An assessment of the contribution of UK specialists in restorative dentistry to cleft lip and palate services

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RESEARCH

IN BRIEF

- Aims to identify UK-based specialists in restorative dentistry involved in dental care of cleft lip and palate patients.
- Collects data on treatment modalities that such patients most often require.
- Highlights specific job planning issues that may inhibit the appropriate working conditions of such restorative specialists.
- Recommends an updated data set relating to restorative dentistry input at both 'hub' centres and their 'spoke' arrangements.

Objective To assess the degree and methods of involvement of United Kingdom-based specialists in restorative dentistry in cleft lip and palate services. **Design** Postal questionnaire. **Setting** The questionnaire was sent to specialists in restorative dentistry, periodontics, prosthodontics and endodontics as held by the General Dental Council (n = 709). The study was conducted in January 2008. **Subjects (materials) and methods** Dictated by specialists' entry on the GDC *Specialist lists in distinctive branches of dentistry* document, published 2006. **Main outcome measure** Identification of specialists involved in the care of cleft lip and palate patients. **Results** The response rate was 54% (382/709). Of those replies 20% (77/382) were involved in the care of cleft lip and palate patients. Of these 77 practitioners only 17% (13/77) were part of a multidisciplinary team (MDT). **Conclusions** This study would suggest that there were few restorative specialists with a coordinated involvement in the care of cleft lip and palate patients through a recognised MDT. The majority of specialists that were involved in such care were not doing so as a result of their position as specialists. This is perhaps at odds with best practice as described by the Clinical Standards Advisory Group report of 1998.

INTRODUCTION

Congenital maxillary clefts result from the absence or incomplete fusion of the maxillary and medial nasal processes with resultant hard and soft tissue anomalies. The incidence of cleft lip and palate (CLP) is only 1/700 live births in the United Kingdom (UK) and as such general dental practitioners may have limited experience in treating these patients.[1]

The Clinical Standards Advisory Group (CSAG) survey of CLP patient care in the UK reviewed the dental health of the CLP patients and generally found poor dental outcomes.[2] The CSAG CLP committee had representation from all main disciplines involved in cleft care. Members of the dental profession made considerable contributions to the study, which emphasised that a team approach involving many surgical and dental specialties including orthodontics, paediatric dentistry, restorative dentistry, oral and maxillofacial surgery and speech and language therapy was essential if optimum results for children born with CLP were to be achieved.[3] The main recommendation from the CSAG report was that the expertise and resources for CLP services should be concentrated within a small number of designated centres throughout the UK and that care should be multidisciplinary. The designated centres (or hubs) would also have 'spoke' arrangements to ensure that accessibility was optimal without compromising the quality of care. The report was submitted to the UK Government in August 1997 and its recommendations accepted and published within the Health Service Circular 1998/238[4] with the aim to ensure these services were in place by no later than 1 April 2000. Following this, cleft services in the UK were centralised to designated centres, reconfiguration resulting in 12 regions of specialist teams. The Department of Health guidance on commissioning services highlighted the requirement for a consultant in restorative dentistry to be part of this 'extended team' being tasked with remaining an integral member of the cleft multidisciplinary team (MDT) providing advice and treatment as required.[4]

AIMS OF THE STUDY

Previous multi-centre studies and review papers have examined provision of care for CLP patients but were principally aimed at the orthodontic and maxillofacial aspect of treatment outcome.[5–8] We have attempted to follow up the report of the CSAG survey of CLP services with a national survey of UK-based specialists in restorative dentistry. The aim of the questionnaire was to obtain information on the provision of restorative dental advice and treatment by specialists in restorative dentistry for patients with CLP. In addition, information was obtained regarding restorative specialist involvement in dedicated multidisciplinary cleft teams as proposed by the CSAG report.[2]

MATERIALS AND METHODS

A total of 1109 entries on the UK specialist lists of restorative dentistry, endodontics, prosthodontics and periodontics were identified using the *Specialist lists in distinctive branches of dentistry* booklet[9] which included many individuals registered on more than one list. When this position was excluded 709 individuals were identified.

