

**Skill Mix Development in General Practice: A Mixed Method
Study of Practice Nurses and General Practitioners**

By

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Abstract

General practice has undergone considerable change in the last two decades. New roles for nurses working in general practice have extended to include tasks that were previously delivered by general practitioners, in particular chronic disease management, and the development of new, advanced roles such as independent nurse prescribing. There have been few research studies investigating the impact of these changes, especially after the introduction of the new General Medical Services contract in April 2004. The overall aim of the work presented in this thesis was to examine the emerging roles of practice nurses, the forces influencing that development, and the effects of these changes on doctor-nurse skill mix in general practice within NHS Scotland.

The work employed a mixed methods approach, with three inter-linked studies. The first study was a quantitative, desk-based analysis of workload and clinical activities of doctors and nurses working in 37 practices across Scotland for the year 2002. The second study was a postal questionnaire to all practice nurses working within NHS Greater Glasgow (n=329), conducted in autumn 2005 and achieving a 61% response rate. The third study was a qualitative study, consisting of eighteen interviews with a doctor and nurse informant each of nine general practices. The interviews were conducted between January and July 2006 and practices were selected according to the number of partners and the deprivation status of the practice population.

Analysis of workload data showed that practice nurses and general practitioners dealt with 27.5% and 72.5% of total face-to-face encounters, respectively. Many of the encounters with nurses involved chronic disease management, with 20% of such encounters appearing similar in content to the work of GPs.

The postal survey found that one third of practice nurses were aged over 50, and will be approaching retirement within 10 years. The majority worked in small teams of nurses, although 31% worked alone. This may have contributed to the finding that 52% (n=103) reported feeling isolated in their workplace. Many had attended CPD training on chronic conditions, but identified minor illness treatment as an area for future training.

The qualitative study showed that the Quality and Outcomes Framework of the 2004 contract had been a key driver of changes in general practice service delivery. This has led to an increasing shift in routine care from doctors to nurses. As new roles for practice nurses have evolved, GPs have been able to focus on treating complex morbidities that need medical diagnosis and intervention. The incentivised targets of the new contract have made chronic disease management a predominant activity for practice nurses, with treatment room and non-incentivised activities featuring less and increasingly being provided by new, lower grade nurses or nurse replacements such as Health Care Support Workers (HCSW).

There was no consensus between interview participants in terms of the most appropriate use of doctor-nurse skill mix in general practice. Nor did they agree on the merit of advanced roles for practice nurses. However, respondents did emphasise that nurses who wanted to have an independent/advanced role in the practice would need to combine three competencies (independent nurse prescribing, triaging, and minor illness treatment).

Most practice nurses interviewed were concerned with obtaining a fair financial return to match their increasing responsibilities, especially after the introduction of the nGMS contract. GPs, however, tended to believe that nurses were appropriately remunerated for the level of responsibility they had within the practice. The continuing role of the GP as the employer of practice nurses was problematic for some nurses and many felt there would be advantages to being employed on *Agenda for Change* terms and conditions. However, the majority of nurses interviewed preferred being employed by a GP rather than the Health Board. There was little support amongst either nurses or GPs for the notion of nurse partners within practices.

Overall, these studies provide lessons which will be of value in planning the future training and development of practice nurses. It suggests that practice nurses should obtain proper training and support in order to meet their individual needs and to carry out new responsibilities and roles. In addition, the impending shortage of practice nurses due to retirement, lack of retention and potential recruitment difficulties needs to be addressed urgently at the level of primary care policy and manpower planning.

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List of Abbreviation

AfC	Agenda for Change
BMA	British Medical Association
CDM	Chronic Disease Management
CMR	Continuous Morbidity Recording
CNS	Clinical Nurse Specialist
CPD	Continuing Professional Development
DOH	Department of Health
GG	Greater Glasgow
GMC	General Medical Council
GMS contract	General Medical Services contract
GP	General Practitioner
GPASS	General Practice Administration System for Scotland
HCA	Health Care Assistant
HCSW	Health Care Support Worker
ISD Scotland	Information Services Division, Scottish Executive
nGMS contract	new General Medical Services contract
NHS	National Health Services
NMC	Nursing and Midwifery Council
NP	Nurse Practitioner
NVivo	Qualitative Data Analysis (QDA) software package
PA	Practice Accreditation
PMS	Personal Medical Services
PTI	Practice Team Information
QOF	Quality and Outcomes Framework
QPA	Quality Practice Accreditation
RCN	Royal College of Nursing
SCM/SM	State Certified Midwife / State Midwife
SIMD	Scottish Index of Multiple Deprivations
SMGs	Standard Morbidity Groupings
SPICE	Scottish Programme for Improving General Effectiveness
SPSS	Statistical Package for the Social Sciences
WTE	Whole Time Equivalent

'We have no map of the future, only a compass. The only road we can have to a more generous and sustainable future will be one we discover and make for ourselves, starting from where we actually are, with people we actually have, learning as we go'

Julian Tudor Hart, 2006

Dedication

*I dedicate this work to my lovely mother, Alia, who taught me that everything is possible
and gave me the confidence to believe it;*

to my father, Mohammad, I promise to be with you soon in Palestine;

*to my sisters, Sabha and her husband Munjed, Amal and her husband Naief, and Sahar
the joy of the family;*

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*‘All days are nights to see till I see thee,
and nights bright days when dreams do show thee to me’*

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Declaration

I, Hussein Jabareen, confirm that I as the named author conducted the research study detailed in this thesis. The research was carried out at the Section of General Practice and Primary Health Care, University of Glasgow, under the supervision of Dr. Kate O'Donnell and Prof. Graham Watt. I declare that all the material presented in this thesis is my own work unless specifically stated otherwise.

Hussein Jabareen

Glasgow, December 2008.

CHAPTER ONE

OVERVIEW OF THE STUDY

1.1. Introduction

The Scottish publication *Framework for Nursing in General Practice* states that the roles and responsibilities of nurses are continuing to undergo significant changes and rapid development (Scottish Executive Health Department 2004c). The importance of practice nurses has evolved over time, allowing them to take on new roles that can enable general practice services to achieve the reforms required for modernisation. The 1990 contract for GPs put emphasis on health promotion and chronic disease management, which led to dramatic increases in practice nurses' workload, so more practice nurses needed to be employed. For instance, the number of practice nurses in Scotland increased from 205 WTE in 1988 (4.0 WTE nurses per 100000 of the general population) to 1181 WTE in 2002 (23.4 per 100000 of the general population) (Information Services Division-NHSScotland 2004). More recently, practice nurses have played an increasingly important part in delivering the requirements of the new 2004 GMS (nGMS) contract especially for chronic disease management and health promotion targets (McDonald et al. 2007; Roland et al. 2006; Vaughan 2007). It is noticed that while there has been a large increase in the number and workload of practice nurses, there is still no national strategy to support their progress and development (Scottish Executive Health Department 2004c).

The nGMS contract is considered a powerful driver for the changes in health care services delivery, but it is not the only driver for the development of practice team's clinical roles. Demand for services has increased recently due to population ageing, rising patient expectations, and other national policies (Department of Health. 2003; Scottish Executive Health Department 2008). The nGMS contract and the new structure and organisation within the NHS for a patient-centred service, however, are continuing to increase the importance of the practice nurse role (British Medical Association 2004a). The Wanless review, earlier, estimated that up to 70% of the work undertaken by a GP might be moved to practice nurses (Wanless 2002). As the abilities of nurses are clearly recognised, there is an increasing shift of routine care from doctors to nurses, allowing GPs to take on more complex cases (Crossman 2006). This has major implications for the expansion of the

general practice nurse role, which already encompasses health promotion, family planning, and treatment room activities. The major change for practice nurses' roles after the introduction of the nGMS contract was their significant contribution to the management of chronic and long-term conditions such as coronary heart disease, asthma and diabetes. However, it was noticed that there are a limited number of rigorous empirical studies conducted in Scotland to specifically evaluate the new changes of clinicians' roles in general practice after the introduction of the new contract.

So the main purpose of this study was to explore the evolving roles of general practice nurses, and to identify the possible forces that influence the development of these roles, as well as to understand the impact of these changes on doctor-nurse skill mix in Scottish general practices.

1.2. Objectives

In order to enable general practice services to deliver high quality health care and plan the deployment of practices' workforce effectively, three areas require to be addressed. First, there is a need to know the contribution of doctors and nurses in meeting the workload in the practice. Second, since many of the new demands in general practice have been met by practice nurses through increasing their numbers and expanding their roles, it is important to be acquainted with their demographic characteristics, educational attainment, clinical activities, working terms and conditions, and access to Continuing Professional Development (CPD). Third, there is a need to understand the perceptions of professionals regarding the current and potential roles of practice nurses, as well as the impact of practice nurses' role development on skill mix in the practice, and how they think all of these could have been affected by policies taken at higher level by government and decision makers. The aims of this study are as follows:

- To study the components that make up the work of doctors and nurses in general practice and to obtain a benchmark for working out what constitutes a manageable caseload for both professionals and how these could be affected by practices' characteristics such as size or deprivation status of their practice population.
- To gather data about practice nurses demographic characteristics, their team structure in practices, how their educational attainment is matched with their clinical roles, and needs for Continuing Professional Development (CPD).
- To explore how the changes in practice nursing have come about. Specifically, what are the drivers, constraints, impact, and future direction of role development?
- To provide a more detailed understanding of the impact of the most recent General Medical Service contract (nGMS) on doctor-nurse skill mix.

1.3. Methodology

This thesis draws upon the findings of three mixed-methodologies study that investigated the work of practice nurses in Scotland. The first is a desk-based analysis of routinely collected data about the nature of workload of doctors and nurses in 37 Scottish general practices in 2002 prior to the introduction of the nGMS contract.

The second study was a structural postal questionnaire sent to all PNs working in general practices of Greater Glasgow NHS Health Board. The survey was conducted 18 months after the introduction of the nGMS contract with the aim of gathering preliminary information related to PNs' demographic characteristics, work conditions, main roles and activities, training and education, and support they received from within and outside of their practices.

The third phase was conducting of qualitative semi-structured interviews with a doctor and nurse working together in 9 different practices within Greater Glasgow. The interviews were conducted to provide insight and understanding into the nature of practice nurses work, drivers, barriers, and expected future advancements of their roles and how this could have influenced doctor-nurse skill mix especially with the new changes that were entered to general practice after the implementation of the nGMS contract. The findings indicate that practice nurses undertake a wide range of roles and responsibilities which vary considerably from practice to practice.

1.4. Thesis structure

The thesis consists of seven chapters. After a comprehensive literature on the practice nursing role and skill mix developments in general practice (Chapter 2), the methodological rationale for the study and consideration of the data collection methods used are presented in Chapter 3. The findings from each of the three studies are then presented in turn - Chapter 4: the desk-based analysis of general practice workload; Chapter 5: the survey of practice nurses; and Chapter 6: the qualitative interviews. In Chapter 7, the findings are drawn together, along with consideration of the implications of the findings for professional practice and further research.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The organisation of primary care in Britain has changed rapidly over the past three decades (Charles-Jones, Latimer, & May 2003). The work of general practitioners (GPs) and practice nurses is increasingly geared towards the management of chronic disease, and general practice itself has become organised through larger and more complex teams including general practitioners, practice nurses, administrative managers and support staff (Dowrick 1996). This process has been driven by the changing needs of the population and by government policies, as well as through the health professions themselves, and has led to important developments in skill mix and team-working. An additional, and recent development, is the new General Medical Services (GMS) contract which focuses more on practice teams delivering high quality care (British Medical Association 2004b). Thus, there is a need to document and understand the developing roles of different professional groups working within general practice.

This chapter reviews the key literature related to the developing role of nurses and links these developments to the changing skill mix between nurses and general practitioners in Scotland and the U.K. in general. It includes a description of demographic changes in the population; staffing and workforce issues in general practice; policy drivers for change in practice nurses' roles; definitions of practice nursing and other related professional groups; the enhanced roles of practice nurses; the different conceptual frameworks for skill mix in primary health care; and potential future developments in doctor-nurse skill mix. Finally, it will end with a summary of the literature.

2.2. Search strategy

A range of databases were searched through the Ovid Online searching engine for relevant literature and the bibliographic software package Reference Manager 10 was used to manage the references. The databases searched covered a range of literature pertinent to the topic, including medical and nursing journals, social sciences and management (Table 1.1). In addition to bibliographic databases, the websites of the Scottish and English Departments of Health were searched, as well as those of relevant professional bodies e.g. the Royal College of General Practitioners and the Royal College of Nursing.

Table 2.1: Databases searched to retrieve the relevant literature

Database	Time range
AMED	1985 to 2008
ASSIA	1987 to 2008
BNI	1994 to 2008
CINAHL	1982 to 2008
EMBASE	1988 to 2008
HMIC	1979 to 2008
MEDLINE	1996 to 2008
WEB OF SCIENCE / KNOWLEDGE	1990 to 2008
EMERALD (Health Manpower Management)	1994 to 2008

The search terms used to retrieve studies from these databases are detailed in Table 2.2. These were linked to produce a series of searches, then abstracts were read and most related studies were finally retrieved.

Table 2.2: Searching terms to retrieve the relevant literature

Searching terms	
General practice	Primary health care
Practice nurse	Family practice
Skill mix	Nurse's role
New nursing role	Health policy
Workload	Health services development

A range of literature was identified, including papers on nurse practitioners and on practice nurses in addition to those focussed on skill mix in general practice. Most of the identified literature was predominantly descriptive in nature. Only three Scottish studies, all quantitative, investigating the characteristics of practice nurses were identified. The first one investigated practice nurses at the national level (Caldow, Bond, & Russell 2001); the second study described the workload of practice nurses working within Lothian Health Board (Paxton, Porter, & Heaney 1996); and the third one surveyed the characteristics and

workload of practice nurses at Greater Glasgow Health Board (Peter 1993). The rest of studies (quantitative and qualitative) were conducted in different parts of the UK.

2.3. The changing face of primary care

General practice and primary care has been evolving since the NHS was established in 1948. After an initial period of stagnation, the 1966 General Medical Services (GMS) contract incentivised the development of health centres. This reform of the GP contract introduced the principal of the current payment system for GPs known as the “cost plus contract”, with practices reimbursed for their expenses (British Medical Association 2008). A guaranteed minimum practice income was introduced with reimbursement of 70% of the expenses for practice staff including nurses (Bosanquet & Salisbury 1998). Nevertheless, it was still unusual for GPs to employ nurses (Atkin & Lunt 1995). Indeed before 1990, most nurses employed in UK general practice were employed as “treatment room” nurses. Furthermore, the 1966 contract provided little incentive to develop the role of other general practice staff (National Audit Office 2008). Hence, the number of practice nurses did not greatly increase until the 1990s, after fundholding and government health targets were introduced (Caldow, Bond, & Russell 2001; Robinson, Beaton, & White 1993).

