

**Single-handed General Practice
in urban areas of Scotland**

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Abstract

Background

Single-handed practice, a traditional model of general practice, has been an important facet of primary care provision since before the establishment of the National Health Service in 1948, but has increasingly been challenged by the growth of large practices. Now less than 10 % of GPs remain single-handed in the UK, concentrated in rural areas and areas of urban deprivation. This gradual decline of single-handed practice has resulted partly from the continued advocacy of partnership by the government, but is also indicative of NHS modernisation itself focusing on the delivery of high quality of care. However, little is known about single-handed GP today, particularly in urban areas, and what impact the most recent policy changes resulting from the implementation of the 2004 General Medical Service contract has had on them.

Aim

The aim of this thesis is to explore the current position of single-handed practices in urban areas exploring the quality of care delivered and to develop an understanding of how being a single-handed GP affects their practices in today's NHS.

Methods

A mixed method methodology was employed. Quantitative analyses of routine datasets described characteristics of single-handed general practitioners and their practice population, and also examined their quality of care in comparison to that of group practices. A set of qualitative interviews were conducted to explore the experiences of a single-handed GP and their views of the future of this type of practice.

Results

The data presented in this thesis shows that single-handed practice accounted for 12.6% (n=85) of urban Scottish general practices and had over 150,000 registered patients with a high proportion living in areas of socio-economic deprivation. GPs working single-handedly were more likely to be male, older, qualified in South Asia, and had larger personal list size than their counterparts in group practices. Taking account of practice and

population characteristics, single-handed practices offered comparable quality of care to large practices but tended to refer more patients with coronary heart disease to secondary care and also attained fewer organisational points in the Quality and Outcomes Framework of the new GP contract than larger practices.

The data generated from the GPs interviews shed light on such patterns, suggesting that single-handed practices had little benefit from the economies scale possible in larger practices with regards to employing additional practice staff and sharing tasks within practice teams. Single-handed GPs continued practising on their own as they enjoyed the true levels of autonomy regarding clinical and managerial work within their own practices. However, the increasing accountability associated with the new contract in terms of Quality and Outcomes Framework monitoring may be a greater challenge to their freedom than current Government rhetoric about larger practice configurations. Some, however, had begun to find other ways of supporting themselves, such as sharing facilities with other small practices or using colleagues also from small practices to provide cross-cover when required.

Conclusion

The findings from the quantitative and qualitative work drawn together in this thesis highlighted that there was a significant group of GPs in urban areas who continue to practice single-handedly, whose quality of care was as good as that provided by larger practices when difference in the socio-economic status of practice populations between practices was taken into account. Although no significant association between practice size and CHD outcome measures (mortality, EMAs, prescribing and operation rates) was observed, there was variation in out-patient referral rates that remained unexplained, suggesting that patient-related factors such as their level of morbidity, may be important. Under the new contract, with little advantage in practice organisation, single-handed practices attained comparable clinical performance to group practices in the Quality and Outcomes Framework, though the underlying distribution of quality scores and percentage achievement for individual indicators in relation to practice size needs to be examined further, incorporating data on exception report to understand the full effect of practice size on QOF attainment. Enjoying their personal autonomy within their own practices, many thought they also provided a good quality of care for their patients, particularly in relation to access and continuity, and would remain as single-handers. However, concerns over the increasing accountability largely associated with the new contract in terms of QOF

requirements may be a greater challenge to single-handed practices than current government rhetoric about larger practice configurations.

The findings of this study indicates that the quality of care provided single-handed practice is at least as good as and, possibly better than that of larger practices. This has implications for service delivery in general practices, because it suggests that a policy drive to the development of large units in general practice may not necessarily lead to an improvement in quality of care as it intended. Despite some limitations, the importance of socio-economic deprivation rather than practice size in explaining the observed differences in quality outcomes emphasises the need to address health inequalities in populations, as well as the need to support practices such as single-handed practices working in the areas of deprivation and with ethnic minority populations, and to value their ongoing contribution to the provision of primary care in such areas.

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Author's declaration

I declare the contents of this thesis to be all my own work except where acknowledged on the previous page.

The following publication has been prepared from material contained in this thesis:

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Single-handed GPs in today's NHS, Medical Sociology, Liverpool, September 2007.

Definitions

The following abbreviations are used throughout the thesis:

WTE	Whole Time Equivalent
RCGP	Royal College of General Practitioners
GMS	General Medical Service
PMS	Personal Medical Service
NHS	National Health Service
GP	General Practitioner
CHD	Coronary Heart Disease
QOF	Quality and Outcomes Framework
ISD	Information Services Division
SIMD	Scottish Index of Multiple Deprivation
SPSS	Statistical Package for the Social Science

Chapter 1

Introduction

1.1 Background

Single-handed practice has been a significant feature of British general practice since before the foundation of the National Health Service. In the UK, for a long time, general practice has been epitomised by a partnership between patient and GP, who often worked single-handedly. However, such a traditional model of general practice has increasingly become less favourable to group practice, with various policy initiatives promoting GPs to join together to work in partnerships. In 1965, the General Practice Charter introduced a financial incentive for GPs to enter into partnerships, and UK health policy has continued to discourage the single-handed GP, who from many points of view, has been characterised as an anachronism in the modern NHS.

With the development of the modern NHS, there are a number of reasons why single-handed practice has been “a cause of concern” (Fry,1983). One is that policy makers argue that single-handed practices are less efficient since they have higher structural costs such as staffing, premises and facilities compared to group practices. Given few opportunities for economies of scale, single-handed practices tend to have fewer ancillary staff, less well built premises, and a relatively smaller range of services. As such, they have been associated with poor service provision, and the profession has argued that without adequate capacity, single-handed practice may fail to provide a high standard of care. In addition, single-handed GPs working by themselves may be professionally isolated having no regular peer contacts, and there is a possibility that GPs working alone could be less aware of their own quality standards, which could slip away without notice.

Yet, single-handed general practice has been recognised as having made an important contribution to the health service over the past six decades, especially in inner cities as well as remote and rural areas. Furthermore, single-handed practices achieve high patient satisfaction by providing personalised care and easy access, all of which may be difficult to live up to in large group practice. And for some doctors, the setting up of single-handed

practice could meet some of their needs for professional control being an independent contractor.

In the UK, with the overall trend towards group practice, the reality is that single-handed GPs seem to be dying out, although a persistent group of GPs continue to practise alone. To an extent, they present a dilemma as to why, given all incentives for joining larger practices, these GPs still prefer to practise single-handedly, and why patients might choose such a traditional model of practice with fewer of the assets offered by a large scale of practice. Therefore, the purpose of this thesis is to explore the current provision of single-handed general practice in urban areas of mainland Scotland, taking account of the views of practitioners themselves. There are three main objectives of this thesis:

- To describe the characteristics of urban single-handed general practice with regard to practice and population profile.
- To study the impact of practice size on quality of care in relation to coronary heart disease and performance in the Quality and Outcomes Framework under the new contract.
- To explore the experience of being single-handed practitioners in today's NHS.

These objectives are achieved firstly through a literature review encompassing relevant studies of single-handed general practice in primary care, and giving an overview of single-handed practice in relation to its characteristics, quality of care, and perceived strengths and weaknesses. These aspects of single-handed practice are then explored throughout this thesis using a mixed method approach employing both quantitative and qualitative research methods in two phases.

The first phase of the study was designed to explore the characteristics of existing single-handed general practices and the quality of care provided by them, in comparison with those of group practices. In the literature, practice characteristics have an impact on practice performance, and Campbell *et al* (2001a) have pointed out that no single type of practice has a monopoly on high quality care, suggesting that practices with different characteristics varied widely in different aspects of quality of care. With respect to clinical

care, the relationship between practice size and quality of care is not straightforward, as some studies have found practice size was associated with quality of care (Baker, 1992; Campbell *et al* 2001a, 2001b); whilst others found little relationship (Hippisley-Cox *et al*, 2001; Majeed *et al*, 2003). Moreover, in 2004, the new GP contract was implemented and the accompanying Quality and Outcomes Framework, which links practice's performance with financial incentives, also raised the possibility that smaller practices might be disadvantaged and challenged by the extensive scope of quality standards defined within the framework. As such, practice size, in policy terms apparently remains a contentious issue in the development of general practice. In the light of the new contract, a quantitative approach was employed in the study using routinely collected data on quality of care to assess the impact of practice size on quality assessment, comparing the performance of single-handed practices with that of group practices.

Driven by the growth of expectations on GPs to provide a wide range of services and a need for effectiveness and efficiency in the NHS, the direction of general practice towards larger practices is likely to continue. Therefore, in phase two, a qualitative analysis aimed to validate and further develop our understanding of the current position of single-handed GPs within the NHS in relation to their motivation, strengths and weaknesses, quality of patient care, and attitudes towards the new contract, and also allowed issues raised in the quantitative analysis to be investigated further from GPs own perspectives.

The key argument of the thesis is that with the growth of practice size along with an increasing accountability in general practice, single-handed practice, embracing its strengths, can continue to contribute to today's health service.

1.2 Outline of the thesis

This thesis comprises nine chapters, starting with a chapter (Chapter 2) which firstly contains a review of the development of general practice in the NHS and how practice structure has changed under a series of NHS reforms over the last 60 years. The second part of literature review is presented in Chapter 3, which examines current single-handed general practice in the UK, and evidence of advantages and disadvantages of being single-

handed including issues such as practice structure, staffing, service range, quality of care, and practice management.

Chapter 4 explains the choice of methodology for this study, using a mixed method approach including both quantitative and qualitative methods to achieve the aim of the study. Chapters 5, 6 and 7 report on the quantitative studies: Chapter 5 examines the profile of single-handed general practice in mainland Scotland to explore the characteristics of single-handed GPs, their practices, and patient population, in comparison with those of group practices; Chapter 6 examines the quality of clinical care provided by urban practices in mainland Scotland for coronary heart disease, and its association with practice size; Chapter 7 compares urban practices' QOF performance by practice size, to explore practice performance in both the clinical and organisational domains included in the Quality and Outcomes Framework.

Chapter 8 explores existing single-handed GPs' experience in the modern NHS, their attitudes towards the new contract and their views about the future of single-handed general practice in the NHS. Finally, Chapter 9 pulls together findings from the quantitative and qualitative studies in order to develop an understanding of single-handed general practice, and the nature of this type of practice in today's modern NHS. The limitations of this study, the implications of the findings for policy, and possibilities for further research are also discussed in the final chapter.

Chapter 2

The development of general practice in the National Health Service

2.1 Introduction

Primary care plays a central role in the UK National Health Service and has become a major focus of health policy. Central to the organisation of primary care services is general practice. Since the establishment of the NHS in 1948, primary care has been the subject of substantial reforms, and general practice in particular has received great attention. Over the past 60 years, general practice has gradually expanded with an increase in both the number of doctors and the number of patients registered with practices. There has been a trend away from single-handed and small practices to multiple partner practices, and larger practice has been increasingly favoured by government policy as the way to deliver health care (DoH, 2006; Colin-Thome, 2007). In early 2005, the Department of Health outlined a future model of primary care, comprising walk-in centres, super surgeries and specialist services, which left little place for smaller practices. In Scotland, although there has been less emphasis on the development of such “super practices”, there is a prevailing feeling that primary care should be developing to provide extended health services (Scottish Executive, 2005a). Most recently, a new government plan for polyclinics in England also makes clear that the traditional doctor’s surgery could soon belong to the past, and be replaced by a super-structured health centre with a mass of GPs working in collaboration.

The most recent figures from the Royal College of General Practitioners showed that of all practices in the UK in 2005, 21% were single-handed, and 33% were small two or three partner practices (RCGP, 2006a), which is evidence that smaller practices remain a significant feature of UK general practice. These practices tend to be synonymous with urban environments, particularly areas having a high proportion of deprived and minority ethnic populations (RCGP, 2005a). For many, the image of single-handed practice has been predominantly one of elderly doctors often working from sub-standard premises and with rudimentary practice teams, likely in association with poor service provision; but on the other hand, there has also been research evidence suggesting that small practices

delivered comparable quality of care to larger practices, and achieve higher levels of patient satisfaction. As such, the existence of single-handed general practice is contentious, representing a policy dilemma. In the light of recent organisational reform in primary care, this thesis will explore existing single-handed practices in urban areas in today's NHS, with a view to understanding the challenges facing such practices and their future in a 21st century health service.

This chapter reviews the development of general practice in the UK. It examines what has led to a growth in practice size gradually moving from single-handed to multi-partner practices, focusing on the impact of health policy on the changes of practice structure and organization in general practice.

2.2 "Cottage industry"

General practice has a long history within the UK health care system, rooted deeply in the community. On the one hand, it provides free of charge health services to the majority of the population; on the other hand, the general practitioner acts as a gatekeeper and controller of access to secondary and specialist care. Fry (1993) described general practice as:

“the single port of entry into the NHS, with the exception of A & E and special clinics... 24 hours availability (for) first contact care, co-ordination and manipulation of local medical and social services... gate keeping and protection of hospitals...(and) long term and continuing generalist personal and family care.”

(Fry, 1993, p.3)

The origin of general practice, as we know it today, dates back to the nineteenth century and the early decades of the twentieth, during which there was a progressive separation of the role of general practitioners from hospital doctors (Tait, 2002). GPs became the personal doctor providing basic medical care in the community while hospital consultants and surgeons controlled the hospitals. But the development of general practice was overshadowed by that of hospital medicine. General practitioners were seen as a group who were isolated from mainstream medicine, operating usually on the small shopkeeper

principle of running their own practice single-handed and relying on the income from capitation fees from insured patients (Klein, 1989). This led to stagnation and lack of development. Even following the introduction of the NHS in 1948, the development of general practice was at a standstill compared to the expansion of the hospital system. General practice retained a domestic focus, with most doctors practising alone from surgeries in their own homes, supported by family members, and depicted as a cottage industry at that time (Central Health Services Council, 1963). In many aspects, GPs' working conditions, particularly in urban areas were poor; for example, Tudor Hart (1988) described a single-handed surgery where he started his career in general practice,

"...surgery was in the saloon bar, the waiting room in a narrow adjoining room previously used for off-licence sales. It was nearly always full of people waiting to get in, often with more standing in the street, sometimes in the rain...A small working area of desk was cleared in front of the doctor's swivel chair. Behind him was a threadbare printed fabric screen, folded and apparently rarely used. Behind this again was a low divan couch covered in American cloth and stuffed with horsehair, much of it bursting out through ulcers and abrasions acquired in forty or fifty years of combat...There was no receptionist within the practice, so patients' medical records, the small pocket envelopes devised in 1916 for the Lloyd George Act and still used..."

(Tudor-Hart, 1988, pp6-7)

Such squalid practice working conditions were typical of practices in the older industrial areas and workload in general practice was colossal at the time. Taylor (1954a) found from a survey of general practice in 1953 that consultation rates varied from 3.5 to 9.6 per patient per year and that the average list size was 2,500 per GP, varying from between 1,500 to 3,600. He estimated that a GP each day could have 12 to 30 home visits and 15 to 50 surgery consultations. In the face of the substantial demands being made on them, GPs however, had little financial and administrative resources for their tasks.

In the 1950s, GPs felt increasingly dissatisfied about their pay. Since the establishment of the NHS, GPs' pay was determined by a pool system, whereby all GPs were paid out of a capitation fee, with an upper limit on net remuneration, regardless of workload or expenditure on the practice. From 1951 through to the early 1960s, there was a rise in the level of practice costs including employment of staff and investment in practice premises; however the capitation fees remained unchanged which meant a potential reduction of GPs' own income. Initially, the capitation fee of the practice was calculated according to the

number of patients, and that was then changed to a calculation based on the number of doctors in the practice. As such, the only means to increase practices' income was by increasing the number of doctors. Steven (1966) suggested that such a payment system gave a benefit to doctors when their numbers were rising faster than the population list; however this was reversed as the population over-grew the number of doctors in the early 1960s. In a way, GPs believed that they were relatively poorly paid compared to hospital doctors, and felt themselves trapped in an inexorable decline in their professional status, subsequently morale and standards in general fell (Lewis, 1998).

In 1950, the Lancet published a report by Collings, a visiting Australian general practitioner, on his personal survey of British general practice, which painted a gloomy picture of exhausted and demoralised doctors, hurried work and low standards. In his conclusion he stated that,

“The overall status of general practice in England is bad and still deteriorating. ...working conditions of many general practices are unsatisfactory. Some are bad enough to require condemnation in the public interest. In some cases the working conditions are so bad as to override the abilities and skills of the individual doctor. They tend to reduce the work of good and bad doctors to a common level.”

(Collings, 1950, p568)

The Lancet 25 March 1950. Page 555-585

GENERAL medical practice is a unique social phenomenon. The general practitioner enjoys more prestige and wields more power than any other citizen, unless it be the judge on his bench. In a world of ever-increasing management, the powers of even the senior managers are petty compared with the powers of the doctor to influence the physical, psychological, and economic destiny of other people.

But unlike the manager, who exercises his controls over whole groups of society, the doctor exercises his in a microcosm and in relation to individuals; and for this and other reasons he is largely free from the limitations which democratic principles set on the acquisition of power.

General practice is unique in other ways also. For example, it is accepted as being something specific, without anyone knowing what it really is. Neither the teacher responsible for instructing future general practitioners, nor the specialist who supposedly works in continuous association with the G.P., nor for that matter the G.P. himself, can give an adequate definition of general practice. Though generally identified with the last-century concept of “family doctoring,” usually it has long ceased to be this. Nevertheless its stability and its reputation rest largely on this identification.

While other branches of medicine have progressed and developed, general practice, instead of developing concurrently, has adapted itself to the changing patterns; and sometimes this adaptation has in fact been regression.

There are no real standards for general practice. What the doctor does, and how he does it, depends almost wholly on his own conscience.

The conduct of general practice and of the individual practitioner is inextricably interwoven with commercial and emotional considerations, which too often negate the code of medical ethics by which the public are supposedly safeguarded and from which the high reputation of medicine stems. Hence material and moral issues have become inseparable, and it is impossible to discuss general practice without discussing morals, and therefore without moralising. In this report the issues are kept separate as far as possible, but this is not very far.

Section I describes how the observations were made; section II is an account of general practice as I found it; and section III deals with the National Health Service in relation to general practice as I found it. I contrast this with the usual endeavour made to interpret the Act in terms of what general practice is supposed to be or what we might like to think it is.

I know well that many of my deductions rest on subjective impressions rather than objective fact, though I have tried to keep the two apart. Very little statistical evidence is used—principally because little valuable evidence of this kind is available, and secondarily because the major problems of general practice are not soluble in terms of statistics.

My observations have led me to write what is indeed a condemnation of general practice in its present form; but they have also led me to recognise the importance of general practice and the dangers of continuing to pretend that it is something which it is not. Instead of continuing a policy of compensating for its deficiencies, we should admit them honestly and try to correct them at their source. If I do no more than convey this, I shall be satisfied.

Extract from "General Practice in England Today A Reconnaissance" by Joseph S Collings

Figure 2.1: Collings's report of the survey of general practice in 1950.

The Collings's report made it impossible to ignore the crisis that was overwhelming general practice, and resulted in significant changes over the next decades. One significant change was that GP partnerships started to emerge, so as to share costs and out-of-hours cover between doctors. In 1952 the proportion of single-handed practitioners was 43%; by 1965 it had fallen to 24%, and such change to partnership was clearly reflected among those younger doctors, with only 4 % of doctors aged under 40 working in single-handed practices (Bosanquet and Salisbury, 1998). Thus, there were two stereotypes of practice at the early 1960s, as Cartwright (1967) summarised from a survey of general practice.

“The first doctor has his surgery attached to his house. He work mainly on his own, but he has an arrangement with a nearby doctor for some weekends and some night calls...He knows his patients and their families well, and when you do see him, he takes his time, doesn't hurry you and listens to what you say.

“The second doctor works in a partnership. There are four of them altogether and they share a well equipped surgery where they have a nurse and a secretary. This doctor takes turns with his partners to be on duty for surgeries and for weekend and night calls....and are very up to date, and only send patients to hospitals if they need very complicated investigation or treatment.”

(Cartwright, 1967, pp.165-66)

With the advent of partnerships, general practice started to move away from its domestic environment to become more professional and specialised. Cartwright (1967) reported that doctors working in partnerships generally felt more satisfied than those in single-handed practices. Even though, general practice remained an unattractive career option for doctors during 1950s and 1960s because there was little change in their professional status and economic position. In 1963, the Ministry of Health reported that there was a marked difference between the career earnings of GPs and hospital consultants, which amounted to a 48% gap (Central Health Services Council, 1963). There was a feeling that only a career in hospital medicine was regarded as a suitable career for a successful graduate of medical school. Lewis (1998) noted that at the time the opinion in the medical journals was that GPs could not compete with hospital medicine, because of their isolation and poor working conditions, and that GPs were not in position to make good use of their training from medical school. GPs had their attempts to shift such balance, but it was not until they succeeded in constituting the General Medical Services Committee that general practitioners were freed from the power of specialist interests, and began to demand for changes in the payment system. This eventually led to a negotiation with the BMA over a new GPs' Charter, which was known as the Family Doctor Charter.

2.3 The implementation of the Family Doctor Charter of 1966

The Family Doctor Charter, implemented in 1966, introduced some major changes into general practice. Under the Charter, the methods of GPs' remuneration and terms of service for GPs were changed fundamentally. GPs secured substantial pay improvements through a three part payment system, comprising a basic practice allowance, capitation fees, and payments for designated items of services such as contraception and immunisation. There were also additional allowances supplementing to the practices including loans and grants for the construction or improvement of practice premises, reimbursements of the practice costs of employing nursing and ancillary staff, and allowances encouraging GPs to undertake vocational training and work together in groups (Webster, 1998). This new system was thought to avoid the drawback of any single type of remuneration, and the creation of new economic incentives were essential to the development of general practice over the following two decades.

In general, there was an improvement in general practice with respect to practice structure, premises and staffing as a result of the incentives provided by the 1966 Charter, with perhaps the most prominent structural change being the decline in the number of single-handed practices. Although such a decline had already begun before the Charter, most doctors still worked in partnerships containing less than four partners, and it was not until the introduction of the Charter that there was a continuous decline in the number of single-handed practitioners, from 24% in 1966 to 17% in 1976, and by 1997 only 10% of GPs were single-handed. This was accompanied by a great growth in the percentage of GPs working in practices of five or six doctors from just 7% in 1966 to 20% in 1976, and to 45% by 1997 (Fry, 1979; RCGP, 2005b).

With the growth of practice size, there was also a significant improvement in surgery premises from the mid 1960s. Such improvement was promoted by a combination of the incentives brought by the 1966 Charter and later the arrangement of the cost-rent scheme, which enabled general practitioners to develop adequate practice premises to accommodate larger partnerships with attached staff. After the NHS was established, only 28 health centres were built between 1951 and 1967. From then there was a dramatic acceleration in the building of health centres, and between 1968 and 1975, 553 new ones were opened in

the UK plus 1,413 loans had been taken up to convert and construct new GP premises (Drury, 1977).

The appeal of the purpose-built health centre was that it moved GPs who previously practised from substandard premises, often in their own homes or shop-front surgery to one building which contained a range of professional groups including GPs, district nurses, midwives, health visitors, and social workers, together sharing the facilities in the centre. The popularity of the health centre continued into 1970s, and by the 1980s under the new cost-rent scheme, GPs were able to design and build the premises which they would own and control (Marinker, 1998). Then, the emphasis on the development of practice surgeries shifted towards GP-owned purpose-built premises, which often provided facilities similar to health centres, and also facilitated attached community staff such as district nurses and health visitors. Gradually the concept of “the practice” changed, becoming less identified with a particular doctor and more with the team and the building from which it worked. Bosanquet and Salisbury (1998) suggested that such change in the design of general practice premises could be seen as a reflection of the prevailing medical ideology of the time, with the development of health centres part of the struggle for professional recognition of general practitioners, and the boom in their own purpose-built surgeries part of the growth of a self-confident view of medicine in general practice.

Following the Charter, doctors “left home”, moved into purpose-built premises and formed themselves into partnerships by which they gained control over their work conditions. They started to become employers, leading to an increase in the number of employed practice staff including reception and administrative staff as well as practice nurses. In the five years between 1968 and 1973 the number of whole time equivalent clerical staff employed by GPs went up by 10% a year and the number of employed nurses by 26% overall (Reedy, 1977). A new concept of the primary health care team began to rise up (Hasler *et al*, 1968), and general practitioners were no longer expected to work just by themselves, but in collaboration with other health professionals in the community.

Accompanying the increasing size of partnerships, some changes in practice organisation also led towards new ways of working in general practices. For instance, the appointment system was introduced enabling GPs to regularise their working day, and GPs in partnerships could not only share workload during the surgery hours but also the out-of-

hours care for patients. In a study, Wilkin *et al* (1987) identified a distinct difference in time spent on call between single-handed GPs and those working in partnerships: 28% of all single-handed doctors regularly spent some part of the evening and weekend on call and 32% were on call for some part of every weekday night, in contrast with 3% and 2% respectively of GPs in group practices. Meanwhile, single-handed GPs with no one sharing out-of-hour patient care, which might have to cover using other alternative source such as commercial deputising services under the old contract, and an early study found that such services in general practice were commonly used by single-handed practices and those with larger list sizes (Williams and Knowelden, 1974).

The growth in practice size resulted in a gradual change in the workforce in general practice, with more women becoming general practitioners from the late 1960s onwards. In 1968 only 10% of GPs were women; this had risen to 15% by 1979 and to 25% by 1990 (Department of Health and Social Security, 1985). However, female GPs were more likely to work in partnerships, and rarely practised single-handedly. There is a possibility that partnership arrangements compared to single-handed practice, might be more flexible and less personally demanding, thus more compatible with female doctors' domestic and family circumstances. Following the changes since the 1960s, general practice increasingly became a first career preference over hospital specialities. Lambert and his colleagues' study (1996) about career preference noted that 34% of new entrants chose general practice as their long-term career in 1974 and this rose to 45% by 1983. However, in spite of a rise of young medical graduates entering general practice, single-handed general practice appeared a less attractive career option as many chose to work in partnerships.

Generally speaking, morale among GPs improved considerably after the 1966 Charter, and the structural and organisational changes described provided a material base which enabled general practice to develop a new and self-confident ideology (Tudor-Hart, 1992). General practice built upon these changes and gradually redefined and developed its own model of care separate from hospital medicine, focusing on patients as a whole person rather than merely their medical problems. GPs were valued as a personal doctor who tended to understand patients' problems in their social context and, not only provided disease treatment but also offered help for prevention.

Despite marked changes in the organisation and structure of general practice since the Family Doctor Charter, there remained many problems. Morrell (1998) noted that there were areas, particularly in the inner cities, where many single-handed doctors still worked in low standard premises, unable to develop a primary care-team due to a lack of suitable accommodation. They often worked under great strain, with a 24/7 commitment and no holidays, simply surviving to some extent, and providing suboptimal care. The Royal College of General Practitioners identified the inconsistency of standards in the quality of general practice, and in 1985 the Report, "What Sort of Doctor" was published, setting out as a voluntary practice-based scheme aiming to match individual performance against defined criteria of competence (RCGP, 1985a). In the same year, "Quality in General Practice" also emphasized the necessity of ensuring quality standards in general practice (RCGP, 1985b). Yet, given the determination to pursue high quality care in general practice, there was little incentive in the contract to encourage GPs' providing high quality care.

2.4 The Imposition of the 1990 contract

Following the structural changes brought by the 1966 Charter, the emphasis in general practice in the 1980s moved onto the quality of care provided by general practices. Variability in standards of care among practices was apparent and became of increasing worry to both the government and the profession. In 1986 the Conservative Government raised its concerns about both cost and quality, and proposed the introduction of a "good practice allowance" as a means of encouraging good quality care (Secretaries of State for Government Services, 1986). Despite its good intention, Lewis (1997) noted that the government's approach of creating quality incentives was seen to be "wrong-headed" by the profession, and possibly would widen the gap between good and poor practices rather than improve quality across all general practices. Marinker *et al* (1986) discussed that there was a potential question as to whether such incentives could be attained by practices regardless of their size and locality and suggested that single-handed doctors with little resources might not benefit from such allowances. However, this proposal could not be agreed between the Government and the profession, and the idea of a good practice allowance was dropped in 1987. However, the Government had no intention of abandoning its aim to improve the quality standard of patient care.

In 1989, the Government proposed a new contract for GPs that was designed to give patients more choice about the services provided in general practice by encouraging competition between doctors, and also to make GPs more accountable for their performance by specifying the terms of services and linking financial incentives for providing certain services such as health promotion. However, the Government's initiatives had little attraction for GPs, who did not like the areas of clinical activities within the proposed contract for which there was little or no evidence of effectiveness; for example health checks for elderly patients and health promotion requirements (Scott and Maynard, 1991). Essentially GPs saw the contractual obligations of the 1990 contract as the Government's attempts to control the profession, challenging GPs' clinical freedom by delineating the criteria GPs had to meet, and threatening their status as independent contractors. Lewis (1998) suggested that the independent contractor status had traditionally been seen as protection for the professional status of GPs, and the last thing GPs wanted was monitoring requirements and performance indicators. She pointed out that GPs disliked the notion of being forced to compete and disliked even more what they saw as the spectre of "managed care". Thus, in a ballot GPs voted three to one to reject the new contract. However, in spite of GPs' rejection, the Government decided to use its statutory powers to impose it on the profession.

The 1990 contract maintained GPs as independent contractors but subject to central control over their clinical performance. The main direction of change was in the range of services and the activities within the practices. GPs were expected to provide a variety of new services including medical examinations for new patients, screening patients who had not consulted in the last 3 years, and health education clinics. They were also expected to achieve certain targets in terms of cervical smears taken or immunisations performed and to be involved in chronic disease management. Providing such extended ranges of service impacted on GPs' workload. Leese and Bosanquet (1995) found that GPs' workload and working hours increased by 15 to 20% in the early 1990s. Responding to the increasing level of workload, GPs began to delegate tasks, and practice nurses then became more independent and expanded their roles, being involved in running health promotion clinics and other services. Yet, this might not be the case within those single-handed practices. There was evidence suggesting that, in the 1990s, single-handed practices remained relatively disadvantaged with regard to the employment of nursing staff, with each single-handed practice having an average of 0.38 WTE of practice nurse compared to 1.31 WTE in partnerships (Lunt *et al*, 1997). Following the 1990 contract, single-handed practitioners

generally felt fatalistic about their ability to adapt to the changes brought by the contract; for example, the running of health promotion was perceived to be difficult to organise because of their smaller list size compared to that of a larger partnership (Green, 1993).

Besides the expansion of clinical demands, GP were also expected to be accountable for their services provided under the 1990 contract, leading to an increase in administrative and organisational responsibilities placed on doctors, including responding to monitoring requirements in the contracts and developing protocols and guidelines with the Family Health Service Authorities (FHSAs). The FHSAs were introduced by the 1990 NHS and Community Care Act, and were given managerial powers to require general practitioners to account for their services and to police the provision of family practitioner services in general. As such, GPs felt they were being put into a bureaucratic chain of control, as they were managed by FHSAs, which were in turn directly accountable to the government (Calnan and Gabe, 1991). Single-handed practitioners generally felt overwhelmed facing up to this increasing accountability and a huge amount of administrative tasks, having to oversee both clinical and non-clinical responsibilities without the support of ancillary staff such as practice staff and not being able to share tasks as GPs working in partnerships could (Lunt *et al*, 1997).

Under the reformed 1990 GP contract, the Government's new approach to primary care also included the introduction of the internal market, treating health care as a commodity like any other. Hospital Trusts and Community Health Service Trusts became providers of the health care services and Health Authorities became responsible for purchasing the services for the local population. GP practices could also be purchasers, controlling their own budgets to purchase a range of treatment and hospital services for their patients as well as staff costs. This had important consequences for single-handed practitioners. Initially the option of fund-holding was limited to larger practices, although it was later offered to smaller ones too. There were suggestions that group practices generally felt they had an influence over the purchasing process, whilst single-handed practitioners often felt marginalised within it. Lunt *et al* (1997) also suggested that single-handed GPs' lack of interest in fund-holding might not only be related to their restricted management and support capacity within their practices, but also possibly the extra work and time needed to be involved in preparing for fund-holding. To an extent, the introduction of fund-holding seemed to strengthen the role of the GP giving them more scope and more power in the

purchasing process, but on the other hand, Glennerster *et al* (1994) noted that those small non-fund-holding practices were further disadvantaged, having little influence on the hospitals.

A primary intention of the 1990 contract was to improve standards of care in general practice, and intensive changes were brought about. Organisational changes accelerated during the 1990s, seeing an increase in practice size as more GPs practised from larger partnerships; practice premises continued improving; more practices were equipped with computers, and the employment of practice staff including practice nurses and practice managers increased rapidly; on the other hand, the changes under the 1990 contract did not reduce the variability of service delivery in general practice. Leese and Bosanquet (1995) reported that variation in standards of care in general practice remained after the imposition of the 1990 contract, pointing out that practices in some areas, particularly urban and inner city areas with a higher proportion of single-handed practitioners, still had greater difficulty in providing the new services demanded by the 1990 contract. Thus, the objective of bringing all parts of the NHS "up to the very high standards of the best" had not been achieved under the contract. Meanwhile the trend of health policy was towards greater government control over primary care provision such as the involvement of FHSAs in family practitioner services and more leeway over awards of reimbursement of cost-rent and ancillary staff payments, which put further strain on single-handed practices (Green, 1996).

The imposition of the 1990 contract represented a shift towards more Government control over the profession in the form of contractual requirements, which presented a challenge for single-handed practices. Single-handed practices did however, offer GPs certain personal control over their practices, and as such, there would be a number of GPs who wanted to remain single-handed. During the 1990s, there was a marginal drop in the number of single-handed practices, about 2% between 1991 and 1997. This possibly may relate to the fact that the 1990 contract overall had a negative effect on GPs' morale, as overwhelming evidence suggested that workload increased (Chambers and Belcher, 1993), job satisfaction decreased (Leese and Bosanquet, 1995) and stress levels increased (Myerson, 1993). Following the imposition of the GP contract, GPs generally felt undervalued, and morale reduced to such an extent that there was a crisis in retention in

general practice, with many GPs expressing their intention to leave (Sibbald and Young, 2001).

2.5 An alternative—the Personal Medical Service Contract

Throughout the 1990s, variations in standards of services in general practices remained, and general practitioners were increasingly dissatisfied with existing contractual arrangements. In 1997, a pilot scheme of Personal Medical Service (PMS) was introduced as an alternative to the GMS contract, to an extent presenting a marked departure for general practice.

PMS was founded on locally negotiated service arrangements and tailored to the needs of local populations. Lewis *et al* (2001) noted that greater freedoms within PMS were provided for GPs, who were offered the option to become salaried employees rather than independent contractors—the traditional hallmark of general practice. Also, for the first time in the UK, nurse practitioners and salaried primary care teams were recognised and could be used as alternative providers of primary care (NHS Executive, 1997). The PMS scheme proved attractive in areas such as London where general practice faced specific challenges such as poor premises, poor access and a high level of single-handed practice (Lewis and Gilliam, 2003). Contracted as PMS, smaller practices were, to some extent, able to attract and keep doctors and nurses, and also developed new services within the practice, especially in those underserved areas. In general, there was mixed evidence of the benefits of PMS pilots. In a survey study, Simoens *et al* (2001) reported that GPs contracted to a PMS contract had greater job satisfaction and a lower propensity to quit their job than those contracted with GMS, and suggested that PMS GPs might profit from less administrative responsibilities and more flexible working hours, which might improve recruitment and retention. But, the evidence was ambiguous that the quality of care was improved through PMS pilots.

2.6 Political attention—Dr. Harold Shipman

In 2000, single-handed general practice received much political attention because of the conviction of Harold Shipman. Dr. Shipman, a single-handed GP practising in Greater Manchester, was found guilty of murdering 15 of his patients, although it is thought he might have killed up to 300 of them. At the time there was huge publicity surrounding his conviction, and in what appeared to be a knee-jerk reaction to this, the Government seemed to put all single-handed practices under the spotlight.

Following the case, the Secretary of State for Health immediately announced several changes, focussing on new measures regarding patients' deaths in general practice (Baker, 2004). Although there was no measure specifically against single-handed practice, tighter control and closer monitoring of GPs, particularly single-handed practitioners, were expected from health authorities (Dyer 2000). Among single-handed practitioners, there was a fear that the NHS had a hidden agenda of ending single-handed as well as small practices and concentrating all GP services into large practices. Such fears came to light when it was reported that the Prime Minister, Tony Blair, criticised single-handed GPs in a statement to the House of Commons in 2003, saying that,

"There has been a move over time away from single-handed practices so as to improve quality of care that people receive. That has been based on a great deal of evidence over a long time."

(BBC, 2003 quoted from Hansard 3 July 2002, Column 219)

Many single-handed GPs were furious at his comment, which was based on little evidence supporting the idea that single-handers provided poorer quality of care, and were concerned that his statement hinted at the Government's favour of large practice over single-handed practice in delivering patient care in general.

2.7 A new century, a new contract

After the pilot of Personal Medical Services Contract, proposals for a new national contract were announced on 19 April 2002, jointly by the NHS Confederation and the British

Medical Association, and marked a radical departure from the 1990 contract. It took over 18 months negotiating between the NHS Confederation and the BMA to reach an agreement about the terms of the new GMS contract. In 2003, 79% of GPs voting in the nationwide ballot voted for the new contract, which was then formally implemented in 2004. The introduction of the new GMS contract in 2004 has led to major changes in GP practices across the UK, and details of these changes and its impact on practices will be reviewed and discussed in a later chapter (Chapter 7 and 8). Here, the fact that general practice saw the largest yearly increase (10%) in the number of large partnerships (7+ GPs) between 2002 and 2003, just prior to the implementation of the new contract, might imply that the future place of single-handed and small practices in the provision of primary care following the new contract in the 21st century is under threat (RCGP, 2005b).

2.8 Future vision

Reviewing the development of general practice in the UK, a series of policy drivers have contributed to the decline in the number of single-handed practices since the establishment of the NHS. Possibly the trend of moving away from single-handed and small practice is likely to continue in the creation of the modern NHS. Early in 2005, it was reported that the Government had unveiled its vision of the future of general practice, as the Department of Health in England outlined a three-tier model of primary care services (Golding, 2005). At the conference, Jo Whitehead, the Head of Primary Care Development of the Department of Health, presented the future model to GPs, including a first tier of non-registered access service providers such as NHS walk-in centres; the second tier would be larger GP surgeries offering access for patients with serious episodes of care with respect to their diagnosis and treatments; and the third tier would be specialist units providing specific treatment. Within such a model of general practice, large GP premises would typically consist of ten or more GPs, as such leaving no place for single-handed general practice (O'Dowd, 2005).

The Government's aim for bigger practices is clear, and most single-handed and small practices felt under threat by the initiative. If these changes were implemented, when single-handed GPs retired or moved they would not be replaced instead financial incentives would be given encouraging the practice to merge with other practices. Responding to the Government's plan, many GPs have condemned such a model of care,

and warned that patient care would be compromised at the expense of smaller practices, which often provide the personal care that patients prefer. Although the development of larger practices might make sense for cost-efficiency and staff reasons, some thought that “Big ain’t beautiful—not in family medicine anyway” in view of patients’ needs (Doctor, 2005).

Responding to the Government’s future vision for general practice, later a joint report produced by the NHS Alliance and Small Practice Association was published, which evidenced that small practices have advantages over those larger practices in delivering patient care, and it put forward two possible models for the future survival of small practice in the modern NHS. One is the "nested" practice, where a number of independent small practices would operate from the same location, acting as a one-stop shop and offering a wide variety of services. The other is the "virtual super surgery", based on a hub and spoke model operating as a confederation, pooling GPs' skills and practices' facilities, and collaborating between practices which remain geographically dispersed in the communities (NHS Alliance, 2005). In a way, many have recognised current changes in general practice organisation and service delivery in creating the modern NHS, which may have implications for small practices; but on the other hand, the report emphasized that none of these changes should challenge the existence of small practices. Thus, Majeed (2005) commented that the future of small practices may lie within themselves and how they can adapt to the new world, delivering services and care which meet their patients' needs.

2.9 Future in the Scottish context

In Scotland, the policy in relation to health care has differed since 1997, following devolution, yet some of the issues remain familiar, such as an emphasis on primary care and service redesign (Reith, 2003). Over the last sixty years of the NHS, general practice in Scotland also has seen a decline in the number of single-handed practices, accompanied by an increase in the number of practices having seven or more GPs. In 2004 all Scottish GMS practices also implemented the new contract under the same arrangements and terms as English general practice. However, in Scotland there seems to be less emphasis on the concept of "super-surgeries", instead an integrated health care model has become a key direction for the future. Given the fact that Scotland has a higher prevalence of malignant

disease and heart disease than most European countries, plus it also has a higher proportion of its population living in rural and remote areas than other parts of the UK, the Scottish Executive pictured its vision of an integrated NHS delivering health care fitting for its population's needs. The report, "*Delivering for Health*" outlined that GP surgeries would continue to provide health care for their populations in the community, but with an extended scope of primary care—an integration of GPs practices as well as an integration of general practice with other community services, shifting the emphasis away from the independence of individual practices towards a more extended primary care team ethos (Scottish Executive, 2005a). Therefore, single-handed practices in the Scottish context, to some extent, appear to remain part of the provision of primary care services, with no specific plan targeting the existence of single-handed and small practices. On the other hand, there will also be a greater involvement of single-handed GPs in the development of the primary care team, working more closely with other health professionals, and in collaboration with other GP practices, community services, and secondary care services in order to deliver a wide range of services as proposed by the Scottish Executive.

2.10 Summary

Overall, throughout the development of general practice in the UK, health policy has deliberately encouraged the growth of group practice, which is witnessed by a gradual decline in the number of single-handed GPs since the 1960s. Whilst single-handed GPs may still exist in the modern NHS for the time being, it seems debatable whether they will last and remain a feature of primary care in the future. Given the Government's long-term vision of general practice, single-handed GPs are a cohort who will retire and probably will not be replaced. As such, the most likely future for GPs in smaller practices is to work collaboratively within larger practices or as part of extended primary care teams.

Chapter 3

Single-handed general practice in the UK

3.1 Introduction

General practice has a crucial role in the provision of health care under the British National Health Service. In the UK, people are registered with their own GP who provides preventive, acute, chronic, and terminal care from cradle to grave. When people fall ill and decide to seek medical care, they generally first see a general practitioner (GP), and 90% of consultations within the NHS take place in general practice (Fry, 1993). Also known as family medicine, general practice has been typified a relationship between patient and doctor, who traditionally worked single-handedly. But, over the past six decades, there has been a marked change in the shape of general practice, with a steady decline in the number of single-handed as well as small practices, and these smaller practices have been seen as anachronism in the modern NHS. Yet, single-handed practitioners have been an important feature of primary care provision, providing care for their local population, particularly in areas with high deprivation as well as rural areas. So, this chapter will review the profile of single-handed practices and GPs in the UK, their strengths and weaknesses in relation to service provision, quality of care, and practice management.

3.2 Definition of single-handed general practice

Before defining the term single-handed general practice, there is a need to understand the nature of general practice. Within the medical field, general practice has been understood to be a complex discipline,

“It is not concerned with a particular part of the human body, or a particular part of the community; but rather with certain aspects of the whole body and the whole community.”

(Taylor, 1954b, p3)

Rooted within the community, general practice is traditionally committed to the needs of the individual patient regardless of his/her social and economic status. The characteristics of general practice have been defined variously, with that of the European Academy of Teachers in General Practice widely accepted (WONCA Europe, 2002). According to the European definition, general practice is characterised as follows:

- General practice often is the initial point of medical contact within the healthcare service, providing access to deal with health problems of the person concerned.
- General practice has a person-centred approach, tailored to meet the needs of the individuals and their communities.
- GPs are seen as personal doctors, who often establish a relationship with their patients over time through the consultation process.
- General practice is responsible for the provision of longitudinal continuity of care, and GPs often follow patients through their whole lives, providing care which is consistent with patients' needs through as few professionals as possible.
- General practice is also a team-based discipline, and GPs usually work with other GPs or professionals, making efficient use of health care resources through co-ordination.
- General practice not only deals with the population's health problems in their physical, psychological, social, cultural and existential dimensions, but also promotes the population's health and well-being both by appropriate and effective interventions.

Based on these characteristics, the Royal College of General Practitioners in the UK has defined GPs as doctors who are primarily responsible for the provision of comprehensive and continuing medical care to patients irrespective of age, sex, and illness. GPs have a professional responsibility to their community and exercise their professional role by providing care, preventing disease, and promoting health according to their patients' needs and resources available within the community (RCGP, 2007).

In the UK, each GP practice organises its own services through a contractual arrangement with the local primary care organisation or Health Board, which has an overall responsibility for service provision in primary care locally. GPs generally provide their own premises, and directly employ practice staff including practice nurses and administrative staff. GPs can work either on their own or in partnerships with other practitioners, and are usually supported by a team with attached community-based staff including nurses, health visitors, midwives, and a range of other health professionals such as physiotherapists. Single-handed general practice then refers to those practices only having one GP principal who is not in partnership with other GP principals (Hippisley-Cox *et al*, 2001). On the face of it, this seems to be a simple term, but can be confusing sometimes because some of these practices in fact can have more than one doctor available on a regular or occasional basis to provide cover to the practice during the GP principal's absences. Wylie *et al* (1999) defined single-handed practice in their study as:

"a practice in which all the patients are registered with one general practitioner, contracted by the relevant health authority and who is responsible for those patients 24 hours a day and 365 days per year, although the practitioner is able to access other health professionals, including general practitioners, in order to discharge their contractual responsibilities."

(Wylie et al, 1999, p531)

This definition has been widely accepted by the profession as it represents the unique nature of single-handed practice, in that all the practice's patients are registered with a single GP principal who receives funding for those patients, although some patients may be treated by locums or assistants employed by the practice. Smith (2004) has pointed out that what distinguishes the single-handed practitioner from others essentially is the fact that the GP has his/her own patient list, and does not share with other doctors the care of patients in a shared list. In this thesis, single-handed practice is defined as a practice that has only one GP principal, who does not work in partnership with another GP principal, although they may work with salaried doctors such as locums, GP registrars or GP retainers.

3.3 UK single-handed general practice

The characteristics of practitioners

Since the 1960s, there has been a decline in the number of GPs working single-handedly in the UK (see Chapter 2). Present figures reported by the Royal College of General Practitioner showed that by 2005, there were a total of 42,876 doctors working in general practice, and 35,020 (82%) were full-time, among which only 2,219 (6%) were single-handed GPs (RCGP, 2006a; RCGP 2006b).

For many years there has been little change in the characteristics of single-handed doctors, who tend to be older and are more likely to be male. For instance, more than 50% of single-handed GPs were over 50 compared with around a quarter of all GPs and only 11% of single-handed doctors were under 40 compared with 40% of GPs in partnerships (Lunt *et al*, 1997). Female GPs were also under-represented among single-handed GPs, with just 15% of single-handed GPs female compared to 27% of all unrestricted GP principals.

In addition, the findings from Green's study also noted that single-handed GPs were more likely to have first qualified outside Britain. In agreement with this, an exploratory Scottish study found that there was a higher percentage of single-handed GPs qualified from overseas, particularly from the medical schools of South Asian countries such as India, Sri Lanka and Bangladesh, and also found that single-handed doctors tended to have a much larger patient list size on an individual level than their counterparts from group practices. Thus, single-handed GPs had an average of 1,632 patients per WTE GP, which was 156 more patients per GP working in group practices (O'Donnell, 2002). The phenomenon of a large patient list among single-handed GPs had also been reported by Wilkin and his colleagues (1987), who also found that fewer single-handed practitioners were trainers, and rarely had attached GP trainees or medical students.

The characteristics of practices

In the context of both Scottish and English general practice, single-handed practices were more likely to be concentrated in urban areas with high deprivation (Wilkin *et al*, 1987;

Lunt *et al*, 1997; O'Donnell, 2002). For example, in cities like Manchester, Birmingham, and London over a third of GP practices (34.5%) were single-handed, while only 4.8% were large practices consisting of seven or more GP partners (RCGP, 2005a). Therefore, single-handed practices have played a significant role in providing health services in those communities where GP recruitment has proved to be difficult, serving patients who were socially and economically deprived, and likely to have poorer health.

Given the overall improvement of GP working conditions after the 1966 Charter, single-handed practices like other GP practices started moving away from shop-front surgeries into purpose-built premises. Between 1969 and 1976, of a total 1551 loans taken up to finance practice premises, 57% were offered to single-handed GPs, who also took larger loans per doctor than did partners in group practices (Drury, 1977). Although traditionally associated with poor standards of practice premises, single-handed practices in Wilkin *et al*'s study did not have significantly poorer premises than partnership practices, suggesting that there was little relationship between practice size and type of GP surgery. Yet, a recent Dutch study, based on direct observation, found that single-handed practices scored less well on their practice facilities, and had less sophisticated equipment and diagnostic facilities compared to group practices (van den Hombergh *et al*, 2004).

In general, single-handed practices also had limited resources with respect to practice staff. As previously reviewed (see Chapter 2), the multi-professional primary health care team has gradually developed since the 1970s, replacing small partnerships with little or no support from other professionals such as nurses and community-based staff. However, it seemed that there was little improvement in the development of practice teams within single-handed practice, e.g. the employment of practice nurses. Reedy *et al* (1976) found that there was an increase in the employment of nurses associated with size of practice, as a survey of general practice they carried out in 1974 reported. Then, 28% of all single-handed practices employed nurses whereas 73% of practices with four or five GP principals had employed nurses. Entering the 1990s, such a pattern remained unchanged, with single-handed practices having fewer practice nurses compared to group practices (Lunt *et al*, 1997). Likewise, single-handed practices were also least likely to have the support of a practice manager, the role of which emerged and evolved during the 1970s and 1980s responding to the growth of practice size and complexity of organisation in general practice (Reedy and Nelson, 1974). The figures showed that 88% of group

practices employed a practice manager dealing with administrative and managerial tasks but only 60% of single-handed practices did (Leese and Bosanquet, 1995). Thus, for many GPs, access to practice nurses and practice managers allowed them to be able to delegate certain tasks to practice staff, with whom to share the workload, but single-handed practices had little advantage of this.

In the modern NHS, the formation of the primary health care team has increasingly been recognised as an important component of delivering quality health services, and in some studies of general practice, the composition of the practice team has been used as a parameter to measure or assess practice standards, which appeared to be under-developed among single-handed practices. For example, Bosanquet and Leese (1988) examined the innovation of practices in relation to their employment of a practice nurse, their participation in the cost rent scheme and the vocational training scheme, and concluded that such innovation was associated with the size of practice, with smaller practices with fewer partners less likely to be innovative. Likewise, Baker (1992) also studied the level of practice development by examining practice's employment of a practice manager and their accreditation for GP training, finding that both training practices and practices with a practice manager were more developed, and that single-handed practices were less developed compared to large practices.

Characterised as less well equipped in terms of practice facilities and staff, doctors working in single-handed practices recognised themselves that there were limitations regarding the range of services they could provide (Green, 1993, 1996). Following the introduction of the 1990 contract, fewer single-handed practices had approval for running asthma and diabetes management clinics, and fewer were eligible to carry out minor surgery, which offered by 69% of single-handed practitioners compared to 80% of GPs in partnerships. Such differences were even greater in inner city areas as only 37% single-handed practitioners compared to 51% partnership GPs were eligible to provide minor surgery (Leese and Bosanquet, 1995).

Advantages of single-handed general practices

The research evidence into the strengths and weaknesses of single-handed general practice has been consistent over time. The general perception of the public and of the medical profession appears to be that single-handed practice is popular with patients, and there is considerable supporting evidence that patients prefer single-handed or small practices. In 1987, a patient survey about general practice in London showed that, although group practice was usually considered more desirable by the professional bodies, single-handed practice was generally favoured by the majority of patients (88%), who valued the personal relationship with their particular GP or preferred seeing the same doctor for each consultation (Curtis, 1987). In the mid 1990s, Baker's studies about patients' satisfaction and preference for general practice indicated that patients tended to like smaller practices, practices with personal list systems, and non-training practices, as such practices were perceived to be more accessible and readily available by many patients (Baker and Streatfield, 1995; Baker, 1996).

In the UK, patients used to register under a particular doctor, who would be known as the patients' usual doctor; however with the growth of partnership working, GPs often operated and provided care to an aggregate list of their patients. Patients then have felt it increasingly difficult to see their "own" doctor or the doctor of their choice without a lengthy wait, and that potentially could have a negative impact on patient's satisfaction, most likely associated with continuity of care and access. In patient surveys, both of these have been rated to be greater in single-handed practices than large group practices, and this might be due to a more personal approach in delivering care and a greater flexibility in practice administration of this type of practice (Campbell, 1996; Campbell *et al*, 2001b).

The evidence has shown that all groups of patients prefer continuity and suggests, that if single-handed or small practices are unique in some way, it is because they deliver a high level of continuity of care for their patients. Schers *et al* (2002) demonstrated that patients highly valued personal care, considering that it was important to see their own GP who tended to have accumulated knowledge about them. Such doctor's knowledge about their patients' medical condition was perceived as having a beneficial impact on their health. This kind of personalised continuity of care was important in particular to patients who had psychological or significant health problems, with such patients reporting that they would

prefer to wait to see their personal GP rather than see any doctor at a convenient appointment time (Kearley *et al*, 2001). A recent report from the NHS Service Delivery and Organisation Programme (Baker *et al*, 2006) also noted that, as patients got older, or became more ill and felt more vulnerable, they tended to value more continuity of care as well as their relationship with their doctor, and would wait to see someone they know and trust. This may explain why single-handed practices were especially popular with such groups of patients. There was also a positive association between continuity of care and patients' trust in doctors, so knowing the GP and regularly seeing a doctor who patients can trust made them feel more supported and in control of their own care, and such enablement tended to be higher in smaller practices (Mainous III *et al*, 2001; Howie *et al*, 1999)

From the GPs' point of view, many single-handed doctors saw themselves as the last bastion of individualism, retaining a degree of personal control in an increasingly impersonal and modern general practice (Green, 1993, 1996). For them, single-handed general practice appeared to be the place to accommodate GPs who were not "team players" or who did not want to work within a team. Single-handers were generally satisfied with their solo status because of their autonomy, and believed that their professional responsibility for their patients' care was clearly identified, avoiding potential partnership problems such as workload allocation. In addition, smaller practices like single-handed practices were also thought to be a place where GPs were more likely to establish a relationship with their patients based on a holistic understanding of patients individually. Such personal and continuing relationships between the patient and the doctor not only increased patient satisfaction as noted early, but also enhanced GPs' job satisfaction since the GP felt more valued, committed to their patients (Hjortdahl, 1992; Gulbranden *et al*, 1997), and allowed them to build up knowledge about patients resulting in more time-efficient consultations. For instance, a Norwegian study found that, when the doctor knew the patient, time was saved in more than 40% of all consultations, and there was also a reduction in the use of other resources, suggesting that fewer laboratory tests were prescribed, prescriptions for medication were halved, and doctors used more expectant management ("wait and see") rather than immediate referrals (Hjortdahl and Borchgrvink Fr, 1991). The values of a continuing doctor-patient relationship are well supported by research evidence so such benefits are likely, though not yet proven, to be associated with single-handed practice, which has been well known for its special relationship between doctors and patients.

Disadvantages of single-handed general practices

Although there are positives aspects of single-handed practice for both patients and doctors, Green (1996) pointed out that single-handed GPs in the cities had long been seen as "vestiges of an older regime" since traditionally they were less likely to have attached practice staff and tended to have more problems in improving service provision, all of which have been reviewed earlier. This view of single-handed practitioners as a concern in the NHS has continued. Smith (2004), who led the Shipman Inquiry, commented that the term "single-handed" itself implied a lack of engagement with professional peers, and that might result in a failure to keep up to date with current practice standards of these practitioners. In such a way, single-handed doctors might be exposed to a greater danger of being isolated and, possibly, potential problems might be hidden away without being detected by others. Although there was little evidence to indicate that GPs working alone were more isolated than those practising in partnerships, the concern about single-handed practitioners is that there is a possibility that they might be or become less aware of their own standard of care, which could be slip due to a lack of insight as a result of no regular contact with other GP colleagues. For example, patient care might be compromised in some way as they have no other GPs to review or discuss aspects of patient care. A general perception of GPs working in partnerships was that single-handed GPs lacked both clinical and emotional support from professional colleagues, and that was perceived as a major disadvantage of being single-handed (Green 1993). Also, policy makers and managers were concerned about isolation among single-handed practice, which at its most extreme could potentially harbour another Harold Shipman.

Professional isolation has been assumed to be a problem for single-handed GPs, but solo doctors themselves viewed running a practice alone as a positive rather than a negative feature of their work. The issues that concerned single-handed GPs most were the lack of adequate premises, as well as the problem of finding reliable locum cover for their time off (Green, 1993). Prior to the new contract, GPs used to have a 24/7 commitment for their patient care, and that was assumed to be an extra burden for single-handed GPs with no partner to share rotas with. However, few single-handed GPs themselves considered such commitment as a problem. Green (1996) explained that such perceptions of single-handed doctors might be in relation to their own way of constructing time and space that could be different from their counterparts in group practices. She suggested that single-handed GPs tended to perceive their time as a continuous period of responsibility providing patient

care, whilst GPs working in partnerships often divided their time into surgery hours, on-call and free time. In addition, single-handed GPs often built up a close relationship with their patients and knew them in considerable depth, which might also influence their views of sole responsibility for patient care.

In some senses, the characteristics of single-handed practice itself demonstrated the disadvantage of this type of practice, balancing the small scale of practice resources with greater needs of the patient population. Given their prevalence in deprived areas, single-handed doctors tended to work in more difficult environments where patients were known to be associated with increased workload (Wilkin *et al*, 1987; Jarman, 1989; Balarajan *et al*, 1992). The burden of patient needs on GPs in those areas was not just a result of the number of their health problems, but also the severity and complexity of the problems (Watt 1996). Thus, single-handed practice with fewer of resources than that traditionally enjoyed by larger practice could be strained facing up to high levels of patients' needs, and less able to provide high quality care in these communities. These differences in both practice structure and patient profile of practices might also lead to variations in practice performance. Single-handed practices therefore, on the face of it, tended to be associated with poorer service provision, and that then has been used as evidence to discourage such a model of practice in the NHS. Smith (2004) noted that there was a negative attitude among policy makers and NHS managers, who perceived single-handed practices to be a problem and that the NHS would be better off without such type of practices. On the one hand, there was no written policy ruling out the existence of single-handed practice but, on the other hand, given the focus on the problems and limitations of such practice, there was no mechanism in place to address those problems for single-handed practice, in particular those located in urban areas. As such, the variation between single-handed and group practice is likely to be widening, and could mitigate against the future of single-handed practice as a model of service provision in primary care.

3.4 Rural single-handed general practice.

When comparing the constituent countries of the UK, England has a much larger proportion of single-handed practices than the other countries, with around one in five English practices being single-handed, followed by Wales (19%), Northern Ireland (19%)

and Scotland (12%) in 2005 (RCGP, 2006b). Such distribution may explain why most previous research about single-handed general practice was largely carried out in England. Yet, Scotland has the most sparsely populated part of the UK with the largest rural and remote areas both in mainland Scotland and its outlying islands, throughout which single-handed general practice has been the imperative for many small and isolated communities.