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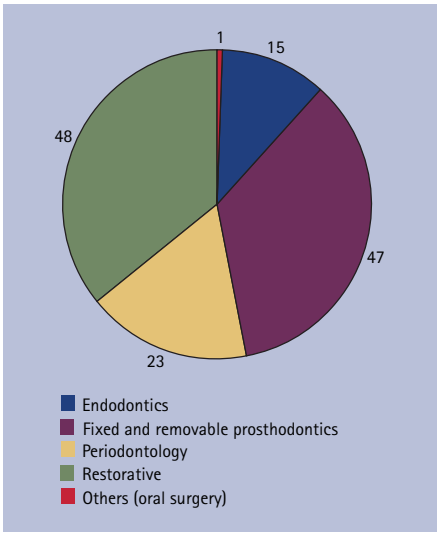

Fig. 1 Specialist list enrolment

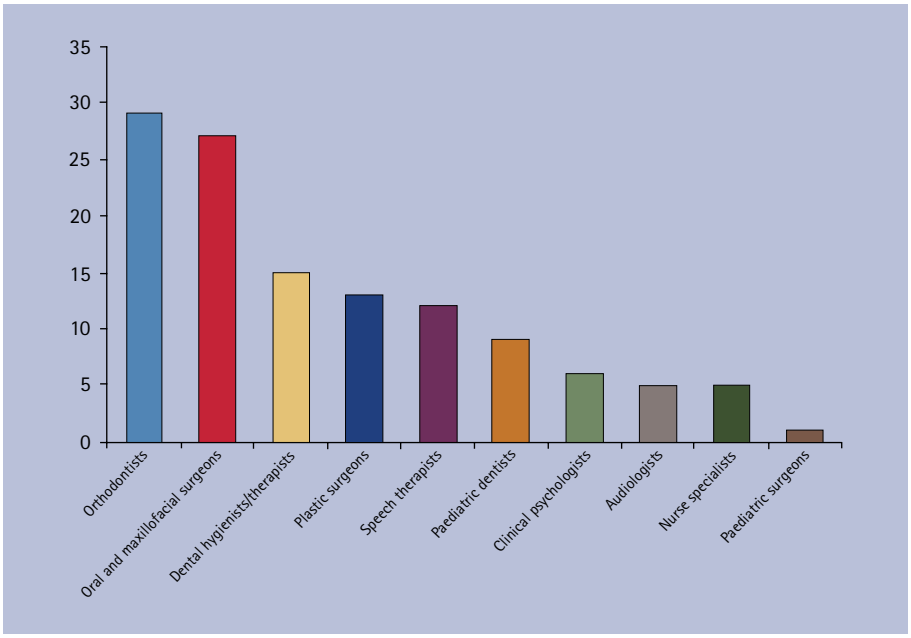

Fig. 2 Numbers of specialists with access to specific MDT members

Postal questionnaires were sent in January 2008. A prepaid reply envelope was enclosed and the participants were given two months to respond. As a tracking number system was used repeat reminder questionnaires were sent and a further two-month period allowed for response.

The questionnaire was divided into four sections comprising a total of 20 questions (Appendix 1). The first section, 'services provided', filtered for those specialists that did or did not provide a level of advice or care for CLP patients. Further questioning identified specifically which restorative services were provided, categorised as: general dental care, endodontics, periodontics, fixed prosthodontics, removable prosthodontics and implantology. Final questioning sought a general answer as to how many sessions of a dentist's specialist service were devoted to CLP.

The second section provided data as to which specialist list(s) dentists were enrolled upon and which societies they were affiliated to.

The third section assessed the team environment including who was available for service to CLP patients (audiologists, clinical psychologists, dental hygienists/therapists, nurse specialists, oral and maxillofacial surgeons, prosthodontists, paediatric dentists, paediatric surgeons, plastic surgeons and speech therapists). Further questioning related to the specialists' involvement within regional CLP teams (both hub and spoke).

The final section collected demographic data.