After 1990, general practice responded to the new government health targets by employing practice nurses to carry out tasks such as blood pressure monitoring, cholesterol measurement, and cervical cytology, resulting in an increase in workload (Caldow, Bond, & Russell 2001). Caldow et al. suggest that this achieved mutual benefits. There were advantages for general practitioners as nurses took over tasks that were time consuming and routine tasks; there were also advantages for the nurses, giving them the chance to use their experience and training more fully.

The 1990 GMS contract directly affected the roles of practice nurses, with particular areas of clinical care incentivised and delegation of work to nurses in the areas of health promotion and chronic disease management (Scottish Executive Health Department 2001b). For instance, Peter’s study of practice nurses in Glasgow which was carried out six months after the introduction of the 1990 GP contract found that 68% of the sample had been in post for under a year, suggesting they had been employed as a result of that contract. Furthermore, 50% of GPs who were surveyed by Robinson et al. (1993) had

created a new nursing post to fulfil the requirements of the contract and 83% had expanded the role of the nurses they already employed.

General practice and primary care has continued to respond to changes, both in the population it serves and within its own workforce, as outlined in the Scottish Executive document *A Framework for Nursing in General Practice* (see Table 2.3).

Table 2.3: Drivers for change in skill mix and roles of primary health care team members

	Drivers for change in doctor-nurse skill mix
1.	Demographic changes - a declining working population supporting an increasingly elderly patient population
2.	Increased burden of chronic diseases within an aging community
3.	The need to promote public health and tackle health inequalities
4.	The need to work in partnership with people and communities
5.	Increased pressure to centralise acute services because of workforce constraints
6.	Joint Future working
7.	Patient safety considerations and improving clinical standards
8.	The need for sustainable and affordable services
9.	Educational requirements and competency based frameworks for professional staff
10.	Pay modernisation (consultant contract, GMS contract, Agenda for Change)
11.	Recruitment and retention challenges within a competitive global labour market
12.	Advances in diagnostics and new technologies including telemedicine and eHealth
13.	The demands of regulation

Taken from *A Framework for Nursing in General Practice* (Scottish Executive Health Department 2004b)

The shift in health service delivery from hospitals to community health care settings has enhanced the role of primary health care professionals (Hastings 1997;Richards et al. 2000;Standhope 1995). The reasons behind this change in focus were mainly patients' preferences to be treated close to their communities, political and financial reasons, and an increasingly aging population (Lyons et al. 1999;Poulton 1997). The prevalence of chronic diseases has also increased, which produces high demand on general practice services (Eve & Gerrish 2001). Thus, there was a need to invest additional resources in general practice services in order to meet such an increasing demand for their services (Standhope 1995;Tudor-Hurt 1985).

In 1998, a new contract was introduced by the UK Government: the Personal Medical Service (PMS) contract. Negotiated locally, these contracts were viewed as a mechanism to address a lack of doctors in some areas and to encourage the greater use of practice nurses and other staff by offering additional funding for the practices. Evaluation of the PMS contract found that “they could act as a catalyst for change and innovation and help improve services but could not provide the answer to every problem in primary care” (National Audit Office 2008). Meeting these challenges, along with the need to encourage more practitioners into general practice, led to the development of the 2004 GMS contract.

2.4. The 2004 GMS contract

The new GMS (nGMS) contract was implemented in April 2004. Key drivers were a national shortage of GPs and the need to develop a workforce in primary care which could meet the needs of expanded and improved primary health care services (Royal College of Nursing 2005b). The contract is now practice-based, rather than GP-based, allowing nurses to enter into partnership with GPs, rather than be employed by them (Royal College of Nursing 2007c), or to become sub or specialist providers of services, such as sexual health, minor surgery, vaccination and immunization (Royal College of Nursing 2005b).

Another major development of the new GMS contract is the Quality and Outcomes Framework (QOF), which has four domains: clinical standards, organisational standards, additional service standards and patient experience. This has focussed practice reimbursement away from the number of patients on a GP list to a mechanism which incorporates and accounts for the health needs of the patient population, the practice’s workload and the quality of care provided. The British Medical Association considered the nGMS contract as a major turning point as a substantial proportion of practice income now depends on achieving points for providing specified services, e.g. annual blood pressure checks for patients (British Medical Association 2003). This may provide opportunities for advanced and specialised roles for nurses (Roland 2004), building on nurses’ responsibility for increasingly sophisticated aspects of patient care, from chronic disease management to coagulation therapy and coronary heart disease monitoring in primary care (Leese et al. 2006). However, it is not clear which services nurses are already able to perform and which areas of their work will require additional training (Leese 2007).

This may also lead to other perverse incentives. For example, Leese suggests that GPs may concentrate their efforts on those areas with a capacity to generate the highest number of points (e.g. CHD), perhaps to the detriment of others (e.g. cancer). Practice partners could also maximise the work that could be conducted by the nurses who are cheaper to employ, rather than doctors, who are expensive, in order to maximise the financial gain to the practice (Leese 2007). The increasing use of health care workers (HCWs) may be another outcome (Royal College of Nursing 2007c). This could, of course, be considered as new opportunities for enhancing the roles of practice nurses with the chance to move into new areas of service provision, which implicate also the provision of training opportunities. The nGMS contract identified that practice nurses should have access to continuing professional development (CPD) and information technology training (British Medical Association 2003).

According to the National Audit Office's workload survey (2008), the contract led to an increase in both the number of nurses and their contribution to general practice. For instance, the number of nurses working in general practice in England is thought to have increased by almost 8% from 13,563 in 2004 to 14,616 in 2006 (National Audit Office 2008). Similarly, the proportion of consultations undertaken by practice nurses increased from 21% to 34% in 1995 and 2006, with practice nurses conducting an average of 60 consultations per week, compared to 87 for GPs (National Audit Office 2008). However, although the nGMS contract succeeded in extending the use of practice nurses (and other staff in the general practice such as health care support workers), it does not stipulate how they should be employed, resulting in widespread variations in how practice staff are employed and treated. The NHS Working in Partnership Programme recently highlighted that GPs fail to reward nurses for their work on the QOF (Working in Partnership Programme NHS 2006). Some practice nurses reported that they did not have a formal contract and only a minority were on NHS '*Agenda for Change*' contracts. There was also wide variability in the amount invested in training practice staff (National Audit Office 2008). These findings have also been reported in two qualitative research studies (McDonald, Harrison, Checkland, Campbell, & Roland 2007;McGregor et al. 2008).

Thus, the GMS contract is likely to be a powerful driver in the development of the practice nurse role. However, this is not the only policy driver, as will be explored in the next Section.

2.5. Policy drivers and the nursing profession

Over recent years, a number of policy documents have influenced the development of the nursing profession, driven by changes in the working hours of doctors, greater discretion for nurses to expand their scope of practice, and new ideas for organizing patient care (McDonnell, Jones, & Read 2000). For example, *Liberating the talents* (Department of Health 2002b) and *Caring for Scotland* (Scottish Executive Health Department 2001a) outlined important developments in nursing roles in both primary and secondary care. *Making a Difference* (Department of Health 1999) and *Nursing for Health* (Scottish Executive Health Department 2001b) set out the Government's strategic intentions for nursing, midwifery and health visiting. These strategies recognized the important contribution of nurses to the NHS and outlined their commitment to strengthening and maximizing the contribution that the overall nursing workforce makes to health care delivery. It also suggested that there is a need to examine the current nursing workforce arrangements to make sure that nursing responsibilities and accountabilities are clear. These documents also highlighted the need to consider new models of skill mix, with support workers being suggested as able to play a more significant role, as long as they receive appropriate training and supervision. Thus, nurses have to assert their significant input as part of the healthcare team and make their impact on patient care to be felt by health policy decision makers (Spilsbury & Meyer 2001).

Across the NHS, the implementation of *Agenda for Change* was a major development for all non-medical professional groups (Department of Health 2004a). Implemented by the Department of Health, *Agenda for Change* set out a "knowledge and skills" framework, job profiling and a pay framework for all those working in the National Health Service, with a UK-wide application (Nursing and Midwifery Council 2006). However, as employees of general practitioners, practice nurses are not covered by the *Agenda for Change* remit, with GPs not compelled to implement it in their practices. So it is anticipated that a large number of GP-employed nurses will not be treated in the same way as their NHS-employed nurse colleagues with regard to *Agenda for Change*. This was challenged by the Royal College of Nursing, which believes that practice nurses who are employed by GPs should be employed under the terms and conditions outlined in *Agenda for Change*. The College argues that nurses who work in general practice are also integral and an essential part of the NHS and therefore should benefit from similar conditions of service as their hospital and community-based NHS employed colleagues (Royal College of Nursing 2005b).

The next Section considers further the role and development of practice nurses within general practice, as well as considering the different types of nurse roles currently found in general practice.

2.6. The developing role of nurses in primary care

Over recent years a wide range of new and advanced nursing roles have developed (Royal College of Nursing 2005a). However, while there is widespread discussion about the competencies required for different nursing roles and different levels of expertise, there is little clarity about the meaning of competence. The UKCC (1999) requires post-registration nurses to demonstrate that they have maintained and developed their clinical competence. This led the authors of the policy document *Making a Difference* to outline the need for a new career ladder for nurses consisting of four clearly defined grades. However, while they acknowledged the need for clearly defined responsibilities and competencies for each grade, they did not define what these were (Department of Health 1999). This may, in part, explain the lack of clarity and definitions about the different nursing roles that have developed within general practice. Of these, the major roles are: practice nurses; nurse practitioners; and other advanced nursing roles. Here we focus on the definitions, roles and evidence for each of these groups of nurses.

2.6.1. Practice nurses

According to the document *Choices and challenges: The strategy for research and development in nursing and midwifery in Scotland*, practice nursing is a diverse profession which demands a wide and robust knowledge. The role of the practice nurse has been defined as follows:

“A practice nurse should hold an appropriate qualification which is registered or recorded on the effective part of the Professional Register maintained by the United Kingdom Central Council (UKCC). This will normally be a Registered General Nurse ... Where the practice nurse holds the qualifications of Enrolled Nurse (General) only and is on part 2 or 7 of the UKCC professional Register, then he or she may only undertake a limited range of duties, having due regard to the skills of enrolled nurses contained within the nurse training rules of the UKCC.”

(Scottish Executive Health Department 2001a)

The number of practice nurses more than doubled between 1988 and 1990, possibly in anticipation of changes to the 1990 GMS contract since much of the work specified in the contract, for example health promotion and chronic disease management, could be delegated to nurses (The Audit Commission 2008). Following the 1990 contract, the rapid expansion in the number of general practice nurses continued, providing a wide range of services. For instance, in 1988 there were around 5000 practice nurses employed in England and Wales, which represented a growth rate of 120% over the previous decade (Greenfield 1992). Five years later the figure had trebled to 15183 (9500 whole time equivalents). A similar picture was observed in Scotland (Table 2.4).

Table 2.4: The Whole Time Equivalent number of Practice Nurses and GPs in Scotland, 1988-2002

Year	Practice Nurse		General Practitioner	
	WTE	WTE/100000 of general populations	WTE	WTE/100000 of general populations
1988	205	4.04		
1989	295	5.82		
1990	584	11.48	3315	65.24
1991	647	12.72	3308	65.07
1992	744	14.62	3334	65.55
1993	757	14.87	3360	65.98
1994	808	15.84	3381	66.27
1995	859	16.83	3400	66.61
1996	875	17.17	3433	67.42
1997	901	17.72	3465	68.16
1998	968	19.07	3485	68.64
1999	1003	19.78	3504	69.09
2000	1065	21.04	3504	69.21
2001	1097	21.66	3536	69.83
2002	1181	23.36	3532	69.88

Data Source: Information and Statistic Department-Scotland, 2003.

The growth of practice nurses was generally welcomed by general practitioners. Robinson et al. (1993) reported that the majority of GPs surveyed in his study (90%) wished to see the role of the practice nurse extended and that 90% of them felt that there was some justification in directly employing nurses to run health promotion clinics, and carry out both adult health checks and new patient registration assessments (Robinson, Beaton, & White 1993).

A number of surveys were conducted after the 1990 contract, reviewing the personal and professional characteristics of the practice nurse workforce (e.g. Peter 1993; Atkin 1994; Ross et al. 1994; Hibble 1994). The largest was that of Atkin's et al, who surveyed 12,589 nurses across England and Wales (81% response rate over a 15-week period). They

reported that one in 10 of the practice nurses were Registered Enrolled Nurses and one in four held midwifery registration. Registered Health Visitors formed a small proportion of practice nurses (3%), and 12% held a district nursing qualification. Fewer than half of the respondents (42%) had attended a course in practice nursing validated by one of the national nursing boards (42%).

Not only did practice nurse numbers increase dramatically after the 1990 contract, but their workload also changed, as exemplified in the comparison of two surveys of practice nurse workload conducted in 1987 (Greenfield, Stilwell, & Drury 1987) and 1994 (Atkin et al. 1994) (Table 2.5).

Table 2.5: Comparison of nursing workload before and after the 1990 contract

Task	Greenfield at al. (1987)	Atkin et al. (1994)
	% (n=300)	% (n=12,589)
Auroscopic examination	67	84
Using a respiratory peak flow meter	50	84
Cervical smear taking	70	75
Breast examination	62	68
Taking ECG	57	62
Asthma clinic	16	52
Diabetes mellitus management	29	55
Hypertension management	52	66
Assisting GPs with minor surgery	-	74
Immunization/vaccination	-	96
Venepuncture	-	86
Preparing clinical equipment for GP	-	78
Ophthalmoscopic examination	-	8
Stethoscopic examination of heart and chest	-	9

Although the Greenfield survey was conducted only in the West Midlands, it did involve 300 practice nurses. Comparison of the two showed that there had been some notable changes in the composition of practice nurses workload. For example, the percentage undertaking auroscopic examination increased from 67% to 84%; cervical smear taking increased from 70% to 75%; measurement of respiratory function from 50% to 84%. However, the greatest changes were seen in the percentage running disease-specific clinics: 52% ran asthma clinics in 1994, compared with 16% reported in 1987. Similarly 55%

reported involvement in diabetes management, compared with 29% reported by Greenfield et al. (1987). The proportions involved in hypertension management showed a smaller increase: from 52% to 66%.