Rural doctors and practices may differ from their urban colleagues in many aspects such as practice workload, patients' access to care, and the profile of their populations. But if there is anything unique about doctors practising in these small rural areas, it is that they are not just working in the community, but are also very much part of that community. Their working and private lives are inextricably linked, so that the boundaries between doctor and patient become blurred, with patients well informed about the doctor's life, and doctors very knowledgeable about their patients' (Donovan and Bain, 2000). They also often have to take on a wide variety of responsibilities and are burdened with a 24/7 commitment with relatively low level of remuneration, which have all hindered recruitment and retention of GPs in remote and rural communities (Gabhainn *et al*, 2001). For example, by the early 2000s, it was reported that there were up to 20 single-handed practices in NHS Highland in danger of closing. This has become a major concern for rural communities, since health care has been seen as a vital part of the infrastructure of these communities, which may potentially collapse without these single-handed or small practices.

Facing the possible loss of services in remote and rural areas, action has been taken in Scotland to attract GPs and to prevent the disintegration of health services in these areas. In 1999, the Arbuthnott Report proposed a new formula that recognised the different health needs of urban and rural populations, and directed resources to satisfy the needs of remote and rural communities (Scottish Executive, 1999). Following that, the Remote and Rural Areas Resources Initiative (RARARI) was established in 2000, in order to sustain and develop health services in remote and rural parts of Scotland. A report published by RARARI in 2002, proposed some potential solutions including providing financial assistance for doctors working in these areas, encouraging them to work closer with other health professionals and developing a better career structure for rural GPs. In the same year, "*A Review of the Scottish Medical Workforce*" (Scottish Executive, 2002) also identified some negative factors in recruiting doctors to remote and rural areas and advised

special remote and rural versions of training, professional development, and career planning for GPs, and promoted the use of managed clinical networks. Most recently, there have been some further recommendations on how remote and rural healthcare could be delivered and structured, making best use of available resources and orienting services to best meet the needs of local communities (Scottish Government, 2007). Despite this proposal presenting an integrated network model of care to address the geographical distribution of population in the communities, the infrastructure of services in rural Scotland seems less likely to experience huge change, with single-handed and small practices likely to remain prominent providers in these communities, but encouraging the collaboration within and across the communities.

3.5 Quality of care in general practice

The question of whether the type of practice impacts upon quality of care is a long-debated one and, with the trend moving away from single-handed to group practice, there is a discussion about the optimal size in general practice. The general perception among policy makers and managers is that single-handed practices do not provide as high a quality of care as that delivered by group practices, which often provide a wider range of services and are better engaged in teaching and research. But the balance of research evidence also suggests that single-handed practices deliver comparable quality of clinical care to those of larger practices, and they tend to be better at communication, personal care, availability of appointments and continuity of care. Indeed, Campbell *et al* (2001a) pointed out that in general no single type of practice has a monopoly on high quality of care with different types of practice having different strengths in different aspects of quality.

Quality of care is a complex and multi-dimensional concept. There have been different attempts at defining what quality of care means in the literature. A study that reviewed the development of quality in healthcare found that in 1933, Lee and Jones published “articles of faith” in which they described their notation of good medical care, which was the application of all necessary scientific medicine to the needs of all people, and they also defined eight articles of faith that formed the foundation for good medical care.

“limited to the practice of rational medicine based on the medical sciences; emphasising prevention; requiring intelligent cooperation between the lay public and the practitioners of medicine; treating the individual as a whole; maintaining a close and continuing personal relation between physician and patient; coordinating with social welfare work; coordinating all types of medical services; and implying application of all the necessary services of modern scientific medicine to the needs of the people.”

(Lee and Jones, 1933 quoted in Jackson 2004, p2)

This description to an extent stated attributes or properties of the process of care and objectives of the process; however this definition may be inadequate to embrace empirical application of quality in medical practice. In 1966, Donabedian (1966) came up a new definition of quality of care, which was conceptualised into three dimensions of structure, process and outcomes of care. Within this model, he defined structure as the professional and organisational resources associated with the provision of care such as manpower and facilities. Process included the things done to and for patients by practitioners during the course of encounters, and outcomes were the consequences from care processes such as mortality and morbidity. These three aspects of care are not independent but are inter-linked with each other.

Donabedian (1988a, 1988b) later developed the concept of quality of care to include two additional elements—technical and interpersonal quality regarding the performance of practitioners as well as outcome with respect to the care received by patients. Of these two components, technical care encompasses clinical practice to address patients’ health problem, based upon the appropriateness of the care provided as well as the skills with which such care is delivered, and mainly is concerned with the physical and functional health status of patients. The second element is interpersonal care, a process of interaction between health care providers and patients, and often evaluated through outcomes such as patient satisfaction with care and patients’ perception of health related quality of life.

Donabedian (1988a) asserted that these two elements are inter-dependent, and stated that,

“The interpersonal process is the vehicle by which technical care is implemented and on which its success depends...the management of the interpersonal process is to a large degree tailored to the achievement of success in technical care.”

(Donabedian, 1988a, p174)

In UK general practice, Campbell *et al* (2000) have developed Donabedian's model of care, and proposed two domains of quality—access and effectiveness, both of which could be viewed from the perspective of either an individual patient or whole population. Combining several components of quality, the concept of quality of care was summed up as,

"whether individuals can access the health structure and processes of care which they need and whether the care received is effective...the ability to access effective care on an efficient and equitable basis for the optimisation of health benefit/well-being for the whole population."

(Campbell et al, 2000, p.p. 1614 and 1616)

This means that, on the individual level, patients need to be able to get access to the services they need, and these services should be provided effectively both in terms of clinical effectiveness and inter-personal relationships. At the population level, quality of care is viewed in the context of social construction from an economic perspective, indicating that all users should be able to get a fair deal and society should get value for money. Given the scope of this study, this review is mainly concerned with the quality of care provided by single-handed general practice with reference to care at the individual level in relation to the aspects of clinical care, continuity, and access.

The inference from the review of existing research evidence is that single-handed practice as a model of service provision, appears to perform clinically less well to larger practices, with higher emergency admissions (Yeung *et al*, 2003), referral rates (Hippisley-Cox *et al*, 1997) and lower uptake of preventative activities (Campbell *et al*, 2001a). Consequently, all this evidence was used against the phenomenon of single-handed general practice, even though the variations in practice performances indeed can be associated with factors other than practice size. For instance, in most of the comparisons of practice performance, the quality indicators used to calibrate practices were often based on the numbers of patients who received particular forms of treatment. As such, it might be difficult for single-handed or small practices to achieve the targets if just a few patients were excluded from the denominator population or if they only had a few patients eligible anyway, which could result in more statistical variations and, this may also be a reason why single-handed practices performed less well when compared with group practices.

In addition, some studies have also indicated that single-handed practices were not clinically worse performers than their counterparts in group practices once their population's characteristics were taken into account. For example, in a comparison study, Hippisley-Cox *et al* (2001) found that single-handed practices had 23% higher admission rates for both asthma and epilepsy, which reduced to 8% and 9% after adjusting for patients' age, gender, and deprivation score, and similar patterns of changes were seen in outcome indicators such as immunisation uptake rates, teenage pregnancy rates and inappropriate surgery rates. The findings of this study, therefore, stressed some important differences between single-handed and group practice in terms of patient characteristics, which have significant effects on the performance of practices, and may also underline possible differences in the health needs of their patient population. Majeed *et al* (2003) came to a similar conclusion about the impact of practice size on the quality of care offered to patients with ischaemic heart disease, and he concluded that, although larger practice were better at recording blood cholesterol, overall quality of care was similar regardless of practice size.

The evidence above has shown that the association between practice size and quality of clinical care is not clear-cut. Meanwhile, certain aspects of care have good evidence to show that smaller practices are better, at least from the perspective of patients, such as their interpersonal skills and providing continuity of care. Yet, the measurement of such aspects of care is difficult to quantify and are often ignored in quality assessment. In general practice, single-handed or small practices are often closely linked with continuity of care, which is traditionally viewed quantitatively as a succession of visits of a patient to the same doctor over a time period, known as longitudinal continuity, or qualitatively as an interaction and a relationship that may occur between patient and doctor. The doctor may feel a sense of continued responsibility towards their patients and the community—such interactions also were defined as interpersonal continuity (Rogers and Curtis, 1980). Thus, it is perhaps easier to achieve longitudinal continuity in a single-handed practice where patients are just allocated to a single doctor, and single-handed GPs tend to have a real knowledge about their patients developed through their continuous interaction with the patients. These factors would lead us to expect that continuity of care is seen most clearly in smaller practices.

Earlier the review of exiting literature showed some of the benefits of continuity, including perceived improvement in the health of the relevant population, a better doctor-patient relationship, more cost -efficient consultations, and increased satisfaction for both patient and doctor. In addition, there is also evidence suggesting that continuity might potentially reduce demand on secondary care services, with fewer hospitalisations and emergency admissions. For example, researchers in the USA found that access to continuous comprehensive primary care had a direct link with lower rates of hospital admissions (Alpert *et al*, 1976; Gill and Mainous III, 1998). In the UK, Sweeny and Pereira Gray (1995) studied the quality of care received by patients who saw any GP rather than the GP with whom they were registered, and found that this group of patients had significantly higher use of accident and emergency departments as well as open access clinics than those patients who regularly consulted with their own doctor. In theory, if greater continuity in primary care is associated with a reduction in hospital admissions, this could represent a financial benefit for the whole health care service. Although the impact of continuity on health care costs has not yet been explored in the UK, a recent Belgium study has found that continuity could be cost saving (Maesneer De *et al*, 2003). Furthermore, though single-handed practices tended to have fewer practice staff, they appeared to work better as a team, and this has been reported to be associated with higher quality of care such as continuity of care (Campbell *et al*, 2001a). Poulton and West (1999), examining the determinants of team effectiveness in general practice, noted that team size was negatively associated with team participation, showing that smaller teams were more participative, which meant that they were more likely to work together as a team, be more efficient, and tended to deliver a more patient-centred service.

In the UK, access has also been defined as an important component of quality of care. In primary care, access is often conceptualised as achievable entry to be seen by clinical professionals such as GPs and nurses (Jones *et al*, 2003). Such access has been recognised as one of the top priorities in general practice, and an issue that most concerns patients. In 2002, an Audit Commission report noted that, although patients generally were satisfied with their GPs, difficulty in getting an appointment was the biggest cause of dissatisfaction, with 13% of patients reporting having to wait three or more days to see a GP and 19% thinking they should be seen sooner (Audit Commission, 2002). Looking into practice size, patients from larger practices were less satisfied with the arrangement for seeing a doctor than those from smaller practices (Baker and Streatfield 1995; Campbell

1994), in agreement with the evidence that single-handed and small practice were considered more accessible to their patients. (Campbell *et al*, 2001b)

In the most recent decade, improving access has been central to Government health service policy, especially in England. For example, in 2002, the NHS Plan set the target, suggesting that all patients should be able to see a primary care professional within 24 hours and a GP within 48 hours (DoH, 2002). Following that, general practices, under the new GP contract, are financially incentivised if patients can access practice services within 48 hours. Although it may be arguable whether access has been improved under such measures, there is a growing tension between access and continuity of care with respect to patient's choice of the GP to consult. Yet, patients from single-handed practices have possibly felt less impact from this, being assigned to a particular doctor, so they remain likely to get an appointment with their own doctor without lengthy waiting (CHI, 2004). Furthermore, Meade and Brown (2006) found that single-handed practices were more flexible in their appointment booking, with 77% having no time limit as to how far in advance their patients were able to book an appointment, compared to only 29% of group practices.

In general, some evidence suggests that single-handed and small practices provide a comparable level of clinical care to larger practices, in the face of possibly greater levels of population need; meanwhile, there is plenty of evidence indicating that patients prefer the personal care and accessibility of single-handed general practices to the increasingly larger practices favoured by the modern NHS.

3.6 Practice management in general practice

In primary care, "the practice" can be interpreted in various ways, and may refer to a GP surgery, a model of organisation, a team of professionals, a managerial unit or a site of service delivery (Peckham and Exworthy, 2003). Since the inception of the NHS, the practice has been seen as the building block of the organisation of primary care, and it has gradually moved away from a "cottage industry" where a doctor, often male, worked alone with the support of his wife and family towards a partnership practice with the employment

of nursing, reception and administrative staff. Here, practice refers as a managerial unit, and the review looks at the organisational structure of practices by practice size.

In general, the emergence of the practice as the managerial unit in general practice evolved with the development of primary health care premises and also the growth in the number of large group practices. As an earlier chapter (Chapter 2) reviewed, since the 1960s, GPs improved their surgery premises under the improvement Grants Scheme and with the financial help of the General Practice Finance Corporation. In 1969, the Cost and Notional Rent Scheme was set up, allowing GPs to borrow money at a commercial rate and to be reimbursed for interest payments on loans up to pre-set limits. Such arrangements not only enabled partnerships to have control over the design and building of their premises, but also gave incentives for financial investment in the practice among the partners.

This, coupled with the increase in practice size and the increase in clinical and administration demands imposed by the government, led to a need for effective management within practices. GPs started to employ and bring in supporting practice staff such as receptionists, secretaries and practice managers, all of them professionally and managerially accountable to GPs as their employers. Practice management then has gradually become formalised, with practice managers emerging as the point for day-to-day administration and management, and a bridge between clinical and clerical activities (RCGP, 2006c).

Since 1970s, practice management has developed, and become increasingly important in general practice, particularly after the reform of the 1990 contract, which imposed great managerial responsibilities on GPs. Whilst some GPs fulfilled the managerial role themselves, many delegated these responsibilities to practice managers. Peckham and Exworthy (2003) found that, during 1990 to 1994, there was a 35% increase in the number of practice managers in general practice. However, the financial support for employing a practice manager was initially restricted to larger practices, so that fewer single-handed GPs employed practice managers (Baker, 1992). Instead, they tended to delegate some specific administrative responsibilities to their receptionists or secretaries, who usually acted in the role of practice managers (Laing *et al*, 1997).

Westland *et al* (1996) compared the practice management structure of larger and smaller practices, and found that the management structures in smaller practices tended to be informal and less well defined, with practice managers being seen merely as "practice administrators" with limited autonomy, and GPs maintaining full managerial responsibility. Yet, the structures in larger practices were often formalised, with areas of responsibility clearly defined between the partners and the practice manager, who tended to act as the main link between GPs and other practice staff, and were also involved in decision-making, financial and administrative planning of the practices. Similar results were also found in Newton and Hunt's study, which suggested that size of practice was associated with differences in the organisation and management of staffing in general practice (Newton and Hunt, 1997), with smaller practices less formal in practice rules, policies and procedures relating to staffing matters. Practice managers of smaller practices had less authority in practice decision-making and 20% of smaller practices reported that the practice manager's role was frequently performed by someone else in the practice compared to only 7% of larger practices.

Given the gradual evolution of practice management, it has become an important discipline, and that has been recognised under the new GMS contract, which introduced a competency framework for practice management. The possible impact of new managerial demands on practices under the new GMS contract will be further discussed in a later chapter (Chapter 7) with respect to the Quality and Outcomes Framework of the new contract.

3.7 GP as an independent contractor

I have mentioned earlier that the nature of general practice is to provide health care to the population free of charge, and that GPs not only provide a comprehensive spectrum of care in the community, but also have access to hospital services depending on patients' needs. As a professional, GPs like other medical professionals often have a privileged social status. A unique feature which distinguishes the medical profession from many other occupations, is that of professional autonomy—a position of legitimate control over one's own work (Freidson, 1970). In addition to such control, GPs in the UK also have a special status as an independent contractor, entitled to exercise discretion and freedom in how they run their own practices as Ellis and Chisholm (1993) stated,

“An independent contractor is a self-employed person who has entered into a contract for services with another party. This contract for services is fundamentally different from the contract of service which governs an employee-employer relationship. A key test, often used to distinguish between these two types of contract, relates to the question of ‘control’.”

(Ellis and Chisholm, 1993, p1)

GPs have guarded their status as independent contractors ever since Lloyd George’s national insurance act introduced in 1911. In 1948, the government delegated power to doctors to run the NHS, and general practitioners retained the status of independent contractors. As a self-employed business person, GPs sell their services to the NHS on the basis of a contractual agreement. Although funded by the Government, GPs were owners of their own partnerships, with remuneration through capitation fees, fees for services and various allowances. Given such status, GPs are entitled to freedom in their work, carrying responsibilities for planning and organising the business themselves including providing premises and employing staff, and they are also responsible for the clinical services provided to their patients. GPs have managed to maintain their status as an independent contractor, despite numerous organisational reforms in the NHS.

Yet, over the last two decades, GPs’ monopoly over their practice may have been limited as a result of changes in their relationships with the government. For instance, the implementation of the 1990 contract gave Family Practitioner Committees or Health Boards (FPCs/HBs) the right to monitor GPs’ performance, changing the relationship between individual GPs and health authorities. FPCs or HBs then had more control over the work of GPs, who were required to report annually to their authority, providing information on their patients with respect to their health status and also information on practice prescribing, plus information on practice organisation regarding surgery hours and service arrangements (The Health Department of Great Britain, 1989). Calnan and Gabe (1991) have suggested that there are both political and economic reasons that might explain the greater involvement of the state in general practice. Politically, the government hoped that by introducing quality measures in line with evaluation of GPs’ performance, quality of care would be improved and economically, the government linked the use of resources to GPs’ performance in an attempt to control expenditure on health care. In response to the government’s involvement, many GPs felt that they were being treated as highly skilled technicians rather than as autonomous professionals and no longer had control over their own destinies (Horner, 2000).

Moon and North (2000a) suggested that the increasing interest in what GPs do and how well they do it could not only indicate a growing importance of the role of general practice in the NHS, but also demonstrate the government's imperative in regulating the performance of GPs and improving their accountability to government as well as to society. During the 1980s and 1990s, there have been a number of policy initiatives including the development of clinical guidelines and clinical governance, attempting to make GPs more accountable for general practice services and the clinical practice of GPs themselves. Under such developments, Harrison and Dowswell (2002) reported that GPs felt their professional autonomy was being threatened, perceiving a reduction in their ability to determine their own clinical practice and to evaluate their own performance without having to account to others. Such external pressure to increase GPs' accountability applies to doctors working in both group and single-handed practices, but single-handed doctors could be further challenged by the government's requirements as some activities such as significant event review might not be effectively undertaken in their practices because of their size—there is often no one with whom single-handed doctor can have routine discussions regarding clinical practice (Smith, 2004). On the other hand, being free from the supervision of other GPs, single-handed GPs may have retained a level of personal control over their own work, which could account for their persistent existence in general practice (Green, 1993, 1996). GPs' autonomy at an individual level will also be further discussed in a later chapter (Chapter 8).

Recently, following the introduction of the new contract in 2004, GPs continue to work as independent contractors. However, the nature of the contract has changed from a doctor-based contract to a practice-based contract. The changes proposed in the new contract were intended to give GPs more control over their work, improve their working lives and make general practice more attractive; yet so far a recent survey suggested that there seemed to be a lack of acceptance that the intended benefits of the contract would be realised in practices (Spurgeon *et al*, 2005). Although overall GPs' job satisfaction has recovered from its low point in 2001, GPs reported having less freedom to choose their own method of working (Whalley *et al*, 2006), and GPs considered that they were under an increased surveillance of their performance, being open to close scrutiny to meet the requirements of the new contract (McDonald *et al*, 2007). Yet, little is known about single-handed GPs' perception of the impact of the new contract on their roles and status—this will be explored later in this thesis.

3.8 Summary

The review of the development of general practice shows that there has been shift in the organisation of general practice over the past sixty years, with many more GPs working in group practice with a full compliment of attached staff. In spite of a decline in the number of single-handed GPs, they have survived and remain an important part of UK general practice. Research evidence suggests that single-handed GPs traditionally worked in isolation, concentrated in areas with deprivation and employing relatively small practice teams. Although structurally less powerful than large group practice, single-handed practice has maintained the core values of high quality general practice such as continuity of care, which has potentially been eroded with the growth of GP partnerships. Single-handed practices have, on the face of it, been associated with poor service provision, but examination of the evidence showed little difference between single-handed and group practice with regards to clinical performance when patient and practice characteristics were accounted for. Single-handed GPs, as independent contractors like other GPs, appear to retain control over their practice, but given the increase in accountability requirements in general practice, such control may be challenged and single-handed GPs may possibly be under closer scrutiny as the trend of developing large organisations continues in UK general practice.

Chapter 4

Methodology

4.1 Introduction

This study was designed using a combination of quantitative and qualitative methodologies to gain and develop a deeper understanding of urban single-handed general practice in mainland Scotland. This chapter provides an overview of the methods applied in the study. It begins with a discussion about the philosophical assumptions of using a mixed method approach, stating my epistemological position in relation to this study. I then illustrate the justifications for combining quantitative and qualitative methodologies in health services research and potential research designs applied to this combination. Finally, I outline the motivation and practical application of combining quantitative and qualitative methodologies in this study, and summarise a description of the methodological considerations for the individual phases of this study.

4.2 Epistemological assumptions

At the time of starting this study, I was not very aware of the epistemological position of the study, but gradually became attentive to the importance of being responsible for creating knowledge through the research process with my reading of the literature on combining quantitative and qualitative approaches in research. Mixed methods approach is relatively new compared to using either quantitative or qualitative methods alone, both of which have been long recognised as two traditional styles of inquiry dominating the research field. For several decades, there has been much debate about the relationship between quantitative and qualitative research and arguments about whether the two can co-exist epistemologically and methodologically (Brannen, 1992).

Epistemology as the theory of knowledge, is concerned with the nature and scope of knowledge, and primarily focuses on questions including: What is our knowledge? How does knowledge relate to similar notions such as truth and belief? and How is knowledge acquired (Snape and Spencer, 2003)? Philosophically, when comparing quantitative and qualitative research, the two operate under different epistemological assumptions. For

example, quantitative research is wedded to a positivist philosophy, believing that knowledge can only be claimed through scientific method based on the natural and physical science tradition. Knowledge is assumed to be objective and positivist, with the researcher deemed to be independent of what is being researched. The methodology of quantitative research uses a hypothetico-deductive approach, often based on statistical methods testing theories or hypotheses to verify generalisation of the observations (Hammersley, 1992a). By contrast, qualitative research, also known as interpretivism or constructivism, views that knowledge is a matter of interpretation, and believes that the best way to understand any phenomenon is to view it in its context. Qualitative researchers often interact with the phenomenon they study, using an inductive logic, which starts with theories or observations and builds up theories or concepts as the investigation progresses (Guba and Lincoln, 1994). Many researchers consider themselves belonging to one or other ontological and epistemological position, holding the belief that there are strong associations between paradigm, methodology and research methods. Therefore, different methodologies and methods are philosophically incompatible, making it impossible to combine the two methods logically (Howe, 1988).

Whilst much attention has been focused on the distinct epistemologies of quantitative and qualitative approaches, some researchers have argued that the decision on selection of an appropriate research method should employ a technical perspective (Brannen 1992; Bryman 1988a; Morgan 1998). Thus, the use of a quantitative or qualitative approach should be based on the suitability of a particular research method in relation to a particular research problem. Researchers should adopt different methods, as appropriate to the research problem, and different research methods should be seen as part of the research toolkit, which could be utilised in different research contexts and to answer different research questions (Snape and Spencer, 2003). For example, quantitative research methods are generally useful for addressing questions to explain and predict relationships between variables while qualitative methods are applied to answer questions about discovering and exploring the phenomena under study. From a technical point of view, Bryman (1984) suggests that,

“...not only that one technique can never be inherently superior to its supposed alternatives, but also that a technique is likely to be more useful in some context than others.”

(Bryman 1984 p80)

From this perspective, once the researchers have a clear overview of the research questions, considering what data are necessary to address them and how such data will be collected and analysed, a diverse range of research methods opens up. Sometimes quantitative methods and data will be needed to answer the research questions; sometimes qualitative methods and data will be required; and sometimes both will be required. So the two approaches should not be seen as incompatible, and researchers should be allowed to choose the research methods that offer the best chance of obtaining useful answers for their specific research questions. Rather than being fixed with paradigms, there is a growing acceptance for a pragmatic approach toward choosing research methods.

Overall, decision-making on research methods can be viewed from both epistemological and technical perspectives. I incline to take the position of authors like Bryman and Hammersley, suggesting that the choice of research method is essentially a technical issue regarding the research questions (Bryman 1988a; Hammersley 1992a). The researcher's epistemological stance may be considered helpful to conceptualise their views about research problems, but evidence has suggested that a definitive link between epistemological position and research methods is not clear (Snizek, 1976). Bryman(1988a) also suggests that research methods can be dealt with independently of philosophical issues, and he states that,

“There seems, then, to be a tendency for many writers to shuttle uneasily back and forth between epistemological and technical levels of discourse. While much of the exposition of the epistemological debts of qualitative research helped to afford it some credibility, a great many decisions about whether and when to use qualitative methods seems to have little, if any, resource to these broader intellectual issues.”

(Bryman 1988a, p108)

Specifically, in field of public health research, Baum also advocates that methodologies should be selected to suit the problem being investigated. She has suggested that rather than basing selection on the paradigm itself, there is a need to draw on technical issues to detail which type of methodologies are best suited to address different types of public health problems (Baum, 1995).

In relation to my PhD project, there have been a few studies about single-handed general practice in England previously, and most have used either quantitative or qualitative

methods. This suggested to me that quantitative or qualitative methods had been employed to study different aspects of single-handed general practice and practitioners. Given my medical background plus my previous research training in epidemiology and quantitative methodology, I was embedded in a positivist way of thinking. However, through my reading, I have increasingly recognised that all research outputs are socially interrelated, embracing a variety of cultural, social and political factors in relation to society as a whole. Thus, to some extent it is impossible for researchers to gain meaning or an understanding of the phenomena under study without immersing themselves in the social context of their studies. Yet, I was also concerned about the extent to which this constructivist perception would influence my objectivity during my research inquiry about single-handed GPs since the researcher should avoid personal bias in their practice regardless of the philosophical stance. Seale (1999) suggests that objectivity is a valuable resource, contributing to the quality of the research otherwise research efforts would have no value at all if they were no more or less true than other competing accounts. With my intention to maintain objectivity, while being aware of the constructed nature of research problem, I have adopted Hammersley's subtle realism (Hammersley, 1992b) stance in this study. There are three main elements to this position:

- The definition of knowledge as belief is based on judgements about the plausibility and credibility of knowledge, all of which build upon our understanding of the world. Thus, there is a likelihood of error or uncertainty regarding knowledge claims and the methods used to create that knowledge.
- There are phenomena independent of our claims about them, thus our claimed knowledge may not accurately represent the phenomena. "True knowledge" is true by virtue of being closely corresponding to the phenomena that it is intended to represent, although we can never be certain that any knowledge claim is true.
- The aim of social research is to represent reality, but not to reproduce it. Representation is always from some point of view that focuses on some relevant aspects of the phenomena over others, which are seen as irrelevant. Thus, there can be multiple, non-contradictory and valid descriptions and explanations of the same phenomenon.

From this position, the researcher treads a middle path between naïve realism and constructivism, in suggesting that the researcher has their assumptions about the reality, which are not necessarily “true” and may be more or less accurate to some extent; but, any given reality can be represented and recognised from different perspectives, and each perspective is potentially connected with truth (Hammersley, 1992b). In such a way, multiple descriptions and explanations of the same phenomenon can be included, and multiple accounts of reality can be assessed by different research processes against each other to assess and establish the validity of the claimed reality. For example, as a researcher, I have my assumptions about single-handed GPs based on my reading of the literature. This may have some influence on my data collection and interpretation; however, I have done my utmost to neutralise this by presenting as much information as possible about the way in which the data were generated; for instance, in referring back to interview questions when discussing results from routine data analysis or in attempting to provide sufficient context when interpreting qualitative data.

One implication of taking a subtle realist position is that it provides a pragmatic philosophical rationale for accepting different methods to address different research questions. Seale (1999) suggests that subtle realism, standing between the extremes of realism and idealism, was founded on a pragmatic acceptance of research that was driven by practical concerns, being relatively independent from epistemological debates. Likewise, some authors have pointed out that although quantitative and qualitative research have different epistemological underpinnings, over-emphasis on dichotomising them could obscure the breadth of quantitative and qualitative methods within each approach (Hammersley, 1992a). As such, although qualitative research has its inductive approach generating theory contrasting with the hypothetico-deductive method applied in quantitative research, not all quantitative studies are interested in hypothesis-testing. Similarly, qualitative research does not reject adopting deductive methods by having postulation prior to data collection, then building on existing theory. Some authors in health research also view that the differences between qualitative and quantitative research are often overdrawn which has led to the entrenchment of a dichotomy, unhelpful in research practice, because it prevents researchers seeing the value and possible utility of both quantitative and qualitative methods (Pope and Mays, 1995). Rather than being dominated by one particular method, researchers should be allowed to apply research methods which can offer the best chance to address their research problems. Thus, both fields of researchers should be free to use either quantitative or qualitative or even both

approaches to open up opportunities for the mutual enhancement of the research study (Siber, 1973).

4.3 Combining quantitative and qualitative methods

Previously I have discussed some basic philosophical assumptions of quantitative and qualitative approaches, which are different in terms of the nature of knowledge and the appropriate means of generating knowledge, and all these may present problems in combining the two methods. But from a pragmatic position, 'quantitative' and 'qualitative' approaches can be combined in relation to research problems, and in this section I will discuss some justifications for combining quantitative and qualitative methods in health services research and the design of mixed method studies.

Johnson *et al* (2007) have suggested mixed methods research on pragmatic grounds, referring to such method as an approach to knowledge that attempts to consider multiple viewpoints, perspectives, and standpoints. In a review of the methodological literature, they have noted that the practice of using multiple research methods in the social sciences was not formalised until 1959, when Campbell and Fiske (1959) introduced the idea of employing more than one method to enhance the validation of the results concluded from research studies, ensuring that the variance truly reflected that of the underlying phenomenon.

Quantitative methods have long dominated the health sciences, whilst qualitative methods have been increasingly accepted over the past ten years or so, being recognised as a valuable and essential component of health services research (Pope and Mays, 1995). Bowling (2002) suggests that, within the umbrella of health research, health services research has its own emphasis, concerning the relationship between health service delivery and the health needs of the population, ranging from investigations of populations' experiences and perceptions of health and illness to evaluations exploring the quality, effectiveness, and costs of health services. Being defined as applied multidisciplinary research, health services research is often embedded in dynamic and complex contexts which provide the motivation to combine quantitative and qualitative methods to understand and evaluate these complexities from multiple viewpoints.

Researchers in health related research such as public health and nursing have called for a mixed method approach emanating from the complex nature of their research problems. For example, it has been recognised that public health problems are often embedded within the context of social, political and economic issues. Baun (1995) found that early studies relied heavily on quantitative methods to examine demographic structures, mortality and morbidity patterns, and descriptions of accessibility and satisfaction with community services, with little attention paid to social aspects and behavioural issues. She concluded that,

“Methodologies for health research should be diverse and selected to suit the problem being investigated. If we accept there is no universal right way to see the world our models should explore rather than deny the diversity.”

(Baun 1995 p466)

In the field of nursing research, Clark and Yaros (1988) also suggested that, given the complex nature of nursing studies, traditional singular methods were inadequate in providing data to answer complex multi-faceted questions or to gain a full understanding of complex relationships in nursing studies. They too considered that combined methods were much needed in order to gather a broader and deeper description of the phenomenon and to provide the most complete picture of it. In recent years, there has also been an upsurge of interest in combining quantitative and qualitative methods in health services research; one study found that almost one in five studies commissioned by the Department of Health during 1994 and 2004 used a mixed methods approach (O’Cathain *et al*, 2007). In particular, there has been a growing recognition of the importance of understanding the impact of the delivery and organisation of health services, with a focus on processes as well as outcomes, and the range of methodologies required to do this (Fulop *et al*, 2001).

Greene *et al* (1989) has reviewed the motivations for combining quantitative and qualitative methods, including: (a) triangulation—to seek convergence and corroboration of results from different methods studying the same phenomenon; (b) development—to use the results from one method to help inform the other method; (c) initiation—to discover paradoxes and contradictions that can lead to a re-framing of the research question; and (d) expansion—to extend the breath and range of inquiry by using different methods for different inquiry components. Among them, triangulation was also proposed by Denzin as a measure to address threats to validity in qualitative research. Denzin (1978)

emphasised that combined quantitative and qualitative methodologies, studying the same phenomenon, could enhance validation of the research findings and obtain a more complete understanding of the phenomenon, as the bias inherent in one particular method could be cancelled out by another, and the result then would be a convergence upon the truth about different aspects of the phenomenon.

For example, the findings obtained through a quantitative approach may be open to confirmation bias, a tendency of focusing on hypothesis testing rather than theory generation, and the researcher may miss out some evidence that are not congruent with a priori hypotheses. This may be avoided or reduced by integrating qualitative interviews as a measure to interact with and address the issues directly arising during the quantitative investigation, producing more complete findings of the studied phenomenon. Yet, results obtained from quantitative methods often provide baseline information which are generated from a wider sample and may themselves contribute to correct the “holistic fallacy” (Siber, 1973)—a pitfall of the qualitative method, representing a tendency on the part of field observers to perceive all aspects of a phenomenon as congruent, and sometimes this can override important conclusions which in fact are not supported by direct evidence.

Yet, the rationale of both complementarity and triangulation has been accompanied by a number of concerns. Morgan (1998) advised that although the aim of complementing one method with another was easily stated, maintaining the balance between the two methods within specific projects could be problematic in practice. He stated that,

“At one extreme, a smaller, complementary method may be merely tacked on to the principal study. At the other extreme, what was originally a complementary study may come to dominate the overall project.”

(Morgan 1998, p365)

Fielding and Fielding (1986) also advise that triangulation as a motivation to combine quantitative and qualitative methods may not reduce bias but possibly increase the chance of error, and they have pointed out that,

“The danger is that, by seizing the endorsement of multi-method research without borrowing the bias-checking procedures too, researchers avid to try

new procedures simply multiply error, or pick out the points of similarity in data from procedures which may be quite incompatible.”

(Fielding and Fielding 1986, p31)

Conceptually, the value of combining quantitative and qualitative methodologies is that it provides the opportunity for diverse perspectives to be brought together, offering additional insights that may not be obtained by any single tradition. To construct a mixed methods study, Morgan (1998) has illustrated practical strategies that can be used to integrate quantitative and qualitative methods based on a priority—sequence decision. A priority decision is to select the principal method of the study pairing with the other one as the complementary method, and a sequence decision is to determine whether the complementary method will serve as a preliminary or a follow-up method to the principal method. He considered it impractical to give the two methods equal priority or to use both simultaneously. In particular, he suggested that if both methods were given the same priority, the question would then be how to analyse this combination of data in a coherent way. Meanwhile, if the two methods were applied within the study simultaneously, there would be logistical questions in terms of supporting two different sets of fieldwork at the same time and co-ordinating the two approaches to learn from each other. Morgan’s classic four priority-sequence models have been widely applied in research fields, yet they are not the only solutions to combining quantitative and qualitative methods. It ultimately depends on the aims of a given study to integrate the two together to answer the research questions.

In this study, our conception of single-handed general practice and GPs was that they were a group of complex individuals, who tended to represent a policy dilemma as, on the one hand, they have been identified as "a cause for concern" associated with suboptimal standards of provision but, on the other hand, are felt to be more accessible and are preferred by patients (Baker and Streatfield 1995; Campbell 1996; Baker 1996). Single-handed GPs are generally not considered "team players" and often see other professionals as a source of stress (Green 1996). In the UK, although the number of single-handed GPs is continuously declining, a significant minority have remained, although their professional culture and organisation are little known to us. Therefore, we considered that a mixed method study would be an appropriate approach to capture the nature of single-handed general practices and GPs, developing a deeper understanding about them. A quantitative approach was adopted not only to provide us with a description of current single-handed

GPs in Scotland in a systematic and comparable way, but also allowing us to look into GP practices' performance in relation to quality of care making objective comparisons between practices and to perceive the impact of recent organisational reform (the new GP contract) on practices. In conjunction with it, a qualitative approach was employed to allow a further full exploration of urban single-handed GPs in Scotland—a group of GPs who had been little studied in research. It then provided a detailed interpretation of the experience of being single-handed as reported by GPs themselves, offering us the opportunity of getting the insiders' perspective to interpret their reported strengths and weaknesses as well as their views on quality of care within the context of today's NHS. Lastly, an essential issue is that because the nature of this project was that it was designed as a PhD training studentship, it provided an excellent learning experience for me to employ both quantitative and qualitative methodologies in the study.

As a novice researcher, when I initially started the research project I had just a limited understanding of how the individual studies were to be conducted, and only the vaguest notions of the relationship between the two approaches. This study design may be seen as not being justified by Morgan's model since both methods were being used to look at practice performance of single-handed GPs regarding the quality of care they provided for their patients, and it could be argued that one method or the other should have been chosen to address this question and that to use both quantitative and qualitative methods might be inefficient. Yet, I would argue that the choice of using both two approaches was appropriate on the grounds that quality of care is a complex concept whose components include structure, process and outcome, which are inter-related. It can also be measured and interpreted in various ways. My aim was to capture different perspectives of quality of care in terms of clinical, interpersonal and organisational care as well as GPs' own interpretations in their professional context.

The two parts of this study were carried out in sequence, starting with desk-based quantitative studies followed by qualitative interviews with single-handed GPs, with the relationship between the quantitative and qualitative methods evolving over the time of the PhD. For example, during the work, the sampling framework for the qualitative study was developed partly based on routinely available quantitative data and partly on characteristics of single-handed GPs known from the existing literatures. Also as the two studies were

carried out sequentially over many months, the findings from each study could then inform each other, facilitating the interpretation of one alongside the other.

Generally there are various ways in which quantitative and qualitative methodologies can be combined. Punch (1998a) has emphasised the need for distinguishing between combining methods, combining data and combining findings. He states that,

“At the simpler end, combining findings means that the quantitative and qualitative data and methods are not combined, only the results from the two sorts of inquiry. Next, combining data means that the two types of data are brought together during the analysis, and contribute to the findings. At the more complex end, studies which combine methods, data and findings can be described as full multi-method studies...”

(Punch 1998a, p246)

In this study, I have combined findings and methods to some extent, although I did not combine data. In the following section, I briefly summarise some considerations in terms of study design, data collection and data analysis for both the quantitative and qualitative studies. Detailed methods will be further presented separately in later chapters.

4.4 Quantitative study

Study design and study population

The main interest of the study was urban single-handed general practices, and the overall aim was to describe current single-handed general practice in mainland Scotland, comparing them with group practices in terms of practice characteristics and practice performance. In order to achieve this, the quantitative study consisted of three parts: firstly, a descriptive study was used to describe single-handed general practice in relation to the demographic characteristics of the GPs and patient populations plus a range of practice activities, all which were compared with those of partnership practices in mainland Scotland. Following that, a range of coronary heart disease related performance indicators was selected as a proxy measure for the clinical care provided by both urban single-handed and group practices. The rationale for choosing indicators in the field of coronary heart disease (CHD) will be further discussed in chapter five; and lastly the indicators included

in the Quality and Outcomes Framework (QOF) of the new GMS contract were used to assess practice performance in both the clinical and organisational domains, again comparing urban single-handed practices with that of group practices.

To some extent, these three components are interrelated. As there had been little study about single-handed general practice in Scotland before, a detailed description of these practices was a valuable and essential piece of information providing a full picture of what single-handed general practice was like and how they differed from group practices, and it also helped us to understand what factors might need to be addressed in later analytical work, through which we intended to explore whether there were differences in outcome variables including CHD related and QOF performance indicators between single-handed and partnership practices, and to attribute whether any differences we found in these variables were due to the size of their practices. In addition, the utility of performance indicators in relation to both CHD care and QOF in the quantitative study could be seen as a means of triangulation. Denzin (1978) has suggested that triangulation can involve varieties of data sources, for example with data collected from multiple sites or by multiple techniques within a standard method to cross check for consistency or reliability of the research findings. In this part of the study, the use of two sets of data that included a range of selected performance indicators relating to quality of care from both clinical and organisational perspectives could be regarded as a form of triangulation, if the results from the two datasets supported the same conclusion, confidence in the findings was increased.

Given the fact that there is a continuing decline in the number of single-handed general practices in the UK, we intended to include all single-handed practices in mainland Scotland in the study. Thus, we decided to include all mainland practices in our study, and categorised them into four groups from single-handed practices to large group practices according to the number of whole time equivalent (WTE) GP partners within the practices, respectively single-handed practice ($WTE \leq 1.00$); small practice ($1.00 < WTE \leq 3.00$); medium practice ($3.00 < WTE \leq 5.00$); and large practice ($WTE > 5.00$). Thus, the comparison groups were set up for the analyses conducted in the study.

Statistical considerations

The analyses of quantitative data in this study have both descriptive and analytic purposes. Descriptive statistics were used to present data on practice characteristics and practice performance, reporting mean values with their standard deviation or 95 % confidence interval. Further statistical considerations were taken into account to examine the relationship between practice size and outcome variables including practice characteristics and performance indicators.

1. Chi-squared test.

The chi-squared test is applied when variables are categorical data. It compares proportions relating to different unmatched groups of subjects, for example to compare the proportion of practices participating in voluntary quality assessment schemes by practice size ranging from single-handed practice to large practice. The data were summarised in cross-tabulation tables, and the observed frequencies compared with the expected frequencies from the distributions of the variables in the whole study sample. The chi-square test was used to decide on the importance of the difference between observed and expected distribution, and to decide whether the variables were associated.

2. Analysis of variance (ANOVA).

Analysis of variance was used to compare groups on normally distributed dependent variables (outcome variables e.g. prevalence of angina, CHD mortality, and hospital admissions for CHD related conditions) When there are only two groups in the study, ANOVA becomes equivalent to the t-test (Field, 2000).

3. Kruskal-Wallis test.

This is the non-parametric alternative to ANOVA for comparing between groups variables which are not normally distributed. In the test all observations are ranked, and the ranks are summed within groups. The Kruskal-Wallis statistic measures how much the group ranks differ from the average rank of all groups. The test is a test of significance.

4. Analysis of co-variance (ANCOVA)

Analysis of covariance is an extension of the analysis of variance, and is used to explore differences between groups while statistically controlling for an additional variable in the analysis. This additional variable, known as a covariate, is a variable that may confound comparisons between the groups in some way such as socio-economic deprivation status of practice population in this thesis, and to control such a variable means removing its effect in the analysis.

In the analyses, we have treated outcome variables independently, and all statistical analyses including descriptive and inferential statistics were carried out using SPSS version 11.5 for Window.

4.5 Qualitative study

Study design and sampling

In the quantitative inquiry, we attempted to quantify the nature of single-handed general practice by examining variables that were associated with their demographic characteristics, practice activities, and quality of care. With the qualitative approach, we wanted to address the meaning of being a single-handed GP from the GPs' own point of view within the context of the current NHS. Based on single-handed GPs' own language and accounts, we intended to gain an insight into single-handed GPs' subjective experience, to explore the strengths and weaknesses of being single-handed in the modern NHS, developing a deeper understanding about them. Bryman (1988b) suggests that the most important characteristic of a qualitative approach is its nature of viewing social phenomena from the perspective of the subjects that are being studied; consequently, the research strategy of a qualitative study tends to be relatively open and loosely structured, involving constant review of decisions and approaches. Typically a qualitative study often starts with a broad idea or topic, which then will be framed as more detailed questions as the study progresses (Lewis 2003). Within this study, I was interested in the phenomenon of the persistent existing single-handed GPs who have long assumed to be a dying breed of service provision in primary care (Green 1993, 1996). Linking with the findings from the quantitative data I attempted to explore further GPs' own perceptions of quality of care and

QOF performance under the new GMS contract. Thus, on the basis of some general ideas and concepts which emerged from a group discussion of single-handed GPs, we developed six main topic areas around research questions:

- previous experience in general practice and the decision to become single-handed;
- advantages of being single-handed;
- disadvantages of being single-handed;
- quality of care provided by single-handed GPs;
- the impact of the new GMS contract on single-handed practices;
- future plans.

In a qualitative study, it is not possible to study every urban single-handed GP in mainland Scotland. Thus we decided to apply a purposive sampling strategy which used the findings from the quantitative data, randomly selecting 20 GPs by their age, gender, country of qualification, and patients' socio-economic deprivation score.

Data collection considerations

Punch (1998b) suggests that the qualitative approach is to study spoken and written representations and records of human experience, and different perspectives open up the research questions which lead to the use of different methods and sources of data. Main methods for collecting qualitative data include: interviews, non-participant observation, participant observation and documentary analysis. Among these, interviews have been the most widely used approach as they provide an opportunity to access people's perspectives and their constructed reality. Fontana and Frey (1994) classify interviews into structured, semi-structured and unstructured, depending on the degree of structure in the interview, the depth to which the interview is trying to go, and the degree to which the interview is standardised across different respondents. Semi-structured interviews were selected as the means of data collection in this study because it is a way that combines a relatively structured interview schedule with a flexible approach to asking the questions. We used a pre-prepared interview schedule to capture single-handed GPs' views and experience, but

referring to established topic areas which we were interested in; this form of semi-structured interview provided us with the flexibility to probe for further details as well as to ask supplementary questions to clarify issues where necessary during the data collection.

Data analysis considerations

Given the diverse and complex nature of qualitative research, there are different approaches to qualitative data analysis. Spencer *et al* (2003) have suggested that there are no clearly standardised rules or procedures for data analysis in qualitative studies, and that the way to carry out analysis may vary depending on the nature of qualitative enquiry and the main purposes of the analytical process. Despite this variety and diversity, the main concern of qualitative data analysis is to transform and interpret collected data in a rigorous way to capture the complexities of the phenomenon for which we seek explanations (Coffey and Atkinson, 1996). In this study, I adopted Ritchie and Spencer's Framework approach—a matrix based analytic method for data analysis. The framework has been seen as a useful approach for applied research as it often aims to define concepts, find associations and provide explanations to inform policy decisions (Ritchie and Spencer, 1994). One distinctive feature of this approach for data analysis is that the thematic framework comprises a detailed index of key issues, concepts and themes, all of which are developed from both the research questions and the narratives of the research participants. The approach was adapted for this study aiming to obtain insights into the experience of a single-handed GP in the context of a modern NHS under current organisational reform as it provided a systematic and consistent way to data management, that not only allowed us to obtain GPs' own accounts describing their experience of being single-handed, but also synthesised these findings bringing us a deeper understanding of their meanings without drowning in the volume of generated data.

4.6 Summary

In summary, quantitative and qualitative methodologies have important differences, which result from the connections to their paradigms. However, the choice of research methods can be dealt with independently from philosophical assumptions, and based on a pragmatic position, research methods should flow from the purpose of the research—what the research is trying to finding out. Driven by the research question, motivations for bringing

quantitative and qualitative methods together are associated with the wish to capture the comprehensive nature of the research problem as well as to capitalise on the strength of the two approaches plus offering a learning experience. Although there are various solutions to combining the two approaches, no one approach appears to be straightforward. Thus, the combination should be that which fits best the overall aim of the study taking into account the practical aspects of the research. In this study, we have combined quantitative and qualitative methodologies to explore the nature of urban single-handed general practice in Scotland, and the two were carried out sequentially. A quantitative methodology was used in the first phase of the study, involving secondary data analysis of a range of routinely collected datasets to characterise current single-handed general practice and GPs as well as their patient population in mainland Scotland. Then CHD related quality of care was compared between single-handed and partnership practices; in light of the new GMS contract, practices' performance under the Quality and Outcome Framework was also examined by practice size. Linked to the quantitative analyses, a sample of current serving single-handed GPs were interviewed in the second phase to explore their attitudes and experiences in the modern NHS. The detailed methods and results will be presented separately in Chapter five to eight.

Chapter 5

The characteristics of urban single-handed general practice

5.1 Introduction

In the UK, general practice has been placed at the centre of the NHS, and GPs are at the front-line of the health care system. The contractual position of GPs within the NHS means that they are not salaried employees but independent contractors. Until the latest version of the General Medical Services (GMS) contract, which involves contracts with practices rather than individual GPs, most GPs were self-employed, and ran their practices as small businesses. At the outset of the NHS, GPs often worked single-handedly from their own houses or shop-front surgeries with little division between their domestic and work space (see Chapter 3). Since the 1960s, however, GPs have been encouraged to work in partnerships, driven by a series of policy initiatives and incentives (see Chapter 2).

For many in the NHS, the single-handed practitioner has long been seen as a male, elderly doctor working in isolation, often having qualified outside Britain, and often associated with inadequate premises and poor services. It has also been recognised that single-handed GPs often serve socio-economically deprived patient populations, with greater needs for health services as a result of their poor health and poorer awareness of both health services and health education (Ullah, 1994). Moreover, deprivation is often associated with lower uptake of preventive activities, higher rates of routine consultations, referrals and emergency admissions, all these are then linked to single-handed as well as small practices, using as evidences against smaller practices (see Chapter 3).

Although single-handed general practice has been assumed to be dying out as a form of service provision in the creation of a modern NHS, it remains very much a feature of general practice, particularly in urban areas. This chapter examines the current distribution and characteristics of single-handed general practice in mainland Scotland, specifically

focusing on urban areas to compare the demographic characteristics of single-handed general practitioners and their patient populations with those of group practices, as well as a range of practice activities.

5.2 Data and methods

Data on general practice (2002/ 2003) including the demographics of practitioners and practice patient populations were obtained from the Information and Statistics Division (ISD), NHS Scotland.

Practice characteristics

This part of the thesis examined the distribution of general practices by the number of general practitioners and patient populations in mainland Scotland, divided into urban, small town and rural areas using the Scottish Executive's 2003 classification of urban and rural areas (Scottish Executive, 2004). The two main criteria of the classification are the size of population as defined by the General Register Office of Scotland and "accessibility" defined by the drive time from larger urban settlements calculated on basis of average travel speeds. Areas are categorised into primary cities, urban settlements, accessible small towns, remote small towns, very remote small towns, accessible rural, remote rural and very remote rural areas (Table 5.1). Each practice was assigned to one of these categories according to the category in which the largest number of their registered population resided as at September 2002.

The analysis compared the proportion of each type of practice by its size that provided minor surgery, chronic disease management clinics and dispensing, as well as the proportion of practices participating in a series of voluntary quality schemes, including practice accreditation (PA), the Quality Practice Award scheme (QPA), the Scottish Programme for Improving Clinical Effectiveness (SPICE), and Personal Medical Service (PMS) schemes.

GP characteristics

For every GP principal in mainland Scotland, data were obtained for on doctor's age, gender, personal patient list size, contract type, and the country of qualification as a medical practitioner. The mean age and sex distributions of urban single-handed general practitioners were compared with those of GPs in group practices. GP personal list sizes and the proportions of GPs who qualified in the UK, or elsewhere including South Asian countries were also compared between GPs according to the size of the practices in which they worked.

Patient characteristics

Patient population data were generated from Community Health Index (CHI) records of 2003. The analysis compared the age and sex distributions of patient populations registered with single-handed practices with those of group practices, and the proportion of patients from minority ethnic populations such as South Asian ethnic populations. The health status of patient populations was measured by several census variables, including standardised illness ratio (SIR) representing long term limiting illness in the population; standardised health ratio (SHR) indicating self-assessed general health in the population; and the health status in the population aged under 65 years as represented by SIR 64 and SHR 64.

The modified Scottish index of deprivation score (mSIMD) was used as a proxy for measuring the socio-economic status of practice patient populations. This was based on a weighted combination of the Income, Employment, and Education domains of the Scottish Indices of Deprivation 2003. The modified score did not contain components that directly measure health or access to services, and was thus more suitable for describing the effect of social and economic deprivation on health and health care use (McConnachie *et al*, 2004) A score was assigned to each practice and grouped into quintiles of socio-economic deprivation from the least to the most deprived.

Study sample

Practices located in Island Health Boards, including the Western Isles, Orkney, and Shetland, were excluded from the analyses because of the small numbers in each. This left

1009 mainland practices in 12 health boards. Of these 675 practices located in primary cities and urban settlement areas were included for further analyses.

Statistical analysis

Descriptive and inferential analyses were conducted via SPSS 11.5 for Window, and the statistical analyses presented below were performed using chi-square, parametric ANOVA or non-parametric Kruskal-Wallis test as appropriate.

5.3 Results

The practices

An overview

Table 5.2 presents an overview of all mainland Scottish practice by practice size in the 12 health boards. In 2003, 154 (15.3%) mainland practices were single-handed; 368 (36.5%) had 2 or 3 whole time equivalent GP partners; 292 (28.9%) had 4 or 5 WTE GPs; and 195 (19.3%) had more than 5 WTE GPs. The 154 single-handed practices were unevenly distributed among the 12 health board areas (Figure 5.1), with the largest numbers of single-handed practices in Greater Glasgow (48), followed by Argyll & Clyde (19), and Lanarkshire Health Boards (17).

In mainland Scotland, general practices in primary cities and urban settlements comprised 675 out of the total of 1009 practices (66.9%). Within urban areas, single-handed practices were less common than large practices, with 55.2% of single-handed practices located in urban areas compared to 74.5% of large practices (Table 5.3). In contrast, 36.4% of single-handed practices were located in rural areas compared with only 5.1% of large practices. As main interest of the thesis was urban practice, the remaining analyses focuses on the 675 general practices located in urban areas of mainland Scotland.

Urban practices

Table 5.4 shows a range of practice activities, including services provided and participation in voluntary quality schemes by general practices in the urban areas. The figures suggested that larger practices provided a wider range of services and were more likely to join in quality schemes than smaller practices.

Before the introduction of the new GMS contract, the RCGP practice accreditation scheme allowed practices to demonstrate that they had the necessary infrastructure and systems to support high quality patient care. Practices participated voluntarily, and their performance was measured against defined criteria. Practices could also apply for the Quality Practice Award (QPA), which is also a voluntary quality assurance process. Like the PA scheme, participant practices are assessed against sets of criteria, recognizing the standard of patient care delivered by the practice. However, QPA is set at much higher level than PA, and requires the entire practice team to provide an excellent standard of care and service. By 2002, 141 out of 675 urban practices were PA practices, about one in five. By these measures of “good quality” practice, large practices were well ahead of other sizes of practices, with 33% of large practices being PA practices and 10% having the QPA award. In contrast, less than 10% of single-handed practices were PA practices, and none had achieved QPA.

Another quality related scheme was introduced in 1999, known as SPICE (the Scottish Program for Improving Clinical Effectiveness), this scheme helped practices in Scotland with their management of a range of chronic disease, recording and comparing practice data and their performance in clinical areas, including mental health, hypertension and secondary prevention of myocardial infarction, diabetes and asthma. Similar percentages of single-handed and large practices (about 19%) participated in SPICE, compared with slightly lower levels of participation by small and medium sized practices.

Training practices are inspected regularly by local deaneries and only practices meeting set criteria are accepted. The criteria include adequate staffing levels, adequate medical record keeping, GPs undertaking professional development, the use of practice protocols for disease management, and regular participation in audit and significant event review. Nearly half of large practices (49%) had been appointed as training practices, compared with merely 1% of single-handed practices.

The other voluntary programme included in the analysis was participation in Personal Medical Service (PMS) schemes. This initiative was introduced in 1998 by the Labour government, after coming into power in 1997 (see Chapter 2). PMS was designed to overcome the perceived limitations of the 1990 contract at that time and set out to encourage innovation and improve access to health care especially in disadvantaged and rural areas, providing practices in such areas with practical and educational support. A slightly higher percentage of single-handed practices (10.8%) joined in PMS compared with group practices (7.8%), but such a difference was not statistically significant.

Besides a series of quality schemes, table 5.4 also presents the figures on the number of practices provided minor surgery and chronic disease management services by practice size. Just over two thirds urban single-handed practices offered minor surgery compared to 95% group practices did. In general practice, majority of practices had chronic disease management services, ranging from 91% single-handed to 98% in larger practices. Both differences were not statistically significant.

The average deprivation (mSIMD) score among urban general practices in 2003 was 27.3, with smaller practices tending to be in areas with higher deprivation scores compared with larger practices (Table 5.5). Within the deprivation categories, from quintile 1 defined as the areas having the least deprived populations to quintile 5 as the most deprived, 46 of 85 (54.1%) urban single-handed practices served the most deprived population compared with less than 20% of large practices. Meanwhile, only 7% of single-handed practices covered in the areas having the most affluent population compared with 17 % of large practices within the same areas.

General Practitioners

Gender and Age

There were 3,746 general practitioners in mainland Scotland in 2003, of whom 2,647 (70.7%) were in urban areas. Of GPs in urban areas, 85 (3.2%) worked as single-handed GPs; 599 (22.6%) practised in small practices; 956 (36.1%) in medium practices; and 1007 (38.0%) in practices with more than 5 WTE GP partners. Overall, 58.4% of GPs were male and 41.6% female in urban areas. Of single-handed GPs, 78.3% were male compared with

just 21.7% who were female (Table 5.6). In group practices, the distribution of male and female doctors was more balanced, with 58.8% vs 41.2% respectively.

The average age of practitioners in urban areas was 44.5 years. GPs working in partnership practices were younger than single-handers. Just under 6 % of single-handed practitioners were aged under 35. This figure doubled, to 13%, for GPs working in group practices. Meanwhile, one in three (31.8%) single-handed practitioners were aged 55 and over, by contrast, merely 13.5% GPs in partnerships were over 55 (Table 5.6).

Patient list size

In mainland Scotland, GPs on average look after 1390 patients per headcount GP, and about 1475 patients per WTE GP. The figures for urban practices show that GPs tended to have more patients on their lists, with averages of 1505 per GP and 1596 per WTE GP. In particular, urban single-handed GPs had larger list sizes than GPs in larger practices, with an average of 2033 patients on their lists, appropriately 400 patients more than GPs working in partnerships (Table 5.6).

Country of qualification of GPs

Most practitioners in Scotland qualified from Scottish medical schools and practised in partnerships with other GPs (83.6%). Among single-handed GPs, 69.4% qualified in Scotland, 7.1% qualified in the rest of UK and 16.5% qualified from South Asian countries of India, Sri Lanka, Pakistan and Bangladesh. Only a small proportion of GPs working in partnerships were non-UK qualified (Table 5.6).

Urban patient populations

Distribution of populations by age group and gender

By 2003 there were 3,925,214 populations registered with GPs living in large cities and urban settlements. The age and gender structure of the population shows that males and females were evenly distributed at younger ages, with slightly more males. With increasing

age, there was a decrease in the numbers within each age group. The pattern of the male and female distribution changed when age reached 60, with more females in older age groups (Figure 5.2). The demography of single-handed practices indicates that they had a slightly higher percentage of males as well slightly more populations aged under 50, compared to larger practices (Table 5.7).

Ethnicity

About 2.6 % of patient populations in primary cities and urban areas were from minority ethnic populations, with 1.5 % were from India, Pakistan and other South Asian countries. Table 5.7 presents the percentage of the minority ethnic populations by the practice size. In general, single-handed practices had a higher percentage (4.0%) of ethnic minority populations than larger practices (2.3%). Single-handed practices had on average 2.8% of their populations from the Indian sub-continent, compared with only about 1.7% among group practices.

