based approach containing questions mainly sourced from the pilot survey undertaken in Wales. The survey was distributed to all dental foundation (DF1) trainers in England and Northern Ireland. Initial contact was made with the Postgraduate Deans to gain consent for this in their area (Phase 1, Stage 1) and then also to gain support from the Regional Adviser and/or Training Program Director for DF1, who was asked to provide advice on the local communication and distribution of the online survey to trainers (Phase 1, Stage 2).

A paper based version of the survey had already been used in Wales but minor changes were required. The resultant instrument was piloted locally to test the clarity of the survey and appropriateness of the questions.

The survey was uploaded to Bristol Online Surveys (BOS) and email contact made with respondents. The completion of the survey was optional and the responses were anonymous. To improve the response rate, non-responders were re-emailed at regular intervals using the local deanery support.

#### ***The survey***

A copy of the Study Information sheet (Appendix I) and the Bristol Online Survey Questionnaire (Appendix II) can be found in the Appendices.

Section 1 of the survey sought generic data relating to the trainer while Section 2 focused on the trainers' opinions of a new trainee and their ability to act as an independent practitioner. Section 3 explored the trainers' experiences of recent trainees. In the main section, we investigated in detail, trainers' expectations of the clinical skills in a variety of different areas and whether those expectations were met. (Objectives 1, 2)

Completed surveys were analysed, mapped against existing guidelines and a preliminary report presented at the COPDEND Educational Conference (November 2011) (Objectives 3, 5). "School Reports" are being prepared for Directors of Dental Education/ Vice Deans of the Dental Schools in England, Northern Ireland and Wales along with a similar custom-made report to Postgraduate Deaneries.

### ***Research ethics***

Research ethics approval was obtained from Cardiff University, School of Postgraduate Medical and Dental Education Research Ethics Committee (14/06/11). The National Research Ethics Service (NRES) were sent information about the project. They classified the study to be 'education evaluation, akin to service evaluation' and therefore advised that it did not require NHS REC review (Appendix III).

## 4 Results and Discussion

### *The sample*

The questionnaire was distributed to 959 trainers and we received 510 returns, representing a 53.2% response rate.

Responses were received from all eleven deaneries in England plus the deanery in Northern Ireland. Table 1 shows the return by Deanery. Of the 510 total returns, 88 (17%) came from the London Deanery. The sample contains sizeable numbers from the South West (76; 15%) and South Yorkshire/East Midlands (65; 13%). The sample contains fewer from Northern Ireland (16; 3%), South Central (24; 5%) and Yorkshire (26; 5%). The final column gives a response rate per deanery and the table has been ordered by this figure. This shows wide variation in response rate, ranging from an impressive 96% response rate from trainers in the South West Deanery to 28% from South Central. The response rate in five deaneries was above the overall response rate of 53%. Three other deaneries were within 10% of the overall rate. The response rate in the other three deaneries was less than 40%. The lower response rate has implications for analysis by deanery and will be noted in the deanery-specific reports.

**Table 1. Distribution of responses by Postgraduate Deanery**

Deanery	Frequency	Percent	Deanery Response Rate %
East Of England	42	8.2	40.3
KSS	49	9.6	64.4
London	88	17.3	64.2
Mersey	33	6.5	66.0
North West	29	5.7	44.5
Northern	31	6.1	39.2
Northern Ireland	16	3.1	48.4
South Central	24	4.7	28.4
South West	76	14.9	96.2
South Yorkshire/East Midlands	65	12.7	54.0
West Midlands	31	6.1	38.8
Yorkshire	26	5.1	42.6
Total	510	100.0	Mean 52.3% Range 28-96%

## ***Trainer information***

This section included questions seeking demographic information on the respondents. The first question asked how long the trainer had been qualified. The results are presented in table 2.

**Table 2. Years qualified**

<b>Trainers years since qualification</b>	<b>Frequency (%)</b>
5 years or less	7 (1.4%)
6 -10 years	68 (13.3%)
11-20 years	190 (37.3%)
21 years or over	245 (48%)
<b>Total</b>	<b>510</b>

Almost half the respondents had been qualified for 21 years or longer (48%) and another 37% had been qualified for between 11 and 20 years. The sample did include a few who had been qualified for five years or less but this was unusual. As expected the great majority of trainers had been qualified for at least 11 years and so had significant experience.

The next question asked about the number of trainees respondents had trained in the last ten years (figure 2). The sample included some very experienced individuals who had trained ten or more in as many years (19%). But it also includes 27% who had only trained one or two in the period. The results were spread across the response options indicating diversity of training experience in terms of numbers of trainees.

When we plot years qualified against number of trainees the results are as expected in that those qualified for longest have had the most trainees (see figure 3). For example, all those who had seven or more trainees had qualified for at least 11 years. Figure 3 also shows that a number of the longer qualified trainers had also had three or fewer than trainees.

**Figure 2. Numbers of trainees that trainers have trained in the last 10 years**



**Figure 3: Years qualified by number of trainees trained**



In some training environments, the trainer shares responsibility for the trainee with another trainer. Twenty-nine percent of the respondents indicated ‘yes’ in response to the question asking: is your current trainee shared with another trainer?

### ***Information about the current trainee***

The questionnaire included a question about the place of graduation (page 2 of questionnaire) of the trainer's current trainee. Current trainees graduated from 17 different dental schools in the UK. Table 3 shows the distribution. A small number of trainees came from Scotland (9), Northern Ireland (13) and Wales (17). A high proportion came from London but this may reflect the high response rates from the Deaneries in and around London and the larger number of graduates from these schools. The other English Dental Schools provided roughly an equal proportion of graduates (6-9%).

The data includes 40 trainees who had graduated from outside the UK. The majority of respondents (24) did not know the place of graduation. Of the others, five graduated in India, seven from countries in the Middle East, three from Europe and one from the Philippines.

**Table 3. DF1 Trainees Dental School of graduation**

<b>Dental School</b>	<b>Frequency</b>	<b>Percent</b>
London - Kings College	96	18.8
London - Barts & The London	57	11.2
Sheffield	48	9.4
Liverpool	44	8.6
Bristol	43	8.4
Birmingham	41	8
Outside UK	40	7.8
Newcastle	38	7.5
Manchester	32	6.3
Leeds	29	5.7
Cardiff	17	3.3
Belfast (Queens)	13	2.5
Glasgow	5	1
Dundee	3	0.6
Aberdeen	1	0.2
Lancashire	1	0.2
London - UCL & Eastman	1	0.2
Unsure	1	0.2
<b>Total</b>	<b>510</b>	<b>100</b>

Table 4 highlights the Dental School of origin that make up the greatest proportion of graduates in each Deanery DF1 training scheme (from the study sample). A full table of the distribution of Trainees by Deanery and Dental School is included in the Appendix (IV).

**Table 4. Most common Dental Schools of graduation for trainees by Deanery**

Deanery	Dental School of Graduation			
<b>East of England</b>	London Kings (26%)	The London (21%)	Birmingham (17%)	
<b>KSS</b>	London Kings (41%)	The London (22%)		
<b>London</b>	London Kings (44%)	The London (19%)		
<b>Mersey</b>	Liverpool (67%)			
<b>North West</b>	Manchester 45%)	Liverpool (17%)		
<b>Northern</b>	Newcastle (87%)			
<b>Northern Ireland</b>	Belfast (62%)	Glasgow (12%)		
<b>South Central</b>	London Kings (50%)	The London (12%)		
<b>South West</b>	Bristol (41%)	Cardiff (12%)	Non-UK (21%)	
<b>S. Yorkshire/ E. Midlands</b>	Sheffield (51%)	The London (17%)		
<b>W. Midlands</b>	Birmingham (32%)	London Kings (16%)	The London (10%)	Bristol (10%)
<b>Yorkshire</b>	Leeds (65%)	Sheffield (15%)		

It can be seen that the greatest percentage of graduates on DF1 schemes tend to originate from Dental Schools relatively close in locality to the Deanery. For example, the majority of DF1s in the Mersey Deanery, in this sample, graduated from Liverpool (67%) and the majority doing their training in the Northern Deanery graduated from Newcastle (87%). Trainees in London, East of England, KSS and South Central deaneries comprise approximately 50% of graduates from London/Dental schools. Interestingly, in our sample 21% of trainees in the South West Deanery graduated from outside of the United Kingdom.

This is not unusual and has been reported before. However changes to the DF1 recruitment introduced in England and Wales in 2011 are likely to alter this distribution, with more graduates undertaking training away from the locality around their Dental School of graduation. The long term effect of this change of the stability of the workforce has yet to be understood.

## ***General expectations of a new trainee***

Trainers were asked whether they expected the trainee to be able to manage a full list of patients on graduation. The results are presented in figure 4. This question was added to gauge trainer's level of expectation of a new graduate. In an early version of the document "The First Five Years"<sup>12</sup> (1997) the GDC stated that:

*"upon completion of the undergraduate course, ..... (a new graduate), practise without supervision"*

This was maintained in the 2002 second edition of *The First Five Years*<sup>13</sup>, but was qualified under the key principles to suggest that

*"the learning opportunities and experience (at Dental School) prepare students adequately for transition into vocational dental practice."*

In the latest GDC document, "Preparing for Practice - Dental Team Learning Outcomes for Practice" (2012)<sup>4</sup> the statement indicates that undergraduate training should prepare the new dentist

*"to begin working as part of a dental team and be well prepared for independent practice".*

The role of DF1 training in the development of a dental graduate is clearly recognised and the term "safe beginner" is adopted in the document. Safe beginner is described as:

**Safe beginner** - *a rounded professional who, in addition to being a competent clinician and /or technician will have the range of professional skills required to begin working as part of a dental team and be well prepared for independent practice. They will be able to assess their own capabilities and limitations, act within these boundaries and will know when to request support and advice.*

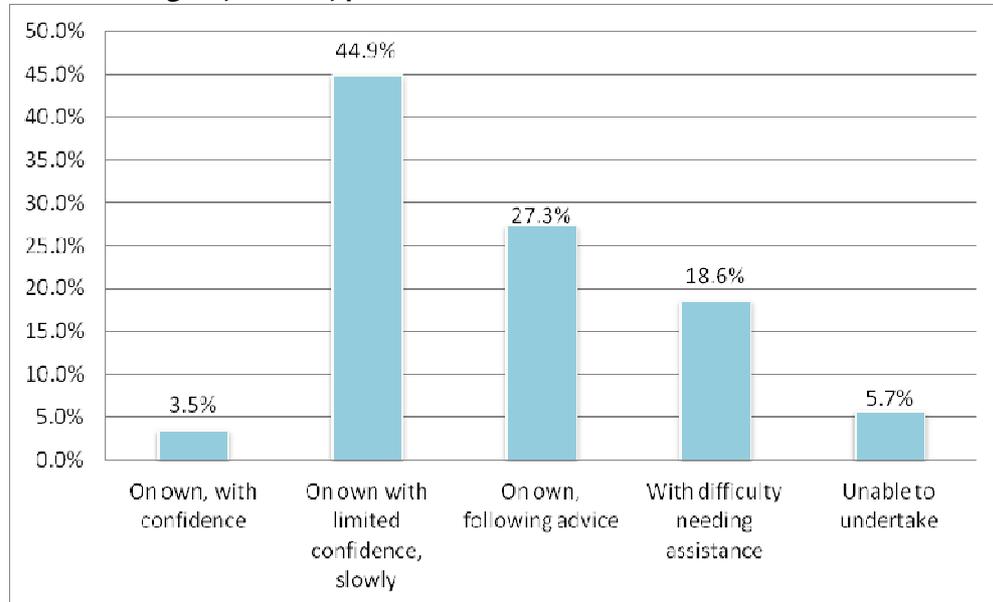
"Independent practice" is also described:

**Independent practice** – *working with autonomy within the GDC, Scope of Practice, and own competence, once registered. Independent practice does not mean working alone and in isolation, but within the context of the wider dental and healthcare team, and may be under supervision if newly qualified.*

There is clear evidence here of a shift in the expectations of a new graduate from a fully qualified independent practitioner to a safe beginner, who will have the help and support of a more experienced trainer. However, the

expectations of the trainers may be at variance with this, with expectations that a new graduate should have all of the skills necessary to manage a busy clinical list.

**Figure 4. Responses to: on graduation do you feel a dentist/trainee should be able to manage a full list of patients?**



The results suggested that almost 50% of respondents felt that the new graduate should be able to manage a full list of patients on their own (*with confidence & with limited confidence*). A further 27% felt they may need advice.

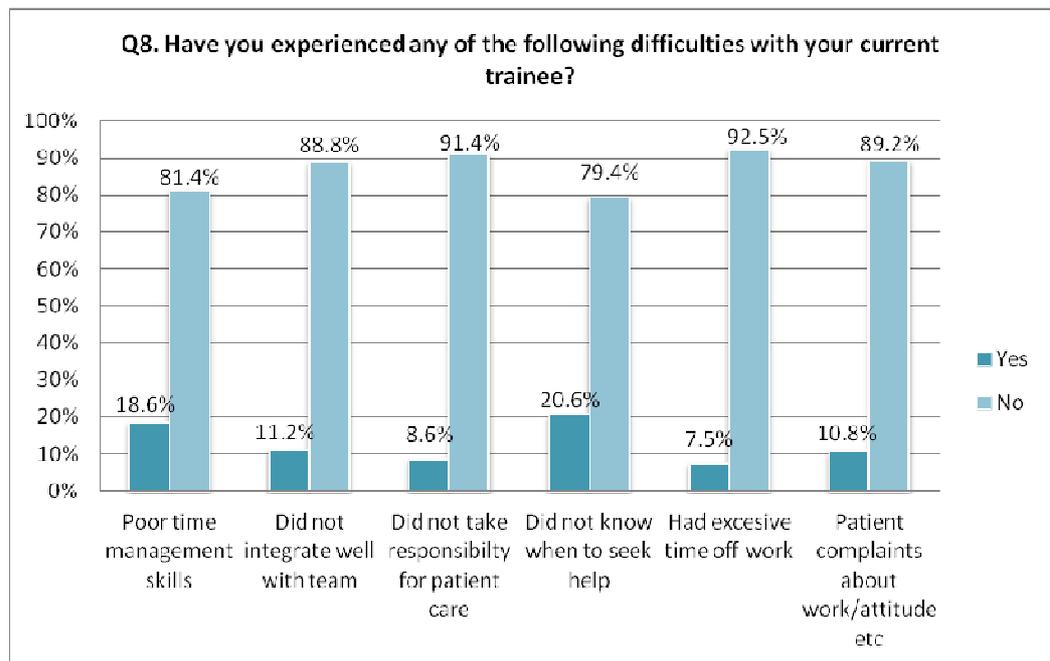
The question here is where should we expect a new graduate to be? Would we expect that they would be able to manage a full list without advice and assistance? Clearly this is complicated by the large variation in the quality, confidence and maturity of the individual graduate. The best graduates may well be able to manage on their own without advice or assistance whereas the borderline graduate may struggle.

However there is also a large variation in the opinion of the trainers highlighting that their expectations vary enormously.

### ***Experience of Current Trainee***

Trainers were also asked if they had experienced any difficulties with their current trainee. Six difficulties were listed and the results are presented in figure 5. These were based on a study by Wilkinson and Harris (2002)<sup>15</sup> who investigated borderline (or struggling) pre-registration medical trainees. They concluded that non-specific indicators such as poor time management or not integrating with the team linked with the struggling (borderline) trainee.

**Figure 5. Trainers’ experience of difficulties with current trainee**



First we should note that overall 234 (63.5%) of trainees reported *none* of the above difficulties with their current trainee. However, the results indicate that almost 19% of trainers thought that their current trainee had poor time management skills and 11% felt that their trainee did not integrate well with the other members of the dental team.

One skill that is fundamental to future development and patient safety is that a trainee should know when to seek help and advice and almost 21% of trainers reported concerns here. This is explored further on page 23 with direct questions. Figure 5 also shows that around eight percent of these trainers had experienced difficulties with their trainees having excessive time off work or not taking responsibility for patient care and around 11% indicated having difficulties related to patient complaints about their trainee’s work or attitude.

Some trainers had a trainee who had experienced more than one of these difficulties. The number of trainers with a trainee with one or more difficulties is shown in the table below.

