INVESTIGATING THE ATTITUDES OF GENERAL DENTAL PRACTITIONERS TO REFERRING PATIENTS TO A PRIMARY CARE SETTING FOR DENTAL IMPLANT TREATMENT

"I always start off and I say that implants are the gold standard and that if I had a choice, if it was a front tooth and money was no object, I would definitely go for the implant"

Student Number 0532810

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"No man is an Island". John Donne (1572-1631).

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Declaration

I declare that the work in this dissertation is my own it has not been used before and has not been published.

Signed..Date...................................

Dr Paul Averley

Abstract

Dental implantology is a growing area of clinical dentistry in the UK. Patients have growing expectations that they should be offered treatment options which include dental implants. Implant dentistry is not a recognised specialism. However the General Dental Council requires dentists, delivering dental implant services, to be able to demonstrate their competence.

This study aimed to understand the attitudes of general dental practitioners on Teesside towards referring their patients for treatment involving dental implants. This Study employed a qualitative approach. Purposive samples of eleven referring dentists were interviewed using semi structured in-depth interviews. A framework to aid an iterative and inductive process of analysis was employed. Key themes were developed into specific actions within the service which may improve the quality of care or the experience for both referrers and patients.

This study concludes that dentist's consider implant dentistry to be a rapidly growing field, requiring high standards and regulation. Dentists believe implants provide the best option for missing teeth and good value for money. The study makes suggestions to implant dentists to meet the expectations of referring dentists. The study also makes suggestions to remove

the barriers to referral and to improve communication between the referrers and the providers of dental implant services.

Abbreviations

BPE	Basic Periodontal Examination
CCST	Certificate of Completion of Specialist Training
CPD	Continued Professional Development
DGDP	Diploma in General Dental Practice
FGDP	Faculty of General Dental Practitioners
FDS	Fellow of Dental Surgery
GDC	General Dental Council
GDP	General Dental Practitioner
GPT	General Professional Training
LDC	Local Dental Committee
MSc	Master of Science
NHS	National Health Service
SAC	Specialist Advisory Committees
UDA	Unit of Dental Activity
UK	United Kingdom
VT	Vocational Training

Introduction

There is ongoing debate and development with regard to the future provision of dental care in the United Kingdom. For many years, patients have been referred by their general dental practitioner to colleagues for advice or treatment (Seward, 1998).

It is common practice that hospital dental services in the United Kingdom (UK) accept National Health Service (NHS) referrals from general dental practitioners (GDP). In addition there are a number of primary care based dental practitioners who limit their practice to specific aspects of dentistry and accept referrals from their GDP colleagues. In 1998 the General Dental Council (GDC) introduced specialist lists in an attempt to assure the quality and safety of care. However, there is a perceived shortage of registered specialist practitioners in some regions of the UK. It seems that although many GDP's are happy to refer their patients to a hospital consultant for advice and treatment, they are less willing to refer their patients to specialist practitioners based in primary care (Fairbrother and Nohl, 2000). There is very little published research regarding primary care referrals in dentistry (Sharpe et al., 2007). Most studies have examined the characteristics of patients referred to specialists rather than the actual referral process (Linden, 1998).

There has been further discussion about the future of specialisation in dentistry. In September 2003, the Chief Dental Officer for England commissioned the Standing Dental Advisory Committee to a review of the dentally based specialties and specialist lists. The General Dental Council set up a review group to consider the arrangements for training and listing of the dental specialties. A joint report was published in May 2004 from the Faculty of General Dental Practitioners (UK) and the Department of Health, providing information and advice to dentists and Primary Care Trusts on a scheme for implementing "dentists with special interests" within the NHS. It was proposed that Primary Care Trusts would be able to contract with individual dentists (who may not be on the relevant GDC specialist list) to provide enhanced services with improved access to meet the identified needs of their local population.

Dental implantology is a growing area of clinical dentistry in the UK. Patients have growing expectations that they should be offered treatment options which include dental implants, even though dental implants are not available as an NHS treatment, in primary care. Implant dentistry is not a recognised specialism in itself. However the GDC requires dentists, delivering dental implant services, to be able to demonstrate their competence.

In December 2005 the Faculty of General Dental Practice (UK) published essential new guidance setting out the training standards necessary for the practice of implant dentistry.

"Training Standards in Implant Dentistry for General Dental Practitioners" was produced by the Standards Working Group, convened by the General Dental Council (GDC).

This Working Group was established in response to concerns about the quality of implant dentistry practised by some dentists, and about the provision of training in this area. The aim of the Working Group in setting training standards was to ensure that general dental practitioners who provide implant dentistry are competent to carry out this work. Patient protection was central to the rationale behind the guidelines after the Working Group found that the provision of training in this area was varied and on an "ad hoc" basis.

Queensway Dental Practice is a large primary care service. It provides general dental services to a large population of local patients. Queensway also provides oral surgery and conscious sedation services (both simple and alternative techniques) for patients referred from GDP's on Teesside and Co Durham. Queensway has been offering dental implant options and treatments to its own patients for over ten years. In the past two years Queensway has been offering a dental implant referral

service to its existing referring GDP's. As there is a growing expectation from the public and from the profession that services providing dental implant treatments should have appropriate governance. Understanding the attitudes of colleagues who may refer their patients to Queensway is a part of this governance.

This study seeks to understand the attitudes of general dental practitioners on Teesside towards referring their patients for treatment involving dental implants to Queensway Dental Practice so that a high quality service can be maintained.

When considering complex behaviour, attitudes and opinions, a qualitative approach to data collection, using individual interviews, has been suggested as the most appropriate.

Background and literature review

This chapter deals with the theoretical basis of this project, why attitudes of referring practitioners are important, what is already known about attitudes of referring general dental practitioners in the context of referral for dental implant treatment within primary care and an overview of how specialist practice in primary care dentistry has been evolving.

Methodology

Qualitative methodology is the process by which researchers bridge the gap between philosophical theory and appropriate practical research methods (Byrne, 2005). When deciding on an appropriate method of data collection, it is essential to focus on the research question and the aims of the research. The research question in this study can be expressed as:

'What are the attitudes of general dental practitioners about referring their patients to another primary care practitioner for treatment involving dental implants?'

In this study the aim is to paint a broad overview of attitudes rather than to quantify how many GDP's who refer, hold a particular attitude.

Qualitative research

There are several published definitions of qualitative research, many of which are long-winded and complicated, for example Denzin et al (Denzin NK, 2003):

"Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that makes the world visible. These practices turn the world into a series of representations including field notes, interviews, conversations, photographs, recordings and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them".

Other definitions are simpler and more concise, for example Denzin et al (Denzin NK, 2003):

"[Qualitative research is] any type of research that produces findings not arrived at by statistical procedures or other means of quantification".

From a practical point of view, rather than trying too hard to achieve a definition, it is probably more helpful to look at the key features of qualitative research. These are:

Investigation and exploration of the experiences, perspectives and opinions of participants, rather than the production of quantitative statistical outcomes.

Use of small, purposely selected samples groups.

Interactive, flexible methods of data collection.

Analysis of data which is geared towards interpretation of themes which arise.

Outcomes which attempt to offer explanations of social behaviors.

This study is concerned very much with the attitudes and perspectives of referring general dental practitioners, with quantitative statistical outcomes being of little or no relevance. In other words what exists, rather than how much exists? From the outset, it was clear that conducting the research in a qualitative way was likely to allow flexibility in the gathering of data and thus yield a greater breadth of information for analysis and interpretation. This in turn would yield explanations for the behaviors of referring general dental practitioners.

Ontology and epistemology

In qualitative research, the nature of the study and the analysis of the data tend to be influenced by the researcher's ontological and epistemological stance (Crabtree and Miller, 1999).

Ontologically there are two extremes of viewpoints, realism and idealism. Realism purports that the social world exists independent to conscious thought or action and that there is no interaction between the two. Idealism is at the other end of the spectrum. It suggests that the social world cannot be separated from conscious thought or action. Between these two extremes lie a number of moderate stances one of which is subtle realism.

Subtle realism recognises the interaction between the social world and conscious thought and acknowledges the somewhat symbiotic relationship between the two. This would seem to be intuitively true for the Health Service and the individuals practising or being treated within it. I have therefore adopted subtle realism with respect to my qualitative data set.

Epistemologically there are again two extremes, positivism and interpretivism. Positivism asserts that the social world is unaffected by the researcher and the opposite is true for interpretivism. In my data set the researcher and the subjects will interact and impact on each other. This must be acknowledged and attempts made to minimise it, there by taking an interpretive stance.

In summary, in the light of these two concepts, the stance for this project is one of both subtle realism and of interpretivism. I acknowledge the fact I am both a clinician, and a researcher and

therefore this standpoint will impact on the data and its interpretation. However I would hope that this will give added insight.

Why in-depth interviews?

Once it had been decided that qualitative research was to be employed, the next step was to choose the appropriate research tool. The appropriate research tool is the one which is most likely to provide data to answer the research question and achieve the study aims. The following tools were evaluated for use in this study:

Questionnaires

Questionnaires can be used to gather quantitative or qualitative data. Data may be collected from large numbers of subjects. When postal questionnaires are used, geographical factors are reduced and minimal inconvenience is caused to the subject. A high degree of confidentiality is possible, potentially encouraging subjects to express their views openly. The formulation of the questionnaire itself is crucial to its success as a research tool. For this reason, questionnaires are often preceded by the use of a different research tool, such as interviewing, to guide formulation of questions. This is particularly the case when, as with this study, there is a lack of previous research in the field on which to base a questionnaire.

Individual Interviews

Individual interviews are widely used in qualitative research. The interviewer holds a discussion with a single subject, allowing an in-depth investigation of the subject's personal view-point. One advantage of this is that subjects are not influenced by the opinions or beliefs of others during the interview, which may happen in a group setting. Subjects may also be more forthcoming in this arena of private discussion with information which they may feel self conscious or embarrassed about and might be unwilling to divulge in a more public arena.

Paired or triad interviews

This involves the interviewing of two or three subjects at a time. This technique is commonly used when creating dialogue between subjects, as well as between interviewer and subjects. These interviews tend to produce a broader scope of data than a series of individual interviews. This type of interview is often used when subjects know each other, for example friends, partners or colleagues.

Focus groups

Focus groups typically consist of between six and ten purposely selected subjects, and a facilitator. Groups normally meet on one occasion, with a session lasting between one and two hours. Discussions are tape recorded, so that they can be subjected to

systematic analysis at a later date. The key ingredient of focus groups is interaction between group members. Focus groups work by prompting members to scrutinise their own way of thinking by listening to others. This scrutiny tends to trigger further discussion and produce further information. The intended result is a broad overview of views and experiences. Discussion is guided by a facilitator but members of the group are free to ask each other questions and to discuss issues between themselves. The facilitator's main role is to maintain an acceptable degree of structure and order, whilst encouraging discussions to take place.

Focus groups can be carried out 'face to face' with all participants in one room, by telephone conference call, or via the internet. Telephone and online focus groups provide some degree of confidentiality, which theoretically creates more forthcoming responses. These types of focus group have gained popularity in the USA, where geographical factors are obviously of greater relevance. They are more convenient for subjects, who can participate from home even over large distances. The major drawback when compared to face to face focus groups however is the loss of non-verbal communication. This Verbal communication meanwhile is maintained in telephone focus groups, which can still relay intonation of voice. However, when on-line group are used, this too is lost.

There are some potential pitfalls in the use of focus groups. Firstly there is limited potential for collecting data on an individual basis. Secondly there is the potential for alienation of group members and reluctance to express personal feelings in front of others. The relative success of focus groups may be dependent on the skill of a facilitator to stimulate and guide discussion, whilst including all members of the group in the discussion, as well as maintaining the structure of the session.