Health status of populations

Table 5.7 shows the health status of population using two indicators from the census: standardised rates of SHR (the level of self-assessed “not good” general health) and SIR, (patients’ assessment of whether they had a long-term illness, including any illness, disability or infirmity that had affected them over a period of time). For all age groups, single-handed practices had the highest level of patient populations who considered themselves as having “not good” general health (130.9), and long-standing illness which limited their activities (117.6). This means that, using the population of mainland Scotland as a reference, 31% more patients from single-handed practices considered their general health was not good, with 26% more reporting their having long-term illness in urban areas. Both were significantly more than those of large practices ($p < 0.001$). These differences were also found among patients aged under 64, with 36% more patients from single-handed practices reporting “not good” health and 24% more reporting having long-term illness than patients from large practices. Therefore, the population of single-handed practices generally had poorer health than those from group practices.

5.4 Discussion

Scotland has experienced a decline in the number of single-handed general practices, particularly in the past five years or so (RCGP, 2006a). By 2003 about 15% of mainland practices had one GP principal. Despite the decline, across the health boards, some have retained a high proportion of single-handed practice; for example, about one in five GP surgeries in Glasgow and in the Highlands were single-handed. Such distribution indicates that single-handed general practices remain an important component of healthcare provision in both urban and rural areas of mainland Scotland.

In Scotland, around a third of the country is covered by the Highlands and Islands, often having a rugged terrain and sparse populations. Because of the geographic characteristics, many remote and rural practices are single-handed or have only a few partners and people are accustomed to accessing medical care via this type of practice (McCabe 2002).

Although in recent years there has been a growing concern about sustaining health services in these areas, smaller practices are likely to continue to be the norm in Scotland due to these geographical factors. Meanwhile, general practice in England is now facing up a proposal for developing a polyclinic model of health service, which may be represented as a solution for service modernisation in some urban areas, yet it is still not clear whether and how such model will be developed in rural general practice (NHS Confederation, 2008). Many have argued that polyclinic will not fit in the rural setting, as patients living in these communities may have to travel further to see their doctors without necessarily improving the quality of care they receive, and therefore advocate the need for a flexible service design in these areas (Imison *et al*, 2008). If such need is taken into consideration, there is a possibility that smaller practices could retain their place in the rural communities overall.

To some extent, geography largely determined the existence of single-handed and small practices in remote and rural Scotland; yet over half of single-handed general practices were actually in cities, such as Glasgow, and other urban settlements. This mirrors previously reported service provision in cities like London, where much attention has been drawn to the high proportion of single-handed practices, with concerns about their lack of primary care teams and also a lack of practice standards (Moon and North, 2000a). Wilkin *et al* (1987) also found nearly double the national average of single-handed practice in

Manchester but only half the national average of practices with five or more partners. This study, therefore, in the context of Scottish general practice, outlines and emphasises the phenomenon of single-handed general practice in urban areas, which share some commonalities with their counterparts in England in terms of key features of the practice population and the practitioners.

The analysis confirmed that single-handed practices were still serving some of the most deprived urban populations in Scotland. Deprivation is a key determinant of ill health, and is associated with a range of social problems. GPs working in deprived communities not only had to deal with many illnesses, as deprived populations tend to suffer more health problems and were in greater need of health care (Watt, 1996); in addition, they also regularly face their patients' social problems which can induce health issues, creating a greater volume of workload. This could impose a great strain particularly on GPs who practise single-handedly, as they might be constrained by time as well as manpower, and without adequate resource within the practices, high quality care may be harder to achieve. That has been a long-standing concern about single-handed general practice (RCGP, 2005a). Moreover, there is evidence showing a negative association between deprivation and practices' participation in volunteering activities in Scotland (MacKay *et al* 2005), and in this study too single-handed practices were found to be less likely to take part in those volunteering quality-related schemes. One possible explanation for their poor engagement with these programmes could be that, given its relation to deprivation, single-handed practice may have to manage a higher level of need with limited resources, and are therefore less able or willing to take on additional activities.

Accompanying deprivation, urban single-handed practices also had a higher proportion of minority ethnic populations. These two issues, to an extent, are interrelated, as a high proportion of ethnic minorities is a feature of deprived areas in the UK (RCGP 2005a). This could add extra demands for health services, as consultations with patients whose first language is not English tend to be longer and may involve more complex health needs. Health professionals who work with these patients could face language barriers as well as cultural differences, expressed as different perceptions of health, disease and behaviour in seeking health care (Baker 2001). As such, single-handed doctors with little support may be challenged to provide adequate care for such heterogeneous populations and to cope with the additional workload. Also, deprived and ethnic minority populations may be less

likely to comply with health prevention and promotion measures (Moon and North 2000b). It is possible, therefore, that single-handed practices could be disadvantaged by not being able to reach the government's targets in the context of the new contract, in comparison with group practices. This will be explored further in a later chapter of the thesis (Chapter 8).

The size of patient list is often used as a proxy for a GP's workload, indicating the amount of work he/she is likely to be doing. The findings of this study note that single-handed GPs have considerably larger list sizes per WTE general practitioner than GPs working in partnerships. There has been concern about GPs' large list sizes, and it is feared that maintaining large numbers of patients and providing care for them could be at the expense of lower standards of care and reducing the GPs' availability to patients. Time is considered a key factor in mediating the relationship between list sizes and the standard of care and the argument has been made that if GPs were to have smaller lists, they would have more time to enhance the standard of care of their patients (Morrell and Roland, 1987). It is arguable, however, whether list size is or is not a valid indicator of better care, because even GPs with smaller lists may not necessarily spend their additional time in their practices rather than in other commitments or interests (Butler and Calnan 1987). In the case of single-handed practices, they may consider that they need a large number of patients to bring financial income into their practices, but given the demographic profiles of their patient populations plus the increasing demands from both the patients and the government, there is a possibility that single-handed doctors could struggle to provide and maintain a high standard of care for such a large number of patients, while generating great pressure and strain on GPs.

The demographic characteristics of urban single-handed practitioners, as shown in these analyses were similar to their English counterparts. They were likely to be older, male and qualified from non-UK countries particularly countries in the Indian subcontinent. Historically, the thousands of doctors who emigrated from South Asian countries including Pakistan, Bangladesh, India and Sri Lanka, were recruited in the 1950s by a UK health service afflicted by an acute post-war shortage of medical staff. Doctors arriving from overseas were reported as being more restricted in their choice of practices, and may have been forced to take on single-handed practices unwillingly (Smith 1980). They also tended to work in the areas with the great socio-economic deprivation, where were traditionally

neither a pleasant nor attractive environment to work as a general practitioner. A long term consequence of this is the current concern about recruitment and retention of GPs in these areas as within the next 5 or 10 years, almost all overseas doctors will have retired. General practice may face a workforce crisis, therefore, and healthcare services may be threatened in these areas. We do not have data on whether overseas qualified GPs are concentrated in the areas of minority ethnic settlements; but it is possible that patients with the same origin might tend to register with doctors with a similar cultural background and able to communicate in the same language.

Another key feature of single-handed GPs in urban areas is the overall age profile of these practitioners. Our results confirm the previously described age pattern of single-handed GPs (see Chapter 3), showing that about one third of urban single-handed doctors were aged 55 and over, compared with 13.5% those in group practices. When this cohort of single-handed GPs retires, it may mean that single-handed practice will disappear from the health service. As mentioned earlier, it may be increasingly difficult to encourage GPs to practise in areas of high deprivation, where single-handed practices traditionally are common. Moreover, there is an indication that primary care trusts (PCTs) in England generally discourage the continuance of single-handed practice; for example, when a single-handed GP retires or gives up the practice, the trust may encourage the merging of a single-handed practice with another neighbouring practice rather than advertising a vacancy as a single-handed practice (Smith, 2004). As such, the number of single-handed general practices is likely to continue to decline.

5.5 Summary

In general, the findings presented in this part of analysis suggest that the profile of urban single-handed general practices in Scotland has not fundamentally changed from the stereotype of single-handed practice described in existing literature, and shares similarities with single-handed practice in England. This may raise concerns about the future prospects of single-handed practices in a continually changing general practice with the growing question of whether single-handed GPs are still able to provide adequate services, given current needs, demands and pressures. For policy makers and NHS managers, single-handed and small practices are time consuming to engage with, and also may not be cost-

efficient, costing more in terms of staffing, computerisation and premises. For instance, a former ministerial advisor, Professor Paul Corrigan considered,

“... (the) small business model for general practice is not sufficient for some of the tasks we now expect primary care to take on; and in some areas of the country it does not work at all.... A small organisation with few assets is unlikely to put its entire future at risk by investing in, for instance, a new diagnostic capacity. For small business, precisely because they are small, the risk entailed in making the decisions about investing in the diagnostic equipment can be too high.”

(Corrigan, 2005, p10)

It is clear, that the trend to move away from single-handed and small practices to larger practices will continue in general practice under current organisational reforms as well as economic pressures in the NHS. To stay single in modern general practice, single-handed doctors have to ensure that they provide health services of comparable quality and cost effectiveness to larger practices, developing and adapting working arrangements that fit with the modernisation of the NHS. In the following chapters we will examine the impact of practice size on both CHD care and QOF performance under the new GMS contract.

Tables and figures

Table 5. 1: Scottish Executive Urban Rural Classification (Scottish Executive, 2004).

Location	Classification
Primary cities and large urban areas	Settlements of 125,000 more population.
Other urban areas	Settlement of 10,000 to 125,000 population.
Accessible small towns	Settlement of between 3,000 and 10,000 population and within 30 minutes drive of a settlement of 10,000 or more.
Remote small towns	Settlements of between 3,000 and 10,000 population and with a drive time of between 30 and 60 minutes to a settlement of 10,000 or more
Very remote small towns	Settlements of between 3,000 and 10,000 population and with a drive time of over 60 minutes to a settlement of 10,000 or more.
Accessible rural	Settlements of less than 3,000 population and within 30 minutes drive of a settlement of 10,000 or more.
Remote rural	Settlements of less than 3,000 population and with a drive time of between 30 and 60 minutes to a settlement of 10,000 or more.
Very remote rural areas	Settlements of less than 3,000 people and with a drive time of over 60 minutes to a settlement of 10,000 or more.

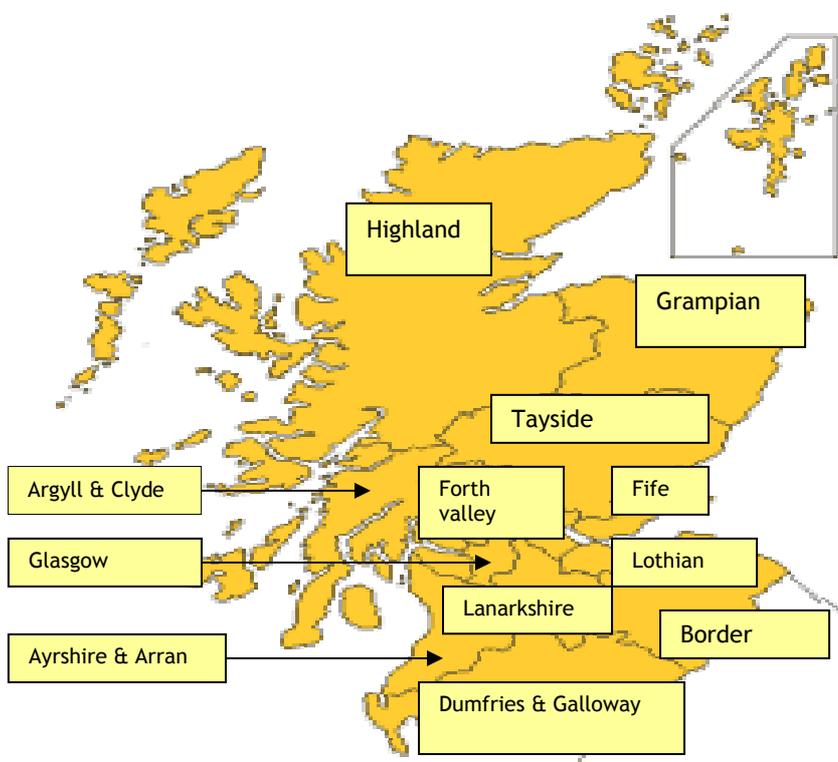
Table 5. 2: Distribution of general practice by practice size in 12 health boards of mainland Scotland.

	Single- handed WTE GP \leq1.00	Small practice 1.01-3.00 WTE GPs	Medium practice 3.01-5.00 WTE GPs	Large practice WTE GPs \geq5.01	Total (Col %)
Ayrshire & Arran	5	19	20	17	61 (6.0%)
row %	8.2%	31.1%	32.8%	27.9%	
Borders	3	8	8	4	23 (2.3%)
	13.0%	34.8%	34.8%	17.4%	
Argyll & Clyde	19	39	25	15	98 (9.7%)
	19.4%	39.8%	25.5%	15.3%	
Fife	6	19	20	15	60 (5.9%)
	10.0%	31.7%	33.3%	25.0%	
Greater Glasgow	48	99	50	18	215 (21.3%)
	22.3%	46.0%	23.3%	8.4%	
Highland	16	30	18	8	72 (7.1%)
	22.2%	41.7%	25.0%	11.1%	
Lanarkshire	17	35	35	14	101(10.0%)
	16.8%	34.7%	34.7%	13.9%	
Grampian	9	25	19	32	85 (8.4%)
	10.6%	29.4%	22.4%	37.6%	
Lothian	15	32	44	39	130 (12.9%)
	11.5%	24.6%	33.8%	30.0%	
Tayside	6	24	25	17	72 (7.1%)
	8.3%	33.3%	34.7%	23.6%	
Forth Valley	8	21	17	11	57 (5.6%)
	14.0%	36.8%	29.8%	19.3%	
Dumfries & Galloway	2	17	11	5	35 (3.5%)
	5.7%	48.6%	31.4%	14.3%	
Total	154	368	292	195	1009 (100%)
row %	15.3%	36.5%	28.9%	19.3%	

Table 5. 3: Distribution of practices by geographical location.

	Single-handed WTE GP ≤ 1.00	Small practice 1.01-3.00 WTE GPs	Medium practice 3.01-5.00 WTE GPs	Large practice WTE GPs ≥ 5.01	Total
Urban (row%)	85 (12.6%)	232 (34.4%)	211 (31.3%)	147 (21.8%)	675
Col %	55.2%	63.0%	72.3%	74.5%	66.9%
Small town (row %)	13 (9.8%)	34 (25.8%)	47 (35.6%)	38 (28.8%)	132
Col %	8.4%	9.2%	16.1%	19.5%	13.1%
Rural (row %)	56 (27.7%)	102 (50.5%)	34 (16.8%)	10 (5.0%)	202
Col %	36.4%	27.7%	11.6%	5.1%	20.0%
Total (row %)	154 (15.3%)	368 (36.5%)	292 (28.9%)	195 (19.3%)	1009

Figure 5. 1: Distribution of single-handed practices in 12 health boards of mainland Scotland.



Ayrshire & Arran: 5 (3.2%)
 Borders: 3 (1.9%)
 Argyll & Clyde: 19 (12.3%)
 Fife: 6 (3.9%)
 Glasgow: 48 (31.2%)
 Highland: 16 (10.4%)
 Lanarkshire: 17 (11.0%)
 Grampian: 9 (5.8%)
 Lothian: 15 (9.7%)
 Tayside: 6 (3.9%)
 Forth valley: 8 (5.2%)
 Dumfries & Galloway: 2 (1.3%)

Table 5. 4: Urban practices' practice activities.

	Single-handed WTE GP ≤ 1.00 (85)	Small practice 1.01-3.00 WTE GPs (232)	Medium practice 3.01 -5.00 WTE GPs (211)	Large practice WTE GPs ≥ 5.01 (147)	Total * (675)
PA ¹	8	41	44	48	141
(%)	9.4%	17.7%	20.9%	32.7%	20.9%
QPA ²	0	3	12	15	30
(%)		1.3%	5.7%	10.2%	4.4%
SPICE ³	16	31	26	28	101
(%)	18.8%	13.4%	12.3%	19.0%	15.0%
Training ⁴	1	30	67	71	169
(%)	1.2%	12.9%	31.8%	48.3%	25.0%
PMS ⁵	9	18	16	11	54
(%)	10.6%	7.8%	7.6%	7.5%	8.0%
Minor surgery ⁶	58	212	205	145	620
(%)	68.2%	90.9%	97.2%	98.6%	91.9%
CDM ⁷	78	228	206	145	657
(%)	91.9%	98.4%	97.6%	98.6%	97.3%

* Note: Total 675 urban general practices, 9 practices had no information on practice activities including 2 single-handed practices, 3 small practices, 2 medium practices and 2 large practices, plus additional 2 practices did not state their status for PMS.

1. Chi-square=20.45, df=3, and p<0.001.
2. Chi-square=21.59, df=3, and p<0.001.
3. Chi-square=4.705, df=3, and p=0.195
4. Chi-square=91.36, df=3, and p<0.001.
5. Chi-square=0.940, df=3, and p=0.816.
6. Chi-square=88.52, df=3, and p<0.001.
7. Chi-square=17.03, df=3, and p=0.001. (CDM, chronic disease management)

Table 5. 5: The distribution of urban practices by deprivation quintiles.

	Single-handed WTE GP ≤ 1.00 (85)	Small practice 1.01-3.00 WTE GPs (232)	Medium practice 3.01-5.00 WTE GPs (211)	Large practice WTE GPs ≥ 5.01 (147)	Total (675)
Mean mSIMD ¹ (95% CI)	32.4 (29.2-35.7)	31.3 (29.3-33.3)	24.1 (22.5-25.7)	22.2 (20.3-24.2)	27.3 (26.2-28.3)
SIMD Deprivation Quintile					
Quintile 1 (row %)	6 (8.5%)	17 (23.9%)	23 (32.4%)	25 (35.2%)	71 (100%)
Least deprived					
Col %	7.1%	7.3%	10.9%	17.0%	10.5%
Quintile 2 (row %)	9 (8.5%)	28 (26.4%)	44 (41.5%)	25 (23.6%)	106 (100%)
Col %	10.6%	12.1%	20.9%	17.0%	15.7%
Quintile 3 (row %)	12 (9.3%)	32 (24.8%)	43 (33.3%)	42 (32.6%)	129 (100%)
Col %	14.1%	13.8%	20.4%	28.6%	19.1%
Quintile 4 (row %)	12 (8.3%)	49 (34.0%)	57 (39.6%)	26 (18.1%)	144 (100%)
Col %	14.1%	21.1%	27.0%	17.7%	21.3%
Quintile 5 (row %)	46 (20.4%)	106 (47.1%)	44 (19.6%)	29 (12.9%)	225 (100%)
Most deprived					
Col %	54.1%	45.7%	20.9%	19.7%	33.3%

1. F=21.02, and p<0.001.

Table 5. 6: GPs' characteristics by practice size in urban areas.

	Single-handed WTE GP ≤ 1.00 (85)	Small practice 1.01-3.00 WTE GPs (232)	Medium practice 3.01-5.00 WTE GPs (211)	Large practice WTE GPs ≥ 5.01 (147)
No. of GPs (row %)	85 (3.2%)	599 (22.6%)	956 (36.1%)	1007 (38.0%)
% female GPs (95% CI)	21.7 (12.8-30.6)	42.4 (38.9-45.9)	41.4 (39.3-43.5)	39.9 (37.8-42.0)
Age				
Average age of GPs (95% CI)	50 (48.5-52.1)	45 (44.4-46.0)	44 (43.7-44.7)	44 (43.5-44.5)
No. of GPs aged <34 (Col %)	5 5.9%	66 11.0%	123 12.9%	152 15.1%
No. of GPs aged 35-54 (Col %)	53 62.4%	450 75.1%	709 74.2%	718 71.3%
No. of GPs aged ≥ 55 (Col %)	27 31.8%	83 13.9%	124 13.0%	137 13.6%
List size				
List size per GP ¹ (95% CI)	2033 (2030-2037)	1550 (1549-1551)	1509 (1509-1510)	1507 (1507-1508)
List size per WTE GP ² (95% CI)	2033 (2030-2037)	1660 (1660-1661)	1605 (1604-1606)	1585 (1585-1586)
Country of qualification³				
Scotland %	59 69.4%	485 81.0%	811 84.8%	857 85.1%
England & Wales	4 4.7%	43 7.2%	84 8.8%	91 9.0%
Northern Ireland & else of the UK	2 2.4%	12 2.0%	21 2.2%	22 2.2%
India, Sri Lanka, Pakistan, Bangladesh	14 16.5%	33 5.5%	12 1.3%	5 0.5%
Other	5 5.9%	17 2.8%	24 2.5%	28 2.8%

1. Kruskal-Wallis=58.148, df=3, P<0.001.

2. Kruskal-Wallis=32.925, df=3, P<0.001.

3. Missing data of GPs' country qualification: single-handed practice (1); small practices (9); medium practice (4), and large practice (4).

Figure 5. 2: Distribution of population by age and gender in urban areas.

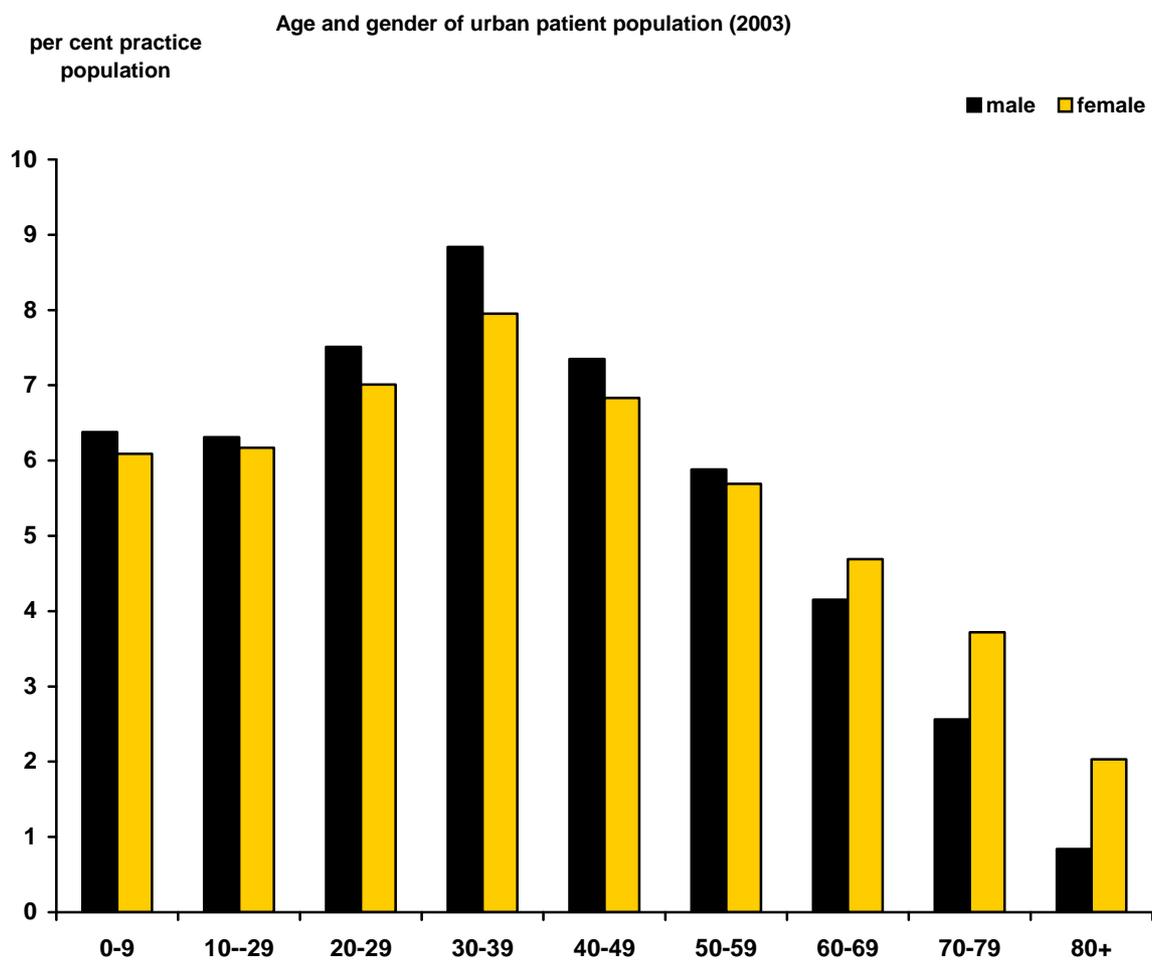


Table 5. 7: Characteristics of practice population by practice size in urban areas.

	Single-handed WTE GP \leq1.00 (85)	Small practice 1.01-3.00 WTE GPs (232)	Medium practice 3.01-5.00 WTE GPs (211)	Large practice WTE GPs \geq5.00 (147)
Total number of patient population	155,686	877,184	1,402,776	1,487,939
% female populations (95%CI)	48.4 (47.4-49.3)	50.1 (49.6-50.5)	50.8 (50.6-50.8)	50.9 (50.7-51.1)
Age group				
% under 30 (95% CI)	39.9 (38.2-41.4)	39.9 (39.0-40.8)	39.3 (38.4-40.1)	38.9 (38.0-39.8)
% aged 30-49	31.8 (31.2-32.5)	31.2 (30.8-31.7)	30.8 (30.3-31.2)	30.5 (30.0-30.9)
% aged 50-69	19.6 (18.5-20.7)	20.0 (19.5-20.6)	20.8 (20.2-21.2)	21.4 (20.9-21.9)
% aged \geq 70	8.7 (7.9-9.7)	8.9 (8.5-9.2)	9.3 (8.9-9.6)	9.2 (8.9-9.6)
Ethnicity				
% ethnic ¹ (95% CI)	4.02 (2.67-5.37)	3.00 (2.59-3.40)	2.59 (2.26-2.92)	2.13 (1.74-2.52)
% South Asian ²	2.78 (1.53-4.03)	1.77 (1.47-2.08)	1.45 (1.20-1.70)	1.10 (0.77-1.43)
% other ethnic group	1.24 (1.02-1.46)	1.23 (1.07-1.38)	1.15 (1.01-1.28)	1.03 (0.89-1.17)
Health status				
SIR ³ (95% CI)	117.6 (112.0-123.2)	114.3 (110.8-117.7)	102.5 (99.7-105.3)	99.3 (95.8-102.7)
SIR (aged <65) ⁴	125.8 (118.4-133.2)	121.6 (117.1-126.1)	105.7 (102.0-109.3)	101.3 (96.9-105.7)
SHR ⁵	130.9 (122.3-139.5)	125.1 (119.8-130.6)	106.5 (102.2-110.8)	99.9 (94.9-105.0)
SHR (aged <65) ⁶	137.2 (127.2-147.2)	131.1 (125.1-137.2)	109.2 (104.2-114.1)	101.8 (96.1-107.6)

1. Kruskal-Wallis=12.248, df=3, p=0.007.

2. Kruskal-Wallis=24.501, df=3, p<0.001.

3. Age-sex standardised ration (limiting long-term illness) in all age population , F=20.55, p<0.001.

4. Age-sex standardised ratio (limiting long term illness) in population aged under 65s, F=21.96, p<0.001

5. Age-sex standardised ratio (self-assessed health) in all age population, F=24.04, p<0.001.

6. Age-sex standardised ratio (self-assessed health) in population aged under 65s, F=24.64, p<0.001.

Chapter 6

Coronary heart disease care and practice size

6.1 Introduction

Coronary heart disease—health and economic burden

Coronary heart disease (CHD) is the commonest cause of death in the United Kingdom, causing over 117,000 deaths a year. Internationally, the UK has relatively high CHD mortality rates. In 2005, among the countries of Western Europe, only Ireland and Finland had higher rates than the UK. Although the death rate for CHD has been falling in the UK since the late 1970s, the decrease has not been as fast as in some other countries. For instance, the mortality rate for men aged 35-74 fell by 42 % between 1990 and 2000 in the UK, but by 54 % in Norway (British Heart Foundation, 2008). Within the UK, CHD mortality exhibits a broad north-south gradient. Scotland has the highest CHD mortality rates, followed by the North of England, while the lowest rates are in the South of England. The premature mortality rate (i.e. deaths <70 years) for men living in Scotland is 57% higher than in the South of England and the British Heart Foundation reported that Scotland has consistently had the highest CHD death rates and premature death rates within the UK for over 25 years. Within Scotland CHD mortality rates also vary regionally, with the highest rates in the west. For example, Greater Glasgow has the highest rate of 174.6 per 10,000 population compared to the Scottish average rate of 154.8 (NERA, 2005).

Feeding into mortality trends, the incidence rate of CHD is also higher in Scotland than elsewhere in the UK. The MONICA study, which monitored trends in cardiovascular disease in 35 populations drawn from 21 countries during 1984 to 1994, reported that Glasgow had the highest coronary event rates (265 per 100,000) for women aged 35-64, and the second highest rates for men (777 per 100,000) after North Karelia in Finland. Incidence rates of coronary heart disease also vary by health board areas in Scotland. In 2003, the highest incidence for men was in the Western Isles (555 per 100,000), and for women in Argyll & Clyde (289 per 100,000) (ISD, 2007).

In recent years, there has been a steady decline in the incidence and mortality rates of coronary heart disease in Scotland. Between 1994 and 2003, incidence fell by 14 % in men and by 19 % in women. The number of CHD deaths under 75 dropped from 160 to 81 per 100,000 in women between 1994 and 2004, and from 408 to 221 per 100,000 in men. Despite this, Scotland still has huge numbers of people living with heart disease, and significantly higher death rates from CHD compared with the rest of the UK. More than 4,000 Scots die each year from CHD before they reach 75 (British Heart Foundation 2008). Further improvement is a priority for the Scottish Executive. In 1999, a White paper—“Towards a healthier Scotland” recognised that reducing the rate of premature deaths and illness due to CHD remained a huge challenge for Scotland and set targets to reduce mortality rates from CHD by 50 % in people under age 75 between 1995 and 2010 (the Scottish Office, 1999).

While, the incidence and mortality of CHD are decreasing in Scotland, there have been notable increases in treatment for CHD, and the number of hospital admissions for CHD has increased. Between 1995 and 2003, the number of admissions due to angina and chest pain increased by 18 %. During the same period, admissions for acute myocardial infarction increased by 5 % in people over age 75. A recent estimate suggested that around half a million people have CHD in Scotland, with 180,000 requiring treatment for symptomatic disease. This figure is high compared to the rest of UK and represents a significant cost to the health system. According to the British Heart Foundation, overall CHD care could cost an estimated £7.9 billion a year to the UK economy, which is equivalent to £133 per capita (British Heart Foundation, 2005). Of the total cost of CHD, around 45 % is related to direct health care costs, covering activities used to prevent and treat coronary heart disease such as:

- Preventive care provided by general practice
- Health promotion activities provided by the NHS
- Care provided by community health and social services.
- Accident and emergency care
- Outpatient hospital care
- Inpatient and day-case hospital care

- Cardiac rehabilitation services in hospital and community facilities
- Drug treatment

Comparable work has not been undertaken in Scotland. However, a report from ABPI Scotland, which applied the per capita cost of CHD to the number of people with CHD in Scotland, suggested that the cost of CHD to the health system in Scotland was particularly felt in the acute sector, and in 2003/04 there were some 40,000 CHD related discharges in the whole of Scotland and over 13,000 CHD related procedures carried out (NERA, 2005). Moreover, this report indicated that the prevalence of CHD in Scotland will rise over time, as a result of the ageing population and the higher levels of deprivation found in parts of Scotland compared to elsewhere in the UK.

Risk factors for developing Coronary Heart Disease

The term risk factor originally appeared in a Framingham publication in 1961 (Kannel *et al*, 1961), and the Framingham Heart Study played a vital role in defining the contribution of risk factors to CHD occurrence in a general population within the United States back to 1948. The major risk factors identified and studied extensively in the Framingham cohort included cigarette smoking, hypertension, high serum cholesterol, low levels of high-density lipoprotein cholesterol, and diabetes mellitus. These factors can often be modified, treated, or controlled either by lifestyle changes or through medication. Whilst some inherent factors like increasing age, family history, male gender, and ethnicity are non-modifiable, their presence helps identify those at greatest risk. By the 1970s a Framingham risk assessment model had been developed on the basis of the findings of the Framingham Heart Study, which incorporated gender, age, cholesterol, blood pressure and smoking status to estimate an individual's risk of developing coronary heart disease. It has subsequently come to have widespread application, although it is now apparent that the generalisability of the Framingham score may not be appropriate when applied to populations from countries or ethnic groups that are different from the range represented in the Framingham population (Brindle *et al*, 2003; Hense *et al*, 2003).

In addition, the Framingham risk score does not take into account all risk factors for CHD. There has been a wealth of research findings derived from studies such as the British Regional Heart Study, the MONICA study and the Scottish Health Survey, which clearly

demonstrates the relationship between deprivation and high CHD morbidity as well as mortality (Shaper *et al*, 1981; Morrison *et al*, 1997; Scottish Executive, 2003). In England, the highest coronary heart disease death rates are found in the large urban areas of the North West, Yorkshire and Humberside, as well as parts of the South West and London. Smaller urban areas across central and southern England also have high death rates from CHD. This is not a simple north/south divide, since those areas often have the highest levels of social and economic deprivation (Health Commission, 2005). In Scotland, there are also marked socio-economic gradients in CHD morbidity and mortality. The Scottish Heart Health Study which used four measures of social status (level of education, years of education, occupation social class, and housing tenure) found that for each of these criteria, people of lower social status had higher angina prevalence (Woodward *et al*, 1992). People in the most deprived areas were not only more likely to develop cardiovascular disease but, when they did, they were also likely to die sooner than people in less deprived areas. There is evidence that part of the socio-economic variation in CHD morbidity and mortality can be explained by socio-economic differences in cardiac risk factors such as smoking, blood pressure and blood cholesterol, but there is still variation in CHD mortality between different social groups which cannot be explained by the level of conventional risk factors (Smith *et al*, 1990). As the Framingham score does not include deprivation as CHD risk factor, it fails to predict the full impact of social gradient in relative risk of coronary heart disease (Tunstall-Pedoe and Woodward, 2006). This may widen the disparities between social groups, and discriminate against those patients at greatest risk. This has led in Scotland, to the development of a new cardiovascular risk score (ASSIGN), which includes social deprivation and family history. This has yet to be piloted, but may redress the potential unfairness in the Framingham model, and shift preventive activity towards deprived populations (Woodward *et al*, 2007).

Prevention of Coronary Heart Disease

The concept of risk factors was a major advance for developing strategies for preventing coronary heart disease. The 1982 report of the World Health Organisation Expert Committee on Prevention of Coronary Heart Disease (WHO, 1982), considered that a comprehensive action plan for coronary heart disease prevention had to include:

1. A population strategy—to alter lifestyle, environmental and socio-economic factors within populations that are the underlying causes of coronary heart disease.
2. A high-risk strategy—to identify individuals at high risk, and act to reduce their risk factors.
3. Secondary prevention—to prevent recurrence of coronary heart disease events and progression of the disease in patients with established CHD.

In the UK, population screening for individuals at high risk of developing coronary heart disease is an explicit objective in primary care, and has been a main priority under the National Service Framework (DoH, 2000a). Through risk factor assessment and modification, primary prevention attempts to delay or prevent new-onset CHD with the aim of reducing morbidity and mortality from coronary heart disease. A general notion of primary prevention has evolved focusing on the identification of all patients at significant risk of developing CHD, followed by the application of measures to reduce these risks either by promoting healthier lifestyle habits or providing specific risk-reducing therapies (Scott, 1999). For patients with existing CHD, secondary prevention measures include prophylactic drug therapy (anti-platelet agent, beta-blockers, statins, and ACE inhibitors), lifestyle changes and risk factor control like smoking cessation, dietary modification and weight reduction, which are often applied to reduce their risk of suffering further acute CHD events and decrease mortality (SIGN, 2000). There may be a fine distinction between secondary prevention and high risk primary prevention, but the overall aim of prevention in both groups of patients with clinically established coronary heart disease or high risk individuals is the same: to reduce the risk of subsequent major coronary heart disease events or other vascular events and thereby reduce mortality and prolong survival.

CHD care and chronic disease management in general practice

Following available clinical evidence, there is little doubt about the importance of primary and secondary prevention in patients who may or have developed coronary heart disease. As the front line of the health service, and the first point of contact for patients, general practice has an important role to play in the management and treatment of coronary heart disease. On the one hand, practitioners often have a continuing relationship with their

patients, and these contacts offer opportunities to identify patients with cardiovascular risk factors and provide patients with advice on diet, exercise and smoking cessation as well as prescribing drugs to treat and prevent the condition. On the other hand, being gate-keepers, GPs can refer patients to secondary care when specialist medical care is needed. Ideally, all practices should deliver a high quality of care to meet their population needs, but this may not be constant. Quality of care varies widely between practices, and population needs may also be influenced by socio-economic status, geographic location and the knowledge and attitude of patients.

Applying Donabedian's model, as discussed earlier, quality of care can be viewed from the dimensions of structure, process and outcome dimension respectively. While it is generally straightforward to view practice size as a measure of structure, it is less easy to decide if other measures of quality are referring to processes of care or to outcomes. This becomes further complicated when measures of "need" or "disease burden" such as disease prevalence are investigated. In the thesis, measures such as disease prevalence were considered to be measures of disease burden, whereas admissions were considered to be markers of outcome quality, as higher quality care in general practice may have some impact on the level of admissions to secondary care. Such interpretations have been used in other studies with practice size, defined as a structural element of quality, often studied its relation to process and/or outcomes of care. For example, Griffiths *et al* (1997) using hospital admission rates as an outcome measure, found that smaller practices were associated with higher admission rates for asthma, and noted that the management of chronic diseases in smaller partnerships was often under-developed. Campbell *et al* (2001a) also reported significant associations between practice size and quality of care, based on a set of outcome measures derived from practice-based care management records for patients with angina, asthma and diabetes, with smaller practices having lower quality scores for diabetes care. On the other hand, there is other evidence suggesting that quality of care apparently is not associated with practice size, and that single-handed practices do not clinically under-perform in chronic conditions management when the characteristics of their practice populations were taken into consideration (Hippisley-Cox *et al*, 2001; Majeed *et al* 2003). Specifically with respect to coronary heart disease, smaller practices achieved comparable quality on process and outcome measures such as blood pressure, cholesterol, BMI monitoring and prescribing of CHD related drugs (Majeed *et al*, 2003). The findings from these studies, therefore, indicate that the trend in the NHS towards larger practices by itself may have little impact on the quality of care; nevertheless the

important differences in the composition of practice populations between single-handed and group practices should be considered, as well as the effect of such differences on process and outcome measures of quality. In this thesis, as previously noted, single-handed practices are concentrated in areas of high deprivation, effect of which therefore should be addressed so as to observe true quality of care in relation to practice size.

Thus, on the whole there is mixed evidence as to how practice size is related to practice performance in chronic disease management. Specifically with respect to coronary heart disease, smaller practices achieved comparable quality on process and outcome measures such as blood pressure, cholesterol, BMI monitoring and prescribing of CHD related drugs (Majeed *et al*, 2003). As noted earlier, coronary heart disease is potentially preventable and can be successfully managed in the community by GPs and primary care teams, if identifying patients with cardiac risk factors. Since the 1980s, general practice has moved towards anticipatory care of chronic disease, and the benefits of this proactive approach have been substantial. By controlling hypertension, overall mortality was reduced by 15% in middle-aged patients, and the incidence of CHD was reduced by 19% for those aged over 60 (Edward, 1999). Tudor Hart has suggested that effective anticipatory care of chronic disease for the whole population is an important new function for general practice, hitherto geared mainly to responding to patient demand. But he also pointed out that this approach could not cover all patients comprehensively and reliably without radical changes in staffing, organisation, and equipment (Tudor-Hart, 1988). The fact is that single-handed practices are often less well equipped in term of practice infrastructure and equipment, with fewer employing a practice nurse and practice manager, and that may make it difficult for single-handed doctors to deliver effective anticipatory care.

Recently there have been dramatic changes in the management of many chronic diseases in the UK. A major driver within NHS policy is to place more and more activities within primary care, allowing the transfer of care from the hospital to the community, which means a huge expansion of work in primary care (Scottish Executive, 2005b). The expectation is that group practices will have a GP with a special interest in the relevant field and that he/she will run clinics, often in conjunction with a specialised trained practice nurse. But for single-handed GPs, setting up such a clinic could put significant demands on them, because they may not have any special interest in the management of the relevant disease and their practice nurses may be part-time. In terms of CHD care,

evidence suggests that a high proportion of single-handed practices lack the capacity to systematically manage CHD patients, as many do not have a practice nurse with CHD training (Colledge *et al*, 2003). Although significant improvements have been made in the quality of care for coronary heart disease provided in general practice, this has occurred more often in large practices and in practices in affluent areas (Campbell *et al*, 2005).

In Scotland, there is little evidence on the quality and equity of care by practice size, although one study found a positive association between practice size and emergency admissions for asthma (Yeung *et al*, 2005). Thus, the aim of this part of the study is to compare practice performance by practice size for a range of performance indicators of CHD care, and to investigate population needs for CHD care in these practices.

6.2 Data and methods

The study selected 675 practices in urban areas from mainland practices (n=1012) in Scotland using the Scottish Executive Urban & Rural classification 2003 (see Chapter 5). CHD activity data were obtained for the year 2001-02 from Information Statistics Division (ISD), NHS Scotland, including data on prevalence, mortality, statin prescribing and secondary care activities including emergency admissions, referrals and surgical admissions for both angiography and revascularisation.

Prevalence data and CHD deaths data

The estimated prevalence of angina was calculated using data from the Scottish Health Surveys for 1995 and 1998, using an equation which included individual's age, sex and deprivation. The coefficients from this equation were then applied to all individuals registered with GPs in Scotland using the September 2001 Community Health Index and aggregated to the practice level to give the number of patients predicted to be suffering from angina. In the Scottish Health Surveys, the Rose angina questionnaire was used to estimate the prevalence of angina. Practice-based data for deaths from coronary heart disease (2001-2002) were obtained from ISD, with CHD being defining according to the ICD 10 classification codes I20-I25, examining deaths among all age groups of the population as well as people under 70.

Statin prescribing data

Prescribing data were collected from the Prescribing Information System maintained by ISD Scotland for the period of 2001-02. This system records all prescriptions dispensed in the community but does not include non-dispensed prescriptions and so does not identify prescriptions issued by GPs which patients did not present to a pharmacist. The average statin prescribing rate was calculated at practice level—the amount of daily dose statin prescribed per weighted practice patient.

Hospital utilisation data

Information on emergency medical admission (EMAs) for 2001-2002 was obtained from Scottish Morbidity Records (SMR01). Patients who were admitted as an emergency for angina were identified by ICD 10 codes I20, acute myocardial infarction (AMI) by codes I21, and chest pain by codes R07. Referral data to cardiac surgery, cardiology, cardio thoracic, general medicine, geriatrics and GP specialties were restricted to the first visits referred by a GP and came from the SMR record held at ISD Scotland. Admissions data for angiography and revascularisation including angioplasty and coronary artery bypass grafting (CABG) were obtained from the SMR 01 extract held by ISD Scotland, by counting the number of elective discharges that involved an angiography (using OPCS 4 codes K63 and K65), angioplasty (K49) or CABGs (K40-46).

Practice and practice population characteristics

General practice data including practice, practitioner, and patient characteristics, were obtained from ISD Scotland (for details see Chapter 5). Practice size was measured by the number of whole time equivalent GPs in each practice. Single-handed practices were defined as practices with no more than 1 WTE GP, small practices were 1.01-3.00 WTE; medium practices as 3.01-5.00 WTE, and large practices as more than 5.00 WTE.

Rates, ratios, and standardisation

The crude admission rates, referral rates, and CHD death rates of each practice were defined as the number of patients in each practice who had events during 2001-02 per

10,000 patients registered with GPs at that practice in urban areas of mainland Scotland. Rates were then compared between single-handed practices and other sizes of practice. As the demography of practice patients may influence EMAs, mortality and hospital utilisation rates, age-sex standardised rates were then calculated using the indirect method. In applying indirect standardisation, we calculated the estimated number of patients being admitted as an emergency, dying from CHD, being referred and admitted for angiography and revascularisation during year 2001 and 2002, assuming that patients experienced the “national average rate” of these events for their own age group and gender. In the calculation, the reference population used was the Scottish mainland population for 2002. The analysis then compared the actual number of events observed within each practice in years 2001 to 2002 with the expected number of events. Taking the Scottish national average as 100, numbers greater than 100 represented more events than expected; numbers less than 100 indicated fewer events than expected. Generally, the more the actual number of emergency admissions exceeded the expected number, the higher will be the indirectly standardised rate.

Statistical Analysis

Initial descriptive statistics compared the patient populations of practices by practice size on CHD related measures. A generalised linear model was used to determine whether there were differences between single-handed and group practices in dependent variables including rates for prevalence, mortality, statin prescribing and hospital activities, with weighting for practice population size. In extending the analysis, we included deprivation as a co-variate to estimate its impact on these dependent variables. This model not only allowed us to compare differences in CHD activities between practices, it also allowed the analyses to evaluate the differences between practices while controlling for the influence of deprivation as a confounding factor. All statistical analyses were carried out with SPSS for Windows, version 11.5.

6.3 Results

Practice population in urban settlements of mainland Scotland

Previously in Chapter 5, we described the details of practice and patient population characteristics of urban general practice in mainland Scotland. Table 6.1 outlines the profile of patient populations by practice size in urban areas. In 2002, there were a total of 675 urban general practices, with 3,936,703 registered patients. Smaller practices had slightly fewer elderly patients (aged 70 and over) compared with larger practices. With increasing practice size, there was a decrease in average list size per WTE GP, from 2033 per single-handed practitioner to 1585 per WTE GP in large practices. 46 out of the 85 (54%) single-handed practices were in areas with the most deprived populations, compared with only 21% of medium practices and 20% of large practices. Populations in single-handed practices also had poorer general health.

Prevalence of angina

Table 6.2 shows the prevalence of angina per 10,000 population at practice level by practice size in 2001/2002. In general, there was a difference in the estimated prevalence of angina across urban practices, with smaller practices having a higher prevalence of angina than larger practices. Single-handed practices had the highest prevalence of angina (392.8 per 10,000), followed by small practices (387.1), medium practices (329.8) and large practices (313.1). Therefore, patients from medium practices and large practices were 16% and 20% less likely to have angina compared with patients from single-handed practices. But the difference between these practices became narrower and was not statistically significant ($p=0.822$) after adjustment for deprivation.

Mortality from coronary heart disease

Table 6.3 presents CHD mortality rates for urban practices for 2001-2002 by practice size. Single-handed practices had the highest CHD mortality rates in all age groups—12.3 per 10,000 compared with 10.3 per 10,000 in large practices. The difference across urban practice was statistically significant ($p=0.014$). Premature death rates from CHD were also higher in single-handed practices (6.0 per 10,000) than in group practices (5.3), and the

risk of having a premature death among patients of single-handed practices was 17% more than in larger practice; nevertheless the differences between the practices were not statistically significant ($p=0.216$).

As the age and gender composition of the population may affect CHD mortality rates, the age-sex standardised mortality ratio of urban practices was compared between single-handed and group practices. The age-sex standardised CHD mortality ratios decreased with an increase in practice size. Using the mainland population as a reference, the patient population of single-handed practices had 27% more CHD deaths than expected, whilst patients of larger practices had about 5% fewer deaths from CHD than expected ($p=0.001$). There was a similar pattern of age-sex standardised CHD premature mortality ratios across urban practices, and that also decreased with an increase in the size of practice ($p=0.051$). When deprivation was also considered, the figures showed that single-handed practices remained having more CHD deaths (appropriately 15 %) than group practices, however such a difference was not statistically significant.

Emergency medical admissions (EMAs)

In urban practices, there were no significant differences in EMA rates for myocardial infarction (MI) or angina between different sizes of practice. However, EMA rates for non-cardiac chest pain decreased with an increase in the size of practices, from 58.2 per 10,000 in single-handed practices to 41.1 per 10,000 in large practices. Thus, patients from single-handed practices were 29% more likely to be admitted for chest pain to an A & E department than patients from large practices (Table 6.4). Extending the analysis to take into account age and gender, Table 6.5 shows that patients from urban single-handed practices tended to have higher utilization rates of emergency services for non-cardiac chest pain (144.9), with 45% more admissions than expected and 48% more than large practices ($p<0.001$). Yet, such differences in EMAs for chest pain across practices became statistically non-significant after adjustment for deprivation, even though the pattern of EMA for chest pain remained—a decrease with an increase in practice size.

Statin Prescribing

Figure 6.1 illustrates data on defined daily doses of statin prescribing per practice patient by practice size. In mainland Scotland, the average rate of urban practices was 10.5, with larger practices prescribing more than smaller practices. The lowest statin prescribing rates were seen in single-handed practices (9.75 DDDs per practice patient); whilst the highest were in medium size practices having no more than 5 WTE GP partners (10.81). However, the difference was not statistically significant across the practices ($p=0.357$).

Referral for coronary heart disease

Table 6.6 shows crude out-patient referral rates and adjusted ratios for coronary heart disease by practice size. Generally, smaller urban practices had higher referral rates than larger practices, and the highest (216.1 per 10,000) was in practices which had no more than 3 WTE GPs, followed by single-handed practices (196.6), medium practices (182.3) and large practices (162.0). Such differences indicated that patients from single-handed practices were 7% and 18% more likely to be referred to secondary care compared with patients in medium and large practices. This pattern of CHD referrals was persistent even when patients' age, gender and deprivation status were taken into account. After these adjustments, single-handed practices had 5% more referrals than expected, small practices had 16% more than expected but large practices had 5% fewer referrals than expected ($p<0.001$).

Elective admissions for surgical interventions

The analyses found that hospital admission rates for both angiography and revascularisation were not significantly different across urban general practices by practice size. Such a generally flat pattern was also found in the age-sex standardised admission ratios for practices in urban areas, with single-handed practices having slightly more admissions for angiography but less for revascularisation (Table 6.7).

6.4 Discussion

In general practice, several studies have examined the relationship between practice characteristics and the quality of care, covering different aspects of quality and using different methods to assess quality. This is the first study using routine data to investigate the impact of practice size on the quality of CHD care in general practice in Scotland. It is based on a large routine dataset, comprising all Scottish mainland practices in urban areas, with wide variation in terms of deprivation and affluence, and covering large cities and urban settlements.

There are several limitations to this study. Firstly, practices were classified into 4 groups according to their practice size, and compared in terms of CHD activity. The number of CHD related events in each type of practice could vary and the figures may be small in some groups, thereby reducing statistical power for comparison between groups. Secondly, we used a proxy measure for the prevalence of angina, applying data from the Scottish Health Survey, in which the Rose Angina Questionnaire was used as a method for identifying patients with angina. This self-administered questionnaire is a screening tool rather than a diagnostic test (Rose *et al*, 1971). Like any screening tool for angina, it lacks a clear gold standard for angina (Hlatky *et al*, 1989) and has low sensitivity to assess precisely the actual number of patients with angina within the practices. Thirdly, the statin prescribing data provided only information on the number of defined daily doses prescribed, and cannot be linked to demographic or clinical data on patients i.e. they cannot be used to calculate age and sex specific prescribing rates nor to distinguish between primary and secondary CHD preventive activity.

In comparing CHD activities by practice size, the analysis included three levels of comparison: crude rates, standardised rates adjusting for age and gender, and age-sex standardised rates controlling for deprivation. The results show that standardisation for age and gender made relatively little difference to the patterns observed using crude rates; however, additional adjustment for deprivation had an important effect on the observed pattern of coronary heart disease and its associated events.

Crude rates are important in providing a perspective on the workload and activities that doctors have to deal with at the practice level. However, in epidemiology, the comparison

of crude rates across populations may be misleading because the age and sex structure of the compared populations may differ, and both have been seen as confounding factors (Bhopal, 2002). For instance, the description of urban general practices in Chapter 5, suggested that the demography of populations was different across the various sizes of practices, with larger practices having more elderly as well as more female patients than smaller practices, and thus, more likely to have a higher proportion of patients with coronary heart conditions and/or CHD deaths. In this case, therefore it is necessary to calculate age and sex specific rates before an epidemiological comparison being made, using the Scottish national average as a standard. Another important factor in urban practices is their socio-economic profile, which also impacts on the prevalence of coronary heart disease. Adjustment was made in the analyses, therefore, using statistical techniques to exclude its influence, allowing us to detect the association between practice size and CHD related performance indicators, and then reflecting true quality of care provided by practices.

In the thesis, a range of routinely available CHD-related performance indicators was selected to assess the quality of CHD care in general practice. Of these indicators, outcome measures such as mortality and EMAs have been widely used as indicators of quality of care, but one major drawback of such measures as performance indicators is that they are not a direct measure of quality of care in general practice. For example, mortality and hospital admissions often can be influenced by factors outside the control of practice team, including the characteristics of practice population and, the supply of secondary care resources. Only when such confounding factors are taken into account, it is appropriate to refer to these performance indicators as measures of quality of care. Results presented here initially suggested that single-handed practices had higher CHD mortality than larger practices, with nearly 30% more CHD deaths. Such differences in mortality could lead us to conclude that the quality of care provided single-handed practices were poorer. However, adjusting for deprivation in the analysis, single-handed practices did not have significantly higher CHD deaths than other group practices. These findings were in line with earlier studies in England (Hippisley-Cox *et al*, 2001; Majeed *et al*, 2003), and again evidenced a clear effect of confounding factors such as socio-economic deprivation of the population on outcome measures. This should be taken into consideration if such measures are to be used to evaluate quality of care.

Moreover, of available data on CHD measures, the estimated prevalence data provide useful information concerning the size of the CHD problem in practice populations, albeit as a predicted value; however, estimating the number of patients with angina, by applying the results Scottish Health Surveys, might not be able to reflect the precise prevalence within each practice. Mortality rates here have also been used to estimate the burden of coronary heart disease in a population, although these may be affected by the process of care. Emergency admission data also reflect the burden of disease associated with a given condition. As such, EMA rates of acute myocardial infarction (AMI) may suggest AMI prevalence within the practice population and/or indicate the need for hospital management. But EMA rates for AMI exclude sudden cardiac death in the community and in general EMA rates are also likely to be influenced by factors such as hospital admission policies, the model of care that has been adopted for management of the condition in the area and patients' access to services. To some extent, the three sets of information described here can be used individually as a proxy presenting the pattern and the amount of coronary heart disease in urban practices, each with its own limitations. So in this study, we used the three different data sources together, to allow us to build up a composite estimate of the size of the CHD problem in populations served by different sizes of practices, triangulating the data and checking for consistency in the results. On this basis, the conclusion generated from the analyses was that the problem of coronary heart disease tends to be greater in single-handed practices compared with larger practices as they have more patients with angina, more dying from CHD, and more admitted for myocardial infarction as an emergency. In other words, single-handed doctors were generally encountering more patients with CHD, who consequently could generate considerable workloads. This could put additional pressure on single-handed doctors in terms of their time and staffing. This would be consistent with general findings, which suggest that single-handed GPs work more hours and experience a wider range of workload generated by their patients (Campbell *et al*, 2001b; van den Hombergh *et al*, 2004).

The pattern described here also suggests that the patient population of single-handed practices tended to have a relatively greater need for coronary heart disease care, than the patient population in larger practices, mainly associated with their socio-economic deprivation rather than the size of practices per se. It has been well recognised that there is an inverse relationship between socio-economic status and cardiovascular disease. Many studies have been carried out, attempting to explain and develop an understanding of this relationship. With respect to conventional risk factors, people with lower socio-economic

status are likely have higher risk factor profiles for developing coronary heart disease; for example, there are positive associations between socio-economic status and blood pressure as well as cigarette smoking; and in the UK, those at the lower end of social spectrum also tend to have higher levels of BMI (Sobal and Stunkard, 1989; Lyratzopoulous *et al*, 2006). Poverty may lead to unhealthy lifestyles increasing the risk of heart disease. Also, people with economic disadvantages could have different health related behaviours that might influence the pattern of coronary heart disease. Studies have shown that people in less privileged social circumstances might be less able to understand, and be more resistant to, health education advice, and when ill, may present with more severe symptoms of disease and/or at a later stage (Winkleby 1997; Pocock *et al*, 1987; Pekkanen *et al*, 1995). In this study, a higher prevalence of angina and a higher number of CHD deaths were found among patient population of urban single-handed practices, which was due to the effect of socio-economic deprivation. This confirmed the findings of some previous studies showing no evidence that single-handed practice provided poor care (Majeed *et al* 2003; Hippisley-Cox *et al*, 2001). Given the greater level of need from their patients, and the relatively limited range of service provision (see Chapter 5), the question for existing single-handed practices is whether they have the capacity to contain and satisfy their patients' needs.

The findings on patterns of emergency admission presented in this study show that practice size has little relation to admission rates when socio-economic deprivation is taken into account. Using these as an outcome measure, emergency admission rates could indicate quality in primary care; in theory, if doctors manage their patients well, and/or provide effective preventive care within primary care, patients may not need to be admitted to hospitals, particularly as emergency cases. However, a range of factors may contribute to the wide variation in emergency admission rates between general practices, including patient characteristics, practice and doctor characteristics, as well as secondary care providers. Of patient factors, socio-economic deprivation in particular was closely related to emergency hospital admission rates (Duffy *et al*, 2002; Reid *et al*, 1999). With an increase in deprivation, the number of patients being admitted as an emergency increased, so did the number of patients' subsequent emergency (Bottle *et al*, 2006). The effect of deprivation has been confirmed in EMAs for non-cardiac chest pain in our study. One possible explanation of the association between EMAs and deprivation is that deprived populations might delay presenting chest pain to their GP, causing an unplanned attendance to hospital. Previously, a qualitative study reported that health care seeking behaviour of deprived patients tended to be modified by their expectations of health care as

well as their experience of illness, and this group of patients were no more likely to present chest pain to their GPs, even though they expressed a greater sense of vulnerability to heart disease than the affluent patients (Richards *et al*, 2002). In addition, relating to deprivation as a factor, studies found that patients living in deprived areas tended to experience greater co-existing morbidity (Macleod *et al*, 2004; Mercer and Watt 2007), and which may also result in more emergency admissions to hospitals.

In Scotland, despite declining numbers of coronary heart disease emergency admissions, the number of EMAs for chest pain has been rising over the past decade. Patients with acute chest pain account for 20% of emergency medical admissions (Blatchford *et al*, 1999), and there is a wide range of health problems that can cause chest pain other than CHD, including gastrointestinal, musculoskeletal, psychological, and pulmonary diseases. In the study, as stated earlier, the International Classification of Disease (ICD) was used to categorise non-cardiac chest pain symptoms, covering pain in throat, chest pain on breathing (painful respiration), pre-cordial pain, and chest pain as well as unspecified chest pain. Since the diagnosis of chest pain was based on hospital linked records, cardiac caused chest pain then could be excluded from the study. Nevertheless, this study has no follow-up information on patients admitted for non-cardiac chest pain—the specific diagnosis given patients after investigation. Future research could explore further the cases of non-cardiac chest pain in A & E, looking into its causes as well as possible pattern in relation to practice size and deprivation.

Furthermore, in this thesis there was little gradient in EMA rates for CHD related conditions (angina and myocardial infarction) across urban practices, which is difficult to explain based on available prevalence. The notion is that EMAs for CHD conditions could be prevented if general practices provide effective primary and secondary prevention for the patients. However, we do not have linked data as part of the current analysis that could be used to further investigate the possible effect of prevention on EMA rates of angina and MI. Yet, there has been evidence suggesting that socio-economic deprivation could increase the chance of a person having a myocardial infarction, but decreasing the chance of reaching hospital alive, and increasing the chance of dying during the attack (Morrison *et al*, 1997). Thus, patients of single-handed practices possibly might have a greater chance of dying from a heart attack before they get to the hospital, and that could affect EMA rates of AMI. It may, therefore, be useful to look into CHD deaths outside hospitals in order to

explore possible explanations for the relationship between practice size and emergency admissions for CHD related conditions.

