An examination of strategic management within general dental practice

AN EXAMINATION OF STRATEGIC MANAGEMENT WITHIN GENERAL DENTAL PRACTICE

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Signature._____
Date_____

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AN EXAMINATION OF STRATEGIC MANAGEMENT WITHIN GENERAL DENTAL PRACTICE

David Thomas

Until recently, and since the inception of the National Health Service in 1948, general dental practitioners [GDPs] have worked in a stable environment. In recent years these GDPs have experienced dramatic changes in the way that primary oral health care is delivered to the public. This research aims to understand the strategic planning processes and the issues that are involved within the management of these changes that are currently occurring in general dental practice. The research question asks "What model could General Dental Practitioners use in their strategic approach to managing the enforced changes that are occurring within primary Dental Care".

This thesis adopts the approach that all GDPs work within a “Small business” environment but that they are constrained by “professional” requirements. The changes now mean that these GDPs need to become proactive in their decision-making processes. The present system of primary oral health care within the U.K. is designed for the treatment and repair of damage caused by dental disease; it has not been prevention orientated. Changes such as disease processes, the financing of the NHS, demographic changes all mean that GDPs will require, in some degree at least, to re-evaluate their personal objectives and strategies. Historically, GDPs might be considered to have been reactive in their approach to these gradual changes. The ‘item of service’ payment system used within the NHS to remunerate GDPs is unique and therefore no existing small business model satisfies the requirements of GDPs.

The research involved a population of 449 West Midland GDPs. The findings of the research indicated that certain core issues were significant in how dentists decided to operate their clinical practice. Significant gaps were revealed in the current literature and the research findings were used to develop a totally new decision making model. This model attempts to embrace the current changing scenario and by using this model, GDPs can evaluate their individual position within this changing framework of general dental practice and thus be better informed in their decision making processes.
The need for further research is explained and suggestions are made for other areas that might be considered of importance to dentists and the delivery of primary oral health care.

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CHAPTER 1: Introduction to the study

1.1 BACKGROUND TO THE STUDY

The rationale for this research is based upon the concept that most general dental practitioners [GDPs] have, until recent years, worked in a very static and stable environment within the NHS. Changes are now occurring and it is suggested that many of these GDPs are ill prepared to understand and implement proactive managerial changes. Amongst some of the current issues facing GDPs are changing environmental and changing clinical issues. These are having a profound effect upon the working patterns of these GDPs, their professional status and their relationship with the general public. Increasingly, GDPs are seen to have to make changes within the way they organise their working days and the general way in which they orientated their professional cultures and practices.

It is with this background in mind that this research seeks to investigate and analyse the current working environment as it affects the delivery of primary oral health care. It needs to be better understood how GDPs might be managing these changes and the major issues, which might be influencing the GDPs in their management of these issues. The literature and background research was divided into four main areas.

- To understand the parameters of the role of GDPs and investigate the current general issues and changes that are of relevance to GDPs in primary dental care.
- To discover how GDPs make these decisions which affect the way they practice their clinical dentistry.
- To research what factors influence these decision-making processes.

- To undertake a general investigation into the literature and models that might relate to methods that GDPs use in their evaluation and strategic actions in combating these changes. The aim was to determine gaps in existing literature and then develop a new decision making model to aid GDPs to function within the current changing environment.

The researcher has been a “Hands on” general dental practitioner for over thirty years. He started a “Cold start” some 28 years ago in a deprived working class industrial are of the West Midlands. The practice [which has remained totally committed to NHS Dentistry] has subsequently grown to be among the larger dental practices in the midlands. In the management of any “professional” business, problems will exist. It was reasoned that the management problems being experienced by the researcher would almost certainly, in varying degrees, be of concern to other GDPs. It was also accepted that the researcher would be unaware of certain problems that other GDPs might have experienced. This need to understand, and deal with, changing situations formed the basis of the research and it was intended that these issues should form a starting point and then be further explored and an attempt made to determine the problems facing all practitioners.

In some respects, it is perfectly legitimate to include dental practices within the definition of a “Small business”. But dentistry is considered by some to be a “True profession” and as such it will occupy a unique position within the small business context. Porter [1993] is concerned about the role of the professions in the 90’s and Berhman [1988] considered that the only "true” professions might be medicine [including dentistry] and the Law. One of the core ethics of all health professions is that people in crisis should be seen at their moment of greatest need and this should be irrespective of the patient’s ability to pay, the profit motive of the practitioner or

other social and cultural aspects. Historically, the medical/dental profession treated the poor for nothing and in order to compensate, they increased their charges to the wealthy thus giving an all-embracing high and equal level of care. In return for this ethical behaviour the professions have been rewarded with self-regulation, a respected place in society, good living standards and tenure. Many other commercial enterprises try to obtain "Professional" status in order to enhance their public standing and arguably their profitability. Mason [1994] in his Presidential address to the General Dental Council comments on the changing role of the dental profession and the need for the dental profession to adapt to these changes. In adapting to these real or perceived changes then GDPs are altering the frame of reference from which they might make future decisions on personal objectives.

1.2. A Brief History of General Dental Surgery

Dental disease is probably the most common chronic disease to affect civilised society. It has been a source of pain and misery for countless thousands of sufferers over many centuries. The disease has not been eradicated but over recent years, the nature of oral and dental disease has changed considerably. The disease process is significant not only because of the pain and suffering it frequently causes but also the effects on quality of life in the forms of loss of masticatory function and the psychological damage caused to patients with unsightly smiles due to diseased or disfigured teeth. Not only is this question of morbidity common and significant but Downer [1997] reports that intra oral disease can and does increasingly result in mortality.

It is of relevance to this study that a brief outline of the history of the effects of dental disease upon the general public be explained. The Grollier Encyclopaedia outlines

how oral disease has been a problem for humans from the beginning of history, the skulls of Cro-Magnon man show evidence of tooth decay and Aesculapius, a Greek physician, who lived between 1300 and 1200 BC is credited by many with the concept of extracting diseased teeth. Later (500-300 BC), Hippocrates and Aristotle described the ways in which ointments and cautery with a red-hot wire were used to treat diseases of the teeth and oral tissues. They also spoke of tooth extraction and the use of wires to stabilise jaw fractures or bind loose teeth. Celsius (100 BC), a renowned Roman medical writer, described oral diseases, including bleeding gums and ulcers of the oral cavity, as well as describing dental treatment such as narcotic-containing emollients and astringents.

Throughout the Middle Ages in Europe, physicians or surgeons made dentistry available to wealthier individuals. Decay would sometimes be removed from teeth with a "dental drill," a metal rod that was rotated between the palms. By filling the prepared cavity with soft filling materials it was possible to provide short-term alleviation of discomfort by keeping air from the open cavity. This dentistry was simply not available to the poorer people and treatment took place in the marketplace. Here, self-taught vagabonds who would extract teeth for a small fee undertook most treatment. Italian sources from the 1400s mention the use of gold leaf as dental filling material and later; the French described the use of soft lead fillings to repair teeth after decay was removed. Pierre Fauchard (1678-1761), a French surgeon, is credited with being the "father of modern dentistry." His book, *The Surgeon Dentist, A Treatise On Teeth*, describes the basic oral anatomy, its function, and some of the signs and symptoms of oral pathology. The book describes operative methods for removing decay and restoring teeth as well as a description of periodontal disease, orthodontics, replacement of missing teeth, and tooth transplantation.

Fauchard's text was followed by others that continued to expand the knowledge of the profession throughout Europe.

A landmark in dental surgery was 1844, Dr. Horace Wells, a Connecticut dentist, developed the use of nitrous oxide inhalation [laughing gas] during dental surgery and founded the concept of general anaesthesia. This use of nitrous oxide was quickly adapted by the medical profession, it was modified and then adopted it for use in general surgery. In 1851, Vulcanisation of rubber was discovered and this allowed the production of low cost, accurately fitting dentures. These were used with aesthetically superior porcelain teeth. Later, acrylic plastics replaced the use of rubber and porcelain in denture construction. Another major development was by Black (1831-1915) who was the leading reformer of American dentistry. Black developed a foot engine that allowed the dentist to keep both hands free while powering the dental drill. He also developed modern techniques for filling teeth that for the first time were based upon biological principles and microscopic evaluation. Black proposed that dental caries and periodontal diseases were infections initiated by bacteria.

The current scenario is that while systemic and topical fluoride applications have reduced tooth decay, Whelton and O'Mullane [1997] describe how it is still present in significant numbers of the U.K. population. It will be explored and explained later how the working patterns of GDPs might have changed as a result. It is a fact that while the efforts to simply repair the ravages of dental caries [decay] has been reduced, less teeth are being extracted and this has resulted in increased problems elsewhere e.g. more gum disease, more impacted wisdom teeth, more orthodontic problems. The GDP continues to play an important role in the maintenance of the health of general population.

1.3. Dentistry in General

Renson [1992] comments on the continuing need to maintain dental health standards. The role of the GDP will involve, in varying degrees, one or more of the eight recognised dental specialities: Dental public health, which focuses on preventing and controlling dental diseases and promoting dental health through organised community efforts; Conservative dentistry such as endodontics, devoted to the treatment of the tooth's pulp (nerve) and root end, this sector attempts to retain and prolong the life of the natural dentition; Oral and maxillofacial surgery, this involves both the hard and soft tissue surgery and for the GDP focuses on tooth removal and surgical therapy of oral abnormalities such as impacted wisdom teeth, cyst enucleation etc. [major oral and head and neck surgery e.g. malignancies are the domain of the specialised oral surgeon]; Oral pathology, this concentrates on diagnosis and treatment of pathologic conditions affecting the oral cavity; Orthodontics which is devoted to correcting developmental deformities by using orthodontic appliances [braces] to correct tooth alignment this is mostly in the teenage age group but increasingly adults are requesting orthodontic treatment; Paediatric dentistry, concentrates on the dental problems of children and adolescents; The science of Periodontology which focusing on the rapidly increasing incidence of gum disease which affects the tooth's supporting structures (gums and bone); and finally Prosthetics, which is devoted to the replacement of missing teeth. This can take several specialised pathways and can involve construction of removable prostheses, [denture] fixed prostheses [crown and bridge work] or a combination of both involving the emerging science of dental implants.

1.4. Dentistry in the UK.

Bradnock [1997] describes how the UK oral health care system evolved along a different route to the rest of health care. She comments that this has produced NHS dentistry which provides one of the most cost effective systems of delivering primary dental care in the world. Bradnock also comments that the system of small independent units [GDPs] are ill equipped to support the growth of oral heath and are orientated, by the 'item of service' payment system, to the treatment of disease.
The current primary system of National Health Dental care was instituted in 1948. Table 1 illustrates the organisation of the delivery of primary dental care via GDPs. It was intended that a high quality and comprehensive primary dental care would be delivered, free of any charges, to all U.K. citizens. The concept of the NHS accommodated patient's needs with a system of fairness and equality. At the same time it gave Dental Surgeons the clinical freedom to determine the levels of care which that individual dentist deemed necessary to maintain acceptable standards of dental health for their patients. It provided acceptable working conditions for these dentists and for the first time gave the UK general public a comprehensive level of dental care that had hitherto only been available to the few. At the introduction of the NHS, Bradnock and Pine [1997] report on data that reveals that in the first nine months, 4.2 million teeth were filled, 4.5 million teeth were extracted and 33,4 million sets of dentures were provided. Once the backlog of oral sepsis had been removed, the thrust of dental care moved to a restorative phase and then in the 80s to a prevention-orientated phase. Here, younger adults who still had

Table 1. The organisation of primary dental care within the NHS

their own teeth were encouraged to improve oral hygiene. The move to prevention was developed with the introduction of the 'New contract' in 1990. In this system GDPs were pad to maintain oral health and encourage prevention of disease.
There are 28,000 dentists registered in the UK. Of these [in 1995] 3270 were overseas dentists working in the UK. There are approximately 500 purely private dentists. [BDJ
Oct 1997]. There are 17220 dentists working from 9135 addresses in General Dental Service. [GDS Review. Oct 1997]. Most of these dentists operate within the NHS as independent practitioners. The Family Heath Service Association [FHSA] is responsible for the management of patient complaints and the distribution of payment to GDPs but it is the Dental Practice Board which determines the fees. The system of delivery of this primary dental care under the NHS has not changed significantly until 1990 with the introduction of the new contract and continuing care payments. The FHSA has no control over the way GDPs distribute dental care. NHS GDPs are also free to practice private dentistry and they are entitled to be selective in which treatments they will undertake in the NHS. The remuneration to GDPs has increasingly been supported by direct payments from patients. The Bloomfield report [1992] reported that the individual 'item of service' rate had declined considerably and that there were growing restrictions placed upon GDPs in their clinical freedom. It is a well-documented fact that increasing numbers of GDPs are now moving, in varying degrees, from NHS based practices to private practice. This selective approach has resulted in adults being unable to obtain primary dental care in certain areas.

1.5. Significance and Importance of the Study.

Extracts from the editor's leader article [Grace 1997] in the British Dental Journal states *"Dentistry is a business. Of more relevance dentistry is at last being recognised as a business. ..... This recognition of the importance of dental business is gradually being accepted and we are seeing more and more seminars with a significant business content. ..... Strategic thinking means taking the broad view and making sure we have considered what we are trying to achieve and the methods of achieving it. ..... Clinically most dentists are good at thinking strategically when planning treatment for patients. Why is our ability to do this in business so different?"*

The reason that this research took place, is that it might be stated that General Dental Practitioners, like many small businesses, are not usually seen to employ strategic management techniques in planning their career pathways. It is concluded that from much evidence from many research articles and books relating to small business management that strategic management is frequently absent from small business. Much of the accepted research claims that classical strategic management gives firms competitive advantage and hence improved performance. The researcher examines the question of why these classical models of strategic management seem unsuitable for use by GDPs. It was questioned that approaching the GDP's strategic management from a formal or large organisational perspective would involve using models that are inappropriate for the unique situation of dentists who usually work alone or in small group practices. The research project attempts to evaluate and analyse the sectors, which in turn make up a specific strategic decision-making model for GDPs.

The present study regarding efficient and effective strategic planning for GDPs is considered important for the following reasons:

1] The way that GDPs work is important because the effective usage of dental resources play a significant role in society. There is an accepted need for dental health care within a population. The effects of neglect and poor dental health are seen to result in pain suffering and a "lowering of the quality of life". As well as directly affecting the individual, this neglect has its ramifications upon family, domestic and working life for the population as a whole.

The cost of prevention and early treatment of dental disease are considerable but when taken into the overall economics of repair to gross neglect, working hours lost through dental related disease and general related social problems are the maintenance of reasonable dental health is seen as being cost effective.

2] Enforced commercial changes are occurring within the primary dental care sector: While there are basic changes in the patterns of oral disease there are also concomitant economic changes occurring which have a direct bearing on the provision of primary dental care. These changes appear to threaten the availability of this primary dental care.

3] Within the profession there are restricted numbers of trained personnel available to perform the work. Dental surgeons themselves are affected by these changes and as a result, dentists need to adapt their strategies and objectives to facilitate these changes in order to meet their primary responsibilities of providing health for the general public.

4] The ethical dimension of the dental profession is seen to be undergoing changes: - The profession needs to clarify its position on its ethical responsibilities. In changing towards private dental care, the dental profession might be seen by some as changing from a caring health profession and moving towards a profit driven commercial culture. This could have a great impact upon the public's perception of dentistry and arguably might result in dentistry becoming classified as a trade rather than a true profession.

5] Not only Dentistry, but "Professions" in general are considered to have been affected by these changes and individuals within these professions need to evaluate their personal needs: - There appears to be a growing dissatisfaction in the profession with regard to working conditions. The advent of "Stress and Burn Out" is seen as a growing threat to the well being of the individual GDP. There is a need to evaluate and optimise the attainment of these personal objectives,

6] GDPs need to understand their position within the economic and cultural framework within which they work. They also need to consider the options that are open to them and the possible response of the consumer to these options when formulating these strategies. Precise knowledge of both the dentists and the patient perception to these questions of ethics, raising standards and individual professional needs would appear to be of fundamental importance in the selection and formulation of successful strategies. The focus of this study is thus upon the GDP and their perception of their profession's status and its role in influencing their individual long-term needs.

1.6. Aims of the Study.

The study comprises of three aims, focusing upon the general dental practitioner's processes of decision making which aim to support the basic hypotheses, which are central to the research:

[1] To establish accepted current practice decision making processes used by general dental practitioners and the issues, which affect these processes.

[2] To test out this practice against certain models used in corporate decision making processes.

[3] The study will seek to (a) establish the appropriateness of decision making models (b) develop a model for practitioners which will encompass the ethical dimension of current dental practice.

While attempting to evaluate and importance of this study and in an attempt to overcome the above weaknesses of the strategies available to GDPs the research was considered within ***but not evolved from*** the framework of Porter's [1989] three generic strategies. These are

- Focus.
- Differentiation.
- Cost leadership.

It is understood that Porter's strategies are intended for commercial sector use but they are not rigid or well defined and they do not offer definitive statements on the final form any strategies should take.

1.7. The Research Question

Against the researched background of current circumstances, the study considers some of the objectives that GDPs might develop in their strategic planning as to the type of practice that they choose to develop. Following from the above literary searches, the research question was identified as:

"What model could General Dental Practitioners use in their strategic approach to managing the enforced changes that are occurring within primary Dental Care".

Figure 2 is a historical model of the career developments of a new graduate who becomes a full time GDP. This model might be considered to be of value between the periods of 1948 [introduction of NHS dentistry] and until recent years. It might be described a conventional route to an established career as a principal general dental practitioner. It was normal for many young graduates to go straight into dental practice as an associate. This involved working on a self employed basis and being paid a predetermined percentage of gross income [usually about 50% after certain overheads such as laboratory fees had been deducted]. The new associate would then

learn how to work in general dental practice and would be influenced by the cultures and attitudes of the principal they worked for. It was not uncommon for a smaller number of new graduates to enter primary dental care via the community dental service [CDC] commonly referred to as the "School clinic". Many of these community service

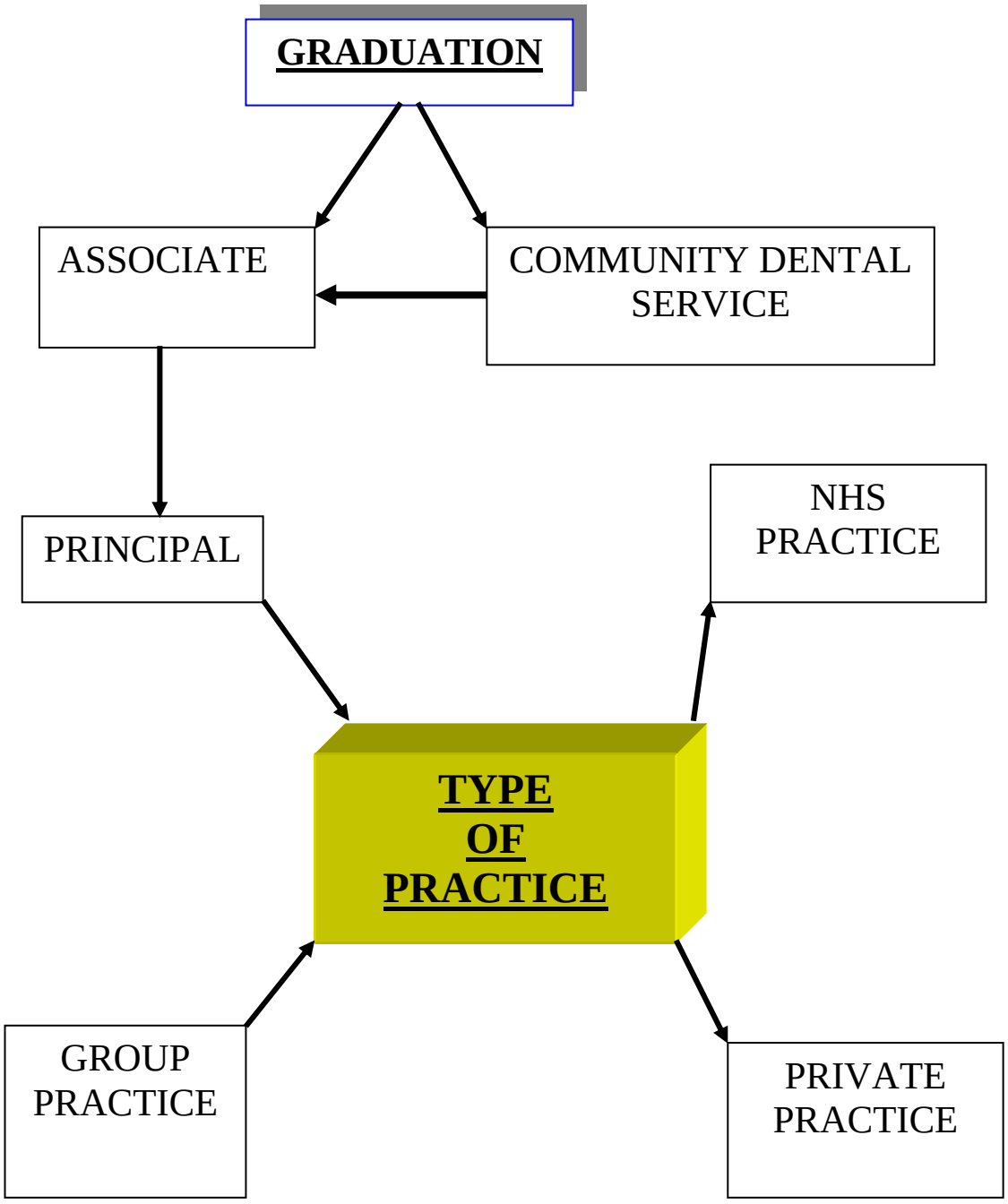


FIGURE 2

dentists would later transfer into general dental practice as associates, many would develop careers within this service and some associate dental surgeons would join the CDS. There was an inter-flow of career pathways. Once they were sufficiently experienced, many of these associates might become a principal by:

- Starting a new practice.
- Buying into an existing practice.
- Buying a practice from a retiring practitioner.

During this period, 1948-1985 Bloomfield [1993] describes how most dentists worked as NHS practitioners with small numbers developing private practices and it is a reasonable statement that almost all the UK's primary dental care was delivered via the NHS.

In recent years changing circumstances have altered the framework for career pathways for new graduates and indeed for established associates and principals. For example, there has been a reduction in the supply of Community Dental Services and at the same time the introduction of a one-year compulsory Vocational Training Scheme for new graduates. In many areas there has been site saturation of dental practices and the development of new practices is no longer an option. The financing of a practice purchase has become more difficult and the changing scenario within the NHS has meant that the historical model of career development is outdated and requires modification.

In order for the research question [What model could General Dental Practitioners use in their strategic approach to managing the enforced changes that are occurring within primary Dental Care] to be answered the proposed model must have credibility. In order to achieve credibility, hypotheses needed to be developed, investigated and validated.

The research aims to supply new information that allows the structured development of a new decision making model. From the initial literature searches five core hypotheses were identified. [These are listed in chapter five]. These hypotheses were critically evaluated with further research and the findings used to develop and validate the "Thomas model of decision making for GDPs" which is introduced in chapter 8.

1.8. Parameters of the study.

1]. The study was conducted in the following areas: Birmingham, Wolverhampton & Walsall, Hereford and Worcester. The subject population for the study were GDPs working in the above health authorities, the survey also included those GDPs who were known to be totally private and thus not on any NHS list.

2]. The population was created by contacting the Area Dental Advisers working for these health authorities requesting a list of all GDPs on the dental lists. In the main questionnaire, all these GDPs were sent the questionnaire by mail. The criteria for selection included all sectors of GDPs; these would include All GDPs working in general dental practice in primary dental care. This includes principals, associates, Vocational trainees and Trainers. Multiple and single-handed practices. The survey

included all age groups of both sexes, it also included totally NHS practices, totally private practices, mixed NHS/private practice and full and part time practitioners.

CHAPTER 2: The identification of the environmental changes that are occurring within primary dental practice.

The research question states that changes are occurring within general dental practice and within the way that primary health care is delivered. It is central to this research that these changes are **actually occurring** and not just imagined. Chapter 2 investigates these perceived areas of change and the literature on them. In the current field of Primary Dental care, the work conducted by Renson [1994, 1995] Barmes [1994], Bebeau and Thoma, [1994] and Smith [1994] all indicate that since the creation of the NHS in 1948, and especially and significantly in more recent years there has been many changes. These changes effect all segments of the profession and this includes GDPs. Seward [1998] outlines the changing role of specialist dental care within general dental practice. Whitehouse and Treasure [1998] compare the changes that are occurring in NHS dentistry in the context of European dentistry. Renson [1992] gives examples of these changes with illustrations of alterations to the systems of payments such as the rising standards of available dental care and the rising perception of care required by patients. Research by Gelbier [1998] concludes that the NHS has seen remarkable improvements in oral health. He comments that social differences still remain, there are significant areas of inequality of care, but in absolute terms they are far smaller than prior to the creation of the NHS. There is also the creation of the Patients Charter and significantly, the monitoring of performance and standards amongst NHS GDPs. Tiernan [1998] describes the new changes regarding the introduction of specialisation to general dental practice. This chapter attempts to develop a systematic investigation into some of the main issues that might be considered to be changing this working dental environment. This investigation

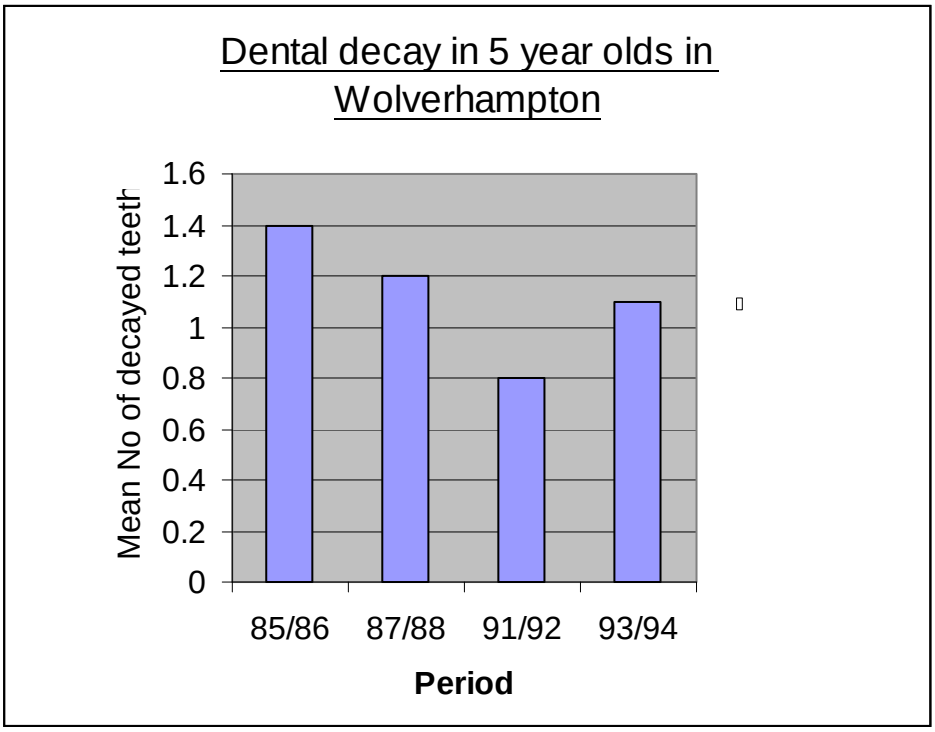
starts with a focus on dental disease and develops to consider some of the wider issues that involve GDPs.

2.1. Fluoridation and Tooth Decay

Downer [1998] comments that *"Dental decay accounts for the majority of expenditure within the General Dental Services, and the disease and its sequelae are the main cause of tooth loss. Caries [decay] is therefore, arguably, the most important oral disease from the point of view of the NHS. Although prevalence has declined markedly since the 1970s, the aftermath of the earlier surge in the disease is still being felt in terms of the continuous repair and replacement of failed restorations which is ongoing in today's adults"*. Murray [1993] also comments that perhaps the most significant changes to have affected dentistry are the changes that have occurred in the incidence of dental decay during the past two decades. Several preventive dentistry approaches were initiated in the 1960s. Among the most effective of these was the use of fluoride, through topical application with toothpaste and gels, dietary supplementation, and water supply augmentation. The last has been a controversial procedure. Hulse, Kendrick, Thomas et al [1995] report that fluoride has been removed from the water in some areas such as Anglesey. Some consumer advocates worry about potential adverse health risks associated with fluoride in water. Despite this controversy, a study over an 18-year period by Evans, Rugg-Gunn & Tabri [1995] report that the use of fluoride has resulted in a 50 percent reduction of dental decay in young adults during the 1970s and 1980s. The use of dental sealants, plastic material that is flowed into the decay-prone grooves in children's teeth, has also helped to reduce the incidence of adolescent tooth decay. While dental decay is still a significant problem, the decline in decay rate has allowed the dental profession to expand its activities and devote more attention to other aspects of oral health and

disease.

Chart 1 Taken from The Oral Health Plan for Wolverhampton [Draft Consultation 1995].



It is of interest to note that after several years of declining decay rates, the latest results indicate a slight increase in the rates of dental decay. If this trend develops it will affect the way in which GDPs might work.

2.2. Disease Identification: The Importance of Systemic Illness

Scully & Cawson [1987] explain that a GDP clearly needs to be aware of the potential consequences of treating patients with systemic disease. The authors consider that two basic problems are increasingly important to GDPs:

1. The detection of such patients - GDPs can experience severe limitations on what can be discovered about a patient that may have no significant medical symptoms and have only the haziest of ideas of what their medical problems are. This is made worse with patients who speak poor or little English or are of low intelligence. The authors stress that it must be accepted, largely as a result of the current drug treatment, that GDPs can no longer assume that a patient walking in from the street was as fit as he appeared. It is now the GDPs responsibility to attempt to make a medical assessment of the patients. Apart from the fate of the patient, neglect of the medical history can result in unpleasant medical or legal complications.

2] Detection of systemic disease necessitates an understanding of the implications the disease and the effects that its treatment has on dental management. Some areas of medicine are particularly difficult for GDPs to comprehend, for example, immunology. Fortunately few immunological diseases are relevant to GDPs apart from Sjogren's syndrome [dry mouth, eyes etc]. But by contrast, treatment of many such diseases with immuno-suppressive drugs particularly the cortico-steroids are very common indeed and can cause serious implications in dental practice. Scully and Cawson also illustrate the difficult area of psychiatric disease; the authors make the comment that perhaps dentists are insufficiently aware of how frequent psychiatric disease can cause difficulties with their patients. In addition to treating these nervous

or anxious patients many oral symptoms probably have a psychiatric basis more frequently than is generally realised.

2.3. Oral Cancer

Zakrzewska [1994] states that cancers account for around 25% of all deaths in the UK and oral cancer represents 1-2% of total cancer incidence with over 2,500 people dying of mouth cancer every year. The incident of cancer of the mouth, including that of the tongue, has begun to increase. Johnson & Warnakulasuriya [1993] report an alarming trend in the rise of oral cancers in the U.K. Zakrkewska quotes that the number of registered cases in England and Wales is up by 200 in the 1980 figure. Oral cancer tends to be a disease of the late, middle and old age and in the UK some 85% of cases occur in those over 50 years old. Oral cancer tends to affect more men than women, but the balance is changing. Fifty years ago the ratio was five to one, now it is three to one. Those who work out of doors are at increased risk of development both lip and skin cancer. Too much sugar in the diet, poor oral hygiene and irregular visits to the dentist can produce the sort of unhealthy oral environment in which the disease is likely to develop unnoticed. This evidence suggests the need to emphasise to elderly and other people without natural teeth that regular visits to the dentist are all the more important.

2.4. Age Changes

Todd & Lader [1988] comment that as an increasing percentage of the population is living longer, it would appear that preventive dental practices of earlier decades are paying dividends. In 1968 the Adult Dental Health Survey in England and Wales reported that 37% percent of adults age 16 and over were edentulous. By 1988, Todd

and Lader report that this figure had fallen to 20%. Higgs [1993] considers that as people live longer and maintain their natural teeth, then the need to completely understand the relationship between oral conditions and other aspects of ageing will become increasingly important. Dental students are now being exposed to educational programs with greater emphasis on the biological, pharmacological, and social needs of the older patient

2.5. Demographic Changes

Todd & Lader [1988] suggest that the current adult population can be split into three major groups according to dental status.

- Elderly adults aged around 70 years and over that are predominantly edentureless,
- Adults generally ranging between the ages of 30 and 70 years of age, the majority of whom are dentate. They have, as a group, received a great deal of routine restorative care often at a early age, treatment needs now often revolve around the servicing of existing restoration and replacement of missing teeth.
- Thirdly, young adults aged 30 years of less will have experienced lower levels of disease and consequently have few restorations and many sound untreated teeth.

The boundaries between these groups are not clear-cut, but dividing the population in such a way helps the understanding of the changes taking place and the implications for the future.

Renson [1995] draws the conclusion that there are signs of rapid and important changes in the oral status of older adults. The level of edenturelessness has reduced enormously since the first study of oral health conducted in Salisbury and Darlington in 1962. But a large geographical gulf between the North and the South is evident at

least in terms of edentureless. In their survey, Steele et al, [1996] BDJ looked at a random sample of 2,280 subjects aged 60 years or over from three areas of England. They were examined in order to assess their dental health and needs. A minority of these subjects had a functional dentition, which meant having 21 or more teeth. However, it was obvious that continuing major changes in the dental status of older adults had taken place in the last 30 years. There are lower levels of edentulousness but a large need for the maintenance of existing restorations. There is a rapidly changing dental profile amongst the adult population of the UK. Despite the increase in the dentate population only a minority of the dentate have sufficient teeth to be able to rely on a natural dentition alone for the rest of their lives.

Demographic needs and modern technology have resulted in development of new therapy approaches that cross speciality boundaries. For example, Smith [1987] describes how the replacement of missing teeth has traditionally been accomplished by the placement of artificial structures that attach to remaining teeth [bridges] or rest passively on the area where teeth have been removed [dentures]. A better understanding of bone healing, the body's rejection of foreign materials and biocompatibility has enabled the development of dental implants. In this exciting development, the successful placement of dental implants, the restoration with prostheses over these implants and their continuing maintenance require multidisciplinary skills for the GDP. They involve periodontal work, oral and maxillofacial surgery followed by technically advanced and high quality conservative work.

The expanding numbers of elderly on a global basis and its effects on dentistry are of particular relevance and need addressing: - Regardless of how it is specifically defined, old age is now being experienced by more people for a longer period of time

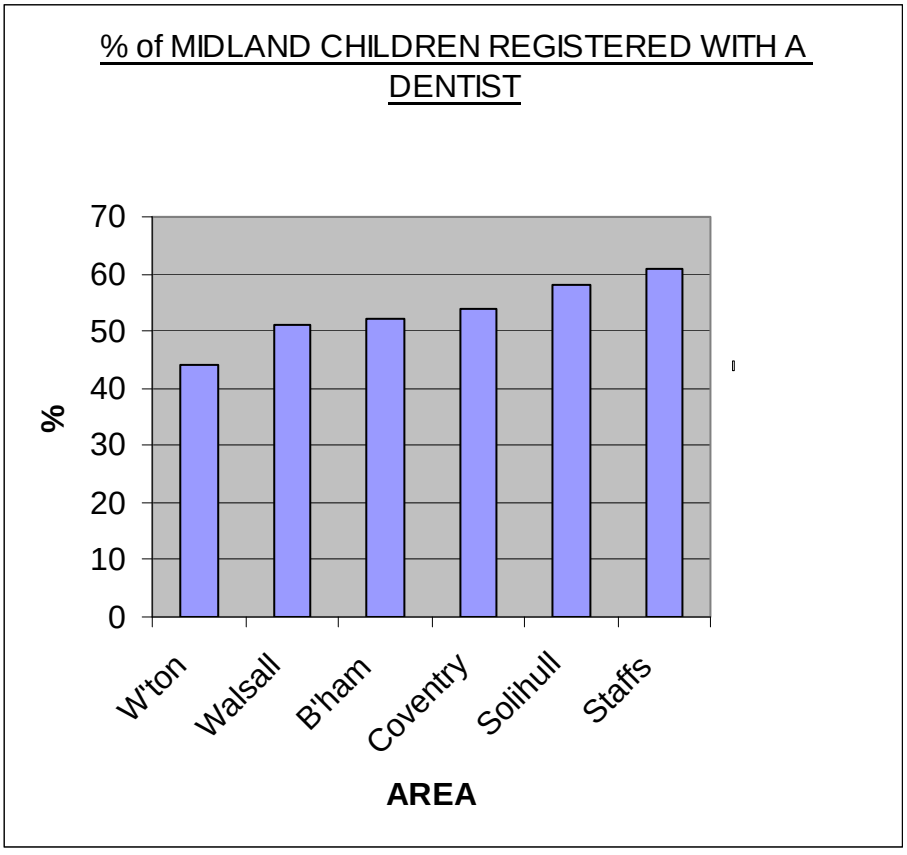
than ever before. Old age has increasingly significant political, medical, economic, social, and demographic consequences for all nations. While the percentage of persons age 60 and over now ranges from about 13% to 20% in industrialised and 4% to 8% in non industrialised nations, these percentages or the actual numbers they represent are expected to increase dramatically in the next few decades.

2.6. Resourcing and Changes in Manpower

Morris [1992] reports that increasing numbers of dentists are now abandoning working within the NHS and are, in varying degrees, turning more to private contracts. Morris reports that in certain areas of the UK there has been a significant shift to the private sector. The edicts of the Alma Mater Conference [1978] could mean that many patients are arguably now being denied their basic human right to a basic dental health care. The net result of this movement away from the NHS is that effectively, in certain areas of the UK. Treatment is denied to all except those who can afford high fees or private insurance premiums. The welfare system has operated an efficient safety net by enabling the poor to claim income support and also to be exempt from any payments towards the cost of their NHS dental treatment. This system has also applied to expectant and nursing mothers and children under the age of 18. There are also allowances for students in full time education. When dentists do operate exclusively under private contract then these groups, although exempt, cannot find surgeons who will treat them. One result of these moves to the private sector is that it reduces the pool of GDPs who are working in the NHS. Chaudhry and Scully [1998] report on the measured manpower shortages by simply counting the number of job adverts in the British Dental Journal. The moves to private dentistry arguably increase the workload of a profession that is

already chronically undermanned and exacerbates the problems of those GDPs who stay as NHS dentists. The work of Grey [1995] illustrates the dental manpower shortage within the West Midlands and the failure of many patients to register for treatment [for whatever reason] is illustrated in Chart 2. The researcher's practice is based in Wolverhampton and chart 2 indicates that less than 45% of children are registered for dental treatment.

Chart 2

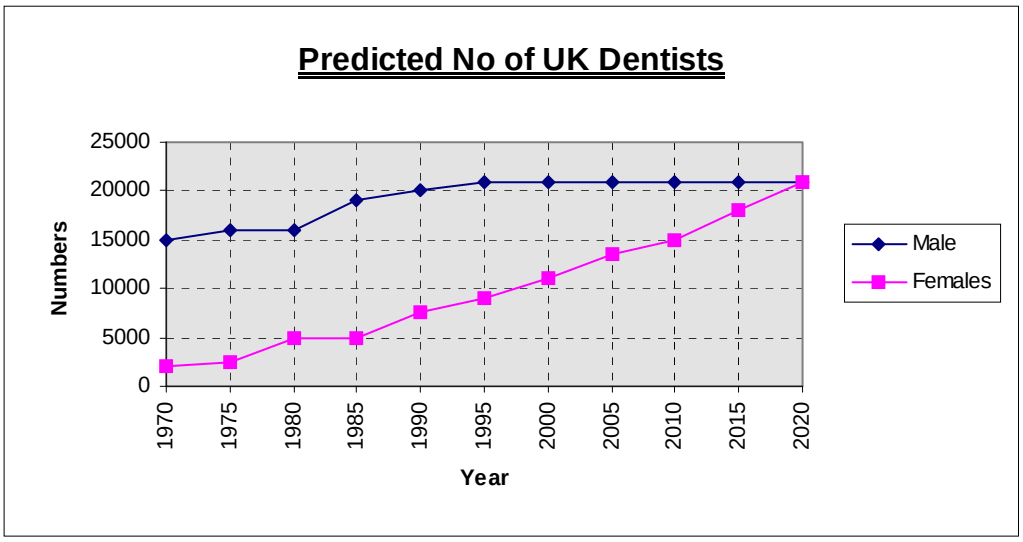


Allied to these changes is the increase in the female intake into dental schools in the UK. Morganstein [1997] reports that in 1970 the Dentists register comprised of 12.1% of females. In 1995 this had changed to 27.2% females and in this period, the

number of registered dentists had increased from 17,516 to 27,472 with 54% of the increase being female. A personal inquiry to the admissions tutor at Birmingham University Dental School revealed that in the two years, 1992/3, females made up 45% of the undergraduate intake, but for 1995/6 this had increased to an average of 56%.

Morganstein predicts that if the current intake level remains at 50:50, it will be the year 2020 when the ratio of male to female dentists reaches parity. Chart 3 Illustrates Morgenstein's predictions. Chaudhry and Scully [1998] report there is no reliable data on the working practices or productivity of either male or female dentists. Recent work by Brown and Lazar [1998] report that even with factor adjustments, female dentists in the USA dentists earned on average a significant 22% less than male dentists. They offer no explanation for this.

Chart3



Entry into dental school and qualifying is now based on equal opportunities. The above chart indicates that it will be around the year 2020 when gender parity in dental

manpower is achieved. This might have implications for the future supply of trained dental surgeons. Shortages may be brought about because of differential retirement ages, variation in the length of, uptake of maternity leave and cultural differences in approaches to work then a rethink on the numbers of dentists graduating might be required.

An editorial in the British Dental Association News [1998] describes a GDC Review group as seeing dental care in the next century being delivered by a multi skilled team.

Dentists will lead the team but having ancillary workers such as dental auxiliaries, hygienists, therapists, orthodontic auxiliaries, dental and clinical dental technicians playing greatly increased roles.

2.7. Future Technological Developments

Stirrups [1991] and Renson [1994] express concern that the profession will require specialist GDPs because future, biotechnical advances will significantly improve dental care. Not only will better materials with which to restore and replace teeth continue to evolve, but also other technological advances will continue to allow dentistry to provide earlier and more accurate diagnosis and better treatment in a less costly manner. For instance, the recent identification of early inflammatory products of the cell and purification of various biochemical growth factors will permit the means to identify and stop progression of infectious diseases that destroy oral tissues, as well as allow the regeneration of lost tissue. Diagnostic techniques, ranging from biotechnical analysis of specific oral bacteria to imaging technology involving magnetic resonance and computer assistance, will allow more accurate and earlier detection of pathologic change. Laser technology to eliminate small areas of diseased tissue or actually weld damaged tooth structures is being developed.

The importance of dental therapy for patients with impaired resistance to infections from chemotherapy, organ and bone transplantation, or immunodeficiency diseases has prompted dentists to enter the medical environment and many now provide specific care in medical clinics and hospitals.

2.8. Patient Charges.

Allied to other changes is the increasing proportion of the NHS dental charges that patients themselves have to bear. Amendment No 80 in the Department of Health's "Statement of Dental Remuneration" states the level of patient charges at 1 April 1998. Currently patients now pay 80% of the actual cost of their treatment up to a prescribed maximum charge of £340.00 with priority groups exempt. The government contributing only 20% towards patient charges.

2.9. Consumerism and Stress

These steep increases in costs resulted in some patients becoming ever more demanding and placing greater stress upon dentists. Renson [1993] quotes from a report from the Office of Population Censuses and Surveys that disclosed that suicides in dentists are twice the national average. He reports that the suicide rates amongst the dental profession are high and the syndrome of stress and "Burn out" in dentists is steadily increasing. A further significant effect of government intervention has been the control of types of treatment available under the NHS by using a selective prior approval system in which the more expensive items of treatment are now vetted before treatment is permitted. This scenario is also allied to the introduction of a more effective screening and evaluation of the work that has been

done and the institution of more punitive measures for dentists who are deemed to not perform adequately.

2.10. Political Effects.

In recent years changes have been further modified by the broad changes in political and economic policy in the UK, which followed the election of the conservative government in 1979. These changes have provided a hostile financial environment within the NHS. Mistry [1998] describes how the winter of Discontent in 1979 led to the election of the distinctly right wing Conservative government under the leadership of Margaret Thatcher. One possible analysis of Thatcherism might be that she has focused exclusively on the political-ideological dimensions of the emergence of the radical right. It could be argued that Thatcher played on the failings of the past period of social democracy and attributed economic failure to obstacles to the free market. such as state intervention and the trade unions. This government instituted anti inflationary policies and public sector spending cuts. At the heart of this conservative ideology is the individual, and the importance of promoting self reliance and individual entrepreneurialism Thatcherism's approach to the health professions continued in the same vein, there was an initial insidious movement to introduce business strategies into the health sectors. Primary dental care and the GDP have not escaped the effects of these policies. Within the Dental profession, in real terms, continuing and regular reductions in fee scales occurred so that the item of service system, which had operated since the inception of the NHS, was increasingly seen as a treadmill. It has been argued that it has resulted in lowering of standards as practitioners worked harder and more quickly in order to maintain their lifestyles.

2.11. Quality Control

Higgs [1993] considers that another area of major change is sees the profession striving to improve standards of care by encouraging development and training within the profession. The current resourcing shortage means that these two issues are often bought into direct conflict. It is perhaps a sad reflection on society when the professions are forced to abandon fundamental ethical requirements in order to stay in business.

The dental profession is making great strides in certain "professional directions". It is seen to be continually raising standards Thomas, Davies & Allsopp [1996] reports how the Vocational Training Scheme for new graduates has the effects of furthering postgraduate education. Lowndes, Caddick &. Frame, [1989] describe the increasing demands of practice visits for participation on the Vocational Training Scheme but at the same time there might be reason for concern that dentistry might be seen to be losing its caring image as it becomes more commercially compromised.

The Vocational Training Scheme is perhaps the most significant advance to be made in the area of standards. It was introduced in 1977 as part of the General Dental Council's long standing policy that every dentist should undergo appropriate postgraduate training to improve standards. The scheme was designed primarily for graduates wanting a career in General Dental Practice, however it was considered such a valuable learning platform for other Dental based careers that in 1994 the scheme was made compulsory for all new graduates. Now they must all complete this accredited year before they can have NHS employment. [At present private practice is exempt]. Graduates are thus trained by selected GDPs who are seen as having "Best practice" standards. For this scheme to succeed it will require the continued support

of quality GDPs who at the moment are competing for places as trainers. This has not always been the case and future external influences might well reverse this pattern and the scheme could flounder through lack of support.

The current thrust of the Department of Health's efforts is to try to raise the overall standard of Dental care. It appears that there is an ongoing need for further education and in utilising the Vocational Training Scheme, the government has involved the use of accredited experienced GDPs. However, standards are demanding and in turn for the GDPs to be accepted as a Trainer on the Vocational Training Scheme they must be able to supply and satisfy the rigorous standards for their trainees.

As a result of these rapidly changing scenarios i.e. financial, technological development, consumerism, ethical and professional pressures it has been reasoned that dentistry is now being subject to market forces, arguably becoming profit driven and being de-professionalised. As Dentists are moving away from accepted professional cultures they might be seen as developing entrepreneurial roles.

2.12. Public Perception of Changes within Dentistry

Freeman, Main & Burke [1995] explain the importance of GDPs needing to be cognisant of the effect of public opinion upon the dental profession. Dentists need to be aware of all the career options open to them as GDPs and the possible response of the consumer to these options when formulating these strategies.

In private practice market forces operate and each dentist is able to charge his own rates and supposedly gives a much better service and better quality of dentistry. Thus, from one perspective, as dentists move away from the NHS and leave the accepted professional cultures, Johns [1995] thinks these developing entrepreneurial roles enhance the profession by making these great technological advances which are

accompanied by commensurate efforts to raise the available standards of oral health care. The work of Baab and Ozar [1994] focus on the need to maintain these standards

In the UK this commercial pressure is a recent phenonomen, the NHS has cushioned dentists from the vagaries of market forces but this is an unusual global situation and comparisons will be made with other international primary care schemes. In general all the "Professions" have been immune to commercial pressures, however they are now having to develop strategies analogous to those used in industry in order to survive. The health belief model of Rosenstock [Figure 3] provides an understanding of some of the ways in which GDPs can try and organise the behaviour patterns of patients in order to enhance health behaviour attitudes. This is a widely cited model but it only partially explains the factors behind patient attitudes to dental treatment.

Health belief model Figure 3

2.13. Health Care Systems.

Over the past 100 years the provision of health care, or medical services, has become the financial responsibility of the state in every modern industrialised society except the United States. In most of Western Europe this responsibility is discharged by state-run insurance systems financed by taxes on both employers and workers and by moneys from general tax revenues. In Great Britain the payments are made almost entirely out of general revenues. In all these countries the state provides some medical resources as well, guaranteeing each eligible citizen access to medical care. Canada has long had a system of universal access to comprehensive, home, office, and hospital care based on the insurance principle. The federal government provides a lump sum--roughly half the cost--to each of the provinces, and they then determine how to meet the rest of the cost to comply with national mandates.

The distinguishing feature of the US system is its entrepreneurial nature. Physicians tend to be private practitioners (although 30% of practising physicians are now full- or part-time members of health maintenance organisations or HMOs). About 13% of the population, or 35 million people, are left without any coverage; they cannot purchase private insurance, and are not eligible for government programs.

The government does not guarantee receipt of care, even to those eligible for medical services. Everyone is expected to make his or her own arrangements when sick.

2.14. Findings.

The research exposed the changes that are occurring in general dental practice. It can be argued that these general changes will influence, either directly or indirectly, and at some period during their working lives, the decision making of all GDPs. These changes included an emphasis on the significance of the effects of systemic and

topical fluoride upon health care. There are changing disease patterns and alterations in the way the government funds NHS dentistry. All these issues create new and changing financial restraints, which in turn affect, the delivery of primary dental care and create dilemmas in the issue of dentistry as a profession. These changing issues can be considered to be continuing education, stress, status, and the effects of growing consumerism, increased accountability and the general need for improved management skills.

The very existence of this changing external environment is exposed within the literature reviewed in this is chapter. It indicates the need for further research into how GDPs must improve awareness of these changes and enhance their personal management and clinical skills. These new management skills must take account of these changing external aspects and decision making aimed at achieving a GDPs objectives must take into account issues such as the changing patient/provider relationship, cultural, political, social and financial influences. The issue of the risks of GDPs loosing a declining but comfortable professional income from the NHS while trying to maintain personal ideals and objectives is central to the argument.

CHAPTER 3: Decision making models

3.1. Introduction.

The previous chapter outlined the changes that are taking place within the working environment of general dental practice. If it is accepted that changes are taking place and that dentists are reacting to these changes, then it logically follows that the next stage of this research is to investigate the theory behind the ways in which GDPs might react to change. The proposed new model of decision making for dentists requires an understanding of decision-making processes. The theory behind the ways in which GDPs might make these decisions when adapting to the current external changes outlined is developed. It is these recent changes that have stimulated much interest in the business and management of these self funded GDPs. Critical reviews of the literature that are both central to, and relating to, this area of the study is presented. Their primary purpose is to demonstrate the need for the research presented in this thesis by identifying inadequacies in the available information. From this a decision making model that is relevant to the needs of GDPs is developed. Chapter 3 consists of four main parts and Figure 4 gives an outline of these contents:

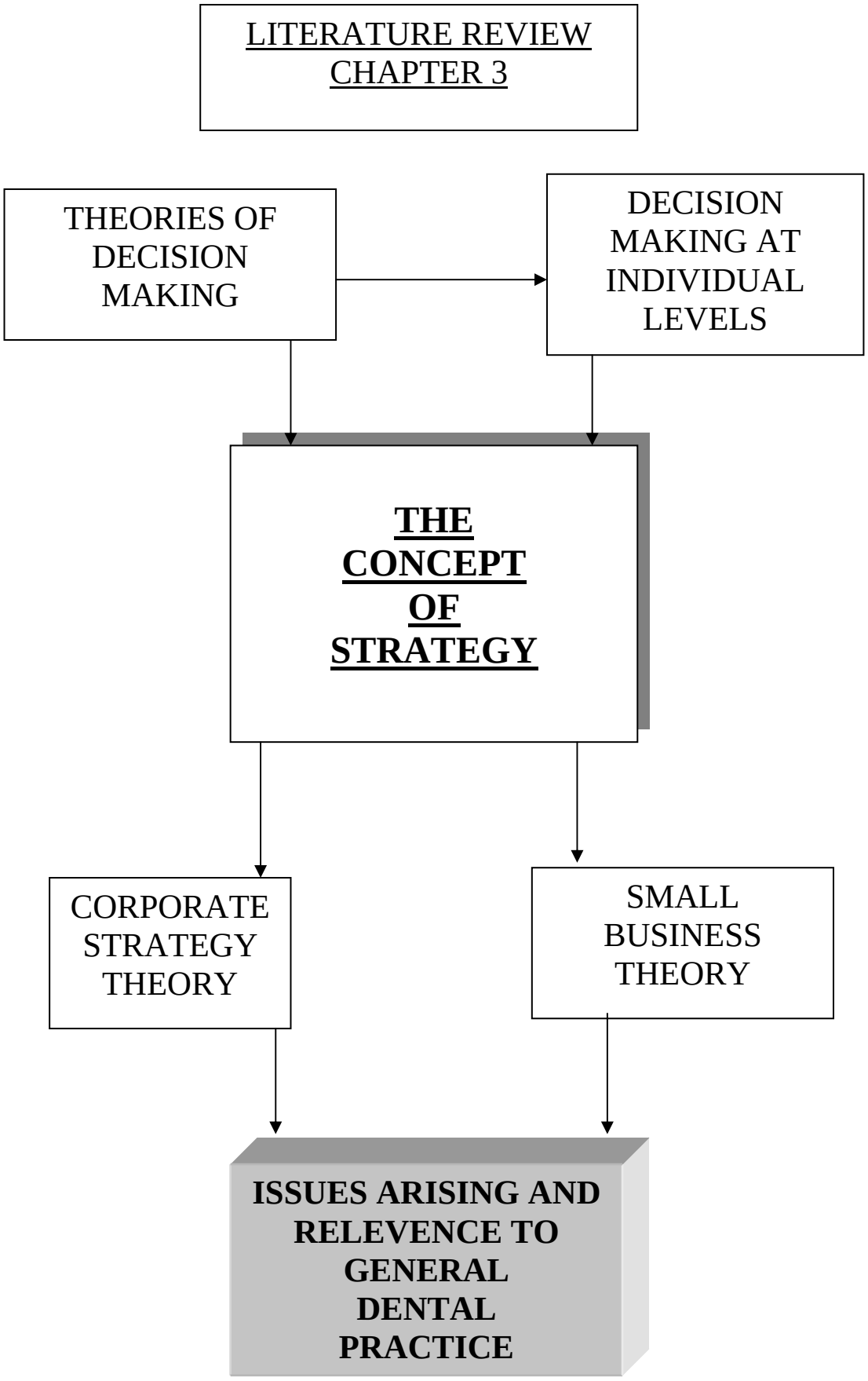
- Attention is first given to defining the **process** of decision making within strategic management in general dental practice. The critical role played by this process in the success of dental practice management is established, with particular reference to its importance for practitioners who have both value needs and cognitive needs and at the same time operate within an externally changing environment.
- The second part outlines current thinking on the decision-making processes at an **individual level** and how GDPs might understand their personal thought processes and needs. The literature searches investigate the studies that that have

been done into career options and consideration is given to their relevance to GDPs. Much of the current non-clinical dental literature that affects practice management focuses upon three controversial issues. These are 1] dental ethics 2] the effect of stress upon GDPs 3] the professional requirement of education and improvement of standards of patient care. It is considered that these three issues play a central role in decision making. They have been kept separate from the above processes and are examined in detail in the next chapter.