Atkin also found that many nurses wanted to undertake training to allow them to practice in new areas. For example: 57% of nurses not undertaking breast examination wanted to have training in this area; 48% of nurses not running family planning clinics expressed a need for training; 52% of nurses not involved in asthma clinics wanted training. Atkin et al. concluded that training, therefore, could help develop the role of many practice nurses.

Peter (1993) conducted a survey of all practice nurses in Greater Glasgow six months after the implementation of the 1990 general practitioner contract (Peter 1993). Of the 165 practice nurses in post at that time, 131 (85.6%) took part in the study and returned the questionnaire. The results showed that 70% were working for 5 or more sessions per week and 18% had a full time contract of 37.5 hours or more per week, which equated to 79 Whole Time Equivalent practice nurses. 29% worked in practices with five general practitioners or more and 7% in single handed practice. They were a young workforce, with 60% under 40 and only 10% aged 50 or more. The majority (70%) had been less than one year in post. Most (82%) were state registered nurses and 50% also had a midwifery qualification.

Clinical and non-clinical roles were also explored (Table 2.6), showing wide variation in the duties carried out. For instance, within general nursing duties, 94% were giving intramuscular/subcutaneous injections, while only 71% were carrying out dressings and wound management. Many were involved in health promotion duties (e.g. weight control advice 89%; advice on exercise 84%; well woman screening 84%; travel immunization advice 80%). However over half of the participants reported that they had no theoretical knowledge of health promotion and almost two thirds reported that they had received no training in health promotion. Since health promotion was an important part of the 1990 general practitioner contract, these findings raised questions about the potential deficiencies which existed within practice nursing at that time. Peter concluded that the demand of the general practitioner contract had stimulated growth in practice nurse numbers, but that working facilities and provision of training were lacking.

Table 2.6: Percentages of practice nurses undertaking various duties (n = 131)

General nursing duties	%	Extended nursing duties	%
Urinalysis	99	Dietary advice	96
Collection of bacteriological specimen	95	Venepuncture	92
Intramuscular/subcutaneous injection	94	New patients health checks	89
Travel immunization: adults & children	86	Weight control advice	89
Ear syringing	73	Advice on exercise	84
First aid	73	Well woman screening	84
Dressing and wound management	71	Advice on travel immunization	80
Varicose ulcer care	62	Hypertension control	77
Disinfection of treatment/surgery room	56	Smoking cessation advice	74
Assisting at minor operation	41	Advice on alcohol consumption	73
Pregnancy testing	36	Counselling	73
Assisting at ante/postnatal clinics	35	Well man screening	70
Removal of foreign bodies from eye	22	Three-year check up	63
		Cervical smears	61
Non-nursing duties	%	Elderly screening	60
		Home visits	55
Filling records	40	Diabetic review	51
Reception duties	27	Baby and childhood immunization	44
Dispensing	8	Family planning	44
Typing	4	Asthma control	39
Other non-nursing duties	31	Electrocardiogram	24
		Incontinence care	21
		Ostomy care/advice	12
		Child health surveillance	5
		Other extended duties	4

Practice nursing in Glasgow after the new general practitioner contract, Peter 1993

Paxton et al. (1996) carried out a small survey of attached and employed practice nurses at Lothian Health Board (LHB), with a response rate of 33% (23 responses out of 71 nurses) (Paxton, Porter, & Heaney 1996). Their results showed that the average length of consultation for nurses was 10 minutes. Initially, practice nurses ran the routine antenatal, postnatal and child / immunization clinics. However, their role was expanded after the introduction of the 1990 contract to include more designated special clinics such as family/well woman, hypertension, asthma, and minor surgery. Nurses spent on average one hour a day per whole time equivalent (WTE) on administrative duties which included filling in laboratory request forms, writing up case notes, making and receiving telephone calls, tidying surgeries, stocking doctors' bags and ordering drugs and supplies. There was, however, a small overall decrease in time spent on administration after the introduction of the contract.

Caldow et al. (2001) reported the findings of a Scottish national survey that was conducted in 1996 to obtain information on practice nurses, qualifications, training, workload, and attitudes (Caldow, Bond, & Russell 2001). They found that all practice nurses were female, with most aged between 35 and 44 years. The majority were Grade G and approximately

half of the respondents had at least one other nursing qualification in addition to registration. 82% of practice nurses across Scotland had become a practice nurse because they saw it as a career choice, 79% found working hours suited their other commitments, and the majority (91%) were attracted to general practice due to work independence. However, 36% thought that they were restricted, either due to their own experience (27%) or to practice policy (26%).

Concerning clinical work, the majority (83%) of practice nurses in Caldwell's study saw at least some patients who came directly to the nurse (self referral); 81% were carrying out cervical smears; and 50% were carrying out electrocardiography as examples of procedures which required specialised training. Furthermore, most participants were keen to practice more advanced roles if given proper training, including diagnosis and prescribing. Caldwell et al. (2001) concluded that, as well as a marked increase in the number of practice nurses, their role had also evolved in response to the demands made of them rather than through planning and design.

This growth in one segment of the nursing profession reflects the changing character of the primary care system. Primary health care has developed following the general practitioners contract introduced in April 1990 (Bryden 1992), with a shift of health promotion and prevention services from hospitals to general practice (Department of Health 1991). These developments have led to service redesign at the general practice level, with more nurses hired to carry out some of the new services and to help practices meet new demands of primary care (Dent & Burtney 1997). It also raises questions about the division of labour between doctors and nurses and whether the occupational boundaries between the two are being redrawn (Dent & Burtney 1997). This is further discussed in Section 2.9.

It has been suggested that the new GMS contract of 2004 has generated new opportunities for nurses to work in different ways, taking on advanced roles in chronic disease management and minor surgery (National Primary Care Development Team & Modernisation Agency 2004). As a result, nurses may be playing an important role in helping practices to expand their services, reaching more patients and meeting the targets embedded in the QOF. However, this implies that practice nurses will require support and training, as well as access to IM&T (information management & technology), to fulfil this role (Scottish Executive Health Department 2005b). As yet, there has been no empirical work surveying the impact of the new contract on practice nurses roles and responsibilities – such a survey forms part of this thesis (see Chapter 5).

Nurses in general practice are taking on roles and tasks beyond those traditionally regarded as the remit of primary care nursing (Richards, Carley, Jenkins-Clarke, & Richards 2000). Broadbent (1998) argued that although previous research into the impact of the 1990 contract suggested that practice nurses had acted as an “absorbing mechanism” in general practice, meeting the demands of the GP contract and doing what was asked of them, it appeared that nurses had willingly accepted and taken on the tasks allocated to them. In so doing, they had been ready to accept the need to operate as professionals in general practice (Broadbent 1998).

It could be argued, however, that more needs to be done to promote and develop nurses in primary care. Skill mix data for Scotland is not available, but for England the current skill-mix in general practice (were there is one nurse for every 2.3 WTE GPs) is very different from that in hospitals (where there are four nurses for every hospital doctor and 12 nurses for every consultant). In addition, although one in three doctors is a GP, only one in twenty nurses works as a practice nurse (The Audit Commission 2008). This suggests an assumption that, in general practice, GPs provide the clinical care, with only optional assistance from practice nurses. However, the structure of workforce in general practice would have been different if was designed from the outset today (Sibbald, Shen, & McBride 2004).

Although some studies suggested that nurses themselves could be one of the barriers to the development of their role (Caldow, Bond, & Russell 2001; Jordan 1994), others identified a range of organisational difficulties. As well as the previously discussed employer-employee relationship between the GP and practice nurse, other identifiable barriers included a lack of clarity around who should supervise nurse’s practice, the impact of clinical risk on practice nurses and role ambiguity, which led to uncertainty in the general practice team environment (Atkin & Lunt 1996b; Kernick 1999; Williams & Sibbald 1999). Williams and Sibbald (1999) urged both health care policy makers and those leading the development of nursing to support the nursing contribution to primary care. Their recommendations included “the avoidance of erosion of professional boundaries, attention to the legal infrastructure to enable nurses to undertake tasks previously undertaken by GPs, support for workplace changes to create clearer distinctions in professional roles, and further training and support for nurses undertaking new roles and for their affected colleagues” (Williams & Sibbald 1999).

The role of practice nurses has developed in the absence of a robust evidence base comparing their role to that of GPs. This may reflect the way in which the role has developed, particularly as they are employees of GPs, but may also suggest that practice nurses fulfil a role that is different from that of GPs. This is not the case with nurse practitioners, where there is a substantial body of evidence comparing their role with that of GPs.

2.6.2. Nurse practitioners

Perhaps the most significant development in primary care nursing practice has been the development of the Nurse Practitioner role. This role has emerged without an agreed definition from the different stakeholders and without central guidelines on what their role comprises (Ashburner et al. 1997). A nurse practitioner was defined by the Royal College of Nursing (1989) as:

“an advanced level clinical nurse who through extra education and training is able to practice autonomously, making clinical decisions and instigating treatment decisions based on those decisions, and is fully accountable for her own practice.”

(Royal College of Nursing 1989b)

Daley and Carnwell (2003) described nurse practitioners as:

“A professional who possesses a wide range of physical, psychosocial and environmental assessment skills which allow him or her to respond to a full range of health and illness issues. Nurse Practitioners were and are responsible for many indirect services, acting as consultants, educators and researchers, and some clinical nurse specialists spend their time providing direct patient care.”

(Daly & Carnwell 2003).

These definitions imply that nurse practitioners have a greater degree of autonomy and a wider leadership role than that of practice nurses. The nurse practitioner role evolved in America in 1960s as a response to the shortage of doctors and inequities in access to health care in rural and inner cities areas which were an unappealing environments for doctors to

work in (Price, Martin, & Newberry 1992); other countries soon looked to the US model as a vision of the future of nursing (Torn & McNichol 1996). The nurse practitioner concept was then introduced to the UK in the 1980s and, in 1990, the RCN ran its first nurse practitioner diploma course. This was later upgraded to degree level in 1995 (Royal College of Nursing 2005a).

In 1989, the Royal College of Nursing defined the distinctiveness of the nurse practitioner as:

“The role is distinctive in the particular amalgam of responsibilities that it encompasses in its comprehensiveness and in the breadth and depth of nursing knowledge base and skills required to undertake it”

(Royal College of Nursing 1989a).

It is claimed that nurse practitioners “combine nursing and medical functions and provide nursing services in a manner that surpasses the effect of medical and nursing services provided separately” (Rafferty & Elborn 2002; Trnobranski 1994). Thus, the role of the nurse practitioner has expanded the concept of nursing, embracing both medical tasks and autonomy, yet holding onto the holistic qualities that make nursing unique.

This newly developed role in the UK was not warmly welcomed by everyone. For example, the United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) in 1993 was particularly critical of the use of the words “nurse practitioner”, claiming that it was an ambiguous and misleading (UKCC 1993). Preferring instead the title “Specialist Practitioner” (UKCC 1996).

Increasingly, nurse practitioners act as first points of primary care. The number of trained nurses practitioners is growing as dedicated training programmes become more accessible (Venning et al. 2000). This has spurred research using randomised controlled trials to directly compare nurse practitioners and doctors. Several issues have been studied including issues of cost, access to health care, the availability of medical manpower, the skills and expertise of the nurses, and the quality of care.

Aubert et al. (1998) confirmed that nurses can undertake health promotion work and routine management of chronic diseases such as asthma, diabetes, and coronary heart disease (Aubert et al. 1998). A systematic review showed that nurses achieved health outcomes comparable to those of general practitioners and that suggested that their interpersonal skills may be better (Horrocks, Anderson, & Salisbury 2002). Patients

expressed similar satisfaction with the care they received from doctors and nurses, but nurses provided more information, communicated better, and made more complete records. For the clinical work, both clinicians achieved the same level of health assessment and short term health outcomes. Nurses identified more physical abnormalities, but it was not clear if they were able to detect rare but complex health problems.

While some researchers found that nurse practitioners reduced general practitioners' workload (Marsh & Dawes 1995), others found no effect (Campbell et al. 1998). Laurant et al. conducted a randomised controlled trial in 34 general practices and concluded that adding nurse practitioners to general practice teams did not reduce the workload of general practitioners, at least in the short term (Laurant et al. 2004).

Laurant et al. found that nurse practitioners were able to identify unrecognised problems of asthma or COPD of patients delegated to them but could not manage them because they needed medical interventions. Laurant et al. used this example to show how the advanced role of nurse practitioners in general practice supplemented, rather than substituted, the role of the general practitioners (Laurant, Hermens, Braspenning, Sibbald, & Grol 2004).

In another RCT, Venning et al. (2000) compared the clinical and cost-effectiveness of GPs and nurse practitioners in 20 general practices, with 1292 patients randomized to either a nurse practitioner or a GP for consultation. The nurse practitioners had all completed programmes of education ranging from diploma to masters level and had been qualified for between 1 and 5 years. Results indicated that nurse practitioners had longer consultations than GPs (11.57 vs. 7.28 minutes), ordered more tests, and asked patients to return more often. But patients were more satisfied with the consultation with a nurse practitioner than with the GP, even after controlling for the length of the consultation. There was no significant difference in patterns of prescribing or service costs (NP £18.11 vs. GP £20.70), and patients treated by either of the two groups had similar health outcomes. Venning et al. (2000) concluded that nurse practitioners could become more cost-effective if return rates and consultation times were subsequently reduced. However, the ultimate conclusion of this study did not support the assumption that when nurses substitute for doctors, the same service is provided (Venning, Durie, Roland, Robert, & Leese 2000). Similar results were also reported by Sharples et al. (2002) in their RCT.

Freeman et al. (2002) investigated the length and context of the evolving general practice consultation in the UK (Freeman et al. 2002). They also confirmed that nurses tended to have a longer consultation time than doctors and patient satisfaction was higher with

longer consultations. Sibbald et al. (2005) noticed that, in general, nurses usually had a lower social status than doctors, and this made them more approachable to patients. On the other hand, they also suggested that nurses may have developed better interpersonal skills than doctors due to their training and to the nature of the tasks that they usually carried out for patients (Sibbald 2005).

The different findings reported in the studies may be explained by differences in nurses' degree of autonomy, level of training, and the conditions that they are asked to manage, or variation in the ratio of nurses to doctors. However, the implications are that nurses may supplement or extend general practitioner care rather than substitute for it.

2.6.3. Other advanced nurse practitioner roles

Other roles are also being developed for nurses in primary care, augmenting the traditional clinical focus with roles as independent prescribing, triaging, chronic disease management and minor illness treatment (Walker, Barker, & Pearson 2000). These nurse specialists (who are usually trained to carry out specific roles in the assessment and management of patients with specific conditions such as diabetes or asthma), will all have undertaken post-registration training in their specialist area of clinical care; some will hold a Masters degree. In these roles, the nurse generally works autonomously and can enhance, or even replace, services that were previously provided by doctors.