Generally, deprivation rather than practice size was the most significant determinant of the relationship between practice size and CHD morbidity, mortality and EMA rates for non-cardiac chest pain across urban general practices. A significant difference in referral rates for CHD was also observed between various sizes of practices, after taking into account the effect of deprivation. This finding is in agreement with previous research, confirming that single-handed practices have higher referral rates compared with larger practices, as do small practices. Although variations in referrals by general practice have long been studied, the evidence for a relationship between practice size and referral rates is not consistent (O'Donnell, 2000). The differences showed here could be related to both patient and GP characteristics. Of patient related factors, patients of single-handed practices are reported as having poor general health and poor awareness of health services and health education, all of which are interrelated with their socio-economic deprivation, and could increase the risk of developing heart disease, requiring care from hospitals for further investigation and treatment. Of GP factors, working without the support of colleagues within practices, single-handed doctors may be more likely to refer their patients to secondary care (Hippisley-Cox *et al*, 1997). Also a large proportion of single-handed doctors were older, and that could possibly increase referral rates of the practices; for example, one study by Wilkin and Smith (1987) found that a higher proportion of more experienced doctors were high referrers. In addition, single-handed doctors may have their own unique "referral threshold", related to their tolerance of uncertainty, sense of autonomy and personal enthusiasm (Cummins *et al*, 1981). But evidence of this will require a qualitative study to establish a full understanding of GPs' referral behaviour.

There was no gradient in hospital admission rates for angiography and revascularisation between urban practices in our study. During early 2000, most hospital admissions for coronary surgical procedures were planned on an elective basis. Given the observed differences in the prevalence of angina from single-handed practices to large practices, we would expect to see a similar pattern in admission rates of surgical procedures for coronary heart conditions. So the flatness described here could imply under-use of these procedures in single-handed and small practices. In the literature, although there is a lack of evidence suggesting practice size is related to the utilisation of angiography and revascularisation,

research has indicated that there is an inverse correlation between deprivation and cardiac revascularisation rate (Payne and Saul, 1997). In these deprived communities, people having angina were reported to have a fear of hospital, denial of ill health, and low expectations of medical treatments, all which could prevent them accessing hospital services (Gardner and Chapple, 1999; Richards *et al*, 2002). Also, the indicators for these surgical procedures are complex, and vary according to patients' conditions and their preferences. For people with high socio-economic deprivation, coronary heart disease is more likely to be associated with other co-morbid conditions (Salomaa *et al*, 2001), as a result of which they may not be suitable candidates for these surgical treatments.

As reviewed previously, coronary heart disease can potentially be prevented or postponed if GPs identify patients with cardiac risk factors and provide them with effective preventive measures. Statin treatment has been widely used as a preventive measure to reduce the number of patients at or with risk of cardiovascular disease, presenting with cardiac events. In this study, we found no relationship between practice size and statin prescribing rates, with no gradient across the practices despite high prevalence of angina of patients in smaller practices. Given the limitations of statin prescribed data discussed earlier, additional data on the derived case-mix of those who have been prescribed statins will be needed to assess and compare preventative care of the practices by practice size.

6.5 Summary

On the basis of the findings of this study, single-handed GPs faced patients' greater need for CHD care compared with their colleagues working larger practices, since morbidity and mortality rates of coronary heart disease were higher in single-handed practices. However, we have recognised from early descriptive studies that single-handed practices tended to concentrate in areas where a high proportion of patients were socio-economically deprived (see Chapter 5), which has an important effect on the patterns of morbidity and mortality within practice populations. Once adjustment for deprivation was included in the analysis, the prevalence of angina and CHD mortality rates did not differ between single-handed and group practices. These results suggest that practice size has little impact on the pattern of CHD. In terms of the association with secondary care related activities, we also found little evidence that practice size had an effect on EMA rates for CHD related conditions and hospital admission rates for angiography and revascularisation. A similar

deprivation effect was identified in EMA rates for non-cardiac chest pain; however we found that single-handed practices tended to have higher referral rates compared with larger practices, which was not explained by deprivation.

In this study, a set of data on CHD mortality and EMA of AMI was seen not only as performance indicators (for CHD outcomes), but also as proxy measures of need for CHD care triangulating with prevalence of angina. Having a high proportion of deprived patients, single-handed doctors face a greater level of need for CHD care in their patients. However, it is inconclusive how well such a level of need can be met or delivered in single-handed practices. Basing on this current analysis, there is the possibility of under-use of angiography and revascularisation in urban single-handed practices because we did not see gradients in hospital admission rates for these two procedures in relation to the pattern of angina in these practices. However the utilisation of cardiac intervention and treatment for angina in secondary care is influenced not only by need, but also by the availability of services, patient consultation thresholds, GPs' referral thresholds, plus cardiologists' referral and intervention thresholds. Linkage of hospital admission data with individual patients with angina may help to detect possible unmet needs among angina patients in different sizes of practice.

Consistent with the findings of previous studies, there was little evidence in this study suggesting that single-handed practices provided poorer CHD care compared with larger practices. However, the findings did show a tendency to greater use of secondary care by single-handed and small practices, in relation to their high referral rates. This could be explained on the straightforward basis that they had more patients with coronary heart conditions; however referral, as a complex clinical activity, could be affected by a range of factors including patients, practice and GP characteristics, all of which can explain no more than half of the variation of referrals in general practice, leaving a large part of the variation in referral unexplained (O'Donnell, 2000). Coulter (1998) has pointed out that these unexplained variations in referral rates in general practice have caused concern among policy makers, who see high referral rates as an indicator of inefficiency. As health policy focuses on moving chronic disease management from secondary care to primary care, single-handed practices may increasingly become undesirable in delivering effective health, unless they can show that their referrals are appropriate and necessary to improve their patients' outcomes. Further exploration of the referral patterns of practices regarding

their appropriateness would require more detailed information concerning the reasons, timing and outcomes of the referral process.

In conclusion, we found little relationship between practice size and the quality of care provided for patients with CHD, which could mean that there is little to gain from the policy of merging general practices into larger units. Given the limitations of the datasets using in this part of the study, however, further investigation is required. In particular, the recent introduction of the new GMS contract, including a range of CHD indicators as part of the Quality and Outcome Framework, provides a ready opportunity to compare the CHD care provided by urban single-handed and group practices.

Tables and figures

Table 6. 1: Patient characteristics of urban practices by practice size (2002).

	Single-handed practice (≤ 1.00 WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (≥ 5.01 WTE GPs)
Practices	85	232	211	147
(row %)	12.6%	34.4%	31.3%	21.8%
Total No. of practice population (range)	156,490 (696-4,681)	880,475 (63-8,656)	1,407,267 (3,238-10,582)	1,492,471 (5,097-20,237)
No. practices in the 5 th quintile (%)	46 54.1%	106 45.7%	44 20.9%	29 19.7%
% female populations (95% CI)	48.4 (47.4-49.3)	50.1 (49.6-50.5)	50.8 (50.6-51.0)	50.9 (50.7-51.1)
% of population aged 70+ (95% CI)	8.8 (7.9-9.7)	8.9 (8.5-9.2)	9.3 (8.9-9.6)	9.2 (8.9-9.6)
SHR (95% CI)	130.9 (122.3-139.5)	125.1 (119.8-130.4)	106.5 (102.2-110.8)	99.9 (94.9-105.0)
SIR (95% CI)	117.6 (112.0-123.2)	114.3 (110.8-117.7)	102.5 (99.7-105.3)	99.3 (95.8-102.7)

Table 6. 2: Prevalence of angina per 10,000 practice population of urban practices by practice size (2001/2002).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.00)	P-value
Prevalence of angina ¹ (95%CI)	392.8 (365.3-420.3)	387.1 (370.7-403.4)	329.8 (312.8-346.8)	313.1 (292.1-334.1)	<0.001
Adjusted prevalence of angina ²	353.4 (336.9-369.8)	357.4 (347.6-367.2)	352.8 (342.6-362.9)	349.9 (337.3-362.5)	0.822

1. Estimated prevalence data is missing for 6 single-handed practices, 8 small practices, 4 medium practices and 11 large practices in urban areas.

2. Estimated prevalence of angina when adjusted for deprivation.

Table 6. 3: CHD death rates and standardised ratios of urban practices by practice size (2001/2002).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (≥5.01 WTE GPs)	P-value
Crude rates (per 10,000)					
All age (95% CI)	12.3 (10.4-14.2)	11.9 (10.9-12.9)	10.4 (9.6-11.1)	10.3 (9.5-11.1)	0.014
Aged < 70ys	6.0 (4.7-7.3)	5.7 (5.1-6.3)	5.1 (4.6-5.6)	5.1 (4.6-5.6)	0.216
Age-sex standardised ratios					
All age (95% CI)	127.5 (105.4-149.6)	112.3 (103.6-121.1)	96.8 (89.7-103.8)	94.4 (87.0-101.8)	0.001
Age < 70 ys	120.9 (94.2-147.5)	109.1 (97.2-120.9)	96.8 (87.8-105.8)	94.8 (85.6-104.0)	0.051
Adjusted age-sex standardised ratios ¹					
All age (95% CI)	118.3 (105.5-131.2)	105.1 (97.2-112.9)	102.1 (93.9-110.2)	103.5 (93.6-113.4)	0.203
Age < 70 ys	109.1 (92.7-125.6)	99.8 (89.8-109.9)	103.5 (93.1-114.0)	106.4 (93.7-119.0)	0.758

1. Adjusted for deprivation.

Table 6. 4: Emergency admission rates (per 10,000) of urban practices by practice size (2001/2002).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE≥5.01)	P-value
MI (95% CI)	15.4 (12.5-18.2)	15.1 (13.9-16.3)	15.3 (14.4-16.3)	15.4 (14.4-16.3)	0.991
Angina	18.9 (14.1-23.7)	23.3 (21.3-25.3)	21.8 (20.2-23.3)	21.9 (20.4-23.5)	0.358
Chest pain	58.2 (48.0-68.5)	54.1 (49.8-58.4)	45.9 (42.4-49.3)	41.1 (37.8-44.5)	<0.001

Table 6. 5: Age-sex standardised emergency admission ratios of urban practices by practice size (2001/2002).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (≥5.01 WTE GPs)	P-value
MI (95%)	109.8 (91.1-128.4)	103.1 (95.3-111.0)	102.9 (96.7-109.1)	103.3 (97.2-109.3)	0.924
Angina	97.2 (74.1-120.1)	115.4 (105.7-125.1)	104.9 (97.2-112.5)	103.6 (96.1-111.1)	0.203
Chest pain	144.9 (119.4-170.3)	130.1 (119.4-140.8)	108.4 (100.0-116.9)	96.6 (88.4-104.8)	<0.001
Adjusted age-sex standardised ratio¹					
MI	104.6 (86.3-123.0)	98.7 (90.9-106.6)	103.8 (97.7-109.9)	105.4 (99.6-111.6)	0.601
Angina	85.5 (63.9-107.0)	105.4 (96.2-114.6)	106.8 (99.7-113.9)	108.9 (101.9-115.9)	0.250
Chest pain	124.8 (103.8-145.8)	113.0 (104.0-122.0)	111.7 (104.8-118.7)	105.7 (98.8-112.5)	0.259

1. adjusted for deprivation.

Figure 6. 1: Statin prescribing rates per practice patient of urban practices by practice size (2001/2002).

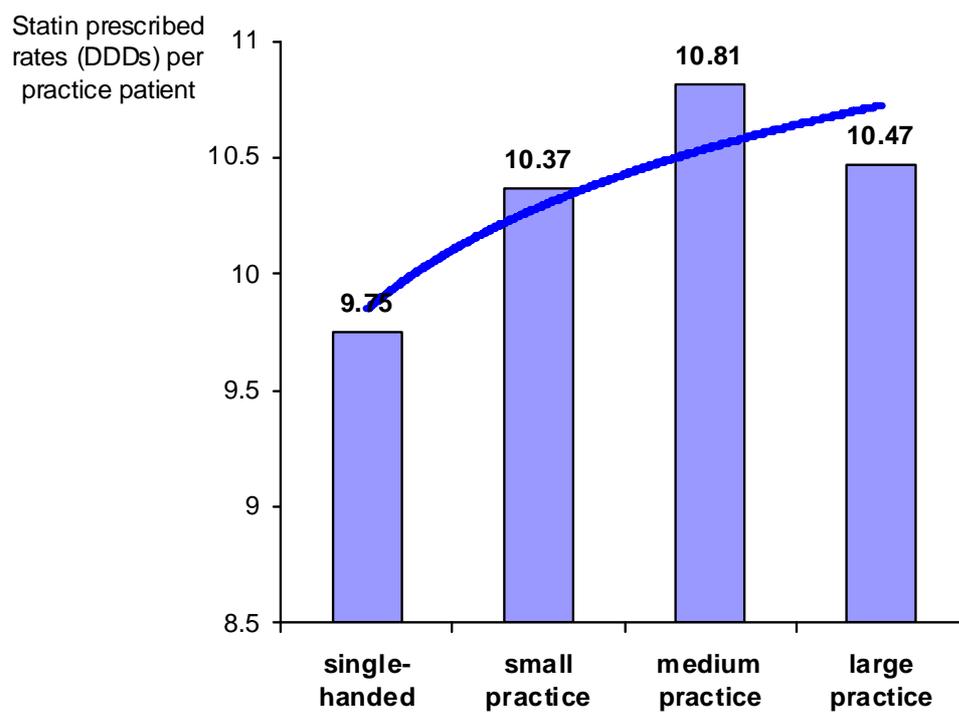


Table 6. 6: Out-patient referral rates and standardised ratios of urban practices by practice size (2001/2002).

	Single-handed (1.00≤ WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-value
Crude rates (per 10,000)					
Referral (95%CI)	196.6 (161.9-231.3)	216.1 (201.5-230.7)	182.3 (170.7-193.9)	162.0 (150.7-173.2)	<0.001
Age-sex standardised ratios					
Referral	115.1 (95.6-134.7)	124.5 (116.3-132.8)	102.2 (95.7-108.7)	90.5 (84.2-96.9)	<0.001
Adjusted age-sex standardised ratios ¹					
Referral	105.1 (86.8-123.3)	116.0 (108.2-123.8)	103.8 (97.8-109.9)	95.1 (89.2-101.0)	<0.001

1. adjusted for deprivation.

Table 6. 7: Hospital admission rates and standardised ratios of elective angiography and revascularisation of urban practices by practice size (2001/2002).

	Single-handed (1.00 ≤ WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs ≥5.01)	P-value
Crude rate (per 10,000)					
Angiography (95% CI)	20.3 (16.0-24.6)	21.9 (20.1-23.7)	20.9 (19.5-22.3)	19.7 (18.3-21.1)	0.270
Revascularisation	8.2 (6.0-10.3)	8.4 (7.6-9.3)	8.7 (8.0-9.4)	8.7 (8.0-9.4)	0.924
Age-sex standardised ratio					
Angiography	115.6 (93.0-138.1)	117.7 (108.2-127.2)	111.0 (103.4-118.5)	101.6 (94.3-108.9)	0.052
Revascularisation	104.5 (79.2-129.9)	106.0 (95.4-116.7)	106.4 (98.0-114.9)	105.0 (96.8-113.2)	0.995
Adjusted age-sex standardised ratio¹					
Angiography	104.5 (83.3-125.7)	108.3 (99.2-117.4)	112.8 (105.7-119.8)	106.6 (99.7-113.5)	0.619
Revascularisation	97.3 (72.4-122.2)	99.9 (89.2-110.5)	107.6 (99.3-115.9)	108.3 (100.2-116.4)	0.555

1. adjusted for deprivation.

Chapter 7

General practice under the new GMS contract

7.1 Introduction

The new contract—a practice-based contract

General practice in the UK has experienced a series of organisational reforms over the past sixty years, and increasingly there has been a trend towards the delivery of health care through large group practices. It has been argued that such developments improve the ability of general practice to deliver healthcare fit for the 21st century (Corrigan, 2005). Meanwhile, single-handed GPs' clinical isolation and a lack of support from colleagues have received attention and, in 2000, single-handed general practice was particularly mentioned in the NHS Plan, subjecting it to new contractual quality standards to promote quality of care in these practices (DoH, 2000b), even though there was little evidence to suggest that single-handed and small practices under-perform compared to larger practices (Hippisley-Cox *et al*, 2001; Majeed *et al*, 2003). Most recently, a new GMS contract was introduced in 2004, at a time when both the profession and the government wanted changes to standard general medical services in the UK. On the face of it, single-handed and small practices appear to be continuing as before under the new GP contract, although some aspects of the contract possibly present a challenge to this group of practices and the pattern of service delivery which they are able to provide.

Essentially, the GP contract has changed from a GP-based to a practice-based contract. This means that patients are now registered with practices rather than individual doctors, and a GP will not be able to take his/her own list of patients if he/she leaves a partnership. It is uncertain what long term effects this change will have, but a practice-based contract appears consistent with the long-standing trend of increasing group practice accompanying a continuing decline in the number of single-handed general practices in the UK. Meanwhile, patients and GPs tend to have close and enduring relationships in traditional single-handed practices, and such relationships have been considered a particular feature of this type of practice. Given a choice, patients generally prefer smaller practices because of

the personal and continuous care providing by these practices as discussed earlier (see Chapter 3). However, this traditional pattern of continuous service provided by one person to one population may be broken now that personal patient lists attached to individual doctors have been removed under the new contract, and also there is a possibility that traditional long-term doctor-patient relationships will be eroded, devaluing the continuity of care in general practices.

The new contract has also introduced a different way of remunerating GPs for their work, practices now being responsible for their own expenditure, and providing specified services in return for specified resources. General medical services are now categorised as essential, additional and enhanced services. All practices have to provide essential services, including the management of patients who are, or believe themselves to be ill with an emphasis on the management of chronic disease. Additional services are not compulsory, and practices have the ability to opt out of providing such services, temporarily or permanently. But if practices decide not to offer these services, they are likely to be financially penalised because of the way in which money is allocated to the practice, determined accordingly by factors such as practice list, location and employed staff. Thus, additional services such as cervical screening and child immunisations are expected to be provided by most practices, unless practices are in exceptional difficulties such as being overstretched or not having enough staff. Enhanced services are also optional. Generally the rationale of enhanced services is to provide medical services outside the normal scope of primary medical services, supporting the development of new services. The delivery of most enhanced services requires a greater involvement of other health professionals and practice staff other than GPs (BMA 2004a), and probably not all practices have the capacity to offer these kinds of service. For instance, in a partnership those GPs with special interests can provide enhanced services on behalf of GP colleagues in a specific clinical area; while in a single-handed practice, doctors less likely to have similar support from colleagues. Our previous review also shows that single-handed and small practices often have fewer ancillary staff compared to larger practices (see Chapter 3), which may make it more difficult for smaller practices to provide an extensive range of services, including new services as required under the new contract.

The Quality and Outcomes Framework

Under the new GMS contract, practice income is not only dependent on the global sum for providing particular services but also payments generated from points scored in the Quality and Outcomes Framework (QOF). It is a new and innovative system that was designed to encourage quality standards for services provided by general practice, via a system of financial incentives (Roland, 2004). The fundamental underpinning of the framework is that incentives are the best way of funding practice resources, driving up standards, and monitoring as well as recognising practices' achievements. The framework sets a range of quality criteria which cover both clinical and non-clinical domains. An individual domain covers a number of areas e.g. coronary heart disease, hypertension, diabetes, and each is subdivided into individual indicators. Practices are awarded quality points according to the number of indicators for which they meet the targets, and receive funding accordingly. In the first year of the framework, there were a total of 146 quality indicators, and practices could earn up to 1000 points, each of which was worth £75. An additional 50 points were available for practices as access bonus if patients can be seen by a GP within 48 hours. And the transformation of achieved quality points into the payments for practices is calculated using a complex expression taking into account both the size of the practice and the prevalence at each practice of the diseases included in the quality framework.

Whilst the UK is not the first country to introduce financial incentives for primary care quality, the framework is the first in the world designed on such an extensive and specific scale, rewarding the quality of care provided by general practices. As a voluntary scheme, practices had the option whether to enter it or not; yet, most practices chose to participate, and appeared to accept the idea of performance-based payment. In the UK, there is evidence suggesting that such financial incentives can have a significant impact on improving uptake rates of cervical cytology and child immunisation (Baker and Middleton 2003; Middleton and Baker 2003), and can also be effective in influencing doctors' professional and organisational behaviour, especially when the incentives are aligned to the doctors' own professional values and prioritise areas they think are important (Spooner *et al*, 2001). As the design of the framework, based on evidence-based indicators and focused on areas important to GPs, Marshall and Smith (2003) predicted that the Quality and Outcome Framework would lead to an improvement in the delivery of care in general practice within the first few years; nevertheless, they stressed that such improvements might need changes in the structure of practices, with large practices having advantages

over smaller practices, as they were likely to have a range of clinical staff who could specialise in specific disease areas, in co-ordination with a variety of other practice staff such as nurses, healthcare assistants, and administrative staff. Concern was also raised that smaller practices (Majeed, 2005) or practices serving deprived areas would lose out via their QOF performance (Wright *et al*, 2006), as they tended to have less resources and were perhaps historically less motivated to maximise income through the measures that the contract allows. Yet, currently there is little evidence that the quality of care provided by single-handed practices is poorer than that provided by group practices, or that amalgamating general practices into larger units would lead to more efficient and higher quality primary care services. However, the trend away from single-handed general practices is likely to continue in the UK and single-handed practices might not feature in the UK government's long term vision for primary care. It is timely, therefore, to carry out a comparison of practice QOF performance between single-handed and group practices, seeking better information on which to base decisions concerning the future of single-handed practice (Majeed, 2005). Within the framework, the majority of quality indicators are in clinical and organisational domains, both of which are the main subject of interest for this study.

Clinical domain

Clinical indicators

The core intention of the new contract is to improve the quality of care provided for patients, especially in relation to chronic disease management in general practice. The clinical domain within the framework covers the 10 commonest chronic conditions: coronary heart disease (CHD), left ventricular dysfunction (LCD); stroke and transient ischemic attack (TIA); hypertension; hypothyroidism; diabetes; mental health; chronic obstructive pulmonary disease (COPD); asthma; epilepsy; and cancer. 76 clinical indicators are arranged within these disease specific groups, and out of the total of 1000 quality points, 550 were allocated to clinical areas.

Within the clinical domains, clinical indicator sets were designed to encourage more structured care of patients with chronic conditions, and generally could be grouped into three types, as structure, process and outcome (Spooner, 2004a). The structure indicators

generally refer to the establishment of disease registers for each of the 10 clinical areas, and the practice has to ensure that every patient with one of the long-term chronic conditions is recorded on a disease register. Whilst it is recognized that these may not be completely accurate, the practices are required to demonstrate that they have systems to maintain high quality registers (BMA, 2004b). The indicators that specify process cover a range of practice activities related to clinical measurements of specific parameters for patients diagnosed with particular chronic conditions; for example the measurement of blood pressure and cholesterol. The outcome indicators monitor how well patients' clinical conditions and relevant parameters are controlled; for instance control of blood pressure to below the range of 150/90. Generally more quality points are available for intermediate outcomes than for process indicators, reflecting the level of difficulty involved in achieving the targets. Accompanying each indicator of the clinical domain, there is a standard that sets an upper level for which payments will be made available to the practices. For example, for the measurement of blood pressure, there is a 90% of achievement, which means that the practice would obtain full quality points if 90% of patients with the clinical condition had their blood pressure measured.

Exception reporting

In general, practice attainment for the clinical indicators is measured according to the percentage of relevant patients who are treated in a certain way, or who have certain outcomes resulting from care provided by the practice. In consideration of possible differences in the patient characteristics of practices, the QOF includes the concept of exception reporting, allowing practices to exempt patients who, for reasons beyond the practices control, cannot meet the indicators' criteria. This means that certain patients may not be included in the calculation of its achievement against specific indicators, if GPs consider that the patients meet one of the following criteria: the patient not attending despite written reminders; the patient only having been newly diagnosed or registered with the practice; the patient refusing investigation or treatment; certain treatments not available to the patient or the practice; the treatment not being clinically appropriate for the patient; or the patient not tolerating a medication that is specified in the contract (BMA, 2006). While exception reporting can affect the calculation of practice's QOF achievement, data recording on QOF disease prevalence are not directly affected.

There is a conceptual distinction between exclusion and exception. Exclusion refers to patients on the register who, for definitional reasons are not included in a particular indicator denominator; for instance, that indicator may apply only to patients of a specific age group, or patients with a specific status. Exception refers to patients on the disease register and included in the indicator denominator, but then exception reported from the indicator denominator because of their belonging to at least one of the exception reasons described above.

Whilst the intention of such exclusions and exceptions is to encourage fair play between practices, avoiding financial loss for practices that may have disadvantaged populations, there is no upper limit in the number of patients whom GPs may exclude. In addition, exception reporting is associated with the level of financial reward for practices, and could be used therefore to serve practices' own self-interest. All these considerations raised concerns that some practices could use an unduly high level of exception reporting in order to achieve higher quality points via the framework (Roland, 2004). In fact, a wide variation in the levels of exception reporting has been found between general practices, and little has been explained by practice characteristics, suggesting that further work is needed to explore the contribution of exclusions and exceptions to the number of QOF points achieved by practices (Ashworth and Armstrong, 2006). It would be of particular concern, for example, if exception reporting was shown to be more frequent in smaller practices or deprived practices.

Organisational domain

Being independent contractors, GPs have control over their own work, running their practices as a business involving the employment of practice staff and other administration of the practice. Meanwhile, general practice, over past six decades, has gradually grown in its complexity, with multi-disciplinary professionals working together offering a wide range of services to meet patients' needs (Plsek and Greenhalgh, 2001). Within the development, practice management has gradually emerged as a new profession, playing a crucial part in the delivery of health care. Effective management not only produces efficiencies in the organisation of practices, but also eases the administrative burden on doctors. In the context of the new GP contract, practice organisation for the first time has explicitly been a part of contractual requirements, and the design of organisational

indicators includes the generic management skills that are now required for general practice as well as some advanced organisational criteria for practice improvement.

The organisational domain of the quality framework accounts for about 20% (184) of the quality points, including 56 indicators within the areas of practice records and information management; communication with patients; education and training; practice management and medicines management. These organisational indicators were derived from indicators used in a range of quality schemes run by the Royal College of General Practitioners including the Quality Practice Award scheme (BMA, 2004b). Unlike the clinical indicators, the framework did not set scaling levels of criteria for organisational indicators; yet the requirements for organisational performance conform to increasing sophistication, grading from a base level practice that has few resources, through to the level of a steady-state practice that may have achieved quality and needs to maintain that level of achievement (Spooner, 2004b). In this way, the difference between base and improving practices, as well as steady-state practices, largely lies to the number of tasks carried out. Single-handed practices possibly would most likely to be characterised as a base level practice, which might not have modern facilities and/or the capacity to perform certain tasks such as event review or audit, and potentially may lose income as a result. Also, with the minimum number of doctor and staff, it might be difficult for single-handed practices even if they would want to increase the number of tasks they perform and to move from the status of base level to improving practice, as some organisational tasks may require skills which are different from those of clinicians, specifically skilled and trained staff who may be needed to take on such managerial tasks within practices.

In general, the Quality and Outcomes Framework is an important part of the payment system for the new GMS contract, promoting quality in general practice with its target-driven approach. Given defined quality criteria within the QOF, individual practice can decide which level of QOF score it wishes to target but has to systematically collect and record information concerning practice performance. This then has become a rich source of data providing information on the provision of general practice services, and of interest to many parties such as health organizations, analysts, and researchers in health care. Applied to this study, the collection of QOF data on clinical domains opens a new realm of observation on the quality of care provided by single-handed practices, which can be compared to that of group practices. Similar comparisons have been carried out in the

previous chapter, suggesting that urban single-handed practices delivered comparable quality of care for patients with coronary heart conditions to larger practices after taking into account the effect of deprivation on the need for care of patients in single-handed practices. Given the limitations of the previous analysis (see Chapter 6), a method of triangulation is considered here as we employed a combination of newly available QOF data and early CHD data, to capture a fuller picture of the reality of care provided by single-handed general practices. Moreover, the scope of quality of care in the Quality and Outcomes Framework extends beyond clinical care, to practice management, and presented an opportunity to assess and examine the performance of general practices in both the clinical and organisational domains comparing their QOF scores according to the size of practice.

7.2 Data and methods

Quality and Outcomes Framework (QOF) data

QOF data for all general practices in Scotland from April 2004 to March 2005 were obtained from the Information & Statistics Division, NHS Scotland. Data for each domain within the QOF were analysed collectively and individually including clinical, practice organisation, patient experience and additional services, as well as the holistic care and quality practice domains. QOF data are collected at an aggregated level for each practice by an IT system called the Quality Management and Analysis System (QMAS). Clinical data are extracted from individual practice's systems and sent automatically to QMAS; organisational data and information on other domains of the framework are entered into QMAS directly by practices via a web-browser.

Within the clinical domain, there are two types of data: data relating to clinical indicators and disease prevalence information for each of the ten clinical conditions. For clinical indicators, practices receive points that calculate payment based on the proportion of patients for whom they achieve the quality target—scaling the range from the minimum 25% to maximum 90%. Disease prevalence information records the number of patients with specific conditions, and are used for adjustment of the value of the quality points of the practice. For the organisational domain, practices obtain quality points according to the criteria they attain.

Practice and practice population characteristics

Data concerning general practices, including practice, practitioner, and patient characteristics (2002/ 2003) were obtained from ISD Scotland. General practices in urban areas of mainland Scotland using the Scottish Executive urban and rural classification 2003 were selected in the analysis, and practices were defined into four groups according to the number of WTE GPs of the practices (see Chapter 5).

Methods

The analysis initially examined distributions of quality points attained by practices in all domains included in the QOF by practice size, and also compared practices points for the 10 clinical and 5 organisational areas. Of these ten clinical conditions, one main interest of this thesis is coronary heart disease. Thus a more detailed analysis of CHD and several clinical conditions that are related to CHD including hypertension, stroke, and diabetes were conducted. The detailed definition of selected indicators included in the analysis is illustrated in Appendix 1. Prevalence and caseloads per WTE GP for these conditions were examined by practice size, as well as the levels of practice achievement using a method that had been applied in McLean's study (McLean *et al*, 2006), calculating both delivered quality and payment quality for the selected clinical indicators, using denominators which included all patients with the specific condition. The delivered quality indicated the proportion of all patients who received the care defined by each selected indicator, and was calculated as:

Delivery quality = N/D ,

where N was the number of patients in each practice for which the indicators were achieved (numerators of each indicator), and D was the number of patients on the disease register as collected (all patients without exclusion being estimated by the maximum value of the denominator for the disease indicators).

While payment quality was defined as:

Payment quality = $N/(D-E)$,

where E was the number of patients excluded for the indicators of specific conditions, and (D-E) was the denominator for the indicators reported on 31st March 2005.

The rationale for the calculations of payment quality and delivered quality was due to the potential differences in denominators for each indicator for payments being taken on 31 March 2005, and the number of patients on the disease registers for most practices being extracted on 14 February—“National Prevalence Day”. Such differences could be due to later additions of patients to disease registers; new patients with specific conditions registered with the practice; or old patients with particular disease conditions having left the practice or died. Therefore, an estimation of the disease register size of individual practices uses the largest possible value of any denominator in the relevant clinical areas assuming all patients with a specific condition are included.

The reasons for the application of this method include, firstly an initial analysis showed that the quality points achieved by the practices were negatively skewed, with the majority of practices close to maximum points, which may not reflect true variation between practices; secondly, McLean *et al* (2006) noted in their early study, that only measuring quality using the percentage of payment achievement after accounting for exclusions might fail to detect inequities in service provision in general practice. So the measurement of delivered quality includes all patients with specific disease, irrespective of exception reporting, offering the possibility to explore the actual care delivered by the practices.

Statistical analysis

Descriptive statistics were used to compare the characteristics of urban general practices and practice populations by the size of practices. The QOF point attainment and practice achievement in each domain and individual indicators were examined by practice size, and non-parametric Kruskal-Wallis tests were used to detect differences between practices as the distributions of QOF data were negatively skewed; we did not use logarithmic transformation correcting the distributions because the transformed figures would not provide direct information about QOF points and practice achievement. As the distributions of disease prevalence within the QOF datasets were normally distributed, ANOVA was used to compare prevalence between practices. All analyses were undertaken using SPSS 11.5 for Windows.

7.3 Results

Characteristics of urban practices by practice size

The characteristics of all mainland and urban general practices were examined earlier (Chapter 5). Table 7.1 here summarises the characteristics of urban practices and their practice populations updated to 2004. Single-handed and small practices accounted for 46% of all urban general practices in mainland Scotland. They were still less likely to participate in voluntary quality practice scheme, or in GP training, and GPs in single-handed practices were significantly older, more likely to be male and to have larger personal list sizes than those from larger practices. Also a higher proportion of single-handed doctors qualified from South Asian medical schools. The figures suggest that, during the time period (2004/2005), almost 1 million patients were registered with single-handed and small practices. These patients tended to live in areas of greater socio-economic deprivation, and a higher percentage of patients from ethnic minority groups.

QOF points in each domain

QOF data for year 2004-5 were available for 649 urban practices, comprising 74 single-handed, 225 small, 205 medium and 145 large practices. Generally, as practice size increased, there was an increase in the number of QOF points obtained. Single-handed practices attained an average of 958 QOF points, which was 43 points fewer than that of large practices (1001) (Table 7.2). When individual domains contributing to the overall number of QOF points were examined, there were no statistically significant differences in the points obtained for the clinical, holistic care and additional services domains between urban practices. Significant differences were seen, however, in organisational, patient experience and quality practice domains, with larger practices generally achieving more points than smaller practices. For example, large practices scored 173 points in the organisational domain compared to 162 by single-handed practices (Table 7.2).

QOF data within the clinical domain

QOF clinical points, prevalence and caseload per WTE GP for the ten clinical conditions

There was little difference in the overall clinical points obtained by urban practices ($p=0.150$). Within the framework, smaller practices obtained fewer quality points for cancer, epilepsy, mental health and coronary heart disease than larger practices (Table 7.3). For instance, single-handed practices scored an average of 113 points compared to 118 in large practices with respect to coronary heart disease ($p<0.001$).

In terms of QOF disease prevalence, there was no consistent pattern by practice size. Smaller practices had significantly higher reported prevalence for both COPD and mental health than larger practices; for example, single-handed practices had the highest prevalence of mental health problems at 0.84% compared to 0.53% in larger practices. However, the prevalence of hypothyroidism was lower in smaller practices, and increased with practice size (Table 7.4). The prevalence of CHD, stroke, hypertension, diabetes, cancer and asthma were not statistically significant different across practices.

Using practice-reported disease registers divided by the number of WTE GPs of the practices, the caseloads per WTE GP for the 10 clinical conditions within the framework were compared by practice size. The results suggest that single-handed doctors generally had heavier caseloads than GPs working in partnerships. For instance, Table 7.5 shows that on average, single-handed doctors had to look after 83 patients with coronary heart disease, compared to 70 patients per GP working in large practices ($p=0.044$).

Coronary heart disease

Within the CHD indicators, single-handed practices had higher payment quality for the process indicators including recording patients' smoking status, blood pressure and cholesterol measurements as well as the intermediate outcome indicators referring to the management of blood pressure than group practices (Table 7.6). Delivered quality was little different between urban practice groups apart from CHD indicator 3—recording the

smoking status of patients, which was consistently higher in single-handed practices than group practices ($p < 0.001$), even though the differences were narrow between practices.

Hypertension

With an increase in practice size, there was a gradual decrease in payment quality achieved by practices with respect to hypertension indicators. The results suggest that payments for the quality of hypertension care was better in single-handed practices as they had a higher percentage of patients with their smoking status (96.9%), blood pressure recorded (90.5%), and a higher percentage of patients with their blood pressure controlled within quality criteria as defined by the framework (76.5%) than large practices, which respectively attained 95.5%, 88.7% and 72.0% for these three indicators. Delivered quality also was higher in single-handed practices for recording smoking status and blood pressure, and these differences across urban practices were statistically significant (Table 7.7).

Stroke

The differences in practices' payment quality for stroke indicators were not consistent by practice size. Single-handed practices had lower payment quality for recording the blood pressure of stroke patients than group practices ($p = 0.025$), but single-handed practices had higher payment quality for measuring stroke patients' cholesterol (87.1%) and monitoring their blood pressure (85.3%) while large practices achieved 84.4% and 83.2% respectively (Table 7.8). Delivered quality for most selected stroke indicators was not significantly different between single-handed and group practices, whilst single-handed practices' delivered quality was relative lower for stroke indicator 3—recording the smoking status of stroke patients than group practices ($p = 0.004$).

Diabetes

The prevalence of diabetes was higher in smaller practices compared with larger practices but the variation was not statistically significant (Table 7.4). Of the 14 diabetes indicators included in the analysis, payment quality was higher for 13 of the indicators in smaller practices than in larger practices, and payment quality for the intermediate outcome indicator regarding the monitoring of HbA1c (indicator 7) was similar across the practices.

In the comparison of practices' delivered quality, performance in 4 out of 14 selected diabetic indicators were higher in single-handed practices than group practices, including recording patients' BMI, smoking status, blood pressure and cholesterol; however single-handed practices' delivered quality for indicator 8 (recording patients' retinal testing, 73.9%) was significantly lower compared to 81.4% achieved by large practices (Table 7.9).

QOF points within the organisational domain

Under the Quality and Outcomes Framework, single-handed and small practices overall attained fewer quality points in the organisational domain compared to larger practices, and the difference was statistically significant (Table 7.2). When looking into each area within the organisational domain, large practices with more than 5.00 WTE GP partners attained the highest quality points in practice education (27.4), medicine management (38.1), and practice information & records (80.6). By contrast, single-handed practices had the lowest points in practice education (22.7); small practices obtained fewest points for practice medicine management (35.6); and medium practices scored 75.8 in patient information record, which was the lowest among four practice groups (Table 7.10). Such differences across the practices were statistically significant.

7.4 Discussion

The Quality and Outcomes Framework is an important component of the new GP contract which was introduced in 2004. It is a world first and encourages improved quality of care in key areas provided by all general practices through the use of financial incentives.

Under the framework, up to a quarter of practice income can depend on their performance measured against quality indicators (DoH, 2003). This was the first study exploring the relationship between QOF point attainment and practice size, and the findings showed that the size of practice was related to overall QOF scores, with smaller practices achieving fewer points. However, this was due to lower point achievement in the organisational rather than in the clinical domain.

As a publicly available source of data, QOF provides a valuable source of information on the quality of care delivered by general practices, but there are some important limitations concerning QOF collected data to consider. Firstly, the 10 clinical disease registers, required by the QOF to estimate the burden of disease in general practices may be incomplete or inaccurate in relation to disease definition and diagnosis. In general, the disease conditions are identified by lists of Read Codes, which are not based on standard clinical definitions but on the clinical judgement of doctors. Thus, patients with specific conditions could be miscoded, undercounted, or over-counted by GPs. Also undiagnosed patients are excluded from the disease registers, which may be important for conditions such as hypertension and diabetes; for example, diabetes can be present for several years before it is diagnosed. Thus, the reliability and validity of data may be open to question. Secondly, as noted earlier, the QOF prevalence data are extracted directly from individual practices, being captured at an aggregated level, and there is no demographic detail concerning the patients on the registers. It is not possible, therefore, to describe the disease prevalence in age-sex specific rates, limiting comparisons between different population structures. In addition, QOF data do not provide information on practice characteristics such as practice size. The most recent data on practice characteristics available for this study relating to QOF data for 2004/05 were from year 2002, and information for 14 mainland practices could not be linked to their QOF data, but this did not affect urban practices in the analysis. Thirdly, all practices are allowed to exclude specific patients from QOF data collection. Exclusions and exception reporting could distort the findings, in the same way as non-response can affect a survey. Without information both on the number of exclusions and exception reporting and the reasons for such exception reporting, the variation in practice performance could be difficult to explain, and the comparison between practice groups may not be reliable. As QOF exception reporting data were not released until the second year of the new GP contract, we instead measured both payment and delivered quality of practices, in order to consider the possible effect of patient exclusions. Whilst the measurement of delivered quality also has its limitation, McLean *et al* (2006) have pointed out that the estimation of delivered quality can only be applied to a limited number of clinical indicators, which record all patients on the disease register for particular clinical condition, because QMAS does not record either the true denominators for every indicators or the register size on the same date that the indicator data are extracted.

The implementation of the QOF has taken place within the context of UK government's attempt to improve the quality of care, which varies widely in general practice. Practice size is associated with certain aspects of the quality of care. For instance, Campbell *et al* (2001a) noted that larger practices performed better in diabetes care than smaller practices, whilst smaller practices provided better access to care for their patients. Chronic disease management would seem to be an area where larger practices would have an advantage over single-handed or small practices as they could draw on a wider range of health professionals and offer a more extensive range of services and clinics. In this study, however, we found that no evidence that better chronic disease care was provided by group practices in terms of quality points. Nevertheless, on an individual level, single-handed doctors seemed to be dealing with a greater volume of workload in their practices; for example, single-handed GPs looked after 17% more patients with coronary heart conditions than their colleagues working in partnerships, and this could impose a huge time constraint on the doctors, and might be a possible explanation for the overall quality scores attained in coronary heart disease were lower in single-handed practices.

The association between practice size and doctors' workload has been reported in other studies, which have suggested that single-handed GPs have a higher workload and a higher level of work-related stress; while doctors working in larger practices often had their workload reduced by delegating some tasks to nurses or other assistants within practices (van den Hombergh *et al*, 2004; Wensing *et al*, 2006). In the context of the new contract, a range of performance indicators were introduced to monitor GPs' quality of care, accompanying a list of data recording and collecting attached, which would expect an increase GPs' workload subsequently, despite a lack of firm evidence. Indeed, a survey carried out at early stage of the new contract showed that 59% of GPs already anticipated that there would be a huge increase in clinical workload under the new contract (Roland *et al*, 2006). There is a possibility that single-handed doctors in particular may be felt constrained to their resources regarding time as well as practice staff working under the new contract, and bearing in mind their population, additional time may be added upon this group of GPs as longer consultations may be required to deal with those patients with complex chronic diseases. All these subsequently may challenge single-handed GPs' abilities to maintain or improve their QOF attainment in the future, although they achieved similar standard of clinical care as illustrated in this study.

On the face of it, there was little difference in overall clinical quality scores achieved by practices of different size, although variations in payment quality and delivered quality for individual indicators were found across urban practices. It appeared that single-handed practices might deliver better quality of care in certain clinical measures than larger practices, but their success with quality performance could be contentious. Urban single-handed practices were broadly similar to larger practices in delivered quality, but the payment quality of single-handed practices appeared much enhanced under the exception system of the QOF. Thus, delivered quality for 8 out of the total 32 clinical indicators was higher in single-handed practices, whose quality payment accounted for exception, however was higher for 23 indicators. Generally, the purpose of exclusions and exceptions is to promote practices' quality improvement, taking into account the characteristics of practice populations, on which basis single-handed practices, which tend to have a higher percentage of deprived patients, may logically have more reasons for excluding certain patients possibly in relation to the complexity of their health problems or unwillingness to be engaged with the health service. Meanwhile, there is also the possibility that the exclusion system may have been used by some single-handed practices, in the first year, to maximise their quality points and performance, in ways which attract resources into practices. In addition, although the QOF offers great incentives to GPs to achieve target levels of care and maximum quality scores, the calculation of practice QOF payment does not favour GPs working in single-handed or small practices, which could be financially penalised, receiving fewer payment than larger practices despite both delivering the same quality targets, simply because of smaller numbers of patients in single-handed and small practices (Guthrie *et al*, 2006). Given the payment system of the quality framework, GPs practising in smaller practices, therefore, may be motivated to achieve the maximum QOF scores in order to avert a risk of financial destabilisation for their practices under the new contract. Furthermore, practices' QOF performance in the thesis was measured by mean values of quality points as well as percentage achievement in relation to individual indicators, with apparent differences in which between practice groups were detected. However, the 95% confidence interval for the mean values indicated a wider spread of values for single-handed practices compared to larger practice. This suggests the possibility of greater variation in quality within single-handed practices, with a longer "tail" of practices achieving fewer points compared to other practice groups. Such variation will need to be investigated further to obtain an improved understanding of the association between practice size and their QOF attainment.

Elucidation of the reasons behind the variations in quality performance in CHD related care between small and large practices will require further detailed investigation. Nevertheless, our findings of the pattern of delivered quality between practices indicated that single-handed practices had comparable achievement to larger practice for most intermediate outcome indicators, and single-handed practices were marginally better than larger practice at some simple process of care measurements such as recording of patients' smoking status, and checking blood pressure and cholesterol levels of patients with CHD, hypertension, and diabetes. This finding is partly at odds with a recent study about diabetes care suggesting that larger practices achieved higher quality in process measures, but this study also found little variation in quality achievement of intermediate outcomes targets by practice size (Millett *et al*, 2007). Whilst larger practices are thought to employ a wider range of health professionals to share many of these processes of care, making such measures more easily achievable in such practices (Saxena *et al*, 2007), some studies suggested that smaller practices were more likely to work as a team and to be more efficient, and that solo GPs were more productive than doctors in larger practices (Poultton & West, 1999; Roos, 1980). Compared to GPs working in partnerships, single-handed GPs are also more likely to know their patients well (Green, 1996; Baker, 1997), and this may allow doctors be more responsive and to target those patients with specific conditions for their routine check-ups as QOF standards require.

Whilst quality point attainment was not statistically significant different between practice groups in the clinical domains, our findings suggest that large practices attained higher organisational quality scores compared with other sizes of practice. Large practices also have economies of scale, attracting greater management resources into practices, employing a range of skilled individuals involved in a range of managerial and administrative tasks (Corrigan, 2005), which may not be afforded within single-handed or small practices as their practice structural costs are generally higher compared to large practices. In addition, compared to the usually informal and less structured nature of single-handed practices, large practices mostly have developed a formal and clear defined management structure (Westland *et al*, 1996), which may facilitate their implementation of the new contract. Therefore, organisational requirements could be delegated as individual tasks to practice staff if each one had an understanding of their own roles within the organisation, taking particular responsibility for the quality of delegated work, and in co-ordination with GPs delivering quality standards.

Furthermore, having only one doctor in a single-handed practice with the support of a minimum number of practice staff may make it difficult to meet certain quality criteria as required by the QOF. For example, significant event reviews are required to take place within practices, involving a group of doctors discussing and analysing patients' deaths and/or other adverse events, but this is difficult to achieve in a single-handed practice since there is no one with whom the GP can have a discussion and undertake such review. Although all the issues discussed here could be reasons for the better organisational quality of large practices, at present, based on current QOF data it is difficult to identify which of these explanations is true. Whilst significant structural changes have taken place within practices since the introduction of the new contract, further information on practice workforce and their structural changes linking with their QOF attainment may be needed to provide answers to these questions.

7.5 Summary

The QOF covers a range of quality indicators, and our conclusion is that practice size was associated with quality attainment under the new framework. Overall, smaller practices obtained fewer QOF points compared to larger practices, mainly due to their lower point attainment in the organisational domain. There was no difference across practice size for clinical domains, whilst some process measures of care were better provided by single-handed practices than by group practices.

Linking quality standards with practice payments, the majority of practices were found to attain a high QOF performance regardless of practice size under the new contract. The findings of this study on the one hand, indicate that encouragement of larger general practices in primary care may not necessarily lead to higher quality of care in chronic disease management; but it does highlight the organisational advantages of large practices and a need for improving the organisational capacity and abilities of single-handed and small practices. Initiatives that could reduce inequities in resources allocation or pool smaller practices' managerial skills and resources may offer these practices economies of scale comparable to larger practices, allowing them to sustain achieved quality.

Tables

Table 7. 1: Characteristics of practice and population of urban practices by practice size (2003/2004).

	Single-handed (≤1.00 WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Practices located in urban areas ¹ (row %)	74 (11%)	225 (35%)	205 (32%)	145 (22%)	
% of Female GPs (SD)	19.0 (39.3)	40.8 (26.1)	40.2 (15.5)	39.3 (12.9)	<0.001
% GPs aged 55+ (SD)	25.2 (43.4)	14.0 (23.8)	13.0 (14.9)	13.3 (12.4)	<0.001
% South Asian qualified GPs ² (SD)	14.8 (35.5)	5.0 (17.4)	1.4 (5.9)	0.4 (2.4)	<0.001
Average list size per WTE GP (SD)	2033 (687)	1655 (394)	1603 (257)	1607 (266)	<0.001
Voluntary practice-based activities					
Practice accreditation (%)	7 (10.0%)	40 (18.5%)	44 (20.8%)	48 (34.8%)	<0.001
Quality Practice Award (%)	0	2 (0.9%)	11 (5.2%)	15 (10.9%)	<0.001
Personal Medical Service (%)	6 (8.6%)	14 (6.5%)	15 (7.1%)	10 (7.2%)	0.948
SPICE ³ (%)	16 (22.9%)	27 (12.5%)	28 (13.2%)	26 (18.8%)	0.091
Training practice (%)	1 (1.4%)	28 (13.0%)	64 (30.2%)	70 (50.7%)	<0.001
Patient characteristics					
Number of registered patients	129,951	821,397	1,406,569	1,423,129	
mSIMD ⁴ (SD)	31.3 (14.6)	30.8 (15.7)	23.6 (11.8)	21.7 (11.7)	<0.001
% ethnic Indian patients (SD)	4.02 (6.19)	3.00 (3.12)	2.59 (2.43)	2.13 (2.40)	0.007
% patients aged over 65 (SD)	12.5 (5.1)	12.7 (3.6)	13.5 (3.2)	13.2 (3.1)	<0.001

1. There were a total of 649 urban practices linked to QOF data.

2. Defined as Bangladesh, India, Pakistan or Sri Lanka.

3. SPICE: Scottish Programme for Improving Clinical Effectiveness.

4. Modified Scottish Index of Multiple Deprivation (mSIMD).

Table 7. 2: QOF points (mean) attained in each domain by urban practices by practice size (2004/2005).

	Single-handed (1.00≤ WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Total QOF points (95% CI)	957.7 (931.4-984.1)	968.5 (957.8-979.3)	986.6 (977.7-995.5)	1001.5 (992.6-1010.4)	<0.001
Clinical	508.3 (493.1-523.5)	512.3 (506.4-518.2)	521.4 (516.7-526.1)	523.1 (517.5-528.6)	0.150
Organisational	162.0 (157.1-167.0)	163.6 (160.8-166.4)	165.4 (162.7-168.2)	172.9 (170.7-175.1)	<0.001
Patient experience	90.1 (85.8-94.5)	94.3 (92.8-95.8)	96.3 (95.0-97.7)	98.6 (97.6-99.5)	<0.001
Additional services	34.5 (33.6-35.3)	35.2 (34.9-35.5)	35.5 (35.3-35.7)	35.6 (35.3-35.8)	0.081
Holistic care	88.7 (84.7-92.7)	88.4 (86.4-90.3)	91.6 (90.1-93.1)	92.9 (91.3-94.5)	0.113
Quality practice payment	26.1 (25.0-27.1)	27.2 (26.7-27.7)	27.8 (27.4-28.3)	28.9 (28.5-29.2)	<0.001

Table 7. 3: QOF points (mean) attained in each clinical domain by urban practices by practice size (2004/2005).