- The third section considers decision-making processes as they occur at a **corporate level.** The works of Porter, David, Drucker, Ansoff indicate that much research has been done into strategic management systems in the industrial sectors. Work by researchers such as Worrall, Collinge & Bill [1996] illustrate research done in the service sector. The concept of strategy is investigated and thought given to how this might be relevant to the needs of GDPs.
- The relevance of the similarities of **"Small business"** to the working environment of the GDP is researched. GDPs are self-employed, they are paid by an item of service system [unique in the health sector] and operate within a "Small business" framework, nevertheless, they are expected to adhere rigidly to "Profession" values and not to be profit driven. From the research, it can be stated that because dentistry is a "profession", general dental practice operates in an almost unique small business position.

In this chapter an attempt is made to understand the significance that these theoretical concepts within the framework of "professional" constraints have upon the working patterns of GDPs.

FIGURE 4.


LITERATURE REVIEW
CHAPTER 3
THEORIES OF DECISION MAKING
DECISION MAKING AT INDIVIDUAL LEVELS
THE CONCEPT OF STRATEGY
CORPORATE STRATEGY THEORY
SMALL BUSINESS THEORY
ISSUES ARISING AND RELEVENCE TO GENERAL DENTAL PRACTICE

3.2. DECISION-MAKING.

All dentists will make some decisions during their working lives. The whim, the judgement or the experience of any individual GDP could influence the quality of these decisions but they will not be totally dependent upon these factors. While these processes might take place with limited reasoned thought the quality of any decision is likely to be enhanced by the examination and the use of both decision processes and decision methods. The emphasis has to be on developing an understanding of how to improve decision making rather than accepting decision making phenomena. For the modern dental practice, ensuring that decision-making is as effective as possible is extremely important.

It is important to understand the inter relationship of the "individual" and the "Organisation" because most dentists are self employed, they are often considered to be the "Organisation".

Jennings and Wattam (1994) argue that in general, all organisations need to improve their decision-making. Many of these concerns have an increasing relevance to primary dental care. This need arises because:

1. In general, dental practitioners face a scarcity of resources and a need to make the most effective use of the resources available to them.

2. Increasingly, both private and public sector dentists face competition, either from the rising pace of competition or through government exposing more dental organisations and their decisions to market disciplines.

3. Issues such as consumer safety, pollution, employment practices and more recently the Patient's Charter frequently raise public concern on the degree of social responsibilities that need to be demonstrated within primary dental care. Both NHS

and private sector dentists increasingly often find themselves open to examination by the wider society, not only for the effects of decision making but also for how those decisions were arrived at.

Career Choice Decisions:

Dentists can be seen to act as individuals even within group practices. In order to understand any given decision and the process that leads to that decision, two implications for the study of decision making in work or organisations need to be investigated:

- Perhaps the most important issue to individual GDPs is the need to have an understanding of themselves as a decision-maker. This requires a personal understanding of the wants, motives, beliefs, values, experiences, etc. of themselves. This allows them to gain an insight into their unique worldview and into the rationality of themselves.
- There is a need to understand the context from which the person draws data and then process it into information that informs the decisions. From this will emerge an insight into the external factors that impact on the person's perception and which will influence what and how data is received. Combining this understanding of the person and of the decision-making context can often reveal a logic that is missing from casual observation.

Career choice is an area that seems to offer the potential of examining decisions made by individual GDPs. Sociologists might argue that there would be factors outside of the individual arising out of the structure of society, which are equally important in determining career decisions. It is probable that such external factors are likely to

influence the range of choices available to the individual rather than the individual determining specific decisions. The notion of decision styles is of relevance to the individual decision. This model is not specifically concerned with career decisions but it is a valid model in that it helps explain how decisions made by GDPs are arrived at. This model is considered later.

What is a decision

Brouthers et al [1998] discuss the value of Mintzberg [1976] model in which he defined a decision as "a specific commitment to action" [Figure 5] and he included all purposeful behaviour that concludes with a commitment to do something rather than merely to talk about a problem. Whether or not this definition includes a decision to do nothing is unclear. Jennings and Wattam [1994] point out that other writers argue that a decision to do nothing needs to be included. Indeed a no choice option might be frequently selected by GDPs in order to avoid conflict or to maintain the status quo and so reduce uncertainty. In such cases this decision to do nothing rather than something is less than rational because a full consideration of alternatives might not have been made. Harrison's definition of a decision as "simply a moment in an on-going process of evaluating alternatives for meeting an objective" describes a decision as the moment of choice. This definition presupposes that the decision follows a number of distinct stages or that there is a decision making cycle.

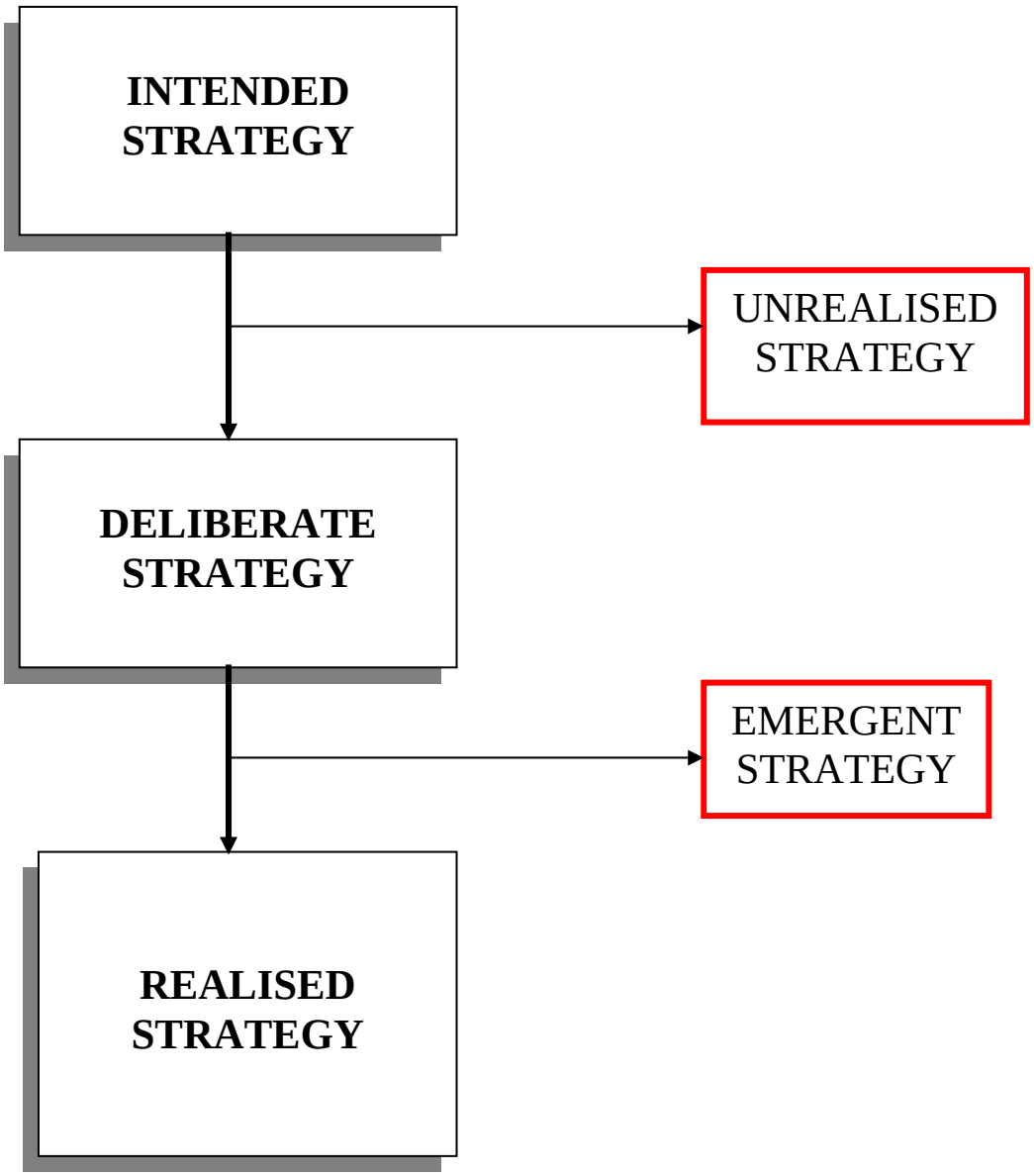
Decision Making Processes.

These are important for dentists because all GDPs and indeed all firms have a strategy even if it is informal, unstructured and sporadic, perhaps some practitioners do not know how they make decisions. The strategic management process is becoming more

and more widely used by small firms, larger companies, non-profit institutions, government organisations and multi-national conglomerates alike. There is the old saying, "*if you do not plan where you are going, you are going to end up somewhere where you do not want to be."* This stresses a need for dentists to use strategic management concepts and techniques. David [1993] thinks that all organisations should take a pro-active rather than a reactive approach in their industries, it represents a logical system and an objective approach in determining an enterprises' future direction. He reasons that organisations, and this should include GDPs, should strive to influence, anticipate and initiate rather than just respond to events. This strategic management process embodies planning in its approach to decision-making and David concludes that people and organisations that plan ahead are much more likely to become what they want to become rather than those who do not plan at all.

FIGURE 5

MINTZBERG'S EMERGENT STRATEGY



3.3. DECISION MAKING AT A PERSONAL LEVEL

The Psychology of Decision Making

This is a most complex area and an investigation has been made into how psychological factors influence and impact upon decision-making processes.

Decision styles – Gore, Murray & Richardson [1993] refer to the existence of differences between individuals in terms of how they make decisions and how the same person makes decisions in different ways according to the nature of the decision and the particular circumstances. There are many models of decision style are based on personality types and these in turn are generally devised from the personality theory devised by Jung, a co-worker of Freud. Thus the psychodynamic perspective provides insight into the processes by which individuals arrive at their decisions. Jennings and Wattam [1994] introduce the work of Arroba who suggests a typology of six broad styles decision styles:

- No thought.
- Compliant (with external expectations).
- Logical (careful, objective, evaluation of alternatives).
- Emotional (likes and dislikes most important factors).
- Intuitive (the decision feels right).
- Hesitant (slow to build commitment to decisions).

Arroba found that the logical style nearest to the rational model was used more often for work based decisions rather than in personal decisions. However, the emotional style was more common for important decisions and the intuitive style more common for very important decisions. Jennings and Wattam comment on the interesting find that the top managers are more influenced by their decision style than that of middle

managers. The notion of decision styles has been specifically applied to career choices. Phillips et al [1991] identified three broad styles applied to decisions and careers:

- Rational (logical assessment of advantages/disadvantages of various options).
- Intuitive (options are considered but choices made on which one feels right).
- Dependent (responsibilities denied/or avoided and other people or circumstances dictate decisions).

The work of Holland [1985] is one of the best known theories of career choice. This theory is based upon the notion of personality types as the key factor influencing career decisions. Holland's theory suggests a match between personality and choice; in other words individuals choose careers according to which career will best suit their personality. Holland also goes on to suggest a relationship between the degree of match and eventual career success and satisfaction. Individuals will be more successful in and derive greater satisfaction from a career that suits their personality. In brief Holland's personality types are as follows:

- Realistic
- Investigative
- Artistic
- Social
- Enterprising
- Conventional.

Career Anchors

A further view of career choice that bears comparison with Holland, is the notion of career anchors developed by Schein [1978]. Career anchors are basically orientations towards work occupations that influence the career choices and decisions of individuals. These orientations or preferences are the result of three factors:

- Attitude and value systems
- Motives and needs
- Talents and abilities.

Each of these factors is of course bound up to a greater or lesser extent with the personality of the individual, it is important to point out however that Schein emphasised that it is these factors as perceived by individuals themselves that produce career anchors. This self-perception will also be influenced to a greater extent by experience at work in particular occupations. Indeed the third factor, talents and ability, require some work experience within or outside paid employment before a self-perception can be emerged.

When this is applied to the decisions made in general dental practice, the limitations of rationality imposed by such factors need to be understood and they can be summarised by:

- Psychological conflict
- Distortion of reality
- Personal constructions
- Individual and unique world views
- Problems in objective perception
- Influence of emotions and intuition
- Role of wants, needs and values.

Summary:

The literature has revealed the complexities of decision making. Much of the research has indicated the desirability of improved decision making because of the observed enhance performances which result from structured decision making processes. There is a wide variation in the cognitive and value needs of individuals and it is reasonable to assume that dentist's needs will be just as varied. It is a logical extension that dentists need to evaluate and to plan using rational decision making in order to maximise the attainment of their personal objectives.

3.4. Corporate Strategy and Strategic Management.

The concept of Strategy:

Strategy has been derived from the ancient Greek work "Strategos" meaning general. The word has a military connotation implying the art and science of directing military forces to defeat an enemy or to mitigate the resource of defeat. Drucker, [1954] was probably the first to address the concept of strategy. He defined the concept as the answer to two questions, "what is our business?" and "what should it be?" Wheelen & Hunger describe a hierarchy of strategy in which three stages occur.

- The Corporate strategy; this expresses the company's overall direction.
- The business strategy which emphasises the improvement of the competitive position of the company's products.
- The functional strategy which is mainly concerned with maximising resource productivity.

The Strategic Process

This process has been extensively researched and developed within the corporate sector. Intensification of competition created a need for improved performance and the literature reports a variety of models conceptualising the strategic process. Brouthers et al [1998] describe Henry Mintzberg's model [Figure 5] and explain that it is one of the earlier research attempts to explore how managers make strategic decisions. It consists of three phases: identification phase, development phase, and finally the selected or realised strategy. Brouthers points out that a major flaw with this rational model is the assumption that all mangers act in the best interests of the organisation when in fact issues such as personal ambition, personal politics and external influences can greatly influence decision making. They quote from the works

of Eisenhart and Bourgoise in which they conclude that the more any organisation is involved with in-house political activities then the worse the performance is likely to be. The concept of strategy is relatively new to the management literature and it is interesting to view another of the earlier models created by Hoffer and Schendel [1978]. This is illustrated in Figure 6

HOFFER & SCHENDEL MODEL FIGURE 6

For the purpose of this study a simplified model of the strategic process has been adopted using the David Model, [Figure 7]. David [1993] considers that the strategic process takes place in three main stages.

Figure 7 illustrates how these processes relate to each other:

- Strategic formulation: This stage includes the development of business mission. This identifies an organisation's external opportunities and threats and also determines its internal strengths and weaknesses. It aims to establishing long-term objectives, generate alternative strategies and finally to choose which particular strategy to pursue. Strategic formulation might include deciding what new businesses to enter, what businesses to abandon and how to allocate the resources and whether to expand operations or diversify into new fields of business.
- Strategic implementation: This stage sees the organisation attempting to establish annual objectives, devise policies, motivate employees and allocate resources so that the formulated strategies can be executed. Strategic implementation is often called the action stage of strategic management and this is often considered to be the most difficult stage of strategic management.
- Strategic evaluation: This is the final stage in strategic management. All strategies are subject to future modification things continue to change because external and internal factors are constantly altering, the three fundamental strategies evaluating activities are; 1. Reviewing external and internal factors that are the base for current strategies. 2. Measuring performance. 3. Taking corrective actions.

FIGURE 7 DAVID MODEL.

David argues that strategic evaluation is needed because success today is no guarantee of success tomorrow. The development of the David model, although developed for corporate strategy, becomes useful when it is overlaid with the Porter model. [The Porter model is introduced later in this chapter]. The combination can form a basis to develop the proposed new model of strategic management that will help dentists understand the changing environment.

External Opportunities and Threats.

David explains that these terms refer to economic, social, cultural, demographic, environmental, political, legal, governmental techniques and competitive trends. They are events that could significantly benefit or harm an organisation in the future and are beyond the control of individual organisations.

Internal Strengths and Weaknesses.

There are activities that are also significant for performance and they can be controlled, to some extent, by an organisation. They would include areas such as management, marketing, finance/accounting, productivity/operations, research and development, computer information systems, activities of a business.

When this David model is applied to dentists it starts with a specification of the overall direction the practitioner wishes to pursue i.e. the corporate mission. The mission definition is the first crucial step in the strategic formulation process as it provides a basis on which functional strategies are formulated.

The Mission Statement.

The mission statement forms an integral part of any decision making. As far back as 1968, Argentini argued that the fundamental objective, or what is now called the mission, of a business must be an expression of its "permanent un-alterable raison d'etre". In a more practical sense it can be argued that ways need to be found to translate the mission into clear objectives, and that by far the most influential technique is that of management by objectives. Jennings & Wattam [1994] define the mission statement as the basic reason for the existence of an organisation and it helps legitimise its function in society. Campbell [1997] considers mission statements as useful because the get senior managers to identify a common view and at the same time stimulates debate. The Managers Handbook by Ernst & Young (1992) defined corporate mission as the long-term vision of what the business is, or is striving to become. Similarly, the Collins Dictionary of Business [1995] define it as an explicit written statement of an organisations long-term aims and objectives. The scope of business is defined in terms of customers, products and business areas. Stoner & Freeman [1992] define the Mission statement as a broad based goal based on the organisations planning premises basic assumptions about the organisation's purpose, its values, its distinctive competencies and its place in the world. The purpose of establishing a mission is therefore to develop an encompassing understanding of an organisation's purpose and overall direction.

The corporate strategy is more specific than the corporate mission; it determines what portfolio of businesses and activities that the corporation should hold. Heene [1998] considers that it should serve two very basic functions.

- To safeguard the organisations long-term survival.
- To determine the best way to achieve this long-term survival.

The management of corporate strategies thus requires a regular analysis of the strengths and weaknesses of both internal and external environments and to identify any gaps between the objectives and the likely performance of the organisation.

The Heene model is illustrated in Figure 8. She considers that the essential areas of strategy involve an understanding of four "constituting fields of decision making". These are what the organisation ***wants*** to do, what it ***can*** do, what it is ***allowed*** to do and what it ***should*** do. These fields determine management strategy and are affected by three "steering elements".

- Environmental scanning to allow alignment of the company to its working environment. [Especially competitive forces].
- The company's resources and the way these resources can be re-allocated.
- The importance of the company's value systems and its business ethics.

Liedtka [1998] questions the value of strategic planning and argues that traditional processes have choked initiative and favoured incremental rather than substansive change. She argues that formalised teaching has emphasised analyis and extrapolation rather than creativity and invention. She makes the point that it is strategic thinking and not strategic planning that is the way forwards. It is the individual and not the organisation that thinks strategically and there is a need to develop the environment for strategi*c* conversation.

FIGURE 8 THE HEENE MODEL

Ernst & Young [1992] suggests that strategic implementation occurs in two distinct phases. There is a dormant phase and a development phase. This is relevant to dentists since, in general dental practice, strategic issues are often not considered or only minor adjustments are made and this is the dormant phase. However, organisations recognise the need for periodic fundamental reviews and then enter the active phase. Wheelen & Hunger [1995] describe how corporate strategy will influence the functional implementation within the framework of the corporate strategy. Each of the functional strategies deals with a decision-making area by defining its goals and objectives and detailing the deployment of resources to accomplish given tasks. Functional strategies are thus the "instruments" of corporate strategy.

The appropriateness of these conventional strategic process models need to be challenged because of the validity of the assumption that forms the basis of these conventional models; that is, they assume that strategies are deliberate and rationally chosen. Previous research has, however, repeatedly highlighted the inaccuracies of these assumptions. Mintzberg (1989) [Figure 5] by his identification of "realised strategies" (i.e. strategies developed from patterns of behaviour without the organisation knowing), demonstrates that not all strategies are deliberately chosen and he supports this criticism by suggesting that the strategic process is a fluid process of learning. Quinn [1981] reported that the strategic process is frequently characterised by "logical incrementalism". Jennings & Wattam [1994] quote Piercey and Giles who suggest that good strategic marketing plans maybe produced by a wholly "illogical" process. They reason that this process starts at the "end" with tactical implementation issues and then works backwards to the "beginning" of the strategies and missions.

The conventional model is also criticised by Piercey and Giles for its failure to recognise "processual characteristics" of planning and the "essential nature of iteration"; this is because they assume that each stage of planning is completed to perfection at first attempt. They reported that “many companies only make a proper start at strategic planning after allowances have been made for some 'illogically' to creep into their planning process”.

Recognition that the conventional model represents a simplification of reality can greatly assist the strategic planner, Piercey and Giles (1989) suggest that the conventional model should serve as a strategy or marketing plan “focusing on what to produce rather than the means by which to product it”.

Porter’s Generic Strategies.

In looking for a base from which to study decision making within general dental practice, the works of Porter [1980] [Figure 9] are one of the better known and provide a valuable starting point. According to Heene, for most people involved in the strategic management field, teaching competitive strategy involves the teaching of Porter’s model of generic strategy.

Porter states that the need to adapt to change leads organisations to ask key strategic management questions such as, "Just what kind of business should we become? Are we in the right fields? Should we reshape our business? What new competitors are entering our industry? What strategies should we pursue? How are our customers changing? How is the technology of our business changing? Are new techniques being developed that could put us out of business?"

Porter identifies three generic strategies;

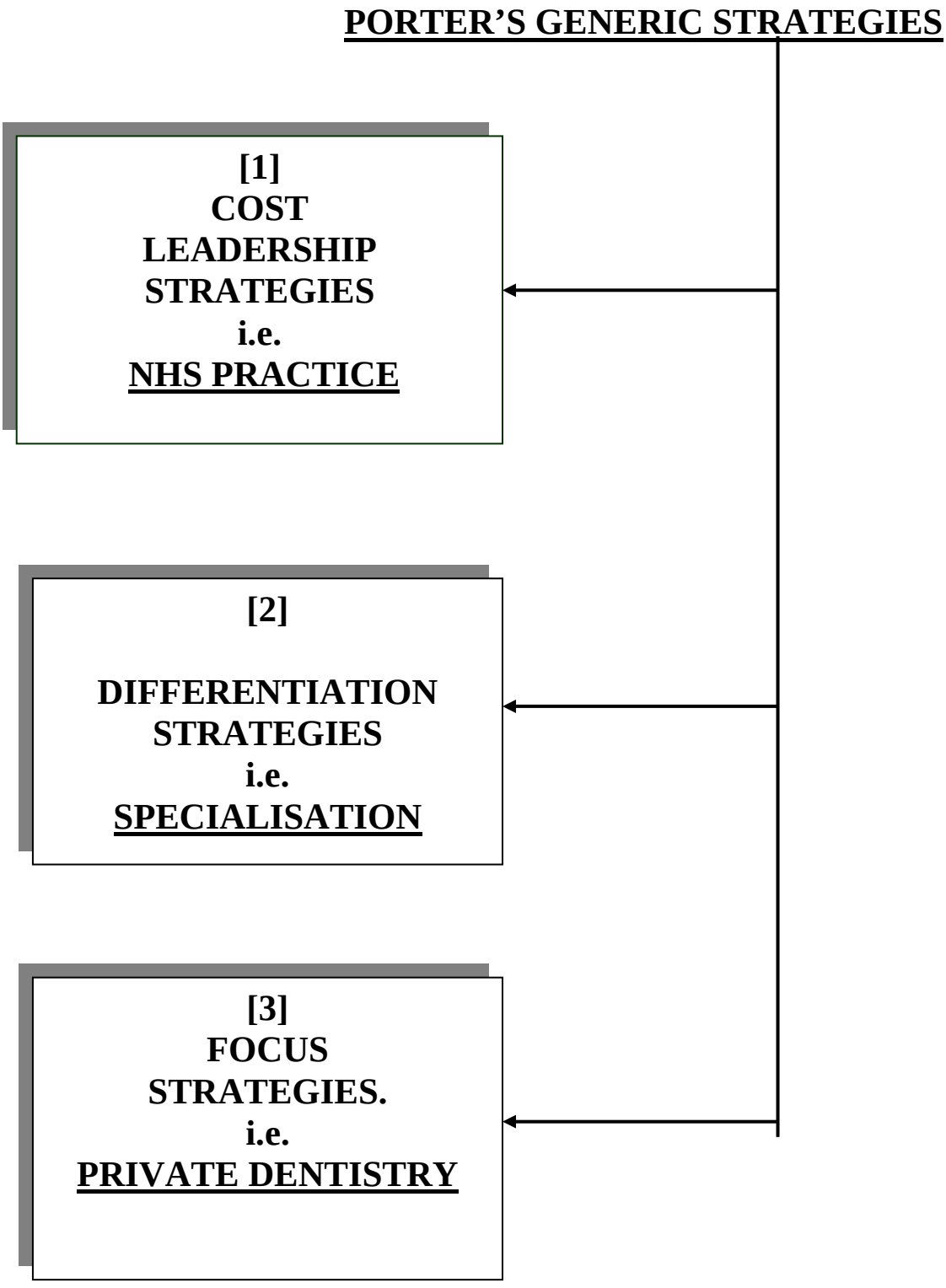
- **Cost leadership.**

- **Focus** (market segmentation).
- **Differentiation**.

Cost leadership is based upon having the lowest production cost and hence the greatest profit margin, and not on offering the lowest price, this strategy allows the firm to earn profits when their competitors have had their margins eroded away. The cost leader emphasis emphasises cost control and organisational leanness. This strategy is not strictly true when applied to GDPs because the fee scale for NHS dentistry is based upon an item of service payment and prices are rigidly controlled by the government, however effective management of production costs are a variable that can be controlled by the GDP. Cost leadership strategies require the exploitation of any economies of scale or expertise, and thus requires in turn a high market share. The cost leadership strategy in dentistry does not lead to any increased benefits to the consumer because lower cost to the GDP does not lead to lower prices for the patient. Speed's [1989] comments are relevant to private dentistry since he argues that while a differentiation such as the specialisation on a certain area of private dentistry and a focus such as superior customer service strategies bring benefits to consumers. This differentiation leads to products that fulfil needs better by being different and focus leads to products that fulfil needs better by being designed for a specific group. Whilst Porter's strategies are generally recognised as generic, the generic nature of the product/market based strategies is questioned by Heene [1998]. She criticises Porter's model because of the development and the refinement of the competitive environment. She now believes that there is a continual price erosion of competitive advantage to the extent that while customer demand moves up, market prices for products and services move down until they approach zero level. Additional

incentives need to be given and she illustrates this with the cheap cost of mobile telephones in order to attract customers to other services.

FIGURE 9


PORTER'S GENERIC STRATEGIES
[1]
COST
LEADERSHIP
STRATEGIES
i.e.
NHS PRACTICE
[2]
DIFFERENTIATION
STRATEGIES
i.e.
SPECIALISATION
[3]
FOCUS
STRATEGIES.
i.e.
PRIVATE DENTISTRY

However, the generic strategies of Porter's model provide a useful framework with which to study the strategies of an organisation such as general dental practice. The model does however possess a number of weaknesses when applied to dentistry. As an example, Porter suggests that in order to select an appropriate strategy the competitive situation within industry the organisation must be first assessed in order to identify its relative strengths and these will vary from industry to industry. When applied to dentistry, it is difficult for GDPs to analyse these factors and thus assess their relative power within the very narrow field of primary health care.

Despite these criticisms Porters generic strategies, they are considered of value because Porter's work draws heavily on well-established and researched concepts. For example, differentiation and market segmentation strategies date back to the seminal works of Smith in 1956, also the cost leadership theories e.g. economies of scale can be traced back to the 1940's and earlier. In addition, the generic strategies are broad and appear to encompass most, if not all, the strategic alternatives suggested by previous writers. This study will therefore use the Porter model as an adjunct to the David framework to study the strategies appropriate to general dental practice development.

Summary:

This section has investigated the ways in which large companies make decisions regarding their strategic planning. It is an area that has been well researched and methods tried and tested over many years. The appropriateness of these sophisticated models was evaluated and their application to primary health care was considered. The combination of the Porter and the David models were considered to be of value in

that they could be developed to form the basis of the proposed new dental decision making.

3.5. SMALL BUSINESS

Small Business

The literature searches in the previous section revealed that much of the theory of strategic management when applied to "Large firms" is not relevant to decision making in general dental practice. It thus becomes necessary to look at general dental practice in comparison with small business organisations, as it would appear to have much in common with the conventional "small business". Edge [1998] quotes the existence of 3.9 million businesses in the UK of these; over 95% were small businesses employing less than 20 people. A widely accepted definition of small firm is still one based on the ideas of the Bolton Committee [1971] This identified three important characteristics that are likely to have a strong effect on management and decision making within a small firm i.e.

- They have a relatively small market share and cannot affect the market price.
- They are managed in a personalised way by their owners.
- They are independent and do not form part of a larger company.

As well as the organisational characteristics, the market conditions within which small firms operate are very relevant. These small firms are usually at the margin of market forces. They have little market power and this, combined with the fact that they have a very limited portfolio of products that could offset the affect of changes in demand in one market, means that they are exposed to considerable risk from economic fluctuations. Survival in such an environment demands considerable flexible and rapid response when conditions change. A significant difference in

primary dental care is that by comparison there is a current man power shortage of GDPs

Chaudry and Scully [1998] counted the number of adverts for GDPs in the British Dental Journal over a 10-year period. They used this as a basis for evaluating perceived manpower shortages in general practice and they concluded that and in some areas the GDP will have significant market power within their own catchment area.

Brouthers et al [1998] considers that small firms occupy unique positions because:

- They occupy strategic positions on economic grounds or work in high-risk areas that large firms are reluctant to enter.
- In many economies they are the engines of employment, economic growth and new product development.
- They can suffer strategic disadvantages in economic and technological terms.
- Because of their size, small firms cannot afford strategic planning staff.
- Senior management in small firms is often one individual

Because of the problem of a limited customer base and a relatively small output, the loss of a major customer to a competitor or even the bankruptcy of a major customer is likely to be of very considerable significance to a small firm. Johnson & Scholes [1993] point out that the market conditions facing small firms [this would include GDPs] continue to show considerable change. They also argue that the firm, above all else, needs to remain flexible because the acute risk to the small firm of a loss of one of its customers or a non-payment of account. The flexibility of small firms is relevant because it results in short run production processes which in turn leads to strategic

decision making in small firms becoming necessarily more short run orientated than in larger firms.

These issues have parallels for GDPs, but within the NHS working environment, it is unusual for competition to be significant and the fears of bad debts or government insolvency are remote. However in the arena of private dentistry there is considerably more competition and risk of bad debt by patients.

Distinct factors that affect the decision making of small firms ownership and control

Gore Murray & Richardson [1992] quote researchers such as Birley & Norburn who consider that one of the most important features that distinguishes small from large firm decision making is that small firms are managed by their owners. They suggest that the main motivation is independence, this need to be self-employed and to be "one's own boss" is placed above maximising profit or growth. Dentists who do not feel this motivation might be salaried or remain working as associates.

Other references are those of Pearce, Robinson [1988] who comment that the personal characteristics of the owner also has a strong effect on the decision making process. First there is the issue of lack of expertise; this is because in small business there is little scope to employ specialists in functional areas. They suggest that the educational background of entrepreneurs is often poor but this can not be said to be the case with general dental practitioners. Brouthers et al [1998] suggests that the strategic managers are often the founders. They found that the management style of the owner manager tended to be autocratic and there was a reluctance to delegate operational decision making. This vision that started the firm [especially a successful one] may in the future lead the firm in the wrong direction yet Brouthers comments

that this intuitive or “gut feeling” approach of successful entrepreneurs has many supporters.

Of particular significance to GDPs is that the organisational structure of a small firm is of a simple nature and it is usually characterised by a high degree of informal interaction between the owner manager and the employees. This raises the question of the relationship with employees and the degree of informality present. Gore Murray & Richardson [1992] quote writers such as Ingham. who suggests that industrial relations in small firms are conflict free and seen by both employers and the employees as mutually satisfying. These views are criticised by Blinkhorn [1992] for providing too romantic a view, the nature of working relations is necessarily more informal in such firms and could be a major source of stress for GDPs. This is supported by research which indicates that inter personal conflict with support staff is a serious cause of stress for GDPs. The financial resources of the owner also have a strong effect on decision making because owners are often the only or main source of capital. The availability of finance is often mentioned as one of the most substantial problems the entrepreneur has to overcome and this area of increasing difficult for GDPs.

The Lack of Strategic Decision Making

Rattan [1996] considers that a lack of rational long-term decision making is often seen in general dental practice and in many small firms. This probably results from several aspects of the organisation’s operation: The small business man is likely to be heavily involved in the operating decisions of the company and continue to intervene in all areas of operations to ensure that decisions are taken in line with their own views and perceptions. This often leads to short term decision making and problem solving.

These management structures often result in problems because there is little time available for the consideration of strategic issues, there is often inadequate scanning of the environment. It might be argued that continual involvement in operational matters may affect perception and concentration on minor problem solving may influence perception and an awareness of major issues.

Another reason why small businessmen including GDPs might have poor strategic decision making abilities could be caused by limited experience of formal business education. GDPs may not only lack the skills necessary to undertake such strategic decisions but they may also be unaware of the existence of concepts and tools associated with such decision making. It could be considered that many GDP's reactive decisions are based on responses to problems as they arise and this might be caused by this very lack of awareness of strategic decision making methods.

Gore Murray & Richardson [1992] refer to studies by Bracker & Pearson [1986] in which they demonstrate that firms that have undertaken strategic decision making for five years or more had outperformed other firms. Central to this research is the idea that it is reasonable to assume that, should GDPs make these explicit attempts to address critical strategic issues, then they can take the initiative and ensure their personal longer term objectives.

It might be prudent to quote Drucker at this stage "*The graveyards of industry are full of the tombstones of businesses that failed to adapt and change*". It might seem an extreme statement to make when applied to apparently stable small professional businesses but the literature searches have revealed increasing numbers of bankruptcy cases in general dental practice.

<u>Characteristics of small firms strategic decisions</u>

The characteristics of small firms discussed above have a considerable effect on the strategic decision making process.

The research by Brouthers et al [1998] suggests that small businesses are best at making moderately rational decisions and that small firms do not seem to suffer significantly from the influence of power and politics. Although small firms tend to be rational in the gathering of information, they appear to make limited use of it. The authors also comment that decisions were made based on personal desires and backgrounds rather than "best fit" strategies that are based on rational analysis. Again the evidence suggested that small business decision making relied to a considerable extent on intuitive feelings.

Gore Murray & Richardson [1992] refer to the work by Gallante [1986] which suggests that the motivation for the owner's need for independence rather than growth means there is a significant difference between the small business owner and the entrepreneur. Watson [1995] tries to make the distinction between entrepreneurship and professional management and conclude that both are required for successful small business. The entrepreneur is seen as orientated towards growth and his or her decision making involves planning for that growth. A small business owner, on the other hand will remain with just a single product, and be less likely to undertake decision-making strategies. Mintzberg classifies those firms, which do not adopt any form of planning, as being in the adaptive mode. In this mode they just muddle through adopting reactive policies. The unique strengths of small firms is in terms of flexibility and low management overhead costs which enables them to take advantage of market niches and specialised products denied to the larger firms.

The conclusion reached by Robinson and Pearce. [1988], is that the type of personal relationship and the dominance of the informal structure means that strategic management operates far better in this informal way than in the large firms. They also suggested that if the strategic decision process is too formalised performance maybe reduced.

Steps of Strategic Decision Making in small firms:

There are two major issues in small firm strategic decision making that are relevant to GDPs:

- There is the question of the start up of a business and the issues that arise from it.
- Once established there is often the need to grow and clearly to survive.
- In each of these circumstances proactive strategic decisions have usually been taken but these may develop via a series of incremental operational decisions with each action taken in isolation without being aware of its consequences. It seems reasonable to state that a rational and explicit approach to strategic formulation is usually advantageous.

Evaluation of Alternatives

Gore Murray & Richardson also quote the research of Levin, Travis [1987] that indicates an ongoing evaluation of both the internal and external environment is an essential part of any small business strategy. Once a business area has been identified the next stage is a careful investigation of alternative strategies. This is similar for a start up and for an ongoing business.

In a small business time is often scarce and the David model is of use in providing for and an assessment of the asset base in terms of capital, abilities, experience, and manpower in order to identify strengths and weaknesses. Then the external environment must be considered for potential threats and opportunities. The David model is of limited value because in practice, time constraint frequently limits this procedure. Levin and Travis also consider that another features that makes evaluation particularly difficult for the GDP and the small firm is a problem with the use of financial ratios as indicators of the state of the organisation:

- An entrepreneur may enter a sum of money as a loan rather than an equity because of the fear of loss if the firm fails
- The taxation system may encourage rewards to be taken in a form other than profit for example, pension contributions or luxurious working conditions.
- Dividend ratio is not particularly useful.
- Dividend ratio decisions are not based on stock price because shares are not traded.

Choice

Rattan [1996] considers that the mission of independence means that the choice of strategies may well be dominated by the need for a GDP to keep control over the practice and thus ensure future security. Risk associated with new markets, practices and products, might mean the manager will tend to be cautious and aware of the safety provided by experience and this means that incremental change will often dominate the decision making process. When a decision has been made to start or change a business rattan discusses how decisions have to be made as to how to give operational form to these strategies. This is probably the most difficult in the case of a

“start up or squat” for the GDP because, like most small businesses, they will often have little operational experience and it can be difficult to foresee implementation problems.

This reinforces the need for the development of a specific dental decision-making model because a careful analysis of similar operations and of supply markets may be useful in that the possible problems and benefits of some policies can be anticipated.

Conclusions:

The literature on decision making illustrated gaps because the searches revealed a generalist nature in the theories. These included corporate strategy, the small business and individual decision making processes. While some of these theories could undoubtedly be applicable to certain areas of primary dental care it became apparent that the unique scenario of general dental practice as a professional small business needed further investigation. Large company or corporate strategy has been seen to be unsuitable for GDP use. The main elements of these strategies may encompass all strategy but the facilities to plan, evaluate and monitor the stages as well as assessing internal and external environments are simply not available to the GDP. The framework of David’s strategic management model was considered to be a useful starting point for understanding the strategic process. David’s model was considered to embrace some of the basic characteristics of general dental practice and the sub division of internal and external factors could be relevant in the choices of career/development pathways that might be open to GDPs. Within this strategic framework, Porter’s model of Generic strategies is used is used to enhance and

develop David's all-embracing model of corporate strategic decision making processes.

The investigation also looked at small companies and their management theory and their relevance to general dental practice commented upon. Many similarities were found but models were considered unsuitable because of the rather unique field that the GDP operates in. The GDP is seen to be an entrepreneur, a small business and a "Professional" and as such, these entrepreneurial professionals, meet at the interface of sociological and economic theory. It was concluded that further research into how GDPs might improve awareness of these changes and enhance their personal management and clinical skills was required. The cultural characteristics of small firms result in the involvement of a high degree of personalised management and informality and while this has some advantages, it is important that the entrepreneur GDP does need to consciously address the issues of decision-making and long term planning in order to reduce risk. This is in contrast to medical practitioners who have only recently been exposed to "Fund Holding" and hence to competition from other medical practitioners. GDPs have always operated in a field of either direct financing or the NHS item of service system. Although 1990 saw the introduction of the dental capitation payment system. This provides only a minor part of dental income and the patient still pays significantly more for their dental treatment than for their medical treatment.

The management of general dental practice, as with most of the health caring professions has been largely ignored by researchers and academics who have traditionally focused upon both the clinical aspects of health care and the undergraduate and postgraduate training of the individuals. There are many gaps still remaining in the available literature. These revealed a generalist nature in the theories

and did not take account of GDPs working environment; for example Blinkhorn [1992] considers the causes of “Stress and burnout”, the issues of ethics and the need for ongoing professional education within the dental and other profession. Little thought seems to have been given to the reactions of GDPs to these environmental influences and then in turn the sequelae these reactions will have upon the "Professional" status of dentistry. These issues are developed further in the next chapter.

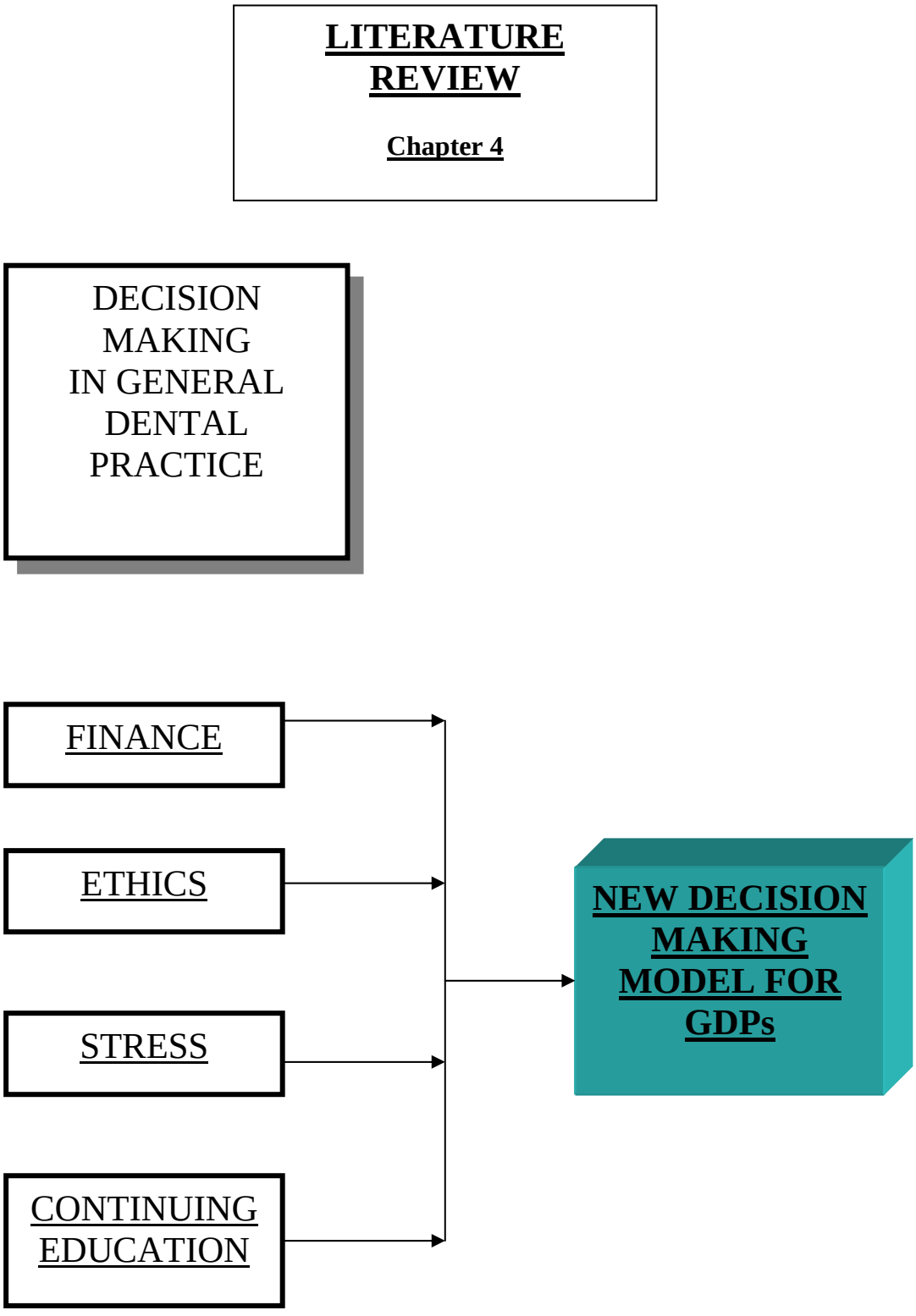
CHAPTER 4: The identification of the GDP planning hypotheses.

The literature searches from chapter 2 revealed that changes are occurring that will affect the ways that GDPs run their dental practices. It is probable that most dentists will be required, in varying degrees, to make decisions regarding changes in their practice management. Chapter 3 researched the ways in which decisions might be made and the ways in which dentists as individuals might make decisions in instituting these management changes. Researching the ways in which large companies develop their corporate strategies developed this investigation and then a focus was made on smaller company decision making. It was concluded that dentists operate in a unique small business environment because of the demands of the payment systems and the requirements of being a profession.

This chapter seeks to investigate some of the issues that are considered to impact heavily on the working environment of the GDP. These issues are inter related and have featured regularly in the dental journals, and they are related to ethical demands, stress and the professional demands of continuing professional education and standards. These issues affect many small businesses but dentistry might be seen to be particularly affected by all of them. Each of the issues is investigated in turn.

Figure 10 illustrates the process.

FIGURE 10


LITERATURE REVIEW
Chapter 4
DECISION MAKING IN GENERAL DENTAL PRACTICE
FINANCE
ETHICS
STRESS
CONTINUING EDUCATION
NEW DECISION MAKING MODEL FOR GDPs

4.1. THE ETHICS OF HEALTH CARE.

Ethics is that area of philosophy that is concerned with human values. It can be defined as “The principles of conduct that govern the decision-making and behaviour of an individual or group”, but the unique professional small business environment within which dentists work require further clarification. Vallance [1994] considers that medical ethics is that branch of the philosophy of ethics that deals with moral decisions in health care. It embraces dentistry and is relevant to the GDP because rapid progress in the development and the delivery of available oral health care has necessitated the ethical questioning of certain present-day practices. Professional codes of ethics, such as the Hippocratic Oath with its rules of conduct for physicians, may require augmentation because modern medical technology has created many situations that offer conflicting alternatives. Within medicine, examples of these technologies are kidney dialysis and organ transplants, which might require decisions on their allocation and may depend on consideration of personal and family consequences. Dentistry faces its share of ethical dilemmas, some of these are ensuring that equal standards of oral health are available to all patients while at the same time giving the highest standards of available care to each and every patient. The current manpower and resourcing problems mean that these two issues are frequently brought into direct conflict. This section of chapter 4 investigates the importance of ethics and professionalism in dental practice. Future references to “ethics” embrace the above understanding of the word.

4.1.1 Professions and Professionalism

It is important to understand the meaning of the word “Professional” when addressing the problems facing dentistry and GDPs in particular. The way in which dentists are

expected to perform and behave within their professional arena is crucial to the planning objectives of GDPs. Figure 10 illustrates the layout of this chapter. Vallance [1995] considers that the role of the profession is not to be confused with that of business, and the origin and the nature of the rules and behaviour of the “true” professions differ significantly from those in business. She concludes that there is considerable confusion as to what constitutes a profession, what it means to be "professional" and what the role of ethics is in distinguishing a “profession” from other careers. Part of this confusion arises from the fact that many groups want to be considered professionals. [Groups such as accountants, bankers, financial analysts etc can all be distinguished by virtue of their distinct and skilled tasks and they seek the status that might be described as a "Profession"]. But if these distinctive groups are included as true professions then it negates the special role of true professions in a modern society.

The validity of Benjamin Franklin's saying that "I*f rascals knew the profitability of honesty they would be honest out of rascality*" is perhaps open to question, but it contrasts sharply with the views of the American comedian W C Fields: - "*That if anything is worth having, it's worth cheating for*". These issues focus on the continual talk of profit maximisation within industry. Drucker argues that if these models are applied to the professions, then it feeds perceptions that “Professionals” are breaching their trusted positions if they operate for profit maximisation. Ultimately these professionals will become the targets of negative social criticism.

4.1.2. Characteristics of a Profession

The word profession has been used in such different contexts and so differently defined that the original concept has been confused and watered down to the point of

virtual meaningless. The literature and common usage have recognised certain specific characteristics. These are listed by Behrman [1988] and some of these are:

- A clearly defined field of expertise which distinguishes it from other careers.
- A period of prescribed educational training, which precedes entry.
- A selective process of entry into the profession and restricting its membership to those qualified.

4.1.3. Expertise and Service

Burhman [1988]. considers the basic reason for distinguishing between professionals and non-professionals is that there is a unique quality of knowledge and practice in the professionals, which cannot be acquired by just anyone. This service is one that is required by both the society at large and particular individuals. This service is often needed under conditions of extreme need. Berhman argues that the services of professionals are not sought for the advancement of society but that they are needed to remedy perceived or actual goals, the relief of which will allow society to go forwards. These professional services are not willingly demanded but are required because of the adverse conditions in society or in the affected individual. The benefits of these services will help society in general as well as the needy individual. Professionals are expected by society to contribute to the welfare of the society and should not expect to be recompensed directly or fully. In a sense, society asks from the professionals a contribution of an unspecified amount to be given at an unknown time; the members of the profession are expected never to refuse such socially required contributions.

This is very relevant to dentistry because the services of dentists are frequently required under conditions of duress. That is, the patient is not eager to request the services of the dentists and a patient in acute pain only does so as a means of

redressing an undesirable situation. There is, therefore, often a condition of actual or quasi-duress, which differentiates the services, offered by a professional dentist from those provided by other groups in society

4.1.4. Code of Ethics

The unique expertise in a speciality is also the basis for the societies' willingness to let a profession set its own code of behaviour. Professions are self-regulating and thus set the scope of their role and determine how that role shall be carried out in order to benefit the society in general. These codes of ethics which individual professions set are obviously consonant with societies needs, but the society lets the profession determine what it does. The society is not expected to know precisely what it needs from these professionals. If the service is delivered in a non-profit driven manner, and if the income received depends upon the recipients ability to pay, then Berhman concludes that society is willing to let the profession set its own rules.

4.1.5. Levels of Service

Renson [1992]. considers that in order to maintain the appropriate level of professional expertise then dentists and doctors are supposed to receive continuing education or at least to keep themselves abreast of "latest practice". Their patients are supposed to receive treatment or service of at least equal to "standard operating procedures", "service appropriate to the community", or "the highest levels of current practice". Whatever is decreed appropriate is to be offered to all individuals in similar need thus, no dentist is expected to relate the quality of service to the fee to be received. The same in quality and effort in work is expected for all dental procedures

regardless of the fee. It is this unlinking of quality and price that is not accepted in any other small business activity in the economy.

Landes [1996] considers the effects of private dentistry and explains that dentistry is a profession only because it meets a need within society for its specialist services. Society is changing rapidly and these new divisions within society mean that roughly 40% of the population will continue to enjoy benefits of secure employment and another 40% will belong to a selection of population in jobs where they are on short term contracts. Because of this, Landes believes that private practice is a great threat to the dental profession because there will be an underclass where increasingly dentists do not want to practice. Yet it is amongst this group that dental disease is most prevalent and it is this population that is in most need of dental skills. Landes quotes

a national adult and child dental health surveys which reports that 70% of the burden of dental disease in one northern city where he worked is experienced by 30% of the population. He comments that it is unlikely that this group will be abandoned without some sort of access to oral healthcare by any government of whatever political colour. However, he concedes that most modern healthcare has high costs and that certain treatments are beyond the public purse. This makes it inevitable that a proportion of dental care will be demanded and in many practices, this is often used to subsidise the NHS side of the practice. If NHS dentistry continues to experience under funding then Landes argues that as a profession, dentistry should not turn its back on society. He considers that the dental profession needs to maintain access to some form of dental care for all, even if this means lowering accepted treatments. This level will depend upon what the government is willing to realistically pay for, it maybe no more than anti-biotics and extractions.

4.1.6. Problems in the Dental Profession

Central to this research is the issue that general dental practitioners might no longer be acting as professionals and that they are neither playing the roles, nor being accorded the unique status they should have in society. Renson [1994] considers that one of the problems is the increasing specialisation amongst the members of the profession. As the criteria of education and training have become more and more rigorous, specialised and costly, it has widened the distance between dentists and patients.