**Table 5. Trainers' experience of difficulties with current trainee: number of difficulties**

<b>Number of difficulties</b>	<b>Frequency</b>	<b>Percent</b>
1	89	47.8
2	46	24.7
3	21	11.3
4	12	6.5
5	6	3.2
6	12	6.5
<b>Total</b>	186	100%

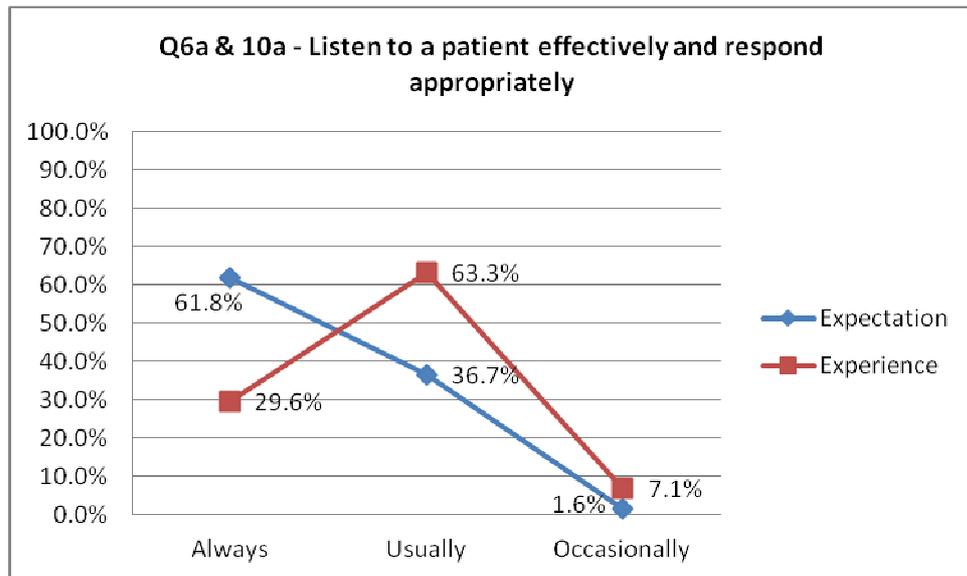
Most commonly these 186 trainers thought that their trainee had experienced difficulty in just one area (48%). Another 36% had a trainee who had experienced two or three difficulties. In the opinion of a minority of trainers (n=30), their current trainee had experienced difficulty in four or more areas. Overall this amounts to 6% of the sample (30/510).

## ***Comparison of Trainers Expectation & Experience - Non clinical skills***

In this section we present the results of two questions from the questionnaire: question 6 (p.1-2 online questionnaire) and question 10 (p.2-3 online questionnaire). The statements in question 6 asked respondents to indicate whether they would, in general, 'always', 'usually', 'occasionally' or 'never' expect a new trainee to... (followed by eleven abilities). Question 10 presented the same statements but this time asked respondents to have in mind their current trainee: "did you find that your current trainee was able to...." Respondents were also invited to offer further comments.

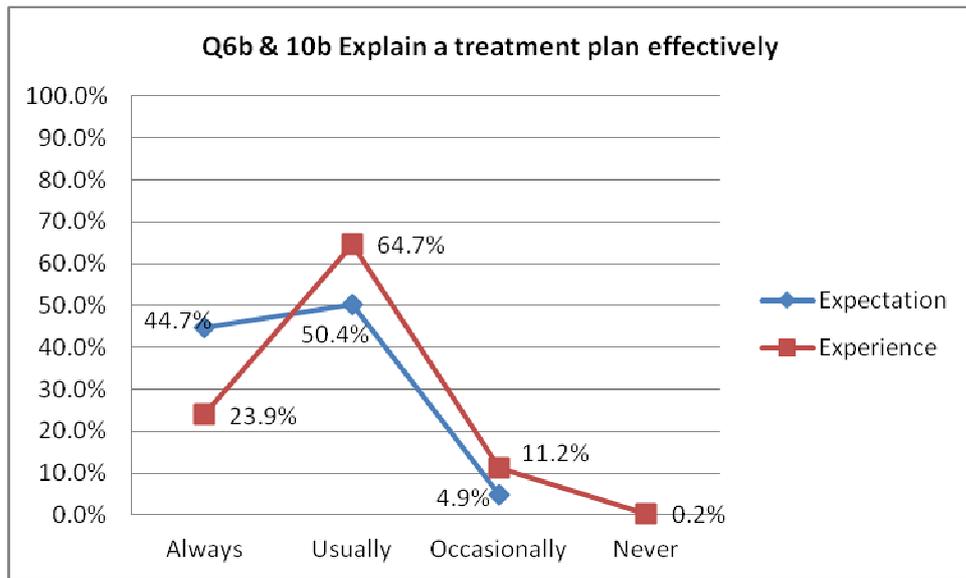
To show similarity and difference between what the respondents expected in general of trainees (expectation) and the abilities of their current trainee (experience), the results of questions 6 and 10 are presented together.

**Figure 6. Expectation v Experience: listen to a patient and respond appropriately**



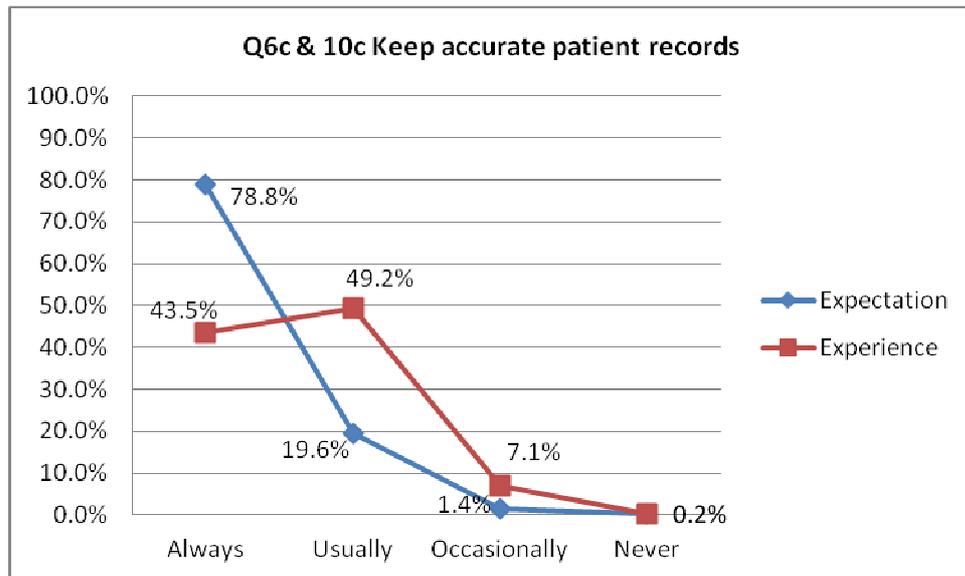
- As a group, the expectations were greater than experience in that a considerably higher percentage of respondents (62%) expected trainees to *always* listen to a patient effectively and respond appropriately compared with the 30% who judged their current trainee *always* able to do this.
- However, combining the *always* and *usually* responses gives a difference of less than 6% between ‘expectations’ and current ‘experience’.
- Looking at the righthand end of the figure (*occasionally/never*), expectations were greater than experience of the current trainee as over 7% of respondents had trainees that were only *occasionally* able to listen to a patient effectively and respond appropriately, compared to less than 2% expecting that.
- Although high proportions (62%) of respondents expected trainees to *always* listen to a patient effectively and respond appropriately, the ability to do so is a skill likely to be developed with experience, over time extending beyond graduation.

**Figure 7: Expectation v Experience: explain treatment plan**



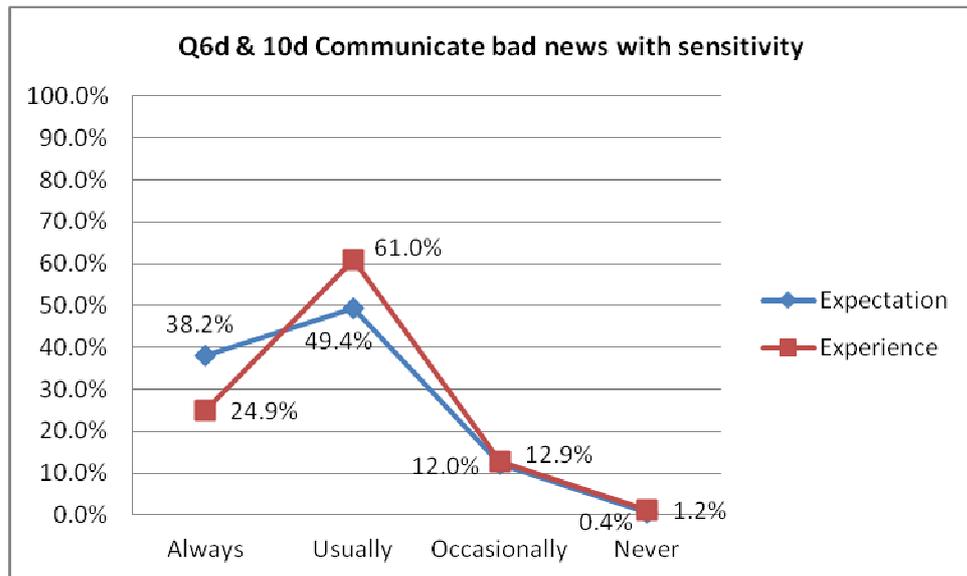
- As a group, the expectations were greater than experience in that a higher percentage of respondents (45%) expected trainees to *always* explain a treatment plan effectively to a patient (parent carer) compared with the 24% who judged their current trainee *always* able to do this.
- However, combining the *always* and *usually* responses gives a difference of approximately 6% between ‘expectations’ and current ‘experience’.
- Looking at the righthand end of the figure (*occasionally/never*), expectations were greater than experience of the current trainee as over 11% of respondents had trainees that were only *occasionally* able to explain a treatment plan effectively to a patient (parent carer), compared to less than 5% expecting that.
- Although over 95% of respondents expected trainees to either *always* or *usually* explain a treatment plan effectively to a patient (parent carer), the ability to do so is a skill likely to be developed with experience, over time extending beyond graduation. Despite this, it is concerning that over 11% felt that their current trainee could only do this *occasionally*.

**Figure 8: Expectation v Experience: patient records**



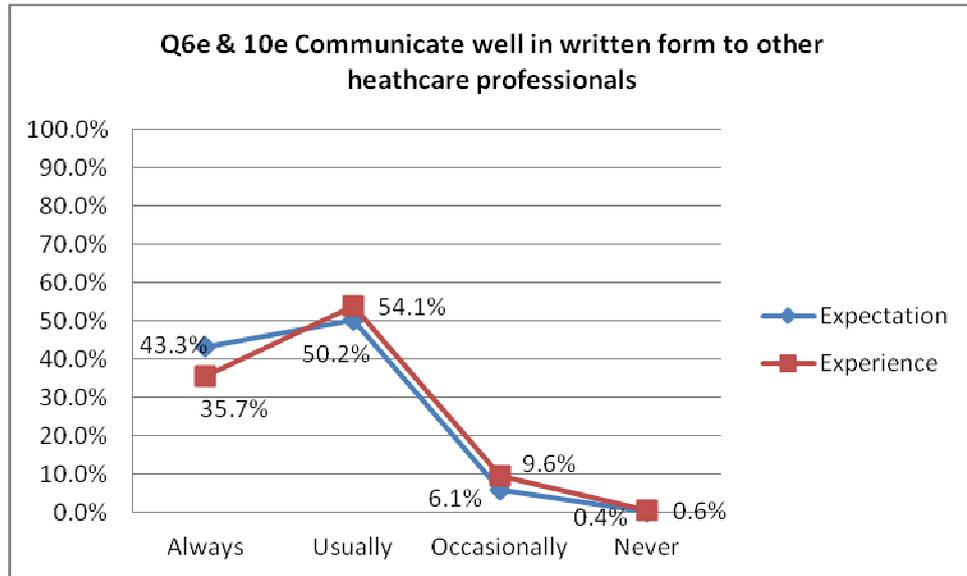
- As a group, the expectations were greater than experience in that a considerably higher percentage of respondents (79%) expected trainees *always* to keep accurate patient records compared with the 44% who judged their current trainee *always* able to do this.
- Combining the *always* and *usually* responses gives a difference of approximately 5% between ‘expectations’ and current ‘experience’.
- Looking at the righthand end of the figure (*occasionally/never*), expectations were greater than experience of the current trainee as over 7% of respondents had trainees that were only *occasionally* able to keep accurate patient records, compared to less than 2% expecting that.
- This is one of three of the 11 listed skills which over 75% of respondents expected new trainees *always* to be able to do. Experience fell far short of this and from a medico-legal perspective, accurate record keeping is essential from the outset, making this disparity with experience of some concern.

**Figure 9: Expectation v Experience: communicate bad news**



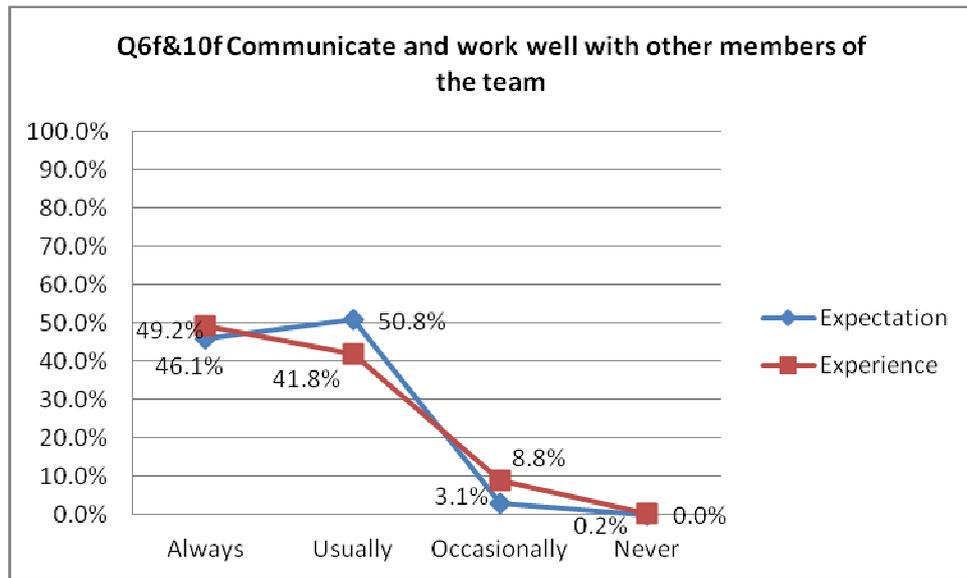
- As a group, the expectations were greater than experience in that a higher percentage of respondents (38%) expected trainees to *always* communicate bad news to a patient with sensitivity compared with the 25% who judged their current trainee *always* able to do this.
- However, combining the *always* and *usually* responses gives a difference of approximately 2% between ‘expectations’ and current ‘experience’.
- Looking at the righthand end of the figure (*occasionally/never*), expectations were only modestly greater than experience of the current trainee. Notably around 14% of current trainees were able to communicate bad news with sensitivity only *occasionally* or *never*.
- Although high proportions (38%) of respondents expected trainees *always* to communicate bad news to a patient with sensitivity, the ability to do so is a skill likely to be developed with experience, over time extending beyond graduation.