	Single-handed (1.00 ≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Asthma (95% CI)	65.3 (62.4-68.1)	64.8 (63.3-66.2)	65.4 (64.0-66.7)	66.2 (64.8-67.6)	0.628
Cancer	11.0 (10.4-11.5)	10.8 (10.5-11.1)	11.4 (11.2-11.6)	11.6 (11.4-11.8)	<0.001
COPD	40.4 (38.3-42.4)	39.7 (38.6-40.7)	40.7 (40.0-41.6)	40.2 (39.0-41.3)	0.191
Diabetes	94.0 (91.1-96.9)	95.3 (94.6-96.1)	95.8 (95.2-96.4)	95.3 (94.5-96.1)	0.077
Epilepsy	13.4 (12.6-14.2)	13.2 (12.8-13.6)	13.7 (13.4-14.1)	14.4 (14.0-14.7)	0.018
Hypertension	100.4 (98.3-102.6)	100.0 (98.7-101.3)	100.4 (99.3-101.5)	100.4 (98.9-101.8)	0.622
Hypothyroidism	7.9 (7.6-8.1)	7.9 (7.9-8.0)	8.0 (7.9-8.0)	7.9 (7.9-8.0)	0.575
Mental Health	34.5 (32.4-36.7)	37.0 (36.1-38.0)	38.9 (38.2-39.6)	39.3 (38.6-39.9)	<0.001
Stroke	28.4 (27.2-29.6)	29.2 (28.8-29.6)	29.8 (29.5-30.1)	29.7 (29.3-30.1)	0.531
CHD	113.1 (109.3-116.9)	114.3 (113.1-115.5)	117.3 (116.4-118.2)	118.2 (117.2-119.2)	<0.001

Table 7. 4: QOF prevalence rates (%) of 10 clinical conditions of urban practices by practice size (2004/2005).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Asthma (95% CI)	5.29 (4.82-5.77)	5.28 (5.10-5.45)	5.34 (5.19-5.50)	5.50 (5.33-5.66)	0.440
Cancer	0.53 (0.48-0.57)	0.47 (0.45-0.50)	0.50 (0.47-0.53)	0.51 (0.48-0.54)	0.086
COPD	2.10 (1.66-2.55)	2.40 (2.22-2.59)	1.88 (1.75-2.01)	1.78 (1.60-1.96)	<0.001
Diabetes	3.19 (2.97-3.42)	3.26 (3.16-3.36)	3.15 (3.07-3.23)	3.18 (3.08-3.28)	0.438
Epilepsy	0.70 (0.63-0.76)	0.77 (0.73-0.80)	0.71 (0.68-0.73)	0.74 (0.71-0.77)	0.027
Hypertension	10.75 (9.93-11.57)	11.62 (11.17-12.07)	11.40 (11.07-11.72)	11.18 (10.80-11.56)	0.128
Hypothyroidism	2.23 (2.03-2.42)	2.55 (2.43-2.66)	2.71 (2.59-2.83)	2.81 (2.67-2.95)	<0.001
Mental Health	0.84 (0.67-1.01)	0.62 (0.56-0.67)	0.54 (0.50-0.59)	0.53 (0.48-0.58)	<0.001
Stroke	1.64 (1.45-1.84)	1.77 (1.68-1.86)	1.78 (1.71-1.86)	1.82 (1.74-1.90)	0.246
CHD	4.59 (4.21-4.98)	4.63 (4.44-4.81)	4.48 (4.34-4.61)	4.58 (4.41-4.75)	0.651

Table 7. 5: QOF caseload per WTE GP of 10 clinical conditions of urban practices by practice size (2004/2005).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Asthma (95% CI)	97.2 (86.7-107.8)	82.4 (79.2-85.6)	84.0 (81.4-86.6)	85.2 (82.0-88.5)	0.028
Cancer	9.6 (8.6-10.5)	7.3 (6.9-7.7)	7.8 (7.4-8.3)	7.8 (7.4-8.2)	<0.001
COPD	39.8 (34.0-45.6)	36.7 (33.9-39.5)	29.3 (27.4-31.1)	28.1 (26.0-30.1)	<0.001
Diabetes	58.4 (52.2-64.5)	50.5 (48.7-52.2)	49.6 (48.2-51.0)	48.8 (47.2-50.4)	0.063
Epilepsy	12.7 (11.5-13.9)	11.9 (11.3-12.4)	11.0 (10.6-11.4)	11.3 (10.8-11.7)	0.064
Hypertension	194.6 (177.1-211.1)	179.7 (172.4-187.0)	179.1 (173.5-184.7)	172.1 (165.6-178.6)	0.302
Hypothyroidism	40.1 (35.8-44.5)	39.8 (37.7-41.9)	42.9 (40.9-44.9)	43.4 (41.1-45.7)	0.070
Mental Health	15.7 (12.4-19.1)	9.7 (8.7-10.7)	8.5 (7.8-9.1)	8.1 (7.4-8.9)	<0.001
Stroke	29.4 (26.1-32.7)	27.3 (25.9-28.7)	27.9 (26.7-29.1)	27.9 (26.6-29.1)	0.575
CHD	82.8 (75.0-90.7)	71.6 (68.5-74.7)	70.5 (68.1-72.8)	70.3 (67.5-73.1)	0.044

Table 7. 6: Urban practice QOF performance (%) of CHD indicators by practice size (2004/2005). (Detailed indicator definitions see Annex 1)

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Payment quality achievement					
CHD 03 Smoking status recorded (95%CI)	96.7 (95.3-98.1)	95.8 (95.0-96.5)	96.1 (95.5-96.6)	95.9 (95.0-96.8)	<0.001
CHD 05 Blood pressure recorded	96.3 (95.1-97.5)	95.4 (94.7-96.1)	95.9 (95.4-96.4)	96.0 (95.3-96.6)	0.009
CHD 06 Blood pressure controlled (≤150/90)	88.0 (85.9-90.1)	86.1 (85.0-87.3)	85.9 (85.0-86.8)	85.5 (84.4-86.6)	0.019
CHD 07 Cholesterol recorded	90.8 (88.2-93.5)	88.7 (87.3-90.1)	89.5 (88.3-90.7)	89.4 (87.9-90.9)	0.025
CHD 08 Cholesterol controlled (≤5mmol/l)	71.8 (67.8-75.7)	70.8 (68.8-72.8)	71.5 (70.0-73.1)	72.1 (70.3-74.0)	0.753
CHD 09 Aspirin, alternative anti-platelet or anti-coagulant being taken	89.9 (88.1-91.7)	89.8 (88.9-90.7)	90.2 (89.5-90.9)	91.0 (90.3-91.7)	0.519
CHD 10 Treated with beta blockers	72.2 (68.4-76.1)	71.1 (69.1-73.1)	70.6 (68.9-72.2)	70.3 (68.7-71.9)	0.713
CHD 12 Influenza immunisation recorded	88.7 (86.0-91.5)	86.6 (85.1-88.1)	86.7 (85.2-88.2)	88.0 (86.7-89.2)	0.095
Delivered quality achievement					
CHD 03 Smoking status recorded (95% CI)	96.4 (95.0-97.8)	95.5 (94.7-96.2)	95.8 (95.2-96.4)	95.6 (94.7-96.5)	<0.001
CHD 05 Blood pressure recorded	95.5 (94.2-96.7)	94.7 (94.0-95.4)	95.4 (94.9-95.9)	95.4 (94.8-96.1)	0.155
CHD 06 Blood pressure controlled (≤150/90)	85.0 (82.8-87.2)	83.7 (82.6-84.8)	83.7 (82.8-84.6)	83.2 (82.1-84.3)	0.203
CHD 07 Cholesterol recorded	88.1 (85.4-90.7)	86.1 (84.8-87.4)	87.2 (86.0-88.3)	87.0 (85.5-88.5)	0.067
CHD 08 Cholesterol controlled (≤5mmol/l)	65.1 (61.4-68.8)	64.6 (62.9-66.3)	65.9 (64.5-67.3)	66.3 (64.7-68.0)	0.725
CHD 09 Aspirin, alternative anti-platelet or anti-coagulant being taken	87.0 (85.1-88.8)	87.8 (87.0-88.7)	88.4 (87.8-89.1)	89.1 (88.4-89.8)	0.573
CHD 10 Treated with beta blockers	51.6 (49.2-54.1)	52.7 (51.6-53.8)	53.3 (52.4-54.2)	54.4 (53.5-55.3)	0.073
CHD 12 Influenza immunisation recorded	76.8 (74.3-79.4)	74.8 (73.6-76.1)	75.0 (73.8-76.2)	77.2 (76.1-78.2)	0.059

Table 7. 7: Urban practice QOF performance (%) of hypertension indicators by practice size (2004/2005).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Payment quality achievement					
BP 02 Smoking status recorded (95%CI)	96.9 (95.8-98.1)	95.8 (95.1-96.4)	95.6 (95.0-96.2)	95.5 (94.8-96.2)	<0.001
BP 04 Blood pressure recorded	90.5 (88.6-92.5)	89.2 (88.1-90.4)	89.2 (88.3-90.1)	88.7 (87.6-89.8)	0.008
BP 05 Blood pressure controlled (≤150/90)	75.6 (72.9-78.4)	74.2 (72.7-75.7)	73.0 (71.7-74.3)	72.0 (70.5-73.4)	0.019
Delivered quality achievement					
BP 02 Smoking status recorded	96.4 (95.2-97.7)	95.2 (94.4-95.9)	95.1 (94.5-95.7)	95.1 (94.3-95.8)	<0.001
BP 04 Blood pressure recorded	89.7 (87.7-91.7)	88.5 (87.4-89.6)	88.6 (87.6-89.5)	88.3 (87.2-89.4)	0.036
BP 05 Blood pressure controlled (≤150/90)	72.0 (69.1-74.8)	71.0 (69.5-72.4)	69.8 (68.5-71.1)	69.0 (67.5-70.4)	0.081

Table 7. 8: Urban practice QOF performance (%) of stroke indicators by practice size (2004/2005).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value	
Payment quality achievement						
Stroke 03	Smoking status recorded (95%CI)	94.5 (92.0-97.0)	94.9 (93.1-95.8)	94.6 (93.8-95.4)	94.3 (93.2-95.5)	0.001
Stroke 05	Blood pressure recorded	93.7 (91.3-96.2)	94.8 (93.9-95.6)	94.9 (94.1-95.6)	94.7 (93.8-95.5)	0.025
Stroke 06	Blood pressure controlled (≤150/90)	85.3 (82.1-88.5)	84.5 (83.1-85.9)	84.1 (83.0-85.3)	83.2 (81.9-84.5)	0.024
Stroke 07	Cholesterol recorded	87.1 (83.1-91.2)	85.3 (83.4-87.2)	85.5 (83.8-87.1)	84.4 (82.3-86.4)	0.010
Stroke 08	Cholesterol controlled (≤5mmol/l)	64.3 (59.6-69.5)	66.3 (64.1-68.6)	66.1 (64.2-67.9)	64.9 (62.6-67.3)	0.656
Stroke 09	Aspirin, alternative anti-platelet or anti-coagulant being taken	89.6 (86.8-92.5)	89.7 (88.5-90.9)	90.5 (89.5-91.5)	90.4 (89.3-91.5)	0.609
Stroke 10	Influenza immunisation recorded	86.0 (83.0-89.1)	85.0 (83.3-86.6)	84.0 (82.4-85.8)	84.5 (82.9-86.1)	0.206
Delivered quality achievement						
Stroke 03	Smoking status recorded (95% CI)	93.9 (91.3-96.4)	94.3 (93.4-95.3)	94.0 (93.2-94.9)	94.0 (92.8-95.1)	0.004
Stroke 05	Blood pressure recorded	92.4 (89.9-94.8)	93.7 (92.8-94.5)	94.2 (93.4-94.9)	94.0 (93.2-94.9)	0.677
Stroke 06	Blood pressure controlled (≤150/90)	81.2 (78.1-84.3)	80.5 (79.1-81.9)	80.3 (79.1-81.5)	79.8 (78.5-81.2)	0.336
Stroke 07	Cholesterol recorded	81.9 (77.9-85.9)	80.8 (79.0-82.6)	81.3 (79.7-82.8)	80.8 (78.9-82.8)	0.229
Stroke 08	Cholesterol controlled (≤5mmol/l)	54.7 (50.1-59.3)	58.1 (56.2-60.1)	57.9 (56.3-59.5)	57.4 (55.4-59.5)	0.696
Stroke 09	Aspirin, alternative anti-platelet or anti-coagulant being taken	53.3 (49.0-57.6)	51.6 (49.4-53.9)	53.6 (51.6-55.6)	54.0 (51.6-56.3)	0.448
Stroke 10	Influenza immunisation recorded	72.4 (69.2-75.7)	71.3 (69.8-72.8)	70.7 (69.3-72.0)	72.2 (71.0-73.4)	0.538

Table 7. 9: Urban practice QOF performance (%) of diabetes indicators by practice size (2004/2005).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Payment quality achievement					
DM 02 BMI recorded (95% CI)	96.8 (95.6-97.9)	95.2 (94.5-96.0)	93.7 (92.9-94.5)	93.7 (92.9-94.5)	<0.001
DM 03 Smoking status recorded	98.6 (98.0-99.3)	98.1 (97.8-98.5)	97.4 (97.0-97.9)	97.2 (96.6-97.8)	<0.001
DM 05 HbA1c recorded	97.3 (96.3-98.4)	96.6 (96.1-97.2)	96.5 (96.0-96.9)	95.9 (95.2-96.7)	<0.001
DM 06 HbA1c controlled (≤7.4)	58.7 (55.3-62.1)	60.0 (58.3-61.7)	58.2 (56.8-60.0)	55.6 (54.2-57.1)	0.018
DM 07 HbA1C controlled (≤10)	90.6 (88.9-92.3)	90.4 (89.6-91.2)	90.6 (89.9-91.2)	90.0 (89.0-90.8)	0.293
DM 08 retinal screening recorded	90.3 (87.1-93.4)	87.8 (86.2-89.4)	87.3 (85.7-88.8)	86.8 (85.1-88.5)	0.001
DM 09 Absence of peripheral pulses recorded	90.1 (87.5-92.6)	86.3 (84.7-87.9)	85.8 (84.3-87.3)	83.0 (80.9-85.1)	<0.001
DM 10 Neuropathy testing recorded	88.5 (85.7-91.3)	84.9 (83.2-86.7)	83.9 (82.2-85.6)	81.9 (79.7-84.1)	0.004
DM 11 Blood pressure recorded	98.8 (98.2-99.4)	98.2 (97.8-98.5)	97.8 (97.5-98.1)	97.7 (97.3-98.1)	<0.001
DM 12 Blood pressure controlled (≤145/85)	79.4 (76.4-82.4)	78.1 (76.5-79.7)	76.1 (74.7-77.5)	74.2 (72.7-75.8)	<0.001
DM 14 Serum creatinine testing recorded	96.5 (95.4-97.6)	95.1 (94.5-95.8)	94.9 (94.2-95.5)	94.1 (93.2-95.0)	<0.001
DM 16 Cholesterol recorded	96.8 (95.7-97.8)	95.2 (94.6-95.9)	94.4 (93.8-95.1)	93.9 (93.0-94.8)	<0.001
DM 17 Cholesterol controlled (≤5mmol/l)	78.5 (75.5-81.5)	77.5 (75.9-79.2)	75.3 (73.9-76.7)	73.2 (71.5-74.9)	0.001
DM 18 Influenza immunisation recorded	90.1 (87.8-92.4)	87.9 (86.5-89.4)	86.4 (84.8-88.0)	86.4 (84.9-87.9)	0.003

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Delivered quality achievement					
DM 02 BMI recorded (95% CI)	93.8 (92.5-95.1)	92.6 (91.9-93.4)	91.3 (90.6-92.1)	91.6 (90.7-92.5)	<0.001
DM 03 Smoking status recorded	98.3 (97.6-99.0)	97.7 (97.4-98.1)	97.1 (96.7-97.6)	97.0 (96.4-97.6)	<0.001
DM 05 HbA1c recorded	94.6 (93.5-95.8)	94.3 (93.7-94.9)	94.6 (94.1-95.1)	94.2 (93.5-95.0)	0.592
DM 06 HbA1c controlled (≤7.4)	47.8 (45.0-50.6)	49.9 (48.6-51.3)	50.6 (49.4-51.8)	49.6 (48.3-50.9)	0.175
DM 07 HbA1C controlled (≤10)	83.8 (82.0-85.7)	84.4 (83.5-85.4)	85.8 (85.1-86.5)	85.6 (84.7-86.5)	0.171
DM 08 retinal screening recorded	73.9 (69.6-78.2)	73.6 (71.3-75.9)	78.8 (76.9-80.7)	81.4 (79.5-83.2)	<0.001
DM 09 Absence of peripheral pulses recorded	81.1 (77.8-84.3)	79.5 (77.8-81.2)	80.4 (78.9-82.0)	78.7 (76.6-80.8)	0.343
DM 10 Neuropathy testing recorded	79.2 (75.7-82.6)	78.0 (76.1-79.9)	78.4 (76.7-80.2)	77.5 (75.3-79.7)	0.690
DM 11 Blood pressure recorded	97.7 (96.7-98.4)	97.3 (97.0-93.4)	97.3 (97.0-97.7)	97.3 (96.9-97.7)	0.013
DM 12 Blood pressure controlled (≤145/85)	72.0 (69.0-75.0)	71.7 (70.3-73.2)	70.9 (69.5-72.2)	69.6 (68.1-71.1)	0.180
DM 14 Serum creatinine testing recorded	93.6 (92.1-95.1)	92.7 (92.0-93.4)	93.0 (92.4-93.7)	92.3 (91.4-93.3)	0.060
DM 16 Cholesterol recorded	93.9 (92.6-95.2)	92.8 (92.1-93.5)	92.6 (92.0-93.3)	92.4 (91.5-93.3)	0.022
DM 17 Cholesterol controlled (≤5mmol/l)	68.2 (65.4-71.1)	68.6 (67.3-69.9)	68.1 (66.9-69.3)	67.0 (65.5-68.6)	0.375
DM 18 Influenza immunisation recorded	74.6 (72.1-77.0)	72.5 (71.2-73.8)	72.5 (71.2-73.8)	73.1(72.6-74.1)	0.511

Table 7. 10: QOF quality points for organisational indicators of urban practices by practice size (2004/2005).

	Single-handed (1.00≤WTE GP)	Small practice (1.01-3.00 WTE GPs)	Medium practice (3.01-5.00 WTE GPs)	Large practice (WTE GPs≥5.01)	P-Value
Communication (95% CI)	7.4 (7.28-7.60)	7.5 (7.44-7.60)	7.5 (7.45-7.62)	7.6 (7.53-7.70)	0.356
Education	22.7 (21.46-23.99)	25.6 (24.93-26.33)	26.6 (25.97-27.15)	27.4 (26.92-27.95)	<0.001
Management	18.6 (18.12-19.16)	18.9 (18.57-19.15)	19.1 (18.90-19.37)	19.2 (18.89-19.44)	0.265
Medicine	36.6 (35.07-38.03)	35.6 (34.68-36.61)	36.4 (35.53-37.36)	38.1 (37.14-39.07)	0.001
Patient information & record	76.5 (72.98-80.00)	76.0 (74.22-77.72)	75.8 (73.82-77.73)	80.6 (79.05-82.10)	0.001

Chapter 8

Urban single-handed GPs in today's NHS

8.1 Introduction

Findings from the earlier parts of this thesis confirm that single-handed general practice remains an important feature of general practice, and that single-handed doctors delivered similar standards of clinical care as GPs in partnerships. At the same time, there is evidence that there is a real concern about the structural and organisational aspects of single-handed practice, which may not have adequate resources or support to accommodate the growing expectations of GP care, and to attain requirements for the development of primary care (Corrigan, 2005). This subsequently may put the survival of solo doctors at risk. Yet, single-handed doctors seem notably resilient to government's many attempts to discourage them. Scant research has been directed at understanding this group of frontline GPs (Green, 1993, 1996). This chapter is concerned with current serving single-handed doctors, and of their perceptions of working in the modern National Health Service.

Sixty years ago, single-handed general practice was the common GP setting, but this has changed and increasingly become less preferable to group practice through the years. Currently less than 10 % of GPs still practise single-handedly in the UK, and other European countries such as the Netherlands, where GPs have predominantly worked single-handedly, have seen a similar shift moving away from solo practices (Maiorova *et al*, 2007). Despite a series of health policy initiatives driving the continuing decrease in the number of single-handed doctors in the UK (Chapter 2), there may also be some logical reasons for the rapid growth of partnerships in general practice. While single-handed practice has been characterised as a practice having only one GP principal, partnership has been defined as

“an agreement between a group of people to carry on some activities together and share expenses, risks, and profit/loss arising from that activity.”

(Oxford English Dictionary, 1989)

Applied to general practice, a GP partnership often refers to a group of GPs as a legal entity that is akin to a business, with the partners bound contractually, sharing ownership of the premises, dividing up workload, employing staff jointly, and taking their share of profits as income drawings. In this sense, GPs working in a partnership can benefit financially from economies of scale in pooling and sharing practice resources such as premises and staff, and professionally being able to share workload and cover for time off work. Apparently, all these incentives seem sensible to GPs joining partnerships, and evidence suggests that GPs were strongly motivated to work together in partnerships, enhancing their quality of life and allowing them to break away from potential job constraints such as heavy workload, administrative burdens and isolation (Feron *et al*, 2003).

Yet, accompanying these advantages, partnership working arrangements can also produce problems, which have been addressed in much of the literature including workload sharing (Metcalf 1982; Branson and Armstrong 2004), financial concerns (Josephs, 1982), job stress (O'Dowd, 1987), personality clashes (Snowise, 1992) and low morale (Handysides, 1994). One study, for example, noted that the stress working in a partnership was a major reason given by young GPs when expressing regret at joining a practice (Ashworth and Armstrong, 1999). Negative experience of working in partnerships was also reported as the most common reason for GPs leaving and choosing then to work single-handedly (Green, 1993).

Metcalf (1982) gave two sets of reasons for partnership fission: a poor correlation between work effort and profit among the partners and decreased clinical freedom of GPs within a culture of peer review in the partnerships. In agreement with Metcalf's view, Josephs (1982) also noted that financial issues were high on the list of things causing discontent among GP partners. He pointed out that the root of many partnership problems likely lay with GPs being highly individualistic—"a doctor is a loner whether or not he admits it." So, single-handed practice seems to be seen as a robust environment, which may be able to accommodate such individuality, and it may be enshrined in the concept of clinical freedom that has been considered an important trait of the profession and of medicine in particular.

Despite a chronic decline in the number of single-handed doctors in the UK, a significant minority are still practising in such a traditional model of practice, which is thought to offer practitioners opportunities for personal control (Green 1993, 1996). The notion of autonomy has traditionally been regarded a central characteristic of the status of the medical profession, holding a highly specialised body of knowledge, and providing a service that is highly appreciated by society (Hoogland and Jochemsen, 2000). Indeed, there have been many attempts to try to understand the meaning of professional autonomy. For instance, Freidson (1970), a leading American author in the sociology of professions, has defined professional autonomy as control over the technical and social organisational work, and the economic terms of work. Engel (1969) also an American researcher, in her work studying the relationship between bureaucracy and professional autonomy in the medical profession, suggested that professional autonomy exists on two separate but related levels, referring to the individual professional as well as the occupational group or profession, and she defined that,

“On the group level autonomy is the control an occupational group possesses over its decisions and activities in the community in which it functions, or its freedom to direct the activities of the profession. Autonomy on the individual level is the professional’s self control over his decisions and his work activities within a particular work setting, or his freedom to deal with his client.”

(Engel, 1969, p31)

Accounts of professional autonomy in the United States have also been applied to Britain. For instance, Elston (1991) referred to professional autonomy as the legitimated control that an occupation exercises over the organisation and terms of its work. Under the National Health Service, she pointed out that the medical profession as a whole has a degree of control over the organisation of medical work, but has actually never been completely free from the government, which determines resource allocation in medical care. Increasingly the power of the medical profession overall at a group level seems to be under threat and, with a growth in control from the government regarding clinical governance and primary care organisation, doctors’ professional autonomy at the individual level may also be declining (Harrison and Ahmad, 2000).

In general practice, GPs are self-employed contractors in the NHS and, historically, GPs’ status as independent contractors had been used as a means to defend their professional autonomy, which however has been increasingly challenged under the NHS reforms in last

two decades (Chapter 3). Yet, little is known about GPs' autonomy in their everyday practice. A comparative study examined the nature of clinical autonomy in different healthcare systems including the United States, Britain and Germany, suggested that British GPs overall had more clinical autonomy over the management of patients than their American counterparts, who had more economic work autonomy (Schulz and Harrison, 1986).

In medical practice, Engel (1970) suggested that the size of an organisation could have an effect on physicians' perceptions of their autonomy; on the face of it, the solo medical practitioners in the United States were thought to be more autonomous, being more active in their professional organisation compared to doctors in larger organisations, yet there was a lower perceived autonomy reported among the solo physicians, who generally felt they had less control in their practice since their incomes depended directly on patients and, also less likely to have access to essential facilities that large organisations could provide. In the UK, little research has addressed professional autonomy of GPs practising in different sizes of practice. One major study of single-handed general practice in the early 1990s reported that autonomy was an important source of their satisfaction, and that the majority of British single-handed GPs were very content with their sole status, with no intention of joining partnerships, and suggested that even financial incentives were unlikely to compensate for the loss of individual control they would suffer (Green 1996).

In the light of new contract, GPs are now given substantial incentives linking their income with the performance of the practice, and that has had its impact on GPs' autonomy and everyday routine of the practices (McDonald *et al*, 2007). Yet, how the changes of the new contract have been experienced by single-handed doctors and, how do they perceive the impact of recent changes on their daily work and their status of being a single-handed GP? So these questions will be explored in this qualitative study, looking into the experience of single-handed doctors in today's NHS.

8.2 Method

In Chapter 4, I described how a subtle realist approach was adopted for the thesis as it acknowledges the contribution that the search and maintenance for objectivity can make to the quality of research without implying an unrealistic commitment to fixing knowledge as

true for all time. Here, I will describe the details of the qualitative method in relation to its data collection and data analysis for this study.

Preliminary study

Prior to the qualitative study, a preliminary study was carried out in April 2005, which involved bringing together a group of single-handed GPs for a seminar discussion. The intentions of this seminar were to raise GPs' awareness about this study, to find out what aspects of single-handed general practice concerned these GPs, to test initial ideas for drafting the interview schedule, and to test the feasibility of recruiting single-handed GPs for the interviews. We identified all single-handed GPs who practised within the West of Scotland covering the health boards of Greater Glasgow, Lanarkshire, Ayrshire & Arran and Forth Valley. A total of 85 invitation letters were sent to single-handed GPs, and the first 14 positive respondents were then invited to attend the seminar.

During the seminar, attendants were randomly split into two groups and discussed the issues including: motivations; strengths and weaknesses of being single-handed GPs; and future prospects for single-handed general practices in the context of current NHS, all which were then included in the later draft of the interview topic guide. Through the group discussion, we were made aware of a sense of reticence amongst GPs when referring to Dr. Harold Shipman, whose murder case raised a great amount of negative publicity around single-handed doctors, and reinforced the government's determination to move away from single-handed practice (DoH 2000b). Thus, no direct question in relation to Dr. Shipman was included in the interview guide. Based on this discussion, I then drafted an interview topic guide, which was further tested by two pilot interviews with single-handed GPs from the sampling frame, with no substantive changes to the interview guide. Subsequently six broad topic areas were covered in the guide: previous experience in general practice; the decision to become single-handed; working experience as a single-handed GP; quality of care provided by single-handed GPs; the impact of the new GMS contract; and their future plans.

Sampling

The sampling strategy of a qualitative study is generally made for the explicit purpose of obtaining a rich source of information to answer the research questions, so specific

strategies vary considerably and non-probability sampling is preferable in qualitative research. A purposive sampling approach was used in this study, and this means the selection of participants was based on certain criteria with some purpose or focus in mind (Ritchie *et al*, 2003). The consideration of the criteria for this sampling framework was influenced by a review of existing literature and early findings on the demographic characteristics of single-handed GPs in urban areas of mainland Scotland. Four variables were selected as criteria to choose potential interviewees: GPs' age, gender, country of qualification, and socio-economic deprivation of practice population using the Modified Scottish Index of Multiple Deprivation score.

An important characteristic of single-handed GPs was their age group—being likely to be older than GPs within partnerships. Given that one of the main interests of this study concerned currently serving single-handed GPs who were unlikely to retire in next 5 years or so, a key criterion was to select GPs who were aged 55 or under, allowing the interviews to explore their views of both current and future practice. On the basis of this, a sampling frame was then drawn up based on socio-economic deprivation of the practice populations, GPs' gender and country of their qualification (Appendix 3). In qualitative research, adequacy of sample size is relative, and the number of samples required for the inquiry often can vary with the extent of data collection reaching its saturation and achieving maximum variation. While sample of 20 respondents is generally considered adequate to achieve such maximum variation of data in qualitative inquiry (Kuzel, 1992).

Of health boards located at West Scotland, there were a total of 58 single-handed GPs practices in urban areas then, and a sample of 20 single-handed GPs was aimed for in this study; therefore, randomly the first 20 were chosen from the sampling matrix, and sent invitation letters. After initial invitations, I was contacted by 4 single-handed doctors who were willing to take part in the study. Then no further respondents replied to research team after four weeks, and Professor Watt assisted following up the rest of single-handed GPs (16) who had been sent invitations through telephone contacts, and all agreed to be interviewed.

Ethical consideration

Multi-site ethical approval was obtained from the West Glasgow Hospitals Multi-site Research Ethics Committee (MREC) covering the areas where recruitment took place. Site

specific approval was deemed unnecessary by the MREC. Each participant read and signed a written consent form at the start of each interview in the presence of the researcher. Research governance approval was obtained from the R&D Directorate, NHS Greater Glasgow Primary Care Trust (Appendix 4).

Data collection

The interview guide (Appendix 5) was developed on the basis of the research questions, existing literature on single-handed general practice and, results from the seminar discussion with a group of single-handed GPs. The interview started with an open question in relation to GPs' career paths into single-handed practice, such as "so first of all, can you tell me about how you became single-handed?" with prompting if necessary to explore their previous experience in general practice. The interview went on to cover questions structured around what single-handed GPs liked about their work, and what they found difficult or challenging; aspects of services and care provided by single-handed practices, in association with their practice structure and patient population; the impact of organisational reforms on single-handed practice; and their prospects in general practice. Although a topic guide was used, the aim of the interview was for single-handed GPs to relate their concerns regarding their experiences of being single-handed, with prompts to expand on areas of particular interest or issues that were not completely clear.

The interviews were arranged with GPs at a time convenient to them and all were carried out at the GPs' surgeries. All interviews were taped and transcribed fully after the interviews. All transcripts were entered into NVivo software, together with field notes made during and after the interview. Field-notes are long established as a method of data collection in qualitative research, and provide an opportunity to record what researchers see and hear outside the context of the interview, their thoughts reflecting on the practical problems of carrying out the interviews, and ideas for issues that may be relevant at the analytical stage (Ritchie *et al*, 2003). For me as a novice in qualitative research, field-notes also tracked my progress in improving my interview skills.

Data analysis

Ritchie and Spencer's framework analysis was used in this study (Ritchie and Spencer, 1994). It is a matrix based analytic method to classify and organise qualitative data

according to themes, concepts and emergent categories. As the aim of this part of study was to achieve an overall, consistent and relatively neutral description and understanding of GPs' experience of being single-handed, framework analysis was considered an appropriate approach. The analysis process involved five stages including: familiarisation, identifying a thematic framework, indexing, charting, plus mapping and interpretation. Familiarisation with data involved my listening to the tapes and reading the transcripts as well as field-notes. I re-read the first five transcripts in detail, identifying the key themes and sub-themes which formed the basis of the draft of the thematic framework. This was further discussed with my supervisor, Dr. O'Donnell who familiarised herself with the data by reading the same transcripts. These themes and sub-themes were refined and developed, resulting in a working thematic framework that was used to index all the transcripts (code framework attached in Appendix 6). As noted earlier, there was little change made to interview topic guide after a couple of pilot interviews, from which data collected were included in the final analysis.

During the process of indexing, the framework index (also known as the coding framework) was applied to the data in its textual form, and indexing references recorded on the margin of each transcript by a number system which linked back to the framework. Following this, thematic charts were devised under headings and sub-headings informed by the framework. In each chart the columns represented sub-themes and the rows respondents' views and opinions. The indexed data were lifted from their original text and placed into relevant charts through the charting process. The end result of this was a set of data structured within an analytic framework that was grounded in GPs' own accounts. Finally, all completed charts were then used to examine the patterns and connections existing in the data through constant comparison of GPs' accounts in each theme, and seeking explanations for these, e.g. based on their practice characteristics, location and/or previous experience (a sample of thematic charts was attached in Appendix 9).

8.3 Results

Sample characteristics

A total of 22 single-handed GPs were interviewed in the study, including the 2 pilot interviews. Table 8.1 summarised some key characteristics of the interviewees, which

were described in details further, presenting in table 8.2. The age of participants ranged from 36 to 55 years old, including 13 male and 9 female. The majority had qualified from a Scottish medical school, a few had their medical degrees from other parts of the UK, but only one had graduated from an overseas university. Most of the interviewees had chosen general practice as their first career choice after medical school, yet none of our participants went straight into single-handed general practice. All had been working in general practice for between 6 years and 30 years, with an average length of 12 years practising single-handedly.

Twelve of the 22 GPs had practice populations defined as predominantly deprived by the mSIMD; the rest had mixed populations. The interviewed GPs in the study could be categorised into 3 groups according to the type of practice premises they worked in: single-handed GPs working in their own purpose-built premises (11); single-handed GPs working from a health centre (9); and single-handed GPs in purpose-built premises shared with other single-handed or small practices (2). In the study, a standard practice team within a single-handed practice usually comprised one GP, one practice nurse, 2 to 4 receptionists, and one practice manager, although several did not employ a practice manager. Almost all single-handed practices employed their own practice team, but one shared his staff with other practices. Two interviewees also mentioned that they had the employment of GP retainers within the practices.

The following main themes were identified from the analysis, including personal decisions to become a single-handed doctor; the aspects of their clinical practices in relation to advantages and disadvantages such as professional autonomy, continuity of care, isolation and economies scale within the practices; perceived quality of care of their practices; concerns and challenges regarding the new GMS contract and Quality and Outcome Framework; and prospects of single-handed general practice. GPs' views on these themes will be discussed in the following section, with key points illustrated by quotations selected from the interviews.

Personal choice

When asked about GPs' decisions to practise single-handedly, none of the respondents had wanted to be a single-handed practitioner, although some expressed a preference for

smaller practices. Nevertheless, the choice of becoming single-handed was often described by the GPs as a positive decision with personal benefits, for example breaking away from poor partnerships or progressing their career in general practice. About half of the respondents had had a poor partnership experience before they went solo. Such experience was described in terms of perceptions of unfair workload sharing and accounts of professional frustration working in partnerships. For example, one respondent had been in a partnership for 9 years, and then decided to set up his own single-handed practice.

“There was a discrepancy in the workload, and it was my perception that I was one out of three partners, and I was doing [an] unfair amount of work. I was doing more than one third of the workload. And I am a very tolerate person. I put up with it for many years. But it came to a point, I have to make a decision either to move on or go on my own. I decided I didn’t want to move on, [I had] a lot of patients who wanted to follow me. So I decided to go to single-handed practice. It was a difficult decision, had to be done, hopeless choice, and any other doctor in my position, and other GP would have done it many years prior than I did.”

(GP2, M, 45y, line15)

Several respondents felt a sense of professional frustration that usually resulted from partners’ different views or attitudes regarding practice issues such as prescribing, financial issues or holiday arrangements which led to their departure from the partnership. For example, one GP, who had worked in two partnerships, mentioned his experience in an eight partner practice, where he wanted to change the pattern of antibiotic prescribing. He found his efforts appeared to have little impact on his partners, and that made him reconsider his staying as a partner in the practice.

“.....if I wanted to try and change things, there were always barriers ...and they [partners] just declined them [changes]. They wouldn’t refuse or argue about the changes. They just didn’t do them. They [partners] wouldn’t argue about change should happen, and it was just they ignored [it].”

(pilot GP 2, M, 47y, line 42)

These two excerpts illustrate GPs’ accounts of how specific partnership experiences affected these GPs, who tended to be de-motivated by poor partnerships, and identified events which potentially became a catalyst for them to leave for single-handed practice. These experiences also appeared to have a negative impact on GPs’ perceptions of partnerships, and reduced the possibility of their entering such arrangements again. For

example, one respondent split from a partnership due to conflicting views about practice financial arrangements with his partners. He considered that such experience was linked to his reluctance to join another partnership.

“...I mean at that stage things became very acrimonious in the partnership. I supposed that was another thing about it. At that stage, I was a bit of a dissenter to the whole ideal of the partnership because the one I was in worked so badly. By then, I wasn't too keen to go into another partnership.”

(GP 5, M, 46y, line 50)

For some, the decision to become single-handed rather than join another group was facilitated by their having an established patient list, as well as the support of their staff. For example, one GP who spent most of her career worked in a partnership had been single-handed for just three years, and she recalled that she actually declined a job offer from another partnership, setting up her own practice instead.

“Prior to splitting, I was offered the job in XXX with another practice...and I turned it down. Basically because I had staff here, who had been working with me for a long, long time. I didn't really want to sort of walk away from them. Also the patients I had. I mean that you're building up particularly familiar relationship, there were people you know well, and it is easy to work with people you had dealt with for a long time. I think that's one of the main reasons why I thought I'm stuck with here to see how I can do really.”

(GP 9, F, 52y, line52)

Poor partnerships were seen as a negative force, turning GPs towards single-handed practice. However some GPs' decisions for practising single-handedly were positively motivated and related to their personal needs such as preference of practice location, progressing their career in general practice, and family circumstances. For example, one respondent who took on a single-handed practice straight after his GP training said,

“I graduated from XXX in 1994 and spent several years working in various hospitals around the West of Scotland mostly. And I trained as a GP in 2000 in XXX. Towards the end of that year trained, I became aware of a vacant post coming up, a single-handed practitioner retired. So I applied and got the job...I've been here since...”

(GP 1, M, 36y, line 6)

Also some respondents appeared willing to adopt solo status after their partners left the practice due to retirement or sickness. For example, one respondent turned into a single-handed doctor after both of her partners left the practice, and she explained that,

“Oh. I have the choice. Oh, yes. I can take on the partners. I then have to have 50-50 partnership really because of the number, which meant I halved my income. So I wasn’t prepared to half my income. The practice had the number, and we had 1,500 patients, that was an adequate number of patients for one person. And that gave me adequate income for one person. Up to now, I have three sons, and my younger son now just started university. So this is a very traditional practice, and has given me reasonable quality of life with my family. I am able to work, working full-time, and [having] adequate income...”

(GP 18, F, 54y, line 36)

Professional autonomy

Previous work had shown there was consensus amongst doctors working in both single-handed and group practices, that the autonomy embedded within single-handed practice was a source of satisfaction (Green 1993). In this study, when asked about their experience working as a single-handed doctor, many respondents talked spontaneously and extensively about their freedom in daily work, and perceived a high level of freedom in the running of their practices compared to their counterparts in group practices. Single-handed GPs’ views of freedom at work nested within some components of autonomy outlined in Schulz and Harrison’s study, in relation to practice organisation, practice staff and patient care.

According to Schulz and Harrison, one component of autonomy captures the extent to which doctors can have own control over their activities, including priorities, time and intensity of work (Schulz and Harrison, 1986). In the study, most single-handed GPs felt they were generally free from external control in their day-to-day work, and enjoyed maximum independence and flexibility in managing their workload, scheduling surgery hours, and implementing changes within their practices. Many respondents saw such control as a distinguishing feature of single-handed practice, and it had a positive impact on their morale. Such degree of control had been perceived as difficult to achieve while working in the partnerships. For example, one respondent said,

“Being single-handed, Oh, I love it, and I enjoy it... I mean I still get the autonomy, the enjoyment of single-handedness I can do what ever like in the practice management in term of, for instance, I’ve got interest in IT. And I can volunteer for the latest GPASS doing things like that. I don’t have to get an approval of partners. You know doing things like that, if we decide to change the accountant or do anything administrative based around the practice, we can decide to do what we think it is the thing rather than having to go through partnership meeting, which could be good thing as well you know, stopping you hanging around the stupid ideas. But it is more enjoyable to hang around the stupid ideas. [laugh]...”

(GP 5, M, 46y, line 76)

From a female’s perspective, some respondents reported that a great sense of job satisfaction working in single-handed practice because they could regain control over the type of patients they saw, which had appeared relatively skewed while working in partnerships.

“Well. I think I have no regrets about it [being a single-handed GP]. It has been good in a lot of ways. In the early years of it, to begin with, I very much enjoyed the fact I saw patients who had anything wrong with them. Because when in the group, the woman [doctor] might get more women patients, more children, more gynaecology, and see fewer male patients. And I was seeing a lot of patients with psychiatric problems as well, and it was very refreshing to move just everything you know. So I like that quite a lot, and it’s nice to have the control of what you do. You can make decision quickly. You don’t need to persuade someone else if they agree or not agree. So that’s quite nice.”

(GP13, F, 49y, line 38)

Provided they could maintain control over their practice organisation and the content of their work, some GPs could see the setting of single-handed practice as offering a degree of flexibility to balance their work life with family commitments. That was spoken about positively by female respondents in particular, who were able to complement their professional duties and domestic responsibilities.

“...I think any working woman has trouble with that sort of work/life balance. Yeah, but you see what I can do here [single-handed practice]; for example, the school phones me now, I can go now and bring the wee one back here like it had happened before. My wee girl banged her head, and I went and got her. She just sat in the surgery during the baby clinic until my husband came to pick her up. So I know you would do that in the group practice, but I feel I could do these things much more easily. You know like this afternoon I go to pick them up and bringing back to here while I finished off [the surgery]. Because it’s my place, I can do that. It’s not such an issue. It would be an issue if you were

doing that on regular basis in group practice. People would be thinking, "Don't bring your children here." But this is my practice, so I can bring my child here."

(GP 19, F, 42y, line 119)

Besides having their own independence, some respondents also enjoyed a monopoly on their selection and utilisation of practice staff. As a single-handed GP, respondents reported being able to exercise their ability to choose practice staff, as a part of the responsibility of being the owner of the practice. For example, one GP claimed that,

"...I am quite happy to be my own boss. It allows me to set the standards in the practice, and that I think we are quite good...and I would be able to employ my own staff...almost immediately I tried to expand the services we had. For example quite soon after I started, I brought nurse into the practice, and I have a retainer doctor who was on retainer scheme, a female doctor...I also arranged at that time [to] bring a physiotherapist to the surgery as well. So I suppose as I said that I was able to set my own standards and see what I want to do, trying to develop."

(GP 4, M, 53, line 98)

In general practice, GPs' dominance has been increasingly challenged by the changing role of the practice nurse (Stilwell *et al* 1987; Salisbury and Tattersell 1988). In the study, none of the single-handed GPs talked about their autonomy being threatened by their practice nurse but rather spoke about their control over allocation of practice staff to individual roles within the practice, and ensuring they complemented each other, for the benefits of the practice.

"...one of the receptionists has been trained as a healthcare assistant so there's a bit of a kind of hierarchy of what patients see who. The nurse doesn't need to be bounded down with all the blood tests. You know because the receptionist does the blood tests. So she does blood test, blood pressure, height, weight, which is quite a lot of the nursing workload really. Other than that I want the nurse to deal with asthma type things or wounds. And the nurse, I've got her trained within the GEMS department to deal with minor illness and soon she'll be able to prescribe, so quite a useful nurse."

(GP 20, F, 37y, line 665)

"... there are plenty of patients who would prefer to see a female and especially some of the asylum seeker with their religious background...we've got round that by the practice nurse taking on that role, which is fine...she is

very capable and very skilled and so she is as a female partner at times and a lot of the patients will make [their] appointments with her...

(pilot GP 1, M, 45y, line 563)

In single-handed practices, although GPs delegated certain tasks to practice nurses, they perceived that they themselves were the final decision-makers, with whom the responsibilities should lie. Therefore, the role of nurse was subservient as they merely carried out tasks on the doctors' behalf. For example, one male doctor saw the practice nurse as an alternative choice for his patients who might have gynaecological problem, and he stated that,

"...if the patient had an intimate matter, they could see the practice nurse. She would take the history, and do an appropriate examination. And she would consult with myself, and I will see the patient..."

(GP 2, M, 45y, line 307)

"...clinical work I appropriately delegate to practice nurses...I mean practice nurses have quite a lot of responsibilities to chronic disease management [like] diabetes, asthma, COPD etc., although I signed all the forms."

(GP 3, M, 44y, line 159)

With some respondents, there was the sense of an attitude that it was necessary for GPs to maintain control over all the running of the practice rather than delegating jobs to practice staff given the scale of single-handed practice. For example, one respondent considered that his practice was well organized, and viewed that he had an obligation to be hands on in all practice matters:

"Well. As I said if you want to do things appropriately, you'd better do it by yourself. I think it is helpful in a sense. Okay, the only problem is that if you relied on people, what happens if, when, they were ill. Last year, the practice nurse, she was off on maternity leave, so what happened then? Yes. I had a locum nurse. But we spent three months training her, and then what, where you get from there? XXX she had a few problems with her pregnancy, so she couldn't come all the time. So I couldn't delegate to her. So this is the way I felt. Okay it maybe takes a bit more time [for me], but at least I know... rather than relying on somebody who might not be here. At the moment, I can manage it. As I say, this is the way I keep on top, the simple way to keep on top..."

(GP 11, M, 50y, line 399)

As single-handed GPs were generally the only doctor who provided care for their patients, they logically felt they were entitled to have control over their patient care in terms of both diagnosis and treatment, and spoke of this also as a preferable element of being single-handed.

“I think single-handed was really [what] I wanted to do you know comparing to partnerships. The advantage is you can practise your own brand of medicine. You can give consistent advice to patients, so you know antibiotics prescribing etc...You know it [prescribing] is relatively low...”

(GP 7, M, 48y, line 126)

Such control over patient care was generally mentioned in the context of continuity of care, so it will be further discussed in the following section.

Continuity of care

Similar to the findings of Green’s study (Green, 1996), respondents in this study felt that single-handed practices represented the core values of general practice, as they were not only familiar with their patients and knew them well, but also they saw themselves as continuously engaging with their patients, being able to provide consistent patient care. However in this study, the concept of continuity was perceived in both a longitudinal and vertical way. Longitudinally, single-handed doctors, as the sole medical provider had encounters with the same groups of patients over time in order to deal with their health-related problems. Such traditional one doctor to one individual contact was reported to enhance doctors’ incremental knowledge about their patients, subsequently making their jobs easier. For example, one respondent proudly illustrated his knowledge about his patients by saying,

“...I have said that I have been here for 30 years, and I know each one of them that comes here. Before they come, I know what’s wrong with them. I know where to look at and how to do. I even don’t need to go through the files, and looking through previous stories now. For me it is much easier. I wouldn’t say for everyone else. For me it is, it is Okay...I enjoy it. Yeah, I am very happy if patients get more care in a way.”

(GP 16, M, 55y, line 318)

Also many reported a sense of contentment with their longitudinal contacts with patients; for example, one respondent cited that,

“Yes, it’s rewarding in that, you know, you see the same patients all the time and the patients appreciate that. Because they tell us they like to see the same doctor all the time. Then you see them when they get unwell and you see them when they feel depressed, and you also see them when they’re getting better. That’s good.”

(GP 1, M, 36y, line 70)

The recognition of continuity in a vertical sense was linked to GPs’ accounts of their continuous engagements with the patients, who were followed through for the whole episode of care from their first presentation of the problem to investigation and onto outcomes for the patients, even if this involved a referral to secondary care. Thus, doctors were able to keep track of their patients’ management. This approach to patient care appeared to represent their notion about general practice. For example, one GP reviewed her experience being a single-handed practitioner and said that,

“You are responsible. You have responsibilities for the treatment or what ever happens to your patients. You follow that pattern through, and you follow it from the beginning to the end. And I think that’s so much easier for me. Maybe that’s just type of the person I am. I find maybe I think general practice like a jigsaw puzzle. You get all the bits, eventually you would get answer in the end. And I quite like that path. It is part of general practice. Probably this is the reason I stay in general practice. You can get these pieces together, if other[partners] were there[within the practice], you couldn’t get all the jigsaw together. That’s quite hard really.”

(GP 9, F, 52y, line 269)

Another said,

“...it is the continuity aspect of quality of care as well. It is not just you could pick up [problems] when they [patients] came back 6 or 7 times with the same problem... We should be doing something [with] the problem. The fact is you can see they [patients] come in complaining [their problems], we deal with it. ... There is also more ability to chase up secondary care. If someone repeats representing something under the secondary care, you can look for some alternatives for secondary care to look at it. It is more likely to happen in small or single-handed practice than in bigger practices.”

(GP 17, F, 36y, line 436)

Again, compared with their experience in group practice, some respondents believed that single-handed practice was an environment where doctors were able to provide patients' care in a coherent way given their knowledge about the patient and coupled to their autonomy and independence over decision-making about patient care as discussed earlier.

“Well, as I said my experience in group practice as only being a locum, Em, and it was a big practice. [pause]...what I found in that situation, you had a number of people. You had a number of doctors in the practice, a number of minor and significant complaints. And everybody had opinions. Everyone prescribed something. Everybody would do some investigations...I found that very difficult. ... if [you were in] a small practice... you know all the patients, you know what they present with. You've got total autonomy making diagnosis, doing investigation, treating it or referring onwards. So every letter comes in here to this practice, I know who is about, what's going on with the patients... I think it [single-handed] is very nice for the patients,[having] somebody's finger on their pulses all the time.”

(GP 18, F, 54y, line 103)

While such continuity was highly valued by respondents, some raised concerns that there was a possibility that single-handed GPs might lose their insight into patients' problem as a result of such continuity because they could be too close to obtain fresh views on their patients' condition. For example, one experienced single-handed doctor described an episode of care with one of her patients.

“...I look after four generations of the same family, and sometimes even five generations. That's quite incredible. And I can think of one of the families I look after five generations, which is amazing. So you know the family, you know all the patients, you know what problems are, you know how they normally react. That can be a disadvantage though. Sometime it is nice to have someone who doesn't know them to come have a look at the situation, because sometime I can't pick up something under my nose. I don't see it you know. Yes. I had a locum who picked up a patient who was hypothyroid. That's something I should pick up, no problem. But the locum picked it up, and it was galling I hadn't even thought about testing the patient. It was galling.”

(GP10, F, 52 y, line150)

In addition, this single-hander also pointed out that continuous engagements between single-doctors and their patient population could develop patients' dependency on seeing only their own doctor, and could put a strain on single-handed doctors.

“...you carry all the responsibilities yourself, and it is big responsibilities. And also patients come to depend on seeing me. And initially at the beginning I was unable to take many holidays because I didn't have much money to pay the locums. But as the time has gone on, I have been more able to take holidays and so on. Initially patients were a wee bit resistant to see other doctors. They would wait for weeks, seeing me when I was back or whatever... There is maybe an element of dependence of seeing the same doctor all the time. But they have got the continuity. This is the big advantage for them as well.”

(GP10, F, 52 y, line 98)

The scale of single-handed practice

Although most respondents spoke positively about their independence and flexibility in decision-making over practice business, such freedom seemed at the cost of GPs' enduring huge pressure in their work. In general, respondents saw that the commitment to being a single-handed doctor imposed great demands on them at a personal level, and many claimed that they tended to take less holiday compared to the standard six weeks holiday entitlement when working in a partnership. The difficulty to take time off from work was of concern to most of the respondents, who felt it was inevitable and related to the small scale nature of their practice. This small nature impacted in other ways too. In the interviews, many respondents considered that single-handed practices were less likely to gain economies of scale compared to group practices due to the costs incurred in running their practices. One GP stated that,

“Small practices like this will never be as profitable as big ones. Because you have more cost to be able to be a doctor... I think it is less efficient in using staff. Because you need a certain number of staff if someone is on holiday. You need to be able to manage. So I think some of time I actually have more staff per doctor say than in the big practices have. Because you still need to be able to cover. If you were big practice, you had six receptionists, something like that. If someone went on holiday, the rest of them just managed with it. But for me, if one of my receptionists went on holiday, the one left alone couldn't manage, so the other part-time one had to come [and] work more hours... That's why the profit in single-handed practice would probably be less than in big practice.

(GP13, F, 49y, line 248)

This view was echoed by many respondents. Given these GPs, on the one hand, often felt restrained in taking time off from the practice because of the high expense of employing

locums; on the other hand, they were likely to run their practice very frugally with regard to the number of staff employed and the amount of hours allocated to staff. This resulted in uncertainty in doctors' everyday practice because often there was little back-up readily available when they needed it. For example, one respondent illustrated how staff shortages put strain onto him as a single-handed doctor.

“Yes. There is a lack of resources sometimes. We had difficulties to get practice nurse things at one time. But now again we have the problem, and one of our nurses felt sick, and she was sent to hospital for abdomen pain last week. And we are struggling to get someone in now. So I am struggling now trying to do both of the work. For a short time, hopefully she will come back and hopefully we will find somebody by next week.”

(GP 16, M, 55y, line 278)

In fact, staff strain as a result of the lack of available economies of scale within single-handed practice was a constant worry for some respondents, and there was a potential fear that such practices might not be able to attract and retain their practice staff, becoming an additional headache for GPs. For example, one respondent mentioned that,

“...there is no doubt that we are vulnerable because the economies of scale, and increasing environment of it, and would be the death of the single-handed practitioner. Because you have the situation where you always have potential staff strain now, and as you have staff, you train them up, and other practices could pinch[them] from you, because they can pay them more. That just likes any small business, and small co-operatives. That's what happens. Erm, so every time you change staff, you lose the string; you lose the continuity, and that's unpleasant. It is difficult for patients, and it is also unpleasant for yourself, because you do very much work as a team with your staff. Your staff are adapted resources, they know the way you work, actually that is very important when you get new member of staff, it is not just train them to the basics of the job, it is also about how you work.”

(GP6, F, 45y, line 252)

Also single-handed practices might be seen as an environment that could not meet their staff's needs for career development, and that potentially could impose a challenge for single-handed GPs to retain practice staff.

“I think clinical staff and administrative staff start in single-handed practices perhaps with reduced work commitment, for a few hours a week or half-time, [they want]to see if they like it. And if they wanted to develop their career and

move becoming full-time, they would really have to move on...I have spoken to other single-handed GPs who do feel that there is a danger that reception staff [who] are trained, and after all the training taken place with computerisation, people skills, and resuscitation, and then they moved on to other practices. But there isn't any way you can get around that. You can't force them continuing to work here if they don't want to...I can understand why it happens. If someone only works 25 hours a week, but they really want to be full-time. But I can't afford to have a full-time worker. So obviously they move on to the practice which can provide full-time commitment...So I think people use single-handed practice to find out what is general practice about, whether they like or not, then might move on."

(GP3, M, 44y, line 294)

In addition, respondents also mentioned their dual role as both a clinician and a business manager of the practice, and recognised that there was an increased level of administrative and managerial tasks for single-handed GPs, particularly as a result of on-going policy and government directives. Many felt that single-handed practice might not have adequate capacity to keep up with such growth demands, and this was also becoming an important factor, adding to a growing sense of unease and distress.

"If I turned clock back, probably (sigh) I would leave and move onto another practice. Single-handed practice is too pressurised. I mean it is great that you are your own captain. You are totally in control, but the pressure of the new contract, not having a practice manager, doing all the financial and salary. All non-medical work plus I very rarely have my holiday. I have one or two weeks per year. And for example, this year I am still not be able to get a locum to cover for me to get a holiday. So I am becoming very tired, mentally and physically...I like doing the medicine, and that was what I trained for. And I hate sitting in my kitchen at home with a laptop doing all the paperwork, the finance, the bills, dealing with the repair of the building...and I have very little time off. I have very few holidays. This is particularly hard for me to go home and doing work at home, cutting down my ability to interact with my children you know. I feel that it's punishment for me."

(GP2, M, 45y, line 57)

Nevertheless, with respect to their small scale, some respondents indicated its potentially positive value, for example in the way that they structured practice administrative staff. One GP described that as follows,

"I have two part-time receptionists, that's kind of they are every day here (pause). And then I have two receptionists who had been promoted. I have two older receptionists who actually have been with me for 18 years, who I have

promoted to administrative assistant, because they have been so loyal, and they have been so helpful. So I have got 4 receptionists really. But two of them have been promoted, so they are also involved in other things in the practice you know recall clinic and cervical cytology. So they do a lot more than just answering the telephones and make appointments...Being in a small practice, it certainly encourages us to use what is available for us, makes it work. In a big practice, possibly the receptionist maybe stay as she is, and you have to employ a healthcare assistant extra.”

(GP 15, F, 48y, line 300)

Isolation

Being a single-handed doctor, it might be expected that they would be professionally isolated as they might lack interactions with others, and this could be a potential source of stress. The analyses of the study showed that those who practised from their own purpose-built premises tended to agree with such a notion of solitude in the community having little contact with GP colleagues; GPs who worked from health centres, however, frequently disowned a linkage between single-handed doctors and isolation, suggesting that they were not necessarily more isolated than those working in group practices.

Some respondents described professional isolation as a sense of difficulty resulting from having no immediate back-up from professional colleagues over their concerns.

“Yes. I think this is one of the negative sides of being single-handed. There is no one I can turn to, to discuss problems. There is no one to share my difficulties or my complaints. Yeah. That is a negative side of it,” and he carried on, “To a degree, I feel isolated. Because there is no immediate colleague I turn to for discussion. I certainly can discuss with practice nurse, or practice manager. But it is not quite same as discussing with another doctor. So in a sense, it is isolating.”

(GP 14, M, 48y, line 222)

From a medical skills point of view, isolation with respect to colleagues was a concern for a couple of respondents, who felt that single-handed practices did not provide an environment to share and learn clinical experience among GPs. Thus, single-handed GPs more than those in partnerships had to be true generalists:

“...we don't have the luxury with a larger practice of maybe, you know this doctor does diabetes and this doctor does minor surgery and this doctor does gynaecology. You don't have that luxury and you have to do everything. And you might not, we're all human beings, you might not be very good at something.”

(GP1, M, 36y, line 62)

In contrast, those respondents who shared their premises with other GPs generally objected to the presumption of single-handed GPs being isolated, reckoning that the co-location of practices under one roof provided them with opportunities to engage with other GPs. Indeed, some claimed that they were more isolated when they were a partner working in a partnership than being a single-handed GP. For example,

“I feel quite lucky to work in a health centre, so it is not an isolating situation being single-handed. In fact, I can say it is opposite. There are a lot of practices in health centre here. We have tea breaks. We can all go and mix with others, other members of staff, other groups meet at tea break, chatting over tea informally and then getting back to work. And that is very helpful in terms of social contact. But I would say I was more isolated, I felt more isolated at a group of nine doctors than I do as a single-handed doctor. Because that time just I practised there, not one listened to your views, no one else cared about you. You wondered [whether] they actually cared about the patients, of doing their jobs. I think in group practices, probably many doctors do feel very isolated.”

(GP 8, M, 47y, line 48)

Nevertheless, respondents from both settings perceived that isolation was a subjective matter of choice depending on individual GP's consciousness rather than the size of practice GPs worked in. For example, one respondent stated that despite working from private premises, she never felt isolated as she said that,

There are two things about that [isolation]. One thing is I think group practices do not necessarily have huge amount of peer contact anyway, and certainly not necessarily in educational things, maybe to do with practice having meeting about admin things. They wouldn't necessarily sit around talking about managing XXX. But the other thing I actually feel is I have a lot of contact nowadays. Maybe there are some of GPs who choose to be quite isolated. But certainly since the late 1990s when the LHCC came in, I have been always very involved in LHCC locally, which we do audit, and meeting up regularly. So we share a lot of information. So I don't personally feel I don't have peer contact. If you use locums you have a peer as well, if you know a regular locum, you get to know them. There is contact that way you know. So I

think in a group practice you don't have a better peer [contact], and I don't think single-handed doctors necessarily have worse peer contact."

(GP 19, F, 42y, line 355)

In the discussion about their experience of being single-handed, some respondents felt that single-handed practice had little influence on the health board compared to those large practices, and felt a great deal of difficulty to get the required support from the health board or primary care trust.

"Because you're small in the health board sense, you don't have much clout. So sometimes it is difficult to get things done. The impression is if you are in a big practice, the health board might be more supportive and more helpful... I have been trying to get a practice manager. Previously it was possible to get re-imburement for a practice manager—a full-time practice manger with the list size we had at that time. (After split) when I applied to get a practice manager, the health board wouldn't consider it. So I haven't got a practice manager."

(GP 3, M, 44y, line 85)

Several respondents also talked about a state of being vulnerable, of not being able to obtain support particularly in circumstances that were beyond GPs' own control. For example, one respondent described her experience of interaction with the local primary care trust seeking locum cover,

"...certainly I have to say I was quite surprised that my response from the trust when I was unwell a couple years ago, I actually broke my ankle, and I could not get a locum for the first two weeks in July...I spent many hours [looking] for locums, and I phoned the trust, I phoned LMC first told them I had this difficulty. And they told me phone the trust. I phoned the trust and told them...and the doctor I spoke to said, 'I am sorry about to hear about your difficulty. You are self-employed, so the problem is yours.'...So I didn't get a locum...I think that was outstanding situation, that I think it is absolutely appalling."

(GP18, F, 54y, line 216)

As little support from the health board was offered, many respondents reckoned that informally they often formed their own liaison or network channelling possible supports for their practices; for example, several had made arrangements with other GPs locally for cross-cover for each other, and many also mentioned that they would contact other GPs

colleagues as well as doctors in secondary care for practical support for potential clinical problems. For example, one GP talked about her working relationship with a neighbouring practice as her source of support,

“I have a very good relationship with the practice next door, which came into being when three women doctors split up quite a few years after I had my dissolution. I constantly have discussion with them, and if they want a second opinion about something, they ask me. And if I want second opinion and I ask them. Sometimes I even cover for them, which is great, incredible. They have covered for me in emergency situations.”

(GP10, F, 52y, line 167)

Likewise, one GP suggested that she often resorted to secondary care for medical advice when she encountered problematic patients.

“I have found the registrar in Casualty, ‘I’ve got someone here, I am not sure something what it is. Can you give me a clue? Do you want to see them?’ The hospital sectors are quite happy to be phoned for advice. Certainly the one we phone more often is the A & E Department, speaking to the registrar or consultant to get something clinically quickly...I think our relationship with secondary care is quite good perhaps because we are more ready to phone them up to say help.”

(GP 17, F, 36y, line 603)

In addition, such links between GPs and local doctors in primary care and secondary care were not just regarded as valuable clinical back-ups for many respondents, and some also tended to notify this as a marked feature of urban single-handed GPs, probably distinguishing them from those practising in rural areas.

“I think maybe rural practice is different...the rural GPs are adapted, and there are probably a lot of areas they are expert at. They probably manage emergencies better, but I don’t have to manage medical emergencies. I phone an ambulance, and that’s the appropriate thing to do....you should be looking to your secondary care colleagues and tertiary care colleagues for help.”

(GP19, F, 42y, line 393)

Quality of patient care

In general, single-handed doctors considered that they provided a good quality of patient care, and largely spoke of their providing holistic, patient-oriented, continuous care, as one respondent illustrated,

“I think the number one thing is that you know your patients. I think this is the most important thing of all, and patients know you. And I think you often know a lot of things about them from experience with their relatives, maybe because I have been with them for a long time as well. Erm, but it is continuity of care you give, and I think I would say this is the most satisfying thing...and the patients are happy with it. They are so much happier to be seen by you, or occasionally they are seen by regular locum. But they are not just to be passed from post to post, and people make one decision here and another decision there. It is holistic care. I think this is the only way I can describe it really, and I don’t think you can get it in a large practice really.”

(GP 9, F, 52y, line 582)

In agreement with her comments, many respondents indicated that such a personal approach to patient care was an important facet of single-handed general practice, featuring its courtesy, pleasant environment and helpful staff, and all these were believed to be highly valued by their patients, yet rather hard to be measured using standard quality indicators. For example, one respondent mentioned comments on quality of care of single-handed practice from his patients’ point of view,

“Happiness and politeness, because a number of people have said to me, ‘Doctor, your staff are great.’ You know there is a pride within the practice. The girls [receptionists] are all very pleasant, and they are very helpful. They bend over backwards to help the patients. I think patients get a degree of tenderness care. People can see the girls are quite warm and welcoming rather than put [up] a barrier...So I think there is a friendly atmosphere, patients feel part of it, and I would like to think that way. Patients feel that they are not just a number. That certainly is the case in a 17,000 doctor practice, where you can see a patient in there for 7 years, and you have never seen before. They don’t know you. They just feel like number.”

(GP8, M, 47y, line 634)

So, many believed that single-handed practice had its attractions to their patients, as it satisfied their patients’ needs for the personal touch, and GPs assumed that patients would not choose to register with them or would leave the practice if they were not satisfied with their services.

“...patients come here because they’ve heard about the practice. I think when you are one doctor, there tends to be more personal needs into place. People know me, and patients call me by my first name, and so people like that, like that approach, and will say that, ‘You should go to my doctor.’ But equally I understand if people don’t like, just go to somewhere else. So you tend to self select patients who want to be in this kind of practice.”

(GP19, F, 42y, line 288)

In some way, continuity of care not only enabled single-handed GPs to feel a sense of professional fulfilment as discussed previously, but was also believed to relate to their patients’ satisfaction. Some claimed that through one to one contacts between the doctor and the patient, GPs accumulated their knowledge regarding patients’ clinical condition and social circumstances, and likely patients also got acquainted with their GP, and felt the doctors to be approachable.

“People [patients] know you. Okay, I am not saying that everybody on our list is happy with the care they’ve got, because we can’t please everyone all the time. But people get to know the way you work in term of this type. If they know that coming with their problem [they] would be listened to, they maybe need no more than your listening to them for 5 minutes. They know they only get listened to. It is the continuity aspect of quality of care as well.”

(GP17, F, 36y, line 432)

Such familiarity embedded within the single-handed practice applied not just to doctors, but also extended to other members of the practice team such as receptionists and practice nurses, and that could endorse patient satisfaction further with the practice. That is exemplified by the following excerpt of one interview.

Int: “How good is the quality of care in your practice?”

GP: “I’m absolutely flattering myself here, but I think they (patients) get a very good quality of care. I know the patients.”

Int: “In what ways?”

GP: “Well. There’s the patient, and there’s subjective things. The patients like seeing the same doctor all the time and obviously if you’re a single-handed practice and you’ve only got one doctor. You’ve probably got only one nurse as well. They like to see the same nurse all the time. And if you’re a small practice you don’t have twenty receptionists, you have two or three receptionists. So when your patients walk in the door, they see a familiar face

when they see the receptionist and the chances are the receptionist also knows them. That makes life more efficient because they don't have to say, 'Who are you?' She knows. 'Here is your prescription or would you like an appointment?' and they come in and they see the doctor. And again because I know the patient, you don't have to spend a lot of time looking through the notes and such like. So I think they get that subjectively good care here with people they know and people who know them."