Table 1 Responding regions and sites of CLP care

Region (hub)	Site (spoke) of responder
Cleft Net East (Eastern) (2 responders)	Addenbrooke's Hospital
	Norwich
North Thames Cleft Service	Lister hospital, Stevenage
North West Regional Centre	Liverpool/Manchester
Northern & Yorkshire Cleft Service	Newcastle
Scottish Cleft Network	Aberdeen
South Thames Cleft Service (2 responders)	Not Specified
	Guys & St Thomas' Hospital
South Wales/South West Managed Clinical Network (2 responders)	Cardiff Dental Hospital
	Frenchay Hospital
Trent Regional Centre for Cleft Lip and Palate (2 responders)	Leicester
	Nottingham
West Midlands Regional Centre for Cleft Lip and Palate	Birmingham Dental Hospital
Spires Cleft Lip and Palate Centre	No responses
Northern Ireland Regional Cleft Lip and Palate Service	
Republic of Ireland	

RESULTS

Response rates

A total of 709 specialists were identified for inclusion in the study with 382 valid questionnaires being returned (54% response rate). There was no response from 326 individuals (46%) and one return was excluded since the reply format did not use the standard questionnaire.

Two hundred and ninety-two of the 382 valid returns (76%) stated that they were not involved in any aspect of CLP care. Thirteen (3%) did not answer this question. Of these 13, eight cited retirement as their reasoning for not proceeding with the questionnaire. The remaining 77 valid returns (20%) were involved in some aspect of CLP care.