**Figure 10: Expectation v Experience: written communication**

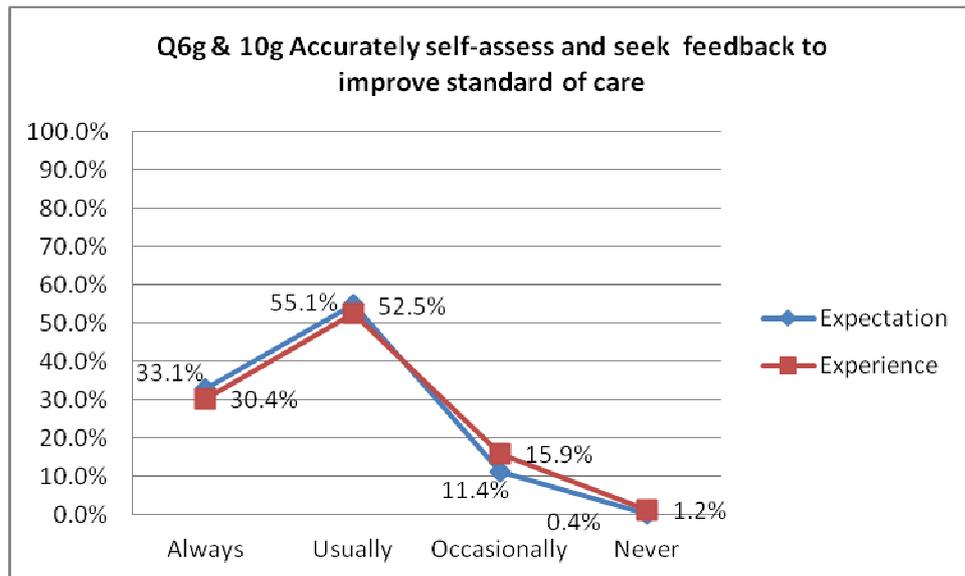


- As a group, the expectations were greater than experience in that a modestly higher percentage of respondents (43%) expected trainees *always* to communicate well in written form to other healthcare professionals compared with the 36% who judged their current trainee *always* able to do this.
- Combining the *always* and *usually* responses reduces the difference to less than 4% between ‘expectations’ and current ‘experience’.
- Looking at the righthand end of the figure (*occasionally/never*), expectations were greater than experience of the current trainee as over 9% of respondents had trainees that were only *occasionally* able to communicate well in written form to other healthcare professionals, compared to 6% expecting that.
- Although over 93% of respondents expected trainees to either *always* or *usually* communicate well in written form to other healthcare professionals, the ability to do so is a skill likely to be developed with experience, over time extending beyond graduation. Despite this, given that the named ability included writing prescriptions for laboratory work it is of some concern that over 9% felt that their current trainee could only do this *occasionally*.

**Figure 11: Expectation v Experience: team communication**



- The expectations of new trainees compared to experience of the current trainee were similar in that 49% expected trainees to *always* communicate and work well with other members of the team compared with 46% who judged their current trainee *always* able to do this.
- However, as with many of the other skills, when combining the *always* and *usually* responses the difference between ‘expectations’ and current ‘experience’ is in the order of 6%; i.e. the similarity between expectations and experience in this skill does not seem remarkable.
- This is confirmed by looking at the righthand end of the figure (*occasionally/never*), where expectations were again greater than experience as around 9% of respondents had trainees that were only *occasionally* able to communicate and work well with other members of the team, compared to 3% expecting that.
- The ability to communicate and work well with othe members of the team is a skill likely to be developed with experience, over time extending beyond graduation.

**Figure 12: Expectation v Experience: self assessment**

- The expectations of new trainees compared to experience of the current trainee were the most similar relative to the other 10 listed skills: 33% expected trainees to *always* accurately self-assess and seek feedback to improve standards of care compared with 30% who judged their current trainee *always* able to do this.
- However, as with many of the other skills, when combining the *always* and *usually* responses the difference between ‘expectations’ and current ‘experience’ is in the order of 5% between; i.e. the similarity between expectations and experience in this skill does not seem especially remarkable.
- This is confirmed by looking at the righthand end of the figure (*occasionally/never*), where expectations were again greater than experience as around 16% of respondents had trainees that were only *occasionally* able to accurately self-assess and seek feedback to improve standards of care, compared to 11% expecting that. This skill also has one of the highest percentages of respondents indicating that their current trainee could never do this, although at just over 1%, the numbers are low.
- At about 17%, the experience of current trainees *never* or only *occasionally* being able to accurately self-assess and seek feedback, puts this skill at the lowest position relative to the other 10 skills. This ability is essential for the development of the trainee and the standards of care they provide and is essential from the outset of postgraduate training. However, it is also contingent on the relationship with the trainer and the workplace environment.
- The open comments returned were illuminating and included:

*"Slightly over confident. Knows theory but needs to appreciate clinical competency weaknesses. Doesn't ask for help enough."*

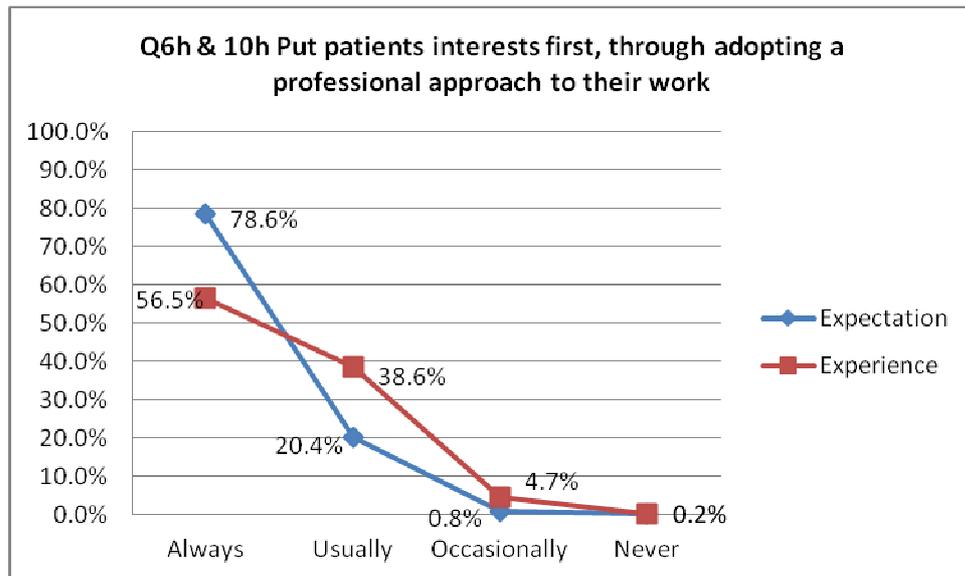
*"Some find self appraisal and reflection difficult at first."*

*"Did not know initially when to ask for help."*

*"Tendency not to seek advice when appropriate and continue into difficulties!"*

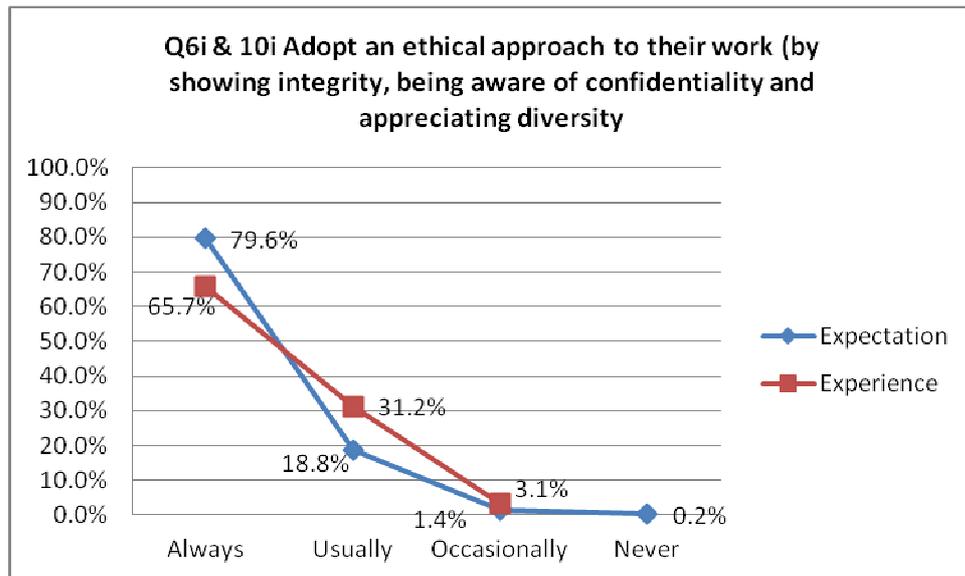
*"Unwilling to take advice."*

**Figure 13: Expectation v Experience: professional approach**



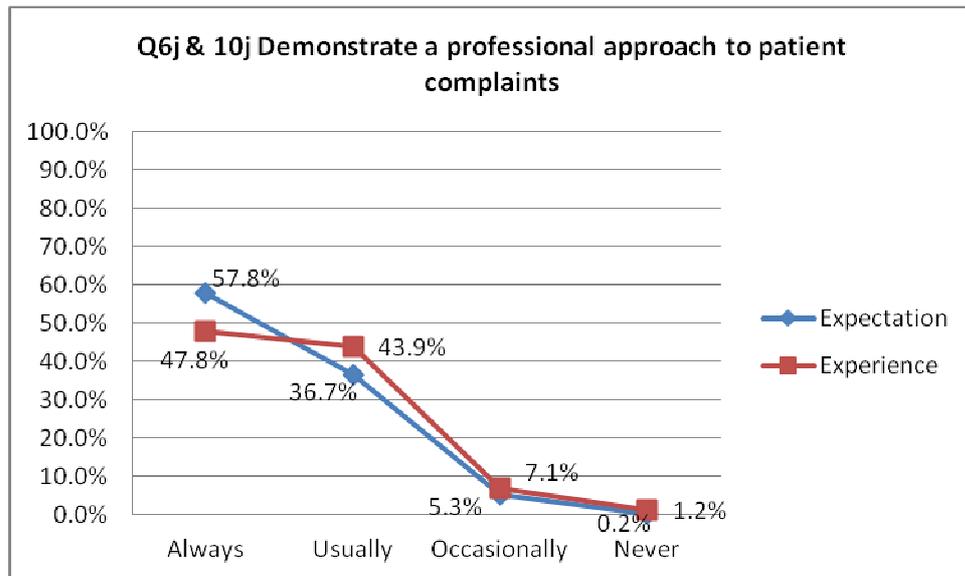
- As a group, the expectations were greater than experience in that a higher percentage of respondents (79%) expected trainees always to put patient interests first through adopting a professional approach to their work compared with 57% who judged their current trainee always able to do this.
- Combining the *always* and *usually* responses gives a difference of approximately 4% between ‘expectations’ and current ‘experience’.
- Looking at the righthand end of the figure (*occasionally/never*), expectations were greater than experience of the current trainee as about 5% of respondents had trainees that were only *occasionally* putting patient interests first through adopting a professional approach to their work, compared to less than 1% expecting that.
- This is one of three of the 11 listed skills which over 75% of respondents expected new trainees *always* to be able to do. Experience fell short of this and given the focus on patients, this disparity with experience of some concern. This is an ability that should be in place at the outset of postgraduate foundation training.

**Figure 14: Expectation v Experience: ethical approach**



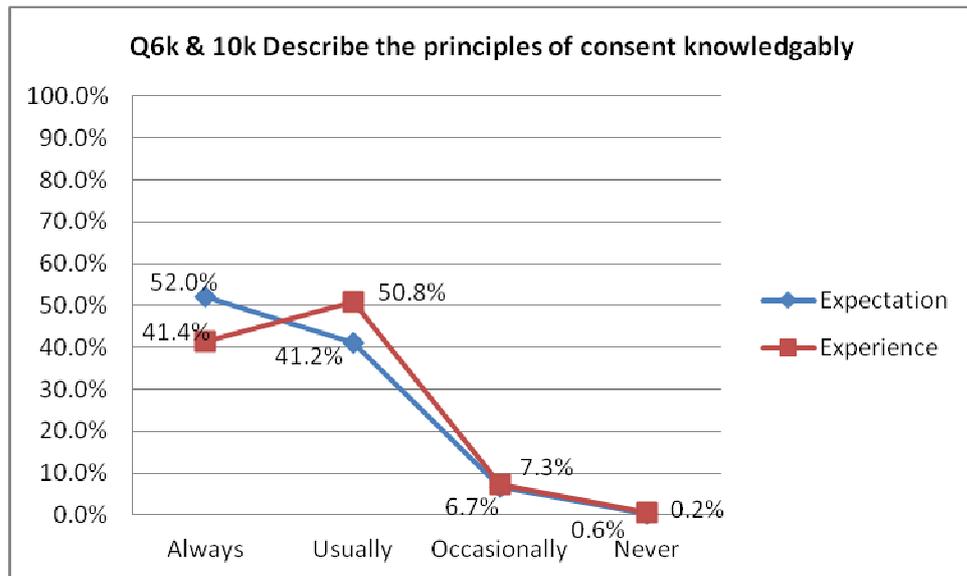
- As a group, the expectations were greater than experience in that a higher percentage of respondents (80%) expected trainees *always* to adopt an ethical approach to their work (by showing integrity, being aware of confidentiality and appreciating diversity and equality) compared with 66% who judged their current trainee *always* able to do this.
- Combining the *always* and *usually* responses gives a difference of approximately 1% between ‘expectations’ and current ‘experience’; this difference was one of the lowest across the 11 abilities.
- Looking at the righthand end of the figure (*occasionally/never*), expectations were greater than experience of the current trainee as about 3% of respondents had trainees that only *occasionally* adopted an ethical approach to their work, compared to about 1% expecting that.
- This is one of three of the 11 listed skills which over 75% of respondents expected new trainees *always* to be able to do. Experience fell short of this although this is an ability that should be in place at the outset of postgraduate foundation training.

**Figure 15: Expectation v Experience: patient complaints**



- As a group, the expectations were greater than experience in that a higher percentage of respondents (58%) expected trainees *always* to demonstrate a professional approach to patient complaints compared with 48% who judged their current trainee *always* able to do this.
- Combining the *always* and *usually* responses gives a difference of less than 3% between ‘expectations’ and current ‘experience’.
- Looking at the righthand end of the figure (*occasionally/never*), expectations were greater than experience of the current trainee as over 7% of respondents had trainees that were only *occasionally* able to demonstrate a professional approach to patient complaints, compared to about 5% expecting that. Further, there was a difference of 1% for the *never* option.
- The ability to handle patient complaints professionally is a skill likely to be developed with experience, over time extending beyond graduation.

**Figure 16: Expectation v Experience: consent**



- As a group, the expectations were greater than experience in that a higher percentage of respondents (52%) expected trainees *always* to describe the principles of consent knowledgeably compared with 41% who judged their current trainee *always* able to do this.
- Combining the *always* and *usually* responses gives a difference of approximately 1% between ‘expectations’ and current ‘experience’.
- Looking at the righthand end of the figure (*occasionally/never*), expectations were often only marginally greater than experience of the current trainee ; this difference was one of the lowest across the 11 abilities.
- The ability to describe the principles of consent is one that should be in place at the outset of postgraduate foundation training and it is perhaps of some concern that 7% do not expect or experience this.

### Summary remarks

Overall, for each of these eleven skills, respondents' expectations of new graduates outstripped their experience. This is disappointing although we are unable to determine whether current trainees were under-performing or whether the expectations of current trainers were unrealistic.

However, much of the disparity between expectations and experiences diminishes when the always and usually responses are combined.

Experience most closely matched expectations for the ability to describe the principles of consent and communicate bad news with sensitivity. Experience also met expectations for adopting an ethical approach always and usually.

Experience was most adrift from expectations for the ability to: explain a treatment plan effectively; communicate and work with other members of the team; listen to a patient effectively and respond appropriately; and keep accurate patient records. This last skill in particular is one that the new graduate might be expected to be able to do at the start of their foundation training. Some clues about what was lacking in their trainees was revealed in the open comments:

*"Records tend to be a bit standardised rather than individually specific especially when recording discussions and outcomes."*

*"She can be a little abrupt with patients even though she has their best interests at heart."*

*"...has no treatment planning skills."*

*"Good clinician, bad at paperwork."*

*"Poor knowledge of integrated treatment planning due to departmental nature of undergrad education."*

*"Not a team player."*

*"Very poor communication with regards to other professionals i.e. self and other team members."*

*"Generally good but occasionally would 'hide' a bad result or refer a difficult case or patient on to another colleague without prior discussion."*

If the 11 abilities are ranked by expectations that all new trainees should always be able to do them, then three abilities stand out: keeping accurate patient records (79%), putting patients interests first through adopting a professional approach (79%), and adopting an ethical approach to their work (80%). Expectations were lowest for the ability to communicate bad news and accurately self-assess and seek feedback. That expectations were relatively low for communicating bad news is perhaps not surprising given that this is a skill that is likely to develop with experience. In contrast, the new graduate might legitimately be expected to seek feedback and self-assess although being able to seek feedback will be affected by the trainee/trainer relationship and the accuracy of self-assessment might also be expected to develop over time.

## ***Trainers' expectations of DF1s' clinical skills***

In this section we present results of trainers' expectations of trainees' clinical skills and whether these expectations have been met in relation to the following 10 areas (noting section area of the questionnaire).