The Nursing and Midwifery Council recently developed the following definition of a nurse working at a level beyond initial registration as:

“A registered nurse who has command of an expert knowledge base and clinical competence, is able to make complex clinical decisions using expert clinical judgement, is an essential member of an interdependent health care team and whose role is determined by the context in which s/he practises”.

(Nursing and Midwifery Council 2006)

This definition fits well with descriptions of practitioners with highly developed specialist knowledge as cited in Agenda for Change. Whilst definitions are helpful they have their limitations. Therefore the NMC think it would be helpful to expand the definition to provide patients, their carers and other health care professionals with more detailed information about what they can expect of an advanced nurse practitioner to include:

- “- taking a comprehensive patient history; carrying out physical examinations;*
- using their expert knowledge and clinical judgement to identify the potential diagnosis;*
- referring patients for investigations where appropriate; making a final diagnosis; deciding on and carrying out treatment, including the prescribing of medicines, or referring patients to an appropriate specialist;*
- using their extensive practice experience to plan and provide skilled and competent care to meet patients’ health and social care needs, involving other members of the health care team as appropriate;*
- ensuring the provision of continuity of care including follow-up visits;*
- assessing and evaluating, with patients, the effectiveness of the treatment and care provided and make changes as needed;*
- working independently, although often as part of a health care team; provide leadership; and*
- making sure that each patient’s treatment and care is based on best practice.”*

(Nursing and Midwifery Council 2006)

Nurses who achieve these competencies will then be able to use the title “Advanced Nurse Practitioner.”

One issue is that neither “specialist” nor “advanced” practice has been clearly defined in terms of either the role or the educational requirements, leading to ambiguity and overlap (Carnwell & Daly 2003; Ormond-Walshe & Newham 2001). Furthermore, the NMC has questioned this hierarchical interpretation (Nursing and Midwifery Council 2005). Adams et al. (2000) provided a detailed discussion of the impact of National Health Service restructuring on UK nursing roles. They concluded that “there is a lack of an explicit professionalisation strategy within nursing itself. Lack of clarity about advanced practice in particular means their roles are professionally limited” (Adams et al. 2000). The paper went on to state that, while nursing had continued with its “professionalizing projects” such as nurse practitioners, these nurses were in reality described as “inbetweens” and thus prone to significant role conflict. Furlong & Glover (1998) asserted that “an array of new nursing roles are emerging but functions and job titles are clouded by inconsistency” (Furlong & Glover 1998).

Thus, the identity of different groups within general practice is likely to be in a state of flux, with nurses with different job titles (and possibly on different grades) conducting broadly similar work. One way in which attempts have been made to address this, at least within Scotland, is through the Framework for Nursing in General Practice (Ross, Rink, & Furne 2000).

2.7. Framework for Nursing in General Practice

In recognition of the clear need to develop nursing practice and the confusion surrounding nursing titles, scope of practice, and educational preparation for new nursing roles, the Scottish Executive Health Department developed a Framework for Nursing in General Practice to support the implementation of the new GMS contract (Scottish Executive Health Department 2004c). The emphasis on quality through demonstrating organisational and clinical standards in the GMS contract has created a new focus on good employment practice. The framework could thus serve as a means of helping practices achieve those standards in relation to practice nursing (Scottish Executive Health Department 2007a) and it also provides a means to support practices that wish to implement *Agenda for Change* (Scottish Executive Health Department 2004a).

The Scottish framework for developing nursing role in general practice clearly clarifies the definition and purpose of practice nursing, establishes the baseline for entry to safe practice, supports the expansion of roles in response to need, and covers issues such as clinical supervision, appraisal, development plans, access to education, safety to practice, and accountability. The main aims of the framework as stated by the Scottish Executive Health Departments are summarized in box 2.1:

Box 2.1: Aims of framework for nursing in general practice

Aims
- Support the development of nursing services and roles within general practice in response to changing need.
- Ensure the safety of practice nursing services by identifying the competence required by nursing staff at all levels.
- Support changes in skill mix where appropriate, including nurses taking responsibility for current medical duties, development of enhanced nursing roles and the appropriate use of skills within the nursing team.
- Support the local implementation of Agenda for Change principles by practices.
- Enable practices to ensure that their practice nursing workforce is fit for its new purpose.
- Support and promote professional education, including, where appropriate multi-professional education.
- Support effective links with the academic sector by ensuring that competencies underpin future education provision.
- Support good employment practice in primary care.

(Scottish Executive Health Department 2004c)

The development of new roles for Scotland's nurses is likely to be inevitable (Caldow et al. 2007). The framework suggested three forms of role development for nurses:

- Role change as nurses expand existing roles. This could mean that other staff are required to take on some aspects of a previous role: for example, as the practice nurse expands her role, the Healthcare Care Assistant (HCA) could take on elements of basic care which were previously part of the practice nurse's role.
- To develop new roles which are designed to fit within nursing scope of practice, for example, new nurse practitioner roles in primary health care settings and specialist practice nurses in general practice.
- Completely new nursing roles may be developed which do not fit within existing professional boundaries, for example, advanced practitioners who work between nursing and medicine. Nurses here need to be aware of the legal boundaries since their practice will be judged by two legal standards: First, the 'rule of law' which requires a nurse to act within the law. Second, the 'rule of negligence' which requires a nurse who takes on tasks currently undertaken by doctors to perform that role or task to the same standards.

(Scottish Executive Health Department 2004b).

The Framework outlined the importance of adopting a structured approach in order to help nurses move away from task delegation to patient focused nurse-led care. However, the document also recognised that

“care in the 21st Century is based on partnerships which will depend on flexible teams providing services that patients need, irrespective of organisational boundaries. Staff are the best people to develop these new roles and there is already much good practice to build on”.

(Scottish Executive Health Department 2003)

Thus, the potential for nurses to broaden the scope of their practice and in certain circumstances be a patient's first point of contact within the health care system has been recognised for at least 20 years in the UK (Greenfield, Stilwell, & Drury 1987). Numerous studies have advocated that after a patient's initial medical diagnosis, practice nurses may take on total management of care, particularly in relation to chronic diseases such as asthma and diabetes (Greenfield, Stilwell, & Drury 1987). We have shown that, after the 1990 contract, several studies found that the number of practice nurses had increased substantially and that their workload had also changed (Atkin, Hirst, Lunt, & Parker 1994; Greenfield 1992; Hibble 1995; Peter 1993; Robinson, Beaton, & White 1993; Ross, Bower, & Sibbald 1994). Practice-employed nurses wanted to extend their role, with appropriate support (Georgian Research Society 1991; Peter 1993; Robinson, Beaton, & White 1993). The subsequent expansion in the practice nurses' role and their role in practices since the 2004 contract has been influenced by changes in health care policy, especially funding in general practice.

These developing roles for practice nurses within primary care raises important issues about skill mix and team working within primary care. Before the evidence is reviewed, however, it is first helpful to consider some key conceptual frameworks in which to review these issues.

2.8. Conceptual frameworks

It is believed that a conceptual model or framework "clarifies, provides order, and systematically intertwines components of a phenomenon" (Hamric, Spross, & Hanson 1996). Appropriate external and internal conditions (e.g., openness to innovation, national health policies, strength of the professional body, advocacy and a willingness to support specialties, status or flexibility of the workforce) could be useful to establish a foundation for any framework (Hamric, Spross, & Hanson 1996). Three frameworks have been used here to offer insights and understanding into the findings of this thesis.

2.8.1. Sibbald's skill mix framework

Sibbald and her research group have developed a conceptual framework for understanding and evaluating skill mix in primary health care (Sibbald 2003;Sibbald 2005;Sibbald, Shen, & McBride 2004;Sibbald, Laurant, & Reeves 2006), which emphasises the following concepts:

Substitution: “expanding the breadth of a job in particular, by working across professional divides or exchanging one type of worker for another”.

The impetus to substitute doctors for nurses arises from an insufficient supply of doctors to meet demand. A logical response to this problem is to extend the nurses' roles and enable them to provide services that previously were carried out only by doctors (Sibbald 2005).

The impact of this substitution on patient health has been relatively well researched. Several studies suggest that nurses can substitute for doctor in the management of minor illness and generally achieve as good health care outcomes as doctors (Brown & Grimes 1995;Horrocks, Anderson, & Salisbury 2002;McKenna 1995). Sibbald and her colleagues have identified a number of issues that affect the substitution of doctors by non-physicians which could be applied to doctors and nurses in general practice. First, remuneration systems must ensure that GPs and nurses are adequately paid. Second, there needs to be appropriate indemnity cover for nurses, and this might necessitate an appraisal of risk management systems. Third, the role of GPs in supervising nurses needs to be elucidated and this might be achieved through GP/nurse feedback and focus groups (Laurant, Hermens, Braspenning, Sibbald, & Grol 2004;Sibbald 2005;Sibbald, Laurant, & Reeves 2006).

The overall sustainability of substituting nurses for doctors was also considered. In order to have an adequate supply of nurses, appropriate career pathways for nurses would need to be developed. A final consideration was that the successful implementation of change required time for individual GPs and nurses to learn about each others skills, and to develop the knowledge and trust which would enable them to work effectively as a team (Sibbald 2003).

Delegation: “moving a task up or down a traditional uni-disciplinary ladder e.g. by changing the ratio of junior to senior staff”. Although this definition restricts delegation within one discipline, but it is usually used in doctor-nurse skill mix studies by considering professionals working in general practice as one team with doctors having the highest clinical rank (Richards, Carley, Jenkins-Clarke, & Richards 2000).

Rising demand and the cost of care has increased interest in the possible economies to be made by shifting care from high cost doctors to lower cost nurses (Buchan & Dal Poz MR 2002). The intention is that doctors should not use their time in those activities that could be delegated to nurses and instead invest in activities which could only be carried out by them. However, an inevitable consequence of delegation is that the scope of practice for GPs becomes narrower and more specialised (Sibbald 2003).

Other researchers have argued that delegation from doctors to nurses does not necessarily reduce costs, as discussed in Section 2.9. When compared with doctors, nurses had longer consultation times, ordered more tests and investigations and recalled patients at a higher rate so eroding savings in salary costs (Horrocks, Anderson, & Salisbury 2002; Venning, Durie, Roland, Robert, & Leese 2000). Sibbald et al. (2005) explained that, from the perspective of the healthcare economy as a whole, it was less expensive to train nurses than it was to train doctors. However, again any savings were lost because nurses tended to have lower lifetime workforce participation rates than doctors (Sibbald 2005).

Enhancement: “Increasing the depth of a job by extending the role or skills of a particular group of workers” (Sibbald, Laurant, & Reeves 2006).

Nurses can be used to add value to doctor services in order to provide a holistic quality of care for patients. Both doctors and nurses whose skills complement, rather than overlap, could work together interdependently (Mathews & Batty 2001; Sibbald 2003). In the enhancement skill mix model, the GP continues to provide the same range of services, but by adding a nursing aspect, the range of those services is increased (Sibbald 2003).

A classic example of doctor-nurse skill mix enhancement is health promotion. Nurses working in extended roles are believed to have increased the range and quality of services available within UK primary care (Adams-Tufts 2000). In many practices, nurses now conduct well-patient health checks, providing patients with lifestyle advice and other interventions in accordance with agreed guidelines (Awafung 2001). Bryan found that some doctors felt threatened by practice nurses taking over part of their traditional role, but his results supported the fact that nurses provide a different kind of care to doctors, with both types necessary to meet patients' needs (Bryan 1995).

The benefits to patients of such service enhancement did not always outweigh the costs. However, Ebrahim and Davey (2002) found in their review that the problem was not that nurses were not capable of carrying out such advanced tasks, but that the activities they were asked to do were only marginally effective in improving health (Ebrahim & Davey Smith B 2002).

There is more potential for service enhancement in the area of chronic disease management. Scott et al. argued in 1998 that many nurses working in extended roles were insufficiently well trained and there was a dearth of evidence about the overall cost-effectiveness of nurse-led chronic disease clinics (Scott, Currie, & Donaldson 1998). However, by 2005, Sibbald presented different case studies where the quality of care delivered by nurses was high (Sibbald 2005).

A number of ways were identified in which nurses might 'enhance' GP care, including: patient education, chronic disease management, triage, treatment room support, patient observation and monitoring (Sibbald 2005).

Regarding feasibility and sustainability, Sibbald et al. mentioned that advancing nurses' roles to include some of the doctors previous work would only be feasible if there were adequate numbers of appropriately trained nurses, and that the work formerly undertaken by these nurses was provided by other nurses or nurse replacements such as Health Care Support Workers (HCSW) (Sibbald 2005).

Innovation: “new job titles which are introduced and regulated by the appropriate governing, professional bodies”. These roles require radical revisions to the training, skill and competencies of the groups carrying out the role.

While some new roles, such as nurse practitioners and advanced nurse practitioners may be considered as examples of innovation, Sibbald et al. argue that these may be examples of role enhancement rather than innovation (Sibbald, Laurant, & Reeves 2006).

2.8.2. Daly and Carnwell’s framework of nursing roles

The second conceptual model used here is one that differentiates nurses’ roles according to their level of practice. Daly and Carnwell (2003), building on the work of Lovett and Norwood (1995) and Frost (1998), have developed a framework to differentiate between elementary, specialist and advance nursing practice (Daly & Carnwell 2003;Frost 1998;Lovett & Norwood 1995). They have defined three different levels of nursing practice and these are reproduced below.

1) Role extension: “The inclusion of a particular skill or area of practice responsibility that was not previously associated with the nurse’s role”. These skills or areas of practice tend to be associated with another professional, e.g. intravenous injections which used to be carried out by doctors.

The rationale for role extension was generally to provide continuity of care for those important aspects during the absence of other (medical) professionals or by virtue of increased demand. Autonomy was thus limited to specific tasks within clearly defined parameters. Professional accountability, however, extended beyond the statutory competencies of elementary nurse registration, to the accepted standard of care for the additional tasks.

2) Role expansion: “The core elements of nursing practice still apply but additional skills and areas of practice are encompassed within a specialist role that involves greater responsibility, accountability and autonomy for broader aspects of the management of specialized care”, e.g. infection control, tissue viability, diabetes, palliative care.

The education and assessment for such practice would generally be more formal and involve other professionals and educational institutions. Professional autonomy exists to the extent that the specialist may independently prescribe, alter or manage interventions or treatments according to their specialized clinical judgment.

3) Role development: “Implies a new role that not only embraces aspects of extension and expansion, but also involves higher levels of clinical autonomy brought about by new demands and perceived shortcomings in the quality of patient care and health care resources. The outcome of such roles is that the fundamental nature of service provision and scope of nursing practice within that specific role may be changed”.