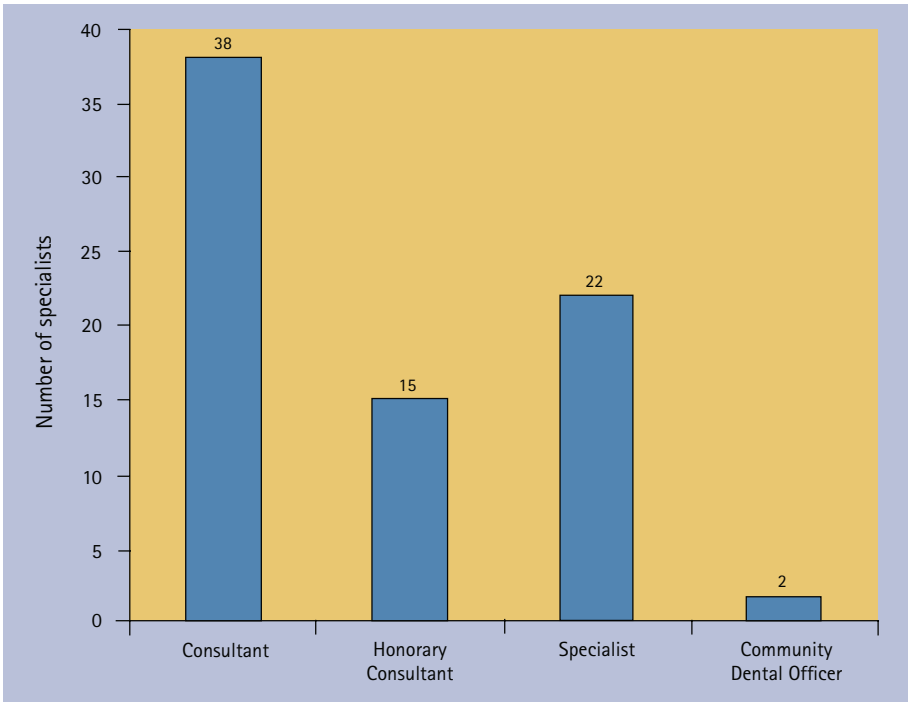

Fig. 3 Clinical position held

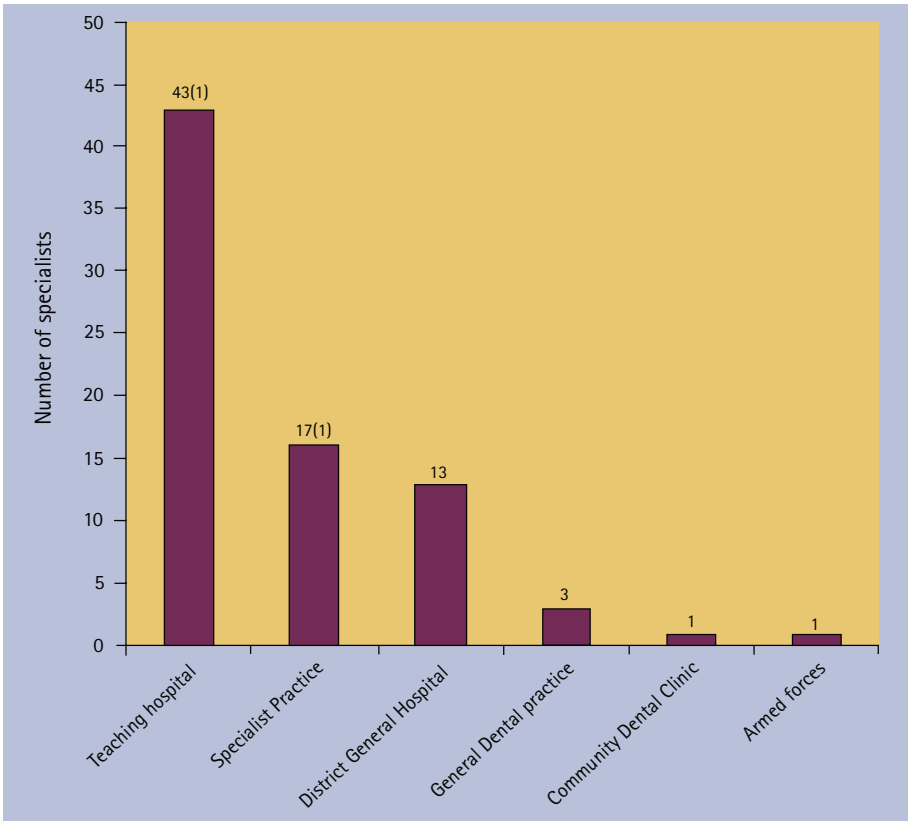

Fig. 4 Place of work

Patient age groups and restorative dental intervention

The majority of specialists had contact with the older age groups of 13-18, 18-29 and 30+ years.

Little treatment was performed for the 12 years and under categories. Those treatments that were performed were more often associated with fixed and removable prosthodontic solutions (data not shown).

Specialist lists and societies

Figure 1 demonstrates, for those specialists that were involved in CLP care, upon which specialist list(s) the practitioner was enrolled. Several dentists were included on multiple lists.

MDT composition and CLP specialist cleft teams

Figure 2 outlines the numbers of restorative specialists who had access to other specialities through their CLP work. Table 1 defines the regions identified with at least one responding restorative specialist and an indication of their specific site. There were no responses from the CLP regions for Spires, Northern Ireland and the Republic of Ireland. It was queried as to whether respondents were official members of a centralised CLP team and if so, which region and/or site. Only 13 of the 77 practitioners (17%) claimed they were integrated into an official multidisciplinary cleft team. The remaining 64 specialists involved in CLP care were not officially working for a CLP MDT but as demonstrated by responses they still had access to several members of such a MDT.

The following six questions were aimed specifically at those specialists who answered positively as being members of a centralised MDT.

Funding and session support for CLP services

We intended to identify whether restorative specialists received funding to specifically provide CLP services; only four respondents replied positively. In an attempt to ascertain why funding was not provided, participants were encouraged to provide short answers. Responses were grouped accordingly:

- '*Services did not include restorative treatment when set up*'
- '*It was an unresolved issue*'
- '*It was not allowed*'.

Job plan recognition

On querying if the respondent received recognition in their current job plan for CLP work only eight responded, six positively and two negatively. The number of sessions recognised in job plans ranged from 0.25 sessions to two sessions per week.

Demographics

The final sample of 77 positive respondents comprised of replies from 63 males (82%) and 14 females (18%). Year of qualification ranged from 1972 to 2002.

Figure 3 shows the clinical positions held, comprising of consultant, honorary consultant and specialist practice positions with two individuals working within the community dental service setting.

The final question related to respondents' place of work (Fig. 4), be that a teaching hospital, specialist practice, district general hospital, general dental practice, community dental clinic or the armed forces. Of the 77 positive respondents 58 (75%) worked in either a dental hospital, district general hospital, community setting or armed forces environment. The remaining 19 (25%) worked within a practice environment. One respondent indicated both teaching hospital and specialist practice as being joint places of work.

Of the 13 specialists associated with an official MDT, seven practised within a district general hospital and six a teaching hospital. When combining data, there were 56 specialists working within a teaching or district general hospital, 43 of whom were providing clinical services to CLP patients but without any formal affiliation to a CLP MDT.