(GP1, M, 36y, line 137)

Consistent with previous studies, some respondents reckoned that a mutual understanding developed between patients and GPs based on their continuing contacts, and suggested that such relationship-based care could make the process of care more transparent and consolidate the doctor-patient relationship in the context of honesty and trust. For example, one respondent mentioned that,

"...in a practice with three or four doctors, patients maybe not completely satisfied, and they can make an appointment with another doctor to see how they feel. In the single-handed practice, if they are not happy with you, then they come back and just be honest. And you can say, 'Right, you are not happy. What's problem? Let's look at it.' Sometime it actually strengthens the doctor-patient relationship."

(GP15, F, 48y, line 230)

Also from the organisational sphere of quality, some single-handed GPs acknowledged that they provided easy access for patients, which was an important component of good quality of care. They also believed this was an essential advantage of single-handed practices over large practices. For example, one respondent said that,

"...[the] majority of time they [patients] book on the day. Okay, they can book if they want in advance, but majority of them they book on the day or the day before...most of time as I said we get appointment for the same day. So people don't have to wait a week before they get the appointments...I know people keep telling me that, 'I can't get the appointment with my GP. I have to wait for two weeks or one week.' All these problems. They [patients] don't have these problems here."

(GP11, M, 50y, line 280)

Likewise, several respondents emphasised that such accessibility was a priority for many patients, but yet was being downgraded in big practices. For example, one GP accounted her perception about her patients' needs from the practice and stated that,

“Access—to be able to get hold of you easily, be able to give appropriate and up to date treatment advice. I think that’s probably [what they want]. You know I think with the list of 2,500, I have the same appointments everyday, and you know group practices with six partners, with 12,000 patients, relative fewer patients per GP, each can’t provide that you know.”

(GP19, F, 42y, line 274)

In discussions about quality of care, respondents very much emphasised the benefits that single-handed practices offered to their patients, although some pointed out certain limitations in term of service range, as single-handed practices were considered unlikely to have the capacity to provide a the full range of service that appeared to be possible in large practices.

“I can see the disadvantage. I cannot provide a full range of services that the big practices can provide. For instance, I don’t do minor surgery; I don’t do joint injection; whereas in a big practice, they can have some sub-speciality in their practice. So there is disadvantage in that way.”

(GP14, M, 48y, line 589)

Many thought that the scale of practice itself decided that single-handed practices were not able to provide a comparable range of services to those found in large practices due to time constraint on GPs, GPs’ professional skills, patients’ demands for services, and readily available resource within the practice. For example, one GP explained her reason for not providing certain services and said that,

“Obviously time. You only have a certain amount of time, and you can’t do absolutely everything. I don’t do minor surgery, just simply because I don’t have enough time.”

(GP10, F, 52y, line 586)

Similarly another respondent said that,

“We don’t offer some things partly because we don’t see the number of patients required to keep skills up to date. But I think that’s something if you are in extremely large practices, it’s probably valid. We don’t do... cut the lumps for instance, because I haven’t seen enough of them. I see one or two every couple of months. It’s not enough to keep up your skills well, to keep

yourself safe. That's one thing we don't do partly because of the size of the practice, partly because of patients."

(GP 17, F, 36, line 535)

Besides service ranges provided by practices, the profile of the patient population also could put additional strain on single-handed practices to meet their patients' needs for care. In the study, there was a mixture of respondents who had different types of practice population. In the areas serving deprived populations, the GPs mentioned patient demands with respect to the amount of work involved looking after such a group who tended to be more ill and were likely to have, in combination with health problems, a wide range of social problems. For example, one GP indicated that her practice had the highest level of deprivation within its local area, having a less desirable population compared to its neighbouring practice.

"We've got more or less desirable [patients] supposing you would put, more drug addicts and alcoholic type of population, who actually migrate to places relatively frequently. So we have a big turn over. When there is a big list with big turn over, there is a lot work."

(GP17, F, 36y, line 362)

Several respondents also had certain groups of population such as ethnic minorities as well as asylum seekers, and that presented additional challenges for GPs as language barriers and patients' expectations for their healthcare.

"...because I've got an asylum seeker population, who get language difficulties mostly. And the difference in expectations for health service from what we normally provide. I find that quite difficult in language and cultural differences."

(GP 13, F, 49y, line 433)

The new GMS contract

The new GMS contract was a major issue for all respondents. Respondents largely talked about the impact of the Quality and Outcomes Framework on both patient care and general practitioners' work. With respect to patient care, there was a general consensus that the design of Quality and Outcomes Framework (QOF) had had a positive influence on promoting chronic disease care, particularly the ten chronic diseases covered by the QOF

at that time. As far as quality point achievement under the QOF was concerned, respondents reckoned that single-handed practices delivered a satisfactory quality of care, which was facilitated through their relationship-based care, knowing patients better. For example, one respondent said that,

“It is not difficult to get the points just because you’re single-handed. In some ways, it might be a bit easy because you know patients better. You know which one exactly to target; whereas if you had 20,000 patients, it could be a lot of harder to target them. I don’t think it is particularly [difficult] to get points for single-handed practice. I think it is arguable whether it is harder or easier to smaller practices, and I am not convinced that it is harder for single-handed or small practice.”

(GP 14, M, 48, line 394)

Yet, despite being content with their attainment of quality points, some respondents in particular those working with deprived populations, talked about a tension between targeting patients with specified QOF conditions in order to achieve quality points and managing patients with medical problems that were not included in the framework, and believed that it could potentially be detrimental to the quality of care for those with such un-incentivised medical conditions. For example, one respondent exemplified that as following,

“Although we’ve got some contract specific areas like asthma, COPD of which prevalence are high, we also have a lot of non-contract workload. There are huge depressions, anxiety, or the stuff going with deprived areas. There are minor stuffs, [children with] chest infection because their parents smoke, all that kinds of stuff is big part of our workload. It is not accounted for under the contract,”

and later she added that,

“...you spend your time chasing people for ten disease areas. I don’t know what new areas they put in this year, but you ignore the fact that maybe you should bring your asthmatic patients to check their pain control is okay, or you should review your osteoporosis patients whether they are actually taking osteoporosis medication. You don’t have time to chase up other things; whereas before you would be able to have a more global overview of your patient population... So this has negative impact on quality of care overall. Not the quality of care in those disease areas. We aren’t that bad anyway. We’re now probably a bit better but negative impact across the broad quality of care.”

(GP17, F, 36y, line 381)

In a similar way, several respondents were aware that there was a possibility of eroding the personal element of relationship-based patient care working under the new contract, as they increasingly felt they had less time for direct contact with their patients, instead spending a considerable amount of time dealing with QOF related paperwork.

“I think clinical care has improved in some ways for chronic diseases, and it is definitely improved. For ischaemic heart disease, diabetes etc... It [care] is definitely improved. In terms of acute conditions day to day running, I think doctors have a lot less time to see them now. They are not interested to see acute conditions. Because as soon as they [patients] come in, you want their blood pressure, weight, smoking status checked, so acute [conditions] suffered. Also we have a lot of less time to see patients face-to-face now. Because I spend more than 50 per cent of my time on paper work. There is no doubt I spend time on paper work than seeing patients now.”

(GP 14, M, 48y, line 377)

The process of implementing the new contract might be considered relatively easy within single-handed practice because of GPs’ autonomy of decision-making over the changes; yet there was an increase in workload in both clinical and managerial tasks putting single-handed doctors under a huge amount of stress. Essentially, they felt they were subjected to a great level of additional pressure particularly around financial matters, because single-handed practices were financially penalised for their practice list size and disease prevalence under the reformed payment system of the new contract, and that had a negative impact on their existence as a single-handed doctor. For example, one respondent described that,

“...we probably feel the impact more because we have to try to get the maximum points. If we didn’t get the maximum points, we potentially would go bankrupt, as the value per point is so tiny for us. We got in the first year of the contract, we only got £31 per point something like that. The list size is so much below average list size. The new contract works is that you get your global sum, which is a historical figure, which how they worked it out and how it is corrected is another story. But the value per point for the quality framework of £75 per point is for per average list size of 5,100. If you have less than 5,100, your point’s value—pound goes down.

Then you get your disease prevalence knocked down accordingly as well. So if you are small, you only have three patients with say epilepsy, and two of them refused to get monitored. You lose your points. Those points might be worth £20 per point, but that £60 or £90 what ever you would get from that particular job is valuable to that practice. Because without it, that can make the difference for us to sink or swim. Because the way out here, the global sum

covered the staff wages just, and what we've got from quality framework pretty much what was left for profit, which isn't much when people bending their fingers earning eighty or hundred thousand pounds. Oh, hang on a minute, we get more patients. Because average single-handed practice have higher number of patients per doctor than in group practice scenario, but you earn less and a lot less."

(GP17, F, 36y, line 110)

Such a viewpoint was particularly vocalised by respondents working with deprived populations. They stressed that they were not able to take advantage of any financial gain because of the calculation formula of the QOF payment, which did not truly reflect the workload involved with looking after a high proportion of patients with ill health.

"... because of the sort of morbidity of my patients, so I see them more often... of the new contract is that weighted Carr-Hill formula, and if you have areas having significant mortality and morbidity, you should actually have high payment for that.

...Carr -Hill formula and weighted list size are fairly negative. That makes a big difference [for single-handed practice]. And the peculiar thing is the formula when it comes to the figures for the disease areas, and prevalence is square rooted. So if you got four times the national average of asthmatics, you only got twice as much as the money for it rather than four times as much for it. So I think if [these] two things [Carr-Hill formula and weighted list size] change that would make significant benefit for me."

(GP3, M, 44y, line 529)

Reform of the new contract was thought by many respondents as having increased government's control over GPs, whose professional status appeared undervalued, and turning into a box-tick exercise which threatened GPs' autonomy in daily work. For example, in reply to a question about the new contract, one respondent cited that,

"I don't like the new contract. I hate it. We are like puppets. Do the blood pressure, putting on the computer. Do this, do that, just like puppets. Just to get the points to get money. And I don't like it. I am frustrated often. I feel that some of the things we must put on the computer are almost insulting you know. Some of new enhanced services, say to do with the depression. You must tick the boxes, you have to ask the patient this specific question you know. You must ask them this question. I think I don't like. We should be trusted to look after patients in an appropriate way without having to be checked up, to see whether we're asking them specific questions. I don't like that kind of thing."

(GP13, F, 49y, line 373)

The government's control of the profession was also recognised as part of the growing demands on doctors in general practice, shifting work away from secondary care to primary care, and that single-handed doctors might not have required infrastructure and skills to cope with such changes in the future.

“It is getting more and more frustrating and stressful because of all these points chasing. The points chasing is becoming more and more difficult because the new GMS contract places too much expectations on GPs now, too much expectations on the GPs from the government, chasing all [points] of the new contract. They expect us to know all and do everything. It is not possible for GP as one person. If you worked in the hospital, I say gynaecology, you were working in gynaecology, and you would know all gynaecologic problems. If someone asked about a gynaecologic problem, you would know what to do with them. But if you were sitting in general practice here, I would be expected to know all gynaecologic problem, sorted them out. All heart problems, all diabetes problems, all respiratory problems, and it likes I must specialise in all these specialities. Now that I find it is more stressful now.

That's not like it used to be. Before when you diagnosed somebody with diabetes, you could just send [them] to hospital. And they can decide to take or how to treat the patient in that speciality...But now we have to manage everything in the community, and that I think it is bit more stressful. They [the government] put some upper limit on how much we are expected to do, that's fine. But I think they are pushing more and more in general practice, probably to save money for the government from the hospital.”

(GP16, M, 55y, line 260)

As previously discussed, there were felt to be few economies of scale within single-handed practices. Thus, several respondents spoke of the sense of mounting stress laid on them being a single-handed doctor from the resources point of view - they felt it was growing difficult to adapt to the constant changes brought by the new contract without additional staff support.

“There is always paper-work and workload is accelerated because of the new contract. I mean I have to attempt reading all the new contract, definitions, trying to set them up in the practice. I can't delegate it to my receptionists, particularly with the new contract. I have got the ball rolling, seeing what happens in a year, and trying to understand myself before I can teach it to others.

Then this is the end of the second year of the new contract, they've changed the goal posts and they've changed targets. So I am still chasing my tail...Unfortunately the first year of the new contract, my practice nurse had a reaction to flu vaccine, so she was off for four months...It was depressed for everybody. So, yes, I would love to practise in single-handed practice 10 or 20

years ago, when that's purely the medicine. I enjoy the practice, and I don't have problem with the objectives of the new contract. I think it is good, raising standards of medicine. But it has raised stress for me personally, in term of computerised, all the information and there is a huge paperwork, computer headache for me because we still have same number of staff. I don't have practice manager and I don't have additional staff to cope with it...it has been headache for all, we all struggle. I just wish keep the same goal posts for next a year or two instead of giving us increasing targets."

(GP 2, M, 45y, line 169)

One respondent raised his concern about the change of the new contract regarding service ranges, which have already been discussed earlier as a limitation on single-handed practices. The possibility of expansion of services delivered in general practice would increasingly challenge single-handed practices in the future, as he mentioned that,

"..there are some things such as enhanced services are more difficult to go for when you are single-handed. ... I mean I haven't gone for, for instance drug abuse Methdone prescribing enhanced service here in Glasgow. It would be more difficult for me to go for that as single-handed practice."

(GP5, M, 46y, line 415)

In order to cope with the changes under the new contract, mainly in relation to QOF, some mentioned that they had increased their staff's working hours and delegated a considerable amount of administrative and clinical measurement tasks to their practice staff. One respondent spoke of his approach to manage increasing workload by offering an incentive to his practice staff.

"What I have done is top slicing of QOF points going to receptionist staff, based on their interests. When I talk about the incentive scheme, the bonus scheme at the start of the year. 'Look, I am quite happy with 950 points, so anything else over 950, that's yours.' This means the girls will always be vigilant putting data on and they will always be vigilant to send letters out. So if I am only going to take 950 points at the end of year. I am certainly not getting much less than that, they [the staff] are in zero stress under the QOF because they know 950 points would be retained regardless of what I do. Also I think giving them the incentive to their work rather than just be lost in day-to-day humdrum. Actually it's worked out very well."

(GP8, M, 47y, line 440)

A few GPs also talked about their approach, targeting particular indicators in the new contract taking account of the organisation of the practice and the amount of work that

would be required for the smaller number of points. For example, one respondent talked that,

“...I don’t think anything is difficult to achieve. Some things are not worth achieving, a lot of administrative things in last years. You only got one or two points for, which would be worse for me if one point only worth £25, and it took me a significant length of time to do something that is not worth doing,”

and he illustrated further that,

“if I am going to meet the prescribing advisor, I have to get a locum to do that, and it costs £160. So to get £100 doing the thing; whereas in a big practice of 10 doctors, they would get £1,000, even if a doctor gets a locum in, they still get profit of that. So there is the economies of scale within the new contract, that makes it worth doing things in big practice. It is not really worth doing in small practices. They change around that this year...but there was the odd point here and there, which wasn’t particularly difficult to get, but financially it is not worth driving me to do that.”

(GP3, M, 44y, line 439)

The prospects for single-handed practice

Most respondents were not optimistic about the future of single-handed practice, acknowledging that policy appeared to be discouraging of single-handed practice and, instead, promoting “mega-practices”. For example, one respondent gave his view about the future of single-handed practice saying that,

“It is going to disappear slowly. The government will make sure they all disappear slowly. Given more group practices, because probably economically for the government it is cheaper to have group practice like big company. Erm, for me I can see a gradual deterioration of single-handed practice, slowly disappearing one by one. If I retire, I am sure the practice will not be given to single-handed practice. This will disappear. They’ll probably ask another group practice here to take over. Right, this’d happened before. Another single-handed practice on the same road, which is 300 yards away. He went to London, and they didn’t advertise it, and they just gave to another practice. So that single-handed practice disappeared. That’s what they want. So the same way, when I retire, my practice will probably disappear, they would give to someone else.”

(GP 16, M, 55y, line 589)

In addition to the government's financial concern, some respondents were aware that single-handed practice was thought to be "a headache" from the perspective of NHS management and administration, and that is illustrated by one respondent,

"I can see we've talked about all the problems faced [being] single-handed, as being sick or broken legs and all these things. And I think all those headaches become the headaches for the NHS board. I think if I was the NHS board and I had fifty GPs in an area, I would much rather if I had ten practices of five than if I had fifty single-handed practices. Because for fifty single-handed practices, the chances are at least once every week you might have one of them unwell and it's responsible for a health board to make sure the patients get care, how you are going to do that. Getting locums in or you'd probably have a whole office just dealing with these issues. Whereas if you've got fifty GPs in ten groups or five, it may well be a GP is off sick every week but you don't know of it because it's taken care of at practice level."

(GP1, M, 36y, line 494)

As well as a growth in partnerships, many also noted other changes that have occurred in general practice such as the development of GPs with special interests, the increased use of salaried doctors, and the introduction of private care providers. All were thought by at least some respondents to threaten the existence of single-handed as well as small practices.

"I mean if you look at comments, if you look at publications, and if you look at the BMJ, always taking about mega-practices, with excessive doctors and nurses. How that model will work, I honestly don't know. Within the health centre, there will be between 20 or 30 GPs within eight practices. The notion of it I expect what they want to do is to provide very cheap secondary care. There will be a doctor dealing with diabetes, a doctor dealing with dermatology, once folk turns up at surgery. If that's what they want to do, they would fund them. I suppose we have to accept it. But if that does happen, I am quite sure where is the place for single-handed GPs, where is the place for the generalist of general practice."

(GP 3, M, 44y, line 775)

The likelihood of general practice organisation moving away from single-handed practices was perceived to be inevitable. This was of concern to some GPs, who thought it would be to the detriment of quality of care, eroding the core values of general practice, as illustrated by the following comments of one respondent.

"Challenges for us would be to survive I suppose really. I think the whole concept that they really want is this health centre to become one practice

really. I think ultimately this is really what the government really wants. But I don't think they really understand how that dilutes the doctor-patient relationship. They really don't know what that is. That is something really we lose that. You would have got to GEMS something like that, which works in certain part of it. But I don't think there is any continuity of care. I think this is probably one thing single-handed practice has. This is continuity of care, and I think we lose that. Then I think we lose something of quality. How we can survive? I don't know. If the government says, we can't be general practitioners, then I don't know, we probably go out and demonstrate."

(GP 9, F, 52y, line 721)

Despite a general consensus that single-handed practice is dying, several respondents thought that it still could be possible to retain this type of practice, for instance by working in collaboration with other single-handed and small practices, which could offer economies of scale such as sharing their practice resources, premises and staff but still maintaining their independence over their own practice, and keeping continuity for their patients. For example, one respondent commented that,

"I don't think it [single-handed practice] should be locked out. I think there will always be doctors who prefer to work by themselves and there will always be patients who prefer to see a single-handed doctor because they can guarantee that they can be seen by the same doctor. So I don't think we should ever outlaw it. I think it would be possible to put mechanisms in to make it easy, so there is no reason why you couldn't have [single-handed doctor]. I think if you offer me the choice, as I am in this isolated surgery all by myself or I could be a single-handed practice in a big practice, yeah I think there's big difference there. There's no reason why you couldn't do it if you share the rent of the practice, and there is no reason why you couldn't share practice staff as well. I think that would make a world of difference but you would still have one doctor practice. You know, if people phoned looking for an appointment with your practice, there would only be one doctor and you would still get your appointment with one doctor."

(GP1, M, 36y, line 561)

In fact, a couple of the respondents already operated in such a structure. Although they both were financially and organisationally independent from their neighbouring practices, they shared surgeries, and one respondent also pooled practice staff. One GP accredited such an arrangement as "the best of both worlds", and he mentioned that,

"I think this is a very nice system you know. If you want to be single-handed, and not having most of the disadvantage of being single-handed. I think there

are more gains of this to be honest. There are more advantages in this set up being single-handed without being necessary to go into a partnership.”

(GP 7, M, 48y, line 603)

Some respondents also viewed that patients' preference for single-handed practice might protect such practices from being completely abolished, and so single-handed practice might survive for the time being. For example, one respondent gave this overview about the future of single-handed practice.

“I think basically we are here to stay, basically we have patient power. Obviously the government would like them [single-handed practices] abolished. If they could overnight, they would. Erm, I don't know whether that would cut costs or not. Obviously they look at cost basis, also they have the impression the quality is not there. But if you ask most of the patients, they get far higher satisfaction than most group practices. I haven't got figures, but I am sure the majority of the practices they would come up higher in term of satisfaction rates than group practice. So I think obviously a lot of health boards are not replacing single-handed practice. I think they tend to go for somebody if they want to take it. ...they can't abolish, and it would be very difficult. Certainly there won't be many new starting as single-handedly.”

(GP11, M, 50y, line 611)

Similarly, one single-handed GP working in Glasgow noted that there remained a considerable number of single-handed practices in the health board, which might show its local tolerance to this model despite the overall direction of UK policy.

“...I think single-handed GP may not be encouraged by the government policy, but Glasgow generally single-handed GPs have been supported by the health service administration. Yeah, looking at your figures how many single-handed GPs in Glasgow compare to Edinburgh, Dundee, and Aberdeen, and there are far more we should have, don't we [laugh]...I don't know why so much here in Glasgow. I think it must be the policy of the health board in the past. Because single-handed GP retired, the health board could appoint another doctor to take over, like they did in my case or they could spread all these patients in the practice nearby. So I think Glasgow must take the decision to support the single-handed practices, by appointing another doctor to take them over rather than break them up. I don't know why they do that, and they don't do it in other cities. But I think it is still good for single-handed practices.”

(GP13, F, 49y, line 710)

Most GPs felt that single-handed general practice was likely to have a limited life-span, yet the majority denied the possibility of entering a partnership, and wanted to remain as single-handed or recruit a salaried GP as additional support. One reason for this was that there was a fear of losing their autonomy over running the practice if they joined a partnership, in particular those who previously had experienced partnership problems as well as those long-serving single-handers.

“Would I join another group practice? Erm, I don’t really want to leave my patients I have here. And I suppose I am little frightened to join another group, because then I lose control [laugh]. Erm, losing the influence, maybe I wouldn’t like the way they want to do the things. Erm, so I don’t really want to do that. I think if I choose someone to come here working part-time here. I suppose I still have more control, that sounds I like to be in charge of everything. I don’t think I am as bad as that. I am not ready yet just to be one of 3 or 4 or 5, 6 of big practice, and that would horrible.”

(GP 13, F, 49y, line 227)

By contrast, single-handed GPs who were in their middle thirties clearly affirmed their intention of seeking a way out of single-handed practice, and one had already merged with another local single-handed doctor. One GP also mentioned that her practice intended to recruit another partner.

“We have just got in last a few months, concrete agreement to provide two years funding, so we are now looking for a body to fill the job. So hopefully, by the end of summer, there will be two doctors here, and that makes life a lot of easier. Because there are 2,000 patients, it is a big list for one person.”

(GP17, F, 36y, line 20)

8.4 Discussion

The research studied a purposively selected sample of single-handed GPs practising in the urban settlements of West Scotland, describing their practice, experience, and concerns in today’s NHS. The balance of findings indicated that single-handed GPs see themselves as a group of autonomous individuals, who uphold the values and ideals of general practice: readily accessible for their patients, and dealing with them in a continuous way. Yet such a traditional model of practice has few economies of scale, putting a strain on the GPs, who are feeling increasingly challenged by the growth of demands and expectations on general

practice. While such a traditional model of practice may be tolerated in the short-time, the growing emphasis on value for money in a resource-constrained environment means that they may have to be adaptive to developments in the NHS.

The application of a qualitative approach enabled me to develop an understanding of a group of single-handed GPs from their viewpoint, voicing for themselves matters of concern to them. Unlike quantitative analysis, qualitative inquiry does not specifically search to offer generalisations referring to a set of fixed variables such as performance indicators, but instead explores issues related to single-handed doctors in a holistic way and shedding light on complex issues. Apart from Green's earlier studies, there was little qualitative research about UK single-handed GPs in the literature addressing their needs. In particular, the recent reforms under the new GMS contract had not been explored, thus this study has important implications for the future organisation of healthcare services in primary care in relation to single-handed practitioners.

In this study, a total 22 GPs were interviewed and data saturation was achieved during the data collection, in that by the final interviews, no new issues were emerging or being discussed. The application of a purposive sampling strategy suggested that this selection of sample was broadly representative of existing urban single-handed GPs. However, a possibility of bias should also be considered here. During recruitment, only four of the final total of twenty single-handed GPs immediately volunteered to be interviewed; the other sixteen participants were recruited with the assistance of Professor Watt, Head of Department of General Practice, University of Glasgow. One respondent acknowledged that Professor Watt's role in the recruitment had influenced his decision to participate, although no similar feedback or comments were received from others. Despite none of the respondents declined to be interviewed, it is worth noting that those who responded voluntarily were more likely to be female, and practising in areas of high deprivation. One possible explanation could be that, provided there is reimbursement for GPs' time spent on the interview, doctors serving deprived populations might be more readily motivated to participate; alternatively, it may be there were few opportunities for such a type of GPs to voice their views and opinions.

Although overseas doctors, particularly those who qualified from South Asian countries, have been recognised as a major group within single-handed doctors, only one was

included in the study because of the decision to include only GPs aged 55 or under as the study was interested in not just single-handed GPs' views regarding their current practice but also the future of such a model of practice in the NHS. Thus, the views of single-handed doctors who qualified outside the UK were underrepresented in this study, and that subsequently also reduced the possibility to link the findings from the qualitative interviews basing on purposively selected samples with the results from quantitative analyses, which indeed included all general practices in urban areas. Nevertheless, the purposive sampling approach adopted in the study overall resulted in a wide coverage of currently serving single-handed doctors in terms of their age, gender, and patient's socio-economic status.

This study indicated that the choices behind becoming a single-handed doctor were often unintentional, largely accounted for by previous partnership problems and/or accessible career opportunities. Despite some having a preference for smaller practices, none had actually planned to work in a single-handed practice during their career. This seems different from single-handed GPs working in rural settings, where some doctors had expressed the clear intention to practice alone (Donovan and Bain, 2000). Many of the GPs interviewed in the study made the decision to practise single-handedly when their partnerships did not work well. In their view, the friction amongst partners concerning workload allocation and practice financial arrangements could be seen across general practice, and they saw single-handed practice as an alternative, which could avoid such partnership conflicts, allowing them to accommodate and cultivate their own ways of practicing without being denied or having decisions interfered with. One thing which, to an extent, facilitated GPs' decisions to become a solo practitioner was the ability to take their patients with them, under the previous GP-based contractual arrangements. However, the changes in the new contract, to a practice-based contract, may make such a choice less accessible as GPs are no longer able to take patients with them if they leave the practice, leading to the possibility of further decline in the number of single-handed practices.

GPs have been defined as an independent contractor since the establishment of the NHS, and that means that they are entitled to discretion and freedom in the running of their practices. This autonomy is still clearly important to practitioners. With respect to everyday practice, there are several components of clinical and managerial autonomy including control over the nature and volume of medical tasks, control over diagnosis and treatment,

control over evaluation of care, and control over other professionals (Schulz and Harrison, 1986). Indeed, such work-related autonomy is essential to medical professionals in both primary and secondary sectors, and positively correlates with their professional satisfaction (Kapur *et al.*, 1999). In the context of single-handed general practice, GPs not only had overall control over the structure and content of their work, in the selection of practice staff, in the scheduling of working hours and in managing their own workload but also enjoyed clinical control in their patients' diagnosis and treatment. Of these elements, the managerial and clinical control, were considered essential to their ideal notion of being a GP, making them feel more in control of their practices. Many had experienced both partnerships and single-handed practice, and believed that GPs' ability to exercise their own independent decision-making over both practice and patient management was easier to attain when practising single-handedly than when working with other GPs in partnerships.

Such a view has been alluded to by Metcalfe, who suggested that given the status of the GP as an independent contractor, GPs tended to feel responsible only to themselves and to instinctively shy away from the surveillance of others. He also suggested that such a notion of GPs' autonomy however, may have been breached with the formation of partnerships (Metcalfe, 1982). As reviewed earlier, partnerships were reported to be a source of problems in general practice, causing GPs great distress, especially those working in inner cities (Ashworth and Armstrong, 1999). However, practising alone, single-handed doctors were able to exert a relatively greater level of autonomy, allowing them to determine their own working and practice arrangements without having to account to other GPs. Thus, professional autonomy, as discussed here in this study, and derived from Engel's concept of professional autonomy, could also be identified internally and externally at the practice level, with reference to the source of control on GPs. In general practice, professional autonomy, external to the practice, refers to the extent of GPs' independence (influence) to control the content and quality of their care in relation to external regulations such as the Government policy. Such control could be in alignment with Engel's occupational group autonomy. In the UK, as noted earlier (Chapter 2 and 3), although GPs have maintained their independent contractor status, there has been an increase in the state's involvement in general practice, and the Government has brought in regulations and measures to exercise more control over the profession since the early 1990s. For example, a series of White Papers was proposed by the Government setting specific quality standards for health services such as *Primary Care Delivering the Future* (DoH, 1996), *the New NHS: Modern,*

dependable (DoH, 1997) and *The NHS Plan* (DoH, 2000b). Reforms such as these represent the state's growing intervention in the National Health Service, and required general practice to take on health promotion as well as tasks that were previously carried out in secondary care, and having to become increasingly efficient and accountable. Recently, the scope of general practice has been extended further under the new GMS contract, which has categorised GP services as essential, additional and enhanced services, and brought fundamental changes to the GPs' remuneration system—linking quality to pay based on performance indicators. To an extent, such change potentially presents a close scrutiny of the standard of care provided by general practices, specifying clinical and organisational tasks that GPs should focus on. Thus, the sphere of GPs' professional autonomy is influenced by the Government's agenda, which could represent a source of counteracting forces, putting constraints on the expression of GPs' professional power as analysed by Freidson (1986).

Internally, GPs' autonomy within the practice represents their individual control with respect to the pattern or style of their own practice. This level of autonomy could be in agreement with Engel's professional autonomy at an individual level, and with the clinical freedom suggested by Schulz and Harrison (1986). It was such a level of control that has been described as an important and attractive facet of single-handed practice, in which GPs valued being able to exercise their own judgement in clinical performance and practice management with no intervention from other partners, who often were seen as a potential problem in general practice when working in partnerships. This study however, has not examined the views of GPs working in partnerships, and there could be potential for further study to understand the relationship between the collective and individual autonomy among GPs partners within the partnerships. This would help us to develop an overall understanding of the idea of professional autonomy in general practice, particularly under the 2004 contract.

Schulz and Harrison (1986) have suggested that there is no absolute autonomy, which would entail unlimited resources for doctors and would also imply the right for one doctor to contradict the autonomy of another. In this study, the balance of GPs' accounts of their control over their practices indicated that, although they were still internally exempt from being monitored by immediate medical colleagues in the practice, they were, like all GPs, subject to a reduction in external professional autonomy by the growth of controls and

monitoring imposed by the Government as discussed earlier. Furthermore, these increasing demands on general practice were crucially linked to their perceived financial and time constraints, exacerbated by the limited economies of scale within single-handed practice (e.g. sharing staff), and were seen as potentially threatening to their freedom.

An earlier study by Green noted that single-handed GPs tended to adopt a model of the small business, often just employing a few staff apart from family (Green, 1996). Such a small business model has remained in many existing single-handed practices, with the GP keeping their practice team small. This arrangement may offer opportunities for personal control within their own practices, but such a traditional model of practice appears structurally and organisationally fragile, bringing uncertainty for the GPs at work particularly in relation to workforce planning. From the point of view of NHS policy makers and managers, this kind of small business model of general practice, on its own, is not sufficient and sustainable for the development of primary care in today's NHS (Corrigan, 2005). Over the last decade or so, general practice has been subjected to extensive NHS re-organisation and become increasingly complex, which together with the reforms directed at making GPs more accountable, had led single-handed GPs to believe that their professional autonomy is circumscribed, and straining their sense of professionalism. There was a clear tension between their professional status as clinicians concerned with continuity and holistic care and, on the other hand, an extended managerial role imposed by the government's growing bureaucratic control. The GPs interviewed increasingly felt it a struggle to manage their time, in the face of a considerable amount of paperwork, and felt that the time spent on patient care was reducing. However, in spite of such strain on single-handed practices, some GPs could not or would not hand over managerial tasks to others such as a practice manager, on account partly of their financial strain, but also, for some, based on the perception that they as the owner of the practice, must retain overall control over practices.

Of all the reforms in the health service in the UK, the new GP contract and the Quality and Outcomes Framework have radically altered the way general practices work, emphasising performance-related pay and offering incentives for GPs' and practice work. Now GPs are paid for the services and quality of care they provide rather than just the number of patients on their practice list. Responding to such incentives, GP practices were reported to have achieved high quality scores since the first year of the introduction of the new contract and

to have received considerable financial rewards. It may not be a surprise to find that QOF scores were positively related to practice size (Wang *et al*, 2006), as historically larger general practices were more strongly motivated and often better placed to be able to take advantage of the contract through whatever means it allowed (Green, 1993). To some extent, single-handed doctors, particularly those working in areas of high deprivation, perceived that they were not in a position to enjoy the full benefits of the new contract, and stressed that such benefits were likely to be circumscribed due to the payment system of the contract rather than their own practical constraints. Although embracing the changes of the new GP contract was perceived to be a challenge, single-handed doctors were content with their QOF performance, believing that they provided good quality of care which was, in some ways, better than that of group practice with respect to continuity of care and access, both which might not be truly attained in some large practices. Clearly QOF has its emphasis on targeting quality in chronic disease management, which may favour group practices who could employ a wider range of health professionals; however, single-handed doctors argued that their relationship-based approach might facilitate their performance in the management of patients with chronic conditions given their in-depth knowledge about many of their patients. This was seen to demonstrate a key strength of single-handed practice maintaining the role of GPs as a personal doctor and providing patients with continuity of care. On the other hand, although continuity remains a core value of general practice, such holistic personal aspects of quality seem to have been eroded with the growth of practice size and multi-disciplinary team working, and a real concern with the new contract was that, given the emphasis on quantifiable quality, interpersonal care seemed to be neglected, and possibly could have a negative impact on single-handed doctors, undermining their professional values.

In general, NHS reforms have brought bring far-reaching changes in general practice, and there is a continuing trend in the growth of larger units. Although there is no written Government policy against single-handed practice, some recent Government plans for super-surgeries or polyclinics clearly indicates the future place of single-handed general practice in the NHS. Single-handed doctors have witnessed such change in primary care before, and recognise that their position as a group of individuals is perceived as a “headache” to the NHS, and inevitably belonging to the past. Many felt that the Government’s long-term agenda was to squeeze out and wipe away single-handed and small practices altogether, yet such a move might be countered by patient choices and localities’ needs for health services. Single-handed GPs believed that they have their

supporters, particularly among those who favour relationship-based care and who value the easy access and continuity of care that this type of practice offers. There has been evidence to suggest that smaller practices are preferable to larger practices for patients because of their access and continuity of care (Roland *et al*, 1986; Baker and Streatfield 1995; Campbell 1996). However, this study has not explored patients' experience of single-handed practice, and it could be a potential area for further research, comparing patient experience from small and large practices to provide a full picture of patients' experience with general practice by practice size and offering an objective evaluation of the care provided by practices.

While the term "single-handed GP" continues to be used, it is worth noting that, today, very few doctors actually practise alone as many are working with the support of salaried GPs and some have adopted new ways of working to counteract the potential impact of isolation. Some had established working partnerships with other local GPs usually providing cross-cover, and with some community services to expand their practice service ranges with respect to the potential needs of their patients. Others were operating their practices collectively with other GP practices by sharing practice premises and staff. In such ways, single-handed doctors were able to improve the structural and cost efficiency of their own practice, but also keep control of the practice and maintain their own identity. Similar arrangement has been proposed in an initiative by the NHS Alliance, suggesting that small practices working in co-ordination with each other could be the model for the future survival of this type of practice in the modernised NHS (NHS Alliance, 2005). Yet, at the moment, the number of single-handed doctors working in such arrangements is relatively small. The findings presented here suggest that the need to maintain individual, professional autonomy might be one explanation for the lack of uptake of such a model.

8.5 Summary

It has been widely recognised that the number of single-handed and small practices is likely to decline in the next few years. However, the debate about modern super-surgeries versus traditional family practice is continuing with the development of general practice. In this study, a group of single-handed doctors revealed their perceptions of working in the current NHS. When they described what is good or bad about their experience, they focused on the nature of such traditional models of practice which enabled them to

maintain their personal autonomy, free from partnership problems or monitoring within the practice; however, this offers them few economies of scale, which is becoming a factor of distress as they try to cope with the growing demands imposed by the Government. Responding to recent NHS reform, and despite attaining satisfactory QOF performance, GPs are concerned about the future possibility of retaining single-handed status in the face of cost control within the health service, a focus on value of money, expansion of services and possibly changing contractual arrangements. Nevertheless, some are trying to find ways of working within the changes by developing collaborative approaches to provide patient care while maintaining their own professional and managerial autonomy.

Table 8.1: A summary of key characteristics of interviewees

	Characteristics of interviewees
% female	41%
Average age (range)	46 years (36-55 years)
% minority ethnic	23%
% Scottish qualified	86%
Average length being a single-handed GP (range)	12 years (3-30 years)
% of GPs working in deprived areas	55%
Average list size (range)	1,981 (1,300-3,000)
% GPs being a partner previously in group practices	73%
Type of premises	Health centre (9) Purpose-built (11) Shared purpose-built (2)

Table 8.2 The details of characteristics of participants of the interviews.

	Gender	Age (years)	Ethnic	Country of qualification	Length being single-handed (years)	Deprivation of practice population	Partnership experience (years)	List size	Type of premise
Pilot GP 1	M	45	White	Scotland	11-12	Deprived	5	2,069	health centre
Pilot GP 2	M	47	White	Scotland	9	Non-deprived	16	2,652	purpose-built
GP 1	M	36	White	Scotland	5	Non-deprived	while training	1,400	purpose-built
GP 2	M	45	White	Scotland	8	Non-deprived	9	2,100	medical centre
GP 3	M	44	White	Scotland	12	Deprived	3	1,500	health centre
GP 4	M	53	White	Scotland	20	Deprived	2-3	2,100	purpose-built
GP 5	M	46	White	Ireland	12	Non-deprived	5	2,310	purpose-built
GP 6	F	45	White	Scotland	16	Deprived	2	2,209	health centre
GP 7	M	48	Asian	Scotland	14	Non-deprived	as a locum	1,600	shared purpose-built
GP 8	M	47	White	Scotland	9	Non-deprived	8	2,070	health centre
GP 9	F	52	White	England	3	Deprived	10+	1,800	health centre
GP 10	F	52	White	Scotland	18	Non-deprived	4	1,470	health centre
GP 11	M	50	Asian	Scotland	15	Non-deprived	as a locum	1,850	purpose-built
GP 12	M	38	Asian	Scotland	4	Non-deprived	4	1,975	purpose-built
GP 13	F	49	White	Scotland	8	Deprived	14	1,750	medical centre
GP 14	M	48	Chinese	Scotland	18	Deprived	2	2,000	purpose-built
GP 15	F	48	White	Scotland	8	Deprived	2	3,000	purpose-built
GP 16	M	55	Asian	India	30	Deprived	Less than 1	2,500-2,700	purpose-built
GP 17	F	36	White	Scotland	4	Deprived	while training	2,000	health centre
GP 18	F	54	White	Scotland	10	Non-deprived	as a locum	1,500	shared purpose-built
GP 19	F	42	White	Scotland	11	Non-deprived	while training	2,331	purpose-built
GP 20	F	37	White	Scotland	7	Deprived	job sharing	1,300	purpose-built

Chapter 9

Discussion

9.1 Introduction

The aim of this thesis was to explore the nature of urban single-handed general practice in Scotland in the context of current developments in general practice. Over the past sixty years, the traditional organisation of general practice, founded on smaller practices, has been increasingly challenged by an expansion of practice size, and a general perception of policymakers and professionals that smaller practices are not conducive or sustainable to deliver effective and efficient health care in a modern NHS. As group practice has become the norm, little attention has been paid to existing single-handed doctors who remain an important feature of primary care service provision. In addition, little is also known about the impact of current policy changes on this group of GPs.

This thesis argues that single-handed general practitioners tend to be disadvantaged in their organisational position and challenged by the growing expectations on GPs, while representing a bulwark against the erosion of personal doctoring in general practice. In Chapter 5, a cross-sectional analysis described the profile of single-handed general practice in mainland Scotland with a focus on urban areas, regarding practice activities and the demographics of GPs as well as their practice populations, illustrating the characteristics of single-handed practices in comparison with that of group practices, and identifying contributory factors that could be associated with the differences in their practice performance. Chapters 6 and 7 presented quantitative analyses using routinely collected data to detect possible associations between practice size and standards of care in general practice. The quality of coronary heart disease care provided by various sizes of general practices was examined and compared in Chapter 6, and practice performance under the Quality and Outcomes Framework of the new GMS contract was explored in Chapter 7. In Chapter 8, single-handed doctors' own views and experience were added to illustrate the strengths and weaknesses of single-handed practice, plus the impact of organisational reform on them.

In this final chapter, the findings of the studies are brought together. I will summarise the main issues which emerged from the analysis, discussing the status of single-handed general practice in the context of today's NHS, in relation to the quality of care, GPs' satisfactions and frustrations, the impact of the new contract, and the future prospects for this type of general practice. Then I discuss methodological issues, including the strengths and weaknesses of the study methods. Finally, I outline some implications of the findings of the study and make suggestions for future research.

9.2 Summarising the main findings

In this section, I summarise four main findings from the data chapters, including the impact of practice size on quality of care; the status of single-handed practice regarding its advantages and disadvantages; single-handed practices under the new GMS contract; and the future of single-handed practice in the NHS.

Practice size and quality of chronic disease care

Aiming to explore the quality of care provided by urban single-handed general practice in comparison with that of group practice, the thesis examined the impact of practice size on quality of care in relation to chronic conditions. The evidence from the data presented leads to the conclusion that practice size has little impact on the quality of clinical care, although single-handed practices were associated with higher CHD morbidity and mortality. This was largely accounted for by the higher level of deprivation in their practice population, indicating that the extent of patients' needs for care was higher in single-handed and small practices than in larger practices. These results are consistent with findings from an earlier study carried out in England (Hippisley-Cox *et al*, 2001). In their study, they selected sets of quality indicators as defined by the NHS executive, and found that there was little difference between single-handed and group practices in their clinical performance once practice and patient characteristics were taken into account. This study, in the context of Scottish general practice and focusing on indicators in relation to the clinical care of coronary heart disease, one of the clinical priorities for NHS Scotland, suggests that the socioeconomic deprivation of the patient population rather than practice size has the most important impact on practice performance.

This thesis has demonstrated that single-handed GPs working in urban areas of Scotland have larger proportions of patients with greater needs for care, in relation to the higher levels of deprivation. In the analysis of secondary data, patient populations of single-handed practices generally had poorer general health, as well as higher levels of morbidity and mortality than those from larger practices (Chapter 5, 6 and 7). This greater level of patient need determined that single-handed GPs' workload was likely to be heavier than that of individual GP if working in partnerships. For instance, according to QOF data, individual GPs' caseloads for asthma, cancer, COPD, mental health and CHD were significantly higher in single-handed practices than in group practices. These results are in agreement with the qualitative data, in which GPs also said that they could extend themselves daily dealing with patients' deprivation related social and health problems. This was particularly true for those practising in areas having a great concentration of deprived populations. Tudor-Hart (1971) has previously described the mismatch in morbidity and mortality in relation to the distribution of medical resources, especially in industrial areas. His "inverse care law" has also been demonstrated in numerous studies (Payne and Saul, 1997; MacLeod *et al*, 1999; Hippisley-Cox and Pringle, 2000; Majeed *et al*, 2002). The work presented here shows that, although patients in more deprived areas had a higher burden of disease, there was little evidence of their receiving poorer quality of care from GPs working single-handedly compared to patients in group practice. In spite of this, the fact that urban single-handed doctors faced higher levels of workload could still arise an uncertainty regarding their standards of care.

In general practice, the amount of workload is considered to have an influence on GPs' performance. Howie and his colleagues (1989) studied the association between quality and GPs' use of time, suggesting that GPs with higher workload tended to spend less time with patients in the consultations and, seemed to be less good in handling patients' psychological problems, which were less likely to be detected and dealt with in the consultations. Findings such as these led Howie *et al* to conclude that,

"quality is a function of how competing demands on time are met rather than a function of inherently clinical insights and behaviours."

(Howie *et al*, 1989)

If this interpretation is accepted, single-handed GPs' higher workloads associated with larger list size and a composition of a higher proportion of deprived patients could mean that those doctors might have to compete their time to accommodation patients' needs, perhaps less time being available for individual patients, which might affect the quality of care. One implication of this lack of time emerged from the quantitative analyses which demonstrated that there was fewer presence of single-handed practices participating in most of voluntary quality initiatives such as PA and QPA. This might suggest time pressure on this group of doctors as a result of dealing with increased levels of morbidity, leaving them little capacity to take on additional activities. In addition, although single-handed GPs attained comparable quality of patient care to those in group practices, given the higher level of patients' needs, it may be valuable to follow the extent to which such patients' needs are met within single-handed practices. This was not possible within this thesis. On the basis of existing evidences a mismatch was observed between the trends in the levels of patients' needs for CHD care and the levels of uptake of surgical interventions among patient groups. In reference to the differences detected in CHD morbidity and mortality across practices, little variation was noted in the amount of statin prescribed and hospital admission rates for surgical interventions such as angiography and revascularisation. Such patterns may represent possible unrecognised or unmet need in single-handed practices, and additional data information on patients will be required to explore this further.

Within the spectrum of clinical care, chronic conditions such as coronary heart disease, hypertension and diabetes have a significant impact on people's health, and the management of chronic disease places a huge burden on NHS resources (Wilson *et al*, 2005). As the majority of chronic disease care takes place within general practice, the effective management of patients' conditions within primary care should then reduce the use of secondary care resources (Caminal *et al*, 2004). Here, this thesis found that patients of smaller practices with fewer than 3 WTE GP partners were more likely to be referred to secondary care (Chapter 6). The interpretation of this apparent effect of practice size was problematic, but one possible explanation is that GPs working in smaller practices may not be able to contain their patient care within the practice due to a lack of specialist skills and knowledge required to deal with specific patients with particular diseases. Qualitative data helped to understand this observation, as GPs talked about a lack of practice-based colleagues with whom to discuss clinical issues, and cited this as a possible contributory factor to their inclination to use secondary care as a source of professional support

referring patients on for further investigation and management (Chapter 8). This seems to be in agreement with the evidences of Wijkel's study carried out in the Netherlands, which investigated variations in differences in referral rates among GPs in different practice settings since single-handed GPs showed persistently higher referrals rates than GPs working in collaboration with other GPs. They found that professional co-operation rather than structural variables such as practice size was an important contributory factor to lower referral rates (Wijkel, 1986). In addition to the absence of colleagues, higher referral rates seen in single-handed practices might simply represent their patients' needs for secondary care in association. As discussed earlier, with respect to the profile of practice populations, single-handed GPs encounter patients who tend to carry multiple health problems and severe conditions, which may not be able or suitable to manage only in primary care, but requiring specialist care from secondary care.

In view of the importance of managing chronic disease within primary care, UK health policy has encouraged general practice to improve the outcomes for patients with chronic conditions, offering GPs financial incentives for such improvement. As such, a new GP contract was introduced in 2004, setting the requirements for the management of ten common chronic diseases, and linking practice income to their performances in these disease areas (Roland, 2004). In general, there was little association between practice size and overall quality point attainment in the clinical domains, supporting the observation that practice size has little impact on quality standards of coronary heart disease care. However, when examined in greater detail, there were variations in practice performance in individual clinical indicators contained within the Quality and Outcomes Framework, as single-handed practices were marginally better at simple processes of care measurements and comparable intermediate outcome measures in comparison with group practices (Chapter 7). This is at odds with other studies, which found that large practices achieved better quality in process (Millett *et al*, 2007) and also intermediate measures (Saxena *et al*, 2007) than smaller practices. The argument for this might be that large practices, which are well resourced, are more likely to achieve higher quality. On the other hand, GPs in single-handed practices know their patients well, which may help them to target specific patients for some QOF indicators. This possibility was partly supported by the qualitative data presented in Chapter 8, showing that single-handed doctors viewed that their knowledge about patients had a positive effect on clinical attainment, as they could more readily target patients with specific conditions.

The analysis of QOF data indicated that based on the measurement of payment quality (which allows for exceptions), single-handed practices appeared to out perform larger practices in 22 out of 32 clinical indicators; they were better in 8 indicators when measured by delivery quality (which includes all patients who could be treated). Absolute differences, however, were relatively small across practices (Chapter 7). As such, on the face of it, single-handed practices seemed to deliver better care than group practices, but such patterns regarding payment quality and delivered quality could also suggest that the true quality of care provided by practices might be veiled behind the exclusion and exception system of the QOF. There was a possibility that more patients might be exception reported from the calculation of QOF points in single-handed practices due to socio-economic deprivation and its related poor health among their practice population, and single-handed practices might also use exceptions to maximise their payments that otherwise could be penalised for their small practice list and higher morbidity under the QOF. Indeed, the design of QOF payment calculation is less favourable towards practices in deprived areas and with small number of patients. For example, the calculation firstly downgraded the value of each quality point (set at £75 per point) for those practices with an average list size of fewer than 5,891 patients and, in case of single-handed practices, a proportion of £ 75 was paid per point achieved. Secondly, the application of QOF payment formula and adjustments for disease prevalence meant that smaller practices and especially those serving deprived population were unlikely to be financially rewarded as much as larger practices regardless of workload. These issues were a concern for the single-handed GPs interviewed (Chapter 8), but the function of exception reporting in QOF performance was actually rarely mentioned by the GPs. In the thesis, recognition of the potential impact of exception reporting on practice performance meant that the quantitative analysis adopted an estimation of delivered quality taking account of possible exceptions since there was no information on practices' exception reporting in the first year of the QOF dataset. Although detected the pattern of payment quality and delivered quality of practices as discussed earlier, there is an important limitation of such method as mentioned by McLean *et al* (2006), suggesting that a tendency of overestimating practices' delivered quality, in which the extent of inequality between practices could be underestimated. Applying to this analysis, a further investigation on the effect of exception reporting therefore may be valuable in uncovering true variation in QOF clinical performance between single-handed and group practices.

Overall, the evidence of this study indicates that quality is at least as good, and possibly better than larger practice with respect to delivered QOF achievement; nevertheless, the effect of practice size on the quality of care in general practice could remain open to debate. On the one hand, there was little variation in CHD mortality and morbidity after adjusting for deprivation, yet it is unclear that the extent to which patients' needs within single-handed practices has been met. Then there is a shift moving towards a primary-care led NHS, and this means that GPs are encouraged to take on more patient care in primary care; however running against this trend, single-handed practices were found to refer more patients to secondary care. While the reasons were not fully explained, patients' health care needs may contribute to that pattern. Under the new contract single-handed practices attained care comparable to that of larger practices within the clinical domain, but possible differences between practices might remain undetected because of a lack of relevant data in the analysis. Thus, these issues need to be addressed in order to obtain a better understanding of the association between practice size and the quality of clinical care.

The status of single-handed general practice

In the thesis, a selection of single-handed GPs was interviewed regarding their experience of working in such a traditional model of practice. This is the first study in Scotland that specifically looked into this group of GPs in urban areas, although there have been a few similar studies carried out previously in England (Green, 1993; Lunt *et al*, 1997). Based on findings from the quantitative analysis and of existing literature, a purposive sampling strategy was used with the aim of recruiting a spectrum of solo GPs with respect to their age, gender, country of qualification, and deprivation of practice population. The characteristics of participants were presented in the previous chapter (Chapter 8), and was noted that most GPs interviewed qualified in Scotland, with only one qualified overseas. This was different from Green's study (1993), in which 13 out of total 25 interviewees qualified outside Britain. One explanation for such a difference may relate to our decision to include only GPs aged 55 and under so as to explore GPs' views of their future as single-handed practitioners, and as a result of this, just one Indian GP who came to the UK in the 1970s was included. Such a sample of interviewees, however, allowed us to explore the views of a new generation of home-grown single-handed GPs, which can complement those studies which have sought the views of older retired GPs or those approaching retirement.

Historically the older generation of overseas doctors were forced to take on single-handed practices because of a restricted choice of practices (Smith, 1980), while here, most if the single-handed doctors actively chose to work in this type of practice. In this thesis, all the single-handed doctors acknowledged that they were in a minority of individuals, whose pattern of service provision is at odds with the general direction of the development of the health service in the UK. Although single-handed general practice seems not as an instant career choice for most GPs, it has provided a career option for some doctors in particular circumstances, for example, breaking away from partnership conflicts or changing their career status at a particular time. Whilst the majority of GPs continue to be inclined to work in partnerships, single-handed practitioners ascribed a number of benefits to their style of practice, including a considerable degree of control over their own pattern of work, and maintaining a traditional role of the GP as a personal doctor providing patient care in a continuous way.

In her studies of single-handed practitioners, Green (1993, 1996) noted that personal control was cited as a positive feature of being single-handed. In this thesis, GPs also talked about their monopoly over practice organisation and clinical patient care. It was clear that the single-handed GPs interviewed had total discretion and control in decision-making over their patients' diagnosis and management, and in organisational arrangements within the practice. They found it easier to implement changes within their practices, had great flexibility in tailoring their own hours and workload, as well as their style of practice, and therefore could mould practice organisation to suit their professional needs. The flexibility in working hours and practice arrangement appeared to be of particular benefit to the female GPs interviewed, who valued the control it gave them over their work-life balance. Single-handed general practice, in this thesis, emerged as an organisational setting which has great scope for professional autonomy and satisfaction.

Research suggests that for medical professionals, autonomy is an important determinant of job satisfaction (Lichtenstein, 1984), and the GPs in this thesis pointed out that their enjoyment of "being one's own captain", which was conceptualised as satisfaction in their ability to maintain personal control, with greater freedom to exert a monopoly over managing and organising their practice in the way they preferred, without having to consult with or be interfered with by others, in contrast to their experience of partnership working arrangements. It was not possible to determine from the thesis whether such satisfaction is

greater among single-handed doctors than GPs in group practices, but GPs working single-handedly tended to have a lower level of peer control, being free from the supervision of other GP colleagues within their practices. Such a dimensioned autonomy was most likely fulfilled by single-handed GPs, who reiterated their ability to exercise greater control over their own practices. Single-handed practice, therefore, was perceived as an environment that could enhance GPs' opportunities to satisfy their own professional values, which at an individual GP level, may not be possible between the partners practising in a group. A number of the GPs interviewed felt that differing values amongst partners in partnerships that they had previously worked in had led to frustration and stagnation, with negative effects on GPs' morale and job satisfaction. Other studies have also found that the pressure of workplace relationships in general practice was a source of stress for GPs, who felt dissatisfied having to deal with conflicts within partnerships (Branthwaite and Ross, 1988; Simoen *et al*, 2001).

With little supervision from colleagues, single-handed GPs, at an individual level, had a great degree of autonomy over their own decision-making in organisational and clinical matters within their practices. However, such autonomy was, to an extent, circumscribed by a lack of economies of scale and additional time constraints on GPs, both of which were talked as particular sources of stress and frustration about being a single-handed GP. In the interviews, many GPs felt under a considerable amount of time pressure, which was due more to the burden of managerial and administrative tasks than clinical workload, mirroring the findings of a study about single-handed practices after the 1990 contract was introduced (Lunt *et al*, 1997). Not only was the overall increasing volume of paper-work in general practice felt to be a challenge, single-handed GPs also believed that the limited resources available to them further increased the pressure on them, including the ability to employ only a relatively small number of practice staff. While single-handed GPs felt clinically competent in dealing with patient care issues, there was a feeling that such non-clinical work involving practice management and administration was especially stressful, requiring skills that were largely beyond GPs' training, and without the ability to employ additional skilled staff. This was becoming worse under the 2004 GMS contract, with an increased amount of administrative workload. This lack of organisational "stretch" may explain why single-handed practices achieved fewer QOF points overall, as the shortfall was due to lower point achievement in the organisational domain of the QOF not, as previously discussed, the clinical domain (Wang *et al*, 2006). GPs also felt increasingly frustrated about having to spend a considerable amount of their time on paperwork instead

of on patient care, and consequently felt they were less in control of their own time in daily practice.

Despite the feelings of stress in relation to increased workload, it is worth noting that few single-handed GPs mentioned pressures generated from patients in terms of their demands or expectations, which has been reported as a major source of job stress among general practitioners in general (Cooper *et al*, 1989; Sibbald *et al* 2000; Edwards *et al*, 2002). Two possible explanations are put forward. The first may be the establishment of a mutual and understanding doctor-patient relationship in these practices, which some felt supported patients' compliance with GPs decisions. Indeed, an early study on patients' compliance with prescription in general practice showed that a patient's feeling of identification with his/her own GPs resulted in better compliance (Ettlinger and Freeman, 1981). Ideally it would be the case in single-handed practice, where all patients are registered with one particular doctor who therefore is denoted as their "own doctor" rather than the "usual doctor", which is a term generally used in relation to group practices. Secondly, patients with different socio-economic status may have different patterns of seeking and utilising health services. In single-handed GPs' views, populations with low socio-economic deprivation, despite their high morbidity, were thought to be more likely to comply with GPs' advice and such compliance was thought to ease GPs' feelings of pressure from patients. In contrast, populations in more affluent areas, regardless of their good general health, may place higher demands on GP services due to greater self-concern for their health. Indeed, research has found that patient factors such as their health awareness, knowledge, previous experience and expectation influenced on how patients used health services, and noted that deprived patient groups had a tendency for a lower utilisation of the services (Tod *et al*, 2001; Richard *et al*, 2002). The results from this thesis alternatively suggest that it may be arguable whether patients' socio-economic deprivation could be an apparent predictor for GPs' pressure in their practices, as either type of patients could represent a source of stress for GPs because of their needs as well as demands for care. However, few single-handed GPs interviewed commented here on a possibility of under-representation of health problems in those deprived communities as other studies have discovered (Tod *et al*, 2001; Richard *et al*, 2002).

Continuity of care was a dominant aspect of their practices, offering the single-handed GPs greater job satisfaction. In single-handed practice, it is self-evident that it is easier to

deliver continuity of care to individual patient and from the GPs' viewpoint they felt rewarded by being able to see the same patients, offering them consistency of care, and establishing a mutual and understanding doctor-patient relationship through continuous one to one interactions. While this is not necessarily unique to GPs working single-handedly, the GPs interviewed believed that single-handed practice was a setting in which GPs were more likely to maintain a high level of personal continuity. These accounts were supported by evidence from previous research, which suggested that many large group practices provided less continuity of care than might be desirable (Freeman and Richard, 1990). Moreover, GPs in this thesis conceptualised the notion of continuity of care as encompassing two elements: longitudinal continuity and vertical continuity. As illustrated earlier (Chapter 8), longitudinal continuity was reflected through single-handed GPs' knowledge about their individual patients resulting from an interaction between the same doctor and the same groups of patient over time; vertical continuity was identified as a GPs' consistent approach to patient care throughout the journey of care. These two elements of continuity of care were interrelated within single-handed practices, as patients were routinely seen by the same doctor, who then readily followed through individual patient's every episode of care. Such an interpretation of continuity of care in this thesis combined two aspects of continuity—that of longitudinal and relationship continuity (Freeman, 2003). Therefore, continuity of care, in single-handed practices, was provided by the same GP to the same group of his/her patients over a long period of time, during which an ongoing therapeutic and interpersonal relationship was built.