- Treatment planning (clinical judgement) (Section 5)
- Plastic Restorations (Section 6)
- Fixed Prosthodontics (Section 7)
- Removable Prosthodontic Restorations (Section 8)
- Endodontics (Section 9)
- Periodontal Therapy (Section 10)
- Paediatric Care (Section 11)
- Orthodontic Treatment (Section 12)
- Oral; Surgery (Section 13)
- Oral Medicine (Section 14)

### **Trainers' expectation of a new trainee**

In the questionnaire trainers were asked to indicate their expectations of a new trainee in relation to a number of different skills in the 10 clinical areas.

They were given a list of five different options to choose from to represent their level of expectation. The descriptors for each option are listed in the table below.

**Table 6. Description of expectation options**

	Descriptor
<i>On own, with confidence</i>	The new graduate is able to undertake the treatment easily, quickly, and to a good standard without the requirement of the trainer's advice or assistance.
<i>On own with limited confidence, slowly</i>	The new graduate is able to undertake the treatment without the requirement of the trainer's advice or assistance. They have a clear understanding about what they were required to do but the treatment was carried out slowly and they may have had some difficulties during the clinical session. They were less confident of the procedure.
<i>On own, following advice</i>	The new graduate felt they needed to ask for advice relating to the proposed treatment before or during the clinical session. However, following the trainer's advice, the new graduate was able to finish the treatment successfully on his/her own.
<i>With difficulty, needs assistance</i>	The new graduate felt unclear about the treatment that was required and needed to ask for assistance, from the trainer, during the procedure. The trainer's advice alone was not enough for the new graduate to undertake the treatment on his/her own and they needed close

	assistance for some or all of the procedure to complete this work.
<i>Unable to undertake</i>	The new graduate felt they did not have the experience or knowledge to be able to complete the treatment on his/her own. The trainer may need to undertake the procedure while the trainee observes or there may be a need to refer the patient.

### Expectation met?

Trainers were also required to assess if their current trainee had met this expectation. Three response options were given in the questionnaire, 'Met', 'Not Met' and 'Not Observed'.

### Data analysis and presentation

The results here are presented in question order under the 10 clinical themes. A full table of all results can be viewed in Appendix V). The first five columns in the table represent the 'Trainers' Expectation of a New Trainee'. Expectations are perhaps an indication of whether or not trainers feel the skill is basic or core– high expectations suggest that it is; low expectations suggest that it is not. However this expectation may not be shared by the Dental Schools who may have altered their teaching in the light of new scientific evidence.

To help us analyse these data we ranked expectation by allocating a numerical value to each descriptor (as set out in Table 7) and taking the mean to produce a 'Core Skill Rank Score'.

**Table 7. Assigning numerical values to descriptors**

Descriptor	Value
On own, with confidence	5
On own with limited confidence, slowly	4
On own, following advice	3
With difficulty needing assistance	2
Unable to undertake	1

A ranking score closer to 5 indicates high expectation; closer to 1 indicates low expectation. The shaded column in each table highlights the 'Core Skill Rank Score'. Appendix IV is laid out in Core Skill Rank Order.

The remaining columns to the right show the percentage and ranking of trainers' expectation. This may be not met or not observed. The ranking indicates when the expectations are most often recorded [not met range 3-18% - not observed 0-72%].

### Interpretation and discussion

The tables in the following pages have broken down the data by clinical question. The discussion points after each table focus on data which show relatively high levels of expectation (Core Skill Rank Score over 3) combined with relatively high level 'not met'. We also comment on evidence of a high 'not observed' percentage when the core skill ranking has identified it as an important skill.

Table 8 sets out possible interpretations of high and low expectations in relation to whether they are thought to be met, not met or not observed.

**Table 8. Interpretation of expectation**

	Met	Not Met	Not Observed
High Expectations (On Own)	Successful outcome	Core skills not met? Inadequate UG training? Expectations too high?  Expectation of Trainer and Dental School at variance?	Experience? De-skilling?
Low Expectations	Successful UG teaching. Further training in DF1	Complex skill (not core) Trainee not prepared.	Not Core Skill

**Met, Not met** - Trainers indicated whether their current trainee met or did not meet their expectations. Expectations met suggest appropriate preparation in undergraduate training. Where expectations are low, there is clear scope to develop skills further during DF1 and beyond. Expectations not met may indicate that the skill is under-developed in their trainee. In cases where the Core Skill Rank Score is also high, this may indicate that the skill is 'core' or quite basic and yet not being met suggesting either potentially inadequate preparation during undergraduate education or overly high expectations. Where the Core Skill Rank Score is low but the unmet percentage is high, this may indicate a complex skill for which, unsurprisingly, new graduates are not prepared.

Where sizable numbers of trainers have indicated that expectations are not being met we use open comments to explore why this may be.

**Not Observed** – This option was added following the pilot study undertaken in Wales. There will be some skills that a trainer will not observe. However, high levels of 'not observed' raise questions about whether the trainees are gaining experience in all areas of the Foundation training curriculum. Our mapping of skills against the "Curriculum for UK Dental Foundation Programme Training"<sup>5</sup>

shows areas which may not be covered in some Foundation Training and we have highlighted these.

### **Core Skill Rank Score (Appendix V)**

The table in Appendix III highlights trainers' expectations of the clinical skills of their trainees. The table is laid out in "Core Skill Rank Score" with the highest first. A high rank suggests that the skill is seen by trainers as very important. We have attempted to identify clear "core skills" which are highlighted in the lightest shading in the table. Those skills where there is a variation in opinion in the middle level of shading and those skills not felt to be core in the darkest shading. This is of course somewhat subjective but does give the basis of further discussion between trainers and Dental Schools. Some skills may be much lower in the rankings than expected by some Dental School leaders (such as construction of a metal based denture, ceramic veneers, post retained crowns, and a number of bridge designs, for example). These results provide the basis for transparent discussion about what is taught in Dental Schools and what is expected in Foundation Training.

## Treatment Planning (Clinical Judgement)

Table 9

A new trainee should be able to complete a history & examination, diagnose, carry out special tests and plan effectively in the following situations...

QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
1	Q12_a Dentate minimal dental disease	341	148	20	1	0	4.6	5%	14	0%	46
2	Q12_b Partially dentate minimal disease	287	178	40	5	0	4.5	7%	12	0%	46
3	Q12_c Edentulous wearing old complete dentures	139	226	111	31	3	3.9	12%	7	7%	39
4	Q12_d Dentate simple periodontal disease (BPE 3)	235	204	68	3	0	4.3	7%	12	1%	45
5	Q12_e Dentate minimal caries complex periodontal disease (BPE 4)	62	204	202	42	0	3.6	11%	8	6%	40
6	Q12_f Dentate several large carious lesions simple periodontal disease (BPE 2-3)	80	214	182	33	1	3.7	12%	7	2%	44
7	Q12_g Dentate simple large carious lesions complex periodontal disease (BPE 3-4)	24	170	232	82	2	3.3	14%	5	6%	40
8	Q12_h Dentate heavily restored dentition - failing. Simple periodontal disease	30	108	223	144	5	3	12%	7	4%	42
9	Q12_i Dentate young - significant anterior toothwear	15	83	195	190	27	2.7	10%	9	26%	21
10	Q12_j Partially dentate - older significant generalised toothwear moderate periodontal disease	14	92	197	183	24	2.8	11%	8	13%	33

The Core Skill Rank Score suggests that the treatment planning for simple dental problems (1, 2, 3, 4, 5 & 6) are particularly important. However as complexity of the treatment planning increases then the rank score drops suggesting that these skills may not be expected on graduation. For example expectations of skills in the treatment planning of toothwear (9 & 10) and the management of the failing dentition (8) are lower. Interestingly expectations of skills in the management of complex periodontal disease (7) are also lower.

Investigating where expectations are not being met suggests that complete denture management (3) has a high expectation ranking (3.9) but 12% of respondents reported that their expectations were 'not met'.

Complete denture teaching within Dental Schools has been reducing over the last 20 years. This mirrors the epidemiological data indicating more within the population are retaining their teeth. Many trainers will have been taught more complete denture prosthodontics at dental school and will have had extensive experience of the construction of complete dentures if they graduated over 20 years ago. Indeed the majority of trainers in the study qualified over 20 years ago (48%), with 37.3% of them graduating 11-20 years ago. This may be an area that needs discussion with trainers to highlight the limited experience that trainees have in this area because of changes in undergraduate teaching. Another such area is the management of large carious lesions (6) which has relatively high expectations with 12% not met. Again undergraduates' experience of such lesions will be reduced compared to their predecessors, particularly in some areas of the country where caries experience is low.

## Plastic Restorations

Table 10

A new trainee should be able to....

QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
11	Q14_a Restore single surface (occlusal) amalgam or composite	443	63	4	0	0	4.9	4%	15	0%	46
12	Q14_b Restore 2 surface (MO) amalgam or composite	355	147	7	1	0	4.7	8%	11	0%	46
13	Q14_c Restore 3 surface (MOD) amalgam or composite	295	192	19	4	0	4.5	11%	8	2%	44
14	Q14_d Restore large broken down tooth	69	227	182	32	0	3.7	15%	4	4%	42
15	Q14_e Restore CI V cavity with plastic restoration	381	115	14	0	0	4.7	4%	15	4%	42
16	Q14_f Restore a CI III composite	304	187	18	1	0	4.6	6%	13	4%	42
17	Q14_g Restore a CI IV composite	260	212	36	2	0	4.4	8%	11	7%	39

The Core Skill Rank Scores are all high here suggesting that trainers see this as a core area of activity. However, interestingly as restoration size increases (MO - MOD - larger) so the instances of expectations not being met increase with large broken down restorations showing a 15% difference in expectations. This may simply be down to experience of the graduate who may not have had much experience of large carious lesions in this area particularly in some parts of the country. Deanery 3 (18.2%), Deanery 8 (37.5%) and Deanery 12 (26.9%) were those Deaneries which had the highest percentage of trainers reporting trainees had not met expectations. Dental schools that feed into these Deaneries follow a similar pattern with higher percentages linked to School 5 (20.8%) and School 3 (27.6%). This variation is discussed in more detail later and data is presented on page 54.

Clearly again this may be a result of changes in the epidemiology of dental disease and a difference between the experiences of the trainer and the trainee. The older trainer will have managed large carious lesions on a regular basis and hence their expectations will be high. However, Schools will need to take heed of these concerns about trainees' inability to remove caries completely from a cavity. Over the last 10 years there has been a significant change in the underlying philosophy in this area (Ricketts et al, 2008)<sup>16</sup>. Undergraduates will increasingly be taught to leave caries over the pulpal areas which may be at variance with trainers established practise. Clearly this is an area where communication between Dental Schools and Trainers would be valuable to highlight this fundamental change.

*"unable to recognise caries remaining in cavity preps so although cavity form was correct and final restoration good caries not always removed and had to be done so by trainer on the occasions DF1 observed carrying out procedure."*

*"experience has proved to me that the caries removal is more of a problem for the inexperienced VDP rather than the final restoration"*

*"Caries removal is an issue here."*

*"caries recognition / removal and retention appear poorly taught."*

Similarly trainers had concerns about the move away from the use of amalgam to composite for posterior restorations.

*"There is not enough experience/teaching of amalgam restorations in the Dental school the trainee attended. The teaching appears to be all composites as direct restorations."*

*"My trainee had never done an amalgam restoration on a patient!"*

*"Very little experience if any in the use of amalgam - the default restorative material in general dental practice!"*

Again improved communication here would help trainers and trainees.

## Fixed Prosthodontic Restorations

Table 11

A new trainee should be able to undertake all the necessary procedures involved in the provision of...

QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
18	Q16_a Anterior ceramic veneer	27	133	228	110	12	3.1	15%	4	25%	22
19	Q16_b Anterior metal ceramic/ceramic crown	74	221	168	45	2	3.6	10%	9	9%	37
20	Q16_c Post retained anterior metal ceramic/ceramic crown	33	150	202	114	11	3.2	18%	1	14%	32
21	Q16_d Metal ceramic/ceramic crown on a premolar tooth	72	228	166	43	1	3.6	10%	9	11%	35
22	Q16_e Metal ceramic/ceramic crown on a molar tooth	66	215	162	65	2	3.5	12%	7	11%	35
23	Q16_f Gold inlay/onlay	26	126	204	133	21	3	12%	7	36%	18
24	Q16_g Aesthetic inlay/onlay (ceramic or composite)	16	83	215	162	34	2.8	12%	7	45%	15
25	Q16_h Resin retained bridge (Maryland)	52	157	236	62	3	3.4	9%	10	17%	29
26	Q16_i 2 unit cantilever metal ceramic bridge	31	122	246	105	6	3.1	8%	11	32%	19
27	Q16_j 3 unit fixed-fixed metal ceramic bridge	12	87	204	172	35	2.7	10%	9	48%	14
28	Q16_k Large anterior fixed-fixed metal ceramic bridge	2	37	119	230	122	2.2	8%	11	61%	8
29	Q16_l Large posterior metal ceramic bridge	5	28	104	237	136	2.1	9%	10	61%	8
30	Q16_m Implant retained crown/bridge	1	2	16	71	420	1.2	10%	9	66%	6
31	Q16_n An assessment of the quality of technical work and provide effective feedback to the laboratory	37	106	202	145	20	3	13%	6	18%	28

Lower Core Skill ranking scores are evident here but metal ceramic and all ceramic crowns (19, 21, 22) have high expectations with bridgework (25, 26, 27, 28, 29) showing lower expectations particularly as the complexity of the bridge increases. Interestingly ceramic veneers had lower expectations scores of 3.1 but a high 'not met' score suggesting that there is variation in the expectations and experience of trainers in this area. Also in relation to the anterior ceramic veneer there was a high not observed score of 25% suggesting that this procedure may not be experienced in foundation training. Reference to the "Curriculum for Foundation Training" does not specifically mention ceramic veneers but rather (section II subsection 2) remains generic.

Post retained crowns had a slightly lower expectation ranking but had a high 'not met' score. This is not entirely unexpected as these restorations are more variable (different types and techniques) and have a higher failure rate than other similar restorations so may cause a new graduate difficulties.

In the open comments section there were a number of trainers who were concerned about the experience of the new graduate in this area. Of particular concern are the comments which suggest that the new graduate has not undertaken some of these procedures in their undergraduate course (see comments below). There is a concern from trainers about trainees experience and Schools need to listen and respond to this. However, it is important to realise that students will have a wide range of experience which will vary because of the patient base they were exposed to during their training. Clearly what would be of help here is the production of a 'log of experience' for trainees at the beginning of Foundation Training. This will allow Trainers to structure and focus their training appropriately.

*"over the years I find that graduates have very limited experience of crown provision and sometimes have never done bridges or postcores at undergraduate level."*

*"Trainees seem to have limited experience of crown and bridge- ours have had no experience of post preparations on patients and very limited experience of other crowns/bridges"*

*"expectation not met / unable to undertake due to zero experience of certain Tx as undergrad"*

When looking at bridgework it is clear that expectations are lower and 'not met' scores are 10% or lower. However there are high 'not observed' scores suggesting that simple conventional bridges are seldom undertaken within Foundation Training.

The assessment of technical laboratory quality also had a high 'not met' score although the expectations here were lower. Undergraduates undertake much less technical laboratory procedures than their predecessors and it may be assumed that they are less equipped to assess the quality of laboratory work and so discuss this with the technologist. However with the changes in the professional status of dental technology then this may not be such an issue but will require better teamwork and reliance on other members of the dental team. This is a shift highlighted in the "Curriculum for Foundation Training" (section II section 5) so it could be assumed that this skill will be further developed during the DF1 year.

## Removable Prosthodontic Restorations

Table 12

A new trainee should be able to undertake all the necessary procedures involved in the provision of...