Table 2 The CLP centres of the UK documented restorative dentist involvement 2005

Cleft Net East (Eastern)	Restorative dentist documented
North Thames Cleft Service	Restorative dentist documented
North West Regional Centre (Liverpool/Manchester)	No data on restorative status
Northern & Yorkshire Cleft Service	No restorative dentist documented
Northern Ireland Regional Cleft Lip and Palate	Restorative dentist documented
Republic of Ireland	No data
Scottish Cleft Network	Restorative dentist documented
South Thames Cleft Service	Restorative dentist documented
South Wales/South West Managed Clinical Network	Restorative dentist documented
Spires Cleft Lip and Palate Centre	Restorative dentist documented
Trent Regional Centre for Cleft Lip and Palate	No restorative dentist documented
West Midlands Regional Centre for Cleft Lip and Palate	Restorative dentist documented

DISCUSSION

The response rate (54%) was somewhat disappointing. There undoubtedly existed many contact addresses that were incorrect or out of date. Also, it became apparent that there were many entries on the 2006 data set that were now retired. However, it is encouraging to note that replies were received from restorative specialists affiliated to nine of the 12 UK CLP centres.

This study was predominantly interested in the (few) specialists in restorative dentistry who were officially employed to work as part of one of the UK's centralised CLP centres. The NHS Cleft Lip and Palate Services Annual Report, which includes the CRANE Register Report published in October 2005, documents 12 centres within the UK and Ireland.[10] Table 2 represents the eight centres which, within the CRANE document, stated that a restorative dentist was part of the team setup (at time of publication in 2005). There of course were varying numbers of 'spoke' outreach clinics and it is not known how many of these have access to additional restorative specialists.

The Cleft Lip and Palate Association (CLAPA) carried out a survey to study parents' experiences of their child's cleft care, principally in light of the significant changes that had taken place since the CSAG report. The study enquired as to which of the cleft team members families had met during their treatment journey and revealed that just 50% of parents of a cleft child had met with a dentist[11] although it is not stated whether this was a specialist. These numbers could be regarded as an omission from the team-based approach to care for cleft patients.

Our study received confirmation from 13 restorative specialists of their involvement with such MDTs. Two inferences from this data are that some centres may have multiple restorative specialist involvement or possibly and more likely, that the 2005 CRANE data is due for update.

Study findings

The questionnaire found that the restorative-based treatments most commonly performed for CLP patients consisted of fixed and removable prosthodontic and implant-based solutions. As restorative treatment regimes continue to evolve, endosseous dental implants have come to represent an important phase of definitive treatment for the young CLP adult. The advantages of such implants include shortening of the orthodontic treatment period, rehabilitation without denture or bridge involvement and restoration of the symmetric appearance of the maxillary anterior dentition in cases of unilateral cleft.[12] Certainly, these procedures introduce more complex diagnostic, procedural and maintenance requirements. Such treatments are perhaps better suited to treatment through an MDT setting under the guidance of a restorative specialist.

Interestingly, on attempting to quantify by age group what restorative interventions were provided by specialists, little treatment was undertaken for the 12 years and under categories. This may represent the fact that paediatric specialist dental care is strongly represented within the CLP MDT arrangements. This is disappointing since the restorative dentist should have an input at an early stage of treatment planning both from a process of engagement with the patient but also from the perspective of contributing to the planning of space management.

Restorative specialist input retains an important place in cleft care. In a study based on the recall of patients that had been treated via a centralised UK cleft team 50% of patients required formal assessment and/or intervention by the restorative dentist,[13] further evidence suggesting that the restorative specialist should have a recognised position on all CLP MDTs.

Quality of care

It was interesting to note that in our study there were very few restorative specialists whose job plan has devoted CLP sessions, indicating that many sessions of CLP service may be being provided outside of the MDT umbrella and hence receiving no funding. Post CSAG the UK government agreed that cleft care should be commissioned only from centres at which quality

standards were being set and matched and at the time there were identified 'possible mechanisms from which the necessary funding for these centralised services could be derived'; this may not currently be the case with respect to the restorative care of CLP patients.

CONCLUSIONS

A strong case is made for the inclusion of specialist restorative dental input to the core cleft team at the hub of the newly established cleft centres.[14] The inclusion of specialist restorative dental support in the cleft team to identify 'at risk' patients and facilitate the provision of care through hospital, community and general dental practitioner-based services has been shown to be effective. It is the authors' opinion that specialists in restorative dentistry should be involved with care of CLP from an early age providing both advice and treatment and importantly future direction for dental care, as CLP children make the transition to adulthood. There has been agreement that clinicians need to develop a common database for all cleft patients with stipulated information to be collected as well as the documenting the timing of record collection.[15] Future research should survey the cleft centres in the UK and investigate whether they have a specialist in restorative dentistry attached to their team and how such individuals contribute to the service of CLP patients. This could further identify the restorative treatment need of CLP patients.