Burhman [1988] considers that these conditions might have caused this distancing and it permits the members of the profession to decide to make money, rather than to make a living. He reasons that in the health professions "making money" puts a high emphasis an income generated while "making a living" stresses the relationships of professional to patients that in return, an adequate and socially acceptable living would arise for that given profession.

The “true” professions are supposed to provide excellent service at equitable (not equal) fees or cost to those served, yet the system of payment within NHS dentistry creates conflict because it delivers an equal fee structure irrespective of the individual patient difficulties.

Harper and Row [1974] consider that it is the responsibility of company managers and members or leaders of the professionals to create an atmosphere of integrity, excellence, performance and achievement reflecting ethical standards of behaviour starting at the top and preceding through all levels.

In considering the role ethics plays in the lives of GDPs, it can be seen that the daily routine of the dental professionals is closely allied to the accepted ethical standards of

a profession. It might be argued that these issues are now in a state of flux due to the rapidly changing environmental circumstances. A background understanding of medical ethics is relevant to this research paper and it is important that a wider view of the problems facing dentistry are understood: -

4.1.7. The Question of Equity.

Renson [1996] considers that one of the major issues facing medical/dental ethics is equity. He defines this as fairness and justice and considers that in the UK, equity has always been at the heart of the NHS. However, recent advances in both medicine and dentistry have created changes in perceptions and expectations of patients.
It puts into perspective, the tension between individual right and the public good. Active therapy of many conditions is undeniable beneficial, the condition is readily treated, the outcome is good and the public good is enhanced. Coronary artery by-pass surgery is an example of this. Where it becomes more difficult is whether it is necessary to set limits, if any, to the number of such operations carried out.
It is also clear that some procedures are unproved and are of a research nature. Renson [1996] considers that an advancement of knowledge is a prerequisite for any profession and it is essential that such development continues and that it is appropriately funded. But he agrees that what is equally true is wide dissemination and use of new treatment before evaluation can be a waste of resources and also might cause harm and distress to patients. In between these two extremes of the well-established and effective therapy and the new developments are a wide range of conditions and treatments, which cannot be readily classified. This could be seen in

an extreme form with individual patients demanding expensive therapy whose values are not proven and considered to be limited value. It might be reasoned that in such an instance, the cost of treating one patient with finite resources is taking from another patient and this is perhaps the core of the problem. A fundamental of the politics of the NHS state that this is not the case in the UK but it would seem that GDPs are facing this very problem.

In the real world, availability of resources is now occurring in dentistry. Treatments that are of both questionable benefit and are of proven value exist, but when the individual patient who wishes treatment whatever the cost or small chance of success they will effectively deny treatment of others. Attempts have been made to devise a system in which the fairness of allocation of resources for any particular form of therapy is equitable across the population as a whole. However, the Oregon initiative in which the population was involved in setting medical priorities showed how difficult this could be.

Another ethical dilemma for GDPs is the responsibility of treating all patients. Some dentists are choosing not to treat people with AIDS because of the risk of accidentally contracting the disease. AIDS-infected dentists are also part of the ethical dilemma because of the perceived risk of transmission to patients. Although the risk of dentist -to-patient transmission is believed to be minimal, the question is whether, with proper precautions, dentists with AIDS should continue to treat patients

4.1.8. The Distribution and Value of Health Care.

The principles of medical ethics state that doctors should serve humans with full respect for their dignity and gain the confidence of their patients. Physicians should also honour the rules of their profession and expose those who do not follow the high

standards of conduct. Doyal & Cannell [1993] consider how GDPs now face the ethical dilemma of “Whistle Blowing” by publicly criticising a colleagues’ standard of work in order to protect patients but aat the same time undermine the status of colleagues.

The General Dental Council carefully controls advertising; indeed advertising has only recently been permitted and in a very modest form. This created interest within the professional interest in the moral problems that arise from the effects of advertising. These include problems about how expensive treatments such as cosmetic dentistry crown and bridgework orthodontics should be allocated in an environment of under funding.

Perhaps simple common sense should form the basis of all decisions that GDPs need to make and this point was elegantly made by Thomas Jefferson in his letter to WC Jarvis 28 September 1820. “*I know of no safe depository of the ultimate powers of society but the people themselves, and if they're not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them but to inform their discretion”*.

The issues discussed within this paper serve to exemplify the interplay between theory and practice in the area of ethics. It is of relevance to this study that similar problems are affecting other professions. New fields of ethics, such as bioethics, engineering ethics, and environmental ethics, deal with issues not previously contemplated. They are developing rapidly and are problems that are of concern to all. Abortion and euthanasia are other familiar examples of moral problems in medicine that are becoming moral problems for the wider society.

The future of dentistry is relevant to all GDPs and a recent green paper [HMSO Improving NHS Dentistry, London, HMSO 1994 (publication number CN 2625)].

stimulated many different views and reactions. Many of these views reflected the conflict between personal financial survival for the GDP and the need for the dental profession to remain ethically responsible to the public. The paper reinforced the thought that dentistry is currently facing a profound crisis. In simple terms it stated that there is a growing emphasis on ever more sophisticated forms of treatment for certain groups of people which has to be set against an increased number who never receive even the most basic dental health services.

In general health terms, the last 20 years have seen important advances in the analysis of what medicine and health are all about. One of the most important contributions came from Ivan Illich in his book Medical *Nemesis- the expropriation of health*. Illich was concerned with both the nature and the content of medical/dental practice. He considered that the medical establishment was a major threat to health and in taking his views to the extreme, it was argued that if less medicine was better medicine then perhaps no medicine was the best medicine of all! An example of medical hazards is that in our pollution-conscious society, as recently as 1956, mercury in the form of grey powder was regularly administered to infants who were teething. The aetiological link with Pink's disease took years to establish.

Chadwick, the great social reformer argued in 1842 that the general improvement in UK general health standards was only marginally due to conventional medicine. he thought that improved general health owed much more to improvement in social conditions and the practice of public policies. Because of the increasing doubts as to the benefits of health treatments and occasional disasters, of which thalidomide was the perhaps the most bizarre example, there now seems a greater willingness to evaluate the process of medical care.

Hobdel [1995] describes how in the late seventies, Illich [1976]. supplied politicians of the emerging right with an intellectual basis for the politically motivated dismantlement of nationalised health care programmes. His reasoning legitimised the placing of medicine/dentistry in the market place as a commodity for sale because if health care does have any value then it is in the market place where its value will be determined. The thrust of Illich's argument was that the practice of medicine damaged people in three ways:

- Physically e.g. by inappropriate drug or other therapy.
- Creating in people an addiction for, or dependence on health care.
- By expropriating individual responsibilities for health

His principle solution was to remove health care from medical professions and re-appropriate it to the people themselves. To many, the spectre of a recurrence of Pol Pot's Kampuchea where untrained teenagers carried out major surgery and the resultant destruction of medicine was unacceptable. However, the New Zealand Government's proposal in the mid 80's to completely remove any form of statutory control over the practice of dentistry leaving standards and quality to "free-market forces" was perhaps less evilly intended. However, it was a serious attempt at the type of processes that Illich's solution had proposed.

The events and thinking which lead to the publication of Illich's Medical Nemesis were symptomatic of a disenchantment with modern medicine and others began to think along similar if medically less destructive lines. The World Health Organisation's discussions resulted in the Alma-Ata Conference, which was held in

the USSR in 1978. At this conference, the concept of the Primary Health Care Approach [PHC approach] was formally launched as the strategy for 'Health for all'.

4.1.9. Individual Responsibilities and Ethical Dilemmas

Hobdell [1996] considers that medical care should be part of the quality of life of all peoples irrespective of race, creed, wealth, gender or social status. He acknowledges that seeking health care has always had its attendant risks and that some risks now outweigh the benefits. Renson [1995] considers it a failing that the recent announcement that more than half of Britain's hospitals are refusing treatments that are available on the NHS and is illustrative of some of the changes occurring in health care. Porter [1993] considers that the monetarist policies of the 1980's destroyed any chance that the Primary Health Care approach launched in 1978 at the Alma-Ata Conference could achieve the World Health Organisation's (Health for all) target by the year 2000. He concludes those free-market economies and their economic policies when applied to health care (including dentistry) usually leads to declining levels of health. Renson [1995] also deducts that this has created a sustainable argument against these right wing developments and thus creates the need for strong public health program and this including dentistry.

Hobdell [1995] considers that the problem of redistribution of finite resources is one of a number of issues, which have increased the pressure on dental personnel. He lists three reasons why ethical dilemmas have increased in recent years.

- Health is becoming a consumer preference and is being set in the market place. Thus private dental practitioners might find themselves selling health care as a commodity to the highest bidder rather than offering a service on the basis of need.

- The development in high technology which has raised the cost and availability of treatment. The problem is compounded by the issue of who should be given access in the first place to limited high technology resources and on what basis should people be selected.

- There is the pressure from international and national bodies to implement the PHC approach in respect of providing total popular coverage with basic health care.

He reasons that these dilemmas impact in different ways on different sectors of the health profession. The pressures are different, for example those who work in mainly tertiary levels of education, where much of the high-technology medical care is located, have specialised problems. The pressures felt by a community-based general dental practitioner whose concern is to make primary care available to all are just as great. As these pressures are felt differently by different sectors in the health field it is likely that GDPs will respond in different ways. These responses may therefore be divergent and competitive resulting in further fragmentation or confusion within the services. Hobdell also argues that both health and personal autonomy are fundamental human needs and that neglect of the first can lead to less of the second. Illich has pointed out that health care workers have usurped peoples power over their own health so that when they become sick they feel unable to do anything about it themselves. He reasons that people have come to believe that their health is dependent upon the intervention of trained health personnel and thus they loose their autonomy.

Hobdell considers that the role of health workers is not to create a state of dependency but asks how health workers should deal with ethical dilemmas such as whom and how people should be treated. He comments that without nationally debated and accepted guidelines, health workers face an impossible task because if care be sold as a commodity to the highest bidder rather than a service on the basis of need then on what basis should access to high technology resources be made? He asks how can total population coverage of primary health care are achieved.

Perhaps a deduction is that all health workers, including dentists, must face up to their responsibilities and obligations to the whole of society. Hobdell argues that simply allowing health to be treated as something for the privileged few, as has happened in the past, is inconsistent with the belief that health is a universal human right and a fundamental human right.

4.1.10. Wants and Needs.

Grace [1995] describes a confused attitude that exists towards health promotion in dentistry. Current doctrines are that people should want what dentists advised was best for them, simply because it was what was needed for better oral health. Grace discovered that when he was out of the environment of being a GDP, and working for a commercial company, in the real world, the difference between wants and needs can be the difference between profitability and bankruptcy. He comments that people happily buy what they want and resent paying for what they need. In health behaviour there is a similar dilemma between wants and need. Health professionals identify the need for people to change their behaviour to improve their health; it is apparent that people only change their behaviour long term when they want to, instead of when they need to. Grace considers that despite this awareness of the difference between

want and need there is still a great emphasis in dental health promotion on need as the driving force behind health promotion activities. Organisations (such as the World Health Organisation) focus on health *need*, government initiative use *need* as a yardstick for both funding and activity, studies are carried out based on dental need and so on. Grace considers this focus on need may be historical, traditionally it supports the concept of the health professional as the figure that knows what is best.

It may be because the idea of focusing on satisfying peoples wants rather than needs is a little too commercial in its approach and that it creates the dilemma that dentistry might need to look at this commercial approach to be more open in persuading people to have dental treatment. Grace comments that people involved in marketing and selling tend to stress want rather than need and illustrates this with the observation that we all know the difference between want and need when we are buying, but tend to forget it when we are selling. It is this apparent disability to see the world from another point of view that creates problems for the GDP. Grace comments that many GDPs still think like experts or parental figures who assume patients will simply accept what the dentists says is best for them. If the dental profession can recognise that people buy what they want rather than what they need, then all the profession needs to do is focus on patients' wants. Grace summarises two reasons for this:

- The first relates to the confusion between what dentists think people want and what patients really want. Dentists tend to focus on processes such as crowns, dentures, dental treatment while the patients focus on outcomes, an attractive smile, a healthy mouth, and freedom from dental disease. Patients trust the dentist (the expert) to provide the process and, within limits, patients trust the

professional to do what is right. Patients simply wish to buy the result of dental treatments, not the treatment itself.

- The second reason creates a dilemma for GDPs in that if dentists might find it difficult to try to persuade people to buy their advice and services when they feel patients genuinely do need the advice. The idea that dentists should persuade people to buy what they want might carry the commercial stigma of manipulative unethical selling. He comments that this misconception is that in selling people what they want will imply that the dentist is selling purely for profit rather than to truly help the patient.

Grace thinks this idea could not be more wrong, he comments that accepted marketing strategies focus entirely on the customer regardless of how uncomfortable the organisation might feel about it. He concedes that it would be difficult for GDPs to change their thinking, especially when this thinking has been constantly reinforced over many decades that health promotion has worked using the "need" principal. He concludes that GDPs might have achieved more if they had been open to the idea of selling dental health based on the “want” approach.

4.1.11. Management Issues.

Kalman [1996] considers that it is impossible to change health care without the involvement of the public. This central principle recognises the change in emphasis from *health for all* (passive) to *health by all* (active) is about everyone's involvement in realising the potential for health. This involvement is not only important for the patient or carer but for the taxpayer and the consumer as well because it ensures value for money. He considers that several broad issues need to be examined, i.e. who are the public, how do the public perceive dental health, what are these patients

expectation of dental health and health care, what is the role that the public should take in the determination of health issues. What is the role of the media in health or health care, why should the public even be involved?

Kalman argues that in the first place, the public needs to have ownership of their own health and that of their community if we are to see significant change. Otherwise, any initiative will be seen as a top down rather than bottom up exercise. He reasons that the public is highly sophisticated, that they have enormous experience of life and illness and as citizens, they have a right to be involved. GDPs need the power and experience of the public if they are to change oral health. In addition, decisions about resource allocation, provision of services and the range of services provided all come under this heading. It is true that the public need to be provided with information by professionals upon which to base decisions and make informed choices.

4.1.12. Perceptions of Health

When Emmanuel Cant said, *"We see things not as they are, but as we are"*, he showed enormous insight into the problem of perception. This individual perception relates to the background experience and the perception that each individual has experienced. In some instances, the risk for example, in relation to cigarette smoking may seem so far away that there is no need to change. Short term and long term implications of perception need to be taken into account.

One of the most important issues in determining health is how we perceive health and fitness. Mason [1996]. considers that until recently, expectations of dental health and health care were, in general, small. He comments that patients who were ill had accepted an inevitability about the expectations of both life and death with little available to influence the outcome. Porter [1995] considers that as a result of the developments in medical and dental scientific research many diseases are now

treatable and it certainly true that effective treatment is available for many conditions but Porter recognises a number of factors:

- The importance for the patient for information and choice.
- It may not always be possible to have a clear diagnosis in every case.
- It is for this very reason that the opinions of doctors and dentists may vary; they are not infallible which is why systems of audit, clinical review and professionalism are so important in the case of any particular factor that might have been overlooked.

Dorkins [1995] has fundamentally differing views in that he considers this to be an evolutionary vision that is fundamentally religious. It appeals to the desire for a meta-physical unifying explanation of who man is and how he got here. He considers that we are all survival machines programmed by our genes, we are programmed to transmit them to future generations, he considers that natural selection is no utilitarian recipe for the greater happiness for the greater number. *"The Universe we observe has precisely the properties we should expect, there is no bottom, no design, no purpose, no evil, no good, nothing but blind, pitiless existence, DNA neither knows nor cares, DNA just is and we dance to its music"*.

One factor which is becoming increasingly apparent is the need to monitor long-term consequences of treatment, a treatment or procedure done in good faith and with good results in a particular condition may, many years later result in unforeseen complications. The public will need to recognise that such events can occur in the search for new treatment driven often by public demand, the long-term consequences need to be thought through.

4.2. STRESS

The second of the core issues researched in this chapter relates to stress. It is important because stress is said to play a very significant part in the working lives of dentists. In its extreme form it can result in the condition known as "Burnout" and this has been defined by Osbourne & Croucher [1994] as *"A syndrome of emotional exhaustion depersonalisation and reduced personal accomplishment that can occur amongst individuals who do people work of some kind. It is the response to the chronic emotional strain of dealing extensively with other human beings, particularly when the are troubled or having problems"*. An anonymous paper [1993] in the British Dental Association News reported that dental suicides are twice the national average. It quotes a report from the Office of Population Censuses and Surveys [1993] which disclosed analysis of data relating to men in the 16-64 age group in England and Wales over the period 1979-1990. Veterinary surgeons have the highest rate about three times the national average and dentists are in third place behind pharmacists but ahead of farmers and medical practitioners. Previous surveys have given an overall impression that dentists have been largely contented with their career. A survey by Page & Slack [1968] of dental graduates from the London Hospital showed that only 19% of respondents would not again choose dentistry as a career. Eccles & Powell [1967] in another survey carried out a year earlier in South Wales showed that dentist's level of satisfaction with their profession was age and income related. Some 20 years later, Cooper, Watts & Kelly [1987] undertook a study designed to assess levels of job satisfaction and mental health among a random sample of 484 British dentists. The survey revealed that about a third of the sample were dissatisfied with their job. In addition male dentists showed significantly higher

scores in the mental health index which included anxiety and depression more than in the normative population. The work stressors identified included time and financial pressure, Staff and technology, problems and patient's unfavourable perceptions.

4.2.1. Occupational Health and Stressors in Dentistry.

There are many research papers indicating that dentistry is a stressful occupation: A report by Morris [1992] states that some 65% of GDPs are moving from almost total dependence on the health service earnings towards an increased proportion of private care. He also suggests that stressors created by the environment of NHS dentistry are a major cause. Research by Burke et al [1998] concluded that musculoskeletal and stress related illness [including cardiovascular disease and neurotic symptoms] are the two most important groups of diseases that influence premature retirement.
Dentistry has long been considered a stressful occupation, Hermanson [1972] has reported that emotional illness ranks third in its order of illness frequency among dentists while in the general population it is tenth. Worrall & Cooper [1994] researched executive stress in different industrial sectors of business and reported that the three clear stress drivers in organisations were competitive pressures, the volume of work and the existence of performance targets. They report that the incidence of stress related problems was highest in firms employing between 200 and 999 workers and the incidence of highest stress occurred in areas where employment had declined substantially. This research applies to businesses in general and it becomes clear that when applied to GDPs certain of the criteria do not apply i.e., competitive pressures and the existence of performance targets. Clearly these problems do exist in dentistry but in a very different format to those of salaried employees.

Cooper, Watts & Kelly [1987] in their factor analysis of work stressors for general practitioners identified five major groupings, in order of importance these were:

- Time and scheduling pressures
- Pay related stresses
- Patient's unfavourable perception of dentists
- Staff and technical problems
- Problems dealing with patients.

Cooper and his colleagues identified a triangle of needs, which together exert considerable levels of stress upon the practitioner. These are:

- The needs of the practitioner himself
- The needs of patients.
- The needs of the practice as a whole.

Cooper described the needs of the practice as being hierarchically more important than the needs of the patients and those of the dentist. Nevertheless, both are linked to, and focus around the scheduling pressures, income needs pressures, staffing pressures and quality control pressures. Wilson et al [1998] evaluated current stress issues and compared them with Coopers results of 10 years earlier. They concluded that time pressures were still the major stressors but since 1987 "NHS working constraints" had now become a major new stressor. Waddington [1997] also supports this as one of the major new causes of stress because these working constraints required system changes brought in running a practice and bought uncertainty about future changes.

Freeman, Main & Burke [1995] also considered the practice of dentistry to be the most stressing of all healthcare professions with more dentists in general practice experiencing more physical and mental ill health in comparison with other health

workers. However, many of these perceived occupational stressors maybe within the control of the dentist and it is therefore essential that as many as possible are recognised as stresses and reduced accordingly.

It has been suggested by Bailey [1985] that “Burnout” occurs in all health professions at some time in their professional lives, that the constant repetition of stressful events being a potentiating factor. Dentists may attempt to deny that they experience occupational stress but this in itself may potentiate the onset of burnout leading to gradual loss of interest and decrease in job satisfaction.

Cooper, Cooper & Eaker [1988]. classified potential occupational stressors in accordance with:

- Factors intrinsic to the job.
- Relationships at work (including role ambiguity).
- Lack of career development.

Factors intrinsic to the job: Their work reinforces the idea that the very nature of dental practice has many of the ingredients, which may potentiate occupational stress. The heavy workload, the repetitive natures of the work, fears and anxieties of patients and concerns about payment, may all contribute to stress. Chenise described “Burnout as “A *disease of over commitment, associated with the withdrawal from work in response to excessive stress or dissatisfaction*”. "Work overload” was described as being quantitative (having too much work to do) or qualitative (too difficult for the individual). In the quantitative sense dental occupational stress maybe described as the pressure of time in treating patients. The predominant system of payment, which is fee per item in many third party insurance systems, may increase dentists quantitative work overload and as a result, the tendency to overbook in order to cover practice overheads is high. This in turn may lead to qualitative stress. Given the

difficulties of giving treatment in a decreasing time with a potential for a compromise in working practices and standards,

GDPs who compromise in this way may find difficulty in coping with such onslaughts on their professional integrity. Should deficiencies in treatment be identified, the dentist may react with disappointment and or anger. And such experiences will be perceived as stressful by both the dentist and the patient, furthermore reduction in the time spent with any given patient may prevent the dentist from obtaining the necessary information required to complete treatment effectively and safely. Problems thereby created may become further stresses. Stress may be observed in occupations, which are repetitive, boring and lacking in stimulation. This is known as work underload and if GDPs find their work insufficiently challenging, occupational stress may result. In the UK, concerns over new administration arrangements and decisions on whether to remain practising within the NHS must be considered as additional occupational stresses.

The same authors consider that the working surgery environment is another potential source of occupational stress. Noise from hand pieces with the changes in levels and frequency, the glare of the operating and surgery lights together with smells of materials and disinfectants used within the surgery may constantly stimulate the senses affecting mood and overall mental state. Beyond the immediate environment of the dental chair, the design and layout of the surgery may reduce or exacerbate stress. Communication networks will be influenced by the layout and design of the dental surgery and waiting room and staff areas. Poor ventilation or inadequate temperature control may increase the physical and emotional heat in the surgery.

The nature of dental treatment with its concentration upon fine detail and close work may create eye problems. There may also be concerns relating to use of materials such as mercury or nitrous oxide and anxieties relating to the potential for transmission of infections carried by patients.

4.2.2. Public Perception.

A major stressor that is not immediately related to the needs of the practice is patient's unfavourable perception of dentists and the problems of dealing with patients. At a time when the practitioner himself is abnormally stressed dealing with difficult patients must be very trying and yet in converting to private practice it is likely that relations with patients will require exceptional care. In continuing to sustain a health service practice the many regular attenders will continue to expect the same sympathetic, caring attitude exhibited by their dentist in more normal times and casual attenders who will now be asked to pay a private fee the dentists attitude during the visit will dictate whether the patient returns.

Shugars, Di Matteo,Hays *et al* [1990] indicates that respect from the public in general and patients in particular has been considered an important factor in American dentist’s levels of job satisfaction. However, in the USA where public opinion polls concerning the profession are frequently carried out, dentistry is routinely ranked amongst the most respected. A 1987 Gallop poll by Bury [1988] ranked dentists second in honesty and ethical standards. Just behind pharmacists but ahead of the clergy, physicians, college professors, bankers and lawyers.

An American survey Gerbert, Bernzweig, Bleecker *et al* [1992] examined the questions of public opinion in a national survey. the questionnaire covered three areas.

- Dentists perception of the public image of dentistry.
- The factors that dentists believe have affected that image,
- What dentists think should be done to improve it.

Overall 87% of this large sample believe that the public image of American dentistry is great or good. 1% thought it terrible, although 74% thought it could be improved. As an indirect measure of dentists feelings towards their profession they were asked if they would recommend it as a career to young people. And if they would choose dentistry as a career today only 54% would recommend dentistry as a career and just 50% would choose it again.

The results of these surveys taken recently, 6 years and then 25 years ago reveals that the proportions of respondents who would not again choose dentistry again has risen from less than one fifth in the 1970s to one third and in the most recent figures to a half. If the graph is linear it can be predicted that by the year 2010 it is possible that there would be no dentists who would again choose dentistry as a career. Renson C.R. [1993] comments that in the UK it is clear that job satisfaction has declined markedly and more over that this decline has occurred regardless of the method of remuneration. Renson considers that public respect is a significant component of dentists professional satisfaction and quotes the Gerbert, Bernzweig, Bleecker *et al* [1992] survey because he considers it important to know what factors are affecting its public image.

The following were regarded as harmful to the public's image of the profession.

- Sensationalism in the media - [92% of respondents];
- Reports of a dentist who had transmitted HIV to his patients - [87%];
- Colleagues who advertise their negative HIV status - [81%];
- Concerns over the safety of dental amalgam - [61%];

Another problem area uncovered by this survey was concern about the competence of practices of colleagues. Less than half of American dentists would go to most or all of their colleagues for dental care. Many dentists criticise the work of others and the cut-throat activities some practitioners use to enhance business"

Renson concedes that while these are the results of an American survey many would hold there is a resonance here with regard to British dentistry and indeed for the dental professions in all industrialised nations. Of relevance to this paper is the fact that Renson states the profession must acknowledge the disenchantment that is becoming evident in both the public's mind and amongst practitioners. Further research is required to understand the causes of this GDP distress and distrust. Dentists themselves should take the lead in improving their image because patients perceptions are heavily influenced by their dentist and a positive image should be the aim of all dentists and their staff.

Thomas et al [1997] report on the recent moves by the General Dental Council to remove restrictions on UK dentists using the Title of "Doctor". This brings the UK in line with international convention and was seen by many as an effort to enhance the profession's image in the eyes of the public. Thomas' paper indicates that the public

do have a greater respect for GDPs when they use the title of “Dr”. Pike [1996] reports on the issue and comments that some GDPs might see this as erosion of status as historically Surgeons in the UK are called “Mr”. The research by Thomas also points out the importance of trust in the title of “Dr” and how it will improve the taking of a patient’s medical history and hence raise the quality of patient care.

4.2.3. Infectious Disease Risks and Dangers in Dentistry

Dangers for the dental team vary from concerns relating to the use of potentially toxic materials to fears associated with the treatment of patients who maybe HIV positive and thereby be perceived as potent occupational hazards. Concern about the effectiveness of the practice cross-infection control may also be a potential cause of stress and anxiety. Other potential stresses are the ethical and financial issues associated with the treatment of patients who maybe HIV or Hepatitis B positive. Infection control routines should be universally applied and the cost of such routines has been assessed and found to be considerable, this in turn maybe an additional stress.

In the last several years the level of satisfaction with dentistry as a career has dropped, the profession has been under close scrutiny in connection with the transmission of the HIV virus and as a direct consequence control of infection. A survey by Humphries, Morrison, Horner *et al.* [1993] revealed that over 30% of regular attenders at an industrial clinic thought there was a real risk of contracting HIV at the dentist. 13% of these patients claimed to have heard through the media of somebody to whom this had happened. The worrying aspect of this story is that in spite of its recent publication date the study was completed before reports of the Acer case, which involved a Florida dentist who is suspected of infecting five patients with HIV.

Renewed controversy about the safety of amalgam restorations has aroused critical public attention. Pay dispute in which the media depict the dentist as greedy beyond measure have tended to affect the publics perception of the dentist and it is reasonable to surmise that the perception of risk has increased further since that case was reported in the media.

The dramatic changes in caries [tooth decay] incidence, new materials, new techniques and technology, new pay contracts, increasingly stringent infection control procedures and the encouragement to advertise will arguably have all tended to make a GDPs daily round much more arduous than previously.

4.2.4. Time Scheduling

In order to meet the high capital and operating costs of a dental practice, dentists may spend their professional working time scheduling more and more into less and less time. Cecchini [1985] when investigating potential dentist stresses found that being pressurised for time and time scheduling was ranked highly stressing by dentists participating in a survey. Overbooking and patients failing to keep appointments were other stressors. Cooper et al agreed with these findings, they demonstrated that running behind schedule and constant time pressures ranked third and fourth respectively out of 25 potential stressors by GDP's who were assessed in the UK. Furthermore, the dentist may consider that a full appointment book is necessary and accordingly an appointment missed or time off for holidays or due to sickness will be in effect lost income. The treatment of emergency patients may also act as a source of stress if proper arrangements are not made with reception staff and inviolate time slots made available. The efficient treatment of emergencies is of considerable importance in reducing stress by both establishing good patient relations and at the same time

maintaining an adequate supply of new patients. Time used in completion of paperwork or being on call may result in long working hours was identified as another source of stress.

4.2.5. Fearful Patients

Todd & Lader [1991] report that even 39% of regular attenders listed the single most important barrier to seeking dental care as fear and two thirds of the regular attenders in this survey of around 7,000 agreed with the statement that read "I am nervous of some kinds of dental treatment". A survey by Lindsey, Humphris & Barnby [1987] revealed that a third of the adult patients expressed a preference to be relaxed by medication or be put to sleep before receiving treatment. This sedation process might in itself generate additional anxieties for GDPs since the use of outpatient general anaesthesia is now much more rigorously controlled Potswillow report [1992]. Clearly there are patients who will not respond to a behavioural management approach alone.

In the survey by Cooper, it was found that time and income pressures, strengthened by unfavourable patients perceptions, would foster somatic anxieties which would manifest in the dentist in physical symptoms such as dizziness, sickness, exhaustion and insomnia. Yet to show or even admit to increased levels of anxiety and depression would severely clash with the needs of the practice for control and confidence.

4.2.6. New technology and keeping up to date

Richards & Lawrence [1998] quote that over 2 million biomedical articles are published annually in some 20,000 journals. There are about 500 journals related to dentistry. Broadway & Whitebread [1993] considers that the profession must seek to inform the public at large about the concern that dentists have for the well-being of

their patients but comment that some patients could be severely disadvantaged if they attend UK dentists who never attend for postgraduate education courses. Apathy begets depression and in its extreme form, depression can lead to suicide and the suicide rate amongst dentists is twice the national average.

The authors noted that the need to be informed about new technology, attending meetings and keeping abreast of new clinical techniques were recognised as potential sources of stress for dentists. GDPs needed to make decisions about whether or not to attend postgraduate courses. Attendance may be associated with increased knowledge and intellectual stimulation but also might be perceived as a source of stress, since on return to their practices, GDPs may be required to find time to treat emergency patients who presented at their surgery while they were absent from the practice. Stress maybe generated when patients ask questions obtained from the media on a subject with which the dentist is not familiar. In this respect apart from the most obvious benefits keeping abreast of new developments should be an integral aspect of a dentist's career. The dental surgeon may experience stress when carrying out any given procedure for the first time or when required to carry out an emergency procedure, which is beyond his or her sphere of knowledge. The information of new working regimes such as computerisation of dental records may also initially provide additional stresses for the practising dentist especially if the dentist is inadequately trained for computer operation and its associated technology. The cost of new technology and indeed the purchase of new equipment may add to the financial stress of running a practice.

4.2.7. Relationships at work

Dentists have a wide variety of roles within a dental practice such as administrator, employer, carer and colleague and these may conflict with each other. Blinkhorn

[1992] in his qualitative investigation of the causes of stress in general dental practitioners argued some of the causes of stress could be in working closely with other staff in a general practice can cause many stresses and interpersonal problems. Like other researchers, he commented that Dentistry has a reputation of being a stressful occupation and dentists feel they are under a great deal of job related stress. An article by Lang-Runtz [1984] even claimed that stress in dentistry was killing GDPs. Some might think this an exaggeration but it is again an indication that dentists are greatly concerned with the factors of work, which can create a stress-related threat to their well being.

It can be reasoned that providing dental care is a team effort. The success of the GDP can depend upon the efficiency ancillary staff who in turn can be placed in the stressful position of being both an emotional buffer between the dentist and worried patients.

Blinkhorn considered that stress within a dental practice developed within four main areas: -

- The viability of general practice:- Many GDPs considered their role had changed from that of a professional to that of a business manager. They felt ill-equipped to deal with business instead of dental care and Blinkhorn reports some dentists felt that they were being squeezed into a new role by government which they did not like but felt powerless to prevent. They criticised salaried staff in the community and hospitals who received a good salary even if they undertook little clinical care. Resentment about running a practice efficiently and then being penalised by having their fees reduced was evident in the entire discussion group. The other great concerns of these dentists was the feeling of being trapped, there was little

prospect of promotion and apart from taking on new partners or associates, their working lives were set until retirement.

- The changing nature of disease: - The changing role of the GDP and dental disease created concern at the need to learn new skills.
- The support staff: - Finding adequate help in the surgery was seen as a great problem. Cost constraints meant that some recruits were not of a high standard and prone to upsetting other staff.
- Marketing: - GDPs were interested in the concept of marketing but felt that government money was required to promote dental visiting. They also felt that was a danger of practitioners becoming too competitive and trying to steal colleagues' patients. As a result the study indicated that GDPs thought marketing was necessary at a general population level but unnecessary local level as competition was to be avoided.

Blinkhorn concluded that the main reasons for stress in general dental practice were caused by: -

- The governments payment system.
- A feeling of being under-valued.
- A feeling of being trapped in a practice until retirement and for keeping a practice running smoothly despite the staff.

The main thrust of the discussions seemed to highlight the fact that many dentists were poor managers and did not communicate adequately with their staff. The study signalled unequivocally that general practitioners are confused and distressed about their future, this is reflected to some extent with their dealings with the rest of the team. Blinkhorne also considered the role of the dental team

Stress in the workplace may arise due to unrealistic expectations, diversity of role within the workplace and ill-defined job descriptions. Three factors are relevant:

- Role ambiguity
- Role conflict
- The degree of responsibility for others.

Stress may arise as a result of unrealistic expectations of the scope, extent and responsibilities associated with the work. For the GDP this may occur when a change occurs in status for example, from an assistant to a partner or when for a dental nurse when she becomes a practice manager. Dentists maybe responsible for the practice premises, equipment and materials and are required to generate income to provide salaries for staff and for themselves. Each of these roles places the dentist in a different role and this role diversity maybe a source of stress.

He considers another source of stress to be the actual Working relationships. These relationships exist at various levels ranging from employer/ manager, instructor/trainer to colleague, friend or supporter. The quality of these relationships will be enhanced by effective management and good communication with the dentists at the centre of the communication network. A poor working environment may result in poor communication between members of the team. When aired staff grievances and depreciating relations, ultimately the standard of patient care maybe affected.

4.2.8. Career Developments -

A General Dental Council Recruitment Working Party Report, [1992] reports that dental students enter dental school with the belief that they have entered a profession with high status and job security, However, with changing patterns of dental disease and changes in the predominant method of payment (in the UK) it is possible that the

practising dentist may feel insecure, fears about job security and growing older maybe related to a lack of clearly defined career pathways in general practitioners given that on completion of vocational training (in the UK) a dentists career development may stop, this may lead to low self-esteem, career insecurity and inopportunity may lead to feelings of dissatisfaction career, thereby increasing the likelihood of burnout. Dentistry is unlike the majority of careers in that it is possible to achieve high earnings at a comparatively early age with a possibility of decreased earning potential at a later stage and this of course is another cause of stress. The Freeman study concludes that dentists are faced daily with a series of events, which can act as potentially occupational stresses.

4.2.9. Controlling Stress.

Freeman, Main & Burke [1995] advise that the first step in controlling occupational stress is therefore to recognise the demands made upon the dentist. These demands must be assessed and methods instigated in order to cope or control with them. Inherently associated with the assessment of control of occupational stress are the personality traits. Atkinson, Millar, Kay et al [1991] have researched the concept of personal stress management. They advise that the approaches to personal stress management should be subdivided into physical, behavioural, cognitive and social. The efficacy of relieving tension by relaxation and exercising many seem sensible when the dentist is dealing with a normal stress load, but not so obvious when there is an overlay of added stress during a pay dispute. They advise that working habits, which result in tension, need to be checked and conclude that the relative part to dentistry is that reassessing attitudes and expectations can be helpful. These must be

realistic or even rational because seeing and expecting the worst, i.e. catastrophising is a cognitive habit, which seems common amongst dentists.

Sutherland & Cooper [1990] suggest that dentists may tend to exhibit type A behaviours. They also demonstrated that dental undergraduate training itself might potentiate type A behaviour in male students as well as aiding the establishment of gender specific coping strategies. Type A people are said to be extremely ambitious, high achieving, aggressive, hasty, impatient and those who are type B who can be just as ambitious and successful but who can work with out agitation and remain relaxed and calm.

Jacobs & Pampling [1989] suggested that the delivery of dental care must by its very nature be person centred, whereas the bureaucracy of the National Health Service must be situation-centred. Dentists may therefore experience occupational stress from both person centred and situational centred sources since personal factors require them to take responsibility for the welfare of their patients and staff whereas situational factors influence their responsibilities associated with the administration running of the practice.

It is this situation-centred effect- the socio-economic system of the NHS combined with apparent feelings of relative powerlessness (external locus of control) which contribute to dentists inability to cope and control occupational stress. Therefore dentists experience not only stress as a consequence of other factors but also as a result of administration both at surgery and government levels. The ability of the dentist to control occupational stress will be dependent upon the extent to which they are type A and internal (feeling of being in control) or external locus of control (feeling of a relative powerlessness).

The Freeman study considers that Dentists must attempt to place themselves in a position to evaluate their work situation, both at a person centred as well as a situational centred level, and to appreciate how their work situation affects their perception of occupational stress. It is important that the dentist recognises the vicious circle of occupational stress in which situational centred stress leads to person centred stress leading to a deterioration of situational centred stress and so on. They conclude the paper with the comments that “Dentistry has been identified as being the most stressful of the health professions”.

4.3. EDUCATION

4.3.1. Need for Education

Berhman has stated that one of the primary requirements of any profession is the need to continually update knowledge so that the profession is able to offer the highest levels of service. If we cannot preserve our professional integrity we will certainly let the side down as Dr Johnson wrote "*Integrity without knowledge is weak and useless and knowledge without integrity is dangerous and dreadful"*.

The third and final core need, that of continuing postgraduate education for dentists is investigated in this section.

4.3.2. Continuing Professional Development

Morganstein S [1997] comments that the last 50 years have seen considerable world-wide changes within the dental profession. It has moved from being purely treatment orientated with a very limited range of treatments to a prevention orientated health care profession using a wide range of techniques.

Hershey [1994] states that that both higher education and the dental profession must seek to develop dentists who can combine technical competence with sensitivity to ethical and social concerns. Dental education and overall higher education experience should seek to produce a practitioner who continues to develop as an ethical professional through an on-going learning experience and reflection. In undergraduate education he considers that in order to develop this attitude then it requires an integration of discipline and a consideration of contemporary issues which should provide the context to establish values and ethical behaviour. Hershey comments that as the knowledge explosion continues it splinters higher education into specialities and sub-categories, attention must be given to integrating a campus as a learning

community that promotes an inter-disciplinary focus on societal issues. Higher education faculty serve as models for students in demonstrating the responsibility to relate over areas of professional expertise to broader ethical and social concerns. Carrotte [1995] considers that the very essence of a profession is that it involves an element of learning and that such learning must continue throughout life. GDPs should be a student of dentistry from the first day of dental school until the day they retire from dentistry. Carrotte comments that the old-fashioned belief that dental schools teach undergraduates all that it needed to know for independent practice can no longer be accepted. Seeds for change were sown in the General Dental Council's booklet "*Recommendations concerning the dental curriculum*" [1995]. This stressed that with the steady increase in dental knowledge and the variety and complexity of techniques, it might be impossible for an undergraduate student to become capable of sound independent judgements by the time of primary qualification.

There is now an explosion in medical and dental knowledge and it is accepted that the dental course is becoming increasingly congested. The medical schools and the General Medical Council have accepted this and as a result, major changes are taking place in both the medical curriculum and the methods of teaching and learning. Carrotte argues that the need for continuing professional development will only be accepted if the profession as a whole accepts this new philosophy in which the new graduate is not fully prepared for independent practice. Carrotte considers that it is essential that they should have the skills to continue to learn, this way continuing professional development will be accepted and career pathways formed.

Grace [1995] in another leader, is concerned about the concept of Education or Training. He considers that Training is defined as '*the process of bringing a person*

to an agreed standard of proficiency by practice and instruction' the emphasis is on the practical aspect of the process which is very relevant to dentistry. There can be no doubt that a standard of proficiency must be required before entrusting the care of the public to a dental graduate. But that the use of the word "instruction" places the emphasis on *the expert telling the ignorant what to do.*

He defines education as "T*he act or process of acquiring knowledge"* the emphasis is on the student observing the information and then making sense of it. He observes that information alone is useless. It's value (and its power) comes from the correct application of that information, that requires an understanding of the relevance and use of information in appropriate ways. Grace considers that dental students require both educating and training because of the practical and physical nature of dentistry.

In some ways dental students are *apprentices* when they work in the clinic under the tuition and guidance of the clinical staff. In other ways, they are university graduates, expected to think for themselves and acquire a professional attitude of their own towards their patients, their profession and to community as a whole. Grace poses the question that if the premise is accepted that ongoing education is necessary throughout a dentist's, indeed any professionals, career then is that continuing education available and is it taken up by all general dental practitioners?

Carrotte argues that the most valuable mission of dental education is to develop future practitioners. Broadly stated its basic goals are:

- To educate students to serve their patients and communities well
- Prepare students to continue to grow in skill and knowledge over their lifetime in practice.

He stresses the importance that dental schools should adopt the concept of education rather than training. They should emphasise that dentistry is a profession, which

demands both intellectual and a relevant education in the basic sciences as well as scientifically informed education in clinical care.

The problem in reforming dental education, is not so much achieving consensus on directions but a difficulty in overcoming obstacles to change. The current curriculum is crowded with redundant or marginally useful information giving students too little time to consolidate concepts or to develop critical thinking skills.

He suggests that dental licentiate exams should be re-designed to increase the emphasis on critical thinking and clinically relevant knowledge of systemic disease and physiology, both at graduation and in assessment of continued competency.

Dental education is at the crossroads.

4.3.3. Professional Development

Like many others, Murray [1996]. considers continuing profession development should embrace all aspects of a GDPs professional life. In anticipating the future, they consider changes that are occurring in the pattern of oral disease, concepts of specialists and the delivery of dental care requires a flexible approach to the interface between the end of the undergraduate course and the early years of general professional training. He comments that the idea of two years formal postgraduate training following completion of a first degree course was probably first suggested by the Dental Strategy Review Group [1981] who proposed a two year salaried assistant post in a general dental practice following graduation. A General Dental Council Education Committee document [1987] summarised the reasons for the need for a two year period for a two year training period:-

1]. The changing pattern of dental disease makes it imperative that dental graduates should learn to apply and expand the clinical and technical skills learned during the undergraduate course. There is also a need to assimilate on the job management of personnel skills without undue financial pressure. The objectives of Vocational Training are to enable the dental graduate to work efficiently under reducing supervision, to require the necessary skills (finance, management, personnel) to run a general dental practice to work effectively with other members of the dental scheme. The University Grants Committee Review of Dental Education [1988] supported the need for one years mandatory vocational training immediately and for a two year scheme to be introduced as soon as possible. The main conclusion of the GDC's seminar was the need for common core or general professional training for all dentists and that it should be properly structured to provide a basis for different career pathways including general dental practitioner.

2]. A recognition that pilot two year schemes were being planned in several regions.

3]. Confirmation of the importance of integration between all stages/levels of dental education.

4]. A need for a national body or group to co-ordinate projects.

As a result the following proposals were agreed by the working group.

- That a dental student, on graduation, should be considered fit for an independent practice under the terms of the Dentists Act [1984].
- Pilot studies in the UK and regions of England into a two-year period of general professional training should be encouraged and developed as a matter of urgency.

- The second year of the general professional training must not be seen as *just another year* but must play a part in shaping professional development and continuing education.
- 4. Close links between the deans of dental schools and the present Vocational Training Scheme must be developed further to ensure a good undergraduate GDP interface.
- 5. The general dental practitioner component: this part of the training must last at least one year. Experience in this would probably be most easily achieved in regions with dental hospitals.
- 6. A nation wide body would be desirable to assume the role of overseer, evaluator, and arbitrator of general professional training.
- 7. The GDC would have to satisfy itself that graduate training scheme was of an appropriate standard.

Sources of Postgraduate Education

Bell [1996] categorises the areas that are available for postgraduate development for dental surgeons:

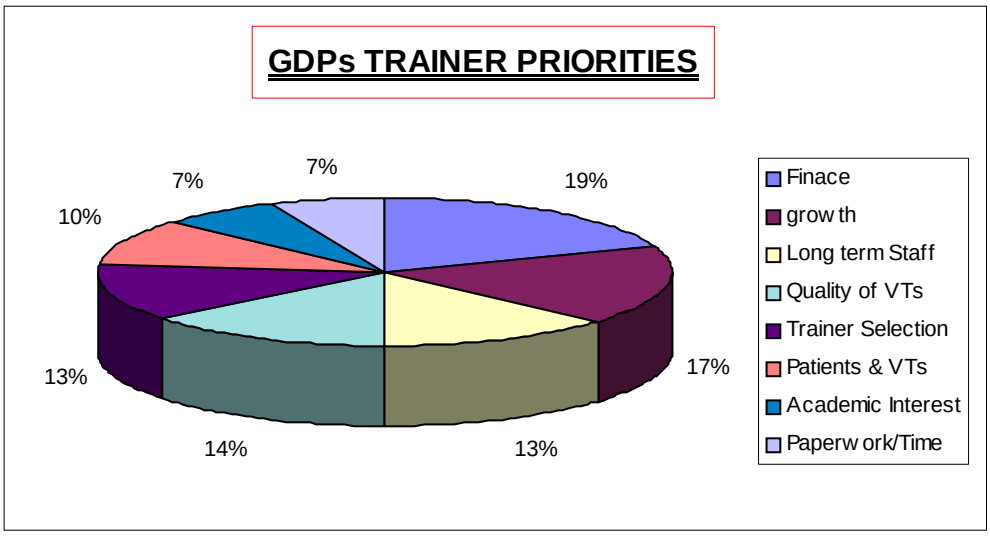
1. Vocational Training, this is now the first and compulsory step in a continuing dental education. Like many others, Bell considers that knowledge has to be updated frequently in order to keep abreast of the rapidly changing dental practice. The Vocational Trainee must complete this year of training in order to have his or her own FHSA number and so be able to set up as a principle under the NHS banner.

GDPs apply to become trainers under this scheme. Applicants are interviewed and the practices inspected. The dentist is then "trained" to ensure a reasonable amount of continuity in both the teaching and social programmes exist. The Trainee undertakes a day release programme of lectures, discussions and visits throughout the academic

years and various projects are marked at the end of the course. This Trainee is salaried throughout this initial year. The Trainer receives the fees generated by the trainee, plus a grant to help compensate for time set aside from a normal practice routine for some individual teaching. At the end of the year the Trainee may stay in an association of that particular practice and hence the place is lost to the vocational training system. The recent extending of the length of the undergraduate course by about six months plus the additional twelve months Vocational Training that, before applying for house surgeons post, they will be re-approaching the hospital system with some experience of the outside world.

Chart 4. Taken from Thomas et al [1996] illustrates the rating of Trainer priorities

Chart 4.



2. Higgs [1993] has argued that dentists spend too much of their time on tasks for which they are either over- or under-trained. Since that great majority of dental care is undertaken by GDPs Higgs believes that the majority of teachers, both at undergraduate and graduate levels should be experienced in general practice. He argues that it is difficult for GDPs to obtain postgraduate qualifications necessary to provide status and authority. Burke [1996] argues that this is no longer the case, extra registerable qualifications are not just the exclusive preserve of the dental hospitals. In 1979 the first of the Membership in General Dental Practice [MGDS] Diplomas were awarded at the Royal College of Surgeons in London, Glasgow and Edinburgh. The MGDS was soon regarded as a highly desirable additional qualification and now over 400 GDPs have the qualification. This trend has continued and the academically less demanding Diploma in General Dental Practice [DGDP] is now available and over 1000 GDPs have this qualification. Its uptake rate with practitioners is high and now the Fellowship in General Dental Practice [FDGP] is available and will be seen to complete an academic career structure for GDPs

These existing Diplomas require the candidate to complete the treatment of clinical cases, attend written and viva voce exams and, in the case of the MGDS allow examiners to visit the practice and examine two of the patients where cases have been submitted as log diaries. As part of these courses attendance of section 63 postgraduate courses is essential and there is a good selection of these postgraduate courses in most regions of the country. The subjects are usually clinical in outlook and can range from evening sessions to whole weekends where subjects can be covered in greater detail.

The use of computers has lead to great strides of computer assisted learning (CAL).

Programmes are available in certain areas, which cover many topics ranging from orthodontics to restorative dentistry.

3. Many regional hospitals have postgraduate centres, which offer a wide range of hands-on courses where participants can have a go at various techniques. Some centres cater exclusively for these forms of courses and postgraduate training for a general dental practitioner. Section 63 courses are now paid for by the FHSA and this is deemed to a minimum a dental surgeon should take on the course of a financial year.

Burke [1996] comments that while continuing education is certainly available the results of a recent survey indicated that approximately 60% of general dental practitioners attended 1-5 courses a year, while 5% attended none.

Bell reinforces this statement by commenting that most postgraduate areas run courses at different times in order to suit most people e.g., weekdays, afternoons or evenings are all catered for. He quotes that around 50% if dentists in practice attend only two sessions a year, this means that there are some who attend a lot more and also that do not even attend one or for that matter collect their postgraduate allowance.

4. There are many privately run courses available throughout the country, but expenses for these are not reimbursed by the local FHSA.

5. An interesting development is that Bristol University has set up its (open learning) courses [now in its seventh year] and a list of subjects such as bridgework, periodontologies, orthodontics, etc. are studied in depth for about one year. The participants attend around three study days of lectures and demonstrations and complete monthly essays which are set and marked by the course tutor is provided

each month for home study. At the end of the course there is a written examination, followed by discretionary viva for borderline cases.

A course credit is given to successful candidates, and those who gain three credits in the space of five years will be awarded the Bristol DPDS registerable Diploma.

6. Further qualifications such, as a M.Sc. are open to general practitioners on a part time basis. There is a wide scope of Diploma courses open to dental surgeons in this way covering topics as diverse as forensic and advanced restorative dentistry.

7. There are the local dental societies such as the BDA, which has regular meetings, mainly over the winter months, these provide a chance to meet colleagues, possibly have a meal and listen to a lecture.

8. Journals - there are many dental journals available each month, this is a frequent method of keeping abreast of the latest product information and clinical techniques. However there is severe criticism, Thomas [1997] comments that many of the articles for general practice are written by academics that have little or no experience of practice. Burke [1996] reports of a survey in which 59% of respondents rated journals as a valuable or very valuable updating media. So, in view of this role of continuing education the number of articles, which relate to clinical techniques and materials, is of great importance. Burke also noted that in certain respected American and UK journals that only 22% of the total number of articles related to clinical techniques of the materials, and of these only a small number were written by general dental practitioners or were practice based. He comments that there therefore appears to be a continuing and substantial need for education on clinical techniques and materials in their role in dental practice.

9. The use of video recorders, there is a large range of tapes available covering everything from special programmes to clinical techniques. Tapes, which cover

several subjects in a magazine type programme, are especially popular as they can be appreciated by all a dental team.

10. Another way to gain information about up and coming trends and techniques is visiting of major dental exhibitions, there are many dental conferences and meetings held all over the world. These are not just scientific meetings where research papers are presented but are very often wide-ranging conferences with top-class speakers.

4.3.4. Changes in dentistry

Changes are occurring in all sectors of dentistry and Renson [1993] and Kay & Blinkhorn [1996] consider that dentists now have an expanding role as an oral physician and this will require GDPs to monitor the effectiveness of both established and new treatments. They consider that clinical practices should become "research laboratories" and GDPs must grasp the opportunity to investigate clinical care.

4.3.5. Patients Needs Compared to Their Wants

The issue of patient wants and patient needs figures prominently in many of the current dental journals. Kay & Blinkhorn [1996] consider that for many years, the need for dental care has been measured by assessing the extent of disease that is present in an individual's mouth. A person is viewed as requiring treatment if their oral tissues are damaged in any way by pathological processes or trauma and epidemiologists, who ultimately speak for the government, only take into account the amount of oral pathology present in the population. Until "Wants" are measured in terms of peoples psychological well being and their ability to function well in society, the full value of dentists as healthcare professionals will continue to be unrecognised. He goes on to continue that patterns of dental treatment suggest that dentist' future

education must involve an understanding of their patient's functional, psycho-social and perceived needs as well as normative measured needs when planning care.

4.3.6. Professions uptake of Postgraduate Education

Broadway & Whitehead [1993]. make the point that because courses are available, it does not necessarily mean that GDPs are attending them and, as a result, becoming better educated. Their study was confined to three regions without dental schools. They expressed disappointment at the results because it indicated that overall less than half the practitioners in the area claimed their allowance. Only two sessions were claimed by 39% and just one session by 10%. they concluded that it is likely that half the dentists in the region concerned did not attend any half or full day courses. Anecdotal evidence from dental tutors and centre managers overwhelmingly indicates the same faces appear over and over again at meetings whereas other dentists are never seen.

The authors ask the question that if this is true then why is it true? Are the courses not thought to be relevant despite the best efforts of the course planners or do the dentists feel they have nothing to gain from continuing education? They conclude that the dental profession is made up of two types of GDP: those who wish to continue education and those that do not.

Mouatt [1991] also investigated the uptake of continuing educational opportunities by GDPs and amongst the reasons for non-attendance were lack of time and loss of earnings whilst attending. Introduction of the postgraduate allowance was intended to counteract this problem but from the results of this survey it would seem that is was not having the hopeful effect on attendance rates.