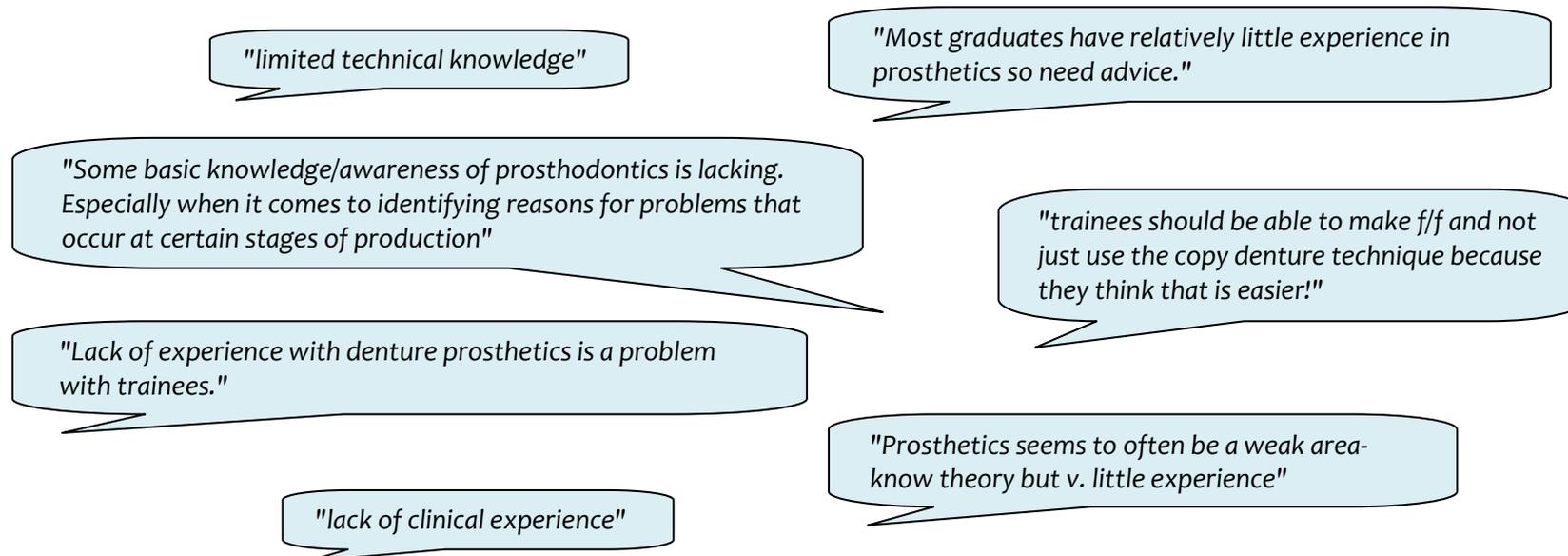
QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
32	Q18_a Complete denture	80	277	101	51	1	3.8	16%	3	7%	39
33	Q18_b Copy denture (complete denture)	52	172	200	75	11	3.4	16%	3	25%	22
34	Q18_c Acrylic partial denture	154	250	93	12	1	4.1	9%	10	5%	41
35	Q18_d Chrome partial denture	48	169	220	71	2	3.4	11%	8	19%	27
36	Q18_e Repair to an existing complete/partial denture	178	181	138	8	5	4	7%	12	9%	37
37	Q18_f Reline to an existing complete denture	114	206	165	23	2	3.8	10%	9	19%	27
38	Q18_g Addition of teeth to an existing partial denture	185	201	110	12	2	4.1	6%	13	8%	38
39	Q20_a Effectively design a partial denture	89	221	157	42	1	3.7	14%	5	8%	38
40	Q20_b Modify the tooth position on a wax try-in	107	237	115	49	2	3.8	14%	5	23%	23
41	Q20_c Communicate effectively with the laboratory through written and verbal means	146	220	122	20	2	4	11%	8	5%	41
42	Q20_d Effectively quality control laboratory work in relation to removable prosthodontics	84	200	161	61	4	3.6	15%	4	14%	32

The highest expectations of construction of an acrylic RPD (34), Repair (36) and Addition (38) were largely met. However, expectations for a graduates ability to undertake the construction of a complete denture (32), design a partial denture (39), modify a try-in (40) were also high but these were 'not met' by 14-16% of respondents suggesting that some graduates found these skills challenging. In relation to the complete denture (32) this may reflect changes in undergraduate teaching and experience in this area which has reduced. This was also discussed in the treatment planning section (section 5) and relates to a significant reduction in the number of people who are edentulous over the last twenty years, especially in some areas of the country. Other areas where the expectations were not met include copy denture (33) where again there may be a mismatch between the

experiences and teaching of the graduate versus that of the trainer. Copy denture teaching varies between Dental Schools and better communication of what the undergraduates are taught would help here and make this more transparent. The effective communication and quality control of laboratory work (41) was discussed in section 7 and the same points are relevant here.

A number of areas had slightly high 'not observed' scores, such as construction of a chrome partial denture (35) at 19%, relining of existing complete denture (37) and modifying a try-in (40). It can be assumed that the relining and modifying try-in are seen as simple procedures which do not need any observation. However it is somewhat concerning in relation to the chrome partial denture. This may suggest that the trainees are not gaining experience in this area. There could be a number of reasons for this including the lack of suitable patients, trainer clinical preference and the patient charges for this treatment in the NHS. Further work would be required in to confirm this and this is best done at Deanery level to ensure a broad based experience within the DF1 year.

The open comments in this area clearly highlighted some trainers concerns over the limited experience of the new graduates.



This is an area where constructive discussions are needed between School's and Foundation Trainers to re-align the level of experience required in this area of clinical practice.

## Endodontics

Table 13

A new trainee should be able to...

QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
43	Q22_a Effectively manage a vital pulp exposure	162	228	104	16	0	4.1	7%	12	6%	40
44	Q22_b Effectively manage acute periapical abscess	162	241	89	17	1	4.1	8%	11	3%	43
45	Q22_c Undertake primary endodontic treatment in an anterior tooth	175	255	64	16	0	4.2	6%	13	5%	41
46	Q22_d Undertake primary endodontic treatment in premolar tooth	135	272	72	31	0	4	9%	10	5%	41
47	Q22_e Undertake primary endodontic treatment in molar tooth	61	238	124	83	4	3.5	18%	1	7%	39
48	Q22_f Re-treat a Root Canal Treated anterior tooth	18	81	198	180	33	2.7	8%	11	38%	17
49	Q22_g Re-treat a Root Canal Treated premolar tooth	9	55	166	203	77	2.4	6%	13	51%	13
50	Q22_h Re-treat a Root Canal Treated molar tooth	6	31	117	200	156	2.1	8%	11	53%	11
51	Q22_i Remove a fractured post from canal	2	8	42	253	205	1.7	9%	10	59%	9
52	Q22_j Remove a fractured endodontic instrument from canal	2	7	23	179	299	1.5	9%	10	65%	7
53	Q22_k Undertake apical surgery	1	3	9	160	337	1.4	9%	10	66%	6

The Core Skill Rank Scores reflect the increasing difficulty of the procedures identified highlighting reducing expectations of the trainers. It is clear that trainers expect the basics of endodontics (49) to be in place and all of the procedures 43-46 reflect this. In these procedures the percentage of expectations 'not met' is relatively low. Molar endodontics however, has a relatively high ranking of 3.5 but the 'not met' score of 18% is high. This is an area where clinical experience and expertise is linked and where there needs to be discussion between Schools and Dental Foundation trainers

about what can be achieved within the 5 years of the undergraduate course. There will be variation in the experience of students in this area because of difficulty in finding suitable patients for this procedure and it is likely that a student would graduate having done only a few molar endodontic procedures and so would be inexperienced and require advice and perhaps sometimes assistance. By improving the transparency of what is actually achieved as an undergraduate, foundation trainers will be better able to target training and assistance for the trainee. We hope that this work will start this process but it is down to individual Schools and Deaneries to have detailed discussions.

Some of the additional comments highlighted that some trainers felt that undergraduates should have a high level of experience in many of these areas.

*"very poor competence with molar endo-again very limited undergraduate experience. reasonable competence with single rooted teeth"*

*"no experience removal post; thought only option remove tooth"*

*"again limited experience at undergraduate level and have difficulty locating molar canals and inadequate access opening."*

*"Primary endodontic skills for molar teeth very poor and source of most avoidable failures."*

## Periodontal Therapy

Table 14

A new trainee should be able to...

QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
54	Q24_a Give effective oral hygiene advice	467	41	2	0	0	4.9	4%	15	1%	45
55	Q24_b Make an accurate diagnosis of the periodontal condition	335	154	20	1	0	4.6	5%	14	1%	45
56	Q24_c Make an effective treatment plan for the periodontal condition	228	204	73	5	0	4.3	6%	13	2%	44
57	Q24_d Undertake simple non-surgical scaling and root surface debridement	357	136	16	1	0	4.7	4%	15	2%	44
58	Q24_e Accurately prescribe topical or systemic antibiotics for periodontal diseases	143	163	176	23	5	3.8	9%	10	17%	29
59	Q24_f Undertake surgical periodontal therapy	5	15	54	204	232	1.7	10%	9	65%	7
60	Q24_g Undertake surgical root coverage treatment for receding gums (such as grafting procedures)	2	2	7	51	448	1.2	10%	9	71%	2
61	Q24_h Undertake surgical crown lengthening procedures	2	2	29	153	324	1.4	11%	8	67%	5
62	Q24_i Undertake regenerative treatments for soft tissues	1	2	8	38	461	1.1	10%	9	71%	2
63	Q24_j Undertake regenerative treatments for bone lost	1	2	8	30	469	1.1	10%	9	72%	1

The Core Skill Rank Scores again reflect an increasing difficulty of the procedures. There is a clear line where trainers feel this is not expected and by definition not “core” (54-58=core). The percentage of expectations ‘not met’ is relatively low in these core areas.

## Paediatric Care

Table 15

A new trainee should be able to...

QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
64	Q26_a Effectively manage the behaviour of young children	104	316	72	18	0	4	4%	15	2%	44
65	Q26_b Effectively diagnose and manage caries in young children	198	251	56	5	0	4.3	6%	13	1%	45
66	Q26_c Undertake simple restorations in deciduous teeth	253	232	21	4	0	4.4	4%	15	2%	44
67	Q26_d Provide effective diet and oral hygiene advice to parents/guardians and children	407	94	8	1	0	4.8	3%	16	3%	43
68	Q26_e Provide effective caries prevention measures such as fluoride supplements	343	131	34	2	0	4.6	4%	15	6%	40
69	Q26_f Effectively undertake fissure sealant procedures	376	124	10	0	0	4.7	3%	16	7%	39
70	Q26_g Undertake simple restorations in permanent teeth in children	283	212	14	1	0	4.5	3%	16	3%	43
71	Q26_h Effectively manage traumatised anterior teeth	52	155	236	65	2	3.4	7%	12	20%	26
72	Q26_i Understand the guidelines for referral for extraction of teeth under GA	138	132	203	35	2	3.7	7%	12	12%	34
73	Q26_j Appropriately prescribe and provide stainless steel crowns on deciduous teeth	49	134	199	100	28	3.1	7%	12	52%	12
74	Q26_k Undertake pulp treatments on deciduous teeth	54	186	195	68	7	3.4	8%	11	26%	21
75	Q26_l Undertake root canal treatments on permanent teeth when appropriate	81	213	160	51	5	3.6	5%	14	17%	29
76	Q26_m Manage extraction of primary teeth under LA	159	262	83	6	0	4.1	4%	15	7%	39
77	Q26_n Manage extraction of permanent teeth in a child under LA	120	261	104	25	0	3.9	5%	14	14%	32

Most of the clinical skills in Paediatric Dentistry have high expectation ranking indicating that trainers expect these skills to be in place on graduation. Looking at expectations 'not met' does not highlight any mismatch suggesting that these skills are in place. However examining the 'not observed' percentages highlights areas where trainees may not be gaining experience particularly in areas such as the traumatised anterior tooth and pulp treatments on deciduous teeth. This again may relate to the patient base of the training practice, but also on trainer treatment preferences. The figures also suggest that stainless steel crowns on deciduous teeth may not be undertaken which may again reflect trainer practices but which is at odds with current evidence based guidance for the management of carious deciduous teeth and the training undergraduates may have received.

## Orthodontic Treatment

Table 16

A new trainee should be able to...

QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
78	Q28_a Accurately assess the orthodontic treatment need (IOTN)	97	203	128	66	16	3.6	8%	11	16%	30
79	Q28_b Explain to patient & parent the role of IOTN in the provision of orthodontic care	126	219	121	41	3	3.8	7%	12	19%	27
80	Q28_c Appropriately refer a patient for orthodontic treatment at the correct age	158	206	126	18	2	4	6%	13	10%	36
81	Q28_d Recognise the difference between normal occlusal development and malocclusion	230	193	65	20	2	4.2	6%	13	13%	33
82	Q28_e Judge the severity of a malocclusion and explain to patient & parent the likely treatment requirement	105	183	144	66	12	3.6	9%	10	22%	24
83	Q28_f Prescribe fit and adjust a removable appliance for space maintenance or simple tooth tipping	105	183	144	66	12	3.6	9%	10	68%	4

Trainers have indicated that they expect that the skills here should be in place by graduation and indeed with low 'not met' percentages we can assume that this is the case. However there are high percentages in the 'not observed' column indicating that the trainees may have limited experience in orthodontics in their DF1 training year. Accurate assessment of the IOTN is important for onward referral but there appeared to be some confusion over this in the data above and also in the comments.

"unable to treat with space maintainer or removable appliance on NHS without a contract unfortunately"

"No chance of providing ortho appliances in our NHS system for most trainees."

"IOTN is complex and even trainers don't understand it."

*"no provision of removable appliances in gds contract"*

*"How can we carry out orthodontic treatment without an orthodontic contract. Our PCT has moved to all ortho treatment being only provided by spr's"*

This is particularly the case with the provision of a simple removable appliance. Again this may be because of trainer practice and also the current contractual arrangements within NHS Dentistry. In "Curriculum for UK Dental Foundation Training" (Major competence: Section 9.1-9.4) there are statements that relate to orthodontic experience. These are of course limited but the concern here is that Trainees are not receiving any meaningful exposure to orthodontics. Clearly this will be an issue for Deaneries to investigate further and develop.

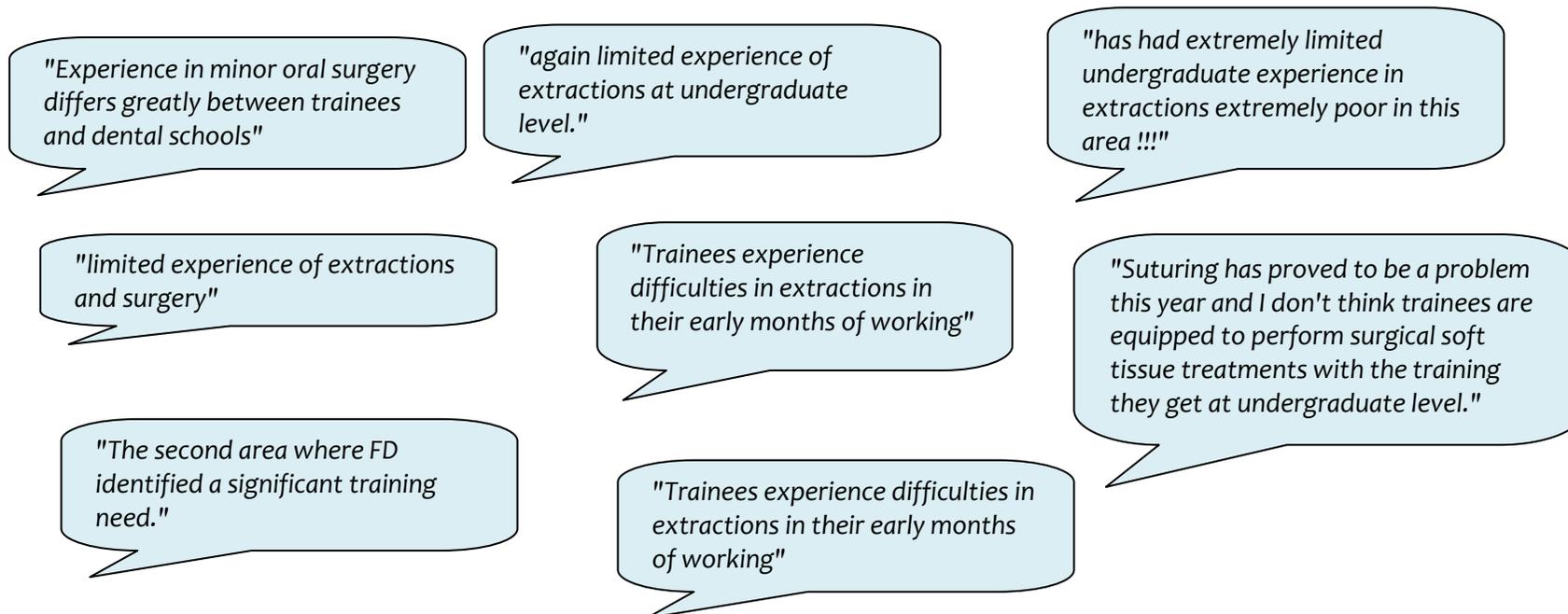
## Oral Surgery

Table 17

A new trainee should be able to...

QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
84	Q30_a Perform effective local anaesthetic procedures	396	107	7	0	0	4.8	6%	13	1%	45
85	Q30_b Extract erupted teeth	228	236	35	9	2	4.3	9%	10	1%	45
86	Q30_c Remove simple erupted roots	139	186	116	67	2	3.8	16%	3	2%	44
87	Q30_d Manage common peri-operative and post-operative complications of extraction	157	183	143	27	0	3.9	7%	12	4%	42
88	Q30_e Diagnose and manage a dry socket	273	175	57	5	0	4.4	4%	15	4%	42
89	Q30_f Diagnose and manage pericoronitis	315	149	43	3	0	4.5	3%	16	4%	42
90	Q30_g Recognize the need for surgical extraction	136	182	160	32	0	3.8	18%	1	4%	42
91	Q30_h Assess surgical management for a failed extraction	60	125	199	105	21	3.2	15%	4	14%	32
92	Q30_i Perform wound closure by suturing using appropriate suture materials	83	205	129	89	4	3.5	14%	5	18%	28
93	Q30_j Undertake surgical removal of simple roots with mucoperiosteal flap and bone removal	30	113	149	193	25	2.9	17%	2	21%	25
94	Q30_k Perform surgical removal of a lower third molar tooth	6	16	49	259	180	1.8	11%	8	54%	10
95	Q30_l Manage non-airway threatening acute infection	60	94	162	141	53	2.9	10%	9	38%	17
96	Q30_m Manage oro-antral communications	7	17	80	196	210	1.9	10%	9	67%	5
97	Q30_n Perform simple soft tissue surgery polyp mucocoele	5	18	80	200	207	1.9	10%	9	69%	3

In this area of clinical dentistry it was clear that there was a mismatch in the expectations of trainers and the inexperience of the trainees. This was particularly evident in simple extraction of erupted root skills (86), recognising the need for a surgical extraction (90), assessing the surgical management of a failed extraction (91) and suturing skills (92). Clearly these are all basic skills necessary for general practice and it is important that graduates know how to undertake these skills and are competent in them. Interestingly when we look at simple surgical skills as seen in the removal of roots (93), we can see a variation of opinion about whether a new graduate would have these skills (rank score of 2.9) with over half of the respondents indicating that the graduate would need advice or assistance at least. The additional comments below reinforce the concerns trainers have in this area.



Clearly a number of these skills are more relevant to a specialist oral surgery unit (93, 94, 96 & 97) where a graduate would gain plenty of experience and the expectations are understandably lower. The "Curriculum for Foundation Training" is clear in this area and expects that a trainee would by the end of their Foundation year be able to demonstrate an ability to extract erupted teeth and manage fractured or unerupted teeth. Many of the skills here improve with experience and the comments suggest a limitation in experience in this area. Open discussions between Schools and trainers may identify some of the reasons for limited experience and improve the situation.

## Oral Medicine

Table 18

A new trainee should be able to...

QN°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
98	Q32_a Identify both premalignant and malignant oral lesions and order a biopsy	79	143	157	113	18	3.3	7%	12	36%	18
99	Q32_b Detect difference between oral leukoplasia and a candidiasis infection	60	172	166	105	7	3.3	7%	12	40%	16
100	Q32_c Prescribe an adequate treatment for oral candidiasis	124	192	155	38	1	3.8	6%	13	32%	19
101	Q32_d Manage primary and secondary Herpes Simplex lesions appearing on intraoral tissues	96	181	165	62	6	3.6	6%	13	45%	15
102	Q32_e Prescribe a symptomatic treatment for recurrent aphthous ulcers	150	187	140	30	3	3.9	6%	13	31%	20
103	Q32_f Prescribe an adequate treatment for halitosis	130	202	136	37	5	3.8	4%	15	38%	17
104	Q32_g Identify oral cancer risk factors from the History and Examination and provide appropriate advice	307	158	29	15	1	4.5	3%	16	15%	31

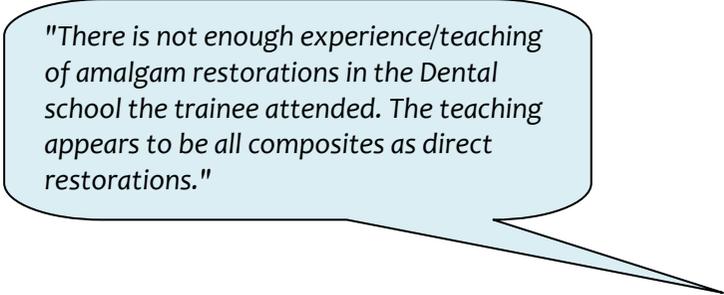
Expectations in Oral Medicine are high and it appears that these expectations are being met. However, the high 'not observed' scores suggest that the graduates will have limited experience of these skills. Further work is required in this area.

**Table 19: Expectations Not Met: Procedure cross-tabulated against School**

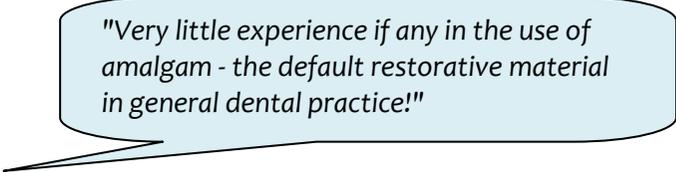
%	Restore broken down tooth (14)	Post retained anterior MCC (20)	Molar Endo (47)	Remove Simple erupted roots(86)	Simple Surgical roots extract flap & bone (93)	Need for surgical extract (Q90)	Anterior veneer (18)	Complete copy denture (33)	QA Lab work pros (31)	Primary Endo in molar tooth (47)	Modify tooth position on wax try-in	Suturing (92)
<b>Not Met Rank</b>	Rank 4	Rank 1	Rank 1	Rank 3	Rank 2	Rank 1	Rank 4	Rank 3	Rank 6	Rank 1	Rank 5	Rank 5
<b>Core Skill Rank Score</b>	3.7	3.2	3.5	3.8	2.9	3.8	3.1	3.8	3.0	3.5	3.8	3.5
School 1	17	15	17	10	24	10	15	17	12	17	12	17
School 2	9	12	14	19	14	9	7	7	9	14	7	5
School 3	28	38	24	24	21	21	24	24	28	24	28	28
School 4	11	20	9	14	11	14	16	9	7	9	7	9
School 5	21	30	28	23	24	31	22	25	17	28	17	16
School 6	16	25	19	14	17	17	25	23	21	19	28	21
School 7	16	19	19	19	16	28	16	25	9	19	19	22
School 8	10	8	13	10	10	5	5	8	8	13	0	5
School 9	2	10	8	8	8	8	4	8	8	8	2	8
Non-UK	20	5	15	20	15	17	12	12	15	15	22	13
<i>Mean</i>	14.7%	18.4%	17.5%	15.9%	17%	17.5%	14.7%	16%	14.7%	16.8%	14.2%	14.3%
<i>Range</i>	2-28%	5-38%	8-28%	8-24%	8-24%	5-31%	4-25%	7-25%	7-28%	8-28%	0-28%	5-28%

The table above illustrates a selection of procedures that had a core skill rank ranging between 1 to 6 (i.e. high expectations), combined with a high percentage of trainers reporting their trainee had 'not met' expectations. This has been cross tabulated with the Trainee's Dental School of graduation. Dental Schools where the number of respondents were low (less than 29) were excluded. The table shows clear school variations with

some Schools consistently showing lower 'not met' scores (school 2 and 9) and others showing higher scores (Schools 3 & 5). Some variation is to be expected but it is interesting that there is some consistency here, rather than variation dependent on the skill assessed. There are a number of possible reasons for the variation. Obviously this could be related to the undergraduate teaching and, experience gained and as such Schools should look at this feedback and where appropriate modify their teaching. It could also relate to decisions made about what to teach and what not to teach, which may be based on changes to clinical evidence or to the local population dental needs which may limit the experience available. However, what is taught in each School varies adding to the confusion. An example may be the change in emphasis from amalgam to composite and a number of additional comments made note of the limited amalgam experience by undergraduates.



*"There is not enough experience/teaching of amalgam restorations in the Dental school the trainee attended. The teaching appears to be all composites as direct restorations."*



*"Very little experience if any in the use of amalgam - the default restorative material in general dental practice!"*

Clearly it is important for trainers to have a clear idea of what a new graduate has been taught. This may differ from the trainer's views and experiences. This reinforces the need for communication and transparency during the transition from undergraduate to foundation training.

**Table 20: Expectations Not Observed: Procedure cross- tabulated against Deanery**

%	Fit Removable Ortho (83)	SSC (73)	Small F-F Bridge (27)	Cantilever Bridge (26)	Resin retained bridge (25)	Acute Infect (95)	Treat plan Ant tooth wear (9)	Anterior veneer (Q18)	Complete Copy Denture (33)	Chrome partial Denture (35)	QA Lab work pros (31)	Explain IOTN (79)	Suturing (92)
<b>Not observed Rank</b>	Rank 4	Rank 12	Rank 14	Rank 19	Rank 29	Rank 17	Rank 21	Rank 22	Rank 22	Rank 27	Rank 28	Rank 27	Rank 28
<b>Core Skill Rank Score</b>	3.6	3.1	2.7	3.1	3.4	2.9	2.7	3.1	3.4	3.4	3.0	3.8	3.5
<b>Deanery 1</b>	64	62	62	50	36	33	33	33	33	24	19	12	24
<b>Deanery 2</b>	75	59	63	35	16	51	31	43	35	18	14	27	22
<b>Deanery 3</b>	66	47	49	31	15	33	23	23	21	17	17	19	20
<b>Deanery 4</b>	73	48	48	18	9	24	18	15	30	24	12	6	24
<b>Deanery 5</b>	62	69	38	24	17	38	34	21	35	34	24	24	21
<b>Deanery 6</b>	74	45	32	19	10	35	23	16	26	6	10	19	19
<b>Deanery 7</b>	69	44	12	6	6	44	19	6	13	6	12	44	19
<b>Deanery 8</b>	79	54	37	33	4	50	29	37	42	17	8	17	12
<b>Deanery 9</b>	71	50	46	35	12	39	22	20	17	12	12	18	13
<b>Deanery 10</b>	61	52	45	31	29	40	26	32	28	28	19	26	20
<b>Deanery 11</b>	64	48	64	42	16	39	26	19	13	13	35	10	3
<b>Deanery 12</b>	69	42	50	38	15	31	27	19	19	19	11	8	19
<b>Mean</b>	<b>68.4%</b>	<b>51.8%</b>	<b>48%</b>	<b>32%</b>	<b>16.9%</b>	<b>38%</b>	<b>26%</b>	<b>25%</b>	<b>25.3%</b>	<b>19%</b>	<b>18.2%</b>	<b>19%</b>	<b>18.4%</b>
<b>Range</b>	<b>61-75%</b>	<b>42-69%</b>	<b>12-64%</b>	<b>6-50%</b>	<b>4-36%</b>	<b>31-51%</b>	<b>18-34%</b>	<b>6-37%</b>	<b>3-42%</b>	<b>6-34%</b>	<b>8-35%</b>	<b>6-44%</b>	<b>3-24%</b>

Clinical skills were ranked by the percentage of 'not observed' with rank 1 being the highest level (72%) of 'not observed' skills, to the lowest rank of 46(0%).

With the exception of one skill the table above concentrates on those that have a core skill score greater than 3 and demonstrate a high percentage of 'not observed'. Fixed-fixed metal ceramic bridge (27) has a slightly lower core skill score (2.7) but has been included in the table as it has a large range of 'not observed' scores from a low of 12% to a high of over 60%. Clearly there is a wide variation between Deaneries which may suggest a variable experience for the trainee.

It is clear that a skill such as a fixed metal ceramic bridge may not be undertaken in Foundation Training either because of a lack of suitable patients or for financial reasons. Although "The Curriculum in Foundation Training" does not specifically identify this (or other types of bridges) it does suggest training to evaluate, select and prepare teeth, and evaluate residual ridges, to support retained fixed and removable prostheses (Section II sub section 2).

Further areas of concern include other types of bridgework, the construction of chrome partial dentures and some aspects of simple orthodontic evaluation and treatment. It is of concern that these skills may not be experienced in training practices, particularly in some Deaneries. Deaneries should use this data (presented in the tailored reports) to discuss what experience their trainees should have and map this against the "Curriculum for UK Dental Foundation Programme Training".

## 5 Conclusions and Recommendations

This study continued the work first undertaken in Wales. The catalyst for the work was criticism from foundation trainers in Wales about the lack of basic clinical skills of a new graduate. It was clear that these criticisms, although genuinely felt, were subjective with no useful detail to help solve some of the issues or improve the situation.

The work presented here relates to a questionnaire survey of all foundation trainers in England and Northern Ireland. The questionnaire asked trainers to comment on their expectations of a new graduate generally and specifically in relation to over 100 clinical skills. In addition, the trainer was asked to report experience of their current trainee in relation to these expectations (met expectation, not met, and not observed skill). The expectations allowed a picture to emerge of the key skills a new graduate should possess as perceived by foundation trainers. Where trainers' expectations related to these key skills were not met, this suggested a "concern". The study also reports where skills were "not observed" by the trainer. The implication here was either that the skill was relatively simple so did not need to be observed or was perhaps undertaken rarely if at all within the training practice.

### ***Expectations and experience of non-clinical skills***

The questionnaire included investigation of general non-clinical skills such as professionalism and communication using direct and indirect questions. It was striking that over 20% of trainers reported difficulty with their trainee knowing when to seek help. This is a fundamental skill for patient safety and for trainee development. The reasons for this are perhaps more complicated than at first sight – it could be that the trainee was not aware of their limitations nor when a procedure was going wrong – in this case then closer than normal supervision would be required. However, it could also be that the trainee is uncomfortable or embarrassed about asking for help as this may disturb the trainer's own work. In this situation the expectations are limited not by the trainee's inability but perhaps by the environment of the training practice.

Another area of general concern for 19% of our respondents was poor time management. This is related to the work ethic of the trainee and would need to be addressed as a professionalism issue in the training practice.

Looking at more direct questions related to communication and professionalism there appeared to be a disparity between the expectations and experience of the trainers. However on closer inspection the difference was less significant – trainers *always* would expect a certain skill whereas their experience was that in the majority of cases it was *usually* present. This could perhaps be explained by trainees taking time to adapt to their new professional environment following their previous student environment.

### ***Expectations and experience of clinical skills***

One hundred and four clinical skills were investigated. The study highlighted that for most of these, the majority of the trainers' experience matched their

expectations. We have drawn attention to notable disparity between experience and expectation. Where expectations were low, as shown by their core rank score, this suggested that this skill was not a key skill. Where the skill had a high core rank score and where a significant number of trainers' experience suggested that this expectation was not met, and then this disparity was investigated further. We have also noted variation between Schools (page 54). This suggests both that some Schools teach well and their students perform well but also that other Schools need to look closely at their teaching in some areas.

It would be easy to suggest that where expectations were not met then there must be a problem related to the undergraduate training. On page 33 we have indicated that the situation is more complex and that a more sophisticated interpretation is required. We explore here some of the complexity related to our findings: core skills not met on graduation; variation in opinion; trainers' expectations that are too high; and skills not observed.