The approach taken for 'face to face' focus groups is generally based on the Ritchie and Lewis Framework. This is a quality framework for assessing qualitative research evidence produced by the National centre of Social Research commissioned by the Government Chief Social Researcher's Office. This framework has four central principles. These are that the research should be:

Firstly contributory, secondly defensible in design, thirdly rigorous in conduct and finally that they be credible in claim. These guiding principles have been used to identify 18 appraisal questions covering all the key features and processes involved in a qualitative enquiry. These appraisal questions begin with assessment of the findings, move through different stages of the research process (design, sampling, data collection, analysis and reporting) and end with some general features of research

conduct (reflexivity and neutrality, ethics and be auditable) (Spencer et al., 2003).

The Observer effect

The observer effect is the difference that is made to an activity or a person by it being observed. People may well not behave in their usual manner whilst aware of being watched, or when being interviewed while carrying out an activity. This study will involve similar problems and allowing for these in interpretation is a key professional skill for researchers. The related social-science term observer bias. This is error introduced into measurement when observers overemphasize behaviour they expect to find and fail to notice behavior they do not expect. Again this study will be required to mindful of this bias.

The Heisenberg uncertainty princilpe is frequently confused with the "observer effect". The uncertainty principle actually describes how precisely we may measure the position and momentum of a particle at the same time — if we increase the precision in measuring one quantity, we are forced to lose precision in measuring the other. Thus, the uncertainty principle deals with *measurement*, and not *observation*.

Attitudes of dentists towards specialist primary care referral

A database search was performed to review attitudes of dentists towards specialist primary care referral. An Ovid MEDLINE search from 1950 to the current day and limited to English was carried out. The search strategy used the following expressions (mesh terms):

Expression- “referrals and consultations” (41584).

Expression- “general practice, dental, primary care, dentist or dentists (19637).

Expression- “Attitudes of Health Personnel” (79371).

Expression- “primary or secondary or orthodontics or surgery or periodontology or dental implants” (2237253).

Combine 1 and 2 and 3 and 4 (58).

All 58 of the references abstracts were reviewed. Fifty six references were rejected on the grounds of non-relevance, poorly conducted study, anecdotal opinion or a combination of these.

A recent study by Sharp et al (Sharpe et al., 2007) investigated the attitudes of specialist referral in periodontics in the North East of England. This was a well conducted study. Ten GDP’s, representative of a range of experience and levels of

postgraduate education, with differing access to specialist periodontologist were interviewed using semi-structured in-depth interviews.

The results showed that general dental practitioners' perceptions of periodontal disease and its treatment are heavily influenced by the current NHS remuneration system. The potential for medico-legal consequences was a strong driver of referral. Distance to the referral centre and the perceived costs of treatment were significant barriers to referral dentists. Personal reputation and clinical skills of the specialist were valued more highly than academic status. However, it was felt that patients would perceive the status of hospital specialists to be greater than that of specialist practitioners. Deficiencies in communication between primary and secondary care were highlighted by general dental practitioners.

Nixon et al (Nixon and Benson, 2005) carried out a well designed postal questionnaire to investigate the barriers and promoters to referral and GDP's perceptions of restorative mono-specialities in the Yorkshire region. A postal questionnaire was sent to 301 randomly selected GDP's stratified for location in six Family Health Service Units. A good response rate was achieved. The top barriers were considered to be length of waiting times for NHS patients and excessive distance which was as common a

barrier for NHS as it was for private patients. The study concluded that there was a demand for prompt, locally based, low cost referral services.

Specialisation in dentistry

Specialist referral can be traced back to before the advent of the NHS in 1948 (Seward, 1998). The development of NHS hospital dental services subsequently allowed GDP's to refer patients for diagnosis and treatment within a secondary care setting.

More recently, a number of dentists outside the hospital service have limited their practice to specific disciplines in order to invite referrals in primary care from other GDP's. However, Section 26 of the Dentists Act 1984 stated that a registered dentist shall not

"Use any title reasonably calculated to suggest he possesses any professional status or qualification other than the qualification he in fact possesses".

The growing number of *de facto* specialist practitioners led to a formal consultation exercise in 1991 regarding the introduction of "Distinctive (Specialist) Titles and Distinctive (Specialist) Lists". The GDC produced definitive proposals for the Introduction of Specialist Titles and Specialist Lists in November 1992.

The Calman report was published in April 1993 by the then Chief Medical Officer for England (Department of Health, 1993). This was the report of a working group on specialist medical training which made recommendations for more clearly defined training

programmes, leading to a Certificate of Completion of Specialist Training. Shortly afterwards a Working Group on Specialist Dental Training was set up, in May 1993, to consider the implications of the Calman Report and the GDC proposals for the introduction of specialist titles and lists. A report was published in January 1994 which outlined specific proposals for the future of specialist training. The significant differences between medical and dental career pathways should be noted. The Calman report was concerned primarily with hospital specialist training in the medical and surgical specialities. Dentistry is different as there is the capacity to provide dental treatment on referral completely within a primary care practice setting.

A report from the Chief Dental Officer in May 1995 (the Mouatt report) supported the earlier GDC proposals to introduce specialist titles, and this document laid the foundations for formal specialisation in dentistry (Department of Health, 1995). Following the Mouatt report, the GDC was asked to establish a list of proposed specialities and confirm arrangements for training in partnership with the Royal Surgical Colleges and other institutions. The GDC was confirmed as the sole competent authority for the regulation of specialisation, with the co-ordination of specialist training programmes being administered by a number of Specialist Advisory Committees through the Joint Committee for Specialist Training in Dentistry.

The Dentists Act 1984 allowed the GDC to establish distinctive titles, but two further regulations were required before specialist titles and lists could be implemented. The European Primary & Specialist Dental Qualifications Regulations 1998 was enacted on 14 April 1998, but only referred to the specialities of orthodontics and oral surgery as recognised under the European Dental Directives. On the following day, the General Dental Council (Distinctive Branches of Dentistry) Regulations 1998 allowed a series of further specialities to be established.

There are currently 13 specialist lists in existence, which opened between 16 April 1998 and 31 May 2000. Each list has specific entry requirements as prescribed by the Joint Committee for Specialist Training in Dentistry. There was a two year transitional period for each list, during which time applications were considered for mediated entry to the list for existing specialists.

At present, the General Dental Council holds specialist lists in Surgical Dentistry, Oral Medicine, Endodontics, Periodontics, Prosthodontics, Orthodontics, Paediatric Dentistry, Dental Public Health, Oral Surgery, Dental and Maxillofacial Radiology, Oral Pathology, Oral Microbiology and Restorative Dentistry.

The interface between primary and secondary care

It is acknowledged that specialist dental services are a scarce resource which are often oversubscribed (Morris and Burke, 2001b). The interface between primary and secondary care in dentistry has been examined and described in two papers published in the British Dental Journal (Morris and Burke, 2001a, Morris and Burke, 2001b). The authors proposed that the features of the interface between primary and secondary dental care are interdependence, integration and complexity. Primary care providers require somewhere to refer patients for advice and treatment, and the secondary care sector depends on a cohort of practitioners to provide these referrals. The integration of primary and secondary care involves co-operation, communication and co-ordination for a successful outcome. It was suggested that the complexity of the interface is dependant on a range of issues such as waiting lists and regional differences in demand for their services.

As well as the needs and demands of the population, the role of the primary dental care practitioner has a strong influence on referral trends. This is a complex issue that lies at the heart of this research. General dental practitioners have an important role in identifying and referring patients who would benefit from specialist treatment. They also have a ‘gate-keeping’ role in

preventing inappropriate referral demands. There are considerable differences reported between dentists with regards to their referral rates (Morris and Burke, 2001b, Linden, 1998). The reasons that have been proposed for these differences include the age of the referring practitioner, their exposure to postgraduate education, the remuneration system, the distance to specialist provider and the clinical skills of the referring dentist (Morris and Burke, 2001b).

The specialist service may itself be a factor in referral rates depending on its location and the development of local links with referring practitioners (Morris and Burke, 2001b). However, specialist practitioners can choose to practice wherever they wish, which may exacerbate the lack of provision in some parts of the country. A recent survey of all Specialist Registrars in the UK showed that the south of England, particularly London, was the preferred location for many Specialist Registrars (Drugan et al., 2004).

Finally, patient factors may be relevant in driving referrals particularly where there is a demand for specialist referral together with increased patient knowledge. However, a paper published shortly after the advent of specialisation appeared to highlight the need for further study to investigate patient knowledge about referral options for secondary care (Pollock and

Morgan, 2000). The findings of this survey showed that most patients perceived that they would see a specialist rather than a consultant, and most thought they had been referred because their dentist could not treat their problem.

The 'ideal' interface between primary and secondary dental care has been described in terms of equity, seamless care and efficiency and effectiveness (Morris and Burke, 2001a). Whilst acknowledging that the ideal situation does not exist in health services, these authors examined the current problems affecting the interface between primary and secondary dental care, and suggested ways in which this interface might be improved. It was suggested that access may be improved by the development of NHS specialist care outside consultant-led units (Morris and Burke, 2001a). However, there are obvious barriers to promoting specialist treatment within a primary care setting, including a skills shortage and the existence of an NHS General Dental Services contract which is perceived not to reward complex treatment (Morris and Burke, 2001a, Linden, 1998). Another article, considered in more detail later in this review, reported that the majority of respondents in a survey of General Dental Practitioners preferred to refer patients to a hospital consultant rather than a specialist practitioner (Fairbrother and Nohl, 2000).

Many of the problems identified with the current interface between primary and secondary care have not been fully researched. Our understanding of this interface is also limited by the absence of high quality activity data (Jessop et al., 2001). Most of the published research has centred around secondary care referrals, and it is proposed that research in primary dental care has much to offer to improve our understanding of the interface between these two areas (Morris and Burke, 2001a). There is a growing trend for research to be conducted in primary health settings, to the benefit of both patients and healthcare workers (Newton et al., 2004).

Specialist referrals in restorative dentistry

There were no published works directly related to the attitude of dentists to referring patients to a primary care based dental implant service. Publications related to specialist periodontology referral within primary care were considered to be most closely allied to dental implant referral.

Most of the published work regarding specialist referrals in dentistry has been conducted from a secondary care perspective. There are a number of papers that have considered patterns of referral to consultants in restorative dentistry in the hospital dental service (Ellis et al., 2001, Callis et al., 1993, Basker and Harrison, 1988, Yemm, 1985). Much of this work consisted of simple cross-sectional studies of general restorative dentistry referrals and did not consider the attitudes of referring practitioners or the issues surrounding the referral process.

Basker et al. conducted a survey of patients referred to hospital restorative dentistry clinics in 1988, 10 years prior to formal specialisation (Basker and Harrison, 1988). Their findings appeared to support the need to develop a consultant service in restorative dentistry in district general hospitals, based on geographical issues.

A key paper published in 1998 thoroughly investigated the extent of and reasons for variation in the periodontal referral

patterns of general dental practitioners (Linden, 1998). A questionnaire was circulated to 520 general dental practitioners in 1995 to investigate their management of periodontal disease, factors which might influence such management, and the reasons for differences in the referral patterns between dentists. The author stated that predictors of high referral rate were the practice location being close to the referral centre, dissatisfaction with the ability to treat periodontal disease under the National Health Service, not offering root planning as a treatment and a perceived inadequate postgraduate training in periodontology. It was concluded that considerable variation existed between general dental practitioners in relation to their referral of patients for specialist periodontal treatment and advice. The factors that may have influenced the referral process were considered at length in the discussion.