If the allowance be priced at a level to provide full compensation for practice costs and loss of income the result could be larger numbers at meeting creating additional opportunities not only for formal learning but also for discussions and exchange of ideas between practitioners this must benefit the profession and ultimately the patients however the resulting increase in costs will be considerable.

4.3.7. Conclusions:

The General Dental Council statement [1988] of intent on postgraduate education reinforces the need for this chapter to discuss ethics and education in such detail. This statement takes the view that "Every practitioner, in whatever branch of dentistry he for she works, has an ethical obligation to continue professional education for the duration of practice. Failure to do so is tantamount to abandonment of professional responsibility". This statement perhaps is the very core of the problems facing dentists. The need for continuing education creates the ethical problem of then providing treatment to the higher standards. This in turn will arguable create the very stress that GDPs are said to experience because these demands are placed in changing circumstances and reduced resourcing.

This chapter has investigated some of the very extensive research that has been done into the issues that affect working conditions of GDPs regarding ethics, continuing education and stress in general dental practice. It is concluded that, in isolation, this published research provides a valuable insight into some of the problems GDPs face. However, it appears that no attempt has been made within the existing literature to determine the significance of the complex inter relationships of these issues [finance, ethics, continuing education and stress] upon the working lives of GDPs. It appears

that no theories exist on the overall GDP management strategies of these issues and how they could be integrated into a comprehensive decision making model. Thus, attention is drawn to need for a more scientifically based research into how understanding these combined effects will inform better the decision making strategic processes that are used within the realms of general dental practice.

It thus becomes apparent that the research that will lead to the development of the new decision making model will need to address all the combined issues. The development of the testing hypotheses was thus formulated with the specific intention of giving a new and much broader investigation into dentists' objectives.

4.4. The development of the five hypotheses.

The aim of this research is the development of a decision making model that will be of value to dentists in helping them decide how to practice their dentistry. In order to develop this model, it has been necessary to evaluate the existing literature and it is now necessary to undertake new research in order to develop the proposed model. The development of the new model requires scientific evidence to enable each stage of the model construction to have credibility and value. Five hypotheses have been developed, these are investigated and tested and the findings are used to develop the research.

In justifying the value of these hypotheses it is accepted that GDPs and their working environment have many similarities with the workings of "Small business" but there are several unique issues, which serve to differentiate dentistry from the average small business. The literature searches indicated that strategic management is mostly absent or, at best, little used within the framework of small business. The literature is

useful in explaining this situation in that much of the research has a common thread to its findings, namely the two reasons

- There is no suitable model for small business in general, and certainly no known model which is of use for the unique situation of GDPs within the framework of small business.
- If accepted that GDPs are indeed a type of "Small business" it might be reasonable to assume that GDPs would face the problems of all managers within small business. These are lack of time, resources, strategic knowledge etc. but realistically GDPs are educated to high tertiary levels, are generally well researched and have ample access to strategic management information.

This creates a confusing situation. It means other reasons must be sought for the random, sporadic and uneven scenario, which exists through out the UK. in the current changes to private based dentistry. There needs to be a deeper investigation into this apparent lack of planning which has occurred. The literature searches indicated the awareness of a general changing of both external and internal issues as they affect GDPs but these general changes could equally affect many small businesses. It is not until a more specific area was investigated that the "Professional" issues became apparent as a major source of conflict and discontentment. If the object of the research is to be achieved and a function strategic decision making model developed for GDPs the following hypotheses need to be satisfied. Each of the following problems were investigated and tested through the in depth interviews, the questionnaires and the analysis.

The Five Hypotheses:

- **First Hypothesis:** - It is fundamental to this research that changes in GDPs working environment *are actually occurring* and that GDPs are reducing their commitment to NHS based dentistry and increasing developing the private sector of the clinical practice.

- **Second Hypothesis:** Income is important to GDPs and is significant to GDPs in the way in which they *practice their clinical* dentistry.

- **Third Hypothesis:** The quality of the clinical dentistry, which GDPs are able to perform, is significant to GDPs in the way in which they *practice their clinical* dentistry.

- **Fourth Hypothesis:** The ethical and professional status of dentistry is significant to GDPs in the way in which they *practice their clinical* dentistry.

- **Fifth Hypothesis:** The amount of "Stress" experienced in a GDPs working life is significant to GDPs in the way in which they *practice their clinical* dentistry.

CHAPTER 5: Pilot schemes to test the hypotheses.

5.1. Introduction to methodology.

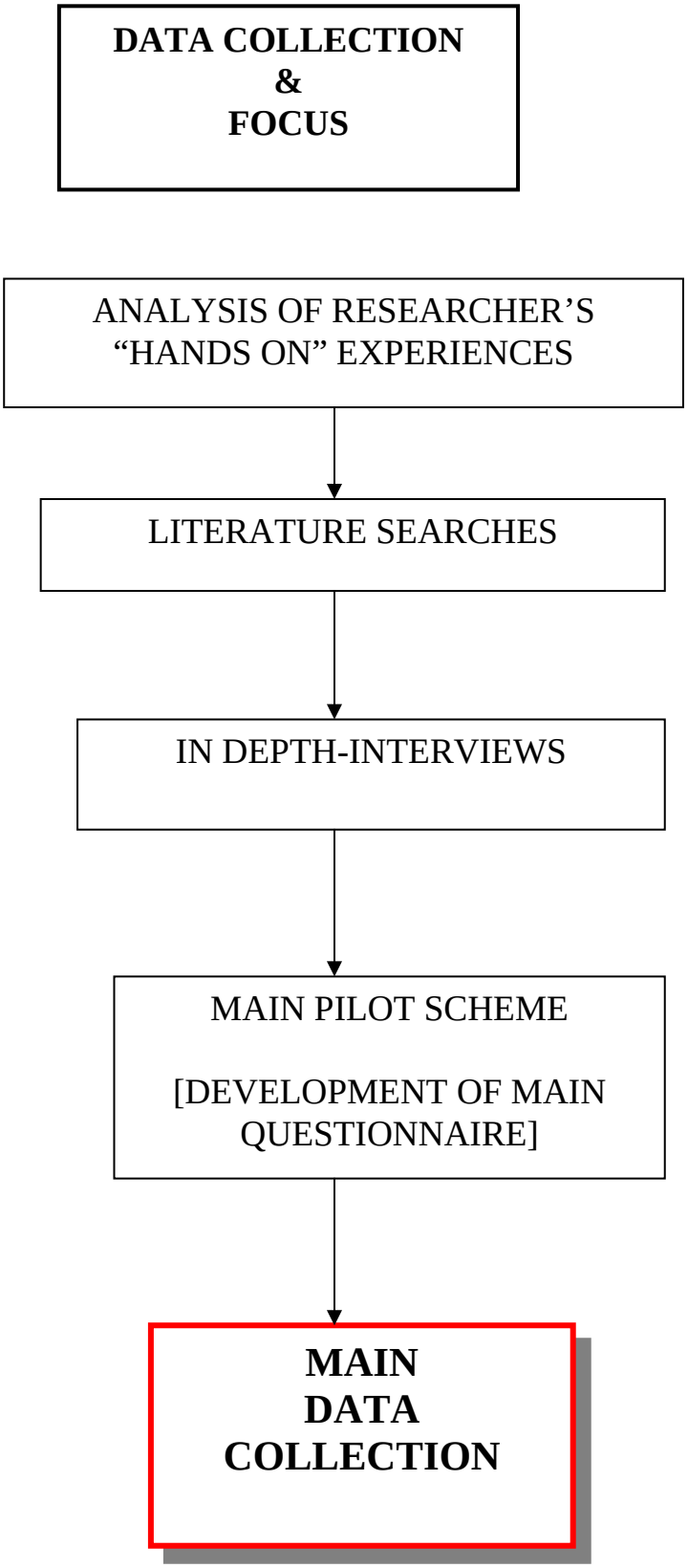
Chapter 5 marks the introduction of the search for completely new information; it supplies the background information into the methodologies used. It is the precursor to the development of the main questionnaire in which, the views of some 750 West Midlands' GDPs were sought. It was from the information obtained from the preliminary in-depth interviews and the pilot questionnaire that the final questionnaire was refined and modified to give a precise and valid area of investigation.
Figure 11 illustrates the systematic development of the research.

There are four main stages.

- The first stage explains the reasons and the theory behind the design of the research methodology and attempts to justify the reasons for the methods used.
- The second part develops the understanding of the researcher's "hands-on" experience in general dental practice. This stage is relevant since it served as a starting point from which to develop the research.
- The third part describes the use of the in-depth interview technique, the results obtained and an analysis of these results.
- The final part of the chapter develops the pilot scheme for the mailed questionnaire. The results are presented and then analysed and discussed with relevance to the development of the final questionnaire.

The exploratory research was conducted within the general dental practitioner's sector and it was aimed to gain an understanding of the dentist's views and reactions to changes within their personal environment. All data emerging from these initial stages were combined and a subsequent analysis was undertaken. This led to identifying those issues which requiring further investigation. This sees the start of a rigorous examination of the hypotheses that were formulated in chapter 4.

FIGURE 11


DATA COLLECTION
&
FOCUS
ANALYSIS OF RESEARCHER'S
"HANDS ON" EXPERIENCES
LITERATURE SEARCHES
IN DEPTH-INTERVIEWS
MAIN PILOT SCHEME
[DEVELOPMENT OF MAIN
QUESTIONNAIRE]
MAIN
DATA
COLLECTION

5.2. Theory and concept.

Research problems and procedures

The purpose of this chapter is to explain the methodology and the research technologies that have been used in analysing the data collected in this study. Figure 11 gives a summary of the overall plan. Before designing and implementing the research program, it was essential to understand the theory and availability of investigative tools and methods.

Jankowicz [1994] considers that planning empirical work requires five stages:

- To state the thesis that is to be established.
- To list the major issues involved.
- To formulate a data gathering approach that will help establish or negate the thesis.
- Decide on an appropriate method.
- Make use of the available techniques to gather this data.

A wide variety of research techniques are available with which to collect and analyse data. The research methodologies vary according to the type of data that has to be collected in order to solve the research problem. There are three major collection methodologies and these may have many variations. These major data collection methodologies are the survey, the secondary, and the experimental research.

- The survey research is the systematic collection of information directly from responses. Depending on the medium that is used for data collection, the survey can be personal interviews, mailed questionnaires, telephoned questionnaires, or via computerised questionnaires.

- The secondary research is the use of data that has already been collected and analysed for the purposes other than helping to solve the specific research problem. This data can be internal (gathered from inside a firm or organisation), or external (gathered by sources outside an organisation). This internal method was utilised when evaluating both the exploratory quantitative and qualitative data as part of the researchers “hands on” experiences.
- The experimental research involves a manipulation of one or more variables in such way that its affect on one or more variables can be measured. This experimental research will usually take place in a laboratory or a natural situation and is unlikely to be of value in this research project.

A further design requirement gave thought to the measurement techniques used. This is because awareness must be given to the nature of the information that is being collected, for example, the population that was being investigated and both the complexity and volume of data being collected. The research that was conducted in this project used both qualitative and quantitative methods. The merits of each method are discussed later but the in depth interviews gave an initial qualitative research which generated an understanding of the situation and thus identified the questions that needed to be asked in order to validate the hypotheses. The quantitative aspect of this research then sought to obtain data to answer these questions by using both descriptive and frequency analysis.

It was considered important that a systematic and orderly approach was made in the data collection. As with many investigations it is considered sensible to start with the

general and Table 11 illustrates the systematic method of narrowing down of requirements, the initial hands on experience revealed general areas that needed investigation and the subsequent literature searches revealed gaps in the available knowledge.

The practicalities of the design meant that the research would focus upon GDPs since this is the population that is involved in the thesis. The second part of the data collection involved semi structured individual interviews. These were conducted to develop ideas on and provide insights into the current worries and key issues for these GDPs. The key aspects of behaviour and attitudes were identified during these discussions. The interviews also allowed individuals to highlight or add to any issues involved in the research.

The survey methodologies

In order to collect this data in a measurable form, four basic measurement techniques that are used in research were considered:

- Observation: This is the direct examination of the behaviour or the results of the behaviour of the "hands on" experiences of the researcher and of other associated dentists.
- In-Depth interviews and projective techniques: these are designed to gather information when respondents are either unable or unwilling to provide a response to direct questioning.
- The questionnaire: This is a specifically designed instrument, which asks the respondent directly for information for example that concerning needs, and beliefs, level of knowledge and attitudes.

- Attitude scales: this creates a degree of flexibility within the questionnaire and is a more formalised instrument for eliciting scales of intensity of thought.

In-depth interviews.

Richardson, Dohrenwend and Klein. [1965] explain how the interview is a research technique comprising a variety of differing methods, which can be classified according to the degree of structuring. Interview techniques were employed in this study to collect exploratory data. Specifically, the semi-structured method was utilised. This method was selected for it's flexibility as it allowed any new and unexpected information arising during the interviews to be easily accommodated. The initial use of a more structured technique, (e.g. mail survey), would have enabled a larger sample over a wider geographical area to be covered but at this stage, the researcher had not established which factors were to be measured. Exploratory thoughts and ideas first required clarifying before structured methods could be employed.

Structured versus un-structured interviews.

Walker [1985] explains how a range of interview techniques is available and how they can be located along a continuum ranging from totally structured to totally unstructured. He argues that no interview is totally unstructured as the interviewer appraises the meaning of emerging data and uses the resulting insights to phrase questions. This will further develop the implications of these data obtained. The selection between the structured or un-structured interviews was the starting point of selection between the available methodologies. Unstructured interviews that are used for exploratory studies have the approach of asking "why, what or how". This is a useful technique when the research is unsure exactly what it is trying to measure and

in this situation, a structured interview would be unable to identify what is being looked for. At the other end of the spectrum, a structured interview that asks questions such as "how much, how often, by whom" is more appropriate to producing quantitative data. The unstructured interviews can be used to investigate the reasons why a phenomenon takes place, but the structured interviews are used to measure the variables that are relative to this phenomenon. If the variables of the phenomenon are unknown, the unstructured interviews are more likely to produce the type of data that is needed to investigate how the variables are related to the problem under investigation.

The interview technique does, however, have weaknesses. One of the major drawbacks associated with the technique is that of the interviewer bias and Chisnall [1986] identified five sources of bias: -

1. The interviewers voice inflection that can imply approval or disapproval.
2. Disdain for the respondent - this may be shown by trying to adopt a superior intellectual attitude.
3. The interviewer suggesting or implying an answer to an open-ended question.
4. Conversation about the researcher's own problems
5. The interviewers voluntary expression of his opinion about the problems and the questions involved.

Questionnaires: The Mail Surveys

This technique allows information to be collected from a large number of individuals spread over a wider geographical area. In this research, the use of the mail survey was used to give a more focused investigation of the findings from the qualitative research. The final mailed questionnaire in its highly structured form and was developed after a generalised exploratory pilot questionnaire.

This development was considered vital to the research since it satisfied the following requirements:

- The methods being used were appropriate.
- The techniques were also appropriate.
- The sampling size and the population being used were appropriate.
- The data would be collected in such a way that it could be analysed in an informative way.
- The conclusions from this data will be able to be presented in a way, which is suitable to this research.

The question of design and elicitation was considered, and a ranked format was chosen because this enabled a graded response to be recorded. This was done using a Likert's method which provided a powerful and precise attitude measurement. This final survey was designed to produced some quantitative data which would be open to rigorous statistical analysis

Dillman [1978] considered that major criticisms of the mail survey lies with the response rate. This area has been well researched by and he concludes that response rates can be improved and that better co-operation can be achieved by:

- Trying in some way to reward respondents e.g. with letter of personal introduction and thanking the respondent.
- The respondent's rewards and benefits will out weigh the costs of time and effort in completing the questionnaire. e.g. explain some of the benefits of the research
- Ensure that the respondents can trust your use of the data. e.g. by promising anonymity.

Whilst numerous studies report high response rate in excess of 90% e.g. Scott [1961], Oliver [1986] reports that it is equally possible for surveys to achieve lower rates of 10%. Rugg-Gunn [1997] considers that consumer mail surveys concerned with clinical dental research frequently receive low response levels and that questions the validity of some data. It was hoped that there would be a specific “GDP bonding” when the researcher, who is a GDP himself, conducted a survey into issues that affect general dental practitioners.

Jobber [1986] considers that the level of response would be related to the respondent’s interest in the subject matter and, as the researcher is a dentist there was the potential for this GDP “bonding” and it was hoped that a high response rate would be elicited. Efforts must be made to minimise non-responses because it must be understood that response rates are a potential source of bias and a low rate may destroy the randomness of the sample and thereby the representativeness and the reliability of the survey. Appendix 2 contains the introductory letter which indicates how the mail survey technique was employed in both the pilot questionnaire and then in the full questionnaire of the data collection.

5.3. Researcher's "Hands-on" findings.

The investigations into the decision-making processes used by dentists involve a new area of research. It has been explained in chapter 4 how individual subjects have been researched in isolation but there is little research into the combined effects of all these issues upon the individual dentist. As there was no other appropriate studies to use a guideline for the thesis, the initial investigation had to start with an evaluation of the researcher's experiences over 30 years as a GDP in general practice. It is accepted that these issues and concerns might be biased and personal to the researcher. However, it was considered probable that these very issues, if raising questions within the researcher's large totally NHS dental practice [and small business] would, to some degree, be of interest to other GDPs. It was also understood that other GDPs might experience concerns that were totally new to the researcher. It was with these parameters in mind that the next stage set out to determine the issues that were of importance to GDPs in strategic planning.

From these "Hands on" experiences, an internal qualitative investigation revealed that some of the issues, which required further investigation, were: -

- An awareness of the changes taking place within the environment of general dental practice.
- Financial issues: This sector relates to the problems of most small business. It involves issues such as the raising of capital, and the financing of expansion and development, future government policy, pension schemes. There is the risk of leaving guaranteed NHS payment to develop a more risky but possibly more rewarding private practice.

- Postgraduate Education: The need to attend postgraduate course as the profession accepts an ongoing professional commitment. This creates involves the application of new found knowledge and the highly significant Vocational Training Scheme which stresses the importance that the profession attaches to ongoing education.
- Ethics: This involves issues such as private dentistry creating selectivity and with it, the denial to some patients of basic dental care. There is also the possible failure to produce clinical work of the highest standards due to resourcing difficulties within the NHS
- Stress and burnout: The levels of anxiety appear to be significantly on the increase for many GDPs. It might be noted that complaints of work related stress symptoms are manifest among many of the other professions and this scenario is not unique to health care workers within primary dental care. These issues require investigation in order to determine the main stressors for GDPs.
- Strategic planning: The need to develop a more structured strategic approach to dental practice as a small business.

5.4. Development of the In-depth interviews.

These in-depth interviews were designed to validate the five hypotheses listed at the end of chapter 4. These hypotheses had been developed from both the "Hands on" experiences and the literature searches. These in-depth and semi structured interviews were carefully prepared with due consideration given to the following issues:

Criteria for interview selection:

Purposive sampling was used to conduct personal in-depth interviews with general dental practitioners. All the population to be investigated needed to be GDPs and the criteria for selecting these GDPs were:

- They worked as GDPs in primary dental care in any GDP capacity. This meant that they could be working as:
- Principal: This group of the population would be practice owners, employing staff and having their own Dental Practice Board number. They might be sole practitioners or work within a group practice. These principals might employ other dentists to work for them in the form of associates, assistants or vocational trainees
- Associate: This group of GDPs were self-employed and effectively sub contract to a principal. The principal supplies a source of patients, equipment, staff, materials, management facilities and the associate simply does the clinical work and is paid by keeping a predetermined percentage of gross income
- Assistant: This group worked for a principal but usually are on a fixed salary which is independent of their gross output. It is a relatively uncommon form of employment in general dental practice and most non-principals' work as associates.

- Vocational Trainees: This group was included because it is now becoming a significant part of GDP manpower. While they are new graduates their gross output might be small compared with the average GDP but they are the GDPs of the future and their views are significant.
- It was essential that those invited to attend should be able to attend for interview at a mutually convenient time for both parties.
- There was no selection on the grounds of age or gender.
- The purpose of the interviews was explained and the respondents needed to understand the reason for the research.
- It was not a pre requisite that the GDPs interviewed should be working within the West Midlands area.
- Private and mixed private/NHS GDPs were included in the population. GDPs who had retired from NHS dentistry but continued to practice in a private capacity while taking their NHS pension were included.
- The *Key Informant Technique* of Tremblay [1982] in which the people selected might be considered to have a reasonable knowledge of the issues being discussed was used. In inviting these GDPs for interview, a purposive sampling technique was used. i.e. these people were selected for interview because the researcher considered that at this stage the views of established GDPs would yield most information.
- All of those interviewed were known personally by the researcher.

The design of this stage of the research was to use in depth interviews rather than questionnaires because the sample size was very small [18] and it was considered that

in depth interviews would yield more valid information at this stage. All the interviews were semi-structured in nature and used broad, open-ended questions; each interview lasted between 40-50 minutes and most took place at the home of the respondent.

Using a semi-structured plan, the issues of the problems facing general dental practitioners were investigated. These involved the general areas of the hypotheses, namely that *some actual changes* were being experienced by GDPs. These changes could affect decisions that individual GDP had to make on finances, education, change within the profession, decision-making processes and stress. Each interviewee produced their own views and opinions regarding the issues created, they were allowed to talk freely about the areas that worried them, although at times it was necessary to guide them back onto relevant issues.

It was understood that the skills and the ability of a skilled interviewer to handle complex and sensitive issues are important, poorly skilled interviewers could produce biased results that would be unacceptable for use. A sensitive approach was adopted in order to define and identify the general nature of the research problem and its variables. As the researcher was the sole interviewer, the times required for these interviews was dependent upon the number of respondents and their availability for interview. In certain circumstances, such as with low numbers of respondents, then more time spent on these personal interviewers might yield better information than say in a mail survey.

It was accepted that there would always be some degree of bias, intended or unintended, due to the necessary high level of interaction between interviewee and interviewer. The potential for this bias was understood and every effort was made to minimalise any personal influence on the GDPs being interviewed. All the interviews

were recorded on tape and Appendix 1 gives a transcribed illustration of two of these interviews. Within the in-depth interviews conducted in this study, conversation on the subject area focused upon the interviewee's views and opinions. Inputs from the interviewer were restricted, where possible, to simple probes asking the interviewee to expand on statements. A list of topics to help in this semi structured interviews was used to give some consistency and to enable easier analysis of the date. The main comments from each respondent for each section was recorded.

Results

Results of findings from the in depth interviews. -

Hypothesis 1

- The interviews validated the hypotheses that changes such as moves to the private sector, the development of new technology, consumerism were occurring: Some of the survey had been very proactive in developing their private work, they undertook over 75% of work under private contract. They were actually *active* in de registering NHS patients and refused to take on NHS patients of any type. They were trying to develop this private work in order to eliminate any NHS commitment. At the other end of the continuum, Some GDPs refused to develop any private work and intended to continue to support the NHS dentistry. However, most of the group was developing their private work when the opportunity arose and thought that their commitment to NHS dentistry would slowly decline. This supported the first hypotheses.

Hypothesis 2

- Finance: All those surveyed were concerned about the erosion of their net NHS income. Some of those that had taken the private route did not expect to earn any more as a private dentist but considered the quality of practice life would be improved. Others specifically wanted private practices because they considered that it would enhance their net income. All those surveyed agreed that there could be an increased financial risk in starting a private practice because there was

competition from other dentists and the idea of giving up a smaller but less risky NHS income had been considered by nearly everybody.

- The significance of the good NHS pension scheme had been considered by some and the cost of giving this up was seen as a deterrent to leaving NHS dentistry. Some GDPs did have alternate sources of income; these could be from alternate investments such as property, inheritances or private pension schemes. The development of private insurance schemes such as Denplan and BUPA encouraged some of the group to develop private work; they thought that tried and tested systems made the transition easier. Many of the group thought that a private practice involved a greater capital outlay since private patients expected much better facilities and decor and personal services when attending for treatment. The site of the surgery premises was an influence because those GDPs who operated in less affluent areas expressed concern at their patients ability to pay private fees.

Hypothesis 3

- Education/Quality of work. The literature studies indicated that many of the current dental research papers and journals are concerned with the postgraduate training of both experienced and newly qualified GDPs. However, the needs of the newly qualified and the needs of updating experienced GDPs are very different. An interesting interface between these differences occurs within the Vocational Training Scheme. Practitioners who are Trainers are seen as having “Best Practice” standards and are required to have a proven interest in post graduate education meet the inexperienced new graduates. It was considered that this group of Trainers would make a useful contribution in the understanding of the way in which GDPs think about their practice developments. It is understood that this

purposefully selected group would perhaps be atypical in their outlook but a responsive enthusiastic group should make a valid and an important contribution to this research. Many of the groups expressed their support for the Vocational Training Scheme [This is discussed in depth in the next section] and it was seen as being a model on which to further develop postgraduate training. They were unanimous in agreeing that there is a need for ongoing education for all GDPs in all types of practice. Concern was expressed by most that the NHS did not allow time to produce ideal standards, everybody felt stressed and under pressure in trying to achieve good standards for NHS rates of pay.

Hypothesis 4

- Ethics: many of the group expressed concern at about what they perceived as a declining public image, i.e. the de-professionalisation of Dentistry. The thought that many poorer patients might be unable to get treatment. [A basic human right] was considered by most but not all as an issue for concern. The view that the NHS caused a lowering of clinical standards was of concern to all and the difficulties experienced in utilising new techniques on NHS rates was also noted. Those who intended to continue to work within the NHS expressed concern that those who were becoming private dentists were simply profit driven and did not deserve a professional status but were becoming tradesmen.

Hypothesis 5

- Stress/burnout; This made up the final part of the semi structured interviews. There were many stressors and these affected different numbers of those surveyed in different ways. A frequent stressor was that of financial worry, ongoing capital

investment in staff, training, modern equipment etc all gave cause for concern. Time was a common stressor with most thinking that the ergonomics of NHS dentistry preclude doing high quality work in the time available. Others felt that their personal career needs were not being fulfilled and they were concerned about the future of NHS dentistry but conceded that many people in the western world experienced similar worries. Other significant stressors were the increase in bureaucracy and paper work and increased patient demands. The Patients Charter and the fact that Health Authorities had set up complaints procedures seemed to be almost encouraging patients to make formal complaints which were often seen as totally unjustifiable but very worrying for the GDP concerned. The introduction of "out of hours" care for dental patients was seen as a great problem to many. The need to be available at all times to treat acute dental problems was stressing, Most GDPs had operated an emergency system but the formalising of this arrangement was unpopular. Stress was often experienced by problems with staff; this could take the form of staff being unreliable, disinterested, and too expensive or not up to doing the job. Some difficult demanding patients compounded this scenario; they could create friction between the GDP and the ancillary staff.

The validity of the five hypotheses was seen to be supported by these in depth interviews. This area of the research gave credibility to the need for a more rigorous investigation into their validity and the procedural methods, which at this stage had to be developed further, required refinement to give verification of the validity of the findings. It was considered that a pilot study should be developed to resolve any doubts about these hypotheses before the final questionnaire was developed.

5.5. The Pilot Questionnaire

It was consider appropriate that in order to test the final main questionnaire; a general pilot questionnaire should be developed.

In designing this pilot survey, the issues of the population and numbers to be surveyed were considered: An appropriate reliable and easily accessible group of GDPs was available in the form of a research study group based at Birmingham University Dental School. This was a group of 35 GDPs from all sectors of general dental practice who had an interest in clinical dental research and who had combined to share this interest.

The selection criteria were the same as for those used for the in-depth interviews namely those working within primary dental care as GDPs. However, it was accepted that in having this special interest in research then this group might not be representative of the population being investigated. It was considered that these GDPs were proactive in developing their post graduate education and that as a consequence, they would probably be helpful and enthusiastic in completing the questionnaire. It was also expected that they could also add further comments as to the design and ease of completion of the questionnaire.

This survey was designed to examine all five of the hypotheses. A descriptive analysis of each section was planned, this incorporated collecting data on the independent variable such as age and gender and then an in depth investigation of the dependent variables of finance, quality, ethics and stress.

It was accepted that the small numbers involved in the pilot survey would supply restricted data but comments on design and layout would be useful.

An introductory letter was sent with the questionnaire. This was designed to encourage a rapport between the researcher and the survey correspondents. It was considered that the potential gains for GDPs from this research could be a good incentive. An attempt was made to reinforce the idea that the researcher was a committed “hands on” GDP who was one of “them” and was somebody who could have an empathy with their everyday problems. Academic research questionnaires are frequently received by GDPs and there has historically been a divide between the “dry fingered “ academics who are sometimes considered to be out of touch with reality by some primary care GDPs. This relationship as a fellow GDP was cultivated and enhanced. The contents of the letter were carefully thought out and the experience in designing this introductory letter was monitored. A pre paid, self addressed envelope was include in with each questionnaire.

The response rate would be a useful guide to what might be expected from the main questionnaire but again it was taken into account that the response rate from this dedicated group would probably be higher than in the main survey. A Likert type questionnaire was used to gather graded information.

In designing the questionnaire the need to validate the five hypotheses was considered most relevant. The questionnaire was divided into five main parts. The first part was intended to analyse the independent variable within the survey. It was intended to give a profile of the respondents to ensure that the survey matched the needs of the research and to further define categories of respondents. It was also decided to include

a question to determine the proportions of NHS/private dentistry that was being undertaken and to verify that some GDPs were indeed changing their working patterns.

Fixed Variables.

- Amount of private work: This was intended as a guide to determine that some GDPs were doing, in varying degrees, some private dentistry
- Development of private dentistry: This was to determine those, if any, who were proactive in developing private work. This question was important since it supported the first hypotheses that there was an actual change going on in the supply and availability of primary dental health care under the NHS.
- Age: This was divided into three categories the younger group age under 35 the middle aged i.e. 35 to 45 years of age and the older group those over 45. It was important that these groups be separated since historically the career pathway for GDPs has been to start as an associate i.e. work under another GDP and then mature to a principal [perhaps employing other GDPs] before entering the final age group. They are often long standing GDPs although there are a number of mature students entering dentistry and this section could have the largest proportion of principals and group practice owners with well established practices and large patient bases. This very group might also have other sources of income, which have been developed coincidentally to dentistry e.g. property investments and others might have taken advantage of the governments early retirement from NHS dentistry. This allowed these GDPs to continue to practice as private dentists while taking a NHS pension. It has been estimated that over 1000 GDPs took advantage of this scheme i.e. some 6% of GDPs in primary dental care.

- Gender; Dentistry is now an equal opportunities profession. The numbers of females entering the profession is increasing and the current intake into dental school is exactly equal between male and female intake. It is estimated that by the year 2200 there will be equality in the gender distribution of GDPs. The current position is that some 26% of GDPs are female and these are predominant in the younger age group. It was considered relevant that these differences within the survey group should be well defined since it was a rapidly changing part of the manpower source and female dentists might well have objectives to male GDPs.
- Status i.e. principal or associate; this was considered another important part of the independent variable. GDPs tend to progress from associate/assistant status to becoming principals but it is apparent that older GDPs and in increasing numbers are selling their practices and returning to associate status. Another reason for creating this group is that it was considered likely that the principals would be in the older age group, have higher net earnings and would have an established group of loyal and regular patients who might be more receptive to changes towards private dentistry. Associates are still developing their personal patient base and arguable might be much more financially vulnerable to attempts to change from NHS to private dentistry.
- Employs other GDPs i.e. associates; this group was considered important since it inferred that the principal would be well established with a large patient base. These GDPs might well be on a higher income and, with the cushion of other dentists to cover fixed practice costs, they would be better placed to skim off the private patients within the practice.
- Married; this group was included since the financial gamble of leaving the NHS for private dentistry might involve a more conservative approach. Conversely it

might be argued that this group who would have mortgages and perhaps children might be under even greater financial pressure to increase their income by developing their private sector.

- Alternative income: This group, who have been discussed in the above paragraphs, might well be free from the need to have a relatively secure NHS income and thus were free to pursue and develop an interest in private dentistry.

Design of sector containing dependent variables

The in-depth interviews had established that these dependent variable consisted of four sections; each section was designed to test one of the remaining four hypotheses.

1]. Finance section: This appeared to be of major concern for many GDPs and a further detailed breakdown of the areas of concern was devised. These were defined as:

- NHS income is declining; A common view put forwards by practitioners is that the NHS rate of pay per item of service is declining simply by not keeping place with inflation. It would appear to be a widespread comment that those GDPs who continue in full time NHS dentistry are suffering from reduced net income.
- Private dentists have higher net earnings; another common view is that because private dentists charge higher fees per item then net earnings are greater. Some private dentists respond that if they charge twice the fees they only see half the number of patients and with higher overheads their net income is no greater.
- As a private dentist my earning would increase; this question was meant to determine the views of these NHS dentists who might be tempted to develop their private work to enhance their income.

- Guaranteed NHS benefits such as the pension scheme encourage me to stay in the NHS; there is a good indexed linked pension for NHS GDPs, this is partly funded by government contributions and is a guaranteed income in old age. Those private practitioners must make personal provisions for their pensions, which must be paid out of earned income. Clearly this group could be seriously disadvantaged in the long term if they are unable to take advantage of compound growth by contributions made during the early parts of their professional life.
- The influence of what other dentists do in changing to private practice. It might be of relevance that GDPs would be influenced by peer pressure. Monopolies of private GDPs seem to occur in specific areas where all the GDPs only accept private patients. This has the effect of removing all competition from NHS GDPs who would undercut costs of private practitioners. It might equally be argued that a greatly increased workload forced upon those GDPs who remain as NHS dentists might encourage the transition to private care.
- Private insurance schemes; The availability of insurance schemes such as Denplan and BUPA could be significant in encourage GDPs to leave the NHS and join these private schemes. The administrative burden, marketing and collection of fees are undertaken by these companies and are supposedly significant in easing the move to the private sector.

2]. Quality section.

One of the obligations of any profession is that individuals always try to give the highest standards of service. For the dental profession this entails giving patients the best quality of treatment within the framework within which each GDP operates.

- My private work is of a better quality than my NHS work; a frequently cited reason that GDPs use in persuading patients to switch to private care is that the quality of the dental treatment and the materials used will be of a superior standard. It was considered relevant to this research to determine the actual views of GDPs with regard to these supposed enhanced standards.
- The Vocational Training Scheme is an essential part of the plans to improve standards in GDP; it has previously been explained how the profession has made it compulsory for new graduates to undertake a year postgraduate training before being accepted onto the dental register. This is a new an innovative idea by the dental profession to raise the standards of new graduates being allowed into dentistry.
- Postgraduate education; another widely held view amongst NHS GDPs is that even when they make the effort to learn new skills what is learnt on postgraduate courses is often difficult to actually implement. This is because the restrictive environment of the NHS and its fee structures make it difficult for GDPs to be innovative and change their tried and tested systems.
- The significance of the quality of clinical work produced on NHS rates of pay; this question was designed to compliment the question that private dentistry produces better standards of dentistry. It is a hotly contested issue and while GDPs are unlikely to admit to doing poor quality work, it is considered relevant that they might concede the fact that it is possible to do better work i.e. raise their personal work standards under a private contract.

3]. Ethics Section.

One of the fundamental issues of the National Health Service is that it gives equality of care to all individuals. It is a basic requirement especially amongst the health care professions that the availability of health care is a basic human right. The cost of private dental care might be an effective method of denying poorer sectors of society health care. Hypotheses no 3 need to be tested to determine these GDP's views on their ethical responsibilities as caring professionals.

- Human Rights [Alma Malta Conference 1978]. Do GDPs think that the moves to private dentistry will effectively deny many of the poor the basic human right of dental [health] care and is this of concern to the moral conscience of individual GDPs?
- Profitability; the concept that many GDPs develop private practices simply to enhance their income and irrespective of their obligations to patients needs to be determined. Do some GDPs think that private dentistry is just profit driven?
- Public perception of private dentistry; Do GDPs thing that the move to private dentistry will lower the publics respect for dentistry as a profession? Instead of being seen as a method of improving standards of health care for the public, are some GDPs concerned that private dentistry will erode their status and create a deskilling effect resulting in GDPs being seen as tradesmen and no longer as professionals?
- Professional status; The previous question inquires to GDPs feelings of patient responses to private dentistry. This question complements the previous on by trying to determine if Dentistry is already loosing its image as a respected profession.

4]. Stress Section.

Much of the current literature in dental journals focuses upon the manifestations perceived or realised of increasing stress in dentists who work in primary dental care. To validate hypotheses no 4 it is important to determine if GDPs themselves are experiencing increasing levels of stress and what might be the main stressors in their working lives.

- Working in the NHS is getting increasingly stressful; If GDPs are experiencing increased stress in their working lives do these GDPs attribute these additional stressors to current changes within the NHS.
- Demanding private patients are a cause of stress; If patients are paying more for their health care, do GDPs feel that these patients expect higher standards and are going to be more of a threat to the GDP?
- Financial stress; It might be argued that the NHS pay scales cause financial stress and worries for GDPs. The fees paid by the NHS for dental treatments are being eroded and the cash flow problems experienced by GDPs can be seen as being an additional stressor. Do GDPs experience this concern?
- Time Stress; working to tight schedules on difficult and often nervous patients creates a stressful situation. The time available to work in the NHS is considered by some to be inadequate. Do many GDPs agree with this?
- Standards of work and stress; It might be considered by some that the speed with which NHS GDPs have to work might result in lower standards being achieved. It is unlikely that GDPs will admit to doing poor quality work but if the scenario arose where it became unavoidable then would GDPs find this to be an n additional stressor?

- Staff; NHS GDPs work as the head of a small team. Quality control and competent team workers are an integral [part of a successful team. It might be considered that NHS ancillary workers are not well paid and as a result the best quality of staff cannot be recruited to work within a GDP's team. Do these NHS rates of pay mean GDPs cannot afford good quality staff and this in turn might create a stressful working environment?
- Patients Charter; The introduction of The Patients charter gives considerable legal rights to NHS patients and makes GDPs increasingly accountable for the treatments and management of patients. It is perceived by some within the dental profession that patients are getting ever more demanding and at the same time this new charter actually encourages patients to make more complaints.
- Future of NHS dentistry; This is frequently called into question and while successive governments appear to make reassuring statements about their total commitment to NHS dentistry, this does not seem to be borne out in practice. GDPs need to evaluate the likely long-term outcome of committing themselves to a system that might be withdrawn in the future. This uncertainty is arguably a reason for a proactive change to private dentistry. GDPs might prefer this change rather than wait and worry about the uncertainty of future government plans for NHS Dentistry.

5.6 Results

Table 1

PILOT FREQUENCIES

		"% return
Sent out	35	
Valid Replies	27	**77.14**
Spoiled	0	
Duplicates	0	
Total	27	
Number corrected	0	

V1.1 Private work	**"%**
Less 25%	59.30
More 75%	7.40
Mixed	33.30
V1.2 Actively developing my private work	
Yes	44.4
No	55.6
V1.3 Age	
23-35	37
36-45	40.7
45+	22.2
V1.4 Gender.	
Male	92.6
Female	7.4
V1.5 I am a principal	
Yes	70.4
No	29.6
V1.7 I employ associates	
Yes	40.7
No	59.3
V1.8 Married	
Yes	88.9
No	11.1
V1.9 Alternative Income e.g. pension	
Yes	22.2
No	77.8

The 71% return from the small pilot questionnaire yielded useful data. However this data was treated with caution since the survey involved a small population of GDPs and these selected GDPs could be seen as having a biased interest in general practice.

59% of the respondents did less than 25% of their work under private contract while only 7% did more than 75%.

Concomitant with this 44% were actively trying to develop their private sector while 56% did not try.

The age groups corresponded with national norms

Gender returns indicated a female response was only 7% compared with the national average of 26%.

70% of the respondents were principals and 41% of the return employed other dentists.

90% of the respondents were married and 22% had alternate sources of income.

In view of the small sample taken it was decided that in further analysis the only functional results would be from a descriptive analysis of the views of the combined population. Thus each of the dependent variables was analyses and the results printed and discussed below.

FINANCES

Table 2. Distribution of the 27 respondents according to the statement:
My NHS income is declining.

1

	Nos	%	All Who	%
St Agree	6	22		
Agree	9	33	Agree	55
No View	2	7		
Disagree	9	33		
St Disagree	1	3	Disagree	36

Much of the media attention regarding dentistry is focused upon GDPs changing to private dentistry because they cannot function effectively at NHS rates of pay. 22% of the response indicated very strongly that they felt this was the case

Table 3. Distribution of the 27 respondents according to the statement:
Private dentists have higher net incomes.

	Nos	%	All Who	%
St Agree	5	18		
Agree	6	22	Agree	40
No View	9	33		
Disagree	6	22		
St Disagree	1	3	Disagree	25

40% of respondents thought that those working in private dentistry had higher net earnings with 18% strongly agreeing. Only 3% strongly disagreed with this statement.

Table 4. Distribution of the 27 respondents according to the statement:
As a private dentist, would I expect to earn the same as I would under the NHS.

	Nos	%	All Who	%
St Agree	1	3		
Agree	12	44	Agree	47
No View	4	14		
Disagree	6	22		
St Disagree	4	14	Disagree	36

This supports question 2 since only 3% strongly agree this to be the case.

Table 5. Distribution of the 27 respondents according to the statement:
Do NHS benefits such as pensions and guaranteed payments help keep me in the NHS?

	Nos	%	All Who	%
St Agree	1	3		
Agree	16	59	Agree	62
No View	2	7		
Disagree	6	22		
St Disagree	2	7	Disagree	29

This is a significant result and it supports the hypotheses No 1. GDPs are concerned about their long-term finances and over double the survey thing NHS pensions are important in some degree to those who disagree.

Table 6 Distribution of the 27 respondents according to the statement:
Other dentists converting to private dentistry influence my remaining in the NHS

	Nos	%	All Who	%
St Agree	0	0		
Agree	6	22	Agree	**22**
No View	4	14		
Disagree	11	40		
St Disagree	6	22	Disagree	62

Only 22% of GDPs are influenced by the fact that other GDPs might develop private practices this conflicts with the result that 62% or nearly 3 times as many GDPs claim not to be influenced by peer activity. This would seem to conflict with what seems to actually occur in practice.

Table 7. Distribution of the 27 respondents according to the statement:
Insurance schemes such as Denplan encourage Dentists to give up the NHS.

	Nos	%	All Who	%
St Agree	2	7		
Agree	6	22	Agree	**29**
No View	5	18		
Disagree	11	40		
St Disagree	3	11	Disagree	51

Only 29% of GDPs thought that the availability of these insurance schemes actually help and encourage them to set up in private practice. The findings from section one do appear to help validate the second hypotheses. GDPs are aware about changing financial environment but the widespread belief that private dentistry is the goal to higher incomes is not proven as many GDPs appear to think that private dentists do not earn higher net incomes than they do. However, it is significant that a core of GDPs agree strongly that private dentistry is a route to higher income.

STANDARDS

Table 8. Distribution of the 27 respondents according to the statement:
My private work is of a much better standard than my NHS work.

	Nos	%	All Who	%
St Agree	4	14		
Agree	12	44	Agree	58
No View	4	14		
Disagree	6	22		
St Disagree	1	3	Disagree	25

58% agree that the quality of their private work is better than the NHS work they do.

This is double the number who disagree with the statement

Table 9. Distribution of the 27 respondents according to the statement:
I think the Vocational Training Scheme is essential to improve standards.

	Nos	%	All Who	%
St Agree	7	25		
Agree	9	33	Agree	**58**
No View	7	25		
Disagree	4	14		
St Disagree	0	0	Disagree	14

A very significant 58 % agree that the raising of standards via the now compulsory

Vocational Training Scheme is essential to help raise standards of clinical care. this is

four times the number of GDPs who disagree with the statement.

Table 10. Distribution of the 27 respondents according to the statement:
What I learn on postgraduate courses is difficult to implement on the NHS.

	Nos	%	All Who	%
St Agree	6	22		
Agree	11	40	Agree	**62**
No View	1	3		
Disagree	9	33		
St Disagree	0	0	Disagree	33

62% of the survey agreed that to actually put into practice what was learnt at postgraduate courses was difficult to implement. 22% of the survey agreed strongly and this indicates GDPs are concerned about patients actually getting direct benefits from improved procedures.

Table 11. Distribution of the 27 respondents according to the statement:
I cannot do good quality work at NHS rates of pay.

	Nos	%	All Who	%
St Agree	8	29		
Agree	5	18	Agree	47
No View	2	7		
Disagree	11	40		
St Disagree	1	3	Disagree	43

It is unlikely that GDPs are going to admit to doing bad clinical work either as NHS or private dentists. The 29% of GDPs who strongly agree with this statement might be the private practitioners

The summary of this section on the importance of standards again indicates that GDPs are generally very concerned about the standards of clinical dental care that they are able to give to their patients. These findings help validate the third hypotheses.

ETHICS

Table 12. Distribution of the 27 respondents according to the statement:
I think private dentistry denies the poor the basic human right to dental care.

	Nos	%	All Who	%
St Agree	3	11		
Agree	12	44	Agree	57
No View	5	18		
Disagree	5	18		
St Disagree	2	7	Disagree	25

The results indicate that 57% of GDPs are concerned [over double the numbers who are not concerned] that the moves to private dentistry will deprive the poorer sectors of society from available dental treatment

Table 13. Distribution of the 27 respondents according to the statement:
I think private dentistry is profit driven.

	Nos	%	All Who	%
St Agree	0	0		
Agree	12	44	Agree	**44**
No View	4	14		
Disagree	6	22		
St Disagree	5	18	Disagree	40

There is an approximate equal division in that those generally agreeing that private dentistry is profit driven equate with this who disagree. It is of interest that 18% of those surveyed strongly disagreed with this statement.

Table 14. Distribution of the 27 respondents according to the statement:
I think private dentistry raises the standards of dental care.

	Nos	%	All Who	%
St Agree	6	22		
Agree	9	33	Agree	55
No View	3	11		
Disagree	9	33		
St Disagree	0	0	Disagree	33

55% of GDPs surveyed thought that private dentistry did generally raise the standards of dental care. It is of interest that not one GDP disagreed strongly with this statement.

Table 15. Distribution of the 27 respondents according to the statement:
I think that, in the eyes of the public, private dentistry erodes the status of the Dental profession.

	Nos	%	All Who	%
St Agree	0	0		
Agree	7	25	Agree	**25**
No View	6	22		
Disagree	7	25		
St Disagree	7	25	Disagree	50

Not one GDP strongly agreed with this statement while 50% [nearly double the numbers who did agree] disagreed with the statement.

Table 16. Distribution of the 27 respondents according to the statement:
I think dentistry is loosing its professional image.

	Nos	%	All Who	%
St Agree	1	3		
Agree	8	29	Agree	**32**
No View	0	0		
Disagree	14	51		
St Disagree	4	14	Disagree	65

65% of GDP were not concerned that these moves to the private sector were undermining the public's perception in dentistry as a profession. However 32% of those surveyed express some agreement that this might be the case.

The findings in this section supported the fourth hypothesis. Generally the findings indicated that GDPs were concerned for the well being of their patients. GDPs were aware of changes that were taking place.

STRESS

Table 17. Distribution of the 27 respondents according to the statement:
Working in the NHS is increasingly stressful.

	Nos	%	All Who	%
St Agree	15	55		
Agree	8	29	Agree	**84**
No View	0	0		
Disagree	4	14		
St Disagree	0	0	Disagree	14

A total of 84 % of those surveyed found in general terms that NHS dentistry was stressful to them. No GDPs strongly disagreed with this statement.

Table 18. Distribution of the 27 respondents according to the statement:
I think that most private patients are demanding and, as a result, stress inducing.

	Nos	%	All Who	%
St Agree	4	14		
Agree	12	44	Agree	58
No View	3	11		
Disagree	7	25		
St Disagree	1	3	Disagree	28

58% of GDPs agreed that private patients were probably more demanding that NHS patients and this in itself created a stressful scenario for the GDP. Less than half this number disagrees with the statement.

Table 19. Distribution of the 27 respondents according to the statement:
Working in the NHS causes financial stress.

	Nos	%	All Who	%
St Agree	8	29		
Agree	11	40	Agree	**69**
No View	2	7		
Disagree	5	18		
St Disagree	1	3	Disagree	21

69% of the GDPs agreed that financial aspects of working in the NHS caused stress. This data supports those in section one. Only 3% of the survey experienced no financial worries from working in the NHS.

Table 20. Distribution of the 27 respondents according to the statement:
Pressures of time in the NHS cause me stress.

	Nos	%	All Who	%
St Agree	15	55		
Agree	9	33	Agree	**88**
No View	0	0		
Disagree	3	11		
St Disagree	0	0	Disagree	11

A very significant 88% experienced some degree of stress while working under the time constrains created by NHS dentistry. This was over 8 times the number who experienced time-related stress and significantly no GDP strongly disagrees with the above statement

Table 21. Distribution of the 27 respondents according to the statement:
Lowered standards in the NHS cause me stress.

	Nos	%	All Who	%
St Agree	9	33		
Agree	8	29	Agree	**62**
No View	6	22		
Disagree	4	14		
St Disagree	0	0	Disagree	14

33% of those GDPs expressed strong agreement that stress was induced because they worked in the NHS environment, which caused them to work to lower standards. It was significant that no GDPs strongly disagreed with this statement.

Table 22. Distribution of the 27 respondents according to the statement:
I get stress because working in the NHS means I cannot afford good quality staff?

	Nos	%	All Who	%
St Agree	5	18		
Agree	2	7	Agree	**25**
No View	11	40		
Disagree	8	29		
St Disagree	1	3	Disagree	32

The quality of available ancillary staff was only a stress to 25% of the survey, although 18% agreed strongly that the issue caused them stress 32% disagreed with the statement.

Table 23. Distribution of the 27 respondents according to the statement:
NHS patients are getting more demanding and are encouraged to complain more.

	Nos	%		%
St Agree	8	29		
Agree	13	48	Agree	**76**
No View	4	14		
Disagree	2	7		
St Disagree	0	0	Disagree	7

It is significant that 76% of the GDPs surveyed found increase stress because patients did complain more about GDPs and also seemed to be encouraged to make these complaints.

Table 24. Distribution of the 27 respondents according to the statement:
I worry about the uncertainty about the future of the NHS.

	Nos	%	All Who	%
St Agree	8	29		
Agree	8	29	Agree	58
No View	3	11		
Disagree	7	25		
St Disagree	1	3	Disagree	28

Uncertainty about the political control and the inclusion of comprehensive dentistry within the National Health Service is a cause of stress for 58% of GDPs. 29% agreed strongly with this statement while only 3% strongly disagreed.

This section indicates that GDPs admit to feelings of stress in their working routine. These stresses are from a variety of sources but the presence of “stress” within the GDP sector is demonstrated and this helps validate hypothesis number 5.

Findings.

The structured stages of the development of the research plan enabled a general, almost vague start with the “hands on” analysis to become increasingly focused by the time the in-depth interviews were conducted. As the results became more significant and applicable to the area of research, then the pilot questionnaire was developed. The results from this section of the research allowed the development and the refinement of the main questionnaire. The results of each stage of this research have been recorded and briefly discussed and the development and implementation of this the next stage of the research is expanded in the next chapter.

CHAPTER 6: Design of the questionnaire to test the hypotheses.

This chapter concerns the main data collection process, namely the main questionnaire.

This main questionnaire has been developed from the literature searches, the in-depth interviews and the pilot questionnaire. The chapter has been divided into three parts and it consists of a description the design, the distribution and then an analysis of the results of the data collected from the main questionnaire.

6.1. Background.

The shortcomings of the data collected from the pilot scheme were listed in the previous chapter; namely the population might be considered to be unrepresentative of the West Midlands GDPs, the population was small and the respondents belonged to a group of GDPs who where interested in research. The gender distribution was also atypical. However, many of the comments in the returns were of considerable value, a degree of ambiguity was revealed in certain questions and these were modified to remove or at least reduce any uncertainty. In general the comments were constructive and helpful and confidence was gained that the research was indeed valid. these GDPs gave informed opinions and they thought the outcomes should provide useful data for future reference

The pilot data was evaluated using descriptive and cross frequency analysis, The sample was small but it yielded over three hundred tables using SPSS. It was decided that in view of the complexity and the small returns that the validity of much of this pilot data was questionable. In order to obtain useful information, a general analysis of the whole population of the pilot scheme being grouped together was used. This

gave more general data rather than specific cross-referencing such as gender Vs influence of private insurance schemes. This produced some valuable data in that it reinforced the relevance of the statements being made.

This complexity of the results had a significant effect upon the design of the main questionnaire. It was decided that an extra, more general section should be incorporated. Thus section 2 was added to the list of statements and this was specifically developed to determine the population's rather general views on income, standards, ethics and professionalism, and finally stress as they affected the *clinical working patterns* of GDPs. This gave a broad base line from which to develop and thus identify more specific questions within these four core issues.

The limited range of independent variables was considered adequate. Additional information such as ethnicity, rural, inner city, suburban or part time working environments were considered. It was decided that this initial pilot range had tested the independent variables and they were considered ideal for the nature of the research being conducted.

6.2. Development of Main Questionnaire

The following issues were considered as being relevant to the final design:

Population surveyed

The practicalities of the design needed to involve the decision on which population to sample. This population needed to include a predetermined sample size for random route sampling and the availability of this group for involvement. The Birmingham University Dental School mailing list for distribution of information on postgraduate dental courses e.g. Section 63 courses, consists of some 1400 GDPs. The area to which this mail is sent in the Midlands ranges from Stoke on Trent in the north, Coventry in the south, Hereford, Worcester and Warwickshire in the west and East Birmingham area in the east.