Although this may necessitate the acquisition of knowledge and skills associated with doctors, these skills should be used to support the holistic quality of nursing, the patients’ health care experience and health care provision generally.

Daly and Carnwell (2003) argue that these terms could clarify the differences in roles and levels of autonomy and might facilitate a consistent language regarding the roles associated competencies for practice nursing. Table 2.7 clarifies the framework in relation to the role titles. However, the focus of this framework remains in secondary care, rather than primary care.

Table 2.7: Framework for levels of nursing practice (Daly & Carnwell 2003)

Role Title	Nature of practice	Preparation for role	Type of post and time in practice
Elementary nurse practitioner	Provision of competent nursing care within a general clinical environment or within a clinical specialism. May undertake additional extended tasks to improve aspects of patient care or service provision (elementary and extended practice)	RN DipHE or BSc (branch-specific nursing). Achievement of statutory competencies. Achievement of specific task-related competencies to extend scope of practice. Ad hoc preparation and assessment. Statutory updates and PREP requirements (UKCC, 1994)	Staff Nurse – Immediate postregistration period to full career
Clinical Nurse Specialist	Role expansion. Core elements of nursing practice still apply but additional skills and areas of practice are encompassed within a specialist role that involves greater responsibility, accountability and autonomy for broader aspects of the management of specialized care, e.g. infection control, tissue viability, diabetes, palliative care	Initial registration. Scope of professional practice education/training. First degree or Masters degree involving specialist education. Statutory updates and PREP requirements (UKCC, 1994)	Ward Sister/Charge Nurse/Peripatetic specialist. 3–5 years to include 6–12 months consolidation of elementary training. Plus specialist education and postprogramme consolidation
Advanced Nurse Practitioner/ Nurse Consultant	Role development. Involves higher levels of clinical autonomy brought about by new demands and perceived shortcomings in the quality of patient care and health care resources. The outcome of such roles is that the fundamental nature and scope of nursing practice within that specific role may be changed	Masters degree or doctorate. Scope of professional practice education/training. Statutory updates and PREP requirements (UKCC, 1994). Achievement of Nurse Consultant post criteria and criteria for higher level of practice (UKCC, 1999a)	Nurse Consultant. 5–10 years post registration and specialist practice. Includes preparation for advanced practice and postprogramme consolidation

2.8.3. Liberating the Talents.

The third example of connecting conceptual ideas with developing roles comes from the policy document *Liberating the Talents* in (2002), which considered how nurses could develop their roles at an operational level (Howkins & Thornton 2003). The document defined three core functions to be provided by nurses in primary health care regardless of their title, employer or setting, which were:

- 1) First contact / acute assessment, diagnosis, care, treatment and referral.
- 2) Continuing care, rehabilitation, chronic disease management and delivering National Service Frameworks (NSFs)¹.
- 3) Public health / health protection and promotion programmes that improve health and reduce inequalities.

(Department of Health 2002b).

The document also stated that more nurses would have to develop advanced and specialist skills in order to improve access to primary care, since they would be assessing and managing conditions previously managed by GPs.

The Nursing and Midwifery Council also established the need to define a higher level of operational practice to take account of national developments (Nursing and Midwifery Council 2006). It suggested that nurses working at this level of practice were working both independently and interdependently, by:

“- Taking responsibility for case management.

- Making differential diagnoses.

- Planning and providing care and treatment, including prescribing medication, in collaboration with others as appropriate.

- Providing health education counselling and leadership.”

The emergence of practice nurses with advanced roles, coupled with flexible roles and regulation that govern their profession, should help primary health care meet its ever increasing workload, but this requires redesigning of health care delivery and new policy initiatives (Jenkins-Clarke & Carr-Hill 2001). For instance, professional boundaries

¹ NSFs: a set of national healthcare standards are designed to improve the quality of health services and make sure that everyone gets the same level of care. NSFs set measurable goals and ensure that progress is made within agreed timescales.

between doctors and nurse in general practice are currently being challenged with examples in primary care including NHS 24 with nurses running telephone triage and advice services, telephone triage systems in practices, nurse prescribing and nurse practitioners running independent minor illness treatment clinics. However, these new initiatives may not resolve the problem of workload in general practice, so more evaluation and research is needed in this area. This leads us to consider the evidence on skill mix and team working in general practice.

2.9. Skill mix and team working

Moss (2002) claims that there are fewer doctors and nurses per capita working in the UK than in other developed countries and that some service problems of the NHS would be ameliorated with more trained staff (Moss 2002). However, the feeling is that staffing difficulties in general practice are not just about numbers; it is crucial that the different members in the practice team are used wisely, with a need for better integration of professional groups (Department of Health 2000). This raises issues about the types of skill mix that will be most applicable to general practice.

General practitioners are used to working alongside nurses whose roles overlap with their own (Jeffreys, Clark, & and Koperski 1995). Indeed it has been suggested that 30 – 70% of all tasks performed by doctors could be carried out satisfactorily by nurses (Rashid, Watt, & Leneham 1996). With the expansion in the number of practice nurses over the past 17 years, their role has expanded into areas that were previously managed solely by GPs. Practice nurses have helped primary care keep up with ever-increasing demands and expectations (Dent & Burtney 1997) and have made an essential contribution to increasing the range and quality of services offered to patients (Mackenzie & Ross 1997). Several studies have shown that nurses can substitute for GPs. For example, Shum assessed the acceptability and effectiveness of a practice based minor illness service led by nurses, comparing it with the routine care offered by general practitioners (Shum et al. 2000). They found that patients were significantly more satisfied with their consultation with nurses. Among those who had seen a doctor, over 50% had no preference as to whether they saw a doctor or nurse if they had the same problem in the future. Among those who had seen a nurse about 8% reported that they would prefer to see a nurse again and about 60% had no preference, suggesting that the experience of having a consultation with a nurse may have made it more acceptable to the patients. As with other studies (see Section

2.6.2.), nurse-led consultations were longer, although Shum argues that the extra time spent may have been because the nurses had a different style of consulting. These results suggested that a same day appointment service led by a practice nurse was acceptable to most patients.

Koperski, Rogers, and Drennan (1997) argue that general practice must consider new styles of doctor-nurse skill mix in order to cope with the increasing workload in the 'primary care led' National Health Service. This has meant that, at a time when the scope of general practice is extending to include work previously carried out in hospitals, as well as chronic disease management and health promotion (Koperski, Rogers, & Drennan 1997), general practice has had to become increasingly efficient and accountable by redesigning professional roles for the practice team (Charles-Jones, Latimer, & May 2003).

In Scotland, the Scottish government has set ambitious plans to improve the effectiveness, efficiency and responsiveness of the Scottish National Health Service to users (Scottish Executive Health Department 2007b). A key part of the strategy for change is focused on the NHS workforce, with traditional professional roles, conventional team structures, and the established divides between secondary and primary health care sectors being challenged and redesigned around the needs of patients. The impetus for change is given added momentum by the need to meet rising demand and contain cost in the context of skills shortages in particular professions and occupations. One way of analysing job redesign in health care, and its impact, is through the concept of changing the 'skill-mix'. Skill-mix is used variously to refer to the: "*mix of skills or competencies possessed by an individual; ratio of senior to junior grade staff within a single discipline; or mix of different types of staff within a multidisciplinary team*" (Sibbald et al. 2002).

Even before the 1990 GP contract, the government considered skill mix in general practice as central to the provision of high quality services (Department of Health 1989). The shift of services from secondary to primary care created new tasks for the general practice team, requiring training and development to respond to the changing case mix and a need to consider how professionals work together and adapt to the changes (Buchan & Edwards 2000).

A number of studies have examined the impact of skill mix, in a variety of settings, and involving different professional groups. For example, the literature on the role of nurse practitioners has already been reviewed in Section 2.6.2. RCT's in other settings have indicated that other nursing roles, e.g. Respiratory Nurse Specialists, can have a role in the

direct provision of care for patients with chronic respiratory disease which is acceptable, effective and does not compromise the quality of care provided (Sharples et al. 2002). Myers, Lenci, and Sheldon (1997) conducted a study to investigate the effectiveness of nurse practitioners as the first point for contact for urgent medical problems in general practice settings. They found that patients could safely and effectively self triage themselves between GP and nurse with no difference in the outcomes that were measured (Myers, Lenci, & Sheldon 1997).

The purpose of work sharing between doctors and nurses is “*to deliver comprehensive primary health care to meet the needs of a particular practice population, through full and effective application of the knowledge and skills of all the health care providers*” (Way et al. 2001). Doctors and nurses bring both shared and unique knowledge and skills to their roles. Doctors have the knowledge and skills to allow them to contribute to all areas of care, although they have a principal responsibility to provide curative care, rehabilitation and service coordination (Price 2000). Nurses bring their nursing knowledge and skills to both population and individual health promotion, to disease prevention and to supportive care especially for chronic diseases. In their extended roles, nurses can also contribute to disease prevention, curative care and rehabilitation (Richards, Carley, Jenkins-Clarke, & Richards 2000). Adams (2001) suggested that the integrated practice team has the potential to improve patient care by providing a more flexible approach to delivery of services. In addition, improved professional collaboration could provide professional development opportunities and increase morale in primary care (Adam & Thomas 2001). On the other hand, the Health Development Agency (Department of Health 2002c) recognized that while there was growing evidence to show that teamworking would be beneficial, implementation has proven to be difficult and faces a number of potential barriers, including:

- Differences in status and gender.
- Divide between practice staff who are employed by GP and other staff.
- Different professional groups with different agendas.
- Differing terms and conditions of service.
- Difficulties in communication.
- Lack of awareness of each others’ roles and responsibilities.
- Lack of support when developing teamwork.

The view of the Royal College of General Practitioners is that, in the future, person-centred care will not be based on professional boundaries or demarcations in care settings. It will focus on the need to maintain the person, their carers and others at the centre of their health or social care experience (Royal College of General Practitioners 2003; Royal College of Nursing 2004a). The boundaries between the health care professionals have thus become increasingly blurred and this trend will continue in the future (Royal College of Nursing 2004a; Royal College of Nursing 2004b). The RCN believes that effective teams are ones that have clarity and commitment to team objectives, and fully involve all team members in the process and activities of the team (Royal College of Nursing 2007b).

While explains that although it may seem that doctor substitution is new, it is in fact the continuation of a long-term and necessary natural trend in the NHS (While 2002), although the pace of change may have accelerated recently due to some policy initiatives. Professions are dynamic and constantly reflect the social context in which they exist. So it is inevitable for nurses to develop new roles over time to meet their expected contribution to patient care. History illustrates that the role of the nurse is not fixed and has evolved to meet new health needs. There are, however, some issues still to be resolved. Willis, Candon, and Litt (2000) in their critique of the working relationships between practice nurses and general practitioners found that a number of GPs thought practice of shared care with nurses presented medico-legal problems of accountability. GPs believed that the practice nurses would not be indemnified for autonomous practice, but that the GP practice as a whole would be liable, and given this, they wished to retain control over the practice nurses (Willis, Candon, & Litt 2000).

Despite this need for team-working and richer skill-mix, Charles-Jones et al. (2003) argue that new services are redistributed between the team members in ways that maintain old hierarchies of work and knowledge, as well as economies of practice services (Charles-Jones, Latimer, & May 2003).

Carnwell & Daly (2003) and Daiski (2004) found that nurses valued collaboration and acceptance by those outside of nursing and could build good relationships with doctors (Carnwell & Daly 2003; Daiski 2004). Furthermore, Daiski found that mutual respect, awareness-raising through education, enhanced professional environment, effective mentorship, and non-hierarchical leadership were keys to preventing the disempowerment of nurses amongst the health care team.

Galvin et al. (1999) concluded that collaboration between team members implied equality of relationships (Galvin et al. 1999). If nurses and doctors are to achieve a richer skill mix and work together as partners rather than as members of a hierarchical team, that will be possible only when nurses have the same independence, access to patients, and voice in the treatment plan that doctors do (Mundinger 2002). However, within a medically dominated system, doctors may be less likely to allow that unique structure. Thus, Laurant et al. (2004) believe that doctors and nurses will require considerable time to develop the mutual understanding and trust needed to facilitate the advanced roles for practice nurses (Laurant, Hermens, Braspenning, Sibbald, & Grol 2004).

The professional autonomy of nurses is also limited by their organizational subordination to the GPs who employ them, identify the range of work they are to undertake and authorize and pay for any training. Moreover, the bulk of the work undertaken by practice nurses is in the area of health promotion (Williams & Calnan 1994), and chronic disease management (Le Mon 2000) which GPs 'found dull and boring' and consequently sought to delegate to a relatively new (and lower status) member of the primary health care team: namely, the practice nurse (Adams, Lugsden, Chase, Arber, & Bond 2000).

The comparison between groups of health professionals (in this case general practitioners and practice nurses) is important if practice nurses are to broaden their scope of practice and take on roles that hitherto have been undertaken by general practitioners. However, such direct comparisons should be treated cautiously as they do not take into account other variables such as the nature of the conditions treated (Savage & Armstrong 1990), the age range of the patients (Al-Bashir & Armstrong 1991), and length of consultation (Morrell et al. 1986).

Despite these differing perspectives, there is some evidence that general practice nursing is developing its own particular knowledge and educational base. Practice nurses aim to establish themselves more clearly as a distinctive profession within the primary health care team. Dent and Burtney believe that professional autonomy can be achieved with the help of academics at nursing colleges and departments by developing a style of nursing founded on 'nursing theory' rather than medical dominance (Dent & Burtney 1997). It is also possible that practice nursing is a diverse group that is composed of varied sub-groups, each with their own perspectives and different understanding of the professional role (Vaughan 2007).

The consequences of skill mix change and reorganisation of work is leading nurses to work more intensively in order to fulfil new obligations in the practice (Royal College of Nursing 2007c; Sibbald, Shen, McBride, Zafar, & Grimshaw 2002). William (2000) argues that good team working may be undermined by the tension between doctors and nurses arising from ambiguity over changing professional roles, unequal power, and gender differences (Williams 2000). Nurses, however, believe that the enhancement of their role should lead to the development of nursing as an autonomous profession that complements, rather than substitutes or sub-serves medical professionals (Atkin & Lunt 1996a).

There is no firm conclusion that can be drawn from literature about the most appropriate doctor nurse skill mix in general practice due to the ever changing nature of primary health care service delivery (Spilsbury & Meyer 2001). General practice will never remain static as patients needs and expectations are changing constantly so the care provided is usually context-specific and professionals' skills depend on their expertise and grades (Furlong & Smith 2005). More qualitative studies could help to build a picture of the evolving nature of doctor-nurse skill mix in general practice.