As may be expected, the variability in referral pattern was not solely associated with variations in disease levels, but also with combinations of local factors which operated within the environment of the referring dentists. The effect of distance between the referring practitioner and the referral centre appeared to be a significant barrier to referral. This problem of distance may affect the acceptance of referral by patients and hamper its accessibility to patients in rural areas or those patients from disadvantaged sections of the community (Linden,

1998). The respondents in this survey expressed dissatisfaction with NHS regulations governing periodontal treatment and it was noted that this problem has been recognised for many years (Wein, 1969). The author concluded that this is likely to be a major factor affecting a referral. Several practitioners had referred high numbers of patients which may suggest a degree of inappropriate referral. However, there were also a number of respondents who reported very low levels of referral which could have been detrimental to the periodontal management of their patients. The author seemed to indicate that the latter situation is less desirable due to the considerable unmet need for periodontal treatment that has been reported in the literature (Douglass et al., 1983). The results of this study suggest that dentists only referred those patients whom they believed were co-operative and would benefit from periodontal treatment. However, it was recognised that some patients will refuse referral and that this may affect future decision making, as will the dentists' own attitudes and beliefs. As a result, patients with similar characteristics may receive different treatment (Grembowski et al., 1991), suggesting that periodontal referral rates are not equitable. Furthermore, this cohort of practitioners was more likely to refer patients from higher socio-economic status groups, and tended to refer more women than men. However, there is little evidence that such socio-demographic

parameters have a strong effect of periodontal health. These behavioural issues need to be investigated in more detail to understand the complex attitudes that exist towards specialist referral. It is concluded that in many cases, non-disease factors, particularly the accessibility of the specialist service, have powerful effects on the decisions made by dentists, and their patients, in relation to periodontal referral.

This research is complimented by a further study from the same centre which compared the variation in periodontal referral in two regions of the United Kingdom (Linden et al., 1999). The results of the first study were compared with another cohort of general dental practitioners from a different region of the country. It indicated that there is considerable variation in periodontal referral both within and between the two regions studied. The authors concluded that, in many cases, factors such as the accessibility of specialist services may have powerful effects on the decisions made by dentists and patients in relation to periodontal referral. Distance was the only factor significantly related to the referral rate in both regions. Those who practiced more than 25 miles away from a specialist referred significantly fewer patients in both regions. These findings have obvious implications for specialist practice in periodontics. Other factors were found to affect referral rates within each region, highlighting the variation between different parts of the UK.

Hygienist employment has been shown to be associated with markedly increased provision of periodontal services (Brown et al., 1994). The effect of postgraduate education is unclear, since this had a different effect on referral rate in each of the two regions. It has been suggested that increased knowledge of the treatment options available may be associated with increased referral (O'Brien et al., 1996). Alternatively, postgraduate education may be associated with a lower referral rate due to an improved selection of cases (Morris and Burke, 2001b). It was concluded that there was considerable variation between dentists in both regions in relation to making periodontal referrals (Linden et al., 1999). The author acknowledged that the extent of variability in other regions within the United Kingdom, or in the wider context of Europe, is unclear and merits further investigation.

Fairbrother and Nohl (2000) conducted a survey of the perceptions of general dental practitioners of a local secondary care service in restorative dentistry. Postal questionnaires were sent to 393 randomly selected local general dental practitioners to establish their perceptions of a referral service in restorative dentistry. The survey considered whether there were practice guidelines in place for making referrals, the perceptions of practitioners regarding their frequency of referrals to the various clinical disciplines, the opinions of the quality of service provided

and any preference for hospital consultants or specialist practitioners. Of the 263 respondents in this study, 93% perceived that they referred at some time for periodontal treatment and 85% perceived that they referred for advice only. The actual numbers of patients referred by these dentists was not investigated. Although the main aim of the study was to evaluate the service provided at a large teaching hospital, one of the conclusions was a distinct preference for hospital consultants rather than registered specialist practitioners to carry out specialist treatment. 70% of respondents stated that they would prefer a hospital consultant to carry out specialist treatment whereas only 13% would prefer a registered specialist practitioner. The possible explanations put forward in this paper were cost of treatment and competition (Fairbrother and Nohl, 2000). It was anticipated that specialist practitioners are likely to operate independently from the NHS and the fees incurred may be higher than those charged by NHS practitioners. It was suggested that referring dentists may fear that patients would not return to their practice after receiving specialist treatment.

Another survey in 2001 reported on referrals to a specialist restorative dentistry service based in a district general hospital (Ellis et al., 2001). As with other studies, this paper did not attempt to consider the attitudes of the referring practitioners, but simply reported on reasons for referral and the outcome of

each consultation. One of the findings was that there was a strong demand for the management of endodontic problems and periodontal disease. In this survey, requests for advice or treatment regarding periodontal disease accounted for 14% of the total number of referrals.

It is important to note that the research for most of these papers was carried out before a specialist practice was firmly established. There have been no similar studies in recent years and the situation may have altered significantly, particularly in those parts of the UK which have greater numbers of specialist practitioners.

Referrals within primary care

Years after the development of formal specialisation in the UK, there does not appear to be any published research that has assessed the impact of these changes. It is generally perceived that most specialists operate in the private sector, and there appears to be significant parts of the country that have poor access to specialist practitioners.

Within the NHS, major changes have been introduced to the way primary dental services are organised in England. The *NHS Dentistry: Options for Change* report published in 2002 set out the ideas and principles behind these changes. The main aims were to change the way in which dentists are remunerated, to

offer care which is responsive to local need, to improve the patient experience and to improve access to NHS Dentistry. Framework proposals for these changes were published by the Department of Health in March 2004, and were implemented in April 2006. Under the new arrangements, the fee-per-item of service payments as identified in the Statement of Dental Remuneration was abolished in favour of a new currency, the "unit of dental activity" (UDA). Four "bands" exist, depending on the complexity of treatment. Each band attracts a fixed number of UDA's and a fixed patient charge. Funding allocations for each service provider were calculated on a fixed baseline period from October 2004 to September 2005. Using a complex formula this item of service activity was translated into the new UDA currency. Monthly payments are made in arrears to service providers providing there UDA targets are met.

The financial resources for primary dental services were devolved to NHS Primary Care Trusts to commission and manage dental services through contracts with local dentists. There has been much disquiet amongst the profession since these changes were introduced.

The Department of Health has indicated that this will provide the opportunity for Primary Care Trusts to commission and contract with dentists to provide services under a scheme for dentists

with special interests (DwSIs). A document published in May 2004 from the Faculty of General Dental Practitioners of the Royal College of Surgeons of England, in collaboration with the Department of Health, describes the details of implementing such a scheme. It is not known at this stage what effects these proposals will have on the role of existing specialists, and the development of DwSIs remains a controversial issue. The document *Implementing a Scheme for Dentists with Special Interests (DwSIs)* follows similar developments which have taken place in primary care medicine in the UK. A key aspect of health policy has been to increase the provision of care in community settings by general practitioners in order to reduce the referral rate to secondary care (Morris and Burke, 2001b).

Outside the United Kingdom, other countries have different systems in place for specialist referrals in dentistry. In medicine, the European Union of Medical Specialists is the body responsible for defining and co-coordinating medical specialties, but there is no equivalent body for dentistry. In the European Union, orthodontics and oral surgery are the only two specialties which are recognised formally in some way. Many other specialties have national recognition in various ways (for example formal training, dental school departments) in different countries, but may not be formally recognised under the EU Dental Directives (Kravitz, 2004). In 1999, a review of specialisation in dentistry in

Europe was conducted in order to find out what branches of dentistry are recognised across Europe as dental specialties (Zackin, 1998). The results indicated a wide variety of opinion as to which parts of dentistry should be classified as a speciality, with no compulsory regulations in place across the countries surveyed.

In other countries, differences in the system of remuneration may affect the delivery of specialist care. In the United States, approximately one-half of the population is covered by a dental benefit plan (Zackin, 1998). This is another factor known to influence referral rates, since managed care organisations may place restrictions on referral to specialists (Bierig, 1998). However in primary medical care in the United States, patients in health plans with gate-keeping arrangements are twice as likely to be referred to specialist care than patients in the United Kingdom (Forrest, 2003).

These issues will become more relevant in the United Kingdom as the financial resources for dental treatment are now fully devolved to Primary Care Trusts. Resources are finite to commission and contract dental treatment for the local population.

The further development of third party insurers in the UK dental market, and the changes to the regulation of dental bodies

corporate may also have an impact on the provision of specialist dental services.

Aims and objectives

Aim

The aim of this study is to understand the attitudes of general dental practitioners on Teesside towards referring their patients for treatment involving dental implants to Queensway Dental Practice so that a high quality service can be maintained.

Objectives

The objectives of this study are to:

Draw a purposive sample of referring dentists and interview them using in-depth interviews.

Use a framework to aid an iterative and inductive process of analysis (Ritchie and Lewis, 2003).

Identify the key themes which can be developed into specific actions within the service which may improve the quality of care or the experience for both referrer and patient.

Seek to explore the wider relevance of the findings.

Study protocol

This chapter sets out the practical and chronological steps that have been taken to collect data that will achieve the study aims and objectives.

Sample

For this study, a purposive sample was taken to include a range of dental practitioners who refer to Queensway. Participants were selected according to their location, their gender, their experience (years post graduation) and their postgraduate qualifications to ensure a wide range of referrers are chosen (see appendix 1 for subject code and characteristics of participants).

Half of the subjects were selected because they had already referred dental implant patients to Queensway and the other half of the subjects were those dentists who had not referred dental implant patients to Queensway, trying to ensure an even mix of men and women dentists.

Subjects were also chosen to represent a range of the length of time they had been qualified and lastly chosen for a range of postgraduate qualifications that they hold. It was felt that these criteria would provide adequate variations of experience and knowledge within the purposefully selected sample. No attempt was made to select subjects according to their gender or status within the practice (i.e. principal or associate), but this was

recorded when recruiting subjects. Data collection and analysis was concurrent until saturation was achieved (i.e. when no new ideas or themes were expressed). It was anticipated that strong and common themes would emerge. From the literature and the researchers' previous experience it was anticipated that ten to twenty interviews would be required for saturation to occur (Crabtree and Miller, 1999, Durham et al., 2007, Sharpe et al., 2007). Payments for subjects was offered at the British Guild rate but not taken up by subjects, as subjects were existing users of Queensway's long established oral surgery and sedation service.

Ethics

Full ethical approval was sought and obtained from the County Durham and Tees Valley 2 Research Ethics Committee (REC reference number 07/H0908/86). North Tees Primary Care Trust Site Specific Approval was also gained (see appendix 1 2-10 for documentation)

Method

Forty seven dentists from Queensway's existing database of 400 referring dentists were purposefully selected as potential subjects. These dentists were contacted by letter and invited to participate in an in-depth interview lasting approximately thirty minutes to one hour. Expenses were offered, based on the

British Dental Guild rate recommended by the British Dental Association. All the interviews were conducted by the same interviewer at a mutually convenient time for the participant and the interviewer. Most of the subjects were interviewed at the subjects' dental practices. Subjects were made aware that the study was being carried out as part of an MSc in implant dentistry. The interviews were conducted with a flexible topic guide to help to ensure coverage of all the relevant areas (see appendix 5 for topic guide).

Data collection

Data was collected by audio recording of the interviews. The recordings were later transcribed verbatim into a Microsoft Word document by an independent transcription company. Data from the transcripts was organised in a thematic framework to aid analysis (Ritchie and Lewis, 2003). The analysis was an inductive, iterative process whereby data collection and analysis took place concurrently until data saturation occurred. A second researcher also analysed the transcripts to help reduce bias and validate themes (Mays and Pope, 1995, Spencer et al., 2003).

Confidentiality

All researchers involved in the study signed codes of confidentiality and conduct. Recommended data security and storage procedures were be followed by the researchers (MRC

Guidelines on Personal Information in Medical Research, 1999). All personal data collected and held was registered in accordance with the 1998 Data Protection Act, and the Queensway Data Protection Policy was followed. Full names and addresses of participants were not shared. This was reinforced at the start of each interview. All personal information was coded or anonymous. All identifiable information was stored in a locked filing cabinet and room at Queensway. Databases linking participant identifiable information with code numbers were password protected. No personal information provided by study subjects was disclosed to a third party without the explicit permission of the subject concerned.