The accurate density and distribution of these GDPs within these areas was not known. However, it is accepted that the greatest concentrations of GDPs are in the urban areas where population density is at its greatest. The areas chosen for the survey involved both rural and urban areas in an effort to give an equal bias to the questionnaire.

The expected return rates were difficult to predict. It was considered that if a 20% return of the total West Midland GDP population could be obtained, then this would satisfy the requirements of sufficient numbers to make the returns and hence the data of value. It was considered that a return sample of 280 GDPs i.e. 20% of the total number of West Midland GDPs who were involved with the delivery of primary dental care would be acceptable. This would give a reasonable response on which to question the hypotheses and develop the model. Thus, it was calculated that the survey required a 40% response rate. This figure is considered acceptable within

business questionnaires but Rugg-Gunn [1997] stated that he considers returns of 60% to be required for the accurate evaluation of questionnaires. The pilot study gave a very high return rate of 77%. This was perhaps to be expected because the survey consisted of GDPs who had an interest in postgraduate education. In view of the pilot response rate it was estimated that the main questionnaire would reasonably be expected to yield a response of about half of this pilot survey. This was based on responses to the pilot schemes and so a total of 750 GDPs were sent the questionnaires with the hope that 300 would reply. The selected areas of 1] Birmingham. 2] Wolverhampton & Walsall. 3] Hereford and Worcester Health Authorities contained a listed 749 registered NHS GDPs. These consisted of a complete cross section of practitioners, which satisfied the selection criteria listed in the pilot scheme survey.

Population Numbers & Selection

The samples selected were as follows: -

The Area Dental Advisers of the 1] Birmingham. 2] Wolverhampton & Walsall. 3] Hereford and Worcester. Health Authorities were individually telephoned with a personal introduction explaining the nature and purpose of the research. The need to contact the appropriate numbers of the GDP population in order to generate sufficient response to produce adequate data was explained. The GDPs in these selected areas constituted some 50% of the West Midlands GDP population and it was predicted that this would give the required returns. The areas selected were also in the regions where the researcher might be known to the survey group, it was considered that this would enhance the return rates. All GDPs on these dental lists were sent a questionnaire

There were GDPs who worked within these Health Authorities areas who practised under totally private contracts and thus were not on any NHS list. It was essential that this population of the GDPs be included in the survey since their views would be central to the research. This problem was overcome by contacting the major commercial laboratories in the selected areas and obtaining a list of these totally private GDPs. It must be stated that this list might be incomplete but when the proprietors of these laboratories had the purpose of the research explained to them and the assured confidentiality of the questionnaire explained to them they appeared to be willing to supply the data.

Thus the exact population to be surveyed was selected. The questionnaire was sent to 749 GDPs. There was a selected cross section of GDPs consisting of both genders, all ages, private or NHS GDPs. These GDPs could be Vocational Trainees, associates, assistants, principals, group practices or GDPs who employed other dentists.

6.3. The Questionnaire.

The mail surveys of this study were designed with this objective thus followed recommended best practice for example:

1. Covering letter design: Dillman et al [1984] considered the advisability of sending a covering letter with a personal salutation to each of the population surveyed. In order to get the support of the GDPs stress was laid on the fact that the researcher was a "Hands on" GDP who had spent his entire working life running a totally NHS practice. This was stressed in the hope of gaining empathy with peer GDPs who historically might be regarded as being suspicious of academic intention. It was hoped that the researcher might be seen as somebody who understood the problems of running a dental practice. The fact that the research was self-funded was also explained and a plea was made for a response because the whole success or failure of the project depended upon individual responses. An incentive for the respondents was that the results of this research could be of potential value in understanding GDP's needs and it was explained that GDPs might benefit in future government negotiations. The letter was individually signed by the researcher in order to create the impression of a personal contact.

2. Ease of completion: The speed and ease with which the questionnaire could be completed was emphasised and confidentiality was assured (see cover letters in appendix). The list of and format of the questions is seen in the enclosed sample questionnaire in appendix 2. The introductory information made it clear who should answer the questionnaire and it also made clear where the answers should be placed. This simply involved putting a line in the appropriate square. This avoided ambiguity in the responses and also facilitated the collection of results

3. Mailing: As advised by Dillman et al [1984], all the letters were mailed to the respondents with a first class stamp. It was hoped that this would emphasise the importance of the survey and hopefully encourage a prompt reply A cut off date was stated in the covering letter and a request made that “if possible” could returns be made by that date.

4. Returns: A first class stamped envelope, addressed to the researcher’s home, was enclosed with each questionnaire Whitley [1985]. This was done in an effort to encourage replies, it was felt that this would create a sense of “importance” and would encourage responses The envelopes were large and able to accommodate, without folding, the A4 size questionnaire. This was important since the returns were to be electronically scanned and then automatically transcribed to SPSS. Folded or damaged returns would be difficult to use. Valid but incorrect returns e.g. with ticks instead of lines in the boxes were carefully corrected. All the returns were carefully stored at the researcher’s home until the final cut off date had passed.

5. Design: Advise was taken from the University of Wolverhampton University regarding the format required for electronic scanning. The questionnaire design involved the questions being laid out spaciously in vertical answer format, Dillman et al [1984]. Boxes were obvious for the respondents to simply mark for their chosen preference.

6. Identity: The name of the researcher was used on the introductory letter and on the questionnaire thus identifying the researchers independent of any sponsored group.

7. Ambiguity: The questionnaires were re-tested to resolve ambiguities in the wording of the questions and instructions were made in the light of the pilot questionnaire.

8. Anonymity: This was assured at every stage of the data collection.

9. Follow up: This issue was not decided upon until the response rate had been determined. Each of the questionnaires was numbered and cross-referenced so that the facility to send out follow up questionnaires was available. Whitley [1985] had advised on the value of follow up questionnaires in order to stimulate an improved response. The number of follow-ups and their timing is a subject, which has received many debates over many years, e.g. Scott [1961]. In this study decisions were largely determined by the research constraints of cost and would restrict the number of follow-ups to one with a short time lapse between the initial and second mailing. Because of both these time and cost restraints and in view of the final better than expected returns, no follow up questionnaires were sent out.

10. Format of Questionnaire: The results from the pilot questionnaire were evaluated and suitable modifications were made before the main questionnaire was sent out. This included the addition of a general section.

The reason for this additional general section was that the response rate was unknown. If there had been a very small or atypical response e.g. heavy and unnatural loading for gender or age, then the whole population could be used. If there was a balanced population return then this section would give indications for more detailed data cross-referencing and analysis.

As with the pilot scheme and for the same reasons, a Likert type graded questionnaire was used. The questions were simple and clearly worded and designed to be useful, relevant and free from bias. The design of the questions tried eliminating any personal bias in order to encourage honest answers and the order of these questions was logical in order to try and help the respondent get feel for the direction of the research question. Every effort was made to avoid any ambiguity in the questions, leading questions were avoided and the format was to request a response to a statement.

Transcription of Data.

The completed returns were collected and stored and then delivered to the computer centre of Wolverhampton University. The university staff took over at this stage and all the returns were electronically scanned and transferred to an Excel spreadsheet. This data was then transferred onto the software Statistical Package for Social Science [SPSS], which had been loaded under university licence, onto the researchers home personal computer. The data were collected between January and March 1997.

6.4. RESULTS:

Detailed tabulated results of main questionnaire.

This part of chapter 6 deals with the analysis of the data that has been collected.
It is divided into 5 sections, each section looking at a different perspective of the data.

Section 1: [A]. This is an analysis of the dependent variables. This is important because it supplies information on the population that was surveyed and gives an indication as to how this population might compare with the expected GDP population of the UK, any abnormalities or atypical traits will be identified and allowances made in the discussion.

[B]. This is a cross-referencing of the independent variables,

Section 2: This section involves a cross-referencing analysis of the dependent variables against the whole of the survey response.

Section 3: This section involves an analysis of a combination of those groups who agree and those who agree strongly to the dependent generalised issues and how these differ when a cross tabulation is done against the independent variables such as age and gender.

Section 4: This section takes a more in-depth look at sections 3,4,5 and 6 on the questionnaire. It involves a cross referencing analysis of the more detailed issues raised. The cross-referencing is again made against the 9 dependent variable.

Section 5: This comprises of an analysis of the specific groups who feel very strongly about the general issues. These groups are cross-referenced against the dependent variables in order to define any traits within this sector.

6.5. The analysis of the independent variables.

Table 25. Summary of independent variables

Frequencies	Final Questionnaire	**"% return**
Sent out	741	
Valid Replies	449	**63.16**
Spoiled	7	
Duplicates	12	
Total	468	
Number corrected	10	

V1.1 Private work	**"%**
Less 25%	68.80
More 75%	11.10
Mixed	19.60
Missing	0.40
V1.2 Actively developing my private work	
Yes	56.1
No	41.6
Missing	2.2
V1.3 Age	
23-35	37
36-45	33
45+	29
Missing	1.1
V1.4 Gender.	
Male	72.8
Female	26.3
Missing	0.9
V1.5 I am a principal	
Yes	65.5
No	30.7
Missing	3.8
V1.6 I am an assoc/VT/Assistant	
Yes	34.5
No	44.1
Missing	21.4
V1.7 I employ associates	
Yes	33.4
No	57.5
Missing	9.1
V1.8 Married	
Yes	79.5
No	18.5
Missing	2
V1.9 Alternative Income e.g. pension	
Yes	13.6
No	82.2
Missing	4.2

Section [A]

Table 26.

Statistics

	N	
	Valid	Missing
Amount private work	447	2
developing private work	439	10
Age	444	5
Gender	445	4
I am a principal	432	17
Assoc/VT/Assistant	353	96
I employ assocs	408	41
Married	440	9
Altn income	430	19

The above two tables report the responses to each of the questions regarding the respondent's individual circumstances within primary dental care. The valid responses are high with only the questions relating to status as an associate or the employment of associates giving 96 and 41 missing responses.

Table 27

Amount private work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<25%	309	68.8	69.1	69.1
	>75%	50	11.1	11.2	80.3
	mixed	88	19.6	19.7	100.0
	Total	447	99.6	100.0	
Missing	System Missing	2	.4		
	Total	2	.4		
Total		449	100.0		

These results showed that 69% of the respondents did a maximum of 25% of their work under private contract. The range of NHS dentistry in this group might equally mean that many of these GDPs did considerably less than 25% of private work. Conversely only 11% of the GDPs did more that 75% of their work under private contract but again, some of these practitioners could be totally private and doing all their dentistry under private contract. 20% of the respondents undertook a mixed range of private/NHS work. This made a total of only 31% of GDPs who did a significant amount i.e. over 25% of their work under private contract

Table 28.

developing private work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	252	56.1	57.4	57.4
	no	187	41.6	42.6	100.0
	Total	439	97.8	100.0	
Missing	System Missing	10	2.2		
	Total	10	2.2		
Total		449	100.0		

This table reports that 56% of GDPs are actively trying to increases the amount of private dentistry that they do. 42% of the respondents were not trying to develop the private sector of their work.

Table 29.

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	23-35	166	37.0	37.4	37.4
	36-45	148	33.0	33.3	70.7
	46+	130	29.0	29.3	100.0
	Total	444	98.9	100.0	
Missing	System Missing	5	1.1		
	Total	5	1.1		
Total		449	100.0		

The age groups fell into approximately even numbers with the older group i.e. those over 46 being slightly less than the other two groups.

Table 30.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	327	72.8	73.5	73.5
	female	118	26.3	26.5	100.0
	Total	445	99.1	100.0	
Missing	System Missing	4	.9		
	Total	4	.9		
Total		449	100.0		

These ratios of male 73% and female 26% correlated with the current national age distribution of GDPs.

Table 31.

I am a principal

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	294	65.5	68.1	68.1
	no	138	30.7	31.9	100.0
	Total	432	96.2	100.0	
Missing	System Missing	17	3.8		
	Total	17	3.8		
Total		449	100.0		

66% of the respondents were principal's i.e. they had equity within the practice and had their own Dental Practice Board Number. 31% worked for other dentists either as associates assistants or Vocational trainees.

Table 32.

I employ assocs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	150	33.4	36.8	36.8
	no	258	57.5	63.2	100.0
	Total	408	90.9	100.0	
Missing	System Missing	41	9.1		
	Total	41	9.1		
Total		449	100.0		

Table 32 reveals that 150 GDPs actually employ other dentists. This accounts for 33% of the total survey and 49% of those GDPs who are principals.

Table 33. [I am Married]

Married

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	357	79.5	81.1	81.1
	no	83	18.5	18.9	100.0
	Total	440	98.0	100.0	
Missing	System Missing	9	2.0		
	Total	9	2.0		
Total		449	100.0		

80% of the respondents were married.

Table 34. [I have an alternate source of income]

Altn income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	61	13.6	14.2	14.2
	no	369	82.2	85.8	100.0
	Total	430	95.8	100.0	
Missing	System Missing	19	4.2		
	Total	19	4.2		
Total		449	100.0		

14% of the respondents had an alternative income to their dental income. The source and amount of this additional income was not available.

Section [B]: Cross-referencing of selected independent variables.

Table 35.

Amount private work * Gender Crosstabulation

% within Gender

		Gender		
		male	female	Total
Amount private work	<25%	64.0%	83.1%	69.1%
	>75%	13.5%	5.1%	11.3%
	mixed	22.5%	11.9%	19.6%
Total		100.0%	100.0%	100.0%

Table 35 indicates that 83% of females compared with only 64% of males do less than 25% of their work under private contract while 13.5% of males compared with only 5% of females do more that 75% of their work under private contract.

Table 36.

developing private work * Gender Crosstabulation

% within Gender

		Gender		
		male	female	Total
developing private work	yes	62.7%	43.1%	57.5%
	no	37.3%	56.9%	42.5%
Total		100.0%	100.0%	100.0%

Table 36 indicates 63% of males are actively developing their private work compared to only 43% of females

Table 37

Age * Gender Crosstabulation

% within Gender

		Gender		
		male	female	Total
Age	23-35	30.9%	56.4%	37.6%
	36-45	34.6%	29.9%	33.3%
	46+	34.6%	13.7%	29.0%
Total		100.0%	100.0%	100.0%

Table 37 reveals the distribution of male GDPs by age to be approximately equal in the three age groups. There are significant distribution differences with female dentists with 56% of the respondents being in the youngest age group and only 14% being in the older group.

Table 38.

Assoc/VT/Assistant * Gender Crosstabulation

			Gender		
			male	female	Total
Assoc/VT/Assistant	yes	Count	79	76	155
		% within Gender	32.2%	73.1%	44.4%
	no	Count	166	28	194
		% within Gender	67.8%	26.9%	55.6%
Total		Count	245	104	349
		% within Gender	100.0%	100.0%	100.0%

Table 38 reveals that only 32 % of the male respondents work as associates while 73% of all female GDP respondents do work as associates

Table 39

I employ assocs * Gender Crosstabulation

			Gender		
			male	female	Total
I employ assocs	yes	Count	124	24	148
		% within Gender	41.9%	22.2%	36.6%
	no	Count	172	84	256
		% within Gender	58.1%	77.8%	63.4%
Total		Count	296	108	404
		% within Gender	100.0%	100.0%	100.0%

Table 39 indicates that 42% of male respondents employ other dentists, this compares with only 22% of female respondents.

Table 40.

developing private work * I am a principal Crosstabulation

			I am a principal		
			yes	no	Total
developing private work	yes	Count	187	58	245
		% within developing private work	76.3%	23.7%	100.0%
	no	Count	102	77	179
		% within developing private work	57.0%	43.0%	100.0%
Total		Count	289	135	424
		% within developing private work	68.2%	31.8%	100.0%

Table 40 indicates that out of those GDPs who responded, 76% of principals are actively developing their private work compared with only 57% of non-principals.

Table 41

I am a principal * Age Crosstabulation

			Age			
			23-35	36-45	46+	Total
I am a principal	yes	Count	52	123	116	291
		% within Age	33.3%	85.4%	90.6%	68.0%
	no	Count	104	21	12	137
		% within Age	66.7%	14.6%	9.4%	32.0%
Total		Count	156	144	128	428
		% within Age	100.0%	100.0%	100.0%	100.0%

Table 41 indicates that 91% of GDPs who are age 46 and over are principals while only 33% of the youngest age group are principals.

Section 2: Dependent Variables: The general section.

The next section to be analysed was the General section. This was just taken as a descriptive frequency response to evaluate the responses of the whole group.

Table 42

Statistics

	N	
	Valid	Missing
Importance of Net Income	448	1
Importance of Standards	448	1
Importance of Ethics	447	2
Importance of daily stress	448	1

The returns for this section were almost 100%

Table 43.
Distribution of the 449 respondents to the statement:

"My net income is important to me in deciding how I practice my clinical dentistry"

Importance of Net Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	agree ++	105	23.4	23.4	23.4
	agree	264	58.8	58.9	82.4
	no view	32	7.1	7.1	89.5
	disagree	43	9.6	9.6	99.1
	disagree ++	4	.9	.9	100.0
	Total	448	99.8	100.0	
Missing	System Missing	1	.2		
	Total	1	.2		
Total		449	100.0		

Within this group, 23% of the respondents considered that their net income was very important to them in deciding how they practice their clinical dentistry. Another 59% considered that their income was important while only 11% considered that their net income did not influence on their actual clinical dentistry.

Table 44.
Distribution of the 449 respondents to the statement:

"The standard of my clinical dentistry is important to me in deciding how I practice my clinical dentistry"

Importance of Standards

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	agree ++	255	56.8	56.9	56.9
	agree	184	41.0	41.1	98.0
	no view	6	1.3	1.3	99.3
	disagree	3	.7	.7	100.0
	Total	448	99.8	100.0	
Missing	System Missing	1	.2		
	Total	1	.2		
Total		449	100.0		

The results from this table indicate that 98% of the GDPs surveyed consider that the clinical standards that they achieved influenced the way they carried out their clinical dentistry. 57% agreed very strongly with this statement. Only 1% of the respondents thought that their clinical practice was not influenced by the standards they could produce.

Table 45.

Distribution of the 449 respondents to the statement

"Ethics and professional standards are important to me in deciding how I practice my clinical dentistry"

Importance of Ethics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	agree ++	274	61.0	61.3	61.3
	agree	168	37.4	37.6	98.9
	no view	5	1.1	1.1	100.0
	Total	447	99.6	100.0	
Missing	System Missing	2	.4		
	Total	2	.4		
Total		449	100.0		

The responses to this statement indicated that 99 % of the group thought that their ethical responsibilities to their patients influenced how they practised their clinical dentistry. 61% agreed strongly with the statement and non-of the respondents disagreed.

Table 46.

Distribution of the 449 correspondents to the statement.

"UK dentists should be able to choose to use the title Dr [normal international convention]"

Dentists should use Title "Dr"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	agree++	104	23.2	23.3	23.3
	agree	181	40.3	40.6	63.9
	none	125	27.8	28.0	91.9
	disagree	22	4.9	4.9	96.9
	disagree ++	14	3.1	3.1	100.0
	Total	446	99.3	100.0	
Missing	System Missing	3	.7		
	Total	3	.7		
Total		449	100.0		

This indicates that a total of 64% of dentists feel either very strongly or strongly that that they will use the title of Dr. This compares with compared with only 8% of GDPs who think UK dentists should not use the title.

Table 47.

Distribution of the 449 respondents to the statement

"Stress in my working day is important to me in deciding how I practice my clinical dentistry"

Importance of daily stress

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	agree ++	180	40.1	40.2	40.2
	agree	207	46.1	46.2	86.4
	no view	33	7.3	7.4	93.8
	disagree	24	5.3	5.4	99.1
	disagree ++	4	.9	.9	100.0
	Total	448	99.8	100.0	
Missing	System Missing	1	.2		
	Total	1	.2		
Total		449	100.0		

86 % of the respondents agreed that the amount of stress they experienced during their working day influenced how they practised their clinical dentistry. 40 % of the group agreed strongly with this statement while only 6% disagreed.

6.7. Section 3. Cross Reference Analysis.

The next stage of the analysis was to make direct descriptive analysis between the inter relationships of all of the independent variable and the Second section of the questionnaire which consisted of the 4 general statement:

"My net income is important to me in deciding how I practice my clinical dentistry"

"The standard of my clinical dentistry is important to me in deciding how I practice my clinical dentistry"

"Ethics and professional standards are important to me in deciding how I practice my clinical dentistry"

"Stress in my working day is important to me in deciding how I practice my clinical dentistry"

Section 3: cross-referencing of independent variable to combined responses of strongly agrees and agrees.

A]. NET INCOME ANALYSIS.

Table 48.

Those who thing their net income is important in the way they practice their clinical dentistry

Groups [Top line equals all groups]

	Income V2.1
V1.1 Private work	82
Less 25%	80
More 75%	84
Mixed	89
V1.2 Actively developing my private work	80
Yes	87
No	77
Missing	
V1.3 Age	82
23-35	74
36-45	86
45+	84
V1.4 Gender.	82
Male	86
Female	70
Missing	
V1.5 I am a principal	83
Yes	89
No	71
V1.6 I am an assoc/VT/Assistant	81
Yes	70
No	89
V1.7 I employ associates	83
Yes	89
No	79
V1.8 Married	82
Yes	83
No	81
V1.9 Alternative Income e.g. pension	83
Yes	83
No	83

Private work: Of the group who did less than 25% of their work under private contract, 80 % considered that their net income still influenced the way they practised their clinical dentistry. 89 % of the mixed group thought this to be the case and 84 % of the 75% or more private group considered their net income to be important to them.

Proactive in developing private sector: The results indicated that of the respondents who are proactively developing private work the 87 % considered their net income to be important while only 77 % of those who are remaining NHS GDPs agreed net income was important to them.

Age Sector: Only 74% of the younger group agreed that their net income was important. 86% of the middle age group, the 35-45 agreed and 84% of the older group.

Gender: 86% of all males agreed that their net income was important in determining how they practised their clinical dentistry and this compared with only 70% of female GDPs.

Principals: 89 % of those who were principals in general dental practice agreed that their net income was important in deciding how the operated their clinical practice but only 71% of non-principals agreed with this.

Associate/Assistant/VT Status. These results correlated with the above sector. 70 % of Associates compared with 89 % of principals agreed that net income was important to them.

GDPs who employ associates: 89 % of those employing associates compared with 79 % of those not employing associates agreed that net income was important in determining how they practised clinical dentistry.

Married: 83% of married GDPs compared to 81 % of those not married agreed that net income was important in determining how they practised clinical dentistry.

Alternative income:

83% of both groups agreed that net income was important in determining how they practised clinical dentistry.

B]. CLINICAL STANDARDS ANALYSIS.

Table 49.

Those who think their clinical standards are
Important in the way they practice their clinical dentistry

Groups [Top line equals all groups]

	Standards V2.2
V1.1 Private work	98
Less 25%	98
More 75%	100
Mixed	97
V1.2 Actively developing my private work	98
Yes	99
No	97
Missing	
V1.3 Age	98
23-35	98
36-45	99
45+	97
V1.4 Gender.	98
Male	98
Female	97
Missing	
V1.5 I am a principal	98
Yes	98
No	99
V1.6 I am an assoc/VT/Assistant	98
Yes	97
No	98
V1.7 I employ associates	98
Yes	99
No	97
V1.8 Married	98
Yes	98
No	96
V1.9 Alternative Income e.g. pension	98
Yes	98
No	98

Private work: 98 % of those who practice less that 25% of their dentistry under private contract agreed that the standards of their clinical dentistry influenced the way they practised their clinical dentistry. 100 % of the mixed group and 97 % of the 75% or more private group considered that the standards of their clinical dentistry were important to them.

Proactive in developing private sector: The results indicated that 99 % of the respondents who are proactively developing private work considered that the standards of their clinical dentistry were important while 97 % of those who are remaining NHS GDPs agreed

Age Sector: 98% of the younger group agreed that standards of their clinical dentistry were important. 99% of the middle age group, the 35-45 agreed and 97% of the older group.

Gender: 98% of both male GDPs compared to 97 % of females agreed that the standards of their clinical dentistry were important in determining how they practised their clinical dentistry.

Principals: 98% of those who were principals and 99% of non-principals in general dental practice agreed that the standards of their clinical dentistry were important in determining how they practised their clinical dentistry.

Associate/Assistant/VT Status. These results correlated with the above sector. 97 % of Associates compared with 98 % of principals agreed that the standards of their clinical dentistry were important in determining how they practised their clinical dentistry.

GDPs who employ associates: 97 % of those employing associates and 97 % of those not employing associates agreed that the standards of their clinical dentistry were important in determining how they practised their clinical dentistry.

Married: 98% of married GDPs compared to 96 % of those not married agreed that the standards of their clinical dentistry were important in determining how they practised their clinical dentistry.

Unearned income: 98 % of both groups agreed that the standards of their clinical dentistry were important in determining how they practised their clinical dentistry.

C]. ETHICS AND PROFESSIONAL STANDARDS

Table 50.

Those who think ethics and professional standards are Important in the way they practice their clinical dentistry

Groups [Top line equals all groups]

	Ethics V2.3
V1.1 Private work	99
Less 25%	98
More 75%	100
Mixed	100
V1.2 Actively developing my private work	99
Yes	100
No	98
Missing	
V1.3 Age	99
23-35	98
36-45	99
45+	100
V1.4 Gender.	99
Male	99
Female	99
Missing	
V1.5 I am a principal	99
Yes	99
No	97
V1.6 I am an assoc/VT/Assistant	99
Yes	97
No	100
V1.7 I employ associates	99
Yes	100
No	99
V1.8 Married	99
Yes	99
No	99
V1.9 Alternative Income e.g. pension	99
Yes	98
No	99

Private work: Of the group who did less than 25% of their work under private contract, 98 % considered that ethics and professional standards influenced the way they practised their clinical dentistry. 100 % of the mixed group and the 75% or more private group considered that ethics and professional standards were important to them.

Proactive in developing private sector: The results indicated that of the respondents who are proactively developing private work the 100 % considered that ethics and professional standards were important while 98 % of those who are remaining NHS GDPs agreed.

Age Sector: 98% of the younger group agreed that ethics and professional standards were important. 99% of the middle age group, the 35-45 agreed and 100% of the older group.

Gender: 99% of both genders agreed that ethics and professional standards were important in determining how they practised their clinical dentistry.

Principals: 99% of those who were principals and 97% of non-principals in general dental practice agreed that ethics and professional standards were important in determining how they practised their clinical dentistry.

Associate/Assistant/VT Status. These results correlated with the above sector. 97 % of Associates compared with 100 % of principals agreed that ethics and professional standards were important in determining how they practised their clinical dentistry.

GDPs who employ associates: 100 % of those employing associates compared with 99 % of those not employing associates agreed that ethics and professional standards were important in determining how they practised their clinical dentistry.

Married: 99% of both married and unmarried GDPs agreed that ethics and professional standards were important in determining how they practised their clinical dentistry.

Unearned income: 98 % of those with an unearned income agreed compared to 99 % of those without one agreed that ethics and professional standards were important in determining how they practised their clinical dentistry.

D]. STRESS IN THE WORKING DAY

Table 51.

Those who think the stress the experience in their working day is important in the way they practice their clinical dentistry

Groups [Top line equals all groups]

	Stress V2.4
V1.1 Private work	86
Less 25%	83
More 75%	94
Mixed	95
V1.2 Actively developing my private work	86
Yes	91
No	79
Missing	
V1.3 Age	86
23-35	80
36-45	91
45+	90
V1.4 Gender.	86
Male	89
Female	79
Missing	
V1.5 I am a principal	87
Yes	91
No	79
V1.6 I am an assoc/VT/Assistant	85
Yes	77
No	90
V1.7 I employ associates	86
Yes	92
No	83
V1.8 Married	88
Yes	89
No	78
V1.9 Alternative Income eg pension	86
Yes	90
No	87

Private work: Of the group who did less than 25% of their work under private contract, 83 % considered that stress in their working day influenced the way they practised their clinical dentistry. 95 % of the mixed group thought this to be the case and 94 % of the 75% or more private group considered the standards of their clinical dentistry to be important.

Proactive in developing private sector: The results indicated that of the respondents who are proactively developing private work 91 % consider the standards of their clinical dentistry be important while only 79 % of those who are remaining NHS GDPs agreed with the statement.

Age Sector: Only 80% of the younger group agreed that the standards of their clinical dentistry were important. 91% of the middle age group, the 35-45, agreed and 90% of the older group.

Gender: 89 % of all males agreed that the standards of their clinical dentistry was important in determining how they practised their clinical dentistry and this compared with 79 % of female GDPs.

Principals: 91 % of those who were principals in general dental practice agreed that the standards of their clinical dentistry was important in deciding how the operated their clinical practice but only 79 % of non-principals agreed with this.

Associate/Assistant/VT Status. These results correlated with the above sector. 77 % of Associates compared with 90 % of principals agreed that the standards of their clinical dentistry was important to them.

GDPs who employ associates: 92 % of those employing associates compared with 83 % of those not employing associates agreed that the standards of their clinical dentistry was important in determining how they practised clinical dentistry

Married: 89% of married GDPs compared to 78 % of those not married agreed that the standards of their clinical dentistry were important in determining how they practised clinical dentistry.

Unearned income: 90 % of those with an unearned income agreed compared to 87 % of those without one agreed that the standards of their clinical dentistry were important in determining how they practised their clinical dentistry.

6.8. Section 4: Detailed cross-references.

This part of the analysis related to sectors 3,4,5 and 6 of the main questionnaire. These sectors involved a more detailed inquiry into the core issues of finances, standards, ethics and stress. Each of these 25 specific questions had cross-referenced to the 9 standard independent variable such as age and gender. This gave a total of 900 tables. From these tables, which gave a total analysis of all independent variables cross-referenced to all dependent variables, the following tables were selected. They were considered significant because they gave, validity at least in some degree to one or more of the stated hypotheses.

A]. AGE GROUPS.

Table 52. Finances: Age Vs the statement that *"My NHS income is declining"*

Age * NHS Income Down Crosstabulation

			NHS Income Down					
			agree ++	agree	no view	disagree	disagree ++	Total
Age	23-35	Count	22	47	33	61	2	165
		% within Age	13.3%	28.5%	20.0%	37.0%	1.2%	100.0%
	36-45	Count	36	54	17	37	3	147
		% within Age	24.5%	36.7%	11.6%	25.2%	2.0%	100.0%
	46+	Count	35	61	15	17	2	130
		% within Age	26.9%	46.9%	11.5%	13.1%	1.5%	100.0%
Total		Count	93	162	65	115	7	442
		% within Age	21.0%	36.7%	14.7%	26.0%	1.6%	100.0%

Table 52 indicates that a combined 73% of older GDPs compared to only 42% of the younger age group believe that their NHS dental income is declining.

Table 53.

Finances: Age Vs the statement that " *NHS benefits such as pensions and guaranteed payments keep me in the NHS"*

Age * NHS Benefits keep me in NHS Crosstabulation

			NHS Benefits keep me in NHS					
			agree ++	agree	no view	disagree	disagree ++	Total
Age	23-35	Count	3	43	34	69	16	165
		% within Age	1.8%	26.1%	20.6%	41.8%	9.7%	100.0%
	36-45	Count	8	56	25	46	12	147
		% within Age	5.4%	38.1%	17.0%	31.3%	8.2%	100.0%
	46+	Count	18	51	23	29	9	130
		% within Age	13.8%	39.2%	17.7%	22.3%	6.9%	100.0%
Total		Count	29	150	82	144	37	442
		% within Age	6.6%	33.9%	18.6%	32.6%	8.4%	100.0%

Table 53 indicates that a combined 53% of older GDPs compared to only 28% of the younger age group believes that their NHS benefits keep them in the NHS

Table 54.

Stress: Age Vs working in the NHS causes me financial stress

Age * NHS=Financial stress Crosstabulation

			NHS=Financial stress				
			agree ++	agree	no view	disagree	Total
Age	23-35	Count	25	65	40	35	165
		% within Age	15.2%	39.4%	24.2%	21.2%	100.0%
	36-45	Count	50	68	14	16	148
		% within Age	33.8%	45.9%	9.5%	10.8%	100.0%
	46+	Count	43	62	13	12	130
		% within Age	33.1%	47.7%	10.0%	9.2%	100.0%
Total		Count	118	195	67	63	443
		% within Age	26.6%	44.0%	15.1%	14.2%	100.0%

Table 54 indicates that a combined 81% of older GDPs compared to only 55% of the younger age group believe that working in the NHS causes them financial stress.

Table 55.

Stress: Age Vs the statement that " *I get stress because working in the NHS means that I cannot afford good quality staff"*

Age * NHS= poor quality staff Crosstabulation

			NHS= poor quality staff					
			agree ++	agree	no view	disagree	disagree ++	Total
Age	23-35	Count	5	28	65	61	7	166
		% within Age	3.0%	16.9%	39.2%	36.7%	4.2%	100.0%
	36-45	Count	21	42	24	52	7	146
		% within Age	14.4%	28.8%	16.4%	35.6%	4.8%	100.0%
	46+	Count	16	36	34	37	7	130
		% within Age	12.3%	27.7%	26.2%	28.5%	5.4%	100.0%
Total		Count	42	106	123	150	21	442
		% within Age	9.5%	24.0%	27.8%	33.9%	4.8%	100.0%

Table 55 indicates that a combined 40% of older GDPs compared to only 20% of the younger age group believe that they get stress because working in the NHS means that I cannot afford good quality staff.

B]. GENDER

Table 56

Finances: Gender Vs Statement that *"My NHS income is declining"*

Gender * NHS Income Down Crosstabulation

			NHS Income Down					
			agree ++	agree	no view	disagree	disagree ++	Total
Gender	male	Count	70	127	53	71	5	326
		% within Gender	21.5%	39.0%	16.3%	21.8%	1.5%	100.0%
	female	Count	22	35	14	44	2	117
		% within Gender	18.8%	29.9%	12.0%	37.6%	1.7%	100.0%
Total		Count	92	162	67	115	7	443
		% within Gender	20.8%	36.6%	15.1%	26.0%	1.6%	100.0%

Table 56 indicates that a combined 61% of male GDPs compared to only 48% of female GDPs believe that their NHS income is declining.

Table 57.

Finances: Gender Vs the statement that " *NHS benefits such as pensions and guaranteed payments keep me in the NHS"*

Gender * NHS Benefits keep me in NHS Crosstabulation

			NHS Benefits keep me in NHS					
			agree ++	agree	no view	disagree	disagree ++	Total
Gender	male	Count	21	121	60	98	26	326
		% within Gender	6.4%	37.1%	18.4%	30.1%	8.0%	100.0%
	female	Count	8	28	23	47	11	117
		% within Gender	6.8%	23.9%	19.7%	40.2%	9.4%	100.0%
Total		Count	29	149	83	145	37	443
		% within Gender	6.5%	33.6%	18.7%	32.7%	8.4%	100.0%

Table 57 indicates that a combined 44% of male GDPs compared to only 31% of female GDPs believe that NHS benefits such as pensions and guaranteed payments keep me in the NHS.

Table 58.

Stress: Gender Vs the statement that *"Most private patients are very demanding and as a result stress inducing"*

Gender * Private Pts= stress Crosstabulation

			Private Pts= stress					
			agree ++	agree	no view	disagree	disagree ++	Total
Gender	male	Count	22	117	66	108	14	327
		% within Gender	6.7%	35.8%	20.2%	33.0%	4.3%	100.0%
	female	Count	12	52	27	27		118
		% within Gender	10.2%	44.1%	22.9%	22.9%		100.0%
Total		Count	34	169	93	135	14	445
		% within Gender	7.6%	38.0%	20.9%	30.3%	3.1%	100.0%

Table 58 indicates that a combined 42% of male GDPs compared to 54% of female GDPs believe that most private patients are very demanding and as a result stress inducing.

Table 59.

Stress: Gender to statement that *"Working in the NHS causes financial stress"*.

Gender * NHS=Financial stress Crosstabulation

			NHS=Financial stress				
			agree ++	agree	no view	disagree	Total
Gender	male	Count	90	152	42	43	327
		% within Gender	27.5%	46.5%	12.8%	13.1%	100.0%
	female	Count	27	45	26	19	117
		% within Gender	23.1%	38.5%	22.2%	16.2%	100.0%
Total		Count	117	197	68	62	444
		% within Gender	26.4%	44.4%	15.3%	14.0%	100.0%

Table 59 indicates that a combined 74% of male GDPs compared to only 62% of female GDPs believe that working in the NHS causes financial stress.

Table 60.

Stress: Gender Vs the statement that " *I get stress because working in the NHS means that I cannot afford good quality staff*"

Gender * NHS= poor quality staff Crosstabulation

			NHS= poor quality staff					
			agree ++	agree	no view	disagree	disagree ++	Total
Gender	male	Count	34	85	91	98	17	325
		% within Gender	10.5%	26.2%	28.0%	30.2%	5.2%	100.0%
	female	Count	7	20	32	55	3	117
		% within Gender	6.0%	17.1%	27.4%	47.0%	2.6%	100.0%
Total		Count	41	105	123	153	20	442
		% within Gender	9.3%	23.8%	27.8%	34.6%	4.5%	100.0%

Table 60 indicates that a combined 37% of male GDPs compared to only 23% of female GDPs believe that they get stress because working in the NHS means they cannot afford good quality staff.

C]. I AM A PRINCIPAL GROUP

Table 61

Income: Principals to statement *"My NHS income is declining"*

I am a principal * NHS Income Down Crosstabulation

			NHS Income Down					
			agree ++	agree	no view	disagree	disagree ++	Total
I am a principal	yes	Count	84	125	31	49	4	293
		% within I am a principal	28.7%	42.7%	10.6%	16.7%	1.4%	100.0%
	no	Count	9	34	33	59	2	137
		% within I am a principal	6.6%	24.8%	24.1%	43.1%	1.5%	100.0%
Total		Count	93	159	64	108	6	430
		% within I am a principal	21.6%	37.0%	14.9%	25.1%	1.4%	100.0%

Table 61 indicates that a combined 71% of principal GDPs compared to only 31% of non-principal GDPs believe that their NHS income is declining.

Table 62.

Income: Principal Vs the statement that " *NHS benefits such as pensions and guaranteed payments keep me in the NHS"*

I am a principal * NHS Benefits keep me in NHS Crosstabulation

			NHS Benefits keep me in NHS					
			agree ++	agree	no view	disagree	disagree ++	Total
I am a principal	yes	Count	23	112	48	82	28	293
		% within I am a principal	7.8%	38.2%	16.4%	28.0%	9.6%	100.0%
	no	Count	6	34	33	55	9	137
		% within I am a principal	4.4%	24.8%	24.1%	40.1%	6.6%	100.0%
Total		Count	29	146	81	137	37	430
		% within I am a principal	6.7%	34.0%	18.8%	31.9%	8.6%	100.0%

Table 62 indicates that a combined 46% of principal GDPs compared to only 29% of non-principal GDPs believe those NHS benefits such as pensions and guaranteed payments keep me in the NHS

Table 63.

Stress: Principal Vs Statement that *"Working in the NHS causes me financial stress"*.

I am a principal * NHS=Financial stress Crosstabulation

			NHS=Financial stress				
			agree ++	agree	no view	disagree	Total
I am a principal	yes	Count	102	133	32	27	294
		% within I am a principal	34.7%	45.2%	10.9%	9.2%	100.0%
	no	Count	17	59	33	28	137
		% within I am a principal	12.4%	43.1%	24.1%	20.4%	100.0%
Total		Count	119	192	65	55	431
		% within I am a principal	27.6%	44.5%	15.1%	12.8%	100.0%

Table 63 indicates that a combined 80% of principal GDPs compared to only 56% of non-principal GDPs believe that working in the NHS causes me financial stress.

Table 64.

Stress: Principal Vs the statement that " *I get stress because working in the NHS means that I cannot afford good quality staff"*

I am a principal * NHS= poor quality staff Crosstabulation

			NHS= poor quality staff					
			agree ++	agree	no view	disagree	disagree ++	Total
I am a principal	yes	Count	40	82	58	96	15	291
		% within I am a principal	13.7%	28.2%	19.9%	33.0%	5.2%	100.0%
	no	Count	2	22	59	49	6	138
		% within I am a principal	1.4%	15.9%	42.8%	35.5%	4.3%	100.0%
Total		Count	42	104	117	145	21	429
		% within I am a principal	9.8%	24.2%	27.3%	33.8%	4.9%	100.0%

Table 64 indicates that a combined 71% of principal GDPs compared to only 31% of non principal GDPs believe that they get stress because working in the NHS means that they I cannot afford good quality staff

D]. I EMPLOY ASSOCIATES GROUP.

Table 65.

Stress: I employ associates Vs the statement that " *I get stress because working in the NHS means that I cannot afford good quality staff"*

I employ assocs * NHS= poor quality staff Crosstabulation

			NHS= poor quality staff					
			agree ++	agree	no view	disagree	disagree ++	Total
I employ assocs	yes	Count	15	51	23	53	7	149
		% within I employ assocs	10.1%	34.2%	15.4%	35.6%	4.7%	100.0%
	no	Count	21	47	93	85	11	257
		% within I employ assocs	8.2%	18.3%	36.2%	33.1%	4.3%	100.0%
Total		Count	36	98	116	138	18	406
		% within I employ assocs	8.9%	24.1%	28.6%	34.0%	4.4%	100.0%

Table 65 indicates that a combined 80% of GDPs who employ associates compared to only 66% of GDPs who do not employ associates believe that they get stress because working in the NHS means that they I cannot afford good quality staff.

F]. MARRIED GROUP

Table 66.

Stress: Married Vs the statement that *"Working in the NHS causes financial stress"*.

Married * NHS=Financial stress Crosstabulation

			NHS=Financial stress				
			agree ++	agree	no view	disagree	Total
Married	yes	Count	101	165	46	45	357
		% within Married	28.3%	46.2%	12.9%	12.6%	100.0%
	no	Count	17	30	19	16	82
		% within Married	20.7%	36.6%	23.2%	19.5%	100.0%
Total		Count	118	195	65	61	439
		% within Married	26.9%	44.4%	14.8%	13.9%	100.0%

Table 66 indicates that a combined 75% of GDPs who are married compared to only 57% of GDPs who are not married think that working in the NHS causes financial stress

Section 5: This section comprises of a cross tabulation of the groups of independent variables against the respondents who agreed very strongly with the four statements on income, standards, ethics and professionalism and finally stress as they relate to clinical practice.

PART 1 [FINANCES].

Table 67. Responses to the statement that *"My net income is important to me in deciding how I practice my clinical dentistry"*

Amount private work * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Amount private work	<25%	Count	60	249	309
		% within Amount private work	19.4%	80.6%	100.0%
	>75%	Count	14	36	50
		% within Amount private work	28.0%	72.0%	100.0%
	mixed	Count	29	58	87
		% within Amount private work	33.3%	66.7%	100.0%
Total		Count	103	343	446
		% within Amount private work	23.1%	76.9%	100.0%

Table 67 indicates that in the group doing less that 25% of their work under private contract only 19% compared with the mixed [33%] and those doing over 75% [28%] considered that their net income is strongly important in deciding how they practice their clinical dentistry.

Table 68.

developing private work * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
developing private work	yes	Count	70	181	251
		% within developing private work	27.9%	72.1%	100.0%
	no	Count	31	156	187
		% within developing private work	16.6%	83.4%	100.0%
Total		Count	101	337	438
		% within developing private work	23.1%	76.9%	100.0%

Table 68 indicates that in the group developing their private work, 28% compared with 17% of those not trying to develop their private work considered that their net income is strongly important in deciding how they practice their clinical dentistry.

Table 69.

Age * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Age	23-35	Count	27	139	166
		% within Age	16.3%	83.7%	100.0%
	36-45	Count	38	109	147
		% within Age	25.9%	74.1%	100.0%
	46+	Count	37	93	130
		% within Age	28.5%	71.5%	100.0%
Total		Count	102	341	443
		% within Age	23.0%	77.0%	100.0%

Table 69 indicates that in the older group, 29% compared with the only 16% of the younger age group considered that their net income is strongly important in deciding how they practice their clinical dentistry.

Table 70.

Gender * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Gender	male	Count	95	231	326
		% within Gender	29.1%	70.9%	100.0%
	female	Count	9	109	118
		% within Gender	7.6%	92.4%	100.0%
Total		Count	104	340	444
		% within Gender	23.4%	76.6%	100.0%

Table 70 indicates that 29% of males, compared with only 8% of female GDPs considered that their net income is strongly important in deciding how they practice their clinical dentistry.

Table 71.

I am a principal * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
I am a principal	yes	Count	84	209	293
		% within I am a principal	28.7%	71.3%	100.0%
	no	Count	17	121	138
		% within I am a principal	12.3%	87.7%	100.0%
Total		Count	101	330	431
		% within I am a principal	23.4%	76.6%	100.0%

Table 71 indicates that 29% of principal GDPs compared with only 12% of non-principals considered that their net income is strongly important in deciding how they practice their clinical dentistry.

Table 72.

I employ assocs * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
I employ assocs	yes	Count	45	104	149
		% within I employ assocs	30.2%	69.8%	100.0%
	no	Count	50	208	258
		% within I employ assocs	19.4%	80.6%	100.0%
Total		Count	95	312	407
		% within I employ assocs	23.3%	76.7%	100.0%

Table 72 indicates that in those GDPs employing associates, 30% compared with only 19% those not employing associates considered that their net income to be strongly important in deciding how they practice their clinical dentistry.

Table 73

Married * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Married	yes	Count	90	266	356
		% within Married	25.3%	74.7%	100.0%
	no	Count	12	71	83
		% within Married	14.5%	85.5%	100.0%
Total		Count	102	337	439
		% within Married	23.2%	76.8%	100.0%

Table 73 indicates that in the married group, 25% compared 15% of the unmarried group considered that their net income is to be strongly important in deciding how they practice their clinical dentistry.

6.9. PART 2 B [STANDARDS].

Table 74.

Responses to the statement the " *The standard of my clinical dentistry is important to me in deciding how I practice my clinical dentistry*".

Amount private work * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Amount private work	<25%	Count	163	146	309
		% within Amount private work	52.8%	47.2%	100.0%
	>75%	Count	38	12	50
		% within Amount private work	76.0%	24.0%	100.0%
	mixed	Count	52	35	87
		% within Amount private work	59.8%	40.2%	100.0%
Total		Count	253	193	446
		% within Amount private work	56.7%	43.3%	100.0%

Table 74 indicates that in the group doing over 75% of their work under private contract, 76% compared to 60% in the mixed group and only 53% in the less than 25% group considered the standard of their clinical dentistry to be strongly important in deciding how they practice their clinical dentistry.

Table 75.

developing private work * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
developing private work	yes	Count	162	89	251
		% within developing private work	64.5%	35.5%	100.0%
	no	Count	86	101	187
		% within developing private work	46.0%	54.0%	100.0%
Total		Count	248	190	438
		% within developing private work	56.6%	43.4%	100.0%

Table 75 indicates that in the group developing their private work, 65% compared to 46 of those GDPs not developing their private work considered the standard of their clinical dentistry to be strongly important in deciding how they practice their clinical dentistry.

Table 76.

Age * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Age	23-35	Count	95	71	166
		% within Age	57.2%	42.8%	100.0%
	36-45	Count	84	63	147
		% within Age	57.1%	42.9%	100.0%
	46+	Count	72	58	130
		% within Age	55.4%	44.6%	100.0%
Total		Count	251	192	443
		% within Age	56.7%	43.3%	100.0%

Table 76 indicates that all the age groups gave approximately equal responses to the view that the standard of their clinical dentistry was strongly important in deciding how they practice their clinical dentistry.

Table 77.

Gender * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Gender	male	Count	181	145	326
		% within Gender	55.5%	44.5%	100.0%
	female	Count	70	48	118
		% within Gender	59.3%	40.7%	100.0%
Total		Count	251	193	444
		% within Gender	56.5%	43.5%	100.0%

Table 77 indicates that both genders attach approximately equal importance to the view that the standard of their clinical dentistry is strongly important in deciding how they practice their clinical dentistry.

Table 78.

I am a principal * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
I am a principal	yes	Count	164	129	293
		% within I am a principal	56.0%	44.0%	100.0%
	no	Count	82	56	138
		% within I am a principal	59.4%	40.6%	100.0%
Total		Count	246	185	431
		% within I am a principal	57.1%	42.9%	100.0%

Table 78 indicates that both principal and non principal groups attach approximately equal importance to the view that the standard of their clinical dentistry is strongly important in deciding how they practice their clinical dentistry.

Table 79.

I employ assocs * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
I employ assocs	yes	Count	86	63	149
		% within I employ assocs	57.7%	42.3%	100.0%
	no	Count	144	114	258
		% within I employ assocs	55.8%	44.2%	100.0%
Total		Count	230	177	407
		% within I employ assocs	56.5%	43.5%	100.0%

Table 79 indicates that both GDPs who employ associates and those who do not attach approximately equal importance to the view that the standard of their clinical dentistry is strongly important in deciding how they practice their clinical dentistry.

Table 80.

Married * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Married	yes	Count	202	154	356
		% within Married	56.7%	43.3%	100.0%
	no	Count	49	34	83
		% within Married	59.0%	41.0%	100.0%
Total		Count	251	188	439
		% within Married	57.2%	42.8%	100.0%

Table 80 indicates that married GDPs and unmarried GDPs attach approximately equal importance to the view that the standard of their clinical dentistry is strongly important in deciding how they practice their clinical dentistry.

Table 81

Altn income * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Altn income	yes	Count	34	27	61
		% within Altn income	55.7%	44.3%	100.0%
	no	Count	206	162	368
		% within Altn income	56.0%	44.0%	100.0%
Total		Count	240	189	429
		% within Altn income	55.9%	44.1%	100.0%

Table 81 indicates that those GDPs with an unearned income [58%] attach approximately equal importance to those with no unearned income [56%] to the view that the standard of their clinical dentistry is strongly important in deciding how they practice their clinical dentistry.

PART C [ETHICS]

Table 82.

Ethics; responses too the statement "*Ethical and professional standards are important to me in deciding how I practice my clinical dentistry"*

Amount private work * Strongly agree Crosstabulation

			Strongly agree		
			1.00	5.00	Total
Amount private work	<25%	Count	174	135	309
		% within Amount private work	56.3%	43.7%	100.0%
	>75%	Count	37	12	49
		% within Amount private work	75.5%	24.5%	100.0%
	mixed	Count	61	26	87
		% within Amount private work	70.1%	29.9%	100.0%
Total		Count	272	173	445
		% within Amount private work	61.1%	38.9%	100.0%

Table 82 indicates that in the group doing less that 25% of their work under private contract only 56% compared with the mixed [70%] and those doing over 75% [76%] considered that ethical and professional standards are strongly important in deciding how they practice their clinical dentistry

Table 83.

developing private work * Strongly agree Crosstabulation

			Strongly agree		
			1.00	5.00	Total
developing private work	yes	Count	175	75	250
		% within developing private work	70.0%	30.0%	100.0%
	no	Count	89	98	187
		% within developing private work	47.6%	52.4%	100.0%
Total		Count	264	173	437
		% within developing private work	60.4%	39.6%	100.0%

Table 83 indicates that in the group developing their private work, 70% compared with only 48% of those not developing their private sector considered that ethical and professional standards are strongly important in deciding how they practice their clinical dentistry

Table 84.

Age * Strongly agree Crosstabulation

			Strongly agree		
			1.00	5.00	Total
Age	23-35	Count	94	72	166
		% within Age	56.6%	43.4%	100.0%
	36-45	Count	94	53	147
		% within Age	63.9%	36.1%	100.0%
	46+	Count	82	47	129
		% within Age	63.6%	36.4%	100.0%
Total		Count	270	172	442
		% within Age	61.1%	38.9%	100.0%

Table 84 indicates that all the age groups had approximately equal views when they considered that ethical and professional standards are strongly important in deciding how they practice their clinical dentistry

Table 85.

Gender * Strongly agree Crosstabulation

			Strongly agree		
			1.00	5.00	Total
Gender	male	Count	191	134	325
		% within Gender	58.8%	41.2%	100.0%
	female	Count	79	39	118
		% within Gender	66.9%	33.1%	100.0%
Total		Count	270	173	443
		% within Gender	60.9%	39.1%	100.0%

Table 85 indicates that female GDPs [67%] compare with only [59%] of male GDPs in considering that ethical and professional standards are strongly important in deciding how they practice their clinical dentistry.

Table 86.

I am a principal * Strongly agree Crosstabulation

			Strongly agree		
			1.00	5.00	Total
I am a principal	yes	Count	181	111	292
		% within I am a principal	62.0%	38.0%	100.0%
	no	Count	83	55	138
		% within I am a principal	60.1%	39.9%	100.0%
Total		Count	264	166	430
		% within I am a principal	61.4%	38.6%	100.0%

Table 86 indicates that in the principal and non principal groups have approximately equal views when they considered that ethical and professional standards are strongly important in deciding how they practice their clinical dentistry.

Table 87.

I employ assocs * Strongly agree Crosstabulation

			Strongly agree		
			1.00	5.00	Total
I employ assocs	yes	Count	95	54	149
		% within I employ assocs	63.8%	36.2%	100.0%
	no	Count	153	105	258
		% within I employ assocs	59.3%	40.7%	100.0%
Total		Count	248	159	407
		% within I employ assocs	60.9%	39.1%	100.0%

Table 87 indicates that 64% of GDPs who employ associates compares with only 59% of those who do not employ associates when they consider that ethical and professional standards are strongly important in deciding how they practice their clinical dentistry.

Table 88.