In summary, Curtis & Netten believe that the speed of doctor-nurse skill mix changes depends on nurses' current skills and the amount of the additional training that nurses require to extend those skills (Curtis & Netten 2007). For example, the rapid introduction of nurse-led chronic disease clinics in British general practice was facilitated by the high level of skills already possessed by practice nurses and further supported by the provision of short courses (Sibbald, Shen, & McBride 2004). Even so, the pace of service development in the 1990s often outstripped the ability of training programmes to equip nurses for these new roles (Atkin, Hirst, Lunt, & Parker 1994). Sibbald et al. (2004) add that developments in technology may enable less qualified clinicians to carry out tasks that were previously undertaken by more qualified staff (Sibbald, Shen, & McBride 2004). Another enabling factor could be professional regulation (Bosanquet et al. 2006). The rules and regulations that govern the nursing profession could enhance or limit nurses' potential clinical roles. For example, extending independent nursing prescribing would not be possible without the appropriate legal and professional regulations (Department of Health 2002a) and, as previously discussed, general practitioners have generally welcomed developments in the nursing role that help them to achieve their contractual commitments to the NHS (O'Connor 2005).

Finally, this brings us to consider what the future holds for practice nursing.

2.10. Future developments

In terms of future development, nurse participants who were interviewed by Carnwell and Daly (2003) thought that possible areas for their career progression were more advanced clinical work especially in educating people in self care and chronic disease management; leadership and developing roles of team members; and practice service development, such as managing change (Carnwell & Daly 2003). Career progression was important for all nurses, whether they had advanced roles or not. Important to the future development of practice nursing is the emerging philosophical discussion around whether general practice nursing should be carried out by a generic nurse or whether an increasing number of nurses with specialised roles are required (Neenan 1997). The Royal College of Nursing view is that all the necessary skills cannot be vested in one person and specialisation helps to ease this difficulty by providing different nurses with specialist skills in different areas (Royal College of Nursing 2007b). McKenna and Keeney (2004) argued that it is probable that specialist nurses are better able to keep up to date in their area. In contrast, generalist nurses, by definition, practise from a broader knowledge base and so their ability to keep abreast of the latest evidence in all areas of relevant practice may be reduced. But they add that too many specialist nurses could mean that there would not be enough generalists to meet the general needs of patients (McKenna & Keeney 2004). The policy document *Liberating the Talents* confirmed that there must be a balance between the generalist and specialist roles (Department of Health 2002b). One way of achieving this may be to focus on a small number of specialisms, for example minor illness nurses, nurse prescribers, and triage nurses.

Wilson et al. (2002) noticed a number of barriers to extending nurse's roles including threats to the status of the GP, concerns about nurse capability, and structural or organisational barriers such as prescribing (Wilson, Pearson, & Hassey 2002). They added that not enough had been done to promote nurse careers in general practice and proposed that the new GMS contract could be the way to change this. Indeed, it is speculated that, in an era of fewer GPs, nurses will increasingly become the first point of contact in the practice, and they will have larger role as the gateway to general practice (Lewis & Gillam 2002).

The Royal College of Nursing pointed out that the modern health care team should not be designed around rigid professional boundaries for its members. They believed that nurses' roles should be 'expandable' to overcome the problem of workforce shortages. Role redesign is considered a necessity in order for nurses to achieve the vision of holistic person-centred care (Royal College of Nursing 2004b).

On the other hand and according to the RCN Code of Conduct (2007), nurses are professionally and legally accountable for their own actions (Royal College of Nursing 2007a). The code makes it clear that responsibility for actions lies with individual nurses. In other words, nurses must assume responsibility to ensure that they are competent to undertake the duties and tasks asked of them under their contract. If nurses feel they are being asked to undertake work for which they have not been trained, they should not carry out that work until they receive appropriate training and proper supervision.

Changing what nurses and other health professionals do is another method to balance healthcare workforce numbers with the need and demand for health care. This is predominant within skill mix solutions or the role substitution debate where part or all of the work of one group is passed on to another (Royal College of Nursing 2003). A twin strategy to this could be the establishment of new roles either for the existing professions (such as developing new roles for practice nurses) or creating totally new professions (such as the case of Health Care Support Workers in general practice) depending on the local circumstances (Royal College of Nursing 2004b).

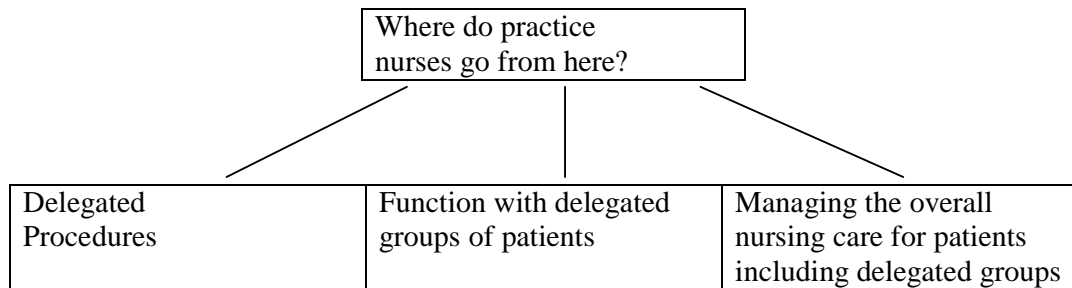
For the management side of practice nurses in general practice, the Royal College of Nursing (2004) emphasised the importance of dealing with the shortage of nurses by raising their image and contribution in the public consciousness, developing nursing work in a way that protects the essentials of person-centred care, and investing in nurse leaders to transform health care (Royal College of Nursing 2004a). They added that better recruitment and retention of nurses could be achieved through competitive pay, family friendly policies, flexible career options and accessible professional development opportunities.

This leads us to ask whether practice nurses are ready to meet this challenge or not? In her survey describing the characteristics of practice nurses and exploring their attitudes to independent practice, Caldow et al. (2001) concluded that most practice nurses in Scotland thought there should be independent practice for some nurses. This independent care could be integrated within the primary care team with a properly structured job description,

training, appropriate professional indemnity and support from other health professionals (Caldow, Bond, & Russell 2001).

The following figure (2.1) suggests three different levels of nursing that could take place in general practice (Damant, Martin, & Openshaw 1994). The question for practice nursing is which route to follow or whether all three routes should be taken.

Figure 2.1: The development within practice nursing.



(Damant, Martin, & Openshaw 1994)

Damant et al. suggested that taking the route towards managing overall nursing care for patients could be the way to develop the role of the practice nurse. This concept implies an independent practitioner working in collaboration with others in the practice team.

Advanced practice nursing describes nurses who have acquired practice experience and a knowledge base to prepare them for specialization, where they would focus on one aspect of nursing; expansion, where they could acquire new skills; and advancement in recognized practice roles such as Clinical Nurse Specialists or Nurse Practitioners (Royal College of Nursing 2005a).

The fluidity of boundaries around these new work roles mean that nurses are uncertain about role definitions, appropriate career pathways and career development, and the level of academic accreditation appropriate to them (Armstrong 2001). Difficulties in role definition were encountered from conflicting ideas regarding advanced roles and responsibilities. Doctors also had difficulties understanding how nurses could help in treating patients, improve care, decrease fragmentation, and provide more holistic care for patients with complex problems (Edwards 2002). However, Hamric et al. earlier in 1996

offered a conceptual definition that shows advanced nurse practice could extend beyond 'classical roles' and illustrated it as a way of thinking and viewing the world based on clinical knowledge, rather than a composition of roles:

“Advanced nursing practice is the application of an expanded range of practical, theoretical, and research-based therapeutics to phenomena experienced by patients, individuals, and clients within a specialized clinical area of the larger discipline of nursing.”

(Hamric, Spross, & Hanson 1996).

The RCN (2003) has assumed that the future nurse will be responsible for complete episodes of care, regardless of how long or short the timeframe of that episode of care is (Royal College of Nursing 2003). They believe that some changes have already taken place with the nGMS contract which enabling a more multidisciplinary and flexible approach to delivering services.

This is supported by Scott, who suggested that nurses have an emerging part to play in the improvements of health-care delivery, but need to think broadly and outside their own discipline (Scott 2004). However, there can be negative impacts too.

Adams et al's study (2000) around skill-mix changes and work intensification in nursing argued that the nurses' workload was not easy to manage since practice nurses were pushed to carry out new roles with a wider range of care tasks on top of their pre-existing clinical responsibilities. Nurses felt that general practitioners off loaded tasks onto them in the absence of the necessary support. Furthermore, nurses resented being systematically replaced by less qualified Health Care Support Workers and being asked to practise in new unfamiliar roles (Adams, Lugsden, Chase, Arber, & Bond 2000).

2.11. Summary of the literature

Skill mix continues to be an important debate in general practice due to the current crisis in the nursing and general practice workforce and increasing demands for nursing care created by demographic changes and redesign of health services. Whilst there have been pronounced changes in the roles of professionals there has been little evaluation of the impact of these changes on patient care and outcomes (Buchan, Hancock, & Rafferty 1997; Seccombe & Smith 1997). What does the available evidence about skill mix in general practice have to offer? McKenna (1995) states that there are sufficient studies available to support the retention of high numbers of staff and that rich skill mixes have been related to: reduced costs; reduced complications; increased patient satisfaction; increased patient recovery rates; increased quality of life; and increased patient knowledge / compliance (McKenna 1995).

Read et al. (1999) suggest that “there are at least 3000 new nursing roles”. They define a “new” nursing role as one that is “innovative and non-traditional or taking responsibility for aspects of care previously undertaken by another group of health professionals” (Read, Doyal, & Vaughan 1999). However, while there has been a large increase in the number of practice nurses, there is still no national strategy to support their progress and development. This has meant that the practice nursing has continued to expand in a piecemeal fashion with varied job descriptions depending on the internal policy of each practice and with no agreement on the scope of practice nursing or the degree of specialisation (The Audit Commission 2008).

Advanced roles for nurses appear to emerge where there is a gap in delivering health services, with advanced activities shared with doctors. However, this does not mean that nurses are substituting for doctors or they can provide care in the same way because activities performed by nurses are often provided within a nursing framework (Spilsbury & Meyer 2001). Nurses bring their previous skills and experience and carry out their activities in a different way to doctors. Evidence to date would suggest that nurses are more comfortable taking on new tasks in the form of advanced nurse practitioner roles (Royal College of Nursing 2007b). Richardson et al. (1998) point out that doctor-nurse substitution may not be real and that we are seeing service enhancement by nurses rather than substitution (Richardson et al. 1998).

Charles-Jones et al. (2003) emphasized the need for a hierarchy in primary care because there will be different levels of experience and competence in the practice, with complex

problems managed by GPs and other work dealt with by other members of the practice (Charles-Jones, Latimer, & May 2003). This segregation of practice work would elevate the GP toward an identity of biomedical specialist and, at the same time, extend and concentrate the nursing role. In terms of managerial 'efficiency' and 'cost effectiveness', Charles-Jones et al. argue that this may be an appropriate development in general practice services. Munding (2002) argues that working within a team implies a leader and other members working in hierarchical structure, and that could be the most effective coalition between doctors and nurses if it transformed into a partnership with equal-authority (Munding 2002). But in order to build these promising partnerships, nurses with advanced roles must assume equal authority with doctors.

It is noteworthy that the move towards greater medical specialisation in hospitals in the UK was not reflected in primary health care where the general medical practitioner role remains generic. To some extent, this is also reflected in nursing. However, the recent policy shift from acute hospital care to general practice has brought with it an increased potential for specialist nurses (Candy et al. 2007).

Other researchers argue that specialization in general practice would shift the role of professionals away from the traditional, biographical-framed, family doctor. A similar process is shown to be occurring within practice nursing. The generic practice nurse role is disappearing and is being replaced by a segmented hierarchy, with nurse clinicians and practitioners at the top and health care assistants at the bottom (Charles-Jones, Latimer, & May 2003; Drew, Nathan, & Hall 2003).

In their study to compare generic and specialist nursing roles in the community, McKenna et al. (2003) found that while there was much negativity about specialisation, the move away from generalism was unavoidable (McKenna, Keeney, & Bradley 2003). However, there was concern that specialisation would result in overall, confusion and conflict over roles.

Neenan (1997) warn that, in the new era of specialisation, nurses should not accept tasks delegated by doctors who are no longer willing to offer those particular interventions themselves. Such an overload of new duties may encourage nurses to delegate generic nursing activities to unqualified healthcare assistants (HCAs). This may threaten the generic caring role of practice nurses (Neenan 1997), with core nursing skills lost or that nursing care delegated to others. However, the Royal College of Nursing (2005) reported that nurses working in these advanced roles see themselves as "maxi nurses not mini

doctors”, and almost all reported that their nursing skills continue to be essential to their daily role (Royal College of Nursing 2005a).

Cooper (2001) presumes that there will be always challenges which confront practitioners as clinical tasks are shared and professional relationships are forged. However, these challenges should not prevent doctors and nurses from increasingly sharing what were previously considered medical services (Cooper 2001). Ultimately, the success of each discipline will be judged by how effectively it participates in a continuum of care that meets the needs of patients and of the health care system overall.

The primary care revolution will continue but it will bring fundamental changes and diversity in the way services are offered within Britain (Bigger 2004). The wider literature suggested that factors promoting success included providing appropriate staff education and training; removing boundary demarcations between staff; providing pay and reward systems that were appropriate; and good strategic planning and human resource management. Unintended consequences also occurred and related to staff morale and workload; coordination of care; continuity of care; and cost (Sibbald, Shen, & McBride 2004).

Accepting change, and demonstrating flexibility and willingness to overcome the difficulties surrounding professional territories will help to address the workforce crisis in the primary health care settings (Jenkins-Clarke & Carr-Hill 2001). The question is to define the ‘equilibrium area’ for the roles of nurses and doctors. Whilst some would prefer to have a complete separation between the caseload of the two professions, others may subscribe to an integrated-teamwork approach where the roles of the two professions could merge and overlap.