Subjects were made aware of the process of recording, and the purpose for which recording were being made. Recording was undertaken subject to written consent from the subject (see appendix 4 for consent form). Recordings were wiped following transcription and checking of transcription. Personal details were not included in transcripts. Personal data was only held in a computerised database for as long as it was required for administrative purposes. Information was not to be used in ways which cause distress or harm to the subjects. This information was part of the patient information and consent procedure, together with a description of the rationale of the overall study.

Results

This chapter states the outcomes of the study and how they have been achieved.

Forty dental practitioners who refer to Queensway were identified. Potential subjects were selected according to their location, their gender, their experience (years post graduation) and their postgraduate qualifications. Half of the subjects were selected because they had already referred patients requiring dental implant to Queensway.

These forty potential subjects were invited, by post, to take part in the study and were supplied with all the necessary information on which to make their decision (see appendix 2, 3, 4). A total of thirteen dentists responded positively, data saturation occurred after the interview and thematic analysis of subject eleven. A summary of the subjects' coding and characteristics can be found in appendix 1).

The audio recording of the interviews were independently transcribed (The Transcription Company UK, Sutton Coldfield, B75 7EN) into Microsoft Word documents. The transcripts were anonymised, coded and checked for accuracy. Data from the transcripts was organized into a thematic framework using a Microsoft Excel spreadsheet to aid analysis (Ritchie and Lewis, 2003). The analysis was an inductive, iterative process whereby

data collection and analysis took place concurrently. A second experienced qualitative researcher, not involved in data collection or Queensway Dental Practice, also analysed the transcripts to help reduce bias and validate themes that had arisen from the data (Mays and Pope, 1995, Spencer et al., 2003).

Sample characteristics

Of the eleven subjects analysed there were five female subjects and six male subjects.

There was an even spread of the years subjects had been qualified for (1yr, 3yrs, 5yrs, two of 6yrs, 13yrs, 27yrs, two of 30yrs and 36yrs).

Ten of the subjects had a significant NHS commitment. One subject practised dentistry exclusively privately. Five subjects were practice principles and six subjects were associate dentists.

Subjects worked in a range of settings and teams ranging from small villages with one other dental colleague at the practice to larger city group practices. All subjects provided a range og general dental services. None of the subjects work in teams that had specialist in-house services. Although, a few subjects had interests in oral surgery and orthodontics, none had completed specialist training. Most subjects had aspirations to expand their

knowledge and experience of aesthetic dentistry. One subject had embarked on formal training, enrolling on a diploma in conscious sedation and a restorative dentistry MSc.

Seven subjects qualified from the School of Dental Science at the University of Newcastle-upon-Tyne, two subjects qualified from London Dental Schools and two subjects qualified from Indian Dental Schools (these subjects completed their international qualifying exam in Newcastle-upon-Tyne).

The results of the themes that emerged have been supported by verbatim quotes written in *italics* and in speech marks. Verbatim quotes are attributed by a code letter (a to k) to identify the attributes while keeping each subject anonymous (See appendix 1 for coding and subject characteristics).

Dental implant experience

Undergraduates

Most subjects had had no experience of dental implants as undergraduates. At best the subjects that had qualified more recently had had some limited theoretical exposure but had had no hands on clinical or observational exposure.

(e) "As an under-graduate absolutely zero. I think it was taken probably two pages from an oral surgery book that had a very limited, if any knowledge at all"

Those subjects who had qualified for some time (for example in the 1970's), had heard negative reports about the emerging field of implant dentistry.

(g) "As an under-graduate in the late 1970's, I remember hearing rather negative stories of, I think they were referred to as knife edge implants, that they had caused an awful lot of problems"

Postgraduate

As postgraduates dentist's subjects, in general, had had little exposure to dental implants. A few subjects declared experiences ranging from observing one dental implant being placed in a hospital to one younger subject who had had some hands on experience as part of his General Professional Training, in the dental hospital environment and assisted on a number of occasions while visiting a primary care based service.

Subjects who had referred their patients for dental implant treatment and who had had dental implants placed were involved with follow up care. Most subjects had experienced their patients declining the uptake of dental implant treatment and the offer of referral for treatments involving dental implants.

(a)“I’ve referred a few patients for implants that have come back with them, and then obviously refer a lot which come back without them”

Attitudes to dental implants

All subjects were clear that they offer dental implants as an option for replacing a missing or a failing tooth to their patients as a matter of routine. However there was a generalised fear of offering dental implants as part of general dental practice due to the perceived complexity and risks that the procedure involved. The “dental implant option” was considered to be the most conservative, long lasting option, with the benefit of high success rates and providing patients with good aesthetics and function. One subject made the point that it was a medico-legal responsibility to include dental implants a treatment option. Another felt that although it was the “Rolls Royce” treatment other restorative preferences that were deliverable by the subject, such as the use of acid etch bridges, may take precedence.

(a) "I always start off and I say that implants are the gold standard and that if I had a choice, if it was a front tooth and money was no object, I would definitely go for the implant"

and,

(g) “My philosophy has always been, keep it as simple as possible. If you can avoid cutting into a perfectly sound tooth, then avoid doing so”

For older subjects, the negative attitudes towards dental implants that had been held in the past, had now given way to a much more positive impression that dental implants had improved and that now treatments involving dental implants provided a predictable long term outcome.

The subjects unanimously felt that the cost of treatments involving dental implants was not over priced (unless the patient was old). Although subjects felt dental implant treatment was more expensive in the short term than other treatment modalities, they offered long term value for money.

(f) "I always try to weigh up the fact that having a bridge, or multiple bridges is going to end up being of similar cost in terms of loss of earnings through appointments and missed days off work and you know multiple visits, rather than having an implant which will last longer. So I think they are good value"

Appropriate patient selection became a common theme. Subjects had a clear idea of the medical conditions, such as diabetes, susceptibility to periodontal disease and patients receiving chemotherapy, which may reduce the success or indeed preclude

patients, form treatment involving dental implants. Subjects were divided on the issue of whether dental implants were appropriate for patients who smoked. A minority of subjects did not feel that smoking was an absolute contraindication to receiving dental implants.

(C) "I have seen plenty of smokers with implants and they have been successful"

On the other hand most subjects perceived that patients who smoked was a contraindication to dental implant placement. One subject, who had been a former smoker, had the most extreme view.

(b) "If somebody's a smoker, I usually don't refer them at all, you don't treat the smokers"

Despite the cost of dental implants, subjects felt that this area of dentistry had a growing market. Although one subject felt that the Teesside dental implant market was lagging behind, and would be slower to grow than the rest of the UK

(d) "a lot of people who perhaps they've paid off their mortgage, the kids have gone to university and perhaps both of the parents have inherited houses and a lot of disposable income and a lot of people now feel that its 'me' time, they've spent all

the last 30 years doing things for the family, now they want to do something for themselves"

Other subjects felt that it was important not to pre-judge patient priorities and to give them a range of options with related costs.

(e) "I think every case is different and you have got to assess what you can give a patient for what their lifestyle and budget is"

Finally there was a strong conviction from subjects that dental implants should be more easily available on the NHS for patients who required them as a result of trauma, cancer or congenital anomalies.

Attitudes to dental implant referral

There was a common conviction from all subjects that if a dental implant was indicated that their patient would be encouraged to uptake this treatment modality.

(a) "Ultimately, if I think an implant's the best thing for a patient I will refer"

However, due to a lack of expertise on behalf of the subjects, the final decision to proceed with dental implant treatment would be deferred to the treating implant dentist.

(b) "The final...the final decision is by the surgeon because he knows best really"

Most subjects felt that their patients would require input from the dental implant dentist prior to being able to make a balanced decision.

(g) "I think unless you have a, you have a little bit of professional guidance, I think it would be impossible for a patient to make an informed decision"

Interestingly, there was a hint of anxiety from subjects that the dental work that they had carried out would be judged by the dental implant dentist. However this anxiety was not enough to prevent patient referral.

(f) "if I was referring to a specialist like that as a private referral, or as an NHS referral to the hospital, I think that would look pretty bad on my professional judgement if I'd not managed to get that person to a decent state of health before thinking of you know more complex dental work"

All subjects had a strong sense that patients had to be able to demonstrate basic levels of being able to maintaining their oral health prior to subjects considering referral.

(c) "If they can't be bothered to look after the teeth they have got, they aren't going to be bothered to look after the implants, however much they have spent on them"

Some of the older subjects felt that the nature of dentistry with respect to implant dentistry was changing. Two specific points were raised. Firstly, those younger dentists would be more likely to incorporate implant dentistry into their general practice. Secondly, the expansion of corporate bodies would lead to patients within these organisations to be referred internally to specialist services within their organisations.

(d) "I think a lot of practices which are being brought by corporate bodies; the corporate bodies will have an in-house system for doing implants"

Without exception subjects felt that they would only refer to an individual that they knew and trusted. Although it was apparent that subjects had had some difficulty in assessing the training and experience of the implant dentist that they were referring their patient to. A slight undertone of jealousy existed with regard to the potential loss of business that may result from referral. Despite this economic reality, subjects were able to act professionally and make an implant referral if appropriate.

(e) "it's galling to think well you know if I had this experience, then perhaps I would be able to say to my patients that I can do this and I can do everything else as well and involve it in my treatment plan"

There was a mixed attitude towards the involvement of subjects in their patient's management once referred. On the one hand some subject wanted to devolve all responsibility. On the other hand some dentists wanted to work very closely with the implant dentist.

There was also divided opinion amongst subjects as to whether there should be a charge for patients attending an initial consultation. On the one hand some subjects felt that an initial consultation that was free of charge would encourage their patients to explore the dental implant option uninhibited. On the other hand some subjects felt that making a charge for an initial consultation would minimise the impact of "time wasters".

Perceived barriers to patient uptake

Cost

Cost was perceived as a significant barrier by all subjects. It was the theme that came up most often and most strongly. All subjects had at least a basic understanding of the costs of dental implant treatments. In general terms these rough costs were routinely discussed by subjects with their patients as part of the

potential consequences of a dental implant referral. Despite the subjects' tendency to prejudge whether their patients could or would be able to afford dental implants, most subjects continued to offer this treatment modality as an option.

(a) "The socio-economic status of a lot of the patients that are there, as soon as I mention the price it's 'no forget it'" "whether they're an exempt patient or a paying patient, I would always mention the implants, because you don't know. Some people have different priorities of where they spend their money"

Cost was cited as the commonest reason for patients to decline referral for treatment involving dental implants.

(j) "They understand that it's going to be expensive, it's just that they can't afford the treatment"

Due to the high success rates of dental implants, all subjects had a clear sense of the cost effectiveness and value for money of implant dentistry. This was particularly the case for younger patients who required dental implants as the benefits would be maximised over a longer period of time.

(c) "Although it's a big capital outlay, but when you spread it over all of the years of, the lifespan of both the patient and the implant, it really isn't that expensive"

Sadly, subjects felt that their patients found it difficult to see this cost effectiveness benefit and therefore resigned themselves to the alternatives.

Waiting times

There was consensus that waiting times were far too long when referring to hospital services.

(k) "Patients should have access within one month, depending on the nature of the problem"

Subjects had consensus that their patients should have access to dental implant services for assessment within two to three weeks and should their patients wish to proceed with treatment they should have access to commencing treatment between four and six weeks following their assessment.

Distance

Subjects mostly thought that local dental implant referral services were important to develop as distance was perceived to be a barrier to their patients, especially on Teesside.

(a) "If I suggest the Newcastle appointments the referral to a hospital, they do sometimes baulk at that"

and,

(e) "as you start mentioning going further a field, people are a bit like it's a bit too far to go. Especially where we are in the North East"

Subjects agreed that, as a referral service, implant dentistry required the implant dentist to have a high level of expertise and training. It was accepted by subjects that some travel for their patients was acceptable. One subject said that they would prefer a visiting implantologist to assess and treat patients at their own practice.