Married * Strongly agree Crosstabulation

			Strongly agree		
			1.00	5.00	Total
Married	yes	Count	220	135	355
		% within Married	62.0%	38.0%	100.0%
	no	Count	49	34	83
		% within Married	59.0%	41.0%	100.0%
Total		Count	269	169	438
		% within Married	61.4%	38.6%	100.0%

Table 88 indicates that both married and unmarried groups have approximately the same response when they consider that ethical and professional standards are strongly important in deciding how they practice their clinical dentistry.

Table 89.

Altn income * Strongly agree Crosstabulation

			Strongly agree		
			1.00	5.00	Total
Altn income	yes	Count	37	24	61
		% within Altn income	60.7%	39.3%	100.0%
	no	Count	221	146	367
		% within Altn income	60.2%	39.8%	100.0%
Total		Count	258	170	428
		% within Altn income	60.3%	39.7%	100.0%

Table 89 indicates that both the above groups have very similar views when considering that ethical and professional standards are strongly important in deciding how they practice their clinical dentistry.

PART D [STRESS]

Table 90.

Responses to the statement " *Stress in my working day is important to me in deciding how I practice my clinical dentistry*"

Amount private work * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Amount private work	<25%	Count	102	207	309
		% within Amount private work	33.0%	67.0%	100.0%
	>75%	Count	35	15	50
		% within Amount private work	70.0%	30.0%	100.0%
	mixed	Count	43	44	87
		% within Amount private work	49.4%	50.6%	100.0%
Total		Count	180	266	446
		% within Amount private work	40.4%	59.6%	100.0%

Table 90 indicates that in the group doing over 75% of their work under private contract, 70% compared to 49% in the mixed group and only 33% in the less than 25% group considered that stress in their working day was strongly important to them in deciding how they practised their clinical dentistry

Table 91.

developing private work * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
developing private work	yes	Count	121	130	251
		% within developing private work	48.2%	51.8%	100.0%
	no	Count	54	133	187
		% within developing private work	28.9%	71.1%	100.0%
Total		Count	175	263	438
		% within developing private work	40.0%	60.0%	100.0%

Table 91 indicates that in the group developing their private work, 48% compared to only 29% of those not developing their private work considered that stress in their working day was strongly important to them in deciding how they practised their clinical dentistry.

Table 92.

Age * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
Age	23-35	Count	51	115	166
		% within Age	30.7%	69.3%	100.0%
	36-45	Count	65	82	147
		% within Age	44.2%	55.8%	100.0%
	46+	Count	63	67	130
		% within Age	48.5%	51.5%	100.0%
Total		Count	179	264	443
		% within Age	40.4%	59.6%	100.0%

Table 92 indicates that in the older group, 49% compared to only 44% in the middle group and 33% in the younger group when they considered that stress in their working day was strongly important to them in deciding how they practised their clinical dentistry.

Table 93.

I am a principal * agree++ v rest Crosstabulation

			agree++ v rest		
			1.00	5.00	Total
I am a principal	yes	Count	136	157	293
		% within I am a principal	46.4%	53.6%	100.0%
	no	Count	39	99	138
		% within I am a principal	28.3%	71.7%	100.0%
Total		Count	175	256	431
		% within I am a principal	40.6%	59.4%	100.0%

Table 93 indicates that in the principal group 46% compared to only 28% of those not principals considered that stress in their working day was strongly important to them in deciding how they practised their clinical dentistry.

Table 94.

NHS= uncertain future

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	agree ++	106	23.6	23.7	23.7
	agree	197	43.9	44.0	67.6
	no view	73	16.3	16.3	83.9
	disagree	66	14.7	14.7	98.7
	disagree ++	6	1.3	1.3	100.0
	Total	448	99.8	100.0	
Missing	System Missing	1	.2		
	Total	1	.2		
Total		449	100.0		

Table 94 indicates that 67% of GDPs are concerned that the NHS has an uncertain future.

CHAPTER 7: Analysis of the questionnaire responses.

7.1. Background to the discussion

The aim of this research is to investigate the current issues and the changes that are occurring within the working environment of GDPs. The investigation proceeds to test the five hypotheses formulated as a result of these investigations. The final stage was to utilise these hypotheses to develop and validate a working model that will encompass the current issues facing GDPs and suggest possible options as part of their strategic planning.

In developing this working model, an attempt has been made to identify and then examine, in detail, the many issues that surround the delivery of primary dental care within the community. Five hypotheses have been proposed which, if validated, could give an insight to how GDPs develop strategies to achieve their individual objectives. It is intended that these hypotheses will be properly supported by scientific research and thus, if proven, support the proposed new functional model. It is a logical progression that at this stage, the research should examine and then discuss the scientific evidence collected about each of the hypotheses. The same systematic method has been applied to the investigation of each of these hypotheses.

The relevant findings of the literature search, the in-depth interviews, the pilot questionnaire and finally the findings of the refined final questionnaire have each been investigated. Before each of the hypotheses is discussed in turn, comment must be made on the quality and profiles of the returns to the main questionnaire.

7.2. Survey Response.

There are approximately 17000 GDPs working in the U.K. of these, of these some 1400 [8%] work in Midlands. These 1400 GDPs work in areas ranging from Stoke on Trent in the North to Coventry in the South and Hereford and Worcester in the West and finally to East Birmingham. 741 [53%] of these Midland GDPs were written to and of the replies received, 449 were considered valid, [61%], 7 were spoiled and 12 were duplicates. GDPs working in two different practice premises and sometimes for different health authorities caused these duplicated forms. The respondents writing on the second questionnaire detected these duplicate returns and informed the researcher by making suitable comments on the second questionnaire. It considered unlikely that there were any other undetected duplicate questionnaires. GDPs stating that they were not eligible as dentists in primary dental care, although they had a NHS number and were included in the NHS register caused the spoiled questionnaires. The bulk of their work was primarily involved with specialised areas of dentistry such as orthodontics or endodontics. Some of the returns had ticks instead of lines in the boxes. This would make them unreadable for the electronic scanning procedures. In these cases, the questionnaires were carefully duplicated using the correct marking procedure. These returns were treated as valid.

The population responding accounted for 2.7% of all GDPs practising in the UK and for 32% of all Midland GDPs. This was considered to be a good response rate and one that could reasonably be used to test the 5 hypotheses.

7.3. Response Analysis

Table 25 reveals that 69% of those respondents did less than 25% of their work under private contract while only 11% did more than 75 % of their work privately. Using

the combined figures, the survey indicated 89% of GDPs did less than 75% of their work under private contract. Table 27 reveals that 42% of GDPs are making no effort to develop their private sector while 56% are making efforts in some degree to increase their private output. The questionnaire did not attempt to determine how intensely these converts were developing their private work. These results create conflicting evidence regarding the degree and the rate of change in the shift towards private dentistry. A recent editorial in the British Dental Journal [April 1998] states that *"The amount of private dentistry said to be provided in this country varies from 15 to 30 per cent, depending on whom you believe. The truth is that we do not know with any certainty"*. A statement by the Health Minister Mr Alan Milburn in a debate on NHS dentistry in the house of Commons on 18th February 1998 read: "It is an absolute myth that no one can find an NHS dentist". He told MPs "the vast majority of patients, in the vast majority of places, for the vast majority of the time are able to get access to an NHS dentist". Much media reporting conveys the impression that it is often very difficult to obtain NHS dentistry in the UK and patients frequently have to travel long distances. Yet the survey revealed that only 11% of GDPs are doing a significant amount of their work under private contract. It is possible that these are the GDPs who are actively taking on new patients and perhaps as a result create the impression that most GDPs are trying to do private dentistry. There is no obvious explanation why the rate of change might be less that anticipated. This research is confined to the West Midlands but these Midland GDPs might be atypical of a nation-wide survey. Because these shifts to private dentistry are not occurring at the rapid rate that might have been expected then these results give only limited support to the first hypothesis.

The age distribution of the returns corresponded with the national norm. The results from Table 37 revealed that in the female group, 56% were in the age group of 23-35, 30% in the group 36-45 and only 14% aged over 45. This compared with male returns of 31%, 35% and 34% respectively. This is significant because it can be claimed that any bias in the results from atypical age response distribution can be claimed to be minimal.

Table 31 reveals that 66% of the respondents claimed to be principals and 33% claimed to employ associates. These figures might be considered to be on the high side when compared to the estimated national figure of 40% of GDPs having equity in their practices. Allowance must be made in the conclusions for any bias created by differing views that these principals might have. Table 33 indicates that 80% of the respondents were married. It was not possible to obtain statistics on the national average of married GDPs but this number must be allowed for. It is not unreasonable to assume that GDPs who are married with families and mortgages might have different objectives to those with lesser commitments.

Finally, Table 34 indicates that 14% of the respondents admitted to having an alternative source of income to dentistry. The amount or the source of this unearned income was not divulged but it is reasonable to assume that, in part at least, some of these respondents will have taken early retirement from the NHS and are continuing to practice at a reduced level of output as private practitioners. This must be taken into account when considering Hypothesis no 1. The transient effect of this batch of elderly NHS dentists taking early retirement and opting for a much reduced level of clinical output under private contract could mean that the rate of change to the private sector is less than that indicated in the results. The questionnaire did not attempt a quantitative analysis of the actual amount of private output vis-à-vis NHS output.

While there was certain minor anomalies with known national statistics, it was considered that the overall quality and response rate to the main questionnaire was of sufficient size and standard to be of merit in the validation of the proposed hypotheses.

The acceptance of the quality of the survey results indicated a further analysis of the research. The results of the findings and their relevance to the hypotheses and the subsequent model development are discussed in more detail.

7.4. The evaluation of the validity of the individual hypotheses.

In discussing the results as applied to each of the proposed hypothesis, a systematic approach was used. This involved working through the results in the order in which they were presented and then utilising the relevant tables that applied to each of the individual hypotheses. The following is a reminder of the methodology and systematic tabulation of the results:

Section 1: [A]. This is an analysis of the independent variables.

[B]. Cross-referencing of the independent variables.

Section 2: This section involves an analysis of the independent variables against the whole of the survey response.

Section 3: This section involves an analysis of a combination of those groups who agree and those who agree strongly to the dependent generalised issues and how these differ when a cross tabulation is done against the independent variables such as age and gender.

Section 4: This section takes a more in-depth look at sections 3,4,5 and 6 on the questionnaire. It involves a cross referencing analysis of the more

detailed issues raised. The cross-referencing is again made against the 9 dependent variables.

Section 5: This comprises of an analysis of these groups who feel very strongly about the general issues. These groups are cross-referenced against the dependent variables in order to define any traits within this sector.

7.5. First Hypothesis: - *"It is fundamental to this research that changes in GDPs working environment are actually occurring and that GDPs are reducing their commitment to NHS based dentistry and increasing developing the private sector of the clinical practice".*

It is central to this research that it shows that actual changes are occurring with the delivery of primary dental care. It is these very changes which are forcing GDPs to examine, assess and then plan strategies in order to retain or modify their objectives. The literature searches have examined and demonstrated at least some of the changing external factors that could influence GDPs. Among these findings, and perhaps one of the most important issues to affect GDPs, has been the issue of fluoride and the effects it has on dental decay. The results are that GDPs have seen a significant source of their income removed. However, it has not caused the great reduction in the workload that might be anticipated. A sequelae to this is that older patients now keep their teeth into older age. It is these patient who have had extensive conservative dentistry in their youth who now wish to keep their teeth into old age that has created the demand for advanced restorative work. In anticipation of the forecast reduction in dental decay, 3 of the 17 U.K. dental schools have been closed or amalgamated. These closures resulted in a significant reduction in the supply of new graduates entering primary dental care. The shifts towards private dentistry can perhaps be explained by the fact that as work load are increasing, GDPs are in the classic situation of supply failing, in some degree at least, to meet demand.
The issue was further compounded by the creation of early retirement schemes for GDPs age 55 and over. These GDPs were often those who were principals and when they were offered these enhanced packages, almost 1000 [some 5% of the GDP

workforce] took the government's offer. This created the situation where the market was flooded with practices for sale and as a result many of these practices could not be sold and simply closed down. However, it might also explain the anomaly reported in Table 31 in which an unexpectedly high number of respondents claimed to be principals. It is possible that large numbers of associates took the opportunity to buy established practises at a lower price and this might indicate a trend away from the associate system of work. More research needs to be done in this area. Perhaps it is inappropriate government policy and planning that is a major contributor of the changing scenario of what is perceived by many to be an acute dental manpower shortage.

Another clear area of change is in gender distribution. Dentistry and medicine are now both equal opportunity professions. Females are seen to be entering dentistry at an increasing rate. Morganstein quotes that until recently; females made up only 12% of the dental workforce but now they make up 26% and the research confirms this It is a controversial point and one that needs much further research in order to determine the relative contribution that females give to professional service. It might be argued by some that that some females, who could be second income earners, have time off to raise families might have different objectives to their male peers. The group surveyed contained 26% of female GDPs [this approximates to the national average]. In the cross reference table of results, Table 70 indicates that only 8% of females compared to 29% of male GDPs thought that their net income is very important to them. Table 36 indicates only 43% of females compared to 63% of males were actively trying to develop their private work.

Patient's charges for NHS dental treatment has increased to 80%, this change is significant to GDPs when they are allied to government attempts to satisfy consumer demands. The introduction of the Patient's Charter has made GDPs accountable, in a formal way, for patient management. This financial obligation is additional to the requirement to maintain professional standards of work that has always been monitored by the Dental Practice Board via the use of examining Dental reference Officers.

The changing issues of greatly increasing work loads, increased accountability and the fact that NHS rates of pay [except for 1998] for GDPs has, over recent years, consistently failed to match inflation. In all the sectors, most of the respondents seem, in varying degrees, to be concerned with a decline in their NHS income.

Amongst the changes that will have a significant effect upon the working conditions of GDPs is the increase in the age profile of dentate patients, many of these elderly patients are medically compromised. GDPs need to improve their medical knowledge in order to be able to give safe and ethical treatment to these complex patients. The research has shown that oral cancer is on the increase and for over 2500 deaths in the UK each year. It is the elderly who statistically are more vulnerable to developing oral cancers and it is a changing role for the GDPs to encourage examination and screening of these elderly patients. These changes require dentists to continually update their clinical skills to satisfy the professional obligation to give patients "best standards".

Changing "Prior approval" demands contribute to additional administration. Ethical demands are often in conflict with government policy on what they will allow to be done as NHS dental treatment. The government has increasingly imposed prior approval requirements on NHS dentists and as an example; they have recently

withdrawn the use of NHS gold and/or bonded porcelain to gold crowns for any patient for restoration of posterior teeth. The resourcing for these advanced restorative procedures is changing and apparently reducing. This in turn bring conflict for GDPs in that these treatments which the elderly will be increasingly requiring as part of consumer awareness is difficult to supply as apart of standard NHS treatment. Many of these elderly patients are on income support and thus do not have to pay for NHS dental treatment. They often cannot afford to pay for the treatment under private contract.

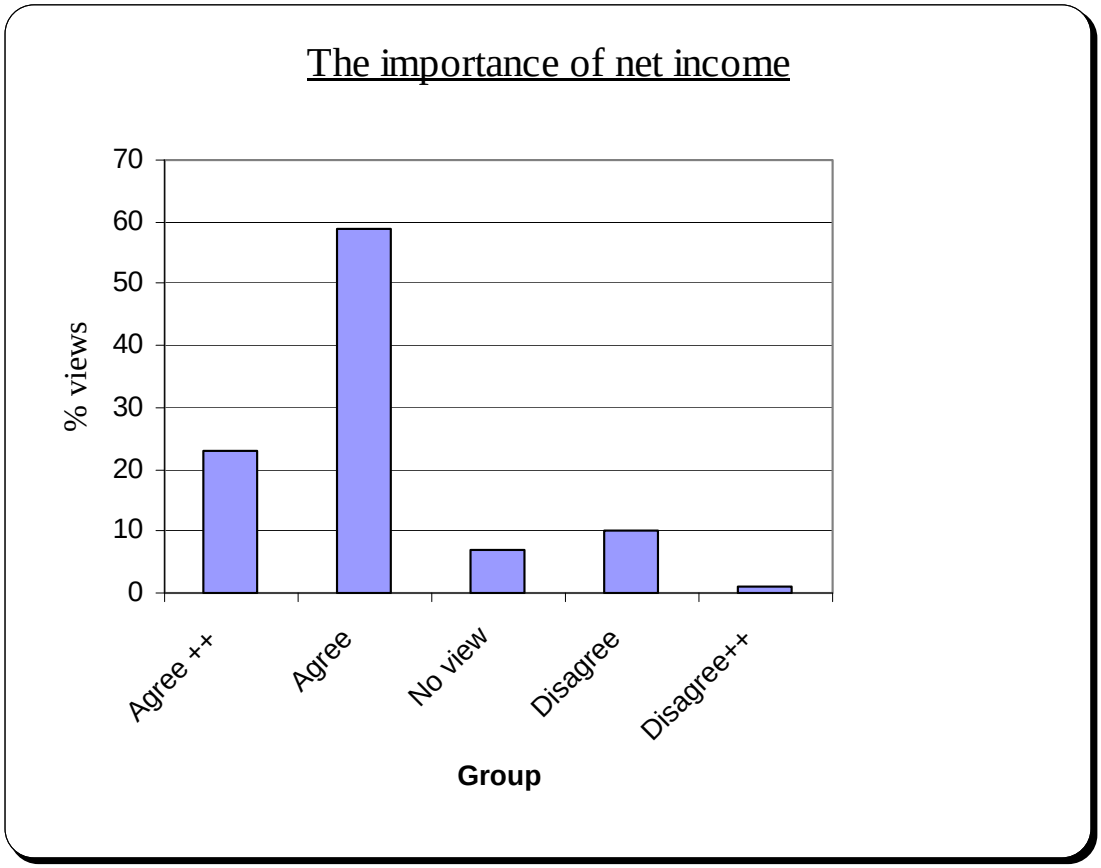
Another area of change that is occurring in the delivery of primary oral health is possible erosion of status that is felt by the GDP. Table 46 indicates that 69% of GDPs are prepared to use the courtesy title of Dr. This is a change from the conventional use of the surgical title of “Mr” or “Miss” but this might be explained by the increasing international travel and the need for UK dentists to be bought into line with international convention. The research in chapter 2 reveals the technological changes that are occurring within clinical dentistry and the need for GDPs to devote considerable time and finances to learning these new skills. The research also indicates the problems that many GDPs have in implementing these new found skills.

Summary of findings on first hypothesis:

The conclusion is that the data collected totally validates the first hypothesis, this data illustrates, in depth, some of the changes that are occurring in widely differing areas in the GDPs working environment. These range from clinical to political and economic change and it is reasonable to assume that GDPs will be forced to react, at least in some degree, to these changes that are taking place around them. This validation of forms the basis for the first part of the new model.

7.6. Second Hypothesis: *"Income is important to GDPs and is significant to GDPs in the way in which they practice their clinical dentistry".*

Chart 5. A summary of Table 43.



The in-depth interviews had demonstrated a uniform concern amongst all those interviewed for financial issues. These concerns took several different forms and it was from these interviews that these concerns were itemised and refined.

The above chart shows that 82% of GDPs considered their net income to be, in some degree, important in deciding how they practised their clinical dentistry. 24% considered it to be very important and only 10% considered this to be unimportant. It is perhaps stating the obvious that income is important to most people. The intention

of the question was not to determine what income GDPs might expect to earn but to determine how the current financial rewards for practising GDPs might influence the strategies they use in trying to achieve their objectives.

Table 27 indicates that only 11% of the GDPs who responded undertook over 75% of their work under private contract and Table 28 indicates that 56% were trying to increase the amount of private work that they did. This finding can be considered to help validate the second hypothesis but only in a limited way. There is a move towards private work but the amount of private work undertaken comparatively small which indicates that there is no headlong rush by GDPs towards the private sector for financial gain.

Table 48 combined those who agree and those who strongly agree groups. It was used to cross-reference the importance of net income to the independent variable. The table shows that all groups, no matter what their private base was considered their net income to be important in some degree and this included those GDPs who were actively trying to develop their private work. The older groups of dentists found their net income to be more important to them than the youngest group and Table 48 also showed that male GDPs [86%] considered net income to be more important than females [70%]. Principals [89%] and those principals who employed other dentists [89%] found net income to be more important than did associates [71%] or single-handed principals [79%]. This relative importance of income would indicate different objectives in different groups and it might infer that the larger group practice owners are more financially orientated in their objectives.

The table also indicated that there was no difference between the groups that were married and had alternative incomes and those unmarried and those with no unearned income. The ratio of the importance of net income was the same in all groups.

Table 67 reveals that when a comparison was made of the groups that felt very strongly, it emerged that 28% of GDPs who practice 75% or more of their private work felt very strongly that net income was very important in deciding how they practice their clinical dentistry. This compares with only 19% of those who do less that 25% of their work under private contract. This could support the hypothesis that certain groups are governed by their net income and it is this group that is more likely to try to convert from NHS to private practice. A similar result is obtained from Table 68 which reveals that of those actively developing their private work, 28% compared with only 17% of those no
t developing their private work consider net income to be very important. Tables 69 reveal that the older GDPs [29%] compare with younger GDPs [16%] consider income to be important. Table 70 indicates that 29% of male GDPs compared with 8% of females. Table 71 indicates that 29% of principals compared with 12% of non-principals strongly agree that their net income is important. Table 72 indicates that 30% of GDPs who employ associates compare with only 19% of those who don't, think very strongly that net income is important. Table 73 indicates that 25% of married GDPs think net income is very important compared with only 15% of unmarried GDPs.

These findings on the relative importance of net income are significant in validating the second hypothesis. While there is not uniform agreement within the groups of independent variables it is demonstrated that there are significant differences of opinion between private and NHS dentists, young and old GDPs principals and associates and married GDPs. These results again add credibility to the hypothesis that income determines to some degree how certain sectors of GDPs practice their dentistry.

Table 52 indicates that there was a wide difference in opinion regarding the statement that my NHS income is declining. 42% of the younger age group agreed or agreed strongly that this was the case while 73% of the older age group agreed with the statement. Only 13 % of the younger age group agreed very strongly with the statement while double the number, 27% of the older group felt this was the case. This would indicate that the older practitioners have been around longer and perhaps have experienced a relatively large drop in income over the longer period. Younger practitioners are not aware of much erosion in their net income. There was little difference to these figures if gender allowances were made so these results might indicate that the younger GDPs are unaware of the erosion of their net income.

Table 61 indicates that 71% of principals agree with the statement *"My NHS income is declining"* while only 31% of associates agree. This is probably explained by the fact that principals are exposed to the full force of the costs of overheads in running a dental practice, these principals are likely to be older and have experienced a drop in net income which was more pronounced because it had taken place over a longer period. The younger associates who are almost immune the costs of overheads should note the great difference in opinion.

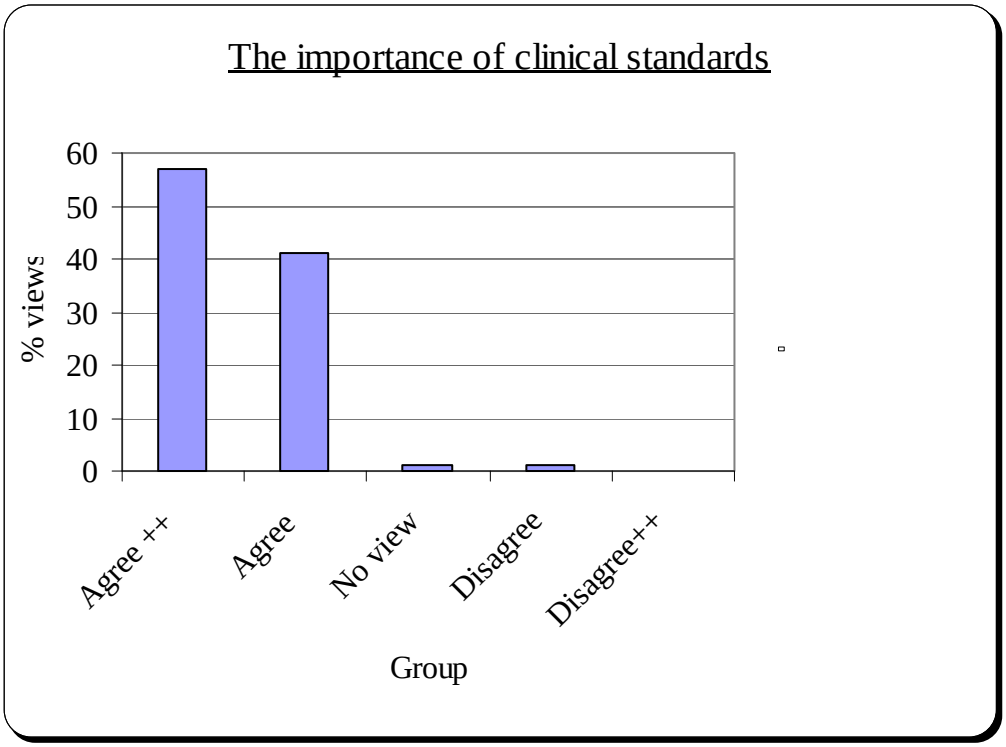
Table 53 also indicated a similar difference in the age groups when views on the importance of NHS benefits such as pensions and guaranteed payments of the NHS. It is perhaps down to the experiences of the older GDPs who have come to value these benefits which do to some extent, minimise the risks of bad debts and poverty in old age. It is a reasonable statement that as the young age they will give greater credence to risk and their well being in old age. Table 57 indicates that 44% of males agree that these benefits help keep them in the NHS while only 30% of females agree with the statement. This might be due to the fact that some females are the second income earners in the family and so are not so dependent upon their income. 46% of principals agreed with the statement while only 29% of associates agreed. This is an interesting situation and is perhaps the opposite of what might be expected since it is the principals who are better placed to develop a private practice rather that the associates who probably have a smaller and less loyal patient base.

Summary of findings on second hypothesis:

This is a complex sector to give over all comment on. It is clear that different groups attach different degrees of importance to their net income and the way it influences how GDPs practice their clinical dentistry. It was considered that much of the evidence gathered in this section supported and validated the second hypothesis. As a result of this validation, it was considered legitimate to include in planning and developing the decision-making model, the influence of financial issues on GDPs.

7.7. Third Hypothesis: *"The quality of the clinical dentistry, which GDPs are able to perform, is significant to GDPs in the way in which they practice their clinical dentistry".*

Chart 6: This is a summary of Table 44.



Few people are going to admit to working to low standards or having poor ethical standards [hypothesis 4]. The "Halo effect" is well researched and is likely to influence people when they are questioned about their individual performance. Great care was taken to minimise this effect in all of the research programs. The question, at the interviews and in the questionnaire was always carefully worded so that individual levels of personal performance were not called into question. It was hoped that the respondents would understand that the direction of the research was to question the

response of individuals when personal objectives on standards were difficult to achieve. Allowance has been made for responder misunderstanding.

The response of every group to the above statement was almost universally in agreement. The in depth interviews revealed that all of those interviewed had grave concerns about how they could maintain their clinical standards because changing conditions made the maintenance of these standards increasingly difficult. These conditions consisted of time pressure, reduced resourcing, staffing problems and operating in increasing numbers on the elderly. These elderly patients frequently had medical conditions which made operating conditions considerably more difficult. Table 44 reveals that 98% of the GDPs who responded considered that the standards of their clinical dentistry was important to them in the way they practised their clinical dentistry. 57% of these GDPs felt very strongly about the matter. Table 45, cross-references those who agree or strongly agree on standards against all of the independent variables. This table reveals that in every section and in every group the GDPs are almost 100% influenced in their clinical practice by how they maintain standards. This result gives very strong support to the hypothesis.

When the more detailed analysis of cross-references those who feel very strongly compared to all the other groups certain differences do appear. Table 74 and Table 75 reveal that of those doing more than 75% of their work under private contract 76% of GDPs strongly agree compared with only 51% of those doing less than 25%. 65% of those developing their private work feel strongly about their standards compare with only 46% of those not developing their private work. This gives a

strong indication that those practitioners who are very concerned about their clinical standards are more likely to turn to private dentistry.

The results from Tables 76 and 77 reveal very little difference in the strong feelings towards standards between the age groups and the genders [about 56%]. Tables 78 and 79 reveal similar results [average 57%] between principals and those GDPs who employ associates. Tables 80 and 81 reveal an average of 56% of all groups in the married and the alternative income group, strongly agree on the influence of standards.

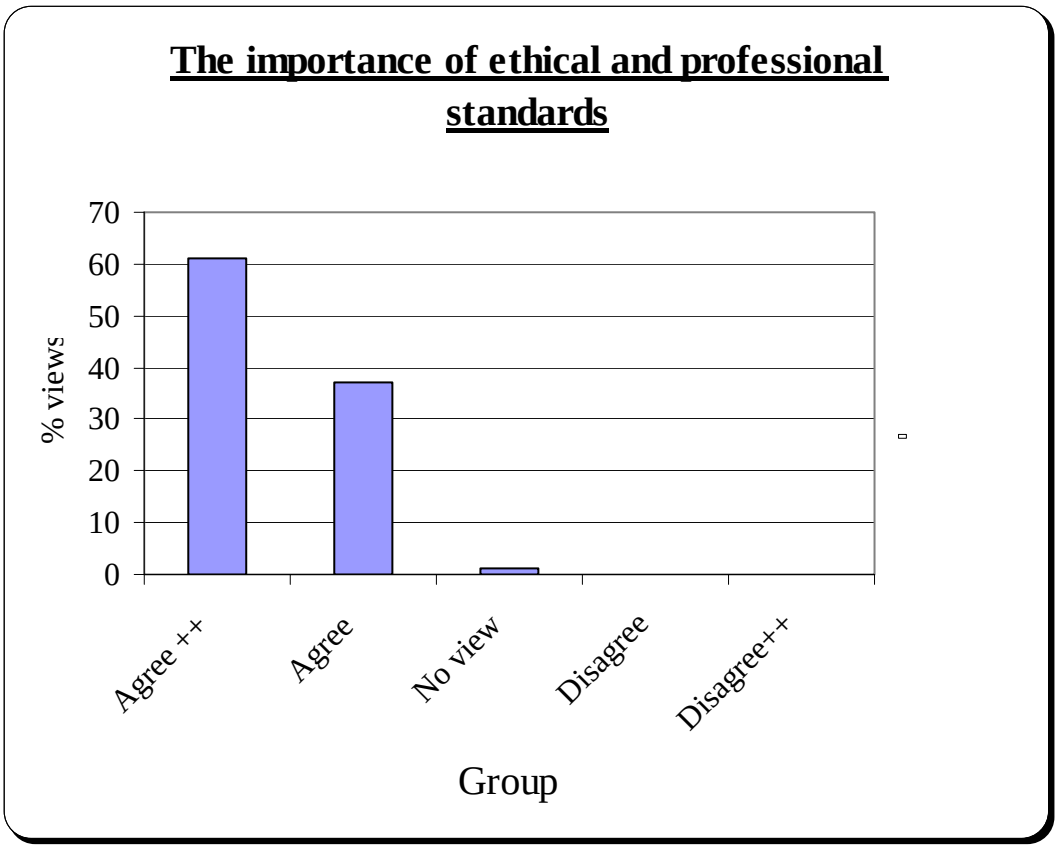
Summary of findings on third hypothesis:

Those GDPs who responded to the research indicated that the importance of standards is important to *the way they practice their clinical dentistry*. It is of interest that unlike the second hypothesis [finance] there is little difference in views between the age groups, gender and the principals. The longer standing established GDPs seem to maintain the same commitment to standards as the younger associate GDPs.

It is considered that, because of reservation of the possible association of the "halo effect", the evidence gathered in this sector of the research supports, at least partially, the fourth hypothesis. In planning and developing the third stage of the new model the third hypothesis i.e. the importance of the maintenance of standards will legitimately contribute to the model.

7.8. Fourth Hypothesis: *"The ethical and professional status of dentistry is significant to GDPs in the way in which they practice their clinical dentistry".*

Chart 7: This is a summary of Table 45



In the research into the fourth hypothesis, care was again taken to account for the "Halo effect". Similar care was taken in this section. Respondents where encourages to reply to the way ethics and professional behaviour might influence the way they practised their clinical dentistry and did not question how these GDPs might rate their individual ethical standards.

During the in-depth interviews the researcher endeavoured to elicit responses that indicated the way that GDPs approached the issues of ethical and professional standards. At no time were respondents requested to give an opinion on their individual ethics and it was intended that the research would find out how these GDPs got around the problems of maintaining proper ethical standards. The results of the in-depth interviews indicated that many of the respondents found maintaining what they considered to be proper "ethical and professional" standards to be increasingly difficult to maintain. There was the temptation to develop private practice so that the patient could have the perceived level of "customer care" that should be expected from dealing with a profession. Some respondents counterbalanced these concerns; they felt a loyalty to their patients and felt it was improper to abandon the poor to the market forces of private health care.

Table 45 reveals that 98% of respondents agreed or strongly agreed that ethics and professional standards influenced the way that they practised their clinical dentistry. Not a single GDP disagreed with the statement. Table 49 cross-referenced the importance of the combined groups of those who agreed or strongly agreed in ethical standards against the independent variables. This table revealed that between 98 and 100% of all groups in all sectors agreed with the statement on the importance of ethics and professional standards.

The Tables in section 5 cross-referenced only those who strongly agreed in the importance of ethics against the independent variables. Significant differences in strong feelings were revealed in some of the groups. Of those GDPs doing more than 75% of their work privately, Table 82 indicates that 76% felt strongly compared to

only 56% of those doing less that 25% of their work privately. Table 83 indicates that 70% of GDPs developing their private work agreed while only 48% of those not developing their private work agreed. Table 84 indicated that more of the older GDPs [64%] compared with 57% of the younger group, and Table 85 indicated that 67 % of females compared with 59% of males felt very strongly over the ethical issue. Tables 86, 87, 88, 89 indicated that the views of principals, principals who employ other dentists, the married and the alternative income section, all groups [average61%] agreed strongly on the ethical issue.

Summary of fourth hypothesis:

The results to this section bore remarkable resemblance to the results obtained in the investigations into standards. This must raise the question that the "Halo effect" did in fact have a significant influence on the way these questions were answered. However, the evidence collected from this section of the research indicated that the decision-making processes of many GDP were influenced by their concern for maintaining ethical and professional standards. As with the third hypothesis, it is considered that, because of the reservation of the "halo effect", the evidence gathered in this sector of the research supports, at least partially, the fourth hypothesis. In planning and developing the decision making model it is legitimate to include the issues developed from ethics and professional standards.

7.9. Fifth Hypothesis: *"The amount of "Stress" experienced in a GDPs working life is significant to GDPs in the way in which they practice their clinical dentistry".*

Chart 8: This is a summary of Table 46.

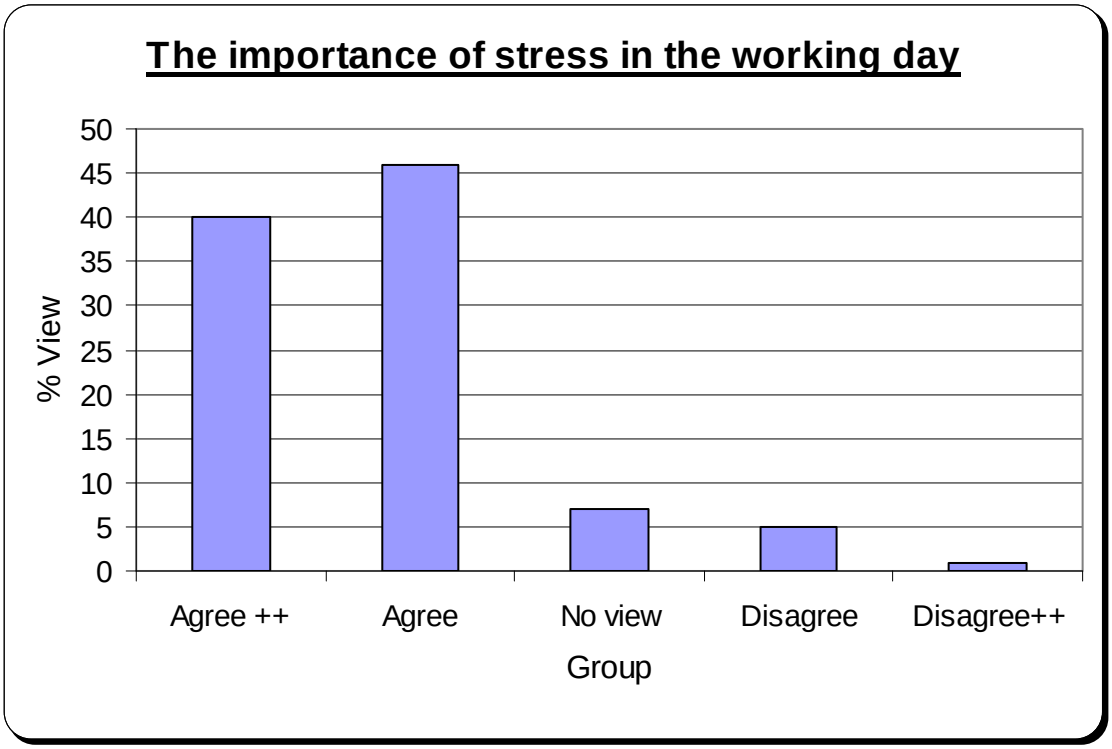


Chart 7 is an illustration of the response of all of the GDPs who responded to the statement on the fifth hypothesis. It indicates that stress plays a significant part in the everyday working of GDPs. Stress at work is not unique to GDPs, it appears to be widely experienced by many groups of workers and accounts for a significant proportion of days lost from work through ill health. The literature searches in chapter 4 revealed that much of research has shown dentistry to be amongst the most stressing of occupations. It is hardly surprising therefore, that GDPs should report the significance of stress in their working environment. It must be said that GDPs, although apparently very susceptible to stress, they do have a degree of control over

their working conditions that perhaps many other workers do not. In view of this the fifth hypothesis is especially relevant to the development of the model since it can be generated internally and can to some extent be controlled by altering the internal working environment. The in-depth interviews indicated that all of the respondents were concerned about stress in their working day. It was experienced in different amounts at different times and generated by different stressors. These stressors have been identified in the literature searches and the main issues of financial pressure, interpersonal relationships with staff and patients, time demands, maintaining standards all were mentioned in the interviews. Many of those interviewed were actively developing their private work because the felt that private dentistry was a route to eliminating the stresses cause by working in an under resourced NHS. Many thought that the main cause of their stress was financially induced. It was the very lack of resources such as shortage of manpower and the low fees per “item of service” which were the main precursors of other causes of stress. These GDPs thought NHS dentistry made them see more patients than was acceptable. Although GDPs were relatively high income earners, they felt this was at the expense of overwork which resulted in poorer standards, and created the stress because they felt they simple could not do NHS dentistry at the level the deemed appropriate. However, despite these protestations, most of the GDPs interviewed earned most of their income as NHS dentists. There were efforts to develop private work as a means of reducing stress but the overall impression that that the NHS supplied GDPs needs at present. There was a discernible impression that GDPs were becoming increasingly unhappy about stress related emotions caused by working in the NHS. These dentists were, at least, thinking about changing their working patterns to improve their perceived quality of

life and this gives support to the need to develop the working model so that these GDPs can have some theoretical guidelines to aid this decision making.

The main questionnaire was analysed and Table 47 indicates that 86% of GDPs found that in some degree they agreed that their stress levels influenced how they practised their clinical dentistry and this compared with only 6% who disagreed.

Table 51 cross-reference stress in of those who agree either or strongly agree with the independent variables. The interesting result here is that those GDPs who do most private work or who are proactive in developing their private work are those who feel most stressed. The table also reveals that older dentists [90%] feel stress compared to 80% of younger GDPs and that males [89%] compare to on 79% of females in being influenced by stress. The working strategies of principals [91%] and of those who employ associates [92%] seem to be significantly greater than non-principals [79%] and those not employing associates [83%].

The literature searches in chapter 4 had indicated that one of the major stressors was caused by conflict with support staff. The results from this survey did not lend much support to the statement that *"I get stress because working in the NHS means that I cannot afford good quality staff"*. Table 55 indicates that only 3% of younger dentists strongly agree with this statement compared to 12% of older dentists. 40% of all younger dentists disagree with the statement. It is also of interest that 50% of female disagree with this statement compared to only 35% of males. Principals [42%] and those who employ associates [44%] found the quality of NHS support staff to be stress inducing compared with associates [17%] and those not employing associates [27%]. These results indicate that for many dentists, stress induced by inter personal

relations with support staff is not as great as might be expected. There is no obvious explanation for this.

Sections 3,4,5,6. Of the main questionnaire were designed to give a more in-depth probing into the general sections of finances, quality, ethics and stress. These tables gave the results of cross-referencing specific issues against the independent variables. Table 54 reveals that older GDPs [81%] compared with younger GDPs [55%] agree or strongly disagree that working in the NHS cause them financial stress. In a similar vein, Table 55 reveals that older GDPs [40%] think stress is caused because they cannot afford good quality support staff at NHS rates of pay, only 20% of young dentists think that this is the case. Tables 58 reveal further differences in views between males and females. Females appear more concerned [54%] than males [42%] that actually treating private patients is in itself stress creating and Table 59 indicates only 61% of females compared to 74% of males think that stress is created by the financial pressures of working in the NHS. Table 60 reveals that female GDPs [23%] compare with males [36%] get stressed because the think NHS rates of pay result in them having to employ poorer quality ancillary staff. Table 63 reveals a larger number of principals [80%] compared with only 55% of associates thought strongly or very strongly that working within the NHS cause them financial stress. Table 66 revealed that NHS financial stresses were greater for married GDPs [75%] that for those not married [57%] although this could be influenced by many other external factors.

The following results were considered to be of greater significance to the investigation. The Tables in section 5 analyse information that cross-references only those groups who feel very strongly in agreement with the statements against the

independent variables. Tables 90 and 91 indicate that of those GDPs who do over 75% of their work under private contract [70%] and those who are developing their private work [48%] compare with only 33% of those who do less than 25% of their work under private contract. Those who make no effort to develop their private work only 29% think very strongly those stresses influences how they carry out their clinical dentistry. The results from Table 92 indicate that older dentists [49%] strongly agree while only 31% of the younger GDPs feel that stress influences their working lives.

Table 93 reveals that in the group of principals 46% think that stress in their working day influences how they conduct their clinical dentistry. This compares with only 28% of associates who think the same.

Summary of fifth hypothesis:

Unlike the previous two hypotheses i.e. the third and fourth, the results of research into the fifth and final hypothesis reveals a wide variety of differing requirements. Those practitioners who are more involved with private dentistry and who are actively developing their private sector work appear to be more prone to the stress of working in the NHS. It might be concluded that stress, in whatever form the stress might take and for whatever reason could be a major factor in the strategy of these GDPs. It is also apparent that those GDPs who have become principals or those who own group practices i.e. employ other dentists are more likely to suffer from increased stress. This additional stress may well be a result of the additional responsibilities that this group will incur. The data collected validates to a reasonable degree the fifth hypothesis and this is used in the valid development of the new model.

7.10. Validity and application of the five hypotheses.

It was considered that each of the hypotheses had been investigated in depth and scientifically evaluated. These investigations indicated that the individual hypotheses were, to differing extents, deemed to be valid and representative of the "real world" situation as it affects GDPs. The in-depth interviews had strongly supported the first second and fifth hypotheses and to a lesser extent the third and fourth hypotheses. However, those hypotheses that had appeared to be of less importance in the interviews were supported to a greater extent in the main questionnaire. The consistent and high ratings in the results relating to the third and fourth hypotheses were attributed in part to the "halo effect". However, every attempt had been made to make the respondents think about how these issues would influence the way they *practised their clinical dentistry*. These hypotheses were considered to be part proven and of value, these issues did influence the strategic decision making policies of GDPs. The validation of these hypotheses is central to the development of the new decision making model. The proposed model is developed from the Fred David Model. [Figure 7] in which the concept of external and internal audits is considered. The development of the external audit stage is given credibility by the first hypothesis. This not only gives a basis for assessment of current status but it also serves to categorise the external environmental issues over which the GDP has no control.

The remaining hypotheses serve to give credibility to the next stage of the model that will consider the internal audit. This stage evaluates factors over which the GDPs

might have some control. The hypotheses will support the fact that these core issues have been identified as being an essential part of the many issues that will influence the GDP's thought processes. It is from these that the model will seek to determine the individual needs of the GDP and then propose alternative strategies for the individual GDP. From this evaluation, the model will proceed to suggest certain strategies to implement the desired objectives. The modelling will be completed by a system of continual re-evaluation.

7.11. Population profiles.

The evidence that has been outlined in the above discussion also indicated that there were considerable differences in the responses of the groups in the independent variables. While there was broad agreement for the individual hypotheses, the Likert scale questionnaire revealed considerable differences in the strength of the responses. This is significant in the development of the model since it serves to illustrate that different GDPs have very different objectives and the model must take account of these divergent needs.

For example there were considerable gender differences in needs, certain groups e.g. the males who had private practices attached much more importance to income than females in NHS practice. These males also tended to undertake more private work and they were more proactive in trying to develop their private work. These males also appeared to attach more importance to clinical standards and were also more prone to financial stress. Females seemed to attach less importance to their net income but also found dealing with private patients to be more stressing.

There were differences in attitude with increasing age; the older practitioners seemed to suffer more stress. They also thought their incomes were declining more quickly

than younger GDPs and that the benefits of the NHS, e.g. pensions helped keep them as NHS dentists. Further differences in objectives have been illustrated with principals and those GDPs who employed other dentists. This group appeared to experience more financial stress and they were more concerned about finances than associate GDPs.

It is these very differences in personal circumstances and personal objectives that give an added need for a new model. The proposed model attempts to embrace and allow for all the various diverse sectors of general dental practice.

7.12. Limitations to study

The following limitations are recognised within this study:

1]. Research constraints [i.e. cost and time] restricted the focus of the consumer research to a sample area within the Midlands. Previous studies have identified regional differences in both patient and professional oral health care policies. For example, the south-east Patient/Dentist ratio is significantly lower than elsewhere in the UK with the West Midlands having one of the worst ratios. The findings may therefore be unrepresentative, imposing limitations upon the generalisability of the research.

Research has also shown that comparisons for demand for dental treatment vary across regions. In general patients living north of the more affluent home counties seek less treatment and do not demand the more sophisticated levels of treatment that are available. Thus whilst the sample was not truly representative of UK patients and dentists, the resulting data provides a valuable insight into the views and behaviour GDPs within the sample area and might give an indication of the views and behaviour of UK GDPs as a whole.

2]. Data were collected from representatives of GDPs covering the spectrum from full NHS to part NHS/Part Private to fully committed private practitioners. Although consideration of the views of each and every individual GDP in the sample area was preferable it was clearly impracticable.

3]. An attempt has been made to incorporate the following issues but other fixed variable such as male/female ratios [over 50% of new dental graduates are female], the status of the GDP i.e. principal, associate or assistant. [Only 50% of GDPs actually hold equity in their practices] needed to be further evaluated. Other factors such as the age of the GDP are relevant for two reasons, not only the normal ageing process but the fact that the earning potential of GDPs has declined, those who practised 25 years ago could command high salaries and invest for their old age. Younger practitioners do not have that luxury.

4]. Recent government retirement policy has resulted in some 700 GDPs recently taking up the option to retire from the NHS. This enables them to take an enhanced pension and then continue to practice under a totally private system. It is a “one off” situation and its effects will be diluted with time.

5]. Account has been made for the fact that some GDPs employ other dentists as associates, this theoretically enhances profits and gives a greater opportunity for the principal to pursue his/her idealised type of practice.

6]. In depth interviews: - The intimate nature of some of the questions required my personal acquaintance with those surveyed. This had 3 possible sequelae.

- These 'peers' would be more open and honest with some body that they knew rather than with a stranger.
- There could be the problem of a non-random selection and an unconscious selection of a 'type' of GDP.

- It is possible that the GDPs interviewed might with-hold information from somebody they new personally.

The use of sampling can also impose limitations upon the generalisability of the data; it is highly unlikely that any sample will be a perfect representation of the population from which it is drawn.

7.13. Conclusions:

The five hypotheses are based on issues that might influence the decision-making processes of GDPs. There has been a total acceptance of three of the five hypotheses and the partial acceptance of the other two. This legitimately justifies the use of these hypotheses as the main driver in the formulation and development of the new decision making model for general dentists. This development is discussed in the next and final chapter.

CHAPTER 8: The development of the GDP decision making model.

8.1. The "Real World" model.

The research question asks, "What model could General Dental Practitioners use in their strategic approach to managing the enforced changes that are occurring within primary Dental Care?" The proposed new model needs to be of functional value to GDPs, it needs to have credibility within the working environment and it needs to address the issues that are facing GDPs in the "real world". The research has shown that GDPs work in a complex professional environment and these environmental influences will arguably have an effect on the wants and needs of individual GDPs and on the strategies that they adopt in attaining their chosen objectives. However, the literature searches reveal no research literature on the combined effects of the five hypotheses on the decision making of dentists. In this research, these five hypotheses have been validated to varying degrees, and it is the data and these hypotheses that will be demonstrated to form the driver behind the model development. The characteristics of the new model attempted to account for the following issues:

- The model was constructed in a standard and disciplined manner in accordance with the methodology and the data obtained from research.
- There was a reflection and representation of the real world environment and an accurate portrayal of the characteristics of the real world system.
- The model contains all the desired information on a given system in a readable and useable form.

The following outlines the frames of reference within which the model was constructed.

- Consideration was given to the problems and the problem areas that GDPs might experience. The boundary created by the first “historical” or rough model formed the domain and governed the restraints of the model. As the research revealed more original information, the model was expanded and then altered.
- The viewpoint of the model was created to be flexible so that it encompassed the set of processes in the problem areas. The model was also designed so that it was possible to alter its contents and allow for changes in environmental rules, scenarios and values. The formulation of the model tried to encourage the understanding of the problems identified by the validation of the hypotheses; these are the problems that any GDPs might face. GDPs can identify their personal position within the model and in doing so, gain pointers to an understanding of personal objectives and an indication of the strategies available to attaining these objectives.
- It was considered that the ability to adapt and manipulate the model would be critical to its usefulness. This model tries to enables a decision-maker to use the model in order to simulate the problem areas, test out new ideas and then monitor the effects of any changes.

8.2. Objectives:

The literature searches have shown that in many small businesses that the level of planning seen in larger organisations is frequently missing or at least reduced. No organisation exists in a vacuum, every organisation, no matter how large or small must have an objective. This objective might be structured, formalised and frequently reviewed or conversely it might be totally unstructured and indeed appear that there is no objective or reason for existing. It is arguable that most successful corporations will have set objectives and at least attempt to derive strategies that will help achieve these objectives. In this thesis, the domain of the GDP has been likened in many respects to that of the small business. The main reason for this research is to identify some of the ways in which successful planning strategies could be applied in the attainment of any GDPs personal objectives.

8.3. Overview: Use of hypotheses to develop the model

The new full model is presented in Figure 12 and it serves to give an overview. The discussions in the previous chapter have identified the important issues in GDP decision making. This outline illustrates the fluid arrangement in the model that allows for a succession of stages of evaluation. Each of these stages is dependent upon the previous stage and as information is gathered and analysed, so previous decisions can be looked at from a different perspective. The steps that can be taken finally lead to an evaluation of the developed scenario. The whole process is repeated this time at a higher level of awareness. The model consists of six main stages. They are: -

1] Figure 12 illustrates stage one. This stage indicates the need for the identification of areas of concern for the individual GDP. There must be a current evaluation of attainment of personal objectives. This involves a listing of the issues that are important to the individual. This stage should see a personal “mission statement” which outlines all personal objectives, for example, this could be a total commitment to the NHS because of strong ethical beliefs in equality of care.

2] There needs to be an evaluation of the common and sometimes unique external environmental factors that affect GDPs and are the factors over which dentists have little or no control. [Figure 13].

3] There is an evaluation of internal factors that the GDP have a degree of control over. [Figure 14].

4]. The “Types” of practice available to GDPs. [Figure 15].

5] Figure 16 illustrates the ways in which the GDP might implement strategies is assessed. These strategies are exclusive to the domain of primary dental care and categorise the options available to GDPs.

6] Finally, the model returns to stage 1 [Figure 17] after the implementation and an evaluation of the level of attainment of existing or new objectives. This completed cycle means the individual GDP can identify their own unique position on the model and having once identified their own personal objectives they can plan career moves by changing position on the model.

The model is illustrated in the next six figures. The various stages are discussed and relevant attributes made to the significance of the research findings

OVERVIEW OF MODEL: STAGE 1

Stage 2 of model Figure 13

Stage 3 of Model Figure 14.

Stage 4 of model Figure 15.

Stage 5 of model Figure 16.

Stage 6 of model Figure 17.

8.4. The Decision making model.

8.4.1. Stage 1 and the Mission Statement:

The findings in chapter 7 have validated the five hypotheses and in order for these hypotheses to inform the model it must be demonstrated that the research data supports the various model stages. In stage one, a starting point for GDPs, is to define long-term aims and objectives in the form of a short personal statement; “The mission statement” and it should focus upon the individual’s needs. Objectives can be defined as the specific goals an organisation seeks to achieve in pursuing its basic mission and long-term means more than one year. The GDP needs to understand that the strategic management process is dynamic and is continuous. A change in any one of the major components in the model can necessitate a change in all or any of the other components. An example of this would be a major depression in the national economy and this could represent a major threat to private practitioners and require a change in long-term objectives and strategies. A further example of this could be fundamental changes in government support for NHS dentistry.

The GDP, perhaps without realising it, will try to achieve personal goals by the introduction of strategies. These strategies have a life cycle that is illustrated by periods of activity and periods of inactivity. Strategic issues in general dental practice [like much small business] are frequently not considered at all or else only minor incremental adjustments are made. Thus most of a GDPs strategic activity remains in the inactive phase. The mission statement is important and it should be easily understood. It is the key

means of communicating to the GDP and, if necessary, these basic objectives to the support staff.