Continuity of care has long been understood as the backbone of general practice, but has been increasingly weakened and under-valued with organisational changes in the NHS, such as the expansion of practice size, the growth of larger teams with greater skill mix plus the running of shared patient list. Freeman (2003) argued that, of the different aspects of continuity, the element of relationship continuity, where doctors develop an accumulated and often unrecorded knowledge of their patients, had been particularly challenged with in the increased sharing and availability of patient information across medical settings and across different health care professionals. While this may be important at times, it should not substitute for the importance of knowing a patient through an interpersonal relationship. In such way, single-handed practice has retained a key value of general practice, most readily maintaining ongoing contacts with their patients and having good knowledge about them. Indeed, in the thesis, such continuity of care was cited as a key representation of the value of single-handed practices. Despite some recognition in

the importance of interpersonal relationship in general practice, Freeman (2003) noted that there is still a lack of comprehensive evidence to show its influence on quality of care—*“whether interpersonal continuity makes a difference.”* He raised the possibility of a GP missing the diagnosis of a patient’s problem due to knowing the patient too well and, in this thesis, several GPs did comment on this, and talked about it as one of limitations of this type of practices. As such, it will be valuable, as Freeman (2003) suggested, to further study could be to investigate how interpersonal relationships relates to important diagnosis making in general practice. In addition, continuity of care in the context of single-handed practice has here been viewed from the GPs’ perspective; patients’ views were not explored partly because of my choosing an emphasis on single-handed GPs’ own experience and partly a lack of time in this studentship to include both perspectives. However, if we are to understand the value of continuity of care in this group of practices, patients’ views will be invaluable, and likely to have a greater implication for the future development of health service organisations.

This thesis also identified a clear frustration among this group of GPs in relation to the adverse publicity surrounding such a traditional model of practice. In particular, the conviction of Dr. Harold Shipman was generally agreed to have damaged the image of single-handed practices, resulting in tighter control and scrutiny from the Government. GPs in the interviews indicated that they had no objection to such monitoring measures, but they were concerned about the development of negative attitudes towards single-handed practices within some health boards, which offered little support for this type of practice, putting additional pressure on GPs. Indeed, such attitudes have also been noted in English health authorities, where single-handed practices were thought more difficult to manage and to cost PCTs more (Smith, 2004). All these may have influence on their future place in general practices, and that will be discussed in a later section. However, it does suggest that in the cost-constrained NHS as the British economy downturns, single-handed practice may be seen as a burden on expenditure within the health service rather than valuing its contribution to patient care via enhanced personal continuity.

Single-handed practice in the context of the new contract

The new GP contract as a major re-organisational reform of the NHS, has brought fundamental changes to general practice. In relation to the changes, single-handed GPs

foresaw that there would be fewer opportunities for GPs, to practice alone in the future. In relation to the impact of the new contract, single-handed GPs were satisfied with the QOF points they had achieved, which they used as objective evidence of the quality of care they delivered; however, the feeling of pressure from the new contract had been felt by all of them, as a single-handed doctor.

The QOF was introduced as an important component of the new contract and was specifically designed to remunerate practices for providing high quality of care to all their patients. Its notion of “payment by results” was welcomed by single-handed doctors, who believed that such incentives had promoted improvements in relation to practice infrastructure and staffing. For example, some had installed new IT systems, increased the number of practice staff employed as well as their working hours, and provided additional training for administrative staff to undertake certain contract-related tasks. In the interviews, such improvements were often talked about as a response to the implementation of the new contract, and without these changes, single-handed practice would probably struggle to exist. Even so, single-handed GPs felt they were disadvantaged in obtaining the incentives offered by the new contract, feeling that smaller practices, as well as practices serving deprived populations, were discriminated against through the mechanism of the QOF payment calculation, which potentially could widen the gap between practices by practice size and deprivation, and further reduce the possibility of single-handed GPs obtaining the maximum rewards for their work. Yet, as discussed earlier, the impact of deprivation on practice attainment is not clear from the quantitative analysis in this thesis when comparing the performance between practices (Chapter 7). It is noted that such concern amongst the GP about their unfavourable position under the new contract has been identified in Guthrie *et al*'s study, which showed that there was a variation in practice payment under the new contract, indicating an inequality in the relationship between practice rewarded payment and their workload, with smaller practices being penalised for their small patient list (Guthrie *et al*, 2006). Indeed, such concerns have also been raised in the discussions with respect to the impact of QOF on general practice (Lipman, 2006; Roland, 2007). Despite the QOF having the intention to offer the incentives to all GPs who provide good quality of care, the design of the QOF within the new contract appears similar to some previous contractual reforms such as the 1990 contract, with financial and workload changes penalising single-handed and small practices.

The QOF has been represented as a radical change in UK general practice, but few GPs actually thought the content of the framework was innovative. Rather, the changes were perceived more as a means of exerting bureaucratic control over GPs than as an effective measure to improve patient care. One of the stated aims of the new contract was to give GPs greater control over their work, but single-handed GPs in this study believed that their personal clinical autonomy was under threat, as their freedom to choose their own way of practising had become increasingly circumscribed by contractual targets. Such feeling of loss of autonomy among general practitioners after the implementation of the 2004 new GMS contract has been reported in other studies. For instance, a survey of GPs' views on the impact of the new GMS contract reported that the majority of GPs surveyed (71%) felt less able to control their workload compared to only 14% who thought their control had improved (Lovett and Curry, 2007). Likewise, in a qualitative study, McDonald *et al* (2007) explored the attitude and patterns of behaviour of health professionals including both GPs and practice nurses in two general practices since the introduction of the new contract. From the GPs' perspectives, the implementation of the Quality and Outcome Framework was thought to be leading to an increased level of scrutiny in their work, with constant internal surveillance by their colleagues in the practices. Of the two practices in their study, both were large group practices, so the views of GPs working in smaller practices did not feature. Nevertheless, the perceived threat to GPs' professional autonomy under the introduction of the new contract is important, and consistent with the views of single-handed GPs in this thesis, who emphasised the perceived increased contractual control over their work from the Government and from external agencies, such as the Health Board; whilst GPs working in large group practices spoke of an increased scrutiny internally by their partners within practices (McDonald *et al*, 2007).

The findings of this thesis suggested that professional autonomy, with reference to the source of control upon GPs, could be viewed in two dimensions—GPs' monopoly in relation to external agencies and internal supervision. These two aspects of autonomy appeared to be in agreement with Engel's interpretation of autonomy, represented at group and individual level (Engel, 1969). Thus, clinical, personal autonomy within practices, as exemplified by the freedom to make decisions about patient care, workforce distribution or administrative workload in the practice remains unchallenged, with single-handed GPs continuing to enjoy their monopoly over such decisions without other GPs' involvement within the practice. However, wider professional, group autonomy is being challenged by external rules, regulations and scrutiny from the Government and/or Health Boards. In

time, these external challenges on GPs' autonomy as a profession may, inevitably, impact of personal autonomy as GPs are forced to make decisions about patient care and practice administration in order to meet the government's targets such as the QOF.

Comprising a range of quality indicators, the QOF has the stated intention of improving the quality of care in general practice. In practice, GPs felt that chronic disease care might have been improved, but speculated whether the overall quality of care was any better after the implementation of the new contract. Single-handed GPs thought they provided a good quality of care in the sense of having attained satisfactory QOF scores, with few having negative comments about the evidence-based quality measures included in the framework, although the feeling of strain on GPs was clearly stated, largely derived from the increased workload associated with data collection and recording. Such stress could also apply to GPs working in group practices, but perhaps is experienced to a greater extent by single-handed GPs, who have to take full responsibility for practice performance themselves. Indeed, such constraints in relation to practice resources were raised by single-handed GPs previously after the introduction of the 1990 contract (Green 1993; Lunt *et al*, 1997). Responding to contractual requirements, these GPs therefore adopted their own approach, for instance, many maintained and concentrated on their existing services rather than expanding services which might be difficult to organise within smaller practices (Green, 1993). Likewise, in the context of the new contract, with its extensive range of quality indicators, single-handed GPs indicated that there were some organisational requirements which were harder for smaller practices to meet, since the workload involved to gain the points, such as administration of patient surveys, was likely to cost more than the potential financial gain for their practices. In contrast, single-handed GPs had little problem in achieving the clinical standards of the framework. From their point of view, larger practices might benefit from employing a larger range of practice staff but single-handed practice could make the most of GPs' knowledge about patients to attain their quality points, effectively targeting patients with specific conditions according to the defined criteria. This is borne out by quantitative findings (Chapter 7). Single-handed GPs seemed to understand, however, that they were likely to be challenged further to sustain their performance as the QOF criteria evolve and so further quantitative research could examine the performance of practices in the QOF by size over time.

Thus, the QOF may bring opportunities for single-handed GPs if they can continue to provide satisfactory quality of care, with their maintaining a high level of personal autonomy coupled with their knowledge about patients, both of which allow them make strategic decisions on how to maximise their rewards within the practices. Alternatively, single-handed practices without adequate resources may be threatened under the increasing demands imposed by the QOF and the extended changes brought by the new contract, with the consequence that they may not be able to sustain their attainments in a long run.

The future of single-handed general practice

Many single-handed doctors suggested that their traditional model of practices would disappear in the next decade or so, since government policy had been continuously pushing general practice towards large practices, which ideally would comprise a wide range of health professionals such as GPs and nurses, and provide an extensive range of services, so achieving economies of scale that are unlikely to be provided by single-handed practices. Concern about the efficiency of practices was perceived as one of the main reasons why the government has been strongly advocating larger practices over the past forty years in the NHS.

It is no surprise that GPs felt fatalistic about their prospects in general practice, as the Government apparently has made clear that neither single-handed nor small practices have a place in the future of service provision. Rather “super-surgeries” having a group of at least ten GPs have been described, in combination with walk-in centres and specialist clinics representing a new model of modern primary care (Golding, 2005). The first super-surgery was opened in London, providing a range of services that traditionally have only been available in secondary care, as well as access to GPs and other community health professionals. In some ways, the development of super surgeries has promoted an improvement in primary care facilities, especially in deprived areas; yet many have argued that this approach to patient care undermines the core values of general practice, and threatens continuity of care. Meanwhile, the Government, in spite of opposition, still believes that the best solution for delivering patient care is through a model of GP collaboration. The prospect of super surgeries features prominently in Lord Darzi’s plan for creating large-scale polyclinics (Darzi, 2007), which can house up to 25 GPs. In the plan, Darzi states that,

“...in the future we are going to see a critical mass of general practitioners working together, rather than what we used to see in the past which were practices with a single-handed clinician.”

(BBC, 2008)

Comments such as this overtly indicate the position of single-handed GPs in the modern NHS, and represent the future direction of general practice. In fact, in the same year that Darzi's plan was published, the RCGP also proposed a new model of care, advocating collaboration between practices, so as to delivery a wider range of services in primary care, to meet the needs of patients and to address the challenges of an increasing market approach in the NHS, a particular concern in England (Lakhani *et al*, 2007). Such a federated model of care seems to conform to the Government's plan for super-surgeries as stated earlier—moving towards the development of large organisations in general practice; nevertheless, the RCGP as a representative body of GPs, unlike Government bodies, recommended a flexible “joined up” approach to its proposed organisational changes, and did not rule out the existence of single-handed and small practices, which instead were suggested to work together and to pool their resources (Lakhani *et al*, 2007). It seems that the RCGP denoted its consideration for smaller practices, indicating support for the continuation of such practices, albeit within a federation working with other practices.

Having recognised the future direction of general practice, single-handers in the interviews also noted that the concept of GPs with a special interest (GPwSI), signalling a trend away from generalism toward specialisation. Single-handed GPs thought that such development of the role of GPs was aligned with the “super-surgery” model of general practice, aiming to maximise GPs' skills to contain patient care within primary care, and reducing the utilisation of resources in secondary care. Their two main concerns were, firstly, the GPs thought that patient care could be at risk of becoming fragmented since individual GPs would begin to see the patients as individual with range of specific problems rather than the patient as a whole person who suffers from a range of problems; and secondly, GPs were concerned about the effect of GPwSI on the professional role of a GP, who traditionally has had comprehensive responsibilities for patient care dealing with variety of health problems including both acute and chronic care, as well as promoting their well-being. By becoming a GPwSI, they suggested that there was a possibility that GPs might be distracted from the full range of patients' health problems, and merely concentrate on a particular clinical area. Single-handed GPs felt that the nature of general practice as a

generalist discipline could be eroded, while this change might not necessarily achieve its intended objective of reducing patients' demands for hospital services. Their reservations about the effectiveness of GPwSI are in agreement with findings of Coast and colleagues who suggested that GPs with special interests did not ease the burden on secondary care (Coast *et al*, 2005). Another study found that the service provided by GPs with special interest made little improvement in patients' health outcomes (Salisbury *et al*, 2005). However, both studies were focused on dermatology, which is one of clinical areas that GPs with special interest services have been developed. In addition, although there is no information on whether any single-handed GPs have adopted the role of GPwSI, the speculation is that they are the least likely group of GPs to adopt this role due to the aforementioned constraints faced by single-handed GPs such as time.

The continued existence of single-handed GPs has been a challenge to government policy. At an individual level, many of the GPs suggested that they would remain as single-handed, having no imminent plans to join partnerships. A major reason for this stance was concerns about autonomy. Many feared that a change of status from a single-handed GP to be one of several partners within a group practice could lead to the loss of a sense of ownership of the practice as well as autonomous decision-making over practice matters. This loss was thought unlikely to be compensated for by the potential benefits of partnership working. Likewise, Green (1993) found that few single-handed GPs wanted to join with larger practices, with some viewing single-handed practice as an alternative to those who were not team players.

In spite of concerns over the Government's policy, some GPs were optimistic about the prospects of single-handed practices. Such a view was in line with existing research evidence showing that smaller practices are preferred by patients. However, it is worth noting that GPs' comments were often presented in a defensive way, with an emphasis on the positive attributes of single-handed practices in relation to continuity of care and access while criticising the perceived impersonal nature of patient care provided in large group practices. Perhaps it is understandable that patients' preferences were highlighted as a way of drawing attention to the virtues of smaller practices within a dominant culture of large practices in general practice. In addition, some mentioned the specific Scottish context with its different political imperative compared with the NHS in England, and the fact that single-handed GPs in Scotland might not face the same imminent threat of super surgeries

which, by and large has been seen as a part of the English style of reform. Such optimistic views about Scottish single-handed practice may be based on the fact that there will always be a need for single-handed GPs working in rural and remote areas of Scotland. Small scale practices were thought most likely to be retained in rural areas, remaining as an important feature of primary care provision in Scotland. However, in spite of GPs' views, it is worth noting that although there has been little emphasis on super surgeries in Scotland, the development of Scottish general practice is consistent with the overall trend toward large practices, as witnessed by the huge drop (25%) in the number of single-handed practices between 2004 and 2005, and the accompanying with 16% increase in large practices, having seven or more GPs, in the same year (RCGP, 2006a). Also, as reviewed earlier (Chapter 2), an integrated model of services has been outlined in the context of health services in Scotland, to which single-handed GPs will have to adapt to, for example working in collaboration with other health professionals.

9.3 Methodological issues

The overall aim of the thesis was to develop an understanding of GPs who remain working single-handedly under the prevailing development of larger practice in the NHS. Two methodologies were used to achieve this aim: routine data analysis and qualitative interviews. The overall methodology of this thesis has been described in Chapter 4, and the methods used in quantitative and qualitative studies have been illustrated in individual chapters. Some strengths and limitations of the studies have been discussed throughout this thesis. This section will bring the methodological issues together to provide an overall view of some of the strengths and limitations in relation to combining quantitative and qualitative data in the thesis.

The rationale for including both quantitative and qualitative aspects centred on the complementary nature of the two methods, providing different sorts of information to broaden our insights into the phenomenon under study. Within the thesis, the quantitative study contributed in two ways. Firstly, the findings from routine data analysis documented some key attributes of single-handed general practices—how they differed from group practices regarding the demographics of practice populations and practitioners, as well as some practice activities such as their participation in quality-related schemes, and also revealed patterns of practice performance in relation to practice size together with practice

characteristics. Secondly, the findings of the quantitative study provided a sampling framework for the qualitative study, and an opportunity to use qualitative interviews to explore possible explanations for the patterns identified in the quantitative analyses; for example, exploring the perceived strengths and weaknesses of single-handed practice in relation to the provision of high quality of care. The analysis of the qualitative data helped to refine and add GPs' own perspectives to explain the patterns of quality of care provided by practices.

One of main strengths of the quantitative study is that it covered all general practices in urban areas of mainland Scotland. Practice data were obtained from ISD, which produces high quality data on health services, but the fixed nature of the secondary data can restrict the analysis. For instance, prevalence data as discussed previously in an early chapter (Chapter 6) were estimated figures which did not provide the actual number of patients with specific conditions, and also were not linked to the demographics of the practice patients, so comparison of CHD prevalence between practices could only be based on crude rates. These may be misleading if the composition of the practice population cannot be taken into account. This problem was also apparent in the analysis of QOF performance; there was no patients' demographic data recorded with QOF disease prevalence, and also no information on exception reporting in relation to the clinical indicators in the first year of the introduction of the new contract. The possible deprivation effect seemed to be understudied. Even though GPs commented on the effect of deprivation on QOF achieved in the qualitative interviews, to which extent that practices' performance has been influenced was not possible to conclude from the thesis due to a lack of availability of related data collection in the quantitative analysis.

One of the main objectives of the thesis was to explore the quality of care provided by single-handed GPs, and pragmatic decisions were taken based on the availability of data sources, selecting a range of quality indicators that related to the clinical aspects of quality of care in general practice. As noted earlier, such data selection provided a national coverage on almost all general practices, but there was a limitation of the availability of the data in relation to its age of the data. Most of the data used in the desk-based analyses were from the early 2000s, including a mix of data collection from the year 2001 to 2003: CHD related clinical data (2001/02); general practice characteristics such as practice size (2002); general practitioner census (2003); and practice population generated from CHI data

(2003). Based on such a selection of data, some practice information was technically missed when different years of data were merged together (stated appropriately in the individual result sections); however the number of practices with missing data was relatively small with little impact on the analysis. Indeed, results from this thesis with respect to the association between practice size and quality, were in agreement with others studies carried out around the similar time (Hippisley-Cox *et al*, 2001; Majeed *et al*, 2003). All suggested that practice size was not a contributory factor to the quality of care, but these findings generated from the early years of data may, by now, not necessarily reflect recent trends in the quality of care provided by practices.

The results from the qualitative analysis showed that, in discussion of the quality of care, single-handed GPs put greater emphasis more on interpersonal care than on clinical care. This raises the possibility of response bias, whereby single-handed GPs in the interviews might have behaved or talked in a way they considered socially desirable, and concentrated on merely presenting a positive image of themselves. This may affect the reliability of the qualitative study. Triangulation of quantitative data focusing on interpersonal aspects of quality measurement may enhance our understanding of qualitative results; however, no such information was available at the time of the study.

One of the purposes of using mixed methods was that qualitative data can be used to capture possible explanations for the variation found in quantitative analyses. In this thesis, one of the important findings in the quantitative study was that of smaller urban practices referring more patients to secondary care than larger practices. Most respondents in the interviews struggled to offer explanations for this observation, often citing that they lacked relevant knowledge about their own referral practice in relation to others. Therefore, little substantive insight on referral behaviour was gained from the qualitative interviews. One possible explanation is that the respondents may be aware that single-handed practices tend to have higher referrals in general practice, and may try to normalise their own behaviour in utilising secondary care services. For example, some GPs directed their emphasis towards the appropriateness of referrals, and/or perceived patient-initiated referrals particularly in affluent areas, rather than addressing their own pattern of referral. In addition, the referral process itself in general practice is a complex and challenging issue that will require more future research.

As suggested previously, based on key attributes of single-handed GPs including gender, country of their qualification and deprivation status of their practice population, a sample of GPs was selected for the interviews. The sampling framework aimed not only to identify a group of GPs who were representative of the profile of single-handed GPs, but also to compare and contrast GPs' perceptions of issues related to single-handed practices in respect of their key characteristics. Although a high proportion of single-handed GPs in the quantitative analysis originally qualified overseas, only one could be included in the interview study because many had retired or were approaching their retirement. Indeed, such a group of older GPs were traditionally seen as a stereotype of single-handed doctors, who have been an important provider of inner city general practice. At the time of this study, they accounted for nearly 17% of urban single-handed GPs, and the exclusion of this group of GPs in the interviews could potentially limit the linkage of the qualitative and quantitative findings since practice and performance data of this group were included in the quantitative analysis but their views were not able to be represented in the qualitative data.

In addition, with deprivation being an important criterion of the sampling strategy, a selection of single-handed GPs located in urban areas of West Scotland was recruited from both deprived and non-deprived areas based on SIMD scores at a practice level. Given the high concentration of this type of GPs in Glasgow, two thirds (14 of total 20) of those interviewed GPs were from the Glasgow area with the rest spread across Lanarkshire, Ayrshire & Arran and Forth Valley. Despite the marked deprivation gradient between Glasgow and other areas of mainland Scotland, GPs working in the areas having high deprivation appeared over-represented in the qualitative study. Although GPs recruited from outside Glasgow tended to be categorised as non-deprived based on quantitative data, half of them were found also to serve relatively deprived populations. This skewed distribution of deprivation is an important aspect of the qualitative analysis as there was little patterning of GPs' accounts in relation to their deprivation status. Perhaps it would be better to recruit the sample according to the level deprivation, taken into account of disparity within and between local areas.

Although there are some limitations to use both quantitative and qualitative approaches, the methods used in the study have helped to answer the research questions and have provided an opportunity for me as a researcher to develop my skills in both areas.

9.4 Implications and recommendations of the study

This thesis has explored the current provision of care in single-handed practices, adding the views of the GPs themselves. In general, they provide a comparable level of clinical quality of care as larger practices, in the face of greater levels of population needs. On a personal level, GPs enjoyed a high degree of autonomy within practices, offering patients both continuity and easy access. However, with little opportunities to benefit from the economies of scale possible in larger practices, with regards to the employment of staff and workload distribution, single-handed practice is under threat in an increasingly resource-constrained NHS, and also has been challenged under the increasing demands and accountability that are associated with the new GP contract. In this section, I consider some of the implications that can be made from this study, for service delivery in general practice and for further research in the future.

Service delivery and practice size

The health service in the UK has experienced a series of organisational reforms since 1948. Whilst general practice remains at the centre of the healthcare system, the expectations have changed from all points of view, including policy makers, patients and GPs themselves. In the context of health policy, there have been deliberate incentives to encourage group practices so as to achieve the virtues of economy of scale, greater efficiency, greater skill mix as well as increased accountability. Traditional single-handed and small practices are particularly challenged by these changes and may seem to have no future within primary care provision. However, what is usually not taken into account by policy makers and NHS managers is the effect of such change on the doctors themselves, and the benefits of smaller practices, which are good at continuity of care and access, both of which are highly valued by patients (Grol *et al*, 1999).

In the thesis, the single-handed GPs' interviewed were clear that they believed that their patients prefer to see the same doctor, and to be able to access their GPs at the time they most need them. In addition, GPs themselves felt rewarded by some aspects of their work largely concerned with professional autonomy, in particular having the ability to exercise their own decision-making over the running of practices, and also providing consistency of care for their patients. Many of the GPs interviewed for this study expressed their intention

to continue practising on their own. To this extent, their views are consistent with the overall opinion of GPs working in smaller practices. A report published by the NHS Alliance suggested that single-handed GPs generally felt less stressed, while a survey of single-handed GPs in London showed that less than 5% of single-handed GPs would prefer to return to a partnership (NHS Alliance, 2005). This may be the reason underlying the persistent existence of this type of practice despite the changes in general practice to the contrary. However, there are likely to be fewer opportunities in the future for GPs who want to practise single-handed, although the effect of such change will probably take time to develop.

The evidence presented in this thesis regarding quality of care suggests that practice size has little impact on the clinical care provided by practices, but that deprivation represents a key determinant associated with populations' need for care. The thesis notes that a large proportion of single-handed GPs remained working in areas with high levels of deprivation, contributing to a range of health and social problems among patients, which then imposed needs and demands for care on GPs. Despite evidence suggested that they provided comparable standard of care to group practices, single-handed GPs recognised they were in disadvantaged position due to the small scale nature of their practices. On the one hand, single-handed GPs have been an important part of service provision in deprived areas, and made important contributions to provide access to health care for those patients but, on the other hand, regardless of the quality of care provided, there is a feeling of a discouragement amongst this group of GPs. In respect to health policy, given its intention to improve the quality of services in deprived areas, the Government should consider the needs of GPs working in these areas, to support them in sustaining a high quality of care, and also to ensure they are meeting the needs of patients traditionally served by single-handed or small practices.

It emerged from the interviews that, despite the term of "single-handed", few urban single-handed GPs now worked solely by themselves. Many had employed salaried GPs on a regular basis and/or some worked collaboratively with other local GPs from smaller practices providing cross-cover while they were off. This pattern of working may simply meet the practical needs of single-handed practice, and the benefits of this are demonstrated in two aspects. GPs felt they were able to effectively engage with other colleagues so avoiding professional isolation, something that has been a main concern

about single-handed practice for many policy makers and professionals. Also a few single-handed GPs worked under the same roof with other single-handed or small practices, and cited having achieving economies of scale that could not be achieved by working alone, such as sharing practice premises and staff. Such collaboration between these single-handed GPs represents a relatively small-scale model of federations of small practices as proposed in the RCGP roadmap (Lakhani *et al*, 2007), and is also similar to the model of “nested small practices” outlined by the NHS Alliance (NHS Alliance, 2005). Such arrangements seem more likely to achieve and maintain economies of scale, which are thought to be an essential factor in determining whether single-handed GPs will sink or swim. Although GPs may benefit from working together in such collaboration, it is not clear what impact such arrangements have on patients. A federated model of general practice may be practicable within the localities in urban areas but may not apply to single-handed or small practices in rural settings.

Future research

More research is needed into the use of performance indicators in the assessment of quality of care. This thesis has evaluated quality of care provided by urban single-handed practices using available performance indicators, which have been widely accepted as a quality measure to monitor health service use and care in NHS. There is, however, an important limitation to performance indicators in that they measure only certain aspects of quality—in particular those related to structure, process and outcome. For instance, referral rates (regarded as an outcome measure) were persistently higher in smaller practices than larger practices, but without knowing the severity of patients’ conditions or case mix, observed differences in referral rates cannot arguably reflected true differences in the quality of care between practices. Similarly, statin prescribing rates were lower in single-handed practices, but without case mix adjustment, the value of prescribing rates in reflecting true differences in quality of care is unknown. Outcome measures, as acknowledged earlier (Chapter 6), are likely to be influenced by factors out with the control of GP practices; for example, patient-related factors like age, gender, socio-economic status, as well as co-morbidity; and secondary care related factors such as admission policies and the availability of services can all be possibly alternative explanations for a variation in outcomes. If outcome measures were to be used as in indicators of quality of care, careful considerations should be taken of these factors. Extending the findings of my research, future research on quality of care requires more sophisticated analysis—referral,

prescribing and operation rates as a proxy of outcome measure that incorporates patients' demographics as well as morbidity could be used to help identify and distinguish practices that have high referral and prescribing rates due to a high burden of diseases from practices that have high rates due to inappropriate referrals or inefficient prescribing; and also could detect practices that are under-treating patients and that have inappropriately low referral, prescribing, and operation rates for their patients' morbidity burden.

In addition, performance indicators are commonly constructed from routine data, for example, QOF data, due to its easy accessibility has been used in many studies as a measure of quality of care in general practice, including this one. It has been noted that most general practice achieved high quality scores under the framework, but as indicators within QOF change and thresholds for achievement alter, greater variation between practices in measured quality of care may become apparent (Majeed *et al*, 2007). Analysis of this study suggested that although there were statically significant differences in point attainment, payment achievement, and delivery achievement of indicators, the absolute differences between practices were often very small; nevertheless, a wider spread of mean distributions for quality indicators was noted in single-handed practices compared to larger practices, and future research assessing quality of care using QOF indicators will need not only to acknowledge that the distributions of quality scores and percentage achievement for all indicators were, on the whole, clustered towards the upper limit of their maximum, but also to identify how the underlying distributions vary within and across practice groups, and to map out which type of practices have more variable quality attainment with a tendency to have lower maximum thresholds.

Single-handed GPs' viewpoints on their quality of care were included in this thesis. It was not feasible, however, to seek patients' perspectives of what constitutes high quality care and how well care that matches the care they receive from their GPs. Reviews of evidences showed that smaller practice were associated with high patient satisfaction and preferable to larger practice for accessibility and continuity of care (Curtis, 1987; Baker and Streatfield 1995; Baker 1996; Wensing *et al* 2002). Patient satisfaction surveys have commonly been considered a valid measure of obtaining patients' assessment of quality of care, yet as most surveys report high levels of satisfaction, the interpretation of satisfaction as an valid measure has been called into question, and increasingly reports of patient experience are advocated to replace assessments of patient satisfaction (Williams *et al*

1998). Future research on quality of care in relation to practice size is needed to evaluate, from the patients' point of views, their experience of care from different sizes of practices. For example, qualitative studies which use interviews or focus groups to ask patients their experience of care received from GPs. This would help to develop and inform a further understanding of the strengths and weakness of single-handed practices, and may provide insights into future development of service model for policy makers.

At the same time, given the fast growth of large group practices, which allow GPs share workloads and practice resources, my research on single-handed GPs indicates that partnership working arrangements could contribute to a decline in GPs' autonomy at an individual level; yet little is known about the impact of changes moving toward large practices on GPs' job satisfaction and autonomy. Such information could be important for the future recruitment and retention of the GP workforce in general practice and, again would be amenable to further qualitative work.

9.5 Conclusion

In conclusion, this study has demonstrated that single-handed GPs in urban areas remain a small, but important, component of primary care service delivery, particularly in areas of deprivation. To completely lose such a model of care may have unintended consequences for both patients, in terms of reduced choice of service provider, loss of continuity of care and of interpersonal care, and for GPs, in terms of reduced professional autonomy and job satisfaction and may force a small, but highly autonomous, group of individuals into less suitable working conditions within partnerships. This thesis has shown that the quality of care provided is comparable to that of larger group practices and, where care may appear to be less good, this is largely explained by the poorer socioeconomic profile of the populations served. Nevertheless, GPs are finding that their internal professional autonomy and professionalism is being squeezed by external demands, in particular the increased monitoring and accountability inherent with the Quality and Outcomes Framework and they fear that the increasing drive towards specialism within general practice may disadvantage them. In the discussions of future service configurations within general practice and primary care, their unique position must not be ignored. However, some are already developing methods of collaborative working with other practices which suggest

that models of collaboration and federations, especially when located within health centres, may present a viable, alternative future for single-handed GPs working in urban areas.

Appendices

Appendix 1

A description of selected QOF indicators

1. Clinical indicators in coronary heart disease, hypertension, stroke, and diabetes.

Coronary heart disease		Points	Target range (%)
CHD 03	The percentage of patients with coronary heart disease whose notes record smoking status in the past 15 months, except those who have never smoked where smoking status need be recorded only once since diagnosis.	7	25-90%
CHD 05	The percentage of patients with coronary heart disease whose notes have a record of blood pressure in the previous 15 months.	7	25-90%
CHD 06	The percentage of patients with coronary heart disease in whom the last blood pressure reading (measured in the last 15 months) is 150/90 or less.	19	25-70%
CHD 07	The percentage of patients with coronary heart disease whose notes have a record total cholesterol in the previous 15 months.	7	25-90%
CHD 08	The percentage of patients with coronary heart disease whose last measured total cholesterol (measured in last 15 months) is 5 mmol/l or less.	16	25-60%
CHD 09	The percentage of patients with coronary heart disease with a record in the last 15 months that aspirin, an alternative anti-platelet therapy, or an anti-coagulant is being taken (unless a contraindication or side-effects are recorded).	7	25-90%
CHD 10	The percentage of patients with coronary heart disease who are currently treated with a beta blocker (unless a contraindication or side-effects are recorded).	7	25-50%
CHD 12	The percentage of patients with coronary heart disease who have a record of influenza immunisation in the preceding 1 September to 31 March.	7	25-85%
Hypertension			
BP 02	The percentage of patients with hypertension whose notes record smoking status at least once.	10	25-90%
BP 04	The percentage of patients with hypertension in whom there is a record of the blood pressure in the past 9 months.	20	25-90%
BP 05	The percentage of patients with hypertension in whom the last blood pressure (measured in the last 9 months) is 150/90 or less.	56	25-70%

Stroke		Points	Target Range (%)
Stroke 03	The percentage of patients with TIA or stroke who have a record of smoking status in the last 15 months, except those who have never smoked where smoking status need be recorded only once since diagnosis.	3	25-90%
Stroke 05	The percentage of patients with TIA or stroke who have a record of blood pressure in the notes in the preceding 15 months.	2	25-90%
Stroke 06	The percentage of patients with a history of TIA or stroke in whom the last blood pressure reading (measured in last 15 months) is 150/90 or less.	5	25-70%
Stroke 07	The percentage of patients with TIA or stroke who have a record of total cholesterol in the last 15 months.	2	25-60%
Stroke 08	The percentage of patients with TIA or stroke whose last measured total cholesterol (measured in last 15 months) is 5 mmol/l or less.	5	25-60%
Stroke 09	The percentage of patients with a stroke shown to be non-haemorrhagic, or a history of TIA, who have a record that aspirin, an alternative anti-platelet therapy, or an anti-coagulant is being taken (unless a contraindication or side-effects are recorded).	4	25-60%
Stroke 10	The percentage of patients with TIA or stroke who have had influenza immunisation in the preceding 1 September to 31 March.	2	25-90%
Diabetes			
DM 02	The percentage of patients with diabetes whose notes record BMI in the previous 15 months.	3	25-90%
DM 03	The percentage of patients with diabetes in whom there is a record of smoking status in the previous 15 months, except those who have never smoked where smoking status need be recorded only once since diagnosis.	3	25-90%
DM 05	The percentage of diabetic patients who have a record of HbA1c or equivalent in the previous 15 months.	3	25-90%
DM 06	The percentage of patients with diabetes in whom the last HbA1C is 7.4 or less (or equivalent test/reference range depending on local laboratory) in last 15 months.	16	25-55%

Diabetes		Points	Target Range (%)
DM 07	The percentage of patients with diabetes in whom the last HbA1C is 10 or less (or equivalent test/reference range depending on local laboratory) in last 15 months.	11	25-85%
DM 08	The percentage of patients with diabetes who have a record of retinal screening in the previous 15 months.	5	25-90%
DM 09	The percentage of patients with diabetes with a record of the presence or absence of peripheral pulses in the previous 15 months.	3	25-90%
DM 10	The percentage of patients with diabetes with a record of neuropathy testing in the previous 15 months.	3	25-90%
DM 11	The percentage of patients with diabetes who have a record of the blood pressure in the past 15 months.	3	25-90%
DM 12	The percentage of patients with diabetes in whom the last blood pressure is 145/85 or less.	17	25-55%
DM 14	The percentage of patients with diabetes who have a record of serum creatinine testing in the previous 15 months.	3	25-90%
DM 16	The percentage of patients with diabetes who have a record of total cholesterol in the previous 15 months.	3	25-90%
DM 17	The percentage of patients with diabetes whose last measured total cholesterol within the previous 15 months is 5mmol/l or less.	6	25-60%
DM 18	The percentage of patients with diabetes who have had influenza immunisation in the preceding 1 September to 31 March.	3	25-85%

2. Organisational indicators within 5 areas.

Organisation	No. of indicators	Points	Example
Records and information about patients	19	85	Record 08 The practice has up-to-date clinical summaries in at least 80% of patient records. (points available 1)
Communication with patients	8	8	Communication 03 The practice has arrangements for patients to speak to GPs and nurses on the telephone during the working day. (points available is 1)
Education and training	9	29	Education 07 The practice has undertaken a minimum of twelve significant event reviews in the past 3 years which include (if these have occurred): Any death occurring in the practice premises; Two new cancer diagnoses; Two deaths where terminal care has taken place at home; One patient complaint; One suicide; One section under the Mental Health Act. (points available 4)
Management of medicine	10	42	Medicine 07 Where the practice has responsibility for administering regular injectable neuroleptic medication, there is a system to identify and follow up patients who do not attend. (points available 4).
Management of the practice	10	20	Management 05 The practice offers a range of appointment times to patients, which as a minimum should include morning and afternoon appointments five mornings and four afternoons per week, except where agreed with the PCO. (points available 3)

Appendix 2

Published paper

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Practice size and quality attainment under the new GMS contract: a cross-sectional analysis

Yingying Wang, Catherine A O'Donnell, Daniel F Mackay and Graham CM Watt

ABSTRACT

Background

The Quality and Outcomes Framework (QOF) of the new General Medical Services contract, for the first time, incentivises certain areas of general practice workload over others. The ability of practices to deliver high quality care may be related to the size of the practice itself.

Aim

To explore the relationship between practice size and points attained in the QOF.

Design of study

Cross-sectional analyses of routinely available data.

Setting

Urban general practice in mainland Scotland.

Method

QOF points and disease prevalence were obtained for all urban general practices in Scotland ($n = 638$) and linked to data on the practice, GP and patient population. The relationship between QOF point attainment, disease prevalence and practice size was examined using univariate statistical analyses.

Results

Smaller practices were more likely to be located in areas of socioeconomic deprivation; had patients with poorer health; and were less likely to participate in voluntary practice-based quality schemes. Overall, smaller practices received fewer QOF points compared to larger practices ($P = 0.003$), due to lower point attainment in the organisational domain ($P = 0.002$). There were no differences across practice size in the other domains of the QOF, including clinical care. Smaller practices reported higher levels of chronic obstructive pulmonary disease (COPD) and mental health conditions and lower levels of asthma, epilepsy and hypothyroidism. There was no difference in the reported prevalence of hypertension or coronary heart disease (CHD) across practices, in contrast to CHD mortality for patients aged under 70 years, where the mortality rate was 40% greater for single-handed practices compared with large practices.

Conclusions

Although smaller practices obtained fewer points than larger practices under the QOF, this was due to lower scores in the organisational domain of the contract rather than to lower scores for clinical care. Single-handed practices, in common with larger practices serving more deprived populations, reported lower than expected CHD prevalence in their practice populations. Our results suggest that smaller practices continue to provide clinical care of comparable quality to larger practices but that they may need increased resources or support, particularly in the organisational domain, to address unmet need or more demanding QOF criteria.

Keywords

health services research; practice management, medical; primary health care; quality indicators.

INTRODUCTION

The UK government's latest white paper for England *Our Health, Our Care, Our Say* outlines a new vision for general practice in which care will be increasingly delivered through large group practices and confederations of practices.¹ While it has been argued that such developments will improve the ability of general practice to deliver healthcare fit for the 21st century,² current evidence suggests that small and single-handed practices provide clinical care of comparable quality to that of larger group practices.³⁻⁵ In addition, patients rate smaller practices more highly in terms of access and satisfaction.⁶⁻⁸

Smaller practices remain a significant feature of general practice throughout the UK. In 2004, single-handed and small two or three partner practices accounted for 56% of all partnerships in England, 53% in Wales and 52% of all practices in Scotland.⁹ The majority of these smaller practices are located in urban areas and are the most likely to be affected under the government's new vision of primary care, as small practices will continue to be the norm in remote and rural areas.¹⁰

While designed as a payment system, there is now an explicit linkage of quality attainment with financial incentives and monitoring within the new General Medical Services (GMS) contract under the

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Quality and Outcomes Framework (QOF).¹¹ This raises the possibility that smaller practices¹² or practices serving deprived or rural areas may be disadvantaged.¹³ Using recently released data on the points attained under the QOF, we have examined the performance of urban general practices in Scotland comparing the QOF points attained by practices according to the size of the practice.

METHOD

We obtained data for the year 2002 from Information Services, NHS National Services Scotland on practice and GP characteristics for all general practices in Scotland. Data included practice list size, the number of GPs, the proportion of female and South Asian qualified GPs, personal medical services (PMS) practices and training practices (defined as those practices with at least one GP who is an approved trainer). The percentage of Indian, Pakistani and South Asian patients in the practice was estimated using ethnicity data at output area level from the 2001 census. To this was added a database of practices that had received Practice Accreditation (PA) or the Quality Practice Award (QPA) or who were participating in the Scottish Programme to Improve Clinical Effectiveness (SPICE), supplied by the

How this fits in

Previous studies have demonstrated that single-handed and small practices provide clinical care of comparable quality to larger practices. However, patients rate smaller practices more highly in terms of access and satisfaction. This work shows that single-handed and small practices obtained fewer points under the QOF than large practices, but that this was attributable to lower point attainment in the organisational domain. Smaller practices performed as well as larger practices in all other domains of the QOF, including the clinical domains. Practices serving deprived populations report lower prevalence of clinical conditions, particularly CHD, than may be expected, when compared to census and mortality data.

Royal College of General Practitioners. Practices were categorised according to the number of WTE (whole time equivalents) GP principals: single-handed practice (up to 1.0 WTE GP); small practices (1.01–3.0 WTEs); medium practices (3.01–5.00 WTEs); large practices (≥ 5.01 WTEs).

The level of socioeconomic deprivation in the practice population was defined using a modified measure of the Scottish Index of Multiple Deprivation, based on income, employment and education.^{14,15} The eight category Scottish Executive Urban Rural Classification measure (SEURC)¹⁶ was used to identify urban practices by assigning practices to the category which contained the

Table 1. Characteristics of urban practices returning QOF data in September 2005 by practice size.

	Number of WTE GP principals				P-value
	Single-handed (1.00 WTE GP)	Small practice (1.01–3.00 WTE GPs)	Medium practice (3.01–5.00 WTE GPs)	Large practice (5.01 GPs)	
Practices located in urban areas,*n (%)	70 (11)	216 (34)	212 (33)	138 (22)	
Female GPs, % (SD)	19.0 (39.3)	40.8 (26.1)	40.2 (15.5)	39.3 (12.9)	<0.001
GPs aged ≥ 55 , % (SD)	25.2 (43.4)	14.0 (23.8)	13.0 (14.9)	13.3 (12.4)	<0.001
South Asian qualified GPs ^b , % (SD)	14.8 (35.5)	5.0 (17.4)	1.4 (5.9)	0.4 (2.4)	<0.001
List size per GP, mean (SD)	2033 (687)	1548 (421)	1510 (281)	1533 (268)	<0.001
List size per WTE GP, mean (SD)	2033 (687)	1655 (394)	1603 (257)	1607 (266)	<0.001
Voluntary practice-based activities					
Practice accreditation, n (%)	7 (10.0)	40 (18.5)	44 (20.8)	48 (34.8)	<0.001
Quality Practice Award, n (%)	0	2 (0.9)	11 (5.2)	15 (10.9)	<0.001
Personal Medical Service, n (%)	6 (8.6)	14 (6.5)	15 (7.1)	10 (7.2)	0.948
SPICE, n (%)	16 (22.9)	27 (12.5)	28 (13.2)	26 (18.8)	0.091
Training practice, n (%)	1 (1.4)	28 (13.0)	64 (30.2)	70 (50.7)	<0.001
Patient characteristics					
Number of registered patients	129 951	821 397	1 406 569	1 423 129	
mSIMD, mean (SD)	31.3 (14.6)	30.8 (15.7)	23.6 (11.8)	21.7 (11.7)	<0.001
Indian patients, % (SD)	0.61 (0.76)	0.50 (0.52)	0.41 (0.46)	0.29 (0.35)	0.002
Pakistani and other South Asian ^b patients, % (SD) (except Indian)	2.36 (4.19)	1.33 (1.83)	0.99 (1.42)	0.83 (1.77)	<0.001
Patients aged over 65 years, % (SD)	12.5 (5.1)	12.7 (3.6)	13.5 (3.2)	13.2 (3.1)	<0.001
SIR 64, ^c mean (SD)	122.5 (33.9)	120.2 (34.9)	104.6 (26.8)	99.9 (27.0)	<0.001
CHD mortality <70, mean SAR ^d (SD)	141.9 (116.0)	113.6 (84.5)	100.2 (58.4)	102.3 (51.0)	<0.001

*There were a total of 638 urban practices; data missing from two practices. All results were population weighted. ^bDefined as Bangladesh, India, Pakistan or Sri Lanka. ^cAge:sex standardised ratio. Modified Scottish Index of Multiple Deprivation. SIR 64 = Standardised limiting long-term illness for under-64s. SPICE = Scottish Programme for Improving Clinical Effectiveness. WTE = whole-time equivalents.

Table 2. Median QOF points obtained in each domain by practice size.^a

	Number of WTE GP principals				P-value ^b
	Single-handed (1.00 WTE GP)	Small practice (1.01–3.00 WTE GPs)	Medium practice (3.01–5.00 WTE GPs)	Large practice (5.01 GPs)	
Total QOF points, median (range)	944.1 (709.2–1000.0)	953.6 (505.2–1000.0)	953.0 (598.2–1000.0)	970.4 (505.2–1000.0)	0.003
Clinical points, median (range)	534.3 (394.5–550.0)	531.2 (309.4–550.0)	534.9 (327.3–550.0)	534.5 (278.1–550.0)	0.382
Organisational points, median (range)	172.0 (95.5–184.0)	171.0 (70.0–184.0)	172.5 (94.0–184.0)	179.0 (70.0–184.0)	0.002
Patient experience points, median (range)	100.0 (30.0–100.0)	100.0 (30.0–100.0)	100.0 (40.0–100.0)	100.0 (30.0–100.0)	°
Additional services points, median (range)	36.0 (13.8–36.0)	36.0 (25.0–36.0)	36.0 (25.0–36.0)	36.0 (13.8–36.0)	°
Holistic care points, median (range)	96.4 (50.0–100.0)	94.2 (34.5–100.0)	96.4 (32.6–100.0)	96.5 (32.6–100.0)	0.104
Quality practice payment, median (range)	27.1 (9.3–30.0)	28.4 (10.7–30.0)	30.0 (12.4–30.0)	30.0 (9.3–30.0)	°

^aThere were a total of 638 urban practices; data missing from 1 single-handed practice. Not all practices returned data in every domain, thus median difference for total QOF points is greater than the sum of the individual domains. ^bMedian was compared across practice size using the median test. ^cWhere medians are close to being identical, or are identical, the median test incorporated in STATA 9.2 will not report a test statistic or P value. WTE = whole time equivalents.

largest proportion of their registered population as at September 2002. Patients' self-reported health was used as a proxy for healthcare need. This was captured using the 2001 census based indicator of limiting long-term illness for those aged under 64 years (SIR 64). Data on coronary heart disease mortality for under-70s was also obtained from Information Services and standardised for age and sex of the practice population.

From this dataset, we identified practices returning QOF points and disease prevalence in September 2005,¹⁷ linking both datasets to obtain a comprehensive description of practice, GP and patient characteristics for every urban practice returning QOF data.

We used the χ^2 test as a measure of association between practice size and categorical variables. As the distribution of QOF data was skewed and not corrected by logarithmic transformation, the median point attainment in each domain was compared across the four practice groups using the median test incorporated in STATA 9.2. This tests the null hypothesis that the samples were drawn from populations with the same median. Comparison of QOF prevalence data was conducted using univariate ANOVA in Stata 9.2.

RESULTS

Single-handed and small practices accounted for 45% ($n = 286$) of all urban practices (Table 1). Smaller practices, in particular single-handed practices, had greater list sizes than large practices. Smaller practices were less likely to participate in voluntary quality practice schemes or

GP training. GPs in single-handed practices were significantly older, more likely to be male and to have qualified in South Asia than those working in larger practices.

Almost 1 million patients were registered with single-handed and small practices (Table 1). These patients lived in areas of greater socioeconomic deprivation, had poorer health and higher rates of premature mortality from coronary heart disease than those from group practices (single-handed practices: mean age:sex standardised ratio = 141.9; large practices: mean age:sex standardised ratio = 102.3). Smaller practices had a higher percentage of patients from minority ethnic groups.

Only one single-handed practice did not return QOF data. There was a statistically significant difference in the total number of QOF points obtained by practices, with larger practices obtaining more points than smaller practices (Table 2). When the individual domains contributing to the overall QOF points were examined, only the organisational domain showed a significant difference across the practice groups, with larger practices again obtaining more points than smaller practices (Table 2). There was no statistically significant difference in the clinical or holistic care domains. The median values of the other domains (patient experience, additional services and quality practice payments) were the same, or similar, across the four groups.

Within the clinical domain, the only statistically significant differences in median points achievement were for COPD and CHD, although the absolute differences in points were very small

Table 3. QOF points and disease prevalence in each clinical domain by practice size.

	Number of WTE GP principals				P-value ^{a,b}
	Single-handed (1.00 WTE GP)	Small practice (1.01–3.00 WTE GPs)	Medium practice (3.01–5.00 WTE GPs)	Large practice (5.01 GPs)	
Asthma points, median (range)	71.7 (29.9–72.0)	70.2 (19.8–72.0)	70.0 (28.8–72.0)	69.9 (24.5–72.0)	0.164
Asthma prevalence (%)	5.04	5.21	5.28	5.52	0.017
Cancer points, median (range)	12.0 (0–12.0)	12.0 (0–12.0)	12.0 (6.0–12.0)	12.0 (6.0–12.0)	^c
Cancer prevalence (%)	0.50	0.46	0.50	0.51	0.087
COPD points, median (range)	44.7 (15.1–45.0)	43.2 (13.1–45.0)	44.5 (14.7–45.0)	43.9 (11.0–45.0)	0.020
COPD prevalence (%)	2.12	2.29	1.84	1.82	<0.001
Diabetes points, median (range)	98.1 (76.4–99.0)	97.6 (63.3–99.0)	97.5 (69.4–99.0)	97.0 (64.7–99.0)	0.288
Diabetes prevalence (%)	3.22	3.15	3.13	3.14	0.935
Epilepsy points, median (range)	15.0 (2.0–16.0)	14.1 (2.0–16.0)	14.4 (2.2–16.0)	14.9 (2.0–16.0)	0.112
Epilepsy prevalence (%)	0.65	0.75	0.69	0.72	0.029
Hypertension points, median (range)	105.0 (72.1–105.0)	105.0 (40.4–105.0)	105.0 (67.6–105.0)	104.9 (60.1–105.0)	^c
Hypertension prevalence (%)	10.54	11.27	11.33	11.07	0.487
Hypothyroidism points, median (range)	8.0 (7.0–8.0)	8.0 (6.1–8.0)	8.0 (6.9–8.0)	8.0 (2.4–8.0)	^c
Hypothyroidism prevalence (%)	2.13	2.51	2.71	2.79	<0.001
Mental health points, median (range)	38.8 (7.0–41.0)	40.8 (0–41.0)	41.0 (7.2–41.0)	41.0 (14.4–41.0)	^c
Mental health prevalence (%)	0.77	0.60	0.53	0.53	0.008
Stroke points, median (range)	30.4 (15.6–31.0)	30.6 (12.3–31.0)	30.7 (14.1–31.0)	30.8 (15.2–31.0)	0.486
Stroke prevalence (%)	1.57	1.72	1.78	1.79	0.225
CHD points, median (range)	119.5 (84.2–121.0)	117.9 (72.4–121.0)	119.9 (80.9–121.0)	120.5 (63.8–121.0)	<0.0001
CHD prevalence (%)	3.76	3.74	3.70	3.75	0.960

^aMedian was compared across practice size using the median test. ^bResults for test of mean prevalence were population weighted. ^cWhere medians are close to being identical, or are identical, the median test incorporated in STATA 9.2 will not report a test statistic or P value. CHD = coronary heart disease. COPD = chronic obstructive pulmonary disease. WTE = whole time equivalents.

(Table 3). There was a significant difference in the reported prevalence of some conditions. Smaller practices reported higher levels of COPD and mental health conditions, but lower levels of asthma, epilepsy and hypothyroidism. However, the higher rate of premature mortality from CHD shown in Table 1 was not reflected in reported CHD prevalence (Table 3).

Although the results for disease prevalence were adjusted for population size, they were not adjusted for socioeconomic deprivation within the practice population. However, as shown in Table 1, smaller practices had higher deprivation scores indicating that they have more deprived practice populations. To further explore the possible impact of socioeconomic deprivation on QOF achievement, we compared QOF point attainment and prevalence in the 120 practices located in the most deprived decile of the Scottish general practice population. A significant difference in points was still only apparent in the organisational domain (single-handed practices: median = 167.0; small practices: 170.8; medium practices: 177.0; larger practices: 179.9; $P = 0.002$). There was a non-significant difference across the other domains, including the clinical domain (data not shown). Within the clinical domain, there was weak evidence of a difference in mental health points achievement, with larger

practices obtaining more points (single-handed practices: median = 33.0; small practices: 40.7; medium practices: 41.0; larger practices: 41.0; $P = 0.045$). Prevalence patterns were similar to those observed with all practices, although only cancer and epilepsy achieved statistical significance with smaller practices reporting higher levels of cancer, but lower levels of epilepsy.

DISCUSSION

Summary of main findings

This study adds to recent work exploring the impact of the QOF,^{13,16} but with particular reference to the relationship between point attainment and practice size. The study concentrated on urban areas, as small practices will continue to be a major feature of health care in remote and rural areas. Smaller practices received fewer QOF points compared to larger practices, due to lower points attainment in the organisational domain. There were no differences across practice size for the other elements of the QOF, including clinical care.

Strengths and limitations of the study

There are limitations with the data. For example, the most recent data on practice and GP characteristics available to us was from 2002, thus practices returning QOF data in 2005 had to be

matched to the 2002 dataset with a resultant loss of a small number of practices from the analyses, although this was spread equally amongst the practice groups. Some practice and population characteristics, for example ethnicity and self-reported health, were derived from census-based area level data and assumed to be representative of the practice population. In some cases, patients on a practice list may not be truly representative of the general population of the area, as some patients may choose to travel to attend a particular practice. However, as there are no sources of practice-derived data for these variables, census-based area data is the accurate and available proxy.

Single-handed and small practices in urban areas continue to have larger list sizes per GP principal than larger practices and to provide care for patients living in greater socioeconomic deprivation and with poorer self-reported health. As reported in previous studies, the GPs providing this care were more likely to be male, older and to have qualified abroad.^{4,19} Smaller practices were also less likely to participate in voluntary practice-based activities such as quality practice accreditation and GP training, perhaps related to their location in more deprived areas.¹⁵

Comparison with existing literature

While smaller practices obtained fewer QOF points than larger practices overall, there was no evidence to suggest that this was due to poorer clinical care. Single-handed and small practices performed as well as larger practices in the clinical care and patient experience domains, as well as in holistic care (as defined in the QOF), additional services and quality practice payments. This observation remained true after controlling for socioeconomic deprivation and indicates that while, as previously reported,³⁻⁵ single-handed and small practices provide clinical care of comparable quality to larger practices, they may lack the organisational resources and structures required to fully maximise their QOF point attainment.

The lack of effect of deprivation is at odds with a recent study, which found that incentivised quality increased with deprivation.¹⁸ However, that study was based on data from only one area of Scotland and did not include the large socioeconomically deprived conurbation of greater Glasgow, which accounts for 50% of the 10% most deprived areas in Scotland.²⁰ A study utilising data from 8569 practices in England demonstrated that deprivation was inversely related to QOF achievement, with the most deprived practices receiving around 11% fewer QOF points compared to the most affluent.¹³

Prevalence figures for Scottish urban practices

were generally similar to those recently reported for practices in England.²¹ There was an unexpected flatness in the reported prevalence of most of the clinical conditions in smaller practices, given that smaller practices had higher levels of deprivation within their practice populations. Overall, smaller practices reported a higher prevalence of mental health problems and COPD. The finding that there was no gradient in the reporting of either hypertension or CHD contrasts with data presented in Table 1 on CHD mortality for patients aged under 70 years, where the mortality rate was 40% greater for single-handed practices compared with large practices. Possible explanations include unmet need and differential exception reporting of patients in practices serving different types of population. However, as no data were available on the levels of exception reporting within practices, this could not be explored. It was also not possible to explore the impact of a practice's population in terms of age and sex, as QOF prevalence data were aggregated to practice level and could not be standardised for these variables. If smaller practices have different populations compared with larger practices in terms of demographics, this may also contribute to the flatness observed due to unmet need in particular types of practice.

Implications for clinical practice

While there were statistically significant differences in point attainment across different domains, the absolute difference was often very small. We also acknowledge that quality, as measured by the QOF, may be as likely to reflect quality in data recording as quality in delivered care. There may also be a ceiling effect, which will not become clear until at least 1 or 2 more years of data are analysed. We conclude that small practices generally performed as well as larger practices in this first exercise of the QOF but the suggestion of organisational weaknesses may make it more difficult for them to repeat this success, for example with larger caseloads of CHD patients, or with more demanding QOF criteria.

Funding body

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Competing interests

The authors have stated that there are none.

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Appendix 3

Sample Framework

Urban single-handed GPs (locate at West Scotland) aged under 55 years old

Male, deprived, UK qualified (10)

Female, deprived, UK qualified (8)

Male, deprived, non-UK qualified (0)

Female, deprived, non-UK qualified (0)

Male, non-deprived, UK qualified (11)

Female, non-deprived, UK qualified (4)

Male, non-deprived, non-UK qualified (0)

Female, non-deprived, non-UK qualified (0)

Urban single-handed GPs (locate at West Scotland) aged 55 years old and over

Male, deprived, UK qualified (8)

Female, deprived, UK qualified (0)

Male, deprived, non-UK qualified (7)

Female, deprived, non-UK qualified (0)

Male, non-deprived, UK qualified (8)

Female, non-deprived, UK qualified (1)

Male, non-deprived, non-UK qualified (1)

Female, non-deprived, non-UK qualified (0)

Appendix 4

Ethical Approval Letter

North Glasgow University Hospitals
Division

NHS
Greater
Glasgow
West Glasgow Ethics Committee 1
Western Infirmary
Dumbarton Road
Glasgow. G11 6NT

Telephone: 0141 211 6238
Facsimile: 0141 211 1920

07 September 2005

Dr Catherine O'Donnell
Senior lecturer in Primary Care
University of Glasgow
General Practice & Primary Care
1 Horselethill Road
Glasgow G12 9LX

Dear Dr O'Donnell

Full title of study: An exploration of urban single-handed general practice in Scotland
REC reference number: 05/S0703/96

The Research Ethics Committee reviewed the above application at the meeting held on 06 September 2005 and thanked you for attending the meeting to discuss your study.

The Committee had one or two questions which you answered to their satisfaction.

The Committee did however draw to your attention that you would require to have your honorary contract renewed in order to continue to run the study.

The Committee also required the Participant Information Sheet to be amended to read that the "data collected would be held for 5 years and then destroyed".

An amended Information Sheet should be returned to me for filing.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation.

No local investigator status

The Committee agreed with your declaration that this is a "no local investigator" study. Site-specific assessment is not required for sites involved in the research and no information about the study needs to be submitted to Local Research Ethics Committees. However, you should arrange for the R&D Departments of all relevant NHS care organisations to be notified that the research will be taking place before the research commences.