- Core skill not met on graduation  
With a number of skills it is clear that these are indeed basic skills (e.g. restoration of the broken down tooth – rank score = 3.7, suturing – rank score 3.5) that all undergraduates should possess on graduation and where the expectations of considerable numbers of trainers are not met. Restoration of the broken down tooth has around 15% of respondents reporting that their trainee did not meet their expectations but this ranged from 2-28% depending on the School of graduation. This information has not been available previously but clearly undergraduate Schools, particularly those with the higher percentage of trainers reporting that their expectations are not met, need to be made aware of these so that improvement can be made. This will require good communication between Schools and foundation training based on reliable data. Again it should be highlighted that the majority of trainers report no concern so the data needs to be used for general improvement through feedback.
- Variation in opinion  
What are the core skills? Using our core rank scoring we have the views of the trainers but this data is linear with no clear cut off between what is core and what is not. There are a number of guidance documents available for Schools through the GDC and the ADEE but again there is a degree of interpretation involved within these documents and all Schools will emphasise different clinical skills. Variation is inevitable. Trainers may have high expectations for a skill that is no longer emphasised in the undergraduate curriculum. Schools alter their teaching of skills for a host of reasons including interpretation of guidance, changes in the evidence base (e.g. caries removal at the base of a cavity) or epidemiological changes (e.g. the teaching and experience of students in the construction of complete dentures – reduced edentulousness). This variation of opinion leaves both the Schools and trainers at odds with each other with both feeling they are doing the best for the new graduate. The issue here is transparency and it is important to improve this so that trainers understand what is being

taught within Dental Schools and in particular their primary source Schools which tend to provide the majority of their trainees (although we note that this may change in the light of the national selection scheme). Transparency of the new graduate's experience of clinical dentistry through a detailed log of experience would help this process and allow trainers to target their training more effectively. Dental Schools cannot operate in isolation from Foundation Training but also some trainers might give greater recognition to many academic staff being required by their institutions to change the emphasis of their teaching to reflect new evidence. An example of this is the teaching and experience of using amalgam to restore posterior teeth. This has reduced in many Dental Schools as pressure mounts over its continued use.<sup>17</sup> However, amalgam is the main restorative material in NHS practice in the UK. The question here is should Schools train for the current work based practices or look ahead? By improving the transparency in this area through two-way communication then greater similarity in opinion and expectation should develop.

- **Trainers expectations too high**  
Trainers work in their own practices and have a patient base that is extremely important. A poor trainee can cause significant risks to the well-being of the practice and so trainers' understandably have high expectations of a new graduate. In an ideal world trainers would want the foundation trainee to arrive complete with the necessary skills – they would like the finished product. They may forget the difficulties they had; they may fail to recall that the range of treatments undertaken now is greater than it once was and the expectations of patients are higher. It is important that everybody involved in the training of a dentist understands the complexity of the skills required and that these skills can take many years to develop. Training starts at Dental School but at the end of this the new graduate is a “safe beginner”<sup>4</sup> with the basic “building blocks” to allow them to develop and hone their skills in foundation training and through lifelong learning. The learning process is a continuum and not a series of individual steps. Clearly there needs to be a forum through which views can be exchanged and differences resolved. Currently there appears to be no mechanism for this.
- **Not observed**  
Trainers were asked to comment on their experiences of their current trainee against their expectations of the clinical skills identified. The responses were – “met”, “not met” or “not observed”. The implications of a high expectation, key skill procedure not being observed is explored on page 33. It could be that this skill is straightforward and routine so does not require observation. However, a number of skills had high “not observed” scores and where these skills are not being undertaken within the training practices, trainees are not experiencing as broad based training as was planned. Examples of this include some orthodontic procedures, bridgework, anterior veneers and the construction of a chrome partial denture. There are many reasons why this work was not observed including the practice

not having any contract for a particular type of work (e.g. orthodontics), or a lack of suitable patients (e.g. bridgework) or the item of work having a high patient charge or laboratory cost so acting as a disincentive to prescribe this work in some NHS practices (e.g. chrome partial denture). Looking at the data by Deanery, (page 56) it is clear that there is significant variation on the “not observed” returns (e.g., chrome partial dentures ranged from 6-34% in different Deaneries). This would suggest that Deaneries need to look closely at the experience gained by their trainees and ensure that it is broad based and does not miss out key skills.

### **Recommendations**

This report covers many aspects of undergraduate training and investigates whether the trainers in the next stage of the education continuum are satisfied with the end result of undergraduate training. To achieve this we asked detailed questions which we have presented here. However, this report will be of no consequence unless it is used to improve the two-way communication between Dental Schools and Foundation Training. Such communication can improve the quality of the new graduate and make the transition from undergraduate to the work place more transparent. Our recommendations here are to facilitate this process but ultimately it will require the Directors of Undergraduate Education and the Postgraduate Deans and their Associate Deans to drive this process forward. The aim of both groups is to improve the quality of the education and we hope our report helps this process.

The recommendations below are our interpretation on the way forward.

- Produce tailored reports for both Schools and Deaneries from this work. These reports will highlight areas that need improvement and areas that need to be discussed. However the reports need local interpretation
- Encourage improved communication between Schools and Foundation Training. The tailored reports should be used to help these discussions. In some areas the link between School and a Deanery (Deaneries) is clear so making direct discussions easier. For example in Wales currently over 60% of the graduates undertake DF1 in Wales. From the data we received from the respondents this is also the case in Northern Ireland (Belfast), Yorkshire (Leeds), Northern (Newcastle) and Mersey (Liverpool) Deaneries. In other areas it is not so clear-cut in particular around London and Birmingham. In these areas it may be necessary to organise larger meetings/ forums with a number of Schools and Deaneries represented. Alternatively a larger meeting held once per year or more with all Schools and Deaneries represented may facilitate this process. We would ask that this recommendation is considered by Undergraduate and Postgraduate Deans to drive forward.

- Improve the transparency of what is taught in Dental Schools. We have highlighted the variations that occur in the curriculum between different Schools. This does not help trainers who may be unaware of these variations. Changes to the curriculum can be at the most basic level (e.g. caries removal at the base of a cavity) and may be at odds with a trainer's own views and practices. Improving the transparency of what is being taught allows the trainer to understand better the trainee's undergraduate experience.
- Provide a forum to discuss new evidence, which will change undergraduate teaching and influence future practice. These training the trainer events should allow two-way discussion of these issues and are linked with the previous point.
- Encourage Schools to produce a clinical experience log for all new graduates. Trainers become frustrated by the lack of information they have about students' previous experience. In this way the continuum of education would be helped and trainers would be able better to discuss the previous clinical experience of their trainee and target training more effectively.

#### **Future Work**

- Assess the impact of this work by Deanery and by School. Encourage the uptake of the recommendations
- Repeat work with trainees to assess their views
- Repeat work in three years to assess impact
- Assess the effect of central recruitment on the work placements of new graduates
- Look at what is required from a clinical experience log of a new graduate which is useful to Foundation Trainers

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# **Appendices**

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## *Appendix I - Study Information Sheet*

### **Study Information Sheet Dental Foundation (DF1) Trainers' Expectations of Dental Graduates**

We invite you to participate in an important research project by completing an online questionnaire. This project has the support of Postgraduate Deaneries and DF1 Advisers. You are under no obligation to participate. Please read the following information.

#### ***Who is undertaking the study?***

The study has been funded by COPDEND (Committee of Postgraduate Dental Deans and Directors) to undertake an evaluation of 'The Expectations of Vocational Trainers of Dental Undergraduates'. This work will be undertaken by Dr Alan Gilmour (School of Dentistry, Cardiff University) and Professor Alison Bullock (Cardiff Unit for Research and Evaluation in Medical and Dental Education).

#### ***What is the study about?***

This survey plans to investigate your expectations of the skills of new graduates and whether your current trainee meets these expectations. We are seeking this information from trainers in all Deaneries in England and Northern Ireland.

#### ***What are the study objectives?***

- To investigate the clinical skills expected by vocational trainers of their new trainees
- To elicit whether these expectations are currently being met
- To map these against GDC and European guidelines
- To discuss these further with the trainers to clarify issues through small group discussions
- To demonstrate commitment to develop a graduate who is "fit for purpose" and listen to feedback from vocational trainers
- To ensure that communication between the School of Dentistry and Dental Foundation Training is clear and based on sound evidence.

#### ***Why should I complete the survey?***

The information will allow us to:

- Highlight areas of weakness in new graduates from different Dental Schools.
- Highlight areas where teaching in Schools is not aligned to the expectation of trainers
- Provide evidence to permit discussion between Schools and Foundation Training, so making the difficult transition from undergraduate training more transparent.

#### ***How will the information be disseminated?***

In several ways:

- Report to COPDEND who have commissioned this work
- Presentation at the COPDEND Dental Education Meeting in November 2011
- Tailored reports to each Deanery
- Tailored reports to each Dental School

#### ***How long will it take?***

The questionnaire may take 30 minutes to complete. However, you will not need to look up any information, all response options are provided - you just click on your preference, and you can save a partially completed questionnaire and return to it later.

#### ***When should I complete the questionnaire?***

We would like you to complete the questionnaire as soon as possible. A poor response rate will jeopardise the study. Email reminders will be sent out to all trainers to maximise the response rate.

***Do I have to complete the study?***

Participation is voluntary and withdrawal from the study is permissible at any time. Whether or not you participate will not affect your current or future involvement in vocational training.

***Data Protection***

All data will be anonymous and confidential to the working group, led by Dr Alan Gilmour (Clinical Dentistry Theme Leader, Dental School). No individual will be identified in any report or publication. For the purposes of this survey Cardiff University is the data controller. All data collected in this survey will be held securely by the survey software provider (Bristol University) under contract and then retained by the School of Dentistry, Cardiff University in accordance with the Data Protection Act (1998). Data from the online survey, including answers to questions where personal details are requested, will only be used by the project team for the purpose of the research. Cookies, personal data stored by your Web browser, are not used in this survey.

## *Appendix II - The Questionnaire*

## ***Appendix III – National Research Ethics Service Queries Line Email***



RE: Enquiry from NRES website: is my project research?

NRES Queries Line

to:

'Rhiannon Jones'

20/04/2011 15:28

Show Details

History: This message has been forwarded.

Thank you for your further email enquiry. As you are aware, our leaflet *“Defining Research”*, explains how we differentiate research from other activities, and is published at: <http://www.nres.npsa.nhs.uk/applications/is-your-project-research/>.

Based on the additional information you have provided, our advice is that the project is not considered to be research according to this guidance and therefore does not require ethical review by an NHS Research Ethics Committee.

I agree that as an educational evaluation, akin to service evaluation, it does not require NHS REC review.

If you are undertaking the project within the NHS, you should check with the relevant NHS care organisation(s) what other review arrangements or sources of advice apply to projects of this type. Guidance may also be available from the clinical governance office.

Although ethical review by an NHS REC is not necessary in this case, all types of study involving human participants should be conducted in accordance with basic ethical principles, such as informed consent and respect for the confidentiality of participants. Also, in processing identifiable data there are legal requirements under the Data Protection Act 2000. When undertaking an audit or service/therapy evaluation, the investigator and his/her team are responsible for considering the ethics of their project with advice from within their organisation. University projects may require approval by the university ethics committee. Please refer to our guidance on student research at: [http://www.nres.npsa.nhs.uk/applications/guidance/research-guidance/?esctl1654606\\_entryid62=83668](http://www.nres.npsa.nhs.uk/applications/guidance/research-guidance/?esctl1654606_entryid62=83668).

This response should not be interpreted as giving a form of ethical approval or any endorsement to your project, but it may be provided to a journal or other body as evidence that ethical approval is not required under NHS research governance arrangements.

However, if you, your sponsor/funder or any NHS organisation feel that the project should be managed as research, and/or that ethical review by an NHS REC is essential, then please write setting out your reasons and we will be pleased to consider your request further.

Where NHS organisations have clarified that a project is not to be managed as research, the Research Governance Framework states that it should not be presented as research within the NHS.

**If you have received advice on the same or a similar matter from a different source (for example directly from a Research Ethics Committee (REC) or from an NHS R&D**

department), it would be helpful if you could share the initial query and response received if then seeking additional advice through the NRES Queries service.

However, if you have been asked to follow a particular course of action by a REC as part of a provisional or conditional opinion, then the REC requirements are mandatory to the opinion, unless specifically revised by that REC. Should you wish to query the REC requirements, this should either be through contacting the REC direct or, alternatively, the relevant local operational manager.

Regards

Queries Line  
National Research Ethics Service  
National Patient Safety Agency  
4-8 Maple Street  
London  
W1T 5HD

The NRES Queries Line is an email based service that provides advice from NRES senior management including operations managers based in our regional offices throughout England. Providing your query in an email helps us to quickly direct your enquiry to the most appropriate member of our team who can provide you with accurate written response. It also enables us to monitor the quality and timeliness of the advice given by NRES to ensure we can give you the best service possible, as well as use queries to continue to improve and to develop our processes.

Website: [www.nres.npsa.nhs.uk](http://www.nres.npsa.nhs.uk)  
Email: [queries@nres.npsa.nhs.uk](mailto:queries@nres.npsa.nhs.uk)

Ref: 04/31

**Streamline your research application process with IRAS (Integrated Research Application System). To view IRAS and for further information visit:**  
[www.myresearchproject.org.uk](http://www.myresearchproject.org.uk)

**From:** Rhiannon Jones [<mailto:jonesrj5@cardiff.ac.uk>]  
**Sent:** 19 April 2011 15:11  
**To:** NRES Queries Line  
**Subject:** Enquiry from NRES website: is my project research?

Dear Queries Line

We have been funded by COPDEND (Committee of Postgraduate Dental Deans and Directors) to undertake an evaluation of 'The Expectations of Vocational Trainers of Dental Undergraduates'. This work will be undertaken by Dr Alan Gilmour (School of Dentistry, Cardiff University) and Professor Alison Bullock (Cardiff Unit for Research and Evaluation in Medical and Dental Education). No treatments, patients, patient data or randomisation is involved.

We have studied the "Defining Research" leaflet and the information from the NHS Research and Development on "Categorising research within the research governance Framework for Health and Social Care". It is our opinion that this works falls into "service evaluation" focussed on the population (Dental Foundation Yr1 Trainers) and the settings in which they are based and should therefore not be managed within the Research Governance Framework, or require ethical review by a NHS Research Ethics Committee. I attach a page summary of the project and would appreciate your advice: am I correct in thinking that it does not require NHS Research Ethics Committee review?

We are submitting the proposal for review through a Research Ethics Committee at Cardiff University.

Please do not hesitate to contact me if you require further information. Thank you in advance for your advice.