Through the literature review described above, it is clear that many studies described new nursing roles without examining the impact of these roles on the development and improvement of health services as a whole, especially at primary health care and general practice levels. However, in order to fully develop the role of the practice nurse it is first necessary to fully understand the type of activities which practice nurses are currently participating in and the degree of overlap with general practitioners. Thus, it may become possible to identify areas where practice nurses can truly substitute for GPs and not just act as an additional resource.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

This study was conducted in three stages using a mixed methods strategy; the first was a desk-based analysis of clinical activities of doctors and nurses working in 37 practices that participated in the Practice Team Information (PTI) scheme. The analysis of this routinely collected secondary data was followed by a questionnaire sent to all 329 practice nurses working within the Greater Glasgow NHS Health Board. The third phase consisted of 18 semi-structured qualitative interviews with a doctor and nurse couplet working in 9 general practices in NHS Greater Glasgow. The design of the study was descriptive in accordance with the primary aim of exploring the evolving roles of practice nurses and the presumed impact on the doctor-nurse skill mix in a general practice environment. Data from the first two quantitative methods were used to inform and develop the interview schedule. Subsequently findings from the three studies were combined to draw a comprehensive conclusion. The utilisation of this sequential approach - whereby initial data collection serves as a basis for successive data collection and analysis – has been shown to enhance such studies (Barbour 1999; Creswell, Fetters, & Ivankova 2004).

In this chapter the overall design of the study and justification of each selected method are presented. The detailed techniques, along with the construction of the various tools used in the study, implementation of the methods, and analysis are described in the methodology section of the related chapter for each study.

3.2. PTI dataset of clinical activities

The first phase of this study was a desk-based cross sectional study, using anonymised data from 37 general practices that had participated in the Practice Team Information (PTI) scheme (see Chapter 4.1). The scheme is one of a number of routinely collected data systems administered by the Information Services Division (ISD) of NHS Scotland (Information Services Division-NHSScotland 2008d). Cnossen (1997) defined secondary data analysis as “*the analysis of data or information that was either gathered by someone else (e.g., researchers, institutions, other NGOs, etc.) or for some other purpose than the one currently being considered, or often a combination of the two*” (Cnossen 1997).

The datasets were obtained through the Platform Project which was a Scottish School of Primary Care collaborative venture between the Universities of Aberdeen, Dundee, Glasgow, and Edinburgh, ISD Scotland, and the Royal College of General Practitioners (Information Services Division-NHSScotland 2002; Platform for Primary Care Research in Scotland 2006).

Data collected from each personal contact between a member of the practice team and a patient and noted in the clinical records, can be described as “secondary data” (Glaster 1963). The data are entered into the practice clinical data system and monthly extracts are sent to the NHS Information Service Division (ISD) for analysis. The content of these datasets are described in details in Chapter 4.3. The 2002 dataset was employed since it was the first and only data available at the commencement of the study that allowed comparison of the activities of doctors and nurses in Scottish General Practices.

In common with all secondary data analysis, it was difficult to verify the accuracy and consistency of the documentation instructions that had been given to and followed by professionals across the many participating practices. Tashakkori and Teddlie (1998) have outlined three main concerns when using secondary data. Firstly, the validity and reliability of the data. Clinical data in routinely collected datasets can be ambiguous, as terms may be interpreted differently by various people. However, the PTI dataset is considered to be of a high quality because the scheme itself is an official one and is managed by the Scottish Executive’s Information Service Division which produces accredited data at the national level. Furthermore, the data were initially collected through the General Practice Administration System for Scotland (GPASS) software. Cleary et al (1994) found that data collection systems that are owned by a clinical team have been shown to contain high quality and accurate data. Practices volunteering, and accepted, to be in the first wave of

this pioneering scheme may be considered more likely than most practices to record information to a high standard.

The second consideration is the accuracy of recording. Caution has to be exercised when using large datasets of routinely collected data, especially when many different people were involved in data collection/entry, and the resulting coded data may at times be inaccurate (Safran 1991). This was the first experience of the participant nurses in documenting their clinical activities in this way, so it was not clear whether or not all practices followed the same procedures of documentation. In order to include only accurate data, strict criteria were adopted in the course of data analysis as described in Chapter 4.4.1.

The final misgiving for Tashakkori and Teddlie is the possibility of fragmentation of the documented data from its entirety (Tashakkori & Teddlie 1998). This was not applicable to the specific dataset used because the total clinical activity datasets for all professionals who were working and attached to the practice were acquired. Using these crude data, the entire activities of doctors and practice nurses could be extracted and analysed independently.

Nicoll and Beyea (1999) argue that because secondary data are usually not collected for the same purpose as the research, this could produce bias and shift the goals and purposes of the research (Nicoll & Beyea 1999). On the contrary, analysing the PTI dataset enabled crucial aims of the study to be met by providing unique information about the actual activities of doctors and nurses in general practice. Furthermore, this analysis was also helpful in designing the subsequent survey and interviews of primary care staff, and provided a baseline with which to compare our primary data results. Magee (2006) believes it is imperative to begin any research activity with a review of the secondary data (Magee et al. 2006).

3.3. PN survey

The second phase of the study was a survey of all 329 practice nurses working within the NHS Greater Glasgow. The aim was to explore practice nurses' demographic characteristics, qualifications, clinical roles, and access to Continuing Professional Development (CPD) support. To that end it was preferred that information was gained directly from practice nurses by distributing a comprehensive questionnaire. The design of the questionnaire, study population, and distribution process are described respectively in Chapter 5.

3.3.1. Advantages and disadvantages of the questionnaire

In designing the study it was recognised that interviews would have yielded a richer source of data from which to examine the issues identified in the research questions. However, as there was a lack of research into the role of practice nurses in Scotland, and after the analysis of the PTI clinical activities dataset, it was decided that a questionnaire would provide a wide range of data about the study population. Interviews were utilised in the next stage of the research and issues raised by responses to the questionnaire were explored in greater depth.

The use of a questionnaire in this way proved to have many advantages. For instance questionnaires required less time to administer and allowed a much wider range of practices to be covered. Questionnaires in general are time efficient and convenient for the respondents who can complete the questionnaire at a time convenient to them (McColl et al. 2001). Many researchers also mention that the absence of an interviewer ensures that there is no interviewer bias. Data collection and processing are not expensive and a large amount of information can be gathered easily (Oppenheim 1992; Polit & Hungler 1995). Waltz, Strickland & Lenz (1991) argue that questionnaire's impersonal and standardised format can assure that all respondents are exposed to a uniform approach and this feature increases reliability (Waltz, Strickland, & Lenz 1991).

A disadvantage of questionnaires is the inability to probe deeper and to allow the respondents to express in detail what matters to them (Mathers, Fox, & Hunn 2007). To overcome this issue, open questions were added whenever necessary and a suitable space provided in the questionnaire for the extra comments that nurses might wish to add. More detailed narratives of what practice nurses and general practitioners think about their evolving roles were obtained from the complementary qualitative part of the study.

Another matter of concern was the length of the questionnaire as some nurses commented that it took them more than the assumed 20 minutes to complete. Although this was also a concern for the researcher it was decided that the questionnaire should be sufficiently comprehensive to cover all the issues pertaining to the practice nurse's role. During several meetings with the supervisors of this study and the Greater Glasgow Primary Care Division practice nurse advisor to discuss the content of the questionnaire, the consensus on the length of the questionnaire was that it was about right, and balanced between response rate and comprehensiveness. However, in light of that discussion the number of questions was reduced and several questions were altered or reordered.

Oppenheim (1992) describes the main disadvantages of the postal questionnaires as, first, they generally have a low response rate, with consequent representation bias. The non-respondents can distort the final results of any research project and if the response rate is low or particular groups are unrepresented within the whole sample, valid conclusions cannot be drawn (Barriball & While 1994). Second, there is no opportunity to correct misunderstandings, to probe, offer explanations or aid in any way. Some researchers recommend using a mixed method approach in order to probe deeper with a qualitative approach to make sense of the possible reasons behind the quantifiable data (Brookes 2007). Third, there is no way to check on complete responses, incomplete questionnaires or the passing on of the questionnaires to others (Oppenheim 1992). According to Polit and Hungler (1993) the most serious weakness of the questionnaire concerns the validity and accuracy of the questions. They argue that researchers have no alternative but to assume that most of their respondents have been frank and to trust the information that respondents provide (Polit & Hungler 1993). The next section explains how we reinforced the validity and reliability of our questionnaire.

3.3.2. Validity and reliability of the questionnaire

The validity of a research instrument refers to the degree to which that instrument measures what it is supposed to be measuring (Polit & Hungler 1995). To ensure content validity of the questionnaire, it was constructed following a comprehensive review of the literature and informal discussions with nurses in management posts at NHS Greater Glasgow Primary Care Trust and other general practitioner colleagues at the section of General Practice and Primary Care, University of Glasgow. Questionnaire items were also taken from a previously used questionnaire in 2004 (developed by the Practice Nurses advisor) and new questions added in accordance with the study aims. Following comments from the research supervisors, the practice nurse advisor, and other colleagues, several questionnaire items were changed. In addition, the 2006 questionnaire was anonymous, which is believed to increase the validity of responses and the response rate (Waltz, Strickland, & Lenz 1991).

Concerning reliability, the questionnaire yielded similar responses when administered in 2004 and 2006 especially for the questions that investigated similar issues (e.g. job titles, grades, qualifications, practice list size) or which concerned strongly held beliefs, training needs, barriers for professional development and isolation issues. These examples allow us to consider this tool as reliable because it yielded similar results when it was used on different occasions in separate studies, where participants had interpreted the questions correctly, as intended, each time.

3.4. Statistical analysis

SPSS for Windows (version 11.5) was used to analyze the PTI dataset clinical activities and questionnaire responses. Initially, tables of frequencies and percentages were calculated, then Kolmogorov-Smirnov Z test was used to determine if variables were normally distributed or not. If the test result is not significant ($p > 0.05$) this indicates that the distribution of the sample is not significantly different from a normal distribution. If, however, the test is significant ($p < 0.05$) then the distribution in question is significantly different from a normal distribution. This was used to determine if parametric or non-parametric statistical tests should be used (Field 2005; Petrie & Sabin 2000).

The independent t-test (a parametric technique for normally distributed data) was used to compare the values of the means between two groups. The Mann-Whitney *U* test (the non-parametric equivalent to the independent t-test) was used to compare groups when the data were not normally distributed (Field 2005;Pallant 2001;Wood 2003).

The Pearson Chi-square test is a non-parametric test of statistical significance used to investigate whether there is an association between a categorical explanatory variable (e.g. practice size as a categorical variable) and a categorical outcome variable (e.g. feeling of isolation). However, it provides no information about how strong the association might be (Field 2005;Harris & Taylor 2004;Wood 2003).

3.5. Interviews

The third phase of this study was the administration of qualitative semi-structured interviews. We interviewed a GP and practice nurse from nine different practices. There is a scarcity of investigations that explore the perception of general practitioners and practice nurses concerning nurses' evolving roles and the attitudes of professionals regarding the division of labour between doctors and nurses in general practice. The need for exploring this issue has become even more important after the introduction of the nGMS contract in April 2004. Different studies have pointed to the complexity of health care and the need for a range of methodologies to understand these complexities (Barriball & While 1994;Brookes 2007;Hogston 1995;McDowell & MacLean 1998). So interviews were carried out to obtain qualitative explanations of the changing roles of nurses in general practice, drivers, constraints, impact and the future direction of role change, as well as to understand the impact of the recent policies on doctor-nurse skill mix in general practice.

An interview can be defined as “*a face to face verbal communication between the researcher and the subject, during which information is provided to the researcher*” (Burns & Grove 1993). There are three types of interviews: structured; semi-structured; and unstructured (Fox 2006;Ritchie & Lewis 2003). The aim of structured interviews is to ensure that each interviewee is presented with exactly the same questions in the same order. This ensures that answers can be reliably aggregated so comparisons can be made with confidence between sample subgroups or between different research periods. In

contrast, in unstructured interviews the interviewee is not limited to a set of fixed responses hence the interviewer relinquishes control over the content and pattern of the questions, so questions can be changed or adapted to meet the respondent's information, understanding or beliefs (Bowling 2002). Semi-structured interviews come in between these two methods. It is flexible, unlike the structured interview technique, allowing new questions to be introduced during the interview in reaction to the interviewee's responses, but the interviewer generally has a framework of themes to explore in contrast to the unstructured interview method (Grbich 1999). In addition, Grbich explains that the interviewer may move freely from one topic area to another and allow the respondent's cues to help determine the flow of the interview.

For the purpose of this research, the semi-structured interview technique was chosen for three reasons. First, interviewees were doctors and nurses who had different professions, roles, education, and experiences, hence this ruled out the use of a structured interview method. Second, this method was suitable for exploring the views, perceptions, and opinions of doctors and nurses concerning sensitive topics such as the division of workload in the practice, financial remuneration, and professional relationships. Furthermore, this technique allowed the researcher to probe for more information and clarification of participants' replies that could not be done using a more structured method. Third, it was felt that the quantitative methods would raise a lot of professional issues that required qualitative investigation and could not otherwise be understood, as will be explained later in this chapter.

3.5.1. Advantages and disadvantages of interviews

The semi-structured interview method is considered a very useful technique due to its diversity (Barriball & While 1994). It is suitable for eliciting the subject's attitudes, beliefs, and motives and allows exploration of complex issues in considerable depth. It is also possible with interviews to evaluate the validity of the interviewee's answer by observing the non-verbal responses, which is useful when discussing sensitive issues such as the division of work or professional seniority between the practice team (Barriball & While 1994).

Another advantage of semi-structured interviews is the use of probing. The utility of probing is very important for ensuring the reliability of the data because it allows the interviewer to identify and clarify any relevant issues raised by the participants, and can also help respondents recall information for questions involving memory (Barriball & While 1994). Probing can also enhance the interactive opportunities between the interviewer and participant which can break down any personal barriers, reduce tensions and maintain rapport that encourages the respondent to express his thoughts freely and spontaneously (Strauss & Corbin 1998).

The use of audiotape to record the interview enables the interviewer to attend to the informants, rather than to manually record all the responses, and communicates to the respondent that the interviewer is attentive to their responses, which facilitates building rapport between interviewer and participant (Bowling 2002). In addition, Barriball and White (1994) confirm that audio tape recording provides a detailed insight into the performance of both the interviewee and the interviewer. Also audiotape recording reduces the potential for interviewer error by, for example, recording data incorrectly. Furthermore, access to the nuances of the interactions between subjects and interviewer help validate the accuracy and completeness of the data collected (Barriball & While 1994).

However, interviewing is a time-consuming method. It is not only the administration and analysis of the interviews that can be time consuming, but also the arrangements necessary to conduct interviews in the first place (Waltz, Strickland, & Lenz 1991; Weber 1994). Barriball and White (1994) add that there are greater opportunities for interviewer bias in qualitative interviews that could threaten the rigour of data. Nevertheless, the inevitable involvement of the interviewer in the interaction achieves greater depth to reveal the participants' true inner feeling, attitudes and behaviour (Barriball & While 1994).