Other

Subjects highlighted other barriers to the uptake of dental implant treatments. The most worrying this came from a perceived low oral health expectation of their patients. This coupled with dentists' inexperience could lead to inappropriate care.

(h) "I have quite a few patients who come in requesting clearances and actually wanting dentures. So I mean if that's what they want and they are happy to go along with that, then well that's fine by me"

Other barriers included;

Subjects having had a bad experience of dental implant treatments in the past.

Subjects had a perception of their patient's inability to understand complex treatments.

Subjects had a perception that their patients find the invasiveness of dental implant procedures to be off putting.

Subjects had a perception that the time taken and the number of treatment visits may be a barrier to their patients.

Subjects felt they did not have enough information about the various referral options to enable them to pass on information to their patients with regard to dental implants.

Subjects felt they did not have enough knowledge about dental implants to discuss them confidently with their patients.

Referral options

Local Dental Hospital

Local Dental Hospital services were perceived to be of high quality but to have long waiting lists (up to three years was the experience of one subject), very limited resources and unclear referral criteria. However the prospect of free dental implant treatment was felt to be a strong motivating factor for most patients to request referral to this setting.

(a) "I think that's purely the only driving factor to go to hospital, for the patient, is that they might get it for nothing.

They don’t perceive that that is a better quality of service, its just having it for nothing"

Some subjects had a clear understanding of the referral criteria to receive NHS care which included trauma, congenital abnormality (such as hypodontia) and cancer. These subjects warned their patients of a likely long wait and the possibility of disappointment, if the institution’s criteria were not met or funding was not available.

Other subjects had a poor understanding of the referral criteria. This resulted in their patients being subsequently disappointed by the referral experience.

(k) “don’t refer as don’t always get back the answer you want”

Subjects did not feel the need to know the individuals that they were referring to but assumed that services in this environment would be of a high standard.

Primary care

There was a strong sense that referrals within primary care were mostly based on positive relationships. Subjects who had had positive experiences were likely to continue with established referral arrangements. Subjects admitted that they got into referring habits with providers that they would maintain, provided that they continued to work well.

(a) "I think when we've had positive experiences back from a certain pathway well its almost well if its not broke why fix it in some ways"

Subjects preferred local providers of implant dentistry to have a good reputation and a good track record. Of paramount importance was a good relationship with and respect for the dental implant practitioner.

(d) "There was only one other practice in the area that was doing implants and because I didn't know that person I thought well I'll stick to the person that I know"

Expectations of a referral service

Training

Subjects expected dental implant practitioners to have a variety of attributes. These included "proper" qualifications, a "vast amount" of experience, a good reputation, a good success rate and regular placements of dental implants in a specialist environment. One subject highlighted that a qualification on its own did not necessarily equate to appropriate dental implant treatment quality assurance.

(f) "That doesn't necessarily show that someone is competent and professional in what they are doing. It shows that they have done an exam to a specific level, but it doesn't necessarily mean

that they are implementing all those things into their routine implant work"

In addition subjects expected dental implant practitioners to be easy to contact and that they should be prepared to work in partnership with the referring practitioner.

(e) "the fact that it's easy to actually just ring up and catch him and talk to him on the phone about cases and the fact that we will actually work together on other cases"

Communication

All subjects agreed that communication with the implant dentist should be formal, in writing at each stage of process, include any failures, and be at regular intervals.

Subjects had an expectation that all options and not just dental implant options should be discussed with referred patients by the implant dentist. Most subjects were keen to have clarification of what intervention was to be proposed for their patients and what if anything treatment would be required from the referring dentist. All subjects agreed that a clear referral form should be supplied by the dental implant practitioner for the referring dentist to use.

(j) "that sort of communication between the two people I think is extremely important because things go wrong when

there is lack of communication as you don’t know what the patient has been told at the referral practice and what you actually are meant to carry out afterwards is equally important"

Subjects expressed a need to have a clear referral guideline to be supplied to them as a referral protocol document. Subjects suggested that this information could be passed on to patients and should including information about the dental implant team, the dental implant teams training and experience, a clear explanation about dental implant and associated costs (including what finance schemes if any were available), the longevity and prognosis of dental implants, the particulars of the dental implant systems used, what back up is available for their patients, and even a map of how to get to the dental implant practice.

(f) "You know lots of practices advertise for implants, in some situations the practitioner themselves may not actually place them at all, they have someone go into that practice"

Subjects proposed a number of strategies that dental implant practices might adopt to improve the information and education of referring practitioners and their teams. These suggestions included images of completed dental implant cases that could be passed to patients, opportunities for referring practitioners to be involved with the care of their patients, support from the dental

implant practitioners on maintenance training, running open days for referring dentists, providing courses and visiting referring practices to train their teams.

(f) "it's difficult as an outside referring practitioner, unless you have seen people work in their environment and possibly having people invited in to, you know invited to those practices for open days"

Follow up

Most subjects felt happy to provide maintenance provided that they had been given a clear indication of what was required by the implant dentist and that in the event that any complications were encountered, that their patients would have quick access to be re-referral. Some subjects had positive experiences of this. Other subjects preferred the implant dentist to carry out maintenance following the definitive treatment. One subject was anxious that as more dental implants were placed more potential maintenance problems may be encountered.

One subject had a strong sense that patients should be referred back following dental implant treatment.

(f) "Wouldn't like to feel the patient was being poached from me I don't think"

Dental implant tourism

This area provoked strong reactions from most subjects. There was a general consensus amongst subjects that they would not recommend their patients to receive dental implant treatment (and for that matter any other medical intervention) abroad. Subjects had concerns for their patients. These concerns were centred on worries about potential post operative complications and “come back” for their patients if things went wrong.

(c) "They are doing their job, taking the money and then it’s left to us to pick the pieces up"

Some subjects felt more strongly than others about patient’s motivation to accept dental implant tourism. One subjects identifying cost as the only driving factor.

(b) "Anybody thinking about that should have their head examined, and they're not in it for the right reasons, they’re just going for something cheap"

Other subjects identified the media as a strong force in shaping the dental tourist market. However, as bad news sells papers, subjects had noticed that there was an increased profile of “horror story failures”. This negative press was perceived to act as a welcome and appropriate deterrent to dental implant tourism.

(g) "People who believed everything they see on the Internet and if something seems to good to be true, then it usually is in my experience"

Some subjects had little sympathy for patients who in the event of experiencing post operative complications were expecting them to incur more costs.

(d) "Think that you get everything that you deserve"

The issue of the quality of dentistry provided by "dental impant tourism" divided subjects. Some subjects were more open minded that other.

(f) "I have never actually seen any patients come back after having implant dentistry done abroad. I have some people who have had complex crown and bridgework done abroad and it's been very high standards from Poland"

Others were more suspicious of standards abroad.

(g) "You know not all post-graduate qualifications would seem to be equal, one suspects"

On the other hand subjects who had qualified abroad were more positive about standards abroad.

(h) "I consider my qualification is not less compared to graduates from UK, so I don't want to comment in that one, because they do through a thorough training"

One subject made a valid point about the potential communication difficulty, in the context of different cultures and languages, which may be encountered abroad. In particular concerns about valid consent were raised when complex treatment options and complex interventions were discussed.

(f) "I know in England, however much time you spend with patients, sometimes patients misunderstand things and there is probably an issue of communication as well. God knows how much more of an issue that is when you try and convey complex treatment plans and advantages and disadvantages in some second language"

These results have informed the discussions in the following Chapter.

Discussion

This chapter seeks to interpret the outcomes of the study results, to draw out points of interest and consider how the study has fulfilled its aims and objectives. In addition this Chapter will identify weaknesses of the study and make recommendations for service improvement and future work.

These results have given an insight in to the attitudes and behaviours of general dental practitioners in their management of patients requiring dental implants. No attempt has been made to measure the strength of the attitudes expressed by referring dentists or to estimate the number of dentists that expressed a particular view. The aim of this research, as with any qualitative study, was to generate theory rather than to test hypotheses.

Since the interviewer was a general dental practitioner, it was felt that this would engender a greater openness among the participating dentists and facilitate the ability to appropriately interpret the collected data. This may have been compromised by the fact that all participants were made aware that the interviewer was undertaking an MSc in implant dentistry and was providing a primary care based dental implant referral service. Nonetheless, it is likely that the views expressed are representative of the opinions of a wide range of practicing dentists.

The participants were selected to reflect a good gender mix, a wide range of experience and working environments; varying levels of postgraduate education and history of patient referral to primary care base dental implant services. An adequate sample was achieved. Many of the attitudes expressed in the interviews reinforced the findings of previous researchers (Nixon and Benson, 2005, Sharpe et al., 2007) and as discussed below.

The majority of the participating dentists practised predominantly within the terms of the NHS mandatory services new contract. One practitioner provided general dental services entirely on a private basis.

Although a review of the literature had shown that no previous studies had been carried out in this particular area. The outcomes of this study were consistent with previous work that had been carried out in the general field.

The business of dentistry

There is consensus in the profession that dental implants are considered to be the best treatment option for missing or failing teeth. In the main implant dentistry is not available on the NHS. Secondary care services have strict selection criteria, long waiting lists and limited resources for the provision of implant dentistry. These limitations are generally accepted as being

appropriate by patients, dentists and policy makers. However the waiting times are considered to be unacceptably long.

The growing market of implant dentistry is thus part of independent practice. As such the General Dental Councils actions, as discussed in the introduction, to protect the public have been welcomed. This study has highlighted the expectations of referring dentist for high standards. There is an acceptance that these services, involving dental implants, should be concentrated into centres and delivered by teams who have the appropriate training, experience and facilities in which to deliver these services.

As a consequence of the huge investment in terms of facilities, equipment and training of a primary care service to provide dental implant treatment and to accept referrals from other practitioners, it is hoped that this investment is recognised by the GDC and may result in implant dentistry being defined as a specialism in its own right.

Meeting expectations

There was a common conviction that patients who were perceived to benefit from dental implants should be encouraged to take up this treatment modality. It is therefore incumbent on those dentists who provide implant dentistry, whether for their own patient or for patients on referral, to ensure they have

adequate clinical governance in place for these particular services.

Removing barriers

This study has suggested that dental implants are considered to be the best value for money option for patients who have missing or failing teeth. Although cost is perceived by dentists to be the main barrier to the uptake of treatments involving dental implants by patients. There is little that can be done about this unless the NHS is prepared to subsidise the patient costs. It may be that for certain procedures involving dental implants, which can be shown to provide an adequate improvement in the quality of life for patients, the NHS may consider supporting these interventions in the future. Along with the concerns about dental implant tourism that have been raised, further research in this field is needed to help inform and shape the commissioning of future NHS services.

This study has highlighted the need for primary care based dental implant services to ensure easy and quick access to referral services. Although dentists perceived that patients would be prepared to travel within reason (approximately 30 to 45 minutes by car as a maximum), local services were considered important. These services were expected to have short waiting

times for assessment of between two to three weeks and access to the commencement of treatment within four to six weeks.

Some dentists had felt they had low expectations of their patient. This coupled with the inexperience of dentists in the range of options available to their patient, has the potential to produce inequalities. The continued professional development of dentists and there teams in the area of implant dentistry is important for those responsible for postgraduate training to bear in mind.

Communicating with referring dentists

It was clear from the outcomes of the study that referring dentists were happy to send their patients to a primary care based service provided that a relationship with the implant dentist had been established. This relationship required the referring dentist to be satisfied that the implant dentist had appropriate qualifications, appropriate experience and appropriate facilities. In addition it was important for the referring dentist to be convinced of a good track record of success with dental implant treatments and to be seen to be willing to work in partnership with the referrer. Action points have been suggested for those wishing to develop a primary care based implant referral service.

Action point- implant dentists accepting referrals should develop, and keep up to date, comprehensive referral protocols. These referral protocols should ideally include:

The contact details and opening hours of the practice.