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Appendix 1 The survey questionnaire

Restorative dentistry cleft lip and palate postal survey	
Where appropriate please provide ticks within boxes. Some questions require short sentence replies.	
If CLP services are not within your remit please tick here	
If you would like to opt out of answering this questionnaire please tick here but please return the unanswered form for our data collection.	
Services provided	
1. For which of the following age categories of CLP patients do you routinely provide care and/or advice?	
a. Advice	
i. 0-5 years	
ii. 6-12 years	
iii. 13-18 years	
iv. 19-29 years	
v. >30 years	
b. Care	
i. 0-5 years	
ii. 6-12 years	
iii. 13-18 years	
iv. 19-29 years	
v. >30 years	
2. In each of the age groups for whom you offer care, what services do you provide?	
a. 0-5 years	
i. General dental care	
ii. Endodontics	
iii. Periodontal care	

Continues on page 6

Appendix 1 The survey questionnaire

Continued from page 5

iv. Fixed prosthodontics	
v. Removable prosthodontics	
vi. Implants	
b. 6-12 years	
i. General dental care	
ii. Endodontics	
iii. Periodontal care	
iv. Fixed prosthodontics	
v. Removable prosthodontics	
vi. Implants	
c. 13-18 years	
i. General dental care	
ii. Endodontics	
iii. Periodontal care	
iv. Fixed prosthodontics	
v. Removable prosthodontics	
vi. Implants	
d. 19-29 years	
i. General dental care	
ii. Endodontics	
iii. Periodontal care	
iv. Fixed prosthodontics	
v. Removable prosthodontics	
vi. Implants	
e. >30 years	
i. General dental care	
ii. Endodontics	
iii. Periodontal care	
iv. Fixed prosthodontics	
v. Removable prosthodontics	
vi. Implants	
3. What percentage of the services you provide is devoted to CLP?	
a. General dental care	%
b. Endodontics	%
c. Periodontal care	%
d. Fixed prosthodontics	%
e. Removable prosthodontics	%
f. Implants	%
Specialisation	
4. On which specialist lists are you registered?	
Endodontics	
Fixed and removable prosthodontics	
Periodontology	
Restorative	
If other please specify:	
5. Are you a member of any specialist societies?	
British Society for Restorative Dentistry	
British Endodontic Society	

Continues on page 7

Appendix 1 The survey questionnaire	
Continued from page 6	
British Society of Specialists in Paediatric Dentistry	
British Society of Periodontology	
British Society for the Study of Prosthetic Dentistry	
If other please specify:	
None	
Team working	
6. If you routinely work as part of a clinical team when providing a service for CLP patients, please specify other specialty members in your team:	
Audiologists	
Clinical psychologists	
Dental hygienists/therapists	
Nurse specialists	
Oral and maxillofacial surgeons	
Orthodontists	
Paediatric dentists	
Paediatric surgeons	
Plastic surgeons	
Speech therapists	
7. If you are a member of a regional CLP team please indicate which:	
a. Region (hub)	
b. Site (spoke)	
8. How long have you been part of a regional team?	**years**
9. Do you receive funding for your position from the regional CLP service?	**(yes/no)**
10. If so, for how many sessions?	**sessions**
11. When did this funding start?	
12. Was this funding part of your original job specification on appointment?	
13. If you do not receive funding please provide reasons:	
14. Do you receive recognition in your current job plan for your CLP work?	**(yes/no)**
a. If yes, for how many sessions?	sessions
Demographics	
15. Gender:	**(female/male)**
16. Year of qualification:	
17. Current position:	
Consultant	
Honorary Consultant	
Specialist	
Locum Consultant	
Community Dental Officer	
18. What are the total sessions you are contracted to work per week?	
19. What year were you appointed to your current position?	
20. Main workplace:	
District general hospital	
Teaching hospital	
Specialist practice	
Community dental clinic	
General dental practice	
If other please specify:	
Thank you for taking part in this questionnaire. Please return in stamped addressed envelope provided.	