3.5.2. Ensuring rigour: Reliability and validity of interviews

The reliability of a tool is measured by test-retest procedures (Seal & Silverman 1997). This is possible to apply with structured interviews when using the same schedule repeatedly and comparing the results. However, since semi-structured interviews were employed and each interviewee approached according to her/his circumstances without repeating exactly the same schedule, it is difficult to assess the reliability of these interviews.

The validity of the interviewers' data is defined by Hutchinson and Wilson (1992) as "*those that accurately portray what the investigator is attempting to study*" (Hutchinson & Wilson 1992). In this framework, the validity of interviews can be affected by the following five issues. First, the questions should be relevant to the research purpose (Mays & Pope 1995). In our interviews several questions were extracted from previous quantitative studies, while the remaining questions aimed to complement and extend these further, so the interview questions were directly related to the purpose of this study.

The second issue is the timing of interviews. The practices' managers and prospective participants were contacted at least two weeks before interviews took place in order to confirm a time and place that were convenient for them. All interviews were carried out according to these arrangements without any problem and no complaints were received (Legard, Keegan, & Ward 2003).

Third, the communication skills and professional approach of the interviewer are believed to increase the validity of interviews (Barriball & While 1994). Although the interviewer had limited experience of the Scottish General Practice, a professional and friendly approach facilitated the acquisition of valid qualitative data. Furthermore, the interview schedule and wording of questions were finalised after careful consideration and discussion held at different meetings with the research supervisors together with comments and suggestions taken from colleagues; the final schedule was also piloted as described in Chapter 6.4.

Finally, validity can also be affected by problematic respondent behaviour and recording problems. The researcher neither observed any disturbance towards any of the questions asked nor noticed any thoughtless responses from the interviewees. Any inconsistencies in the responses were carefully noted and clarified at the time (Waltz, Strickland, & Lenz 1991).

3.6. Reflection on mixed research methodology

Although each study in this thesis correlated with the subsequent one, there was to some extent a distinction between them at the strategic level especially between the first two quantitative and third qualitative studies. The distinction was made in order to organise the research methods in relation to timing, research tools, and data collection and analysis. At the same time, it allowed a complete presentation of the paradigm assumptions behind each phase (Creswell 1995). However, the divide between quantitative and qualitative methods has been the subject of debate for a long time in the field of social and health sciences research (Barbour 1999; Bryman 2008a). The cornerstone of this debate is that each method is geared to address different sorts of research questions, collect diverse types of data and produce a variety of answers (Kinn & Curzio 2005). The proponents of qualitative research often believe that it is only through qualitative research that the world can be studied, by way of analysing the experiences of the people who are studied (Pope & Mays 1995).

On the other side, many scholars object to the idea that qualitative research has a monopoly on the ability to study meanings (Bryman 2008a; Clark 2000; Creswell, Fetters, & Ivankova 2004; Faltermaier 1997; Sale, Lohfeld, & Brazil 2002). For example, the widespread inclusion of questions about attitudes in survey based research shows that quantitative researchers may also be concerned to uncover issues of meaning (Marsh 1982). Tashakkori and Teddlie (1998) explained that both quantitative and qualitative researchers are typically interested in what people do and think but proceed with their investigation of these areas in different ways (Tashakkori & Teddlie 1998). For instance, qualitative research frequently include the examination of behaviour in context and attempt to interpret individual behaviour in terms of the norms, values and culture of the community or group in question. Quantitative research frequently involves the study of meanings in the form of attitude scales (such as the Likert scaling technique) or other techniques. One way to resolve and break down the divide between the two research strategies is to combine them together using a mixed methodology strategy which capitalises upon the strengths of each method and offsets their individual weaknesses (Barbour 1999; Brookes 2007; Bryman 2008a). Reichardt and Rallis (1994) added that there were sufficient similarities in the fundamental values between quantitative and qualitative methods to “form an enduring partnership” (Reichardt & Rallis 1994). The Journal of Mixed Methods Research (2008) defines mixed methods research as “*research in which the investigator collects and analyses data, integrates the findings, and draws inferences using*

both qualitative and quantitative approaches or methods in a single study or program of inquiry’ (Journal of Mixed Methods Research 2008).

However, combining quantitative and qualitative research is not without controversy. The argument against mixed methodologies research tends to be based on the idea that research methods carry epistemological and ontological commitments to particular versions of the world and to knowing that world (e.g. using a questionnaire and conducting semi-structured interviews) (Hughes 1990). To illustrate, the ontological quantitative research which is connected to a positivism philosophy, investigates the social world in ways which emulate the ‘scientific method’ as used in the natural sciences, with an emphasis on hypothesis testing, causal explanations, generalisation and prediction. Knowledge claimed is assumed to be independent of and unaffected by the behaviour of the researcher. By contrast, qualitative research, also variously known as interpretivism or constructivism, concentrates on understanding, rich description, and emergent concepts and theories. In this case, the researcher cannot be objective since in the social world, people are affected by the process of being studied and the relationship between the researcher and the social phenomena being investigated is interactive (Snape & Spencer 2003). So integrating questionnaire and semi-structured interview data is not possible because the epistemological and ontological positions in which the two methods are grounded constitute irreconcilable views about how reality should be studied (Bryman 2008b; O’Cathain, Murphy, & Nicholl 2007).

Regardless of these cautions, it is thought that using a mixed methodologies strategy will compensate for the shortcomings of each individual method and expand the scope of the project by providing comprehensive data regarding a complex issue of the continuously changing roles of practice nurses and the impact of that change on doctor nurse skill mix in general practice. For instance, Hammersley (1996) has proposed three advantages for combining quantitative and qualitative methodologies in a unified research approach. First, it is possible through triangulation to use quantitative research to corroborate qualitative research findings, and vice versa; second, as a facilitation tool, in instances where one research strategy is employed in order to aid research, using the other research strategy; and finally, the complementation approach which is used when the two research strategies are employed in order that different aspects of an investigation can be dovetailed (Hammersley 1996).

Bryman (2008) and Tashakkori and Teddlie (1998) point out that it is usual practice to first use qualitative research to facilitate and guide the quantitative research by providing a hypothesis or ideas that can subsequently be tested using a quantitative research strategy, or when in-depth knowledge of social contexts acquired through qualitative research can be used to inform the design of survey questions or self-completion questionnaires. On the other hand, it is a common approach when starting with quantitative research to prepare the ground for a qualitative research plan and to facilitate the selection of subjects for the interviews (Bryman 2008b;Tashakkori & Teddlie 1998). The sequence used in this study was driven by pragmatism rather than principle for the sake of the purpose of our study and the availability of data. An opportunity was taken by the first availability of a unique dataset that allowed comparison between the clinical activities carried out by doctors and nurses in general practice. However, this desk-based analysis did not provide information regarding the characteristics, qualifications, and other continuing professional development data for those clinicians, and since the main focus of this study was the new roles of practice nurses, it was decided to survey all practice nurses working in NHS Greater Glasgow.

Both of these quantitative studies provided invaluable information but displayed a static picture of doctor-nurse skill mix in general practice. It was deemed that the data necessary to show how the changes occurred and data pertaining to drivers, constraints, and the impact of role change in general practice was absent and not accessible through quantitative methods. Therefore the results of these two quantitative studies were included to inform the subsequent qualitative study and construct the interview schedules. The inclusion of qualitative research provided a process picture of the skill-mix phenomenon.

O'Cathain, Murphy, & Nicholl (2007) believe that a mixed method research base is superior to an exclusive single based method (O'Cathain, Murphy, & Nicholl 2007). That fact was reflected in this mixed method research which revealed more information than could have been gained through each singular method. The mixed methods approach enabled the study to be more comprehensive, providing evidence not only of role changes in the practice, but also how this change has evolved. A combined approach also addressed a wider range of questions that a single method alone would allow. In the event, it was possible to draw clearer conclusions by combining the results of the quantitative and qualitative methods.

3.7. Ethical approval

Ethical approval to carry out the study was obtained from NHS Greater Glasgow Primary Care Division Local Research Ethics Committee (Appendix 1). While giving their approval, they objected to the inclusion of the practice code within the questionnaire. Consequently, it was impossible to link the returned questionnaire to either the practice or the practice nurse. Permission to send the questionnaires and to interview doctors and nurses was also obtained from the Local Medical Committee in Greater Glasgow.

3.8. Conclusion

If time, manpower, and resources had allowed, it might have been more useful to begin with an in-depth qualitative study and move to a quantitative one; then qualitative again. However it is not clear whether this approach or the one adopted in this study would have been the most successful considering the evolving roles of practice nurses and the doctor-nurse skill mix in general practice.

To summarise, this study used different methods to address a wide range of questions. This more comprehensive approach is necessary due to the complexity of the issues under study, including the evolving roles of practice nurses and the impact of this change on doctor nurse skill mix. The research environment at the time of the study was seen as particularly complex for policy-related research with the introduction of the new GMS contract, so interviews were conducted because it was thought that quantitative methods alone were inadequate to answer all the questions relevant to the assessment and evaluation of a changing and complex healthcare system.

The next three chapters report the actual studies conducted. The detailed methodology, procedures, results, and discussions for each study are described within each chapter. Finally the closing chapter includes a general discussion that triangulates key messages from each study and provides some recommendations and conclusions.

CHAPTER FOUR

ANALYSIS OF WORKLOAD AND CLINICAL ACTIVITIES IN GENERAL PRACTICE

4.1. Introduction

This analysis utilised anonymised data from the Practice Team Information (PTI) scheme in which 37 practices across Scotland returned full practice team activity throughout January to December in 2002. The aim of the analysis was to describe the contributions of general practitioners and practice nurses to clinical workload in general practice.

The analysis identified the current working patterns of doctors and nurses by describing the balance of work activity carried out within the practices, and specifically, how this was patterned by patient characteristics, presenting conditions and type of consultation. On this basis it was possible to identify the types of work carried out mainly or exclusively by doctors, and by nurses, as well as types of activity which are shared, and variations between doctors and nurses between the different practices, and within particular practices, based on their deprivation and size.

Practice Team Information (PTI) is a voluntary scheme for the collection of primary care data from the general practice team, including General Practitioners, practice nurses and community nurses. The system developed from the Continuous Morbidity Recording (CMR) scheme which collected data from contacts between GPs and patients only (Information Services Division-NHSScotland 2008d).

CMR was first piloted in 1990 in a small number of practices in Scotland. By 2002 over 90 practices (9% of Scottish general practices) were participating and the CMR dataset became recognised as a ‘national’ dataset. CMR data have been used to estimate GP activity (consultations) and to estimate incidence (new episodes in a defined population during a defined time) and prevalence (the proportion of a population with a condition) for specific conditions/diseases as seen by GPs.

In 2001, ISD began working with CMR practices to facilitate data recording by the broader practice team, to include practice nurses, district nurses and health visitors. In 2002 the dataset covered around 4.7% of the Scottish population when 37 practices had returned their full activities. The scheme has since developed to include 60 PTI practices by the end of 2007 (Information Services Division-NHSScotland 2008d).

Practice workload estimates based on PTI data are thought to be a better estimate of workload in general practice compared to GP-only estimates, because any contact with a member of the practice team other than a GP would previously have been missed. The impact of adding practice nurses activities will differ for different conditions, as shown later in this chapter. We used this dataset also to estimate GP and practice nurse workload as patterned by gender, age, deprivation and practice size, and to determine the most common conditions/morbidities seen in the practice as well as the specific reasons for consultations.

4.2. Description of datasets

Analyses utilised two datasets, which are now described:

4.2.1. Practice characteristics datasets

This dataset described the characteristics of all 1046 Scottish general practices for the year 2003 including the 37 PTI practices (there were no comprehensive and accurate data for 2002). As it was not possible to identify the 37 PTI practices within this dataset, a second dataset containing the same characteristics was obtained for the 37 PTI practices but with anonymized practice codes. This allowed comparison of the PTI practices with all general practices in Scotland. The datasets covered the following practice characteristics:

1. Anonymised Practice Code.
2. Geographical Distribution by Health Board.
3. Geographical Distribution by Urban/Rural Location
4. The Scottish Index of Multiple Deprivation mean score.
[Income-Employment-Education-Health-Access].
5. Modified Scottish Index of Multiple Deprivation mean score.
[Income-Employment-Education].

6. Number of Partners.
7. Total Whole Time Equivalent of Partners.
8. Practice List Size.
9. Whether Practice had a Female GP.
10. Practice Accreditation obtained.
11. Quality Practice Accreditation obtained.
12. Personal Medical Services Practice.
13. Training Practice (for General Practice Registrars training).
14. Participation in the Scottish Programme for Improving Clinical Effectiveness (SPICE) Practice.
15. Participation in Minor Surgery.
16. Practice Claims for Chronic Disease Management.

Data were transferred from Excel to SPSS 11.5 and merged into one file that contained details for all 1046 Scottish practices and the 37 PTI practices as a distinctive group. This enabled us to put the PTI practices in Scottish context. Furthermore, we linked the workload variation from the activities dataset with some characteristics such as deprivation and size of the practice.

4.2.2. PTI activity datasets

A) The practice nurse activity file: this file contained 493,063 entries.

B) The general practitioner activity file: this file contained 887,101 entries.

Data were collected from every face-to-face contact between a member of the practice team (GPs including locums and nurses) and patients. The practice decided if the data should be entered directly into GPASS by the clinician or recorded on a custom capture sheet for later entry by practice support staff. All contacts with practice patients (including temporary residents) were captured.

Both files had the following 13 identical variables:

1. Anonymized practice code: Every practice had one anonymized code. In total, there were 37 practice codes.
2. Anonymized patient identifier: This was generated by GPASS for every patient and was practice specific. This allowed analysis of data by individual patient.
3. Gender of the patient.
4. Age of the patient: age in years at the consultation time.
5. Morbidity / Activity Read code: A working diagnosis of each presenting condition/disease was recorded using the Read coding system. Read codes are the recommended national standard coding system in General Practice for recording clinical information. Up to 16 diagnoses/conditions could be recorded at a single patient-clinician encounter. Clinicians only recorded conditions that were being actively managed within an episode of care (Graham, Ward , & Mulvenna 2000).

We used the Standard Morbidity Groupings (SMGs) to transform Read codes into 2 new variables: first, the specific reason for contacting the practice (a particular diagnosis/activity for each code); and second, an umbrella grouping (morbidity/condition) for the related diagnoses/activities. SMGs have the benefit of permitting practitioners to record the specific reason of consultation using the full richness of Read codes, while at the same time facilitating analysis using common, or standard, morbidity definitions (Information Services Division-NHSScotland 2008c).

For confidentiality purposes, Read codes that were counted less than 50 times in either dataset were changed to dummy codes in order to anonymize patients with rare conditions