The individuals involved the dental implant service and should include a clear description of their training, qualifications and experience of the dental implant team.

The services available for referred patients should include the technical details of the dental implant systems used, how to access services, what patients can expect (the patient journey), likely timings and staging of appointments and the average patient costs of each stage (payment options should be included).

The referral forms that should to be used with self addressed envelopes should be provided. This referral form should clearly set out the information that is required from the referring dentist and an indication of how much involvement the referring dentist would like.

A patient information leaflet should be available for referring dentists to give to their patients who are considering dental implant treatment on referral. The patient leaflet should contain information about the service they have been referred to and

what they can expect from the service (this should include a map of how to find the dental implant practice).

Examples of patient experiences and the results of audits carried out at the dental implant practice should be provided. This should include information such as dental implant success rates and the results customer satisfaction assessments.

Keeping referring dentists up to date, by formal letter, with their patient progress. This should include those patients that have declined to take up treatment.

Assuring referring dentists those patients seen on referral will be returned to their continuing care.

Although some dentists were happy to discharge all responsibility for their patients care to the implant dentist, many referring practitioners wished to be given the opportunity to be involved with their patients dental implant planning, treatment and aftercare. In addition there was a desire by referring dentists to receive further training of their team and advice about implant dentistry.

Action point- implant dentists accepting referrals should develop, and keep up to date, methods of improving the knowledge base of referring practices. These should ideally include:

Inviting referring dentists and their teams to be involved with their patients care (an open door policy).

Offering team training at the referral practice. The best time to do this may be when policy and protocol documentation is delivered to practices.

Inviting referring dentists and their teams to open days and or seminars at the implant practice.

Training of referring dentists on the monitoring and aftercare of patients who have received treatments involving dental implants.

Weaknesses and recommendations

The views of the eleven dentists on Teesside reached data saturation on this topic. However ideally more subjects over a wider geographical and socio-economic area, for example a sample from the south east of England, Rural south west England and different ethnic inner-city areas would have been able to give a better national picture of dentists attitudes on this topic.

In addition, although purposefully sampled, those subjects who volunteered were likely to have had strong views, either positive or negative, about the study topic. This is one of the limitations of this method of research.

The observer effect is the difference that is made to an activity or a person by it being observed. It is acknowledged that this study has involved observer bias and to allow for this interpretation skills have been employed. In addition the error of observer bias is acknowledged. This study has been mindful of error that may have been introduced overemphasising expected behaviour fail to notice enexpected behavior.

Ideally most semi structured interviews should be carried out by an independent interviewer. However, in the context of this study, it was essential for the researcher to carry out all the various stages of the research. Although he cannot be considered to be an independent researcher, in this study he has made every effort to behave like one. Steps that were taken to reduce bias and increase validity and rigor (Barbour, 2001, Mays and Pope, 1995)including; supervision by experienced researchers in this field; peer reviewed ethical approval; purposive sampling, adherence to a topic guide; and iterative and inductive approach to ensure data saturation; independent verbatim transcription of study data, a systematic approach to analysis by and independent second reader to ensuring consistent capture of themes and a balance of experiences within those themes; attention to negative cases and a systematic reporting of results consistent with all the identified themes.

By providing an overview of the attitudes of dentists on Teesside, this study has achieved its aim. It has also identified areas for service improvement. Work will progress to form a patient questionnaire, which will further investigate how Queensway Dental Practice can better meet the needs of its referring practitioners and patients. It is hoped that the establishment of a patient user group at Queensway Dental Practice will direct its future research agenda.

Conclusions

This chapter summarises the outcomes of the study and states the conclusions that have been arrived at. In addition areas of future development are discussed.

Dental implantology is a growing area of clinical dentistry in the UK. Patients have growing expectations that they should be offered treatment options which include dental implants. Implant dentistry is not a recognised specialism. However the General Dental Council requires dentists, delivering dental implant services, to be able to demonstrate their competence.

This study aimed to understand the attitudes of general dental practitioners on Teesside towards referring their patients for treatment involving dental implants to a primary care provider.

This Study employed a qualitative approach. Purposive samples of eleven referring dentists were interviewed using semi-structured, in-depth interviews. A framework to aid an iterative and inductive process of analysis was employed. Key themes were developed into specific actions within the service which may improve the quality of care or the experience for both referrers and patients.

The following recommendations to the dental profession are made as conclusions of this study of the attitudes of this sample of dentists.

There is a common perception that implant dentistry is a fast growing, effective and cost effective dental intervention. It is the preferred treatment modality for a missing tooth both by dentists and by patients. In the light of this preference the profile of dental implants should be raised in undergraduate and postgraduate education. With further health economic and quality of life research and evaluation, the NHS should reassess the appropriateness of dental implants, to consider making them more widely available.

This study has shown that dentists support the move towards better standards and the improved regulation of implant dentistry. Dentists recognise that implant dentistry should be carried out in the appropriate facilities, with well trained and experienced teams. The development of recognised, registerable postgraduate courses is to be welcomed. A GDC specialist list of implant dentists would give referrers confidence, improve standards and serve to protect the public.

This study highlights the patient barriers to the uptake of dental implants as overwhelmingly the “front-end” cost. Other factors such as low patient expectations, the distance to travel for care

on referral, waiting times and the invasiveness or potential complexity of the procedure were considered by dentists to be of importance for their patients. Dentists were in favour of having access to local primary care based services that they could refer their patient's too. It is likely that the business of dentistry, with the inevitable competition of the market and increasing patient awareness and expectations (fueled by the media), will eventually drive up standards at the best price. However the public health agenda must be supported to improve oral health and reduce inequalities.

This study produced a strong reaction on the subject of dental implant tourism. Dentists were against it, mostly being concerned about the consequences of post operative complications for patients. While it is accepted that the high cost of this intervention may make patients seek care for the lowest cost. The media portrayal of "how things went wrong" is likely to encourage patients to consider more than cost alone deciding where to go for treatment involving dental implants. Implant dentists are advised to clearly state in their patient documentation the benefits of receiving treatment in the UK.

This study has produced strong expectations from referring dentists with regard to information and training. Implant dentists accepting referrals should:

Develop, and keep up to date, comprehensive referral protocols.

Give a clear description of their training, qualifications and experience of the dental implant team,

Produce referral forms that clearly set out the information that is required from the referring dentist and an indication of how much involvement the referring dentist would like.

Produce a patient information leaflet which is available for referring dentists to give to their patients who are considering dental implant treatment on referral.

Produce examples of patient experiences and the results of audits carried out at the dental implant practice.

Keeping referring dentists up to date, by formal letter.

Assuring referring dentists those patients seen on referral will be returned to their continuing care.

Develop, and keep up to date, methods of improving the knowledge base of referring practices. These may include: Inviting referring dentists and their teams to be involved with their patients care: Offering team training at the referral practice: Inviting referring dentists and their teams to open days and or seminars at the implant practice: Training of referring

dentists on the monitoring and aftercare of patients who have received treatments involving dental implant.

These conclusions and recommendations will be implemented at Queensway Dental Practice in an attempt to improve standards of the service and to improve the experience of referring dentists and referred patients.

Further service development will be from an investigation of patients who have declined to take up implant care at Queensway. This will be followed up by further service evaluation following the implementation of recommendations.

Appendix 1- Subject code and characteristics

(a) Female GDP, qualified Newcastle 2001 (6yrs), Vocational Training and standard CPD. Associate in same practice then Partnership in a new practice in suburbs. Recently bought by a corporate body. 4 surgeries, 3 dentists, 1 hygienist, 1 therapist. Mixed NHS and Private.

(b) Male GDP, qualified Newcastle 1980 (27 yrs). DGDP, LDC committee, VT trainer, postgraduate tutor, northern representative on FGDP board. Interested in paedodontics and orthodontics. Practice principal, with 3 surgery practice, 2 associates. Predominantly NHS practice.

(c) Male, GDP, qualified Newcastle 1971 (36yrs), general practice for a few years followed by hospital oral surgery post for a few years (no specialist qualification), worked in the North and South of England, worker in Middle East, South Africa and Israel. Partnership with 1 partner. Current practice for 4 yrs in town centre. 3 surgery practice, with 1 VT.

(d) Male GDP, qualified London 1977 (31yrs), Interest in oral surgery but no specialist qualifications. Principle for 25 yrs in NHS city practice, now mostly private, but associates are NHS now 2 surgeries rural practice, 1.5 associates, hoping to retire soon (3yrs). Family practice.

(e) Female GDP, qualified Newcastle 1991 (6yrs). No further qualifications, independent seminars attended, Tipton course (restorative aesthetic course). Partner of 2, 2 surgery practice, mixed NHS and

private in town centre, refer for sedation, dental implants and endodontics. Hoping to expand in the near future and bring specialties into practice.

(f) Male GDP, qualified Newcastle 2004 (3yrs). GPT then associate for 1yr. Town centre 6 surgery practice. Certificate in implant dentistry, doing diploma in conscious sedation, MSc in restorative dentistry. Been on botox, collagen filler and clear step course.

(g) Male GDP, qualified in Newcastle 1981 (27 yrs). Associate in small village, in 2004 partner and then sole principle from 2006. Last year, full conversion to private practice. Two surgeries, one associate, interest in orthodontics, orthodontic clinical assistant in Hartlepool Hospital, accepts orthodontic referrals in practice once they have hospital treatment plan, recent endodontic course.

(h) Male GDP, qualified Newcastle 2007. Current VT. Small town NHS practice with 5 dentists offering general dental services, no sedation, orthodontics or dental implants.

(i) Female GDP, qualified India 2002 (5yrs), international qualifying exam 2007. Current VT, considering GPT for hospital experience to increase confidence, aspires to have own practice, interested in cosmetic dentistry not dental implants.

(j) Female GDP, qualified India 1985 (27 yrs), worked as an orthodontist for 10yrs in India. International qualifying exam 2005, VT

then associate in same practice for 1yr. 5 surgery practice, Orthodontic training in India but not carried out in UK as not recognised training, Aspiration to do cosmetic dentistry courses, not confident with oral surgery.

(k) Female GDP, qualified London 1997 (30 yrs), Primary FDS, regular courses to keep up to date, interested in dentistry in general, enjoys job, good practice relationships. Oral surgery for a few years then general practice in the south of England, has practiced as a GDP in the north for 13 yrs. Practice principle for last four years. Six surgeries, four dentists, one Vocational trainee, one therapist, two part time hygienists.

Appendix 2- Study letter, invitation to participate

170 Queensway, Billingham, Cleveland TS23 2NT
Tel: 01642 554667
Fax: 01642 531799
Email: dental@queensway.co.uk
Web: queensway.co.uk

Dear Dentist, , Date

I am the managing partner at Queensway and also a part-time postgraduate student at the University of Warwick, currently in my final year preparing for a Masters degree in Implant Dentistry. As part of my studies, I am undertaking a research project to investigate the attitudes of general dental practitioners regarding dental implant referrals. I am seeking to conduct face-to-face interviews with a number of dentists from across Teesside and Co Durham, and I would like to invite you to take part.

It is likely that the interviews will take place this winter and they should last approximately 30 minutes. The interview process is explained in more detail on the enclosed information sheet. If you are willing to participate, please could you sign the reply form attached, and return it to the above address. I will then contact you to confirm a suitable time, date and location for your interview.

If you have any questions about this project, please email me, write to me or call me using the details above.

Yours sincerely,

Paul Averley

Find enclosed Study information sheet.

Appendix 3- Study information

170 Queensway, Billingham, Cleveland TS23 2NT
Tel: 01642 554667
Fax: 01642 531799
Email: dental@queensway.co.uk
Web: queensway.co.uk

Investigating the attitudes of general dental practitioners towards patient referral for dental implant treatments.

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

What is the purpose of the study?