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Appendix 5

Interview topic guide

Overall aim:

To investigate the experience of being an urban single-handed GPs in current NHS.

Section 1: Being a single-handed GP, starting with asking about some GPs' career background details.

-How long have you been a general practitioner?

-How long have you been a single-handed practitioner?

-How did you become a single-handed GP?

-Did you always want to be a single-handed GP?

-What have you enjoyed being a single-handed GP?

-What don't you like about it?

-How does it compare to be in a partnership (if having been worked in group practice)?

Section 2: Can you tell me about your practice and patient population?

-How many practice staff have you employed?

-How does the team work together in the practice?

-How is service range in the practice?

-What is the size of your population?

-How could you describe your patient population in terms of the distribution of their age, gender, ethnicity and socio-economic status?

-What do you think advantages and disadvantages for your patients in a single-handed practice?

Section 3: How do you feel about the new GMS contract?

-In general, how is your working since the introduction of the contract? How has your practice performed in term of QOF?

-What have been the difficulties or challenges about the new contract (QOF) for you?

- Have things changed in the practice? If so, what are these changes?

-Has working with the new contract changing for better or worse?

Section 4: What do you see the future of single-handed general practice?

-What's your plan? Do you stay as single-handed?

-How do you see the future of single-handed practice in general practice?

Appendix 6

Coding Framework

1. Being a single-handed GP

Personal choice

Partnership split

2. Benefits

Autonomy of decision

Continuity of care

3. Limitations

Clinical: professional isolation; time commitment

Organisational: locum cover; administration workload; service range; staff retention;

4. New GMS contract

Quality and outcomes framework: advantage; disadvantage;

The impact on patient care

The impact on doctors

Financial impact

5. Patient population

General description

Socio-economic status

Need (disease prevalence)

6. Practice team

Employed practice staff

Use of practice staff

7. Support

Internal: family; colleagues

External

8. Quality of care

Clinical: QOF, chronic disease management, referrals.

Organisational: Access; QOF; service range

9. Future of single-handed general practice

Personal

Policy

Appendix 7

Participant information sheet

Urban single-handed general practice in Scotland

What is this about?

There are many changes taking place in general practice today, for example the new GMS contract and the likely implications of the Kerr Report. However, in Scotland, 17% of general practice is delivered by single-handed general practices. While much attention has been paid to the issues affecting single-handed practitioners in remote and rural areas, there has been less attention paid to single-handed practitioners in urban areas. We are interested in redressing that imbalance. This information sheet outlines a PhD project which aims to explore the nature of this particular style of general practice in primary care.

This information sheet tells you about how you can help us, if you want to. Please take time to read it and feel free to ask us if there is anything that is not clear or if you would like more information.

Who is doing this?

The research team is based in General Practice & Primary Care, University of Glasgow. The researcher is Dr Yingying Wang and she is being supervised by Dr Kate O'Donnell and Professor Graham Watt. The study is funded by Chief Scientist Office, Scottish Executive Health Department.

Why have I been chose?

Initially we have conducted quantitative desk-based analyses which suggest that single-handed practices in urban areas are likely to serve populations with higher socio-economic deprivation, and these GPs tend to be older, male and likely to have qualified outside the UK. Furthermore, 89 out of total 154 single-handed practices in mainland Scotland are

located in West Scotland region, and 87% of them are in urban areas. We would like to interview a group of single-handed GPs in this region, to explore some important characteristics of single-handed practices and GPs which we found in quantitative study. For that reason, we are now contacting you.

What will happen?

We are interested in hearing your views and experiences of being a single-handed GP. We would like to interview you. This would last about one hour and take place at a time and venue suitable to you. You will be reimbursed for time spent on this interview.

What will we talk about?

We would like to talk about your motivation and experience of becoming a single-handed GP and the strengths and weaknesses of being a single-handed GP in the current NHS. Other issues would include the impact of new GMS contract on single-handed practices, and their prospects.

Do I have to say yes?

No. Whether or not you decide to take part is entirely your choice and you do not have to. Even if you initially decide to take part, you can change your mind at any time and withdraw.

How will this be used?

The interview will be tape-recorded, with your permission. This is only because we need an accurate record of the discussion. However, everything you say during the interview will be confidential. No one, other than the research team, will listen to the tape. When the results of these discussions are reported, there will be no mention of individual GPs.

When the research is finished, it will be written up as a PhD thesis and published as a report and in journals read by other researchers. In the thesis and those reports, we may

quotations from your interview. However, these will be anonymous and it will not be possible to identify you or any of other GPs who took part in the research.

What do I do now?

If you would like to take part, please read and sign the attached form and return it in the envelope provided to the research team. A member of the research team will contact you in 2-3 weeks time to arrange the interview with you.

I'd like more information

If you would like to know more about the study, please contact:

Dr Kate O'Donnell
Email: Kate.O'Donnell@clinmed.gla.ac.uk

Prof. Graham Watt
G.C.M.Watt@clinmed.gla.ac.uk

**General Practice & Primary Care
University of Glasgow
1 Horselethill Road
Glasgow G12 9LX
Telephone: 0141 330 8330**

Many thanks for taking time to read this.



Appendix 8

Consent form

Title of Project: Urban single-handed general practice in Scotland.

Name of Researcher:

Dr. Yingying Wang
Dr. Kate O'Donnell
Professor Graham Watt
Professor Sally Wyke

Please tick box

1. I confirm that I have read and understand the information sheet dated

2. I understand that my participation is voluntary.

3. I understand that I can withdraw from this research at any time, without giving any reason.

4. I understand that the interviews will be tape-recorded.

5. I understand that what I say may be used in the thesis and reports (quotations), but that I cannot be identified from these.

6. I would like to take part in this study.

Your name	
Date	
Signature	

Appendix 9

A sample of thematic charts

In this section, a sample of thematic charts in relation to theme 1 (experience being and becoming a single-handed GP) and theme 2 (advantages of being a single-handed GP) was presented, and the thematic charts related to other main themes generated from the analysis were not included as under consideration of the length of the thesis.

Theme I: Experience being/became SHP

	Length of being single-handed	How/Why	Preference (ideal size of practice)	"Role model"	Emerged issues
GP1 Male 36years old, Scottish qualified, 1,400 patients (deprived with social problem in Ayrshire, and relative isolated setting) non-deprived It is a PMS practice.	About 4 years. He went straight into SHP after his training year.	"Personal choice" The job vacancy came up at that time. ("I think the opportunity presented itself which is why I went for it."-line 22)	Group practice "I would have preferred to work in group practice but no large group practice." (line21-24)	"..when I wan student in Glasgow my own GP is single-handed.he ticked all the boxes he was the archtypcal single-handed practice." (line 464-471)	He mentioned there was no entire 24/7 commitment when he applied for this post, otherwise he wouldn't have done it. Note: might indicate 24/7 commitment of SHP is not attractive to young doctor?
GP2 Male, 45 years old, Scottish qualified (11 years) List of 2,100, mix spectrum of deprivation Non-deprived	8 years.	"Partnership split" —discrepancy of practice workload. "..hopeless decision..." (line 20)		Others' influence "...the single-handed doctors I spoke to who were also members of partnership had split, and moved on. They didn't regret it. So I went for it." (line 70-71)	Patient factor "..Patient are good and loyal patients..." (line31)"...majority of doctors and staffs were behind me my decision" (line33)—external factors might influence the decision.
GP 3 Male, 44 years old Scottish qualified (15 years) List of 1,500, deprived population with high morbidity and mortality. Deprived	10 years, and previously he was in a two partner practice.	"Partnership split" "Professional differences". (line 18)—work balance issue (unfair share of workload) "...it isn't my life time ambitious to be a single-handed GP, it just happened." (line 669)	"I don't think I have much preference ..." (line 668)	Personal impression "majority of single-handed practitioners I know are straight forward" (line 598)	A fear of losing patients When practice split, he expressed his concern about keeping his patient list, "fear female patients would move away from him" (line 189).
GP4, Male, 53 years old, Scottish qualified, List around 2,000. Large proportion of elderly population and tend to be deprived. Deprived	20 years since 1986. He had in a partnership for just a few months, and spent 2/3 years in Kenya.	"Personal choice" "I want to be a GP. I always did. When I came back, the job just came up....I was looking for a job and this job was come up and advertised, and I applied and got it, and took it on." (line 35-37)			A sense of own achievement "I did feel I have the option. But the work commitment to get a single-handed practice up running is very great." (line 42-43)
GP5, Male, 46 years old, Irish qualified, List around 2,310, which is closed at that time of the interview. Working class population. Deprived	12 years since 1994. Previously he was in three partner practice, the other two is a couple—husband and wife partnership.	"Partnership split" —different view about financial status of the practice. He was asked to leave because the practice lost fund from looking after out-of-hours care from local psychiatry hospital. (line 24-30)	After the split up, "...I wasn't keen to go into another partnership" (line 53-54)	The negative influence of unhappy partnership he had experienced.	Family factor He mentioned he settled down in the area where he practised, I like there and didn't want to move, so after split, he stayed the area. (Line 47-54)
GP6 female 45 years old Scottish qualified, 1,400 patients, deprived population Deprived	About 16 years. Before that 2 years experience in a group of four. Graduated in 1983, and started general practice in 1988.	"Partnership split" a combination of factors: "Practice dissolution" (line 26) -Financial decision resulting from 1990 contract. (line 31-48) -Personality issue (clinical governance) (line 49-56) "..it wasn't something I set out to do in the first place. It was in fact a force respond. It has to with a bit of me that kind of terror spirit on me. I didn't particular want to be forced out in this way, that kind of happening..."(line 96-99)	Smaller practices. "...I mean ideally I think it is to have small group practice, maybe one or two partners, but I really don't ever have more than that...people do get on well, all get common interests, common source or everyone more or less common in a degree, and people aggress to defer if the get difference, ..." (line 133-136)	A friend of her practised single-handedly, who gave advice initially. (line 93-96)	The role of female partner in the partnerships under 1990 contract. (the role of female and the finance of practice.) the reason to stay: "..the group I was leaving, it had been in health centre fro a quite long time...so "big brother" works that way So no other practices would take me.." (line86-88) "..something was forced on me by those circumstance..." (line 90-99) "Shy away" "...I suppose you also feel, it was such difficult experience, you do become a bit shy of, parallel to divorce, you became shy of whole idea of working (in partnership)...." (line 102-107)

	Length of being single-handed	How/Why	Preference (ideal size of practice)	"Role model"	Emerg ed issues
GP7 Male, 48 years old, Scottish qualified (26 years; Pakistan origin) List of 1,600 Non-deprived (sample framework)	Graduated in 1980, and spent 10 year in hospital specialities; 14 years of being single-handedly (from 1992). 1 year experience in group practice as trainee.	Career path (second option) wanted to be specialised in surgeon, but failed the Royal college membership examination, decided to enter general practice. (line 17-20) Competitive job market (line 20-21)	Appeal There were no direct comments. But he mentioned that through his experience as a locum in a single-handed practice, and working single-handedly, he felt he liked the set up of the practice. (line 92-94)	Locum experience After his training, he worked as a locum in a single-handed practice, which he described as "dysfunctional practice". (for 4 months) (line 57-61)	Attraction of this single-handed practice He mentioned the reasons why he applied for this post. "...a very nice practice..." in term of population, its catch-ment area, and the set up of "group of three SHPs".
GP 8 Male, 47 years old, Scottish qualified List of 2,070 Non-deprived (sample framework) 61170	17 years (from 1989), 7 years in a 10 partner practices.	"Partnership split" (internal affair) "...if you need a half day off for something for your kid, or something connected with kids at school, you look for partners quite understand of that. In big practice, you will generally find a descent voice...."(line 27-45) "Stress" in partnership. (line 15-20) Unhappy "...I was very unhappy. I must say towards the end of my time in group practice. I was very unhappy. I was almost set myself a date, if I didn't get a chance to move, then I would become a locum. I was that unhappy..." (line 39-45)		A fried was a single-handed GP in Glasgow at that time. ("He was loving it.") (line 90-93)	Gaining experience in partnership "It was very good been in a group practice to gain experience of general practice, and have colleagues around you speak to. It was good (for) a new GP, an un-experience GP been in a group practice...But I would prefer to in the practice for a year or two once you gained that benefits and experience." (line 11-13) "...thing back, I don't remember I have conscious plan to become a single-handed. I think if there was another practice had been available I would have gone to. It wasn't conscious efforts to become single-handed; but on the other hand, I didn't want anything else now." (line 79-81)
GP9 Female, 52 years old, English qualified, List of 1,800 Deprived (sample framework)	3 years since 2003. Previously practising with other two partners, as three partner practice.	"Partnership split" Mutual split (line 7-11), a combination of: unfair share of practice workload +financial management of the practice (line 147-152) "Gang culture" "I think basically (we) didn't get on, I suppose possibly personality wisely really..." (line 24-29) reason to stay "...I mean I wasn't going to leave anyway, because I know my patients for long, long time, I worked hard with them my self. I wasn't going to run away." (line 45-46)			Doctor-staff relationship She suggested that she had been offered job to join another practice, but she stated that, "...basically because I have staff here, who have been working with me for long, long time. I didn't really want to sort of walk away from them, also the patients I have. I mean not you built up particular relationship, but there are people you know well, it is easy to work with people, you have dealt with (them) for a long time. I think that's one of the main reason why I though I stuck with here, to see how I can do really." (line 51-56)
GP 10 Female, 52 years, Scottish qualified (since 1978) List of 1,470 Non-deprived (sample framework)	18 years, and previous 4 years as a partner in a two partner practice.	"Partnership split" partnership dissolution. (unequal partnership) "...I think basically I came to called parity. ...so the senior partner decided to get rid of me, as I approached parity, and unknown to me, he also did to lots of other people before..." (line 13-17) reaction "...I decided that I was not going to be got rid of and stood on my ground...and he dissolved the practice." (line 17-19) "...I worked extremely hard...I felt he had no right to do this. This is no way I was going to take (leaving) without put into a fight..." so I think it's just determination I wasn't going to push around and eventually I might have to get another job. But I determined to he wasn't going to force me." (line 61-62)	She mentioned that, "I am very wary about ever going into another partnership, because it was such a horrendous experience." (line 21-22)		Impact on the future "...I was in two and half doctors practice in health centre here. And I was in that practice for three and half years. Then the practice was dissolved acrimoniously. It was very, very bad experience for me..." (line 11-13) "Desperation" Fight to survive, prove herself (line 34-44) +line 48-49 Lesson to be learnt "...the biggest stumbling was I did not have a contract. Basically the senior partner could do what ever he wanted because I didn't have a contract.." (line 49-51)

	Length of being single-handed	How/Why	Preference (Ideal size of practice)	"Role model"	Emerg issues
GP 11, Male, 50 years old, Scottish qualified, Non-deprived (sample framework)	Qualified in 1984. Finished training in general practice in 1986. Single-handed since 1991.	The second option being general practice Initially tended to specialise in general surgery, but failed to pass the Royal college examination (3 attempts), then changed to general practice. (line 6-9) Practice location (West Scotland), then job came up of one single-handed practice.	He prefer group practice. "I would prefer obvious group practice. I think it is basically easy for in terms of holiday cover, sickness. I suppose you get people to talk about various aspects of medicine. Not just medicine I suppose, social aspects as well." (line 48-50) "...I think the ideal choice would be 3 or 4 doctor practice. that would be ideal." (line 53-54)	Worked as locum in both single-handed and group practice. (line 36-37)	Near the end of interview, he summarised that, Who can be single-handed? Someone is special "... I think it is obviously takes special kind of person. YOU should have adequate clinical knowledge, and it is no point doing the basis. ...and you have to have your organisation skills and social skills, so you could have everything to make it works. Basically it is not for everyone..." (line 648-653)
GP 12 Male, 38 years old, Scottish qualified. List size: under 2,000. Deprived (sample framework)	Having been single-handed 4 years; prior to that, he worked in a partnership for 4 years (1998-2002)	Personal reason (travel point of view) He stated that, "...not just one reason. One if the reasons is further from the house(where he lives). Ayrshire is 35 miles out of Glasgow, a lot of travelling...as I said that there are a few reasons, one is travelling, petrol and time to travelling. Secondly, 4 (doctors), more than one doctor you are not always eye-to-eye. People do things differently you know. So there are some sort of friction you know in partners you know. So that was factor as well..." (line 13-17)	He admitted that he prefer single-handed. (line 56-57)	He said that he had worked as a locum in this single-handed practice previously.(line 93)	Confidence "...I mean some doctors they need somebody (be) told to be re-assurance. I feel confident in my abilities. So I don't feel I need ask somebody...I know myself. I could do right thing ...I feel comfortable with myself..." (line 43-49) Problematic practice historically The practice he took over, the previous one had been suspended from GMC due to misconduct. (line 112-124)
GP 13 Female, 49 years old, Scottish qualified, Deprived (sample framework)	8 years being single-handed (total 22 years practices in general practice, previous 14 years working part-time in partnership)	"Left partnership" (partnership dispute) She wanted full-time commitment while there was a vacancy in the practice; however, she wasn't offered the post. (line 6-14 +line 28-30) "...I felt that way about I had unfair share of that side of the work (she seeing more patients with emotional problems). And I found that quite stressful. And in that practice, the full-time doctors they worked for five mornings, and one or two afternoon a week, which I think, they could work a little harder I suppose..." (line 130-134) Personal decision/choice "...I could maybe say stay there and broke up the practice, and tried to carry on myself. But that would be very, very difficult to do. ... so I thought I'd better leave that practice, looked for a full-time practice post somewhere else. SO that's what I did, and this is more by chance I ended up in a single-handed practice." (line 31-34)			Female GPs' family/work balance; Changing of priority of her life. (line 22-24)

	Length of being single-handed	How/Why	Preference (ideal size of practice)	"Role model"	Emerged issues
GP 14, Male, 48 years Scottish qualified, Chinese (ethnic) Deprived (sample framework)	18 years. (2years' experience in partnership, which was a husband-wife partnership)	<ol style="list-style-type: none"> 1. Partnership split—partners didn't get on. (previously working in a husband-wife partnership practice) 2. competitive workforce market at the time. (line 9-10) 	<p>"at that time. I am not sure....if I have the choice between big partnership and single-handed practice, I think it would be 50-50.. I am not sure..."</p> <p>"But now is a different story, now I would go to partnership anytime." (line 40-43)</p>	<p>Smaller practice experience</p> <p>"I think maybe because the bad experience in the partnership. I thought I maybe should work my own, be my own boss, don't need to speak to anyone to fight with." (line 71-72)</p>	<p>His origin is Asian, he mentioned that," even though I am Glasgow graduated. You look different. You look different from them(other native people)..." (line 148-150)</p>
GP 15 Female, 48 years, Scottish Qualified Deprived (sample framework)	<ul style="list-style-type: none"> • 1982, graduated from Glasgow; • 3 years GP rotation, • 1988 became single-handedly. 	<p>The availability of job at the time.</p> <p>"...to be fair, I did not want single-handed practice, but I really wasn't be offered the partnership at that point. So the job came up, and I got it." (line 18-20)</p> <p>"...I have applied for many jobs, I applied for several, that's the one I got, to be honest. Sp I just got on with the job basically because I have been a locum for a year, but I applied on and off through that year for posts, I wasn't getting very far." (line 48-50)</p>	<p>"I think I would like to be a partner maybe 2 or 3 doctor practice..." (line 31)</p>		<p>Practice composition</p> <p>"about 1999, .. moved into the premise which was a lot bigger, and at that points I employed 6 sessions salaried GP and 2 sessions lady retainer, so really since 1999 I haven't been on my own..." (line20-23)</p> <p>"... at that time I had 3,000 patients...when you looked at the demands of patients fro appointments.particularly following the kind of government's requirement of 24 or 48 hours access, one person on his own would not provide 48 hours access and appointment easily without probably (having) longer hours or extending your day. So you need two doctors provide that for 3,000 patients onwards." (line 68-72)</p>
GP 16 Male, 55 years, Indian qualified, Deprived (sample framework)	<ul style="list-style-type: none"> • graduated in 1972 from South India. • Joined in general practice 1976. • Ever since being single-handed. (1977) 	<p>The second option.</p> <p>"because in those days, very honestly, it was very difficult to get a job in general medicine, or in general surgery or Paediatrics for overseas doctors.... some of words could be harsh, but I would rather than be frank...my intention was to do general medicine. It was difficult to get into the medicine at that time. So I decided general practice was next option."</p>	<p>No preference. (line 48-50)</p> <p>Then he said, "...I prefer personally single-handed practice if there is adequate help for holidays or for sickness, and I have managed now to practise single-handed practice for 30 years." (line 56-59)</p>	<p>Locum experience</p> <p>"...because I did locum quite a lot in England for a quite tome, the I joined this practice...." (line 36)</p> <p>Partnership split</p> <p>"...my partner originally in a group practice, then they all split up. They all have personality crash. They all split up. They all became smaller and smaller...." (line 86-88)</p>	<p>Initially he joined a single-handed practice, and then the other doctor left for India, and he became single-handed himself. (line 36-40)</p>
GP 17 Female, 36 years old, Scottish qualified, Deprived (sample framework)	<ol style="list-style-type: none"> 1. Finishing her GP training in 1999. (line 8) 2. After that, I locummed for 2 years, which in that 9 months I did in single-handed practice. (line 9) 	<p>Local to a principal</p> <p>"...this job came up I got, putting here by health board initially as locum for 2 months when the previous doctor left. They hadn't filled the post, I decided to apply for the job..." (line 14-15)</p>	<p>"...with the intention not to stay as single-handed for quite as long as I have been, because I have just been here for just 4 years..." (line 15-18)</p> <p>Although she has no intention staying single-handedly, she stated that "...I don't like big practices. I prefer smaller practice. I think 2 or 3, maybe maximum 4 doctors..." (line 27-29)</p>	<p>Working as locum in a number of single-handed practice previously. (line 9+line 14)</p>	<p>Just starting the interview, she expressed that she has no intention being single-handed at all, and using her own words "...we've spent 4 years basically fighting for another doctor." (line 18)</p>

	Length of being single-handed	How/Why	Preference (ideal size of practice)	"Role model"	Emerg ed issues
GP 18 Female, 54 years, Scottish qualified, 1,500 Non-deprived (sample framework)	Being in general practice since 1992.	Practice circumstance changed one retired and one became ill and retired, left her, and being advised by health board, "I didn't have enough number to have any more than one GP." (line 23-27)	Her preference might as a result of her patient population	She trained in single-handed practice previously. "...I have been in that situation before, it was very nice as well. Patients were very nice..." (line 324-330)	Although she admitted she had choice to join partnership, she was unwilling to change her financial status being a single-handed GP. (line 36-42) Her family circumstance also is an importance factor. She had worked as locum previously in the partnership, she found that "too unsatisfactory" . "it wasn't the practice appealing to me in a partnership" (line 65-72)
GP 19 Female, 42 years, Scottish qualified, 2,500 Non-deprived (sample framework)	1990 finished postgraduate GP training.	Family Business "This practice was founded in 1950s by my father, and he was a GP in Glasgow....then in 1990 I had finished my postgraduate GP training, and I came in to work with them(both her father and mother were GPs)" (line 6-14)		Family influence —father and mother were husband & wife partnership (line 7-14) Training in partnership "...but that practice, because I worked with them and I know them well through the years. terrible, terrible tension they had within the partnership. they are all good doctors, and all nice people, all hard worker, but still a lot of tensions..." (line 171-177)	Initially when she started, she took a part-time partner, but the partnership did not work out. (29-30)
GP 20 Female, 37 years Scottish qualified, Deprived (sample Framework)	Since 1999.	Initially job-sharing in two partners practices, and then the other partner was off ill, did not come back to the practice. (line 7-13) Not intended to do but fancy (it) "I hadn't set out to do that but by the time I was fed up locuming, and I quite fancied single-handed or small practice anyway." (line 29-30) established relationship "...by that time I had established relationship with patients and staff and I could see a lot of opportunity to improve the health of the area. So I found it a bit of a challenge and I quite like that." (line 55-57)	"I would be open to joining a small practice up to about two or three doctors but not anymore than that." (line 35-36)	Working as locum in various sizes of practices, from single-handed to group practices. (line 22-24) Impression of partnership "from my experience of going around other practices, there were always quarrels between doctors and I couldn't be bothered." (line 40-41)	
Pilot GP 1 Male 45 years, Scottish qualified, 2,069 Deprived (sample framework)	Graduated in 1986, and became single-handed in July 1994. Previously worked in 4 partners practice.	"it wasn't my active decision to set up as single-handed. I was told I had leave the practice and then I made the decision I would carry on working on my own rather than trying to join another practice." (line 120) Note: the interviewee was unwilling to disclose the reason behind practice dispute. (line 111)		Influence from his training experience (line 55).	"...I decided to stay here with my patients as a single-handed doctor rather than try and join another group practice so it was my decision."
Pilot GP2 Male, 47 years, Scottish qualified 2,652 Non-Deprived (sample framework)	Qualified for 25 years. 9 years being single-handed; (line 9-14)	"different philosophies" He mentioned about the pressure on GP after the previous 1990 contract, and he felt had little influence on other partners within the partnership (line 35) +line 84		The partnership experience (in 2 group practices) had a negative impact on him. (line 58)	Service need in the area at the time "...there is no premise and surgery in this area itself, so the health board was keen to establish a practice in the area since there was no practice here already..." (line 17)

Theme 2: Advantage of being a single-handed GP.

	Length of being single-handed	Autonomy	Continuity	Flexibility (work/family life balance)	Emerged issues
<p>GP1 Male 36 years, Scottish qualified, 1,400 patients (deprived with social problem in Ayrshire, and relative isolated setting)</p> <p>It is a PMS practice.</p> <p>Non-deprived (sample framework)</p>	<p>About 4 years. He went straight into SHP after his training year.</p>	<p>Get things done. "...the big advantage of single-handed practice is that, you know, you don't have nine other partners to argue with. <i>It's very easy to get things done</i> and so there is an advantage." (line 35-36)</p> <p>In control knowing everything "...perhaps again one of the advantages of being single-handed because any interaction between the health board and the practice has to be me.bigger practice it might be that the finances are handled by one GP and maybe the QOF stuff is handled by another GP..." (line 309-311)</p> <p>Then he stated that the potential problem could face working in partnerships, "...obviously you've got to respect your partners' point of view, like marriage you have to do things sometimes you don't necessarily want to do..." (line 620-635)</p>	<p>"It's rewarding in that, ...you see the same patients all the time and the patients are appreciated that because they tell us they like to see the same doctor all the time." (line 70-73)</p> <p>"...I follow the persons patient progress and sort of things so if someone comes to see me with chest pain I see them, they have their ECG, it's me that looks at their ECG, they come back to me and this point I've got their ECG..." (line322-332) He also mirrored the same situation which might be happened in bigger practice to <i>reflect "episode" of care in the practice.</i> (line 340-353)</p> <p>Note: patients' journal of care may be shortened in single-handed practice (line 340-353)</p>		<p>Continuity can be interpreted in both ways: 1.doctor's continuity with their patients (cite as "advantage") line 77-80</p> <p>2.patients' continuity with practices (doctors and practice staffs, including receptionist and nurse), which can be seen as "Quality of care". (line 143-153)</p> <p>3. Patients would compromise some disadvantage of SHP for continuity. (line 218-233)</p> <p>4. <i>Consistency</i> of providing care for patient between the partners, like prescribing. (line 619-637) may can be used to mirror the advantage of "autonomy" in SHP.</p> <p>Note: GPs in partnership should be consistent in term of providing patient care (i.e. prescribing) line 629-637.</p>
<p>GP2 Male, 45 years old. Scottish qualified (11 years) List of 2,100, mix spectrum of deprivation</p> <p>Non-deprived (sample framework)</p>	<p>8 years.</p>	<p>Infra-structure of the practice</p> <p>"I mean we have a nice practice....we have a nice purpose built practice.... The surgery they are enjoyable." (line 88-93) (a sense of ownership of the practice)</p>	<p>"I am totally open with my patients,I am quite good at judging their anxieties. Just because I know them all very well. I mean I can go through 2,000 of my list, I see them in my head and I see them out there in the community....makes job easier actually..." (line 346-354)</p>		<p>He focused that he enjoyed medical side of practising single-handedly, may imply change in general practice—the increase managerial role of GP in general practice.</p> <p>He touched advantage of "urban SHP", who does not have on-call commitment like rural ones.</p>
<p>GP 3 Male, 44 years old, Scottish qualified (15 years) List of 1,500, deprived population with high morbidity and mortality.</p> <p>Deprived (sample framework)</p>	<p>10 years, and previously he was in a two partner practice.</p>	<p>"The good thing about being single-handedly, is your independence, you can make decisions for yourself and your staff without having to at length to discuss with other partners..." (line 83-85)</p>	<p>"I think there is a significant benefit being single-handedly, because you tend to know your patients much better, and you can find out patients and search them very easily, and remember patients' things...." (line 424-428)</p> <p>"...get a relative small list size, on the whole, you can remember them and you can remember history things. Whereas in group practice, you get quotes from patients, you see different doctors every time...." (line 602-605)</p>		<p>His wife is his practice nurse, they tended to not talk about issue at home, and he also mentioned he is kind of doctor who doesn't like to mix with other doctors outside his working hours.</p>
<p>GP4, Male, 53 years old. Scottish qualified, List around 2,000. Large proportion of elderly population and tend to be deprived.</p> <p>PMS practice Deprived (sample framework)</p>	<p>20 years since 1986. He had in a partnership for just a few months, and spent 2/3 years in Kenya.</p>	<p>"You are your own boss, you buy new kettle when you want....I am quite happy to be my own boss. It allows me to set the standards..." (line 98-103)</p> <p>"Almost immediately I tried to expand the service...brought nurse into the practice, and I had retainer doctor....also arrange bringing a physio-therapist..." (line 103-109)</p>	<p>Although there was no direct comment in term of "continuity of care", he mentioned "human element of personal care" in SHP, which I indexed it under "Quality of care". (line 295-304 +line 456-460)</p>	<p>"When I walk out the surgery, it goes out of my mind..."</p>	<p>He thought the ownership of the practice was very important for him, as he mentioned that, "I could not work in the health centre.... You are QUEST....", whereas your staffs are not employed by your....", which reflect autonomy of being single-handed GP, allowing him having the ownership and control over practice organisation. (line 174-179)</p>
<p>GP5, Male, 46 years old, Irish qualified, List around 2,310, which is closed at that time of the interview. Working class population.</p> <p>Non-deprived (sample framework)</p>	<p>12 years since 1994. Previously he was in three partner practice, the other two is a couple—husband and wife partnership.</p>	<p>"...I mean I still get the autonomy, enjoyment of single-handedly I can do what ever I like in the practice management..." (line 76-88)</p> <p>He talked about situation in group practice if somebody was off, which could put pressure on other partners, "...I would rather than do DIY, just personal preference." (line 207-215)</p>	<p>Continuity of care also mentioned in his interview as "Quality of patient care".</p>		<p>He also mentioned "urban SHP" had other GPs around, not subjective to the same professional isolation like rural SHP. (line 84-87)</p> <p>Team player As asking "whether it is important to be own boss", through years experience of being SHP, he thought he didn't team-player skills (junior partner skills).</p>

	Length of being single-handed	Autonomy	Continuity	Flexibility (work/family life balance)	Emerged issues
<p>GP6 Female 45 years old, Scottish qualified, Deprived (sample framework)</p>	<p>16 years. Previously 2 years in a group of four.</p>	<p>Quantify workload "...by working single-handedly, you do your workload...if you didn't do it, which would come back to you... so you just get on with it, and you do it. (line 145-147)</p> <p>Decision-making She mentioned the time she reached the decision to be a SHP, her friend gave advice suggested that," ...at least you single-handed, you just make your own decision, you don't have to consent with all other acrimony which is everyone else's agenda.." (line 94-96) +line 208-210</p> <p>"By working single-handed, you do your workload and you do it, and if you don't do it, which would come back to you. So you just get on with it, and you do it."</p>	<p>"...you see what you get—you get awful lot of continuity. You invest yourself a lot time with your patients..." (line 107-110)</p> <p>"...and where you get personal list. What I mean by that where patients come to see "YOU", patients come back to see "YOU" as a preference if you were there, so you have got the continuity..." (line 136-138)</p> <p>"...if something goes wrong or you haven't done as well as you would like to do for the patients, the patient would come back again. Because it's your responsibility..." (line 156-162)</p> <p>Learning curve "...the continuity is a great learning experience...if you see a patient from A to Z, there is not better learning experience. You get all these notes, you see them so you know what exact what happen. It is a phenomenal learning curve just being single-handed." (line 211-14)</p> <p>Follow through "You see you don't miss the continuity. The thing is if you are in a group practice, the reality is what can happen is, you see patient at point A, you may not see him again, where until getting the point F, and how they went and what happened, you missed that at all..." (line 227-234)</p>	<p>She suggested that it should be creative referring to work/family life balance.</p>	<p>"I suppose another thing about single-handed is, if you got something you feel you need to be up-to-date on that, you can have to it. Because you don't do it, you find you can't deal with your patients. it can force you. It comes quite clearly to you."—professional development (also see under the code "quality"—service range)</p>
<p>GP7 Male, 48 years old, Scottish qualified (11 years) List of 2,100, mix spectrum of deprivation South Asian Origin Non-deprived (sample framework)</p>	<p>14 years of being single-handedly (from 1992). 1 year experience in group practice as trainee.</p>	<p>Preference "...I think I prefer be my own boss, and I think single-handed was really I want to do...the advantages you can practice your own brand of medicine, you can give consistent advice to patients..." (line 126-128)</p> <p>"Own brand medicine" "...if I want to extend the surgery or cut back the surgery or add another surgery in if my appointment get suddenly booked up that something can happen...so there is not a problem. I can do that and I can make my decision. Workload distribution is not a problem." (line 139-148)</p> <p>Workload distribution "...if you do your work, you get paid for it. So there isn't sort of you did the work, and leaving your bed at night for house visit, and it is going to a community pot, maybe others had a very easy night...I think that s the advantage of it, you work hard as you want to, from the income of view, you get income..." (line 148-156)</p> <p>Note: he stated that this was one issue why all single-handed GPs stay separately rather than joining together. (line 218-227)</p>	<p>Deal with it ("buck stops with you") "...and the other thing is you get to know patients and you got to deal with the patients. ...you can't pass on the buck, because it comes back you." (line 129-134)</p>		<p>Instead of talking about advantages of single-handed practice, he mirrored some disadvantage of practising in partnership, including financial linkage with each other (line 139-142), and practice organisation in term of running the practices (surgery hours and consultation length: line 156-160)</p> <p>Because he was one of three SH GPs located in one premise, so one of advantage of they had over other SHGP is their sharing all the premise and staffing costs, one third each, also cross over for each other when one of them is away. (line 161-165)</p> <p>Also sometime informally discussed problematic patients (reducing professional isolation) —further asking why they can't work as a partnership, he contributed to the distribution of workload and different way of running the practices. (he had a degree of autonomy but to some extent may be limited by other two SH GPs.)</p>

	Length of being single-handed	Autonomy	Continuity	Flexibility (work/family life balance)	Emerged issues
GP 8 Male, 47 years old, Scottish qualified List of 2,070 Non-deprived (sample framework)	17 years (from 1989). 7 years in a 10 partner practices.	One chain of command for staff There was no problem in term of running the practices. ...I have able to hand to pick my staffs,...there is one chain of command...." (Line 133-143) It's good to know "It is good to know what ever the practice is, the problem is, and I deal with it." (line 177-178) un-measurable "...it's un-measurable. Sometime I think I have to get a big full-length mirror in the surgery, so I get someone to fight with. You know the degree of flexibility I mentioned. I enjoyed the job, enjoy the general practice, and look after my patients, but also enjoy my family life. that's just important. ...something come up for my kids, you want to be there, I feel I am able to go to that without being haunted by partners..." (line 203-222) Sharing the similar view as GP 7, it is easy for SHGP to alter the surgery hours. (line 210-220)	"... patients usually are very understanding, because they have got more personal service. ...they know me, and I know then better. The phrase uses as "continuity of care" in single-handed practice." (line 221-222)	Flexibility (work/family life balance) "... you know the degree of flexibility I mentioned, I enjoyed the job, enjoy general practice, and look after your patients, but also enjoy my family life, that is important." (line 102-105) Holiday taking (flexibility) "For several year now. People ask, and I don't know how many holiday I had, ...Because I don't account. If I need a holiday, I take a holiday. If I don't need a holiday, I don't take...." (line 316-319) Note: he thought the setting of arrangement enable him to take holiday whenever he prefer and without causing conflict in the partnership as he experienced before. "able to fly" "... thing to be able to fly. Because the degree of freedom, to be able to run your life without someone is putting obstacles and obstruction in your way... is like being able to fly." (line 746-751)	He tended to mirror his unhappy partnership experience to illustrate advantage of SHP. "...if you need a half day off for something for your kid, or something connected with kids at school, you look for partners quite understand of that. In big practice, you will generally find a descent voice...."(line 27-45) He described that, "...it was big, big blessing when I became single-handed practitioner, as I said that it was the best thing even happen to my life..."(line 45-48) Marvellous Both holiday taken and running of the practice. "...if I drive in the morning, there is a traffic jam, I phoned in to say I am sorry that I would be 10 or 20 minutes later. I don't have to worry..... you got receptionist staff (in partnership) given doctor a row for doctors coming for lat...."(line 363-368) In particular, he mentioned the practice team, the relationship between GPs and other staffs, and which may have impact on patients. (one chain of command)
GP 9 Female, 52 years old, English qualified, List of 1,800 Deprived (sample framework)	3 years since 2003. Previously practising with other two partners, as three partner practice.	To mirror the difficult to quantify workload in partnership, showing the advantage of SHP. "Much easier" "...now you know yourself, you do it yourself, and you know you have done it." (line 29-30) Good working relationship between doctor and staff. (line 82-85) Quantify workload (deal with now rather than later) "...the workload as single-handed practice is different. I think when we were working in a joint practice, the workload is difficult to quantify, because you don't realise what were doing... now you know yourself, you do it yourself, and you know you have done it. ...you come to sort of conclusion. ..." (line 118-131) "...the advantage of it you can make the decisions suits you, and I think that works." (line 173-174)	What is about general practice? "...you are responsible. You have responsibilities for the treatment or what ever happen to your patients. You follow that patten through you follow it from beginning to end. And I think that's so much easy for me... I think general practice like jigsaw puzzle, you get all the bits, eventually you would get answer in the end..." (line 268-275)	She said that her children are grown-up, but if female GPs with young children would be difficult.	"unhappiness in partnership" "I didn't realise that how unhappy I was at that time until we split up..." indicating unfair share work and responsibility she took while in the partnership. (line 34-46) Dilute responsibilities in the partnership (line 118-131) Learning curve She felt she developed her skills in practice management in term of delegation and time management. In a sense, she managed herself to do the all the work, not like before, she may have different ways of working from the other two partners. (line 408-423)
GP 10 Female, 52 years old, Scottish qualified (since 1978) List of 1,470 Non-deprived (sample framework)	18 years and previous 4 years as a partner in a two partner practice.	quantify workload "you know what work is, you know there is no one else is going to do it. So you know your workload is, you just get on with it." (line 94-95) Decision-making "You can make decisions how you organise without having to refer to other people. You can make decision about changing, structure of practice, how it works, computerisation...there is no one to say," Don't do that." (line 95-97)	"continuity of care. The fact seeing patients as people, and often some families I look after 4 generations of the same family. ...That's quite incredible...so you know the family, you know all the relatives, you know what the problems are, you know how they normally react. (line 150-154) Patients know me (transparent) "... patients know that (her priority is family). If there is a problem with my family, or with my son, or with my husband, it involves me having to give up the practice. I would do it tomorrow. Patients know that." (line 485-487)	Family When being asked about her experience being single-handed, she replied that, "I have no regrets what so ever. I have married. I have son. I brought him to work ...in a way I probably couldn't have done that if I haven't been single-handed. Because maybe there is other partner to object." (line76-83) "...I think that is the advantage of my case because (it) allowing (me) to bring my son to work, while I probably couldn't have done that if I had been in partnership. others would object." (line 120-121)	Meanwhile she mentioned any patients who had objection with her son presentation in the surgery were left. -whether the status of SH gave her autonomy over the patients??? Drawback of continuity "... that (continuity) can be a disadvantage although, sometime it is nice to have someone who doesn't know them to come having a look at the situation, because sometimes I can't pick up something under my nose. I don't see it you know."(line 154-156) Less emphasis on practice management previously "There wasn't so much emphasis on management when I first started. ..." Often the lack of organisational skills has been seen as disadvantage of being SHGP, but during the time being, GPs tended to quote it as a great "learning curve" for them to develop their organisational skills.

	Length of being single-handed	Autonomy	Continuity	Flexibility (work/family life balance)	Emerged issues
GP 11, Male, 50 years old, Scottish qualified, Non-deprived (sample framework)	Qualified in 1984. Finished training in general practice in 1986. Single-handed since 1991.	From "organisational" perspective: 1. easy to make change within the practice. (line 126-131) 2. set up own system running of the practice. (line 131-133 +line 140-141) 3. "control workload" -I am not getting too stressed about it, because I kept the list size to a level where I feel comfortable with. (line 163-196) Stay on the top "...I divide the system basically staying on the top.." (line 156)	"they (patients) know they would be seen anyway. So they are less likely to call you..." This indicates building upon the relationship there is an element of understanding between doctor and patient.	Balance workload by arranging appropriate surgery hours which he thought suited his working pace.	Avoid partnership problem "...if in group practice, got meeting etc. then someone doesn't pull their weight, that could cause partnership problems... So I don't have partnership problem... I know there is work need to be done, and nobody else would do but me..." (line 141-145) Computerised has been perceived be helpful in term of practice management. "...now computer makes a bit easy. I have my sort of system to deal with..."
GP 12 Male, 38 years old, Scottish qualified. Deprived (sample framework)	4 years.	"... being single-handedly, the positive is you are on your own, you are your own boss.... There were not major disputes, just a slight dispute..."(line 18 +line 28) "...if you are by yourself, you get autonomy. You are your boss. No one told me to do that, don't do that you know. You can do what you like you know. So it is quite positive that side." (line 47-49) +line 233-234 When I asked whether it is important for him to be own boss, he replied that," I think it is definitely take me on." (line 242)			Get in the way "sometimes the politics of the group practice can get in the way being a good doctors you know"???(I am not sure what he meant by that) By you own "...even when you consulted in the group practice, when you are in the room, you just by yourself. Maybe 80% of day are by yourself. You only see other partners at practice meetings once a month while lunch time. Otherwise you are by yourself anyway..." (line 204-207)
GP 13 Female, 49 years old, Scottish qualified, Deprived (sample framework)	8 years being single-handed (total 22 years practices in general practice.)	Control "...and it's nice to have the control of what you did, you can make decision quickly, you don't need to persuade someone else if they agree or don't aggress. So that was quite nice." (line 43-45) Control practice organisation , for instance consultation length. (line 113-120) Save the conflict "...sometime I feel pressurise but it (single-handed) also saves conflicts I know. If you are in group practice, and if you think one of partners didn't work as hard as they should, and you get all the work, the you got angry and upset, and but with here, this is my work you know. I have to do it..." (line 201-207) Also reflecting "I am a little frightened to join another group, because then I lose control, lose the influence, may I wouldn't like the way how they want to do the things..."	"...but you know the patients better when it is a small practice too." "...I think you get to know the patients and the patients know you. You probably get more readily a situation of trust developing between the doctor and patients relationship. I think it is more trusting relationship, because if they recon they know the doctor, going to see the same doctor most the time they come to the surgery..." "...I like to know what happening to the patients as well....I feel better not lose the track of what's going on. So I like the continuity." "...I think I like my job. Sometimes it is too busy, but I like my job, but I get good job satisfaction from the patients, and having a good relationship with staff here, so overall I have no regret about it..." (line 667-669)	Not much difference "I don't thing it gives that much flexibility. Not really. I suppose if my children school early, you are welcome to come work with me. You can do that, but you can do that in the group maybe if the child would behave alright anyway..." (line 265-271)	Job satisfaction "I very much enjoy the fact I saw patients anything wrong with them. Because when you are in the group, the woman (Female GP) might get more women patient, more children, more of gynaecology, and see fewer male patients, and I were seeing a lot of patients with psychiatric problems as well, and it was very refresh to move just everything you know. SO I like that quite a lot..." (line 38-43) She agreed that she felt happier than she was in the partnership "...because I did before in last practice. I felt we had too many patients for the number of doctors, and not enough time for each patients..." (line 113-120)
GP 14, Male, 48 years Scottish qualified, Deprived (sample framework)	18 years. (2years' experience in partnership)	"...I have been very happy single-handed practitioner. I think there are a lot of advantages being single-handedly. Because you are your own boss, you fight with nobody other than your shadow." (line 26-28)	"... there was a very good continuity of care. The patients like it. ..."		The difference regarding the contractual arrangement. (old contract and new contract) He expressed he enjoyed the first 8 years practising single-handedly under the old contract, and with increasing organisational demand he felt less satisfied. (line 51-59)
GP 15 Female, 48 years, Scottish Qualified Deprived (sample framework)	Graduated from Glasgow in 1982. Becoming single-handedly since 1998.	Although her overall perception is not keen on being single-handed, in the final part of interview, she stated that, "...certainly I heard colleagues' experience (partnership), which is not pleasant. I certainly don't like to put myself in that situation. Such different views, creating the atmosphere. I certainly don't like that. ..." From this statement, we can see single-handed practice does offer here a sense of autonomy, and she pretty much can run the practice in a way she likes.	Strengthen doctor-patient relationship "...in a practice with 3 or 4 doctors, patients maybe not completely satisfied . They maybe could make appointment with another doctor, see how they feel. In the single-handed practice, if they were not happy with you, then they either come back just be honest. "right. You are not happy. What is the problem? Let 's look it." Sometimes actually it strengthens the doctor-relationship..." (line 230-235) "...I think in smaller practice, it is no doubt patient satisfaction is greater. Because in the big practice, patients would tell you, they (patients) may not see the same doctor twice. There is no continuity . Whereas small practice there is continuity, simply because you see the patients regularly. We all know that is what patient want." (line 241-244)		Job satisfaction "...I stared to develop my practice, and I was getting great satisfaction from developing the practice. I started off with the practice of 1,800...built up to 3,000 now. You know it is great satisfaction to see your work progressing." (line 60-63) "I never found it was difficult. I'm always very enthusiastic. I like people, so I always highly enthusiastic. And I just enjoyed it so much, so it wasn't a problem. Never a problem." (line 153-154) IN conclusion of the interview, she said that, "... there is satisfaction, you really know your patients, you know your patients very, very well. If anyone ask you any questions, you can give them the answer like that (she click the finger). That's great..."

	Length of being single-handed	Autonomy	Continuity	Flexibility (work/family life balance)	Emerg issues
GP 16 Male, 55 years, Indian qualified, Deprived (sample framework)		Freedom "Freedom. Don't need to answer to anybody else. We are quite happy to get along. What my decision I made is all my responsibility not somebody else. And there is no partnership personal problem here at all. Because I have been seen quite a few group practices splitting up, because personal crash. So I think it is much easy here." (line 67-70) He answered that he though having total control of the practice is very important for him. "...that's problem I see in other practices. (line 86-92)	Knowledge "...I have said that I have been here 30 years, and I know each one of comes here. Before they come, I know what's wrong with them. I know where to look and how to do. I even don't need to go through the file and look through previous stories now." (line 317-320) "...I enjoy it (continuity) anyway. ...I am very happy if patient get more care in that way..." (line 324-326)		Good patients "...my patients are excellent. We don't have complaints here, Nothing at all., 30 years hardly any complaints. Patients are extremely friendly, ...what more do you need." Income "...the practice is not big enough for two people. Then you have lost a lot of income, then you have problem started with your partner. When the money comes, there is always a problem. So I just manage..."(line 137-139) These problems might in group practice mirror the advantage of single-handed practice.
GP 17 Female, 36 years old, Scottish qualified, 2,100 Deprived (sample framework)	Finishing her GP training in 1999.	"from a doctor's point of view, you've got the ability to run the practice how you like, which if you are critical, that's great... you can pretty much run the ship the way you like, nobody argues with 8 or 10 other people to get things done or changed..."(line84-92) Less politics within the practice "there is less politics within the practice. That sounds silly, but if there were 10 doctors, there will be two or three who agree, two or three who disagree, and arguments and political game gets played, and it is not a nice place to work...."(line147-150)	Although she mentioned that population is not desirable, she continued that "... there are a lot of family tiers, but there are also the continuity, the continuity for staff, administration staff as well. Because it is small, they tend to know, they can see..."(line78-83) "There are huge positive too. Because you know your patients, you know who they are..." "there are a lot of family tiers, the continuity for staffs, the administrative staffs as well. Because it is small..." (line 75-82) Everyone is Different & same principles "...each practice is unique, every single practice is unique no matter how many doctors have got in there....the principle of single-handed is the same, the continuity of care, the individuality, the intention to details isn't always there in big practice...there is a bit more from their point of view, a bit more job satisfaction than in large practice." (line 173-179)	She apparently defined clearly between work and family life. "... the work doesn't go home. Work stays here, and home stays home." (line 244)	Too big to care (discontinuity in partnership) She stated that, with an increase in practice size (up to 5 doctors), "...practice is too big to care, and doesn't actually care about the outcomes what happens to the patients. we are luck, (if) the patients come back if they no get better..." (line 151-161)
GP 18 Female, 54 years, Scottish qualified, 1,500 Non-deprived (sample framework)	Being in general practice since 1992.	Working arrangement "...I have open surgery every morning, so all patients wish to be seen should be in by half past ten... although we have appointments at night, really for those can't come during the day...you know it is very nice quality, so if I see all the patients in the morning and I am here till one o'clock, then I can do all the house calls...it just was quite nice just seeing a few patients."(line47-59) Knowing everything "...I think it is quite nice, knowing all going on with the patients. If I am responsibility for them. It is nice to know what's going in, it is nice to know only I deal with it or Dr. XXX (locum) deal with it. ..." (line 146-149)	"Finger on the pulse" "...it was big practice, ...what I found in that situation, you had a number of people, you have a number of doctors in the practice, a number of minor and significant complaints. Everyone has opinion, everybody has prescribed something. Everybody would do some investigation...I found that very difficult...if a small practice, you got total autonomy making diagnosis, doing investigation, treating it or referring on-warding, so every letter coming here to this practice, I know who is about, what's going on with the patients...I think it is very nice for the patients, somebody's finger on their pulse"(line 103-116)	A good balance "...i can't say I feel pressure...I am working all day, but the pace I am quite happy with. I suppose I dedicate the pace. ..." (line 295-297) "...I ended with a quite nice practice. I am running by myself and I have managed running that quite well, with my children being at school. I can drop off my children at school in the morning. I could go home and pick them up three o'clock... I can make them something to eat, and if I have to come back to practice, it should be 4 afternoon a week, I can do 2 afternoon week as well...you know that's quite nice balance..."(line 417-427)	"pop in on the way home" "...because I am the only person. They (patients) would be a bit miff about putting that through out-of-hours. You know that a bit nuance. If I am going out on Friday at quarter to six, you want to go home get ready to go out and someone just rang," Would you just pop in on your way home." That's very irritating. I don't really want to pop in on the way to home at all..."(line 304-311) Her job satisfaction & patient demand "...I am quite happy with that lot (patients). ...I am not happy if I have different patients load. If I have high demand, a lot of deprivation... that I couldn't deal with. I couldn't want single-handedly like that..." (line 334-341)

	Length of being single-handed	Autonomy	Continuity	Flexibility (work/family life balance)	Emerg ed issues
GP 19 Female, 42 years, Scottish qualified, Non-deprived (sample framework)	1990 finished postgraduate GP training.	<p>Mirror the problem in partnership</p> <p>"...because the workload in general practice is very hard to quantify...I know my friend has a practice, who making a lot of noise, nothing is too much trouble for many patients, seeing a lot of patients, doing a lot of housing calls. While other people applauding away the work, get practice work done, get bone of job done, at background not be seen at public face of the practice...there would be resentment things building up that sort of thing..." (line44-49)</p> <p>"do things in own way"</p> <p>"...I suppose when you do work alone, you get very used to you are able to do things in your own way. If you want to change something, you do. You know if you are in group practice, you can't be like that, everything has to be done by discussion. So in a group practice, you can do your own things within your own nature of setting in the practice, but beyond that, you have practice policy, protocol things, got to be decided by the whole number of GPs." (line 96-101)</p> <p>A sense of own-ship</p> <p>"... I have a sense of ownership of this practice. if I was looking for a partner, that could be quite hard. Because partners just come in, and they don't have to bring anything, nothing tangible at all..."(line 187-190)</p>	<p>Basic of the job</p> <p>"...I am very comfort with the basics of the job. I know the patients very well and I know the area and the staff. So a lot of things are very comfort. ." (line70-72)</p>	<p>"...I have three maternity leave within about 3 years, so I just carry on working on my own, because that's easy to manage...." (line 56-58)</p> <p>Balance</p> <p>"..I think any working woman has trouble with that sort of work/life balance... but you see what I can do here, say for example, the school phoned me now, I can go now and bringing the wee one back here. Like it had happened before....she (her daughter) until sat in the surgery during the baby clinic until my husband came to pick her up. SO I know you would do that in the group practice, but I feel I could do these things much more easily. ...because it's my place, I can do that. It's not such an issue...."(line 115-127)</p> <p>"...I find that, and continuing find that I can be more control of in kind of balancing family and work than I would be in group practice. So maybe women like to have that facilitate and like to have that. I know several women single-handed in Glasgow, seeming happily being single-handedly. I am sure they(single-handed) are still predominately male, large number of female in general practice would work part-time, ...I think there are definitively plus for women because that control you have over your workload." (line 494-500)</p>	<p>Compatible working style</p> <p>"... I think the thing about partnership in general practice is you have to find somebody who you are compatible with, not necessarily working in the same ways as yours, but some work in a compatible way. ..."(line 41-43)</p> <p>Platform for learning</p> <p>"...it (single-handed practice) probably my skills in admin, learning how to run things....I learn how to work with people, you know that kind of things working as tea,..." (line 479-482)</p>
GP 20 Female, 37 years Scottish qualified, Deprived (sample Framework)	Since 1999.	<p>Immediate reaction</p> <p>"...if I decide that it would be important to look at how we deal with. I'm trying to think of ..for instance, the health promotion people had approached me to ask how I felt about teenage pregnancy, that kind of thing, and they had an idea of holding a clinic for 15 years old...so rather than take that to practice meetings. You know where I had to persuade other doctors that this was a good ideal, I was just able to implement it, you know, it went ahead within the month...."(line 137-150)</p> <p>"...it (implement) is much quicker, much more reactive to what (patients) needs." (line 154)</p> <p>"...because I know the work that has been done , has been done by myself. I know what I've done. I am control freak (laugh)" (line 747-749)</p>	<p>"...I've had great experience here establishing relationships with the families in the areas. It's a close knit community ..." (line 82-84)</p> <p>Personal touch</p> <p>"I think the benefits from knowing the patients can approach me. They're very grateful that they can just offload their problems that kind of thing. I can hear their saying, ..'my auntie told me to come and see you' that kind of thing...that the whole family feels that this is an approachable set of staff really. It's not just myself, it's the staff that make all the difference." (line 95-99)</p> <p>"...(in group practice), they (patients) would go to a certain doctor with a kind of physical complaint or maybe a different doctor with an emotional complaint and feel that would split their care up. I feel as though it (patient's problem) should be dealt with a whole." (line 123-125)</p>		<p>Involvement in the community</p> <p>"...I've been involved in community events, that kind of things, and I've been included to the Social Included Partnership meetings... so I've established relationships, working relationship with them (community) as well, so I feel as though I'm really integrated in the community." (line 82-87)</p> <p>Not too close</p> <p>Although she admitted there was a close relationship with her patients, she continued that "...i wouldn't let my guard down andI feel as though I would have to be on the ball trying to make a balance between being their friend and being their doctor." (line 110-114) it may be different from rural ones.</p> <p>Tension in partnership & personal commitment</p> <p>"...by going around other practice, You can hear Doctor gripping about other Doctor, 'they are not doing as much as work as me'. ..when I look at them I think you are lazy so and so and that would drive me up the wall ..." (line 751-759)</p>

	Length of being single-handed	Autonomy	Continuity	Flexibility (work/family life balance)	Emerged issues
Pilot GP1 Male 45 years, Scottish qualified, 2,069 Deprived (sample framework)	Graduated in 1986, and became single-handed in 1994.	<p>Flexibility "...if there is a problem, you can fix it yourself. If there is a problem with appointment times or whatever, you don't need four people to agree to fix it, you can do something different..." (line 145)</p> <p>workload management "...you can dedicate your own workload and work in a way that suits you rather than having to work in a way that other people dedicate." (line 150)</p>	<p>Personal element "I like the patient contact and the fact that I know the patients well and they know me well. It's really the amount of contact I have with patients. That's the best thing about the job." (line 130)</p> <p>Consistency "...in a group practice, you don't know what's happening all the time. You might see a patient and make a decision then and another doctor might see a patient and make a different decision so there is difficulty knowing exactly what's happening so the benefits of single-handed practices is that you know everything that is going in and you know all the decisions that you can make." (line 139)</p> <p>"the thing that comes that makes me feel best is when patients are grateful for what you have done for them, and that happens a lot more now because it's more personal service..." (line 251)—"it didn't happen to me as often in a group practice" (line 257)</p>		<p>Team working "...I mean there are other people I work with but I don't work have other doctors to work with and by large the other people I work with are receptionist, managers, and nurses, who are far easier to work with than other doctors who would tend to be very single-minded and inflexible at times." (line 155)</p> <p>"It is for me and I think DOCTORS and probably particularly GPs are very difficult people at time, (they) are very difficult people to work in teams..." (line 222)—implying an element of freedom in SH practice.</p> <p>Accountability "I've always thought I'm a good doctor. I don't have any doubt that I'm a good doctor. I don't need people to (tell me)..." (line 266)</p>
Pilot GP2 Male, 47 years, Scottish qualified 2,652 Non-Deprived (sample framework)	9 years	<p>Owner-ship "I think the big thing about general practice for me is the ownership of it. I don't mean the physical ownership of the building, but the ownership of the organisation... as a owner of this business and the owner of this service. You really feel obligated to do the best you can for start and also to be fair bit of control of the development. I don't mean total control, but you know you've got the responsibility for the changes within it." (line 91)</p>	<p>A lack of consistent approach in patient care in group practice. (line 409)</p> <p>"... you feel you know the patients and what has been happened to them. For me it (continuity) improved a lot.... Thin the consistency, probably patient do better but it is hard to approve. I think they know who you are, hope they trust you better. Even when it is routine things, people would come for very trivial stuff that really isn't terribly important and exciting some points they might develop quite important... you don't start from scratch..." (line 424)</p>		<p>Politics in group practice "...I do think a lot of group practice, a lot of them trundle along, a lot of them just react all the time. They always seem to be trying to catch up. They always seem somebody who is dragging them behind..." (line 120)</p> <p>He weighted advantage and disadvantage being single-handed practice, comparing to previous partnership experience and suggesting that,</p> <p>"I just remembered the life before. You just felt frustrated, unhappy, professionally unsatisfied. I think (now) we manage quite well." (line 185)</p> <p>Professional satisfaction generated from the contacts with patients. (line 295)</p>

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