Yours faithfully,  
Rhiannon

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CF14 4XY

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## Appendix IV-Distribution of DF1 Dental School of Graduation & Deanery Training Scheme

DEANERY		Aberdeen	Belfast (Queens)	Birmingham	Bristol	Cardiff	Dundee	Glasgow	Lancashire	Leeds	Liverpool	London - Kings College	London - UCL & Eastman	London - Barts & The London	Manchester	Newcastle	Sheffield	unsure	Outside of UK	Total
EAST OF ENGLAND	Count	0	0	7	1	0	1	0	0	1	3	11	0	9	4	0	3	0	2	42
	% within deanery	.0%	.0%	16.7%	2.4%	.0%	2.4%	.0%	.0%	2.4%	7.1%	26.2%	.0%	21.4%	9.5%	.0%	7.1%	.0%	4.8%	100.0%
KSS	Count	0	0	4	2	0	0	1	0	2	3	20	1	11	1	3	0	0	1	49
	% within deanery	.0%	.0%	8.2%	4.1%	.0%	.0%	2.0%	.0%	4.1%	6.1%	40.8%	2.0%	22.4%	2.0%	6.1%	.0%	.0%	2.0%	100.0%
LONDON	Count	0	0	3	3	4	0	0	0	2	1	39	0	17	5	1	4	1	8	88
	% within deanery	.0%	.0%	3.4%	3.4%	4.5%	.0%	.0%	.0%	2.3%	1.1%	44.3%	.0%	19.3%	5.7%	1.1%	4.5%	1.1%	9.1%	100.0%
MERSEY	Count	0	2	1	0	0	0	0	0	1	22	3	0	0	1	0	1	0	2	33
	% within deanery	.0%	6.1%	3.0%	.0%	.0%	.0%	.0%	.0%	3.0%	66.7%	9.1%	.0%	.0%	3.0%	.0%	3.0%	.0%	6.1%	100.0%
NORTH WEST	Count	0	0	2	0	1	1	0	1	2	5	1	0	0	13	1	1	0	1	29
	% within deanery	.0%	.0%	6.9%	.0%	3.4%	3.4%	.0%	3.4%	6.9%	17.2%	3.4%	.0%	.0%	44.8%	3.4%	3.4%	.0%	3.4%	100.0%
NORTHERN	Count	0	0	0	1	0	0	0	0	0	0	0	0	0	0	27	1	0	2	31
	% within deanery	.0%	.0%	.0%	3.2%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	87.1%	3.2%	.0%	6.5%	100.0%
NORTHERN IRELAND	Count	1	10	0	0	0	1	2	0	0	1	0	0	0	0	1	0	0	0	16
	% within deanery	6.3%	62.5%	.0%	.0%	.0%	6.3%	12.5%	.0%	.0%	6.3%	.0%	.0%	.0%	.0%	6.3%	.0%	.0%	.0%	100.0%
SOUTH CENTRAL	Count	0	0	2	1	1	0	0	0	1	1	12	0	3	2	0	0	0	1	24
	% within deanery	.0%	.0%	8.3%	4.2%	4.2%	.0%	.0%	.0%	4.2%	4.2%	50.0%	.0%	12.5%	8.3%	.0%	.0%	.0%	4.2%	100.0%
SOUTH WEST	Count	0	1	7	31	9	0	0	0	1	5	1	0	3	0	1	1	0	16	76
	% within deanery	.0%	1.3%	9.2%	40.8%	11.8%	.0%	.0%	.0%	1.3%	6.6%	1.3%	.0%	3.9%	.0%	1.3%	1.3%	.0%	21.1%	100.0%
SOUTH YORKSHIRE / EAST MIDLANDS	Count	0	0	4	1	0	0	1	0	1	1	4	0	11	4	1	33	0	4	65
	% within deanery	.0%	.0%	6.2%	1.5%	.0%	.0%	1.5%	.0%	1.5%	1.5%	6.2%	.0%	16.9%	6.2%	1.5%	50.8%	.0%	6.2%	100.0%
WEST MIDLANDS	Count	0	0	10	3	2	0	1	0	1	1	5	0	3	2	2	0	0	1	31
	% within deanery	.0%	.0%	32.3%	9.7%	6.5%	.0%	3.2%	.0%	3.2%	3.2%	16.1%	.0%	9.7%	6.5%	6.5%	.0%	.0%	3.2%	100.0%
YORKSHIRE	Count	0	0	1	0	0	0	0	0	17	1	0	0	0	0	1	4	0	2	26
	% within deanery	.0%	.0%	3.8%	.0%	.0%	.0%	.0%	.0%	65.4%	3.8%	.0%	.0%	.0%	.0%	3.8%	15.4%	.0%	7.7%	100.0%
Total	Count	1	13	41	43	17	3	5	1	29	44	96	1	57	32	38	48	1	40	510
	% within deanery	.2%	2.5%	8.0%	8.4%	3.3%	.6%	1.0%	.2%	5.7%	8.6%	18.8%	.2%	11.2%	6.3%	7.5%	9.4%	.2%	7.8%	100.0%

**Appendix V – Detailed Results- Clinical Skills Presented by Core Skill Rank Order**

Q N°	Skill	On own, with confidence	On own with limited confidence, slowly	On own, following advice	With difficulty needing assistance	Unable to Undertake	Core Skill Rank score	Not Met	Rank	Not Observed	Rank
54	Q24_a Give effective oral hygiene advice	467	41	2	0	0	4.9	4%	15	1%	45
11	Q14_a Restore single surface (occlusal) amalgam or composite	443	63	4	0	0	4.9	4%	15	0%	46
67	Q26_d Provide effective diet and oral hygiene advice to parents/guardians and children	407	94	8	1	0	4.8	3%	16	3%	43
84	Q30_a Perform effective local anaesthetic procedures	396	107	7	0	0	4.8	6%	13	1%	45
15	Q14_e Restore CI V cavity with plastic restoration	381	115	14	0	0	4.7	4%	15	4%	42
69	Q26_f Effectively undertake fissure sealant procedures	376	124	10	0	0	4.7	3%	16	7%	39
12	Q14_b Restore 2 surface (MO) amalgam or composite	355	147	7	1	0	4.7	8%	11	0%	46
57	Q24_d Undertake simple non-surgical scaling and root surface debridement	357	136	16	1	0	4.7	4%	15	2%	44
1	Q12_a Dentate minimal dental disease	341	148	20	1	0	4.6	5%	14	0%	46
55	Q24_b Make an accurate diagnosis of the periodontal condition	335	154	20	1	0	4.6	5%	14	1%	45
68	Q26_e Provide effective caries prevention measures such as fluoride supplements	343	131	34	2	0	4.6	4%	15	6%	40
16	Q14_f Restore a CI III composite	304	187	18	1	0	4.6	6%	13	4%	42
13	Q14_c Restore 3 surface (MOD) amalgam or composite	295	192	19	4	0	4.5	11%	8	2%	44
70	Q26_g Undertake simple restorations in permanent teeth in children	283	212	14	1	0	4.5	3%	16	3%	43
89	Q30_f Diagnose and manage pericoronitis	315	149	43	3	0	4.5	3%	16	4%	42
104	Q32_g Identify oral cancer risk factors from the History and Examination and provide appropriate advice	307	158	29	15	1	4.5	3%	16	15%	31

2	Q12_b Partially dentate minimal disease	287	178	40	5	0	4.5	7%	12	0%	46
66	Q26_c Undertake simple restorations in deciduous teeth	253	232	21	4	0	4.4	4%	15	2%	44
17	Q14_g Restore a CI IV composite	260	212	36	2	0	4.4	8%	11	7%	39
88	Q30_e Diagnose and manage a dry socket	273	175	57	5	0	4.4	4%	15	4%	42
85	Q30_b Extract erupted teeth	228	236	35	9	2	4.3	9%	10	1%	45
4	Q12_d Dentate simple periodontal disease (BPE 3)	235	204	68	3	0	4.3	7%	12	1%	45
56	Q24_c Make an effective treatment plan for the periodontal condition	228	204	73	5	0	4.3	6%	13	2%	44
65	Q26_b Effectively diagnose and manage caries in young children	198	251	56	5	0	4.3	6%	13	1%	45
81	Q28_d Recognise the difference between normal occlusal development and malocclusion	230	193	65	20	2	4.2	6%	13	13%	33
45	Q22_c Undertake primary endodontic treatment in an anterior tooth	175	255	64	16	0	4.2	6%	13	5%	41
76	Q26_m Manage extraction of primary teeth under LA	159	262	83	6	0	4.1	4%	15	7%	39
38	Q18_g Addition of teeth to an existing partial denture	185	201	110	12	2	4.1	6%	13	8%	38
44	Q22_b Effectively manage acute periapical abscess	162	241	89	17	1	4.1	8%	11	3%	43
34	Q18_c Acrylic partial denture	154	250	93	12	1	4.1	9%	10	5%	41
43	Q22_a Effectively manage a vital pulp exposure	162	228	104	16	0	4.1	7%	12	6%	40
36	Q18_e Repair to an existing complete/partial denture	178	181	138	8	5	4.0	7%	12	9%	37
46	Q22_d Undertake primary endodontic treatment in premolar tooth	135	272	72	31	0	4.0	9%	10	5%	41
64	Q26_a Effectively manage the behaviour of young children	104	316	72	18	0	4.0	4%	15	2%	44
80	Q28_c Appropriately refer a patient for orthodontic treatment at the correct age	158	206	126	18	2	4.0	6%	13	10%	36
41	Q20_c Communicate effectively with the laboratory through written and verbal means	146	220	122	20	2	4.0	11%	8	5%	41

77	Q26_n Manage extraction of permanent teeth in a child under LA	120	261	104	25	0	3.9	5%	14	14%	32
87	Q30_d Manage and prevent the common peri-operative and post-operative complications of extraction and minor oral surgery -- know when to refer	157	183	143	27	0	3.9	7%	12	4%	42
3	Q12_c Edentulous wearing old complete dentures	139	226	111	31	3	3.9	12%	7	7%	39
102	Q32_e Prescribe a symptomatic treatment for recurrent aphthous ulcers	150	187	140	30	3	3.9	6%	13	31%	20
79	Q28_b Explain to patient & parent the role of IOTN in the provision of orthodontic care	126	219	121	41	3	3.8	7%	12	19%	27
90	Q30_g Recognize the need for surgical extraction	136	182	160	32	0	3.8	18%	1	4%	42
58	Q24_e Accurately prescribe topical or systemic antibiotics for periodontal diseases	143	163	176	23	5	3.8	9%	10	17%	29
103	Q32_f Prescribe an adequate treatment for halitosis	130	202	136	37	5	3.8	4%	15	38%	17
37	Q18_f Reline to an existing complete denture	114	206	165	23	2	3.8	10%	9	19%	27
100	Q32_c Prescribe an adequate treatment for oral candidiasis	124	192	155	38	1	3.8	6%	13	32%	19
40	Q20_b Modify the tooth position on a wax try-in	107	237	115	49	2	3.8	14%	5	23%	23
86	Q30_c Remove simple erupted roots with forceps/elevators including tooth/root sectioning to facilitate roots elevation	139	186	116	67	2	3.8	16%	3	2%	44
32	Q18_a Complete denture	80	277	101	51	1	3.8	16%	3	7%	39
72	Q26_i Understand the guidelines for referral for extraction of teeth under GA	138	132	203	35	2	3.7	7%	12	12%	34
39	Q20_a Effectively design a partial denture	89	221	157	42	1	3.7	14%	5	8%	38
6	Q12_f Dentate several large carious lesions simple periodontal disease (BPE 2-3)	80	214	182	33	1	3.7	12%	7	2%	44
14	Q14_d Restore large broken down tooth	69	227	182	32	0	3.7	15%	4	4%	42
21	Q16_d Metal ceramic/ceramic crown on a premolar tooth	72	228	166	43	1	3.6	10%	9	11%	35
19	Q16_b Anterior metal ceramic/ceramic crown	74	221	168	45	2	3.6	10%	9	9%	37

75	Q26_i Undertake root canal treatments on permanent teeth when appropriate	81	213	160	51	5	3.6	5%	14	17%	29
82	Q28_e Judge the severity of a malocclusion and explain to patient & parent the likely treatment requirement	105	183	144	66	12	3.6	9%	10	22%	24
83	Q28_f Prescribe fit and adjust a removable appliance for space maintenance or simple tooth tipping	105	183	144	66	12	3.6	9%	10	68%	4
42	Q20_d Effectively quality control laboratory work in relation to removable prosthodontics	84	200	161	61	4	3.6	15%	4	14%	32
78	Q28_a Accurately assess the orthodontic treatment need (IOTN)	97	203	128	66	16	3.6	8%	11	16%	30
101	Q32_d Manage primary and secondary Herpes Simplex lesions appearing on intraoral tissues	96	181	165	62	6	3.6	6%	13	45%	15
5	Q12_e Dentate minimal caries complex periodontal disease (BPE 4)	62	204	202	42	0	3.6	11%	8	6%	40
22	Q16_e Metal ceramic/ceramic crown on a molar tooth	66	215	162	65	2	3.5	12%	7	11%	35
92	Q30_i Perform wound closure by suturing using appropriate suture materials	83	205	129	89	4	3.5	14%	5	18%	28
47	Q22_e Undertake primary endodontic treatment in molar tooth	61	238	124	83	4	3.5	18%	1	7%	39
74	Q26_k Undertake pulp treatments on deciduous teeth	54	186	195	68	7	3.4	8%	11	26%	21
25	Q16_h Resin retained bridge (Maryland)	52	157	236	62	3	3.4	9%	10	17%	29
35	Q18_d Chrome partial denture	48	169	220	71	2	3.4	11%	8	19%	27
71	Q26_h Effectively manage traumatised anterior teeth	52	155	236	65	2	3.4	7%	12	20%	26
33	Q18_b Copy denture (complete denture)	52	172	200	75	11	3.4	16%	3	25%	22
99	Q32_b Detect difference between oral leukoplasia and a candidiasis infection	60	172	166	105	7	3.3	7%	12	40%	16
98	Q32_a Identify both premalignant and malignant oral lesions and order a biopsy	79	143	157	113	18	3.3	7%	12	36%	18
7	Q12_g Dentate simple large carious lesions complex periodontal disease (BPE 3-4)	24	170	232	82	2	3.3	14%	5	6%	40

91	Q30_h Assess surgical management for a failed extraction or for elective root removal or for lower third molar removal	60	125	199	105	21	3.2	15%	4	14%	32
20	Q16_c Post retained anterior metal ceramic/ ceramic crown	33	150	202	114	11	3.2	18%	1	14%	32
73	Q26_j Appropriately prescribe and provide stainless steel crowns on deciduous teeth	49	134	199	100	28	3.1	7%	12	52%	12
26	Q16_i 2 unit cantilever metal ceramic bridge	31	122	246	105	6	3.1	8%	11	32%	19
18	Q16_a Anterior ceramic veneer	27	133	228	110	12	3.1	15%	4	25%	22
8	Q12_h Dentate heavily restored dentition - failing. Simple periodontal disease	30	108	223	144	5	3.0	12%	7	4%	42
23	Q16_f Gold inlay/onlay	26	126	204	133	21	3.0	12%	7	36%	18
31	Q16_n An assessment of the quality of technical work and provide effective feedback to the laboratory	37	106	202	145	20	3.0	13%	6	18%	28
95	Q30_l Manage non-airway threatening acute infection presenting intra-orally e.g. incision/ drainage of an isolated fluctuant swelling and appropriate conservative or non-conservative management of the offending tooth	60	94	162	141	53	2.9	10%	9	38%	17
93	Q30_j Undertake surgical removal of simple roots with mucoperiosteal flap and bone removal	30	113	149	193	25	2.9	17%	2	21%	25
10	Q12_j Partially dentate - older significant generalised toothwear moderate periodontal disease	14	92	197	183	24	2.8	11%	8	13%	33
24	Q16_g Aesthetic inlay/onlay (ceramic or composite)	16	83	215	162	34	2.8	12%	7	45%	15
48	Q22_f Re-treat a Root Canal Treated anterior tooth	18	81	198	180	33	2.7	8%	11	38%	17
9	Q12_i Dentate young - significant anterior toothwear	15	83	195	190	27	2.7	10%	9	26%	21
27	Q16_j 3 unit fixed-fixed metal ceramic bridge	12	87	204	172	35	2.7	10%	9	48%	14
49	Q22_g Re-treat a Root Canal Treated premolar tooth	9	55	166	203	77	2.4	6%	13	51%	13

28	Q16_k Large anterior fixed-fixed metal ceramic bridge	2	37	119	230	122	2.2	8%	11	61%	8
50	Q22_h Re-treat a Root Canal Treated molar tooth	6	31	117	200	156	2.1	8%	11	53%	11
29	Q16_l Large posterior metal ceramic bridge	5	28	104	237	136	2.1	9%	10	61%	8
96	Q30_m Manage oro-antral communications (OAC) including simple measures (suture/ protective splint prescriptions)Perform surgical management of OAC	7	17	80	196	210	1.9	10%	9	67%	5
97	Q30_n Perform simple soft tissue surgery polyp mucocoele	5	18	80	200	207	1.9	10%	9	69%	3
94	Q30_k Perform surgical removal of a lower third molar tooth	6	16	49	259	180	1.8	11%	8	54%	10
59	Q24_f Undertake surgical periodontal therapy	5	15	54	204	232	1.7	10%	9	65%	7
51	Q22_i Remove a fractured post from canal	2	8	42	253	205	1.7	9%	10	59%	9
52	Q22_j Remove a fractured endodontic instrument from canal	2	7	23	179	299	1.5	9%	10	65%	7
61	Q24_h Undertake surgical crown lengthening procedures	2	2	29	153	324	1.4	11%	8	67%	5
53	Q22_k Undertake apical surgery	1	3	9	160	337	1.4	9%	10	66%	6
30	Q16_m Implant retained crown/bridge	1	2	16	71	420	1.2	10%	9	66%	6
60	Q24_g Undertake surgical root coverage treatment for receding gums (such as grafting procedures)	2	2	7	51	448	1.2	10%	9	71%	2
62	Q24_i Undertake regenerative treatments for soft tissues	1	2	8	38	461	1.1	10%	9	71%	2
63	Q24_j Undertake regenerative treatments for bone lost	1	2	8	30	469	1.1	10%	9	72%	1