Dental implantology is a growing area of clinical dentistry in the UK. Patients have growing expectations that they should be offered treatment options which include dental implants. Although implant dentistry is not a recognised specialism in itself, the GDC require dentists, delivering dental implant services, to be able to demonstrate their competence. In December 2005 the Faculty of General Dental Practice (UK) published essential new guidance that set out the training standards necessary for the practice of implant dentistry.

Training Standards in Implant Dentistry for General Dental Practitioners was produced by the Standards Working Group, convened by the General Dental Council (GDC).

Queensway has been involved in the management of patients using dental implants for the last 13 years with a team of experienced dentists including input from a Consultant Maxillo-Facial Surgeon. Over the past two years Queensway has been offering a dental implant referral service. As there is a growing expectation from the public and from the profession that services providing dental implant treatments should have appropriate governance. Understanding the attitudes of referring colleagues is a part of this governance.

Why have I been chosen?

You have been chosen because you are a General Dental Practitioner who practices in the region and refer patients to Queensway for its sedation and or oral surgery service.

Do I have to take part?

No. It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason (up until June 2008 which is when the study will be written up).

What will happen to me if I take part?

If you agree to take part, you will be invited to take part in a face-to-face interview which will last approximately 30 minutes. This interview is designed to gather information about your attitudes toward the referral of patients for treatment involving dental implants. You will be encouraged to talk about your practice, and you will be asked specific

questions to ensure that all the relevant topics are covered. The interviews will be recorded and subsequently transcribed. Once transcribed, the recordings will be destroyed and the transcripts will be kept anonymous. Once analysed, it is hoped that the results will be published in a suitable scientific journal. The published paper may include literal quotes from your interview, but your identity and practice will be kept anonymous. The geographical area that you practice in may be broadly identified. Your views and opinions will not at any time be attributed to you and no reference will be included to the names of practitioners interviewed for the study.

What are the possible disadvantages of taking part?

You will be asked to give approximately 30 minutes of your time for the interview to take place. Your opinions may also be expressed in the published paper as literal quotes from your interview, but these will be rendered anonymous and will not be attributed to you or your practice.

What are the possible benefits of taking part?

By agreeing to take part in this study, you will contribute to a greater understanding of the referral process and the overall management of patients who have specialist treatment needs. This may allow better development of services and improve the quality of care in the future.

What will happen at the end of the study?

At the end of the study, all the interview recordings and transcripts will be destroyed. The published paper may include literal quotes from your interview, but your identity and practice will be kept anonymous.

Will my taking part in this study be kept confidential?

All information which is collected about you during the course of the research will be kept strictly confidential. After the interview recordings have been transcribed, your name will be removed from the transcript so that you cannot be recognised from it. All the recorded data will subsequently be destroyed.

What will happen to the results of the research study?

This research is being undertaken as part of a Masters degree in Implant Dentistry. The results of the study may be published in a suitable scientific journal. The results are not likely to be published for 1-2 years from now. You will not be identified in any way, but the published paper may contain anonymous literal quotes from your interview.

Who is organising the study?

This research is being carried out with the support of the University of Warwick and the University of Newcastle.

Further information

If you require any further information about this study, please contact Paul Averley. If you decide to volunteer then you will be asked to sign a consent form and agree a convenient time for the interview to take place. You will be given a copy of this information sheet and also a copy of the signed consent form to keep.

Appendix 4- Study consent

QUEENSWAY

DENTAL PRACTICE

170 Queensway, Billingham, Cleveland TS23 2NT
Tel: 01642 554667
Fax: 01642 531799
Email: dental@queensway.co.uk
Web: queensway.co.uk

CONSENT FORM

Title of Project:
Investigating the attitudes of general dental practitioners to referring for dental implant treatment in a primary care setting.

Name of Researcher:
Paul Averley

Please tick box

1. I confirm that I have read and understand the information sheet and that I have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

3. I agree to take part in the above study, and to be recorded during the interview. ☐

4. I agree to anonymous verbatim quotes to be used in any published literature. ☐

Name of subject | Date | Signature

Researcher | Date | Signature

Appendix 5- Topic guide

Introduction

- Clarify nature of study, recording, confidentiality etc.

Back Ground

- Can you tell me a little about when you qualified, your career to date, your interests and further qualifications and the place you work?
- What are your experiences of dental implant dentistry as an undergraduate, postgraduate and in your current practice?
- How do you see dental implants fitting with your patients' treatment options?

Baseline Attitudes (functional)

- What do you think about the options for replacing missing teeth (dental implants, denture and bridge)?
- What are your referral options for patients with missing teeth or teeth of poor prognosis?
- What do you think of the relative costs of these options? What are the pros and cons of these options for your patient's?
- What is your attitude towards the cost of dental implants?
- What is your attitude to dental implant tourism?

Primary are referral barriers

- What stops you and what makes you refer patients and where do you refer?
- What influences your decision to refer dental implant patients?
- If I gave you a magic wand to improve or establish a dental implant referral service how would you use it?

Appendix 6- Ethics First response

County Durham & Tees Valley 2 Research Ethics Committee
Professorial Unit of Surgery
University Hospital of North Tees
Piperknowle Road
Stockton-on-Tees
TS19 8PE

Telephone: 01642 624164
Facsimile: 01642 624164
14 November 2007

Dr Paul A Averley
Managing Partner
Queensway Dental Practice
170 Queensway
Billingham
TS23 2NT

Dear Dr Averley

Full title of study: Investigating The Attitudes Of General Dental Practitioners To Referring Their Patients For Implant Treatment In A Primary Care Setting
REC reference number: 07/H0908/86

The County Durham & Tees Valley 2 Research Ethics Committee reviewed the above application at the meeting held on 12 November 2007.

Documents reviewed

The documents reviewed at the meeting were:

Document	Version	Date
Application	5.5	15 October 2007
Investigator CV		
Protocol	1	15 October 2007
Covering Letter		15 October 2007
Interview Schedules/Topic Guides	1	15 October 2007
Letter of invitation to participant	1	15 October 2007
Participant Information Sheet	1	15 October 2007
Participant Consent Form	1	15 October 2007
CV Prof Steele		

Provisional opinion

Members reviewed this application which aims to understand the attitudes of general dental practitioners on Teesside towards referring their patients for treatment involving dental implants to Queensway Dental Practice so that high quality service can be maintained.

Participants will be identified from the Queensway Practice existing dental practitioners register. Potential participants will be invited to participate by telephone. Those expressing an interest will then be sent an invitation letter, PIS and consent form, and arrangements made for a semi-structured interview to take place, lasting approximately 30 minutes, at the dental practitioners own practices.

The following points were noted:

*A9 - The researcher intended to interview dentists referring into his own practice. It was felt there may be the potential for bias - would this affect the quality of the information given? Information may highlight problems the researcher was not aware of (ie comments regarding colleagues etc), how would he respond to this?
Is he the right person to undertake this work?

*A30 - had been answered incorrectly as participants would be required to give consent.

*A35 - Members requested clarification on what indemnity arrangements were in place as it is not appropriate to have N/A as a response to this question.

*A38 - Members felt that the principles of good practice when undertaking research should be adhered to. Therefore it was requested that the researcher give feedback to participants regarding the findings of the study. It was also recommended that the researcher validated the responses of participants before writing up.

*A43 - Members requested reassurance that the researcher would not need access to participants health records or personal information.

*A68 - Members felt that some participants may not view the study as fully independent as the researcher was also the Managing Partner of the Practice.

Issues concerning conflict of interest and the possible interpretation that this study also comprised of market research and may generate income should also be acknlowldeged and addressed. Members sought clarification on how the researcher would deal with this conflict of interest.

Participant Information Sheet

Members requested that a sentence be included informing participants of their right to withdraw from the study (it was recommended that a cut off date be given so that participants were aware they could not withdraw once the results had been written up).

Unfortunately, Dr Averley could not attend the meeting.

The Committee would be content to give a favourable ethical opinion of the research, subject to receiving a complete response to the request for further information set out below.

Authority to consider your response and to confirm the Committee's final opinion has been delegated to the Chair.

Further information or clarification required

Points A9, A30, A35, A38, A43 and A68 as asterisked above.

When submitting your response to the Committee, please send revised documentation where appropriate underlining or otherwise highlighting the changes you have made and giving revised version numbers and dates.

The Committee will confirm the final ethical opinion within a maximum of 60 days from the date of initial receipt of the application, excluding the time taken by you to respond fully to the above points. A response should be submitted by no later than 13 March 2008.

Ethical review of research sites

The Committee agreed that all sites in this study should be exempt from site-specific assessment (SSA). There is no need to submit the Site-Specific Information Form to any Research Ethics Committee. However, all researchers and local research collaborators who intend to participate in this study at NHS sites should seek approval from the R&D office for the relevant care organisation.

Membership of the Committee

The members of the Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

07/H0908/86 Please quote this number on all correspondence

Yours sincerely

Kate Williams
Vice Chair

Email: leigh.morgan@nth.nhs.uk

Enclosures:	List of names and professions of members who were present at the meeting and those who submitted written comments.

Copy to:	Mr R Errington, RM & G Unit Lead, County Durham PCT, South Church Enterprise Park, Henson Close, Bishop Auckland, DL14 6WA

County Durham & Tees Valley 2 Research Ethics Committee

Attendance at Committee meeting on 12 November 2007

Name	Profession	Capacity
Dr EA Baker	Clinical Research Scientist	Expert
Mrs S Brooks	Health Visitor	Expert
Mr S Chandler	Consultant Medical Physicist	Expert
Miss J Clarke	Pathology Quality Manager	Expert
Mr P Dean	Chief Pharmacist	Expert
Mrs R Duncan	University Lecturer	Observer
Mr R Lamb	Retired Community Nurse	Lay
Mr M Leason	Retired Town Planner	Lay
Dr J Murphy	Consultant Cardiologist	Expert
Mr P Muthu	Consultant in A&E Medicine	Expert
Mrs L Pollard	Co-Ordinator	None
Dr U Saleh	Consultant Anaesthetist	Expert
Mr S Scholes	Retired Research Scientist	Lay
Mrs K Williams	Retired Nursing Lecturer	Lay

Appendix 7- Study reply

170 Queensway, Billingham, Cleveland TS23 2NT
Tel: 01642 554667
Fax: 01642 531799
Email: dental@queensway.co.uk
Web: queensway.co.uk

Kate Williams
C/o Leigh Pollard
County Durham & Tees Valley 2 Research Ethics Committee
Professorial Unit of Surgery
University Hospital of North Tees
Piperknowle Road
Stockton-on-Tees
TS19 8PE

26 November 2007

Dear Kate Williams,

Re: Dr Paul A Averley. Queensway Dental Practice, 170 Queensway, Billingham TS23 2NT

Full title of study:	Investigating The Attitudes Of General Dental Practitioners To Referring Their Patients For Implant Treatment In A Primary Care Setting
REC reference number:	07/H0908/86

Thank you for your recent letter with the helpful feed back on my proposed MSc study.

I have taken each point in turn as requested for further information or clarification.
I have also enclosed the consent form and an updated version of the participant information sheet as required.

Point A9- I acknowledge that in qualitative research the nature of the study and the analysis of the data gathered tend to be influenced by the researcher's ontological and epistemological stance. My position seeking to complete this as an MSc project is that I will seek to take a stance for this project of subtle realism and interpretivism. I acknowledge that I am a clinical researcher and suffer from this condition and that it will impact on the data and its interpretation to some extent, although I hope that these different viewpoints will give added insight.

Point A30- I confirm that written consent will be obtained (see copy of consent form).

Point A35- As this project is part of an MSc at the University of Warwick, I have personal indemnity from the Dental Defense Union. The Research Management & Governance Unit of County Durham & Tees Valley Primary Care Trusts will give there site specific approval and offer indemnity.

Point A38- I confirm that the participants responses will be validated prior to writing up.

Point A43- I can confirm that I will not need to access to participants health records or personal information.

Point A68- I understand and acknowledge the issue of a possible conflict of interest that might be perceived. Whoever this project is part of an MSc and aims to investigate generic attitudes that can be used to improve patient care of patients who are referred for dental implant treatments to all primary care settings (however the service at Queensway is one of only a very few in the region at present). This issue will be acknowledged prior to each interview.

Participant Information sheet- The sentence requested has been inserted. A modified version has been enclosed).

Thank you for your kind attention,

Yours sincerely,

Paul Averley.

Appendix 8- Ethical approval

County Durham & Tees Valley 2 Research Ethics Committee
Professorial Unit of Surgery
University Hospital of North Tees
Piperknowle Road
Stockton-on-Tees
TS19 8PE

Telephone: 01642 624164
Facsimile: 01642 624164
06 December 2007

Dr Paul A Averley
Managing Partner
Queensway Dental Practice
170 Queensway
Billingham
TS23 2NT

Dear Dr Averley

Full title of study: Investigating The Attitudes Of General Dental Practitioners To Referring Their Patients For Implant Treatment In A Primary Care Setting
REC reference number: 07/H0908/86

Thank you for your letter of 26 November 2007, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favorable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The Committee has designated this study as exempt from site-specific assessment (SSA. There is no requirement for other Local Research Ethics Committees to be informed or for site-specific assessment to be carried out at each site.

Conditions of approval

The favorable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Application	5.5	15 October 2007
Investigator CV		
Protocol	1	15 October 2007
Covering Letter		15 October 2007
Covering Letter		26 November 2007
Interview Schedules/Topic Guides	1	15 October 2007
Letter of invitation to participant	1	15 October 2007
Participant Information Sheet	2	26 November 2007
Participant Consent Form	1	15 October 2007
Response to Request for Further Information		26 November 2007
CV Prof Steele		

R&D approval

All researchers and research collaborators who will be participating in the research at NHS sites should apply for R&D approval from the relevant care organisation, if they have not yet done so. R&D approval is required, whether or not the study is exempt from SSA. You should advise researchers and local collaborators accordingly.

Guidance on applying for R&D approval is available from http://www.rdforum.nhs.uk/rdform.htm.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Website > After Review

Here you will find links to the following

a) Providing feedback. You are invited to give your view of the service that you have received from the National Research Ethics Service on the application procedure. If you wish to make your views known please use the feedback form available on the website.

b) Progress Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.

c) Safety Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.

d) Amendments. Please refer to the attached Standard conditions of approval by Research Ethics Committees.

e) End of Study/Project. Please refer to the attached Standard conditions of approval by Research Ethics Committees.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nationalres.org.uk .

07/H0908/86	Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely

Mrs Rachel Duncan
Chair

Email: leigh.morgan@nth.nhs.uk

Enclosures:	Standard approval conditions

Copy to:	Mr Richard Errington, RM & G Unit Lead, County Durham PCT, Henson Close, South Church Enterprise Park, Bishop Auckland, County Durham, DL14 6WA

Appendix 9- PCT approval, Site specific approval

County Durham
Primary Care Trust

Research Management & Governance Unit
Henson Close
South Church Enterprise Park
Bishop Auckland
County Durham
DL14 6WA

Our ref: RE-MM252

5 February 2008

Direct line: 01388 452299
Switchboard: 01388 458835
Fax: 01388 452290
Email: richard.errington@cdpct.nhs.uk

Paul Averley
Managing Partner
Queensway Dental Practice
170 Queensway
Billingham
Cleveland
TS23 2NT

Dear Paul

Investigating the Attitudes of General Dental Practitioners to referring their Patients for dental Implant Treatment in a Primary Care Setting

The Research Management & Governance Unit of County Durham & Tees Valley Primary Care Trusts gives approval for this project to begin on behalf of North Tees PCT, Hartlepool PCT, Middlesbrough PCT, Redcar & Cleveland PCT, Darlington PCT and County Durham PCT subject to the following conditions:

Approval from the Research Ethics Committee with site-specific approval where appropriate.

Honorary Contracts have been issued where relevant.

Any Accidents and Complaints related to the research are reported to the PCT(s) and RM&G Unit through the usual systems.

Serious Adverse Events affecting local patients are reported to the PCT(s) and RM&G Unit promptly.

The RM&G Unit is informed of any changes to the original Protocol before they are implemented.

The Researchers will provide assistance with any Monitoring or Audit requests from the RM&G Unit or the PCT(s).

The research will not require any financial support from the PCT(s), unless there is a written agreement to the contrary.

The PCT(s) and RM&G Unit are informed when the project ends.

Best wishes in your research.

Yours sincerely

Richard Errington
RM&G Unit Lead

Appendix 10- Curriculum vitae for ethical Approval

PERSONAL DETAILS

Name: Dr Paul Anthony Averley BDS DGDP(UK) Dip SED MPhil
Date of Birth: 18 May 1967
Nationality: British
Marital Status: Married with three children

Home Details
Address: 23 Linden Road, Gosforth, Newcastle-upon-Tyne. NE3 4EY
Tel: (0191) 2841200
Mobile: 07974 766013
email: paul@averley.com

Work Details
Address: Queensway Dental Practice, 170 Queensway, Billingham. TS23 2NT
Tel: (01642) 554667
Fax: (01642) 531799
email: dental@queensway.co.uk
Web: www.queensway.co.uk

EDUCATION

University of Warwick

- MSc in Implant Dentistry. Commenced October 2005

University of Newcastle Upon Tyne

- PhD (2006) "Developing the evidence base for effective paediatric conscious sedation techniques in primary dental care: reducing referral to hospital for general anaesthesia".

University of Cardiff

- MPhil (2003) "Sevoflurane inhalation conscious sedation for children having dental treatment in primary care."

Royal College of Surgeons of England

- Diploma in General Dental Practice (October 1997)

University of Newcastle-upon-Tyne

- Diploma in Conscious Sedation (October 1997)
- Extended Course in Conscious Sedation Leading to
- Trainer Status (October 1996)
- Bachelor of Dental Surgery (BDS 1985-1990)

PRESENT EMPLOYMENT

Since 1994 I have been a self-employed general dental practitioner. I am the principal and sole owner of Queensway Dental Practice and Queensway Anxiety Management Clinic. The

practice provides primary dental care and specialises in the management of anxious children and adults. The practice provides a referral based anxiety management and oral surgery service to over 300 dental practitioners in the region. I employ eleven dentists, six consultant anaesthetists, five oral surgeons, four hygienists, one practice manager, two dental recovery nurses, seventeen dental nurses, seven receptionists and three cleaners. In 1998 I established Queensway Anxiety Management Clinic as a first wave Personal Dental Services pilot with the support of Tees Health Authority in order to reduce the need for general anaesthesia, and to increase the use of conscious inhalation and intravenous sedation techniques for referred patients. Our service caters for the care of in excess of 85,000 patients.

PAST EMPLOYMENT

Dental Associate at Claypath Dental Practice, Durham (1992-1994)
Dental Associate and Vocational training at Highgate House, Bedlington (1990-1992)

AWARDS

- Primary Care College NHS Learning Champions 2005, Winner of Practice Team Award.
- Health and Social Care Awards 2005 (North Region), Finalist for Primary Care Professional of the Year.
- Investor in People Award 2004
- British Dental Association Good Practice Award 2004
- R&D National Primary Care researchers Development Award 2002 (four years of funding for part time PhD)
- British Dental Association Shirley Gladstone-Hughes Memorial Prize 2002

POSITIONS OF RESPONSIBILITY

- Honorary Senior lecturer at the University of Newcastle Upon Tyne.
- Member of a national expert advisory group on “the provision of conscious sedation services” to the Standing Dental Advisory Committee
- SAAD Council
- Chairman of the Northern Region Sedation Research Steering Group
- Local Orthodontic committee member
- Dentistry Modernisation Steering Committee, (October 2000- October 2001) The terms of reference of the Committee were: “To help monitor, evaluate and facilitate progress in the implementation of the Government’s strategy for dental services in England, and to advise the NHS Executive accordingly.
- Chairman of the Northern Primary Care Dental Research Initiative & Links Steering Committee (NorDRIL)
- Member of the Tees Oral Health Advisory Group
- Primary Care Organisation Representative to North Tees & Hartlepool PCO
- Lecturer on the Diploma in Conscious Sedation (Newcastle)
- Elected Member and Treasurer of the Tees Local Dental Committee
- Executive representative for specialist PDS pilots nationally
- Provider of Personal Dental Services
- Trainer for Vocational Training and General Professional Training

- Past Chair and member of the British Society of Paediatric Dentistry (Northern Division)
- Trainer for Conscious Sedation in General Dental Practice
- Member of the Faculty of General dental Practitioners
- Member of the British Dental Association
- Member of the Sedation Teachers Group
- Member of the Association of Dental Anaesthetists
- Member of the association of Dental Implantologists
- Husband and father of three daughters

PUBLICATIONS

- Averley P.A, Hobman R.P; A focus group study of patient experiences following treatment by a primary care dental anxiety management service. SAAD Journal of Pain and Anxiety Control 2008.
- J.S,Ellis, P.A.Averley et al Changes in Cardiovascular risk status after dental clearances; BDJ 2007; 2002: 543-544
- K. Jameson, P.A. Averley. A comparison of the "cost per case treated" at a primary care based sedation referral service, compared to a general anaesthetic in hospital: BDJ 2007: 203 E13.
- Averley P.A, Girdler N.M et al.: A randomised controlled trial of paediatric conscious sedation for dental treatment using intravenous midazolam combined with inhaled nitrous oxide or nitrous oxide/sevoflurane; Anaesthesia 2004 59, pages 844-852
- Averley P.A Lane I et al A RCT Pilot to test the effects of intravenous midazolam as a conscious sedation technique for anxious children requiring dental treatment, an alternative to general anaesthesia. BDJ 2004, 197: pages 553-558.
- Averley P.A, Lahoud G: Comparison of nitrous oxide versus sevoflurane and nitrous oxide mixture for inhalation conscious sedation in children having dental treatment: a randomised controlled trial: Anaesthesia 2002, 57, 446-450.
- Averley P.A, Lahoud G Hanlon M: Sevoflurane inhalation conscious sedation for children having dental Treatment; Anaesthesia 2001, 56, pages 1-6.
- C. Stevens, P. Averley, A. Taylor: The Report of the Information Technology task Group of the Dentistry Modernization Steering Group. Dental Update 2002; 29: 95-97.

REFERENCES

Prof Jimmy Steele PhD BDS FDS, Consultant in Restorative Dentistry
School of Dental Science, Framlington Place, Newcastle upon Tyne NE2 4BW. Tel: 0191 2228199

Kamini Shah, Consultant in dental public health.
Tower House, Teesdale South, Thornaby Place, Thornaby, Stockton TS17 6SF. Tel: 01642 352670

Reflections

This has been a substantial piece of independent work that has been challenging, at times frustrating but ultimately rewarding. I was keen to ensure that the considerable effort that has been involved in the production of this dissertation was relevant to my practice on implant dentistry. It has required me to manage my time in new ways and to identify an area of my clinical practice that was important to me to investigate and improve. This study has required me to develop a specific question; undertake a review of existing literature on the subject and on the methods and tools available to attempt to answer my question. I have identified supervisors and mentors to support me. I have put together a study protocol and then embarked on a formal, rigorous and onerous ethical approval, with a successful outcome. I have identified a sample, acquired the skills to record and collect the required data from the identified subjects. I have learnt to use a systematic approach to the analysis of data and to develop a disciplined approach to writing up.

By providing an overview of the attitudes of dentists on Teesside, this study has achieved its aim. It has also identified areas for service improvement. Work will progress to form a patient questionnaire, which will further investigate how Queensway Dental Practice can better meet the needs of its referring practitioners and patients. It is hoped that the establishment of a patient user group at Queensway Dental Practice will direct its future research agenda.

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