It follows on that before formulating the long-term mission statement, the dentist should have created a list of personal desirable strategic objectives. For example, some of these objectives might be the level of personal earnings, reduction of stress levels, ethical issues, a commitment to further education and the development of particular areas of expertise, capital growth with practice expansion, enhanced management and information systems, early retirement etc.

The literary searches outlined in chapters 2, 3, and 4, supported the first hypothesis. Work by Renson [1994, 1995] and Barmes [1994] have revealed the presence of continual widespread external changes. Morganstein [1997] has demonstrated the significance of change by increases of females into the profession. This first hypothesis stresses the need for stage 1 and is illustrated by the fact that Table 25 indicates that only 11% of GDPs do over 75% of their work under private contract. While this might be relatively small, Table 28 has indicated that 56% of all GDPs are actively developing their private work. The same Table also indicates that another essential part of the new model, the changing amounts of private work and the degree of interest in developing private work does indeed to exist.

If it is accepted that 56% of GDPs are changing their objectives then this involves listing areas of concern that prevents the dentist attaining these objectives. Each item on this new list of primary objectives needs to be evaluated and if possible given a “weighting” in their degree of importance. If all objectives are being achieved and it is also certain that these objectives will continue to be achieved then there is no need for any changes in

the organisation’s structure. It is worth commenting at this stage that this is an improbable scenario.

8.4.2. Stage 2:

This stage embraces and develops the concept of evaluating external environmental factors as proposed by the David model [Figure 7]. GDPs do not work in isolation and they are exposed, in some degree at least, to the vagaries of market forces. These forces can take many differing forms and the GDP needs to look at each stage and to evaluate the effects changes in these factors can have upon their individual practice. For example Table 53 indicates that 53% of older GDPs compared to only 28% of younger GDPs stay in the NHS because of government pension arrangements.

Figure 13 illustrates how this stage 2 of the model is broken down into five different stages and they are discussed in turn.

At each stage the significance of these findings are considered to support the next stage of the model and this is seen to form a web of complex inter-related, conflicting issues.

POLITICAL

- The National Health Scheme is financed by central government. Table 94 indicates that 68% of all GDPs are worried about the future of NHS dentistry. It is clear that changes in government policy towards primary dental care will impact heavily upon the working environment of any GDP. Table 61 indicates that 71% of principal GDPs think their NHS income is declining. The commitment of successive governments towards continuing support for NHS dentistry must be questioned. Since the introduction of the free and comprehensive scheme, which was set up in 1948, there has been gradual and continual erosion of this all-embracing plan. GDPs who plan to

continue working as NHS dentists must question the future commitment to funding of NHS dentistry. Table 54 indicates that 81% of older GDPs are caused financial stress working in the NHS. Rates of pay or the control of treatment planning i.e. rigorous prior approval enforcement are clearly issues that will have direct influence on GDPs working patterns.

- Unemployment: Most patients now have to pay 80% of the cost of their NHS dental treatment. However there are many exempt categories of patient, i.e. those on income support, children, expectant/nursing mothers. Mistry [1998] has reported on political effects and if there is a recession and unemployment and/or tax rates rise then it is reasonable to assume that dental treatment will take a lower priority in personal needs. It might be considered that the "luxury" end of the market i.e. private dentistry might be more susceptible to these changes.
- There are regular amendments to the Dental Act. There are perceived shortages of dentists for the delivery of primary dental care. This problem may be exacerbated if government policy to close more dental schools is implemented. Renson [1994] has commented on the potential acute shortage of GDPs that might well result in a deskilling of the profession. Changes to the Dental Act might result in the use of dental auxiliaries and denturists. These health workers might work under the supervision of GDPs but will also be working in direct competition as they will do work was the exclusive domain of the GDP.
- There is the possibility of changes in tax status. Associates are currently scheduled as self employed and hence gain tax advantages. It is understood that the government might review this status and make associate dental surgeons employed and subject to

schedule D taxation regulations. This change would have a significant effect upon the associate/principal relationship.

- There is increasing consumer protection and product liability. GDPs have recently seen the introduction of the Patient's Charter and with it, the formalised complaint procedure.

ECONOMIC

Dentists are exposed to market forces just like any other small business. Although they have worked in a historically protected and stable "professional" environment, it is probable that GDPs will be increasingly exposed to harsher economic climate. Hypothesis two has illustrated the importance if net income to most GDPs. Many of the changes that will affect dentists working in the NHS will be as a result of political activity. Some of the following are areas in which dentists need to be aware of possible changes and threats:

- It might be considered that site saturation has occurred in many areas. It is increasingly difficult, because of the high costs and financial risks, to start up new dental practices. The distribution of dentists though out the UK is uneven; there are areas of acute dental manpower shortages. As part of the external evaluation, GDPs must consider the risk of new practices being started in direct competition. Table 25 indicates that 56% of all GDPs are actively trying to develop their private work and it is logical to assume that in the more affluent areas the % is even higher. This is especially relevant in areas in which most GDPs have abandoned the NHS and

operate cartels of private work. Competition for patients exists already and the risk from new dentists opening NHS practices in these areas is high.

- Many EEC countries have an over supply of dentists. The numbers of overseas dentists coming into the UK to practice is increasing. There is now a levelling of academic professional standards in the EEC and freedom of movement for professionals to move though out Europe will undoubtedly become easier.
- The costs of employing suitable trained staff are high. Table 64 indicates that 71% of principal NHS GDPs get stressed because they cannot afford good quality staff and Table 65 indicates this figure rises to 80% of principals who employ other dentists. This figure compares to only 20% of younger GDPs and 23% of all female GDPs. Competition can also result from other market sectors; it might be said that one of the effects of Thatcherism resulted in job insecurity when compared to the previous labour regime. The development of full employment policies might lead to the scenario that existed in the early 1970s in which competition to employ staff was great.
- The demands of the dental supply companies are a potential threat to running costs. There is continual amalgamation of smaller supply companies and a few large players now supply much of the raw materials needed for the delivery of primary dental care.

SOCIAL.

The desire for dental health is unpredictable. Only about 50% of UK citizens are registered with a GDP.

- Chart 2 illustrates patient's attitudes towards dental care vary through out the UK. The differences between perceived need of patients are often very different to what the patients want. There has been a steady and persistent raising of the standards of oral health care in recent years but much dental disease is still focused on the high-risk areas of the lower social classes. And this distribution is not uniform.
- The availability of social services such as bus routes and ease of parking will influence patient demand. Government policies on social reform and the removal of free dental care to priority cases such as expectant/nursing mothers or children under the age of 18 might affect demand for treatment.

TECHNOLOGICAL

Chart No 6 illustrates the importance of clinical standards to GDPs and the literature searches have revealed the rapid changes that are occurring in the delivery of primary oral health care. The significance to GDPs of keeping pace is part of the model.

- The most obvious has been the effect of fluoride upon the incidence of dental caries. It is possible that new sources of disease protection will emerge i.e. a vaccine against dental caries and periodontal disease.
- New technology will affect GDPs. This may create new opportunities for example the development of dental implants and the use of lasers. New materials will be

developed and all of these developments can pose both threats and opportunities to GDPs.

BIOLOGICAL

The first hypothesis states changes are taking place and amongst these are disease patterns are changing and dentists need to be aware of the demands that this will exert on their working patterns.

- There is a clear decline in the incidence of dental caries but the incidence of dental deformities [orthodontics] and periodontal disease is increasing rapidly [Community Oral Heath 1997]. More patients are keeping their teeth into old age and the literature searches has shown that this creates two major problems 1] the clinical condition known as: the worn dentition" 2] the problems of treating the medically compromised older patient.

8.4.3. Stage 3:

Figure 14 explains the relevance of the internal factors. In analysing the organisation's assets a SWOT analysis [strengths, weaknesses, opportunity and threats] is useful. Chart No7 illustrates the fact that 62% of GDPs felt very strongly that they are able to perform good clinical standards and Table 82 indicates that amongst those GDPs doing over 75% of their work under private contract 76% considered that ethical and professional standards were very important to them. Table 83 also indicated a similar trend in that 70% of those developing their private work compared to only 48% of those not developing private work thought the same. If this is the case then the GDP needs to look at various sectors of their practice and understand how it is equipped to compete in the market place. The ability to achieve predetermined goals needs to be evaluated. The organisation's strengths need to be developed and any potential opportunities, which might arise from these strengths, need to be noted. Conversely the weaknesses within the organisation need to be identified and corrected. Weakness in any area will expose to practice to threats from external competition.

The purpose of this thesis is to develop the new decision making model for GDPs and it is not intended that well developed ideas should be repeated. However it is central to the model that this stage consists of two main parts. Part 1 lists a resume of some of the issues that the GDP needs to evaluate as part of their internal evaluation:

Part 1.

Personal skills:

The individual GDP's strengths and weaknesses in terms of clinical ability, their public relations or inter personal patient skills. The chair-side manner of the GDP is a significant factor.

Management skills:

The GDP's abilities to understand management techniques and their ability to carry out effective and routine management of the running of a general dental practice.

The personnel structure:

The management structure and the organisation of staff involved in the production or delivery of the service to the public.

The support staff:

The quality and ability of the support staff to deliver the appropriate levels of service to the consumer [patients]. In group practices this involves an evaluation of both the availability and the ability of other professional members of the team.

Production [delivery of care]:

The existence of suitable facilities for the delivery of primary dental care. This involves an evaluation of both the surgical equipment and ancillary facilities e.g. car parking, waiting rooms etc.

The cultures of the practice:

The practice need to evaluate what type of patients it seeks to attract.

Capitalisation and finances:

This is clearly an important aspect of any small business. The level of available capital, profit and loss accounts, liquidity ratios and potential returns on investment all need to be considered. The primary goals of acceptable net income, reinvestment and expansion policies must be clearly understood.

Reputation:

Advertising is now allowed, but in a controlled way. Much of a professional's reputation is conveyed by "word of mouth" and the practice image must be monitored.

Site of practice:

The ease of access to surgery premises is important. Functional bus routes, on site parking facilities and ground floor surgery levels for the elderly are helpful.

Information systems:

Computerisation and information technology must be evaluated because the use of clinical and personal databases is developing. The use and the advantages of direct data transmission to the Dental Estimates Board need to be considered.

Part 2

This part serves to explain the issues that had been validated by the hypotheses. Table 43 illustrates Hypothesis two in that only 11% of GDPs think net income is not important to their dentistry. Tables 44 and 45 demonstrate a very high 98% of GDPs agreeing with hypotheses three and four in that standards and ethics play a strong part in personal objectives. Hypothesis five is supported by Table 47 that indicates stress at 87% to be a slightly less desirable objective that standards or ethics. The development of the

functional new model also necessitated the understanding of the relationships between the dependent and independent variable. Within these sectors it needed to be shown that certain key issues highlighted in the literature searches were seen by the profession as a whole as being very important to the way the practised their clinical dentistry. Charts 5,6,7,8, indicated that the issues of finance, standards, ethics and stress were central to the model as all groups of dentists in all sectors found these issues to be significant. As the model is developed, further research examples will be given to illustrate how this data gives information Figure 16 demonstrates how this stage involves a consideration of the implementation of strategies to achieve the objectives. GDPs will work in varying degrees in some or all of the following specialities: dental public health, conservative dentistry, oral and maxillofacial surgery, oral pathology, orthodontics, paediatric dentistry, periodontology and finally prosthetics. Their level of expertise will vary according to individual interests, postgraduate training and clinical experience. It must be considered that business management should be added to this group of general dental practice skills. The research has shown that the understanding of running a small business is a key element in successful dental practice. The level of business expertise required will vary according to the degree of involvement of in the day to day running of the practice. It is clear that the principal of a large group employing many staff will be involved more in management than an associate surgeon but, at whatever level, working with support staff, using supplies and the need to maximise profits affects all self employed GDPs.

Within each of these sectors of practice the dentists needs to choose the standards at which they will be clinically functional. They will also need to choose a predetermined

and acceptable level of personal income, work within a tolerable personal stress level and at the same time achieve expected levels of professional and ethical behaviour. This leads onto the next stage, Figure 15, in which the GDP needs to decide and plan their work status and their personal career pathway.

8.4.4. Stage 4:

Work Status and Career Pathways:

Figure 15 illustrates this stage of the model that considers the career pathways that are open to GDPs. The first hypothesis is relevant in supporting the identification of the core areas of employment for GDPs and how they shift along this continuum. This stage illustrates how the framework of the model is set around the identification of four independent core variables, which are: associate, principal, group practice, those employing other dentists. There can be movement both backwards and forwards within these sectors of the model. Table 25 indicates that all the GDPs who responded to the surveys do indeed work, in varying degrees, within these sectors. It is important to understand which types of GDPs actually work within these sectors and Tables 38,39,40.41 indicated that the other independent variables e.g. age, gender and married dentists all work, in differing degrees, within all of these sectors. The more detailed investigations into these specific issues also indicated a great individual variation in the ways different groups aligned themselves into different sectors. For example, the results Table 41 indicated that 91% of dentists age 46+ were principals and Table 40 indicates that 76% of all principals were developing their private work. Table 36 indicates 63% of males who were developing their private work tended to be principals. Of all groups, Table 91 indicates that 48% of dentists developing their private sector considered stress to be strongly important to them. On the other hand, Table38 indicated that 73% of females worked as assistants or associates and Table 36 indicates that 57% of females did not try and develop their private sectors. Table 59 indicates that only 62% of females compared to 74% of males found NHS dentistry financially stressing.

Associate:

Table 25 indicated that 35% of the respondents were associate, vocational trainees or assistants. This is a widely used and refined method by which new graduates enter the field of primary dental care. An associate is self employed and thus directly and personally responsible for the treatments that they give patients.

Strengths: Table 71 indicates that only 12% of non-principals i.e. associates, consider their net income to be strongly important to them. The associate requires no capital investment to start in practice; the principal supplies all the equipment, the patients, the support staff and the management skills. It is an easy way to start in practice. The associate gets a predetermined percentage of their gross earnings after certain overhead costs have been deducted. This usually equated to 50% of gross turnover minus costs such as superannuating contributions and laboratory charges. Those GDPs who have no wish to get involved in major management issues find the associate status allows them to concentrate on clinical matters and arguably reduces the stress that is involved in the day to day running of a practice.

The system also allows inexperienced GDP to gain clinical and managerial experience while as they develop their own ideas and personal objectives. This self-employed associate status confers on the associate; some of the tax benefits that employed staff do not enjoy. Table 63 indicates that only 56% of associates believe that NHS dentistry causes them financial stress. This compares to 80% of all principals.

Weaknesses: The associate is dependent upon the principal that they work for. There are many areas of potential conflict. Amongst these is quality of support systems, the equipment the ancillary staff, the clinical freedom to choose treatment plans and the rates of pay. The associate might have little say in the cultural development of the practice and can be left with difficult demanding patients while the principal creams of the "better" private patient. As turnover is increased by the efforts of the associate the value of the practice as a saleable small business for principal works is enhanced. The associate sees not of these benefits and while the principal benefits from this increased value perhaps the associate would benefit from putting their efforts into developing their own business.

Opportunities: It can frequently offer a way into a partnership or to becoming a partner by internal buy out from a retiring principal. The associate will be able to earn professional fees while they await a suitable opportunity to purchase their own practice and developing an established track record and gaining experience will be a helpful asset in obtaining financial backing from the financial sectors.

Threats: The associate has little say in future practice developments and a practice sale might leave the associate without work or exposed to the management requirements of a new regime. It has also been widely rumoured that the Inland Revenue is considering a change of status for associates. This might mean the associate becomes a type of assistant and is thus governed by PAYE regulations.

Assistant:

This is not a common status within the delivery of primary dental care. The assistant is salaried and is paid a predetermined level of income. This does not integrate well with the current "item of service" payment system and is often in direct contrast to the turnover of the assistant. The Assistant will usually work under the principal's NHS number and thus the principal is directly accountable for the work done by the assistant. Both of these issues are great potential sources of conflict and as a result few GDPs choose to work in this system. Many of the other issues relating to an assistant are covered by those described in the associate section.

Principal:

The principal takes the role of the entrepreneurial small businessman. Table 71 indicates that 29% of principals compared to only 12% of non-principals find their net income is very important to them. They are self-employed and their net income is determined solely by the results of the profit and loss account. It is usual for a GDP to become a principal after gaining clinical and management experience as an associate. It is possible for a GDP to become a principal immediately after graduating or currently after completing their Vocational Training year. This is unusual as lack of financing and clinical experience usually makes this a non-viable proposition. Estimates have placed the numbers of principals to be in the region of 35% of GDPs involved in the delivery of primary oral health care.

Strengths: The principal is in total charge of running the practice and as such is personally accountable for the performance of the business. This need to be in control is satisfied by being the principal. It means that working patterns are adjusted to personal needs. Target net incomes, practice cultures and choice of staff are all at the discretion of the principal. Extra productivity and endeavour should bring rewards in finances and professional status. The expansion and increased profitability of a practice will enhance its resale value and the GDP is able to build up personal levels of collateral, which are denied to the associate dental surgeon.

Weaknesses: The principal is accountable for the performance of the business and as such is responsible for the management and profitability of that practice. Table 64 indicates that 71% of principals compared to only 31% of non-principals find the problems of getting suitable staff to be very stress inducing. This entails extra administrative duties within management, e.g. human resource management and the monitoring of financial performance. These duties have to be undertaken on top of the usual routine clinical responsibilities that GDPs are involved with.

Opportunities: The principal has personal freedom to develop and expand the practice as they see fit. This presents many opportunities in the form of expansion of special skills, the development of private practice and the chance to improve management tasks. The principal also has the opportunity to develop and employ other dental surgeons as associates or get involved as a trainer within the Vocational Training Scheme. These

developments could greatly enhance net profits and also improve the resale value of the practice.

Threats: The principal is directly responsible for the practice. GDPs are not allowed to operate under the protection of registered limited companies. Not only is the GDPs practice at risk if it fails, but also all other personal assets are at risk. It is unfortunate, but bankruptcy is seen in increasing numbers in the GDP sector.

Employ associates:

This is one of the natural progressions of becoming a principal. It is usually a result of overwork for the principal. When demand cannot be met, the decision has to be made to either prevent further growth by refusing to take on new patients or even deregistering existing patients. Demand can often be reducing by taking the private route and increasing fee levels until equilibrium of market forces is achieved.

Strength: The group practice can achieve greater profits by economies of scale. There can be specialisation within the practice and cover can be available for holidays or periods of sickness. Working rotas can be introduced so that longer working hours can give a better service to the public. Greater finances could mean better access to redevelopment funds and hence better standards of equipment.

Weakness: Table 93 indicated that 46% of principals compared to only 28% of non principals found stress in their working day to be very important to them. The owner of a group practice is exposed to the everyday problems of employing staff. Some of these problems could include absenteeism, poor clinical performance, low standards of ethical behaviour and the risk of inter personal conflict between established members of the staff.

Opportunity: Table 71 has indicated that 29% of principals compared with only 12% of non-principals consider their net income to be very important to them. As with being a principal the opportunities for expansion are enhanced. This could bring increased profits and an increase in the resale value of the practice. It also will allow the principal to develop specialised areas of interest or develop their private sector while associate surgeons undertake the routine NHS work.

Threats: The same threats apply to those that the principal dental surgeon is exposed to. It might be said that these risks are increased in direct proportion to the size of the business. The group principal is dependent upon the quality of the associates that are employed. There is always the risk that associates will move. There is an acute manpower shortage in certain areas and there is always the risk that outgoing staff cannot be replaced. This could result in expensive equipment being left idle, trained staff being surplus to requirements and the residual problem of looking after a full list of registered patients. Patients would probably leave the practice and this would result in a decrease in turnover and low of resale value of the business.

Body Corporate:

The development of a Corporate Body is an unlikely target for most GDPs, however it has a place in the delivery of dental health care and must be considered as a possible option. The Dental Act of 1953 made the further registration of Corporate Dental Bodies illegal. There are 26 such bodies in existence and until recently they have not been a significant factor in the delivery of primary dental care. This situation is now changing rapidly. These bodies have attracted the attention of the venture capitalists that see the opportunity to repeat the successes of the optical and pharmaceutical professions. Dental practices are considered low risk high profit businesses. If suitable arrangements can be made to employ GDPs then expansion is possible. It will be of interest to observe the progress of these companies and the impact that they might have on the delivery of primary oral health care. These companies endeavour to achieve cost advantage by economies of scale and vertical integration. Many of these companies are allied to commercial dental laboratories and dental supply companies. The current situation is that 5 of these companies appear to be undergoing an intense growth battle in which the larger group practices are being purchased in the hope that the company will achieve marked dominance for an eventual company flotation.

8.4.5. Stage 5:

Figure 16 illustrates that whatever objectives the GDP has determined, that GDP has to operate within a system that enables these personalised objectives to be achieved. Porter's generic strategies have formed the framework of the model into which the "Types" of practice were subdivided. It is theoretically possible that any of these strategies can be developed and implemented using any of the systems that are in current use in the delivery of primary oral heath care.

There are several systems of delivering primary oral health care via general dental practice. These systems can be exclusive or as Figure 16 illustrates, they can be combinations. The model considers each of these systems in turn and these form the basis by which GDPs can make an informed decision on the management and delivery of personal objectives.

Total NHS practice.

Strengths: Table 25 has indicated that 69% of all GDPs do less that 25% of their work under private contract. The government guarantees fees and there is, in general, a large demand for NHS dentistry. NHS dentistry is the most cost effective way of delivering primary dental care and corresponds to the first of Porter's generic strategies i.e. "cost advantage" and as a result means there is likely to be a greater demand for treatment. In most parts of the UK competition from other dentists is generally limited and it is unlikely to change much in the immediate future. The NHS gives all GDPs the facility to earn, what might be regarded by most, as a very comfortable standard of living. There are

benefits such as good index linked pensions, early retirement packages, and seniority and sickness payments. Tables 53,57,61 indicate that 53% of older GDPs, only 31% of females and 46% of principals are kept in the NHS because of these benefits. A final point is that working in the NHS it might be said by some to occupy the moral high ground in that it operates under utilitarian principals and serves to do the greatest good for the greatest numbers.

Weaknesses: Many might think that the relatively low fees, which with the exception of the 1998 review, have consistently failed to match inflation. Table 52 indicates that 73% of older GDPs compared to only 42% of younger GDPs believe their NHS income is declining. These lower fees have several sequelae; firstly, the item of service system and low fees place a premium on speed and efficiency. This environment is in direct conflict to the caring and precise way in which surgeons and indeed all healthcare workers are expected to perform. The second sequelae is that working under these time constraints, on patients who are frequently nervous and frightened, creates one of the most stressing of working conditions for the GDP. This environment also comes into direct conflict with the ethical requirements of being caring and working to high professional standards. The third sequelae is that continuing professional development is difficult because time away from the surgery means fees are lost. It is also possible that the implementation of newly developed skills is difficult to implement on the NHS because of the system of rigorous prior approval of complex treatment plans.

Opportunities: There are still areas of acute shortage of dental manpower. This is not evenly distributed throughout the UK and the GDP who wishes to start a new practice and is prepared to relocate should have no problems in developing a NHS dental practice. There are also considerable grants available. In order to attract GDPs into these areas of chronic shortage, salaried posts have been created but these are outside the remit of this research since it involves the community dental service.

Threats: One of the main worries for NHS GDPs is the commitment of this and future governments to NHS dentistry. Despite protestations from successive Ministers for Health, it would seem that commitment to NHS dentistry has undeniably been eroded over recent years.

The introduction of the Patients Charter to NHS dentistry might be considered by many to be a grave threat. GDPs now have a greater level of accountability for their treatments and should patients make formal complaints then the loss of earnings while these matters are being dealt with can be considerable

Total Private Practice.

This type of practice corresponds to the second of Porter's generic strategies i.e. "focus" in which no special skills are developed but the product is designed to achieve higher and better standards than the "mass production" methods of NHS dentistry. Table 74 reveals that those GDPs doing over 75% of their work under private contract, 76% compared with those 53% of those doing less that 25% considered standards to be very important to

them. Table 91 indicates that 48% of dentists developing their private sector considered stress to be strongly important to them. This compares with only 29% of those not developing their private sector

Strengths: One of the main advantages of private practices are that fees charged to patients are subject to the usual market forces of small business. There are no constraints on the levels of payments. GDPs can charge what the market will stand. This leads to the removal of working under the stress that time limitation creates. It also offers the opportunity to work to the highest standards as better quality materials and equipment can be used. A further advantage is that continuing postgraduate education is possible since higher fees can compensate for time out and there is no government restriction on treatment planning. The ethical outcome of these changes is that private GDPs can argue that they satisfy the professional obligation to give all their patients the highest standards of dental care that they, as individuals, can give.

Weaknesses: It is of interest that Table 58 indicates that 54% of female GDPs found private patients to be very demanding and thus stress inducing. Private GDPs will be required to make their own personal provisions to private pension contributions. Patients might be conditioned to and committed to NHS dentistry. These patients will need to be "persuaded" of the benefits of private dentistry and this will be a time consuming marketing project that has no guarantees of success.

Private patients are likely to be more demanding in the levels of care that they expect. It is reasonable to assume that patients are prepared to pay higher fees in the expectation of higher levels of care. The private dentist must be able to produce these higher standards.

Opportunities; The opportunity exists to create a patient led demand for acknowledged high standards and quality of care. These GDPs are able to explore the frontiers of dental science and experience and develop the very latest surgical innovations such as dental implants and treatments of periodontal disease. Private insurance schemes such as Denplan and BUPA facilitate the development of private practice. Certain regions of the UK seem to have developed successful cartels in eliminating all NHS dentistry form the area.

Threats: Market forces play a significant part in the success of any small business. It is reasonable to assume that there is far greater competition for patients in the private sector than in the NHS sector and that private dentists will continually be under the treat of loosing patients. Private dentistry is at the luxury end of the dental market; a downturn in the UK economy, higher taxation or greater unemployment would make private dentistry vulnerable to reduced demand. There is no guaranteed payment system and the risk of bad debts from unhappy patients must be taken into account.

Regional areas, which have a total private delivery of primary oral health, will be very vulnerable to the development of NHS dental practice and the apparent recent trends to develop “Bodies Corporate”. These might pose a significant future threat to private dentists.

Mixed Dental Practice:

Strengths: The research has shown that this is perhaps a less popular route with GDPs than might be expected, only 20% of dentists do more than 25% and less than 75% of their dentistry under private contract. A mixed dental practice allows the exploitation of the advantages of both private and NHS systems of delivering primary oral health care to the UK public. GDPs are able to develop a blend of practice which suites their needs and allows them to focus, in varying degrees, upon their special interests and needs. It arguably solves the ethical dilemma of individual demands for high quality and the ethical requirement to try to attend to all patients.

Weaknesses: A combination of both develops potential flaws in the delivery of dental care. It will require higher levels of investments to achieve the levels of customer satisfaction that private patients require. Much of this expenditure will be delivered to NHS patients and arguably will result in a poor return on investment. It will also involve much duplication of systems and overlapping of private and NHS treatment sessions.

Opportunities: This system allows an incremental development of private dentistry. A toe can be dipped in the water and a periodic evaluation of progress can be made. GDPs are thus better placed to assess their business potential rather than the immediate and wholesale conversion to private practice as advised by certain of the dental insurance schemes. The GDP can develop which sector is seen to be most successful without complete abandonment of the others.

Threats: It is considered by some to be impossible to integrate the special requirements of private practice with the running of a basic NHS practice. Dual standards might be seen to be blatantly in use and private patients might resent the apparent subsidy of NHS care. These GDPs might end up failing to deliver either type of dentistry effectively and as a result fail to attract sufficient numbers of either type of patient.

Specialisation in Dental Practice:

This sector corresponds to the third and final sector in Porter's list of generic strategies i.e. "differentiation". This involves the development of special skills that attract a small sector of the market that wants a highly sophisticated and difficult to obtain product. The eight sectors of dental practice have been outlined above. Most GDPs practice, to a greater or lesser extent, all of these sectors because they make up the day to day requirements of practice. There is a strong case for the development of special skills within one or more of these sectors since the great scientific advances that are being made within oral health care mean that it is impossible for any GDP to be fully competent in all areas. It is probable that UK general practice will see the development of specialised general practitioners as is currently seen in American dentistry

Retrenchment:

This is final choice or rather a non-choice in the type of practice that a GDP can operate within. However, the decision to abandon general dental practice must be looked upon as a positive decision and a career development. It is a strategy that might achieve the objectives of certain GDPs. There are many reasons why a GDP chooses to leave practice. These reasons might include having a family, health or personal reasons, having time out or simply finding the delivery of primary oral health to be an unacceptable career or the wish to take early retirement. This decision can involve part time work and is not a final decision. This option fits in well with the model in that continual re-evaluation means that the individual will always have the opportunity to restart a career in general dental practice. A further pathway for retrenchment could be the develop areas of other interests and skills in field related to the delivery of primary oral health. These could involve support roles such as Area Dental Advisers, or Dental Reference Officers.

8.4.6. Stage 6:

Figure 17 illustrates this stage of the model and it indicates the end of the cycle and the return to the need to re-evaluate personal objectives. This assessment of performance has probably been performed on a continuous rather than one final or even periodic assessment. Some objectives might take many years to achieve while others are short-term goals. It is inevitable, given the rapidly changing world that GDPs work in, that change will eventually be required and corrective actions will be needed. The strategic evaluation must be meaningful and should relate to the GDPs objectives. It must also be economical with information; it is pointless to have excess of useless information, as this in itself can be counterproductive. The evaluation must provide a true picture of the current and the ongoing scenario; it must not dominate decision-making and must above all enhance common sense.

8.5. Implications for Future Research:

The study casts serious doubt upon research that fails to take into account "Real world" attributes and on the research that relies heavily upon other related literature. An example of this is the way in which this research highlighted the dangers of using hearsay and perceived media publicity. It demonstrated the falseness of statements that indicated the widespread shortage of NHS dentists and on the demise in the way that primary oral health care is delivered by GDPs in the NHS. The thesis involved a qualitative analysis of the GDPs surveyed. The nature of the research did not lend itself to a quantitative analysis. The model now needs to be tested out on a sample of GDPs to evaluate and if necessary, modify its contents. Each stage of the model has created an area for further research and these stages will require further refinement. Examples of these are:

Refinement of the Model.

The reliance upon the use of a SWOT analysis in the model was considered appropriate. This business tool gives an effective and simple evaluation of circumstances. It is not over complicated and does not usually give a bewildering and confusing array of data. Further development could be considered used more complex business tools such as SPACE [Strategic position and Action evaluation] Matrix; The BCG [Boston Consulting Group] Matrix; the IE [Internal-External] Matrix; The grand Strategy Matrix and for the Decision making stage the QSPM [quantitative Strategic Planning Matrix]. These models are complex business tools and while their application might be of some value, the

gathering and the processing, of what might be inaccurate information, would be of questionable value to the GDP at this stage.

Individual Work Output:

The population was surveyed for the type of work undertaken and no attempt was made to determine the amount of work that individual practitioners undertook and produced. It would be of relevance to determine these working patterns e.g. the numbers of dentists working part time, those taking time out, perhaps to have children or simple career breaks. The numbers of dentists retiring early or leaving dentistry altogether would be of value in determining future manpower requirements. Any differences in gender work output, both in the short term and in the working lifetime, will impact significantly upon the delivery of primary oral health.

Gender attitudes

It has been explained that dentistry is an equal opportunities profession. The current numbers of female GDP is about 26% and this is predicted to rise to 50% by the year 2020. The research undertaken has shown that some females have different objectives and responses to their male peers. In general, females seem to undertake less private dentistry, are less inclined to develop their private work and appear to attach less importance to their net income than male dentists do. As females increase in numbers, these attitudes could have a significant impact upon the delivery of private dental care. The private insurance companies might find fewer dentists doing private work and the corollary to this is that more dentists might undertake more NHS work.

Older established GDPs

The new contract was designed, in part, to encourage prevention of oral disease. It involved a continuing care payment for GDPs and a need to re register at fifteen-month intervals. A part of the ethical duties of dentists is to try to achieve a good standard of oral health for their patients but just as importantly to maintain that level of health. It would be totally improper to de-register patients once oral health had been achieved. Demand for treatment is such that many established dentists find their working day filled with large numbers of regular patients who require minimal treatment except for basic examinations and minor treatments. It might be considered to be a complete role reversal when the experienced older dentist finds his day full of simple treatments while the new inexperienced dentist gets involved with the complex neglected conditions of many new patients. The issues of stress have been investigated but the consequences of this new working pattern could create the scenario of stress through boredom. The more successful a dentists becomes in converting his patients to maintaining good oral health then the it would appear that less of the working day will be available for the interesting and complex work. It would be of interest to research the views of these established and successful dentists

8.6. Conclusions and significance of this model for GDPs:

This research was developed because of the apparent very confused state in the development of dentist's career pathways. The research has focused on the role of the GDP but as the research developed, changes in emphasis occurred. It would be of interest to outline some of the other options that had been considered:

The initial intention was to develop a strict business audit model that would mimic and enhance corporate planning models. The literature searches soon made it apparent that the differences between "Profession" modelling and "Business" modelling were great. It was considered that because of the vagaries of general dental practice, the professional obligations and the unique and changing payment systems used by most GDPs that a totally new and specific dental orientated model was required. The long established and respected models of Porter [Figure 9] and David [Figure 7] have been integrated and enhanced to produce the new model that is unique to general dental practice.

Other avenues that were explored but abandoned were the works of Greiner; this model explains the development and growth of a business from its inception as a one-man organisation through to a multi-national corporation. This was considered to be too narrow in its approach; it started with a new one-man business and developed through to stage 2 which considered several people working together. The model developed into an analysis of the performance of larger organisations. This could be of value for the "Bodies Corporate" but as these "Bodies Corporate" form such a small part of general practice [at this stage] the model was considered to be very restrictive in its approach.

It is important that the new model embraces relevant and current issues. A significant part of the early research involved the investigation of the new mandatory Vocational Training Scheme for new graduates. It also involved the recent decision by the General dental Council to allow UK dentists to use the courtesy title of “Dr” and both of these were topical subjects that created much discussion and involved much space in the dental press. From this specific research, two published, refereed papers were developed. However, it was decided that these issues although important to the profession and to a small sector of GDPs did not play a significant role and were thus delegated to a minor role in the overall plan.

As the research developed, it became apparent that the main issues over which the GDP might have some control are those discussed in Chapter 4 i.e. the issues of finance, clinical standards, ethical behaviour and personal stress levels. It was these issues that became the main focus of the research and any attempt to broaden the areas for discussion was rejected. Thus the thesis has attempted to concentrate on a practical applicability which embraces the real issues affecting the working lives of GDPs of all age, gender and status.

It is hoped that the final model is both functional and useful. The model has a “Real world” application and is flexible enough to allow GDPs to operate a “What if” approach to their career planning. The model supplies a systematic evaluation of the options and allows all GDPs to diagnose their personal objectives within the overall model and thus plan any strategic career movements either forwards or backwards along the various stages of the model.

who could well be either NHS or private dentists.

References

Chapter 1 Bibliog References

Porter 93

Berhman 88 [book]

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Walker [85].

Chisnall [86].

Dillman [78].

Rugg-Gunn [97].

Jobber [86].

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Dillman [84].

Whitley [85].

Scott [61].

BIBLIOGRAPHY

Adams A. *Barriers to product innovation in small firms*. **European Small Business Journal 1982;1(-):pp 67-82.**

Allen, W.R. *The future of vocational training (letter).*
British Dental Journal. 1993;174(5), pp.158-9

Anonymous. *Dentists suicides, twice the national average*.
British Dental Association News. 1993; 6, p.2.

Anonymous. *Vocational training for general dental practice.*
British Dental Journal. 1992;172(4), pp.159-60

Ansoff, H.I. **Corporate Strategy.**
London: Penguin, 1987.

Atkinson, J.M. Millar, K. Kay, E.J. et al. *Stress in dental practice*.
Dental Update. 1991; 18, pp. 60-64

Baab, D. Ozar, D. *Whistle blowing in dentistry: What are the ethical issues?*
Journal of the American Dental Association. 1994; 125 (2), pp.199-205

Bailey, R.D. **Coping with stress in caring.**
Oxford: Blackwell Scientific Publications, 1985.

Barmes, D.E. *The Oral Health Challenge at the Dawn of the Third Millennium.*
British Dental Journal. 1994; 177(10), pp. 338-390

Bebeau, M. Thoma, S.J. *The Impact of a Dental Ethics Curriculum on Moral Reasoning*. **Journal of Dental Education.** 1994; 58 (9), pp. 684-694

Becker, M.H.(Ed.) **The Health Belief Model and Personal Health Behaviour.**
Thorofare, New Jersey: Slack, 1974.

Behrman, J. **Essays on Ethics in Business and the Professions.**
New York; London: Prentice Hall 1988.

Bell, C.J. *Focus on continuing education for dentists*.
Dental Practice. 1996; 34(9), p.12

Birley S, Norburn D. *Small business vs large companies: The entrepreneurial conundrum.*
Journal of Business Strategy. 1985; Summer, pp. 81-7

Blinkhorn, A.S. *Stress and the Dental Team: A Qualitative Investigation of the Causes of Stress in General Dental Practice.*
Dental Update. 1992; November, pp. 385-387

Bloomfield Report. **Fundamental review of dental remuneration.**
London: HMSO, December 1992.

Bolton Committee. **Report of the Committee of Enquiry on Small Firms.** Cmnd 4811.
London: HMSO, 1971.

Bradnock, G. Pine, C. *Delivery of oral health care.* [Chapter] **Community Oral Health**. Oxford; Wright 1997

Broadway, E.S. Whitebread, L.J. *Is half the profession apathetic to further learning?* **British Dental Journal.** 1993; 174(10), pp. 379-380

Brouthers D. Andriessen F.Nicolaes I. *Driving Blind: Strategic decision making in small companies.* **Long Range Planning. International Journal of Strategic Management.** 1998;31(1) pp 130-137.

Brown LJ, Lazar V. *Differences in net incomes of male and female owner general dental practitioners.* **Journal of American Dentistry** 1998; 129(March):pp 373-378.

Bulman, J. Osbourne, J. **Statistics in Dentistry.**
London: BDJ, 1989.

Burke, F.J. *Onwards at the front of continuing dental education.*
Dental Update. 1996; 23(4), p.137

Burke, FTJ. Main, JR. Freeman, R. *The practice of dentistry: an assessment of reasons for early retirement*
British Dental Journal. 1996; 182(7), p. 250-254

Bury, J.H. *Dentistry's public image - does it need a boost?*
Journal of American Dental Association. 198; 118, pp. 686-692

Byrd, J.R. Moore, L. **Decision Models for Management.**
New York; London: McGraw-Hill, 1982.

Campbell A. *Mission statements*. **Long Range Planning. International Journal of Strategic Management** 1997;30(6):pp 931-932

Carotte, P. *Continuing professional development.*
British Dental Journal. 1995; 179(8), p. 277

Chadwick, R. **Ethics and the Professions.**
Aldershot: Avebury, 1994.

Chevasse, C. *My year in vocational training: highlights and horrors.*
British Dental Journal. 1989;166(6), p.228

Choudhry Z, Scully C. *Dental manpower: many questions, weak data and inadequate answers.* **British Dental Journal.** 1998;184(9):432-436

Clarke, E. **The Essence of Change.**
New York; London: Prentice Hall, 1994.

Colsom, D.J. *Medical Research Council Review of Dental Research.*
British Dental Journal. 1994; 176(7), pp. 244-6

Cooper, C.L. Watts, J. Kelly, M. *Job satisfaction, mental health and job stressors among general dental practitioners in the U.K.*
British Dental Journal. 1987; 162: 77-81

Cooper, C.L. Cooper, R.D. Eaker, L.H. **Living with stress.**
London: Penguin Books, 1988.

Cooper, J.A. *The future of vocational training (Editorial).*
British Dental Journal. 1993;174(2): 46

David, F.R. *How Companies Define Their Mission.*
Long Range Planning. 1989; 22 (1), pp. 90-97

David, F.R. **Strategic Management**.
New York; Oxford: Macmillan, 1993.

D'Cruz, L. *Vocational training. The interview.*
British Dental Journal. 1991;170(1), p.7

Department of Health. *A report on vocational training for general dental practice.*
British Dental Journal. 1992; 172(4), pp.159-60

Downer, M.C. Oral Cancer. [Chapter] **Community Oral Health**. Oxford; Wright 1997

Downer MC. *The changing pattern of dental disease over 50 years.*
British Dental Journal. 1998;185(1), 36-41.

Doyal, L. Cannel, H. *Informed consent and the practice of good dentistry.*
British Dental Journal. 1995; 178(12), pp. 454-460

Doyal, L. Cannel, H. *Whistle blowing: the ethics of revealing professional incompetence within dentistry.*
British Dental Journal. 1993; 174(3), pp. 95-101

Drewett, J.A. *Life after graduation: an alternative to the vocational training scheme.*
British Dental Journal. 1989; 167(2), p. 53

Drucker, P. **Innovation and Entrepreneurship.**
London: Pan, 1985.

Drucker, P. **Management, tasks, responsibility and practices.**
New York: Pan, 1974.

Drucker, P. **Managing for Results.**
London: Pan, 1964.

Drucker, P**. Managing in Turbulent Times.**
London: Pan, 1980.

Drucker, P. **The Practice of Management.**
New York: Harper and Row, 1954.

Ernst & Young. **The Manager's Handbook**. London: Marshall Editions. 1996

Eccles, J. Powell, M. *The Health of Dentist: a survey in South Wales***.**
British Dental Journal. 1967; 123, pp. 379-387

Edge T. *Business Guru at BDA*. **British Dental News** 1998; 11(4):37.

Editorial, *The Dentists Bill.*
NZ Dental Journal. 1988; 376

Editorial. *General Dental Council signals radical changes for next century.*
British Dental Association News 1998; 11(6): pp10-11.

Evans, D.J. Rugg-Gunn, A.J. Tabri, D.B. *The effect of 25 years of water fluoridation in Newcastle assessed in four surveys of 5-year-old children over an 18-year period.*
British Dental Journal. 1995; 178 (2), pp. 60-64

Farrel, S. *Contribution of women dentists to general practice.*
International Dental Journal. 1990; 40(3), pp. 142-4.

Forsyth, P. **Marketing for Non-Marketing Managers.**
London: Pitman, 1993.

Freeman, R. Main, J.R. Burke, F.J. *Occupational health stress and dentistry theory and practice, part 1: Recognition.*
British Dental Journal. 1995;178(6), pp. 214-217

Freeman, R. Main, J.R. Burke,F.J. *Occupational health stress and dentistry theory and practice, part 2: Assessment and control.*
British Dental Journal. 1995;178(6), pp. 218-222

Gelbier S. *The National Health Service and social equalities in dental care*.

British Dental Journal. 1998;185(1), 28-29

General Dental Council Working Party**. Report of a survey of first year undergraduate dental students.**
London: British Dental Association, 1992.

Gore, C. Murray, K. Richardson B. **Strategic Decision Making.** London: Cassell. 1993.

Grace, A.H. Smales, F.C. **Periodontal Control. Quintessence.**
1989.

Grace, M. *Education or training.*
British Dental Journal. 1995; 179(1), p.1

Grey M. *The Oral Health Plan for Wolverhampton*. 1995 [Draft Consultation].

Gurbert, B. Burnzweig, J. Bleecker, T. *How dentists see themselves, their profession, the public.*
Journal of the American Dental Association. 1992; 123, pp. 72-78

Handy, C. **Inside organisations.**
London: BBC Books, 1980.

Health Department. **Organisation and Management of Vocational Training for GDPs: Report of an Independent Scrutiny, Diana Scarrott.**
Available from the British Dental Association, December 1991.

Heene A. *The nature of strategic management*. **Long Range Planning. International Journal of Strategic Planning** 1997;30(6):pp 933-938

Hermanson, P. *Dentistry: A hazardous profession.*
Dental Student. 1972; 50, pp. 60-63

Hershey, H.G. *Professors and professionals: higher education's role in developing ethical dentists.*
Journal of the American College of Dentists. 1996;61(2), pp. 29-33

Higgs, D.M. *Dental care-matching training with needs*.
British Dental Journal. 1993; 175(6), pp. 196-7

HMSO. **Improving NHS Dentistry**.
HMSO: London, 1994.

Hobdell, M.H. *Medicine in a muddle*.
British Dental Journal. 1995; 178(12), pp. 469-472

Hoffer, C.W. Schendel, D. **Strategy Formulation: Analytical Concepts.**
Minnesota: West Publishing Co., 1978.

Holland, J.L. **Making Vocational Choices.** 2nd Ed.
New York; London: Prentice Hall, 1985.

Horrocks, J.R. Allen, W.R. *Beginning to work together.*
British Dental Journal. 1989;166(1), pp. 21-2

Hulse, G. Kendrick, A. Thomas, C.H. *Welsh Water should reinstate fluoridation on Anglesey.*
British Dental Journal. 1995; 178 (2), pp. 46-47

Illich, I. **Medical Nemesis-the expropriation of Health**.
London: Marion Boyers, 1976.

Jacobs, M.C. Pampling, D. **The practice of primary dental care.**
London: Wright, 1989.

Jankowicz, A.D. **Business Research Projects.**
London: Chapman Hall, 1994.

Jenning, D. Wattam, S. **Decision Making, An Integrated Approach.**
London: Pitman, 1994.

Johns, R. *Professional standards: In Search of the Holy Grail.*
British Dental Journal. 1995; 178(11), pp. 429-32

Johnson, G. Scholes, K. **Exploring Corporate Strategy.**
New York; London: Prentice Hall, 1993.

Johnson, N.W. Warnakulasuriya, K.A.A.S. *Epidemiology of oral cancer in the United Kingdom*.
Community Dental Health. 1993; 10 Suppl 1, pp.13-29

Kakabadse, A. Ludlow, R. Vinnicombe, S. **Working in Organisations.**
London: Penguin, 1988.

Kay, E. Blinkhorn, A. *Dentists working in a NHS offer an efficient service*.
British Dental Journal, 1996; 180 (3)

Kets de Vries, M. Miller, D. **The Neurotic Organisation.**
San Francisco; London: Jossey Bass, 1984.

Knott, N.J. *The future of NHS dentistry*.
British Dental Journal. 1993; 174(2), pp. 74-2

Kotler, P. **Principles of Marketing.**
Englewood Cliffs, New Jersey; London: Prentice Hall, 1986.

Landes. D.P. Private practice: salvation or nemesis for the dental profession. **British Dental Journal.** 1996; 180(3), pp. 82-83

Lang-Runtz, H. *Stress in Dentistry- It can kill you.*
Journal of the Canadian Dental Association. 1984; 109, pp. 48-51

Levin, R.I. Travis, V.R. *Small company finance: What the books don't say*.
Harvard Business Review. 1987; 65 December, pp. 30-32

Levine, R.S. *Experience, skill and knowledge gained by newly qualified dentists during their first year of general dental practice.*
British Dental Journal. 1992; 172(3), pp. 97-102

Lewis, S. *Vocational training. A year of opportunity.*
British Dental Journal. 1989; 166(3), pp. 95-6

Liedka J. *Strategic thinking: Can it be taught?* **International Journal of Strategic Management.** 1998;31(1):pp120-129

Likert, R. **New patterns of Management.**
New York; London: McGraw Hill, 1961.

Lindblom, C.E. *The Science of Muddling Through.*
Public Administration Review. 1959; 19, Spring, pp. 79-88

Lindsey, S.J. Humphries, G. Barnby, G.J. *Expectations and expectations for routine dentistry in anxious adult patients.*
British Dental Journal. 1987; 163, pp.120-124

Long, A.F. Macgregor, A.J. Mercer, P.E. *Updating Practices among Yorkshire General Dental Practitioners.*
British Dental Journal. January 1991; 170(2), pp. 73-5

Lowndes, P.R. Caddick, R.J. Frame, J.W. *Practice visits.*
British Dental Journal. 1989; 167(9), pp. 315-7

Mace, J. *Vocational training. My year as a guinea pig.*
British Dental Journal. 1989; 166(7), pp. 265-6

Manson, J.D. *Some Problems of Professionalism Today.*
British Dental Journal. 1994; 176(8), pp. 290-293

Maslow, A.H. **Towards a Psychology of Being.**
Princeton, New Jersey: Van Nostrand, 1962.

Mason, D. *The Changing Role of the Dentist.*
British Dental Journal. 1994; 176(1), pp. 5-9

Mason, D. *President's Address to the General Dental Council.*
British Dental Journal. 1994; 176(10), pp.363-7

Middleton, P. *Dentistry- The Challenge of the Nineties.*
British Dental Journal. 1993; 174(1), pp.10-11

Mintzberg, H. **Strategy Formulation: Schools of Thought in Perspectives in Strategic Management.**
Harper Business, 1990, pp. 111-188.

Mintzberg, H. *Strategy making in three modes.*
California Management Review. 1973; Winter, pp. 44-53

Mintzberg, H. et al. *The structure of "Unstructured" Decision Processes.*
Administrative Science Quarterly. 1976; June, pp. 246-275

Mistry, R. *The running of health care provision- Turning a full circle.*
The General Dental Practitioner. 1998; 5(10); p29

Morganstein, S. *Women in Dentistry: Equal Opportunities.*
The Dentist. 1997; February, pp. 41-42

Morris, C. *Letters to the editor.*
British Dental Journal. 1996; 180, p.365

Morris, C. **Quantitative Approaches in Business Studies.** 3rd Ed.
London: Pitman, 1993.

Morris, S. *BDA survey of members acceptance of policies.*
BDA News. 1992; 5, pp. 11-14

Mouatt, R. Veale, B. Archer, K. *Continuing Education in the GDS. An England Survey.*
British Dental Journal. 1991;170(2), pp. 76-79

Murray, J.J. *The continuum of dental education-one year on.*
British Dental Journal. 1996;180(4), pp. 149-151

Murray, J.J. *Efficacy of preventative agents for dental caries. Systemic fluorides, water fluoridation [Review].*
Caries Research. 1993; 27 Suppl 1, pp. 2-8

Nuffield Report. **Education and training of personnel auxilliary to dentistry.**
London: Nuffield Foundation, 1993.

Oates, A.J. Fitzgerald, M. Alexander, G. *Patient Decision Making in relation to restorative Dental Treatment. Part 1.*
British Dental Journal. 1995;178(12), pp. 449-453

Oates, A.J. Fitzgerald, M. Alexander, G. *Patient Decision Making in relation to restorative Dental Treatment. Part 2.*
British Dental Journal. 1995;179(1), pp. 11-18

Page, C.M.F. Slack, G.L. *A contented Profession? A survey of Old Londoner dentists*: *1968.*
British Dental Journal 1969; 127, pp. 220-225

Pearce, A.J. Robinson, B.R**. Strategic Management, Strategy Implementation and Formulation.**
Homewood, Ill.: Irwin Books, 1988.

Peters, T.S. Waterman, R.H. **In Search of Excellence.**
London: Harper and Row, 1982.

Pike, D. *Our place in primary dental care. [Editorial.]*
British Dental Journal. 1994;176(5), pp.160-1

Pike, D. *The Title Doctor.*
General Dental Practitioner. 1996; **7**, p.5

Pogrel, A.M. *Letter from California-Health Care Reform.*
British Dental Journal. 1994; 176(7), pp. 277-80

Porter, A.R. *The Professions in the 1990s.*
British Dental Journal. 1993;175(9), pp. 335-337

Porter, M.E. **Competitive Advantage: Creating and Sustaining Superior Performance.**
London: Collier Macmillan, 1985.

Porter, M.E**. Competitive Strategy: Techniques for analysing Industry and Competitors.**
London: Collier Macmillan, 1980.

Quinn, J.B. **Strategies for Change: Local Incrementalism.**
Homewood; Ill.: Irwin, 1980.

Rattan, R. **Making Sense of Dental Practice Management.** Abingdon: Radcliffe Medical Press. 1996

Rattan, R. **Trainer's Handbook.**
Committee on Vocational Training for England and Wales, 1993.

Rattan, R. **Vocational Training Handbook.**

Committee on Vocational Training, 1992.

Renson, C.E. *The Changing Face of Adult Dental Health*
Dental Update. 1995; 22(2), pp. 49-50

Renson, C.E. *Dental Specialists in the future.*
Dental Update. 1994; 21(3), pp.93-95

Renson, C.E. *Dentistry in the European Community: A Comparative Study*.
Dental Update. 1993; 20(8), pp. 328-332

Renson, C.E. *Hollow Pledges and the NHS*.
Dental Update. 1994; 21(2), pp. 49-50

Renson, C.E. *Quality, Efficiency and Statistics in a Reformed NHS*. (Editorial).
Dental Update. 1992; 19(6), pp. 229-230

Renson, C.E. *Restructuring the General Dental Service*.
Dental Update. 1995; 22(6), pp. 225-226

Renson, C.E. *Setting Standards in Clinical Practice*.
Dental Update. 1992; November, pp. 361-2

Renson, C.E. *Setting Targets for Dental Health*.
Dental Update. 1993; 20(7), pp.282-284

Renson, C.E. *Would You Choose Dentistry Again?*
Dental Update. 1993; July, pp. 234-235

Ribeaux, P. Poppleton, S.E. **Psychology and Work.**
Basingstoke: Macmillan Education, 1978.

Schein, E.H. **Career Dynamics: Matching individual and Organisational Needs.**
London: Addison-Wesley, 1978.

Scully, C. Cawson, R.A**. Medical problems in Dentistry.**
London: Wright, 1987.

Seward M. *The changing role of specialist care in NHS dentistry.*
British Dental Journal. 1998;185(1), 34-35.

Shugars, D.A. Di Matteo, M.R. Hays, R. et al. *Professional Satisfaction among California General Dentists*.
Journal of Dental Education. 1990; 54, pp. 661-669

Smith, B.G.N. **Planning and Making Crowns and Bridges**.

London: Martin Dunitz Ltd, 1987.

Smith, C. *A Lesson in Ethics*.
New York State Dental Journal. 1994; January, pp. 48-49

Steele, J.G. Walls, A. Ayatollahi, S.M. Murray, J.J. *Dental attitudes and behaviour amongst a sample of dentate older adults from three English communities.* **British Dental Journal.** 1993;180(4), 131-136.

Stirrups, D.R. *Postgraduate qualifications for dentistry in the twenty-first century.*
British Dental Journal. 1991; 171(10), p.306

Stoner, J. Freeman R.E. **Management.** New Jersey: Prentice Hall International, 1992

Storey, D.J. *Small Firms Policies: A Critique.*
Journal of General Management. 1983; 8, pp.5-19

Sutherland, J. Gross, N. **Marketing: case studies.**
London: Pitman, 1992.

Sutherland, V.J. Cooper, C.L. **Understanding Stress. A psychological perspective for health professionals.**
London: Chapman & Hall, 1990.

Temple-Smithson, P.E. *Vocational Training Eligibility [Letter]*
British Dental Journal. 1989; 166(3), p. 68

Thomas, D.J.E. *Letters to the Editor: MGDS Examination.*
British Dental Journal. 1989;167, pp. 302-303

Thomas, D.J.E. *Letters to the Editor: MGDS Examination.*
British Dental Journal. 1990;168, p. 469

Thomas, D.J.E. *A Pilot Study on the Use of the Courtesy Title of "Dr" by U.K. Dental Practitioners.*
British Dental Journal. 1997

Thomas, D.J.E. Davies, G. Allsopp, J. et al. *The Vocational Training Scheme.*
Primary Dental Care. 1996; 3, pp. 36-42

Thomson, J. **Strategic Management: Awareness and Change.**
London: Chapman Hall, 1993.

Tiernan, J. *Specialisation- A New Direction.*
Dental Update. 1998; 25(5): p 185-186.

Todd, J.E. Lader, D. **1988 Adult Dental Health United Kingdom.**

London: HMSO,1991.

Tremblay, M.A**. The key informant technique. Field Research: A sourcebook and field manual.**
London: George Allen and Unwin, 1982.

Vallance, E. **Business Ethics at Work.**
Cambridge New York, 1994.

Waddington, TJ. *New stressors for GDPs in the past 10 years*.
British Dental Journal. 1997; 182(3): 82-83

Walmsley, A.D. Frame, J. *Dental Practitioners Attendances at Postgraduate Courses in a Dental School*.
British Dental Journal. 1990; 169(2), pp.61-3

Walmsley, A.D. Frame, J. *Dental Practitioners Attendances at Postgraduate Courses in a Dental School 1988-90*.
Dental Update. 1992; 19(3), pp.129-31

Watson TJ. *Entrepreneurship and professional management: A fatal distinction.*
International Small Business Journal. 1995; 13(2):pp 34-47

Westhead P. Storey D. *Management training and small firm performance: Why is the link so weak?* **International Small Business Journal.** 1997; 14(4):pp 13-23

West Midlands Region Vocational Training Scheme in General Dental Practice.
A simple guide to VT paperwork .
1993.

Wheelan, T. Hunger, D. **Strategic Management and Business Policy.**
Reading, Mass.; Wokingham: Addison Wesley, 1995.

Whelton, H. O'Mullane, D. M. Dental caries. [Chapter] **Community Oral Health**.
Oxford; Wright 1997

Whitehouse, N H. Treasure, E.T. Dentistry and the NHS in the context of Europe.
British Dental Journal. 1998;185(1), 30-32.

Wilson, RF, Coward, PY. Capewell, J. Laidler, TL. Rigby, AC. Shaw, TJ. *Factors relating to time management are major job stressors for GDPs.*
British Dental Journal. 1998; 184(10):449-502

Wise, M. *Occlusion and Restorative Dentistry for the General Dental Practitioner. (2nd Edition).*
British Dental Journal. 1986;165

Worrall, L. Collinge, C. Bill, A. **The Strategic Process in Local Government: Review and Extended Bibliography.** Working Paper Series. No 003/96. Wolverhampton: Wolverhampton Business School, 1996.

Worral, L. Cooper, C.L. **Executive Stress in different industrial sectors, structures and sizes of business. West Midlands Business Survey**. Wolverhampton: Wolverhampton Business School, Autumn 1994.

Wootton, S. Horne, T. **Strategic Planning.** London: Kogan Page, 1997.

Zakrzewska, J.M. *Oral Cancer and precancer- our responsibilities*. **British Dental Journal**. 1994; 176, pp.286-7

APPENDIX 1

TRANSCRIPTS of IN DEPTH INTERVIEWS [Dr DJE THOMAS]

Interview No 1:

Nov 95 David Thomas interviews a General Dental Practitioner [Dr G.S.].

DT: Well Dr G, we've had a prior discussion about the subjects that I would like to discuss. What I am looking for are your thoughts on some of the key issues which affect your decision making processes within running your General Dental Practice. I am trying to gauge factors in a spectrum between National Health Service dentistry through to those who are fully private. If I can just start off by giving you one or two issues, you can perhaps give me your thoughts on them.
One of the main issues that seem to worry many practitioners is the issue of dental finances. Do you have any views on that and how you feel National Health Service compares with private dentistry on those issues.

GS: Yes David, our practice is predominantly National Health Service and over the years it has been relatively profitable because of a relatively low expenses ratio. We have a lot of registered patients, but nevertheless over the years, certainly over the last five years, I feel we've had to work harder and harder and harder to do technically more exacting work, which seems to carry on a lower profit margin than it used to. Naturally I've been looking at other ways of financing dentistry.
We have asked over the representatives one or two of these capitation schemes Denplan and BUPA and I am actually looking into this.

One of the problems I see converting wholly to private I suppose really is historical in that I have spent the last 25 years building up a large patient base. I suppose between us we are getting on towards registered 8,000 patients and it seems a shame to get rid of a lot of these patients who have been my bread and butter for a long time.
To benefit from being wholly private I suppose I should have to get rid of a good two thirds of these people.
The profitability curves of some of these capitation schemes look very good, I think if I've got 1,200-1,300 patients registered I could give them a better service, more time and I'd go home feeling much less harassed. But at the same time, I can't imagine in our area where there is a fair bit of competition from other practices necessarily maintaining that sort of level, I think we would convert to that initially but whether or not some of those patients wouldn't drift off over the years and you would find yourself in a worse financial position I just don't know.
And that's really been my dilemma just recently, I don't know how actively to pursue a conversion.

DT: So you've thought of a conversion but you find your finances at the moment are sufficient.
But in essence do you find that within the National Health Service you feel you're becoming under increasing financial pressure and that is making you look elsewhere. Is it that you want to earn more money? do you think you'd earn more as a private practitioner would or that you could earn the same amount of money but with less effort and less strain? These questions lead to the problems of burnout and stress perhaps later on in life.

GS: I think for me the latter, I would like to perhaps earn about the same or a little more, but without the harassment and pressure which seems to go hand in hand now with running a National Health practice.

DT: So the other things relative to finances:- do you feel greater risk with private dentistry? one of the nice things that the National Health has is the security of it. You know you will be paid on the dot and there are never any questions. The number of bad debts is relatively minor: Is that significant? many practitioners find that a key issue.

GS: Yes I think it is relevant, even though on a day to day basis the existence isn't very comfortable, there's an awful lot of pressure. At the end of the day I don't worry about if I will go broke at the end of the month. It might be a stressful, sweaty existence doing it, but I don't have many sleepless nights worrying that I am going to go broke, I always think there is going to be enough finance coming in even though it is getting harder and harder work physically and mentally to do it.

DT: Do you find as you are getting older there's a greater volume of work which we are supposed to do?

GS: Oh yes without doubt.

DT: Do you think that dentistry is a young mans game within the National Health Service?

GS: Yes I do, at one time my only worry about the job was finding sufficient work, sufficient supply of patients and once I felt happy that I had enough work coming in the front door, I didn't really worry very much about physically doing the work, it didn't worry me how much I had to work and how often I'd run over and work through lunch hours, I almost felt a buzz about doing that but as I am getting older I don't.

DT: There's no doubt that with over 4,000 registered patients, if you have 8,000 between you, that's a huge workload it's almost triple the national average of 1,600.

GS: We don't of course do three times the national average amount of work, far from it, most of the patients are fit and our actual cost per estimate is very low, it's proportionately very low, so most we do not examine less just a few cuts.

DT: Could you tell me what sort of percentage of private work you think you do?

GS: Not very much, I think it's about 8% of gross.

DT: Well that's perhaps just slightly under the national average of about 11% [I think].

GS: That's right.

DT: Okay so in summary, would you agree that in your current financial state you feel you are earning a comfortable living standard but that you're working rather too

hard. The attraction of moving towards a private based practice although it has risks attached to it, the reduced work volume would be a significant factor.

GS: Yes.

DT: But you infer you would not particularly expect to earn any more money yet too many the basic ambition is that they would like to earn more money. In your case this isn’t the driving force?

GS: Correct, that's it exactly, I think also if you had more time you'd naturally be able to achieve a higher standard, if find it frustrating sometimes that you can't achieve the sort of standards you'd like to.

DT: Yes I think this is one of the things we've got to go on to is quality of work:- I mean its hard work in the national health and it seems a recurring comment of practitioners that this working at such a pace inhibits the quality practitioners would like to achieve, do find that a problem or do you just accept it?

GS: At one time I used to think the standards were higher than now, I think perhaps patients expectations were lower and the spectrum of work perhaps wasn't so complex but to achieve a good standard now or the sort of standard the patient expects I think is extremely difficult in the time. Particularly with the fiddly things like root fillings and occlusal registration for crowns the sort of thing which didn't come in to play so much previously.

DT: I understand that you are keen on your postgraduate work: - you go to many courses and you are pro-active in improving your education. When you come back and try implement these new ideas and skills do you find it difficult to implement them on the National Health Service, is that frustrating?

GS: Absolutely, there's certain items on some of programmes for treatments for example, if you were to apply them rigorously you'd simply go broke. As a National Health Service practitioner it's totally impractical and totally non-feasible, I mean to those sorts of high standards and using these contemporaneous methods usually means it's barely possible to break even doing them really.

DT: So this leads on to the question of ethical responsibilities of a professional, we are continually trying to raise our standards and this is one of the core issues of all of the professionals: - You are trying to do that, yet you're finding that the implementation of your new knowledge is a serious problem to you?

GS: It is indeed.

DT: And with that issue: - if you went privately, treated less people and charged more you could achieve these standards that you require. Is that going to become an increasingly significant factor in your case?

GS: Yes I think it would have to be.

DT: I think most of us have operated within that scenario for some time now, why do you think you haven't pushed more into private work?

GS: I think it's just my historical inertia really that I have always worked under the same system and the inertia to change, have I suppose been difficult to overcome. But some practitioners naturally tend to think more in terms of independent or private systems and I think they just naturally develop that skill, historically I have been brought up believing in the National Health Service.

DT: Do you feel that given your personality you've fitted into your niche, rather like I have done. You are just in the National Health Service groove and you're comfortable with it, the types of patients we treat make it a bit easier and we mould them into our way of doing things. Continuing from this question of standards, The question of burnout and stress is coming to the forefront more and more. It gets much more publicity in dentistry, e.g. the fact that suicide rates in dentistry are one of the highest within the professions. So what views do you have on burnout and stresses? Is that a problem for you or are you aware of it?

GS: I think it's a big factor up until recently I've had a lot of back problems that's been dogging my life and fighting the back problems has been my key guiding spirit nowadays I do feel quite a lot better with that and so perhaps the relative relief from that has enabled me to perhaps resist the burnout more than some of my colleagues in a way. I've got a sort of safety valve now which perhaps four or five years ago I didn't have and in other words physically I feel better than I have for a long time and I suppose that is an in-built safety valve for me personally to some extent.

DT: Do you think as you've got older, [and many of us who've done relatively well within dentistry] you have perhaps developed an alternate sources of income. For example through investment capital that's accumulated over the years. I know you've still got a young family but as retirement is visible on the distant horizon does that ease the burden a little bit and you feel you're comfortable, do you feel you can ease up a little?

GS: Yes it does I must admit I sit down quite frequently and do a few calculations on retirement but without wishing to try and wish the next 13 years away I hate to think that I am wishing 13 good years away to come across as an old man at the age of 60 and then do all the things that I wanted to do all the rest of my life so I try to weave these things in now but it's very much more difficult now with the pressure of work as I do get so tired really.

DT: So returning to this question of burnout and stress. Unearned income is obviously a relevant factor, it would make your dental income less essential, this and the apparent increasing stress and ones reducing ability to cope with it with advancing age: - your stress seems under control but is a combination of these two issues an influence that might push you into the private sector do you think?

GS: Oh yes I think it would.

DT: I want to lead on now to some of the things like patients charter and consumerism:- Are you aware of patients being more prepared to complain? The

facility is there for them to complain, they are almost encouraged to complain and seek trouble, what are your thoughts on that?

GS: Yes I think that anybody who confronts the general public now in any shape or form must be very much aware that they are aware of their rights, they know where to complain and how to complain, the National Health Service sets higher standards than it used to, complaints are validated more readily but personally I haven't suffered any official complaints at all but I think I am acutely aware that any patient really could turn around and make a complaint the people who check are much more critical than they used to be and much more ready to make trouble in a way so I think the ice is a lot thinner as far as that goes, tread very warily.

DT: So in other words, if that got much heavier or more demanding that would be an issue forcing you out of National Health Service?

GS: Oh yes I think that's quite an important factor.

DT: Going back as well onto postgraduate education:- we are encouraged within the National Health Service to, [and we get paid for certain postgraduate courses], what views do you have on these? We did touch on this earlier on but do you feel a need to go on them?

GS: Yes I feel a need to go them and I enjoy them I was very frustrated recently because I found them very difficult to sit through them with this back trouble so I

tended to dodge one or two of them, the courses were good but the venues were poor so I had to choose a comfortable venue and wait for a suitable course to come along.

DT: Have you any idea how many courses you've got on a year?

GS: I suppose not all that many, maybe between four and six sessions.

DT: And do you tend to select any particular area?

GS: I pick on one aspect at the moment I'm trying to get on as many endodontic courses as I can, I try to follow that up, buy any books, read up on it and stick at one thing at a time. I then have a fling on something else.

DT: But you don't see yourself developing any particular expertise in one area, you're a general dental practitioner and you're happy to remain that really?

GS: Yes that's right.

DT: I know you're very good at orthodontics.

GS: Yes I regard that as like a hobby rather than a speciality I certainly wouldn't pretend I was a specialist I think it's a hobby within the profession really. Whether you make any money out of it's another move but it's quite interesting as a hobby sort of thing.

DT: Some other issues: - [and please feel free to come up with any others you can think of], The issues such as the paper work and bureaucracy that we're faced with; it seems ever mounting how does that affect your views?

GS: This evening an orthodontic patient had a pile of forms to take down to the desk, I wasn't actually going to do any treatment but I think she went down with eight sheets of paper. The patient said are all these really necessary well I'm afraid they are really she said well my goodness do you have to do this for all your patients? Not all of them but for quite a few, well doesn't it get on your nerves, I said it does a bit.

DT: Therefore the freedom from this, you will get freedom in the private sector; does that encourage you?
When I discuss this with dentists, there seems to be a whole range of things people are unhappy with about the National Health Service and yet in the West Midlands the swing towards private dentistry is relatively small. For example going back to orthodontics, its fortunately a problem I haven't had but I know that several practitioners have experienced rigorous assessment, the orthodontic dental officer has refused to pay for several treatments. One local dentist that I know has had ten outstanding cases in which payment has been refused and that is terrible! Of course as you know one of the problems we are having is that we have such a shortage of orthodontic consultants; you feel you're forced to take on orthodontic cases which perhaps you shouldn't do.

GS: Oh yes, there's one or two that I'm in the middle of and I'm a bit uncomfortable with, I do hope that consultant reports will back me up but all the same it's fairly deep

water I'm wading into I don't feel that I've disrupted anybody's teeth yet but in fact there's a standing joke between me and my partner about whether Mr S would pay for this particular case will nit-pick with the various models and all that. It's been a real burden not having a good orthodontist for referral service.

DT: Going back again [I've just got this limited list of possible issues]: - pensions funds and retirement within the National Health Service; is that a significant factor for you because one of the great attractions now is a very good pension scheme?

GS: It is a big factor recently I've started to look up some facts and figures and looking in some detail indeed my next door neighbour came round the other night and we had a big chat about this and as long as you can get enough years of pensionable service, I mean it really is an excellent retirement package that they give, it's particularly advantageous to these people who retire a bit earlier and get added years of service that's an excellent package. It would of course be possible I think to make up years of private pensionable service but you've got to think it out carefully because the state does add an equal amount to what you contribute to the National Health Service superannuation scheme so you would have to make sure you put quite a bit into a private scheme to be comparable. This would have to reflect in your fee scale and the way you work to make up the total package in benefits in National Health Service.

DT: A private pension fund is not so well financed or supported as the government scheme. Then there's always the risk that when you come to take a private annuity it

might be low and you will get a much-reduced pension, either way there is a risk. So in your view is the National Health Service pension scheme a considerable attraction?

GS: Very much so.

DT: I would think that private practitioners would lose out badly in this pension area. When the time comes, and some people are there already, could you take retirement from the National Health Service, take your NHS pension and then continue as a private practitioner?

GS: One or two of my colleagues have done this, who were absolutely dyed in the wool National Health Service people and they are finding this absolutely wonderful. Now they've taken an National Health Service pension and they have carried on working privately in addition to that. It's a wonderful no lose situation in that even if they do lose all their patients well they have nothing to lose and if they all stay on and sign up with BUPA then they have doubled their incomes and work at half the rate it's an ensured armour plated situation really.

DT: So do you think that you are going to see more older practitioners who now have the facility when over 50 taking NHS pensions? Do you think this might become a trend? Could that attract you?

GS: Yes very much so again the people I had in mind were in their late fifties, from 57-58 onwards and they are having a wail of a time now because they work at the rate

that they want they have the in-built security of a National Health Service pension and a nice lucrative private income on top without all the stress and the paperwork.

DT: Sounds good doesn't it?

GS: Lovely.

DT: Okay; another area I want to get your thoughts on: - I know you have a partner but I don't think you have an associate working for you? If you did, would that influence your private stance? perhaps taking an associate on would soak up the bulk of the work and leave you to do the private work?

GS: Yes we have looked into this, it might be a very good avenue, I haven't actually costed it out but that is certainly one of the things I might like to do.

DT: The problems is that there is an acute shortage of dentists; Would you feel vulnerable in that you got an associate they might leave you and not be replaceable?

GS: It is always a possibility.

DT: Do you think there is a risk factor there?

GS: There is a risk factor there this has happened to one of my friends in Dudley I think one of his associates was ill and had to leave which put the cat among the pigeons so he's had to take quite a bit of National Health Service again.

DT: He's had to do that has he?

GS: Well he felt morally obliged to really.

DT: So there's an example of a retrogressive step by someone that has gone down the private route and has gone back to the National Health Service.

GS: He reverted but it was a quite unforeseen problem with one of the associates he couldn't replace him and rather than see all his old patients disappear out of the door and go elsewhere he sort of took them back on again National Health Service he really hasn't got time to see his private patients now as he's swamped again.

DT: Okay another issue that I think is relevant is this question of ethics: - I believe that as a profession we are becoming under increasing commercial pressures. One of our core responsibilities is to cater for the needy and the poor, institutions such as banking; insurance and accountancy are professions in that they are self-regulating. They have high standards and very demanding work but they are profit-driven if there's no profit then they don't do it, but with medicine [including dentistry] and the law, it goes beyond that. You have a responsibility to your patients, if you have a patient with a bad abscess who's in acute pain irrespective of their social standing, you are morally obliged to look after these people. Now if we all go down the private route and all use insurance schemes there is going to be no safety net for these people. How do you think the profession should reconcile this dilemma of looking after the poor and needy I mean it is a basic human right to have health care in these days?

GS: I don't know I think if everybody was purely capitation based, insurance based it would be a totally untangled situation for such people.

DT: This situation is happening certainly in areas in the south-east and North Wales. There is just no National Health Service cover at all, patients can go for mile and miles and they are all either private or insurance based. Do you have any ideas as to why an area such as north Wales should be successful in converting to the private sector and an area like this in the West Midlands where we have one of the highest patients to dentist ratio in the country areas of neglect is non-fluoridated and yet has minimal private dentistry? we would appear to be in a strong position to go to private practices and yet it's perhaps one of the last remaining bastions of National Health Service work.

GS: I think the way I see it in an area like North Wales you have a number of discreet towns each of these towns has perhaps one or two dentists and there is clear space of five to ten miles to the next central population there is an extremely adverse dentist patient ratio form the patients point of view so they are very under dentisted.

DT: As bad as here?

GS: Very, very under dentisted they are crying out for them you see adverts in the journal you know come to north Wales start a practice give your one by one salaried job please come and work that sort of short practices so to some extent they can set their own terms but over and above that there are far fewer people and there are far

fewer dentists and people have to travel quite long distances if they don't go to the dentist who is in their own village really and so if that bloke goes private they might have to travel 10-15 miles to go to another bloke where as in our particular area while we might have twice the number of patients perhaps per dentist up there is another dentist within a mile in every direction so they have got a lot more choice and I think the problem in the west midlands is that there is a huge number of people but whilst the ratio may be fairly low there is a lot of practices spread about everywhere.

DT: But isn't that a good scenario for private work to flourish? Private dentistry in London is the classic example, it is a much bigger, densely dentisted, I'm not sure of exact figures but you have one dentist to every 3,400 patients in the West Midlands where as in London it would be somewhere in the region of one dentist to 1,500 patients. Therefore the competition is much greater and yet within the West Midlands here we seem disorganised, we don't get together much to organise our affairs Why?

GS: I think a lot of it's historical if you go back 20 years talking to colleagues who work in London that I can say that we're about a third private, half to a third private it just seemed to be the sort of going rate whereas within this area again historically everybody was National Health Service.

DT: Going back to this question of single-handed practitioners with no associates having fixed overheads, they would be under more pressure to go privately? Do you think would that influence you if you were single-handed?

GS: The BDA seem to think so in that they feel that single-handed private practices can be very profitable and yet single-handed National Health Service have probably become less and less desirable I suppose because of the way the fees are set by the National Health Service or by yourself you've just got no control over that whereas if you are private you can set the fees scale providing you've got enough work coming in the front door to give a reasonable amount of profit.

DT: So the ethical issue is an issue, which is significant to you?

GS: Oh yes.

DT: I think it is to most people.

GS: If you're fully private giving no National Health Service at all I personally could not send away anyone who came to the front door in severe pain even if they have got no money it would rapidly give the practice and profession a very bad name and would drag us down just to the levels of business.

DT: Okay, some other issues: - Out of hours work; we are responsible now for the 24 hour emergency cover. I presume private practitioners aren't under that legal obligation although they are under the ethical obligation to be available. Is this an obligation that gets to you?

GS: It does, I believe people working with a capitation scheme of an in-built out of hours cover system how well it operates I don't know but I think the view of system

how people are paid on call quite what sort of radius they cover and how available they are I don't quite know. if you're working on that basis then certainly you would have some sort of basis for out of hours ethical cover.

DT: How do you feel about the National Health rota, we are having 25 dentists doing a week at a time?

GS: From my point of view it works very well there have been hiccups and we have had problems and when I have tried to contact Dr W. [the organiser] he's had pretty deaf ears really I haven't found him very amenable to any suggestions or I suggested we had a meeting and find out one or two problems but he was very deaf ears so I plodded on.

DT: When on call we cover for that 80,000 - 90,000 people during that week. I have spells when it's been very busy and other times I've hardly had anything, but generally I find being on call very stressing, I would be happy to be free of that.

GS: I know my partner is very pleased to be on the rota in terms of the free time but he doesn't feel at all comfortable doing the week I can't say it bothers me all that much but of course you are never sure what's going to be on the end of the phone some trivial thing to something really quite serious.

DT: Okay, another issue in the swing towards private dentistry is the capital investment required e.g. in extra facilities, decor etc. Is that a problem, a significant factor?

GS: No, not particularly for me, with just a little bit of common sense you could make the place adequately smart.

DT: An issue some people raised is the need to make a private practice patently better and better equipped and better looking than the standard National Health Service practices.

GS: I have had private treatment on my back chiropractic treatment and the place I go to is smart, efficient but no more than that this is a different field it's smarter than our dental practice but it isn't opulent, it isn't thickly carpeted, it's just clean, smart, pleasantly decorated, well-lit, good decor but it's not there to be impressive and indeed if it was excessively well kitted out I would tend to worry who's paying for it all. I went into the Nuffield for an operation last year; I wanted to be in and out I didn't particularly want to be admiring the decor.

DT: I suppose do you think when people see smart equipment and smart facilities the inference there is that they are getting smarter treatment?

GS: I think the inference if you go to a very flash garage I always feel that the salesmen are earning too much.

DT: By building up a private practice and increasing it do you think you're building up the value of your practice when the time comes to sell it?

GS: I'm not sure on this one the way things are going it probably is so but of course private good will I think is perhaps a little bit more a personal thing than National Health Service good will one or two of the more exclusively private practices in the town when the practitioner's finally retired they find it very difficult to sell them on in the past this wasn't the case with National Health Service again things have come a bit full circle now.

DT: I think the situation is reversing in that private practices appear to sell better. Originally it was the actual operator who attracted the patients and not the practice, now good will seems to be worth much more than perhaps it was. Another issue that might influence you would the attitude of other local dentists, would they influence you at all in how they approach their private work? would you swim with the tide?

GS: Yes to some extent I think you've got to be more your own man than swimming with the tide but I don't think you can completely discount what the other people in the area are doing I can imaging say in area if we suddenly decided overnight to be all private and the word got out I can imaging some of the people in the area would be putting adverts in the paper saying yes please all your patients can come to us if they decided to stay National Health Service this happened at one stage with somebody. I think you would have to either get together and agree on something.

DT: Your Peers:- If you could get a consensus, a sort of monopoly in that you all moved towards the private sector, would that would influence you?

GS: Yes it would.

DT: Some people are loners, they go out and do it on their own, but then National Health Service practices such as mine are mopping up the excess patients from these entrepreneurs. Is this a discouraging factor?

GS: Without a doubt.

DT: And one final thing we've touched upon earlier:- Insurance schemes; Denplan BUPA etc,
does the quality and the availability of them influence you?

GS: Yes I am personally looking into the BUPA one at the moment they may be coming round to chat to us with some forms and all that I haven't signed anyone up yet there's a certain type of person, personality who likes the ideas of the monthly selling order and know all fees, that sort of person will ensure his hoover for five pounds a week so if it breaks down he gets it repaired even though overall it's probably going to cost him more but he likes that spreading it over business other people would much prefer to pay it all in a lump as the expenses occur but some people have said are you going to do this BUPA business because it seems like a good idea saves having to pay when I come and to my shame I hadn't even got the forms for them to sign up there and then .

DT: Have you had people asking for it?

GS: Not many but a few. My friend, she just goes and pays so much every month then doesn't have to pay again.

DT: Do you feel there's a risk in these insurance schemes? its perhaps easy to persuade people to enter them and to pay for them but after two or three years people are seeing that they pay what are relatively high fees when if they pay item of service that their charges are reduced. I understand that the drop-off rate with these private schemes is quite considerable after five years?

GS: Definitely, I think that is my big worry I'm sure that I could convert a third of my existing adults without too much trouble to these capitation schemes but whether or not you could attract enough new patients to come onto the capitation to maintain your list size or whether you would find after a few years that your list was gradually diminishing and your income with it with no real way of reversing the decline and to be honest I think that would happen I know an awful lot of patients friends who persuaded to sign up with Denplan and because they didn't think it was good value for money and in some cases they were getting downright shoddy treatment or no treatment they have come off it and gone back to National Health Service or private.

DT: Are there any other issues that we might have missed that might be relevant to you?

GS: We have covered quite a bit, this business of supervising neglect I had a new patient the other day, from Bridgnorth (they've formed a little consortium in Bridgnorth to be private), a good patient, no problems and he'd been with a particular

bloke for three years on Denplan, and he must have had 20 cavities, teeth needed to come out, awful really and I didn't suggest it to him but I'm sure if he had gone to a solicitor he could've sued the practitioner. If it's going to be a question of supervising neglect and patients getting into trouble then again I wouldn't want anything to do with it.

DT: There is an important issue here:- if we are paid item of service then it encourages a dentist to do work that is needed whereas with these continuing care schemes you get money if you treat patients or not. Its a reversal of the situation in which dentists are accused of doing unnecessary work now the risk is that of under prescribing. Is there anything else you can think of?

GS: No that's about it.

DT: Okay well thank you very much Dr G, that concludes the interview.

TRANSCRIPTS of IN DEPTH INTERVIEWS [Dr DJE THOMAS]

Interview No 2:

Nov 95 David Thomas interviewing a General Dental Practitioner [Dr M.G.]

DT: Hello Dr G. I would like to discuss the effects of transition of National Health to private dentistry and what I'm trying to do is just to get your views on various core issues that might influence your decision making process.

You work as an associate dental surgeon in a group practice which is predominantly national health. If you think of changing the way you work, can we discuss finances and what effect you think the scale of fees has on your staying in the NHS.

MG: It very much depends on what happens with the government, if they increase the NHS fees obviously we'd be more inclined to stick with the NHS there's only so fast we can run around the treadmill. I think in recent years it's beginning to reach the point whereby we're going too fast round the treadmill and the quality of work that we're doing is beginning to suffer, we're trying to do too much of it within the available time. Now in order to generate a realistic income, there's only two choices we have, that's to increase the number of hours we work or reduce our quality. We work long hours as it is and I'm not that keen on increasing the number of hours I work, I think the level of productivity is probably about as good as we could achieve so the only way for the future if, assuming the government is going to cut back in the fees structure is to find some means of increase the income we get from the work that we actually do, I don't think that in the future this is going to be available within the NHS regardless of which parties in power I don't think its necessarily anything to do

with the Conservatives, I think it is going to be for the future regardless of which party.

DT: Yes I think that it would seem most representatives think there's very little slack to be taken up we all work much longer, harder hours than we used to and certainly at a greater pace. We're much more efficient aren't we? So, in terms of increasing our productivity I think National Health dentists are pretty effective and efficient as they are, would you go along with that?

MG: I think it would be extremely hard to increase the productivity further we could tinker with the margins but in general it's about as good as we're likely to get.

DT: So going on from this with the finances do you feel that private practices end up making a lot more money or do you think they simply work less hard to make a similar sort of money?

MG: I think both can be true that some will certainly make a lot more money if they're in specific areas of private practice certainly if they're specifically doing orthodontic work or say very sophisticated crown and bridge work you can make a lot more money than you would do on a normal NHS mixed practice. If you were going to run essentially a similar type of practice to the way I run it now, i.e. a fully mixed practice, I think that the former would be the case, we would tend to make a similar amount of money but with not working quite so hard in order to do it.

DT: Do you think the financial incentive to make more money is a real one, I mean generally as dentists do fairly well but I'm sure we'd all like to make more money if we could, do you see the private aspect as a route forward for that?

MG: Potentially yes, I think the problem arises if we deliver ourselves wholesale into the arms of insurance companies because they've not going to want to pay out enormous sums for nothing, just in the same way the government don't want to pay. So we could just swap one devil for another devil and find the funding is actually dictated by an insurance company rather than by the government. So it doesn't necessarily follow that we're going to make a lot more purely because we've opted for one of the insurance based schemes rather than opting for the government. If we ran the private scheme ourselves and we dictated the fees structure then obviously the potential to make more money is there then you run into the competitive problem with other practices that we've got to pitch the level of fees at a level that will attract patients.

DT: Yes, I think that's a thing we've got to come to later, that is the competition aspect of it. The downside is because simply by converting to an NHS practice to a full-time private practice you also lose a considerable percentage of the patients; they will shuffle off somewhere and find someone who is still doing it in the NHS. This is one of the problems at the moment for people who are not accepting NHS patients for example, the GDP who's got the practice in Brewood, I have enormous numbers of patients coming all the way to me as new patients for precisely that reason, he's not accepting them on the NHS. They're not going on to his private scheme they're coming to me instead.

So in summary, I gather you would feel that converting from a National Health to a private practice the financial implications are important but you could see yourself as earning more money and having to work less hard for it and, giving patients more time?

MG: And would improve standards.

DT: We'll come onto this in a moment, because that's a significant thing you do see the potential to earn a lot more money as a private practitioner if you were established and successful?

MG: Yes.

DT: And then there is the downside, if it fails people don't come. I want to move onto the issue many chaps I have interviewed raised; this question of burnout or stress, certainly most of us feel that we have far too many patients and that stress is a major problem in dentistry does that play a part in your thoughts?

MG: Oh tremendously so yes, I am okay at the moment, I can cope with it but I find myself getting very angry at work because you're just trying to do too much and there's always to more things happening, another person coming in as a review and the little things that niggle and yes you get very wound up and very stressed and I would relish anyway of reducing that.

DT: You don't find your ability to cope with the stress improves with age and experience?

MG: The ability not to externalise it improves with age and experience but you're still stressed. You just maybe don't rant and rave as much as you did when you were younger.

DT: I'd go along with that, I mean I find the stress is greater as I get older.

MG: And medically I think internalising stress is probably more harmful than externalising it.

DT: So the stress of NHS work is a significant factor; would it be an issue in directing you towards private work?

MG: It certainly would, I mean I think all dentists do suffer highly stressed lives. Most of the dentists I know, they get away from work and they drink too much, they go wild, they do various things away from work.

DT: Don't you think going private might create different sorts of stresses from more demanding patients?

MG: There is a problem with private patients that want private treatment do tend to be a little more fussy and can give you a little more grief than NHS patients. Though whether or not that is a function of how we work at the moment in that we have very

few private patients by a natural tendency those are the ones that will want the private treatment. If you had a practice where for example, I offer to all my normal patients we go private well I think that a lot of the ones that signed up to it would carry on more or less exactly as they are now because they are not private patients they would became private patients.

DT: Another issue that perhaps you would have views on is the quality of the work you do. We touched on this briefly before, it is that the work volumes and the short amount of time we spend with patients does seem to compromise quality, but it's a fact of life, and it's part of systems we have to accept. Is that an important issue in pushing into private sector?

MG: From my point of view yes, I don't like doing work which I don't consider to be as good as I am capable of doing it. I don't like not having the time to put things right if I can see it doing wrong that does upset me, doing things which aren't as good as I know I can do them sure, it works. I think the older you get and the more you do in this job you tend to find that you can get away with any old rubbish and nobody really seems to notice, its perhaps not as pretty as you want it to be it works just as well for just about as long as if you did spend ages on it. But that still doesn't mean that you're happy that you're doing that.

DT: Yes, I think one of the significant things is the development of postgraduate education. We are all encouraged to go on courses as part of our role as a professional; we need to continue to upgrade the levels of our service to the best of

our ability. How do you feel when you go on courses, you learn new techniques, spend money on books and are you then able to implement these on the NHS?

MG: You can't, I mean I went down to the dental trade exhibition a few weeks ago and seeing some of the equipment and materials that is available there. You look at it and it's depressing in a way, I went and sat in this surgery they'd got mocked up there and the cost of the equipment for just the one surgery alone was the best party of £50,000. Part of the equipment they'd got there looked like a normal x-ray machine; absolutely marvellous x-rays, you put the thing in the mouth, take the X-ray [which has about a fifth of the normal dose] we use on the NHS x-ray machine. You never produce a piece of plastic, it just goes straight on to computer screen as the x-ray and you can enlarge it, zoom in on bits. This equipment is magical, it would be so useful but it's the sort of thing that's fantasy land for the way we work.

DT: Is that really the issue? in going down the private path do you feel you'd need to invest capital and have that sort of equipment?

MG: We'd need to have a certain amount of it you'd have to look closely, a lot of the stuff is gimmicky and it's done for the sake of it, and some of the stuff is useful. I like being into all this imagery and the integral camera equipment that you can then put up onto a screen; you can show the patients what you're doing. I like the headset ones that they've got; they enable the patients to watch something while you're working on them.

DT: In effect it seems that you would like better quality equipment you'd enjoy it more with sophisticated technology although the NHS doesn't allow you have them?

MG: You feel like you're a second class dentist in a way that you've got the first class dentist that have got modern equipment, modern materials, state of the art computer technology and we're left carrying on with the same way. Not much different from 15 years ago with one or two variations in materials admittedly. Technology moves on in every sphere, in our sphere it has moved on but we cannot afford to buy that sort of equipment with the pay scales we've got. It would be nice if we had the same capital allocation scheme that the doctors have got, you can get the government to pay for the new equipment but that doesn't seem likely to happen.

DT: An area that I think is significant is that the patients charter; The advent of consumerism and the way people are almost encouraged to complain can give NHS dentists a hard time. Do you find that a significant factor?

MG: I don't find it much of a problem and I think it's perfectly valid that patients should have that facility to complain. A lot of the time it's Bolshi patients that are responsible for the quality of the service that they have received.

DT: Private patients don't have the weight of the NHS bureaucracy behind them, if they are going to complain then it is much more difficult for them to get started. Do you thing that's relevant?

MG: I don't think it would necessarily affect my decision one way or the other I said I don't have a lot of trouble from people complaining. I've no doubt it could become a problem and they do have an increase in the level of complaints it shows reflects worse on the quality of the service, in general that the NHS are actually able to provide rather than on individual practices.

DT: Another area that causes criticism is the amount of paperwork and bureaucracy that we have to go through as NHS dentists. Presumably as a private dentist the amount of administrative work would decline significantly. Do you have any thoughts on that, how it affects you?

MG: Presumably it would, as I said earlier if we just got out of being run from Eastbourne to be run form BUPA's centre in Norwich or wherever I don't know how the rules work with regards to the insurance based services. You may find yourself with an equal amount of bureaucracy and paperwork but going in the direction of a private company rather than a public body if we're running it ourselves, then obviously the amount of paperwork is reduced to an absolute minimum and that obviously would be advantageous for the staffing point of views because we could save money on the practice. If we didn't have quite so much form filling to be done.

DT: It certainly seems an area of general complaint amongst all the professionals is the ever-increasing amount of paperwork. I just had a medical doctor in here this morning working for Leigh Environmental PLC; his big grudge is not doing clinical medicine anymore because he was tied with paperwork.

MG: I usually spend a large chunk of my weekend sorting out bits of paper in one way or another which I could do without.

DT: But you'd be glad to see the back of the paperwork?

MG: As long as we don't substitute it with an equal or opposite set coming from an insurance company rather than the government.

DT: It's never going to go away completely is it? Moving on to another area; I think that as NHS dentists we get a very attractive pension fund and the government contribute greatly to it. Private practitioners obviously have no pension fund as such other than what they contribute themselves, is that a significant factor in your decision to stay in the NHS?

MG: I like the NHS pension systems I must admit and it is very hard to get a private pension scheme which is as good a deal as the one we get by our superannuating. At the end of the day if the income levels increase to match it really wouldn't matter because you could switch over to pay it into a private scheme which I already have alongside the NHS scheme and depending on how much I'm contributing in any one year for tax purposes I opt backwards and forwards between the two.

DT: But isn't it right that the government roughly double your pension income therefore you'd have to effectively claim twice as much if your a private practitioner to get the same pension back?

MG: Yes.

DT: Another discussion point is that of associates: you are an associate with complete clinical freedom to do what type of work you wish. On this private issue, do you look for guidance from the principle and what the practice in general does, or do you just do your own thing?

MG: What in terms of turning private?

DT: Yes.

MG: Well obviously we couldn't do it within a group practice. It would be almost impossible to do it as an individual; it would have to be a group decision.

DT: There's been nothing to stop you doing that over the last couple of years. If you'd have wished it, you could have joined Denplan, or do you feel you couldn't do because of your position?

MG: I would find it extremely difficult to do it within the realms of an exclusively NHS practice. I think that private patients demand a difference, if you're going to make it work you've got to go for it and do it properly and I'm not certain about the possibility of these half-way houses where you get practices where there's all fee paying patients or Denplan but they do exempt patients on the NHS. They make very uneasy bedfellows running the two together I think people that come in that are a private patient want a different standard, they want coffee in the waiting room and

newspapers to read. They feel like they want a different kind of standard sitting there. If they're then sat in the waiting room alongside everybody else. The thing seems to carry on exactly the same as normal, the only difference being they're paying more for it. I think you're on a bit of a recipe for loosing a lot of them as private patients. I think you've got to do it or not. I think it's extremely difficult for one individual within the practice to do it. I mean surely you could do it if you wanted to work say on a Saturday morning and say I'm coming in on a Saturday morning I'm not seeing any NHS patients I will see my private patients on a Saturday morning or Thursday evening or whatever and run it separate obviously using the same staff but running it separate from the normal everyday running of the practice.

DT: In that case, how would you envisage a route for a practice to start the transition from NHS to private work? If some of the dentists are doing NHS work you effectively appear to be saying you want to have separate waiting rooms, separate facilities for private patients. I know a couple of practices have done this where they invested £100,000 on extensions on private suites on the back of NHS practices and that's one way, do you think that would be successful?

MG: Obviously in an ideal world that's what I'd like to see whether that would be practical or fundable you'd have to look very closely at the details of it, another possibility would be to say something like oh well this morning a particular session or arrangement would be, for all their routine private work, we see our private patients on a Thursday morning and the practice is geared up differently for that and if they wanted review appointments at any other time, then they have to come into the mix

up as well as everyone else. But you could actually run it on a separate sessional basis.

DT: So as an associate do you feel influenced therefore by the attitude of the principle that affects you?

MG: Yes.

DT: If you were a principle do you think that would alter your views if you've got associates working for you that might encourage you to working on your private practice more?

MG: As a principle, you've got this extremely different situation because you have to a certain extent, an obligation to provide work for the associates that are working with you. They've got full clinical freedom and it's up to them whether they stand or fail if the patients don't like them or see them, it's not up to you've got to book everyone in with them if to a certain extent you've got an obligation that if these people are there on site. If you suddenly do something which takes away all the work, this could cause difficulties, a uni-lateral decision to go private with the consequent reduction in patient numbers that would engender because we certainly wouldn't keep a 100% of our patients that come through our door now. Patients wouldn't say "oh we'll sign up to this private scheme and pay you a lot of money to look after us" and then we carry on as normal but only more. It wouldn't happen, we'd loose 70% of the patients who wouldn't sign up at all or maybe 50% would sign up initially but after year one the drop off figures from a lot of these schemes as they go on. The initial take up rate is

often quite good and it tails off. Now obviously a decision made by a principle to suddenly reduce the patient numbers to a practice by 70% is going to have quite a significant effect on the associates especially if the principle himself says he wants to keep the majority of the 30% who are coming in you could find all the associates sitting about twiddling their thumbs doing nothing so that sort of thing. It takes careful planning as to how it's going to be done. I mean, maybe if you were going to introduce a system like that, you say well Dr D going to be leaving soon we don't know how long, Dr M will probably stop for a bit, Dr C will stop a year or two and you try and phase these things in when you know that you're losing staff. Instead of replacing them you say right well we'll absorb the excess privately between the few left.

DT: Can I ask you what your views are on what your peers are doing? what is going on within the area in which you work, for example if other dentists were all going privately, and this is happened in some areas which are now exclusively private, would that influence you?

MG: Yes in some ways it's had the opposite effects that initially we've done very well out of other people going privately because a lot of the patients that are coming to me as new patients are very nice they are trouble free patients. They don't need a lot doing and they're quite willing and able to pay for what they do have done and I am getting an awful lot of new patients as a result of other people going private. So initially you say lets sit back with the NHS a bit and I'll take all these nice new patients, it's lovely, then obviously becomes a point when you end up being a lone voice in the wilderness and then you become not only the recipient for these nice

patients that you want but also get all the dross that nobody wants either that jump on you from a great height.

DT: Do you think that those of us remaining within the NHS are getting increased pressure from bureaucracy, from patients, from overwork. Certainly seems to me that as we absorb in this practice more patients, the pressure has come on really, but we're now in the situation where we have so many I presume it would be relatively easy to shed a few?

MG: What I have been trying to do slowly over the last year or two is to see less of or get rid of the more waste of space 'problem' patients and selectively keep on the good new ones. The patient base is evolving and changing to a much better patient base now than it was in the past when in order to keep the volumes of work up you just had to see anybody. I'm being quite selective, like people have different ways of dealing with these people who are going to lapse from the list and we get the notifications, I go through the cards and always look at them myself and I decide whether I want to send reminders through to these patients or not, I try and write personal letters to those that haven't been in that I do want. This has a very good success rate, those that I don't want necessarily to see, I just let them lapse, then when they have lapsed I put them on the computer as saying I don't want to see them again so by doing that I evolve a patient base.

DT: I think if we could each get rid of 25 of our problem patients we'd get rid of 95% of our problems. Another area, if we can quickly go on to it: This is to discuss ethics, I think it’s a problem facing us, Professionals like dentists, doctors and solicitors are,

I think, considered as the real professions. We are not profit driven like bankers or accounts they might be self-regulating, highly trained and highly skilled but they're profit driven. The likes of you and I for example, if you have someone there with an abscess or in acute pain it's your duty irrespective of whether they can pay or not is to help them! One of the points I make, is that if we go on to private dentistry we are now going to see the scenario which people who cannot afford it would do without the basic human right of health care. This help will be taken away and people will be left to suffer. Can you reconcile that with a move to the private sector?

MG: I think there are two ways in which that problem can if possibly will be alleviated; The way it happens in the states is that either we will do a session a week or proportion of our time which is almost devoted to charity cases where we actually say yes by all means with five of us here we've got five days of the week and we'd give them an hour a day each tacked on the end of a list and we'd say yes Dr Gibbons will see these "pains" at five o'clock come back then and then they will be treated free of charge on the NHS or the alternative is the local casual extraction system which we all worked through many years ago. It doesn't exist so much now.
That is one way in which these patients would be looked after and the other way is the system which the government is encouraging and certainly Area Health Authorities are taking up and that is putting in a safety net salaried dentist who's job it is to sweep up all of those problems.

DT: In your own mind you could reconcile being a private practitioner and allowing and hoping that somebody else would mop up these excess emergencies?

MG: I could reconcile that yes as long as the system was in place. The government has got a legal obligation to provide dental care for everybody and as long as that situation continues if we're all private the government has to put in a salaried dentist somewhere to provide that care for people that can't afford the private treatment so I can't see a situation occurring whether there isn't any possibility of them getting treatment somewhere.

DT: A couple of other points to finalise on; One is the out of hours cover we have to provide; we are as you know responsible 24 hours of the day, 365 days of the years for our patients for the relief of pain, that's an obligation the NHS presumably is not there to the same extent as private work, does that obligation bother you how do you feel about it?

MG: The way in which we have not got a system set up with the practices working together, which means you've not called on to do it very often, we go from 6-10pm, five days a week, bit more weekends and I don't consider that a problem. It's a nuisance yes doing that time but they've got to consider that a problem. If you were, I can't see any reason why you wouldn't do this exactly the same between a group of private practitioners and I think you have to we may not have a legal obligation to treat the amount of hours but I think you've got a moral and ethical obligation and also a financial obligation that if they find out that they're care if were not interested after 5 PM obviously they might shop around and go to someone else and I think going back to insurance companies and insurance based systems that I suspect that once you've signed up with one you will rapidly develop some sort of legal obligation or contractual obligation to do just that anyway.

DT: This is going to come on to the final point on my list of the quality of these insurance schemes, do they influence you what they're offering the quality of the service they are able to give or would you just go your own way?

MG: I can't see any point in paying, I mean the insurance companies are in it to make money so why use them? We're intelligent and able enough to develop our own systems and I don't think there's necessarily a reason for dealing with an insurance company.

DT: I think the idea is that they take a lot of the work load, the administration off you and then all you do is the clinical work and you get your cheque at the end of the month with none of the bureaucracy we're faced with at the moment. I think people would find that quite appealing.

MG.: It's appealing yes but they're taking a big cut for the privilege and the problem that I've encountered with friends that I have spoken to about the specific Denplan, the most common one is the sort of patients who sign up for it tend in general to be the sort of patients who don't need anything doing, they then discover at about end year one and certainly by end of year two how much they've paid for not very much, then they come back to the dentist concerned and say how much would it cost if I just paid for my check up and polish privately and they start withdrawing at year one, year two the actual numbers that you've got decrease.

DT: Patients resistance to private fees is a significant factor; do you think it depends what area you're working in?

MG: Depends what they're getting for the money, I think you've got to show, it goes back to what we were discussing earlier that it's got to look like they're getting a better standard of service they're not just getting a more expensive version of the same thing.

DT: The National Health seems very important to many people doesn't it? People go and spend £50 on a nice meal and yet the thought of spending £50-£60 a year on their health is objectionable [I don't know why but I personally resent having to do it] People seem to have different priorities and I think as a profession we should sell the importance of oral health better then we do.

MG: People are used to going in for nothing and they are going to be reluctant at suddenly starting to have to pay for it.

DT: OK Matthew we've gone through all the main issues I can think of are there any others you can think of that we might have missed that would influence your thinking processes?

MG: Obviously politics and what is going to happen politically over the next few years. In the short term, the extremely short term, I don't think anything much is going to happen because there's an election looming and nobody's going to do anything desperately unpopular with an election due. In the medium to long term I think things

in dentistry have got to change I don't see anyway that any party of any political persuasion are going to let things carry on the same as they are at the moment.

DT: Changes in what way, you think like having a core service?

MG: I think it's going to change, I think what we will see initially is a core service being offered, what I foresee happening within the next 10 years is that you will have the community dental service having a few salaried dentists about basically doing extraction's and charity cases. Most of the rest of the population will be in insurance schemes of one sort or another working with practices and I foresee that will come.

DT: A bit like the American scheme.

MG: I think it's inevitable that will happen, it's how fast it happens and what sort of reluctance that occurs from one to the other in the interim I don't know but within ten years that will what we will actually see as happening.

DT: Dr G, thank you for your interview you've been very helpful.

Pilot Interviews.

Main Areas of Discussion:-

1] **Finance**.

Declining NHS income.
Wanted to earn same/ bit more as private dentist.
Risk of converting to private dentistry. The actions of other dentists in area.
Pension funds on NHS.
Alternative incomes e.g. early NHS pension.
Insurance schemes.
Capital expenditure [Equipment decor etc for private practice]

2]. Education/Quality of work.
Need for Vocational Training figured strongly.
Need for ongoing postgraduate training.
NHS did not allow time for best standards. [Dentistry and customer care].
Need for "quality" site of practice.

3]. Ethics
Concern about de-professionalisation of Dentistry.
Poor patients are unable to get treatment. [A basic human right]
Lowering of standards.
Inability to develop new techniques on NHS.
Becoming profit driven, [tradesmen]
Declining status. poor patient perception.

4]. Stress/burnout.
Financial worries.
Insufficient time to do quality work [Ergonomics]
Personal needs not fulfilled [Maslow]
Uncertainty over the future. [NHS Government policy]
Bureaucracy/ Consumerism/ patient charter
Out of hours.
Staff.
Difficult patients.

Dr D Thomas PhD Pilot Survey

Discussion Topics: Interview No:-

1]. Finances.

2]. Quality of Work.

3]. Stress/Burnout.

4]. Pensions.

5]. Postgraduate Education.

6]. Vocational Training Scheme.

7]. Patients Charter & Consumerism.

8]. NHS Paper Work.

9]. Ethics.

10]. Status [Principal or Associate].

11]. Views of GDP Peers.

12]. Capital Investments.

13]. Non dental Income.

14]. Availablility of Insurance Schemes eg Denplan.

15]. Practice Location.

16]. Female Views.

17]. Our of hours responsibility.

18]. Government Policy.

19]. Any Other Issues

Pilot Questionnaires.

Main Questionnaire

Results.

Table 1

Assoc/VT/Assistant * Gender Crosstabulation

			Gender		
			male	female	Total
Assoc/VT/Assistant	yes	Count	79	76	155
		% within Gender	32.2%	73.1%	44.4%
	no	Count	166	28	194
		% within Gender	67.8%	26.9%	55.6%
Total		Count	245	104	349
		% within Gender	100.0%	100.0%	100.0%

Table 2,

I employ assocs * Gender Crosstabulation

			Gender		
			male	female	Total
I employ assocs	yes	Count	124	24	148
		% within Gender	41.9%	22.2%	36.6%
	no	Count	172	84	256
		% within Gender	58.1%	77.8%	63.4%
Total		Count	296	108	404
		% within Gender	100.0%	100.0%	100.0%

Table 3.

I am a principal * developing private work Crosstabulation

			developing private work		
			yes	no	Total
I am a principal	yes	Count	187	102	289
		% within developing private work	76.3%	57.0%	68.2%
	no	Count	58	77	135
		% within developing private work	23.7%	43.0%	31.8%
Total		Count	245	179	424
		% within developing private work	100.0%	100.0%	100.0%

Table 4.

I am a principal * Age Crosstabulation

			Age			
			23-35	36-45	46+	Total
I am a principal	yes	Count	52	123	116	291
		% within Age	33.3%	85.4%	90.6%	68.0%
	no	Count	104	21	12	137
		% within Age	66.7%	14.6%	9.4%	32.0%
Total		Count	156	144	128	428
		% within Age	100.0%	100.0%	100.0%	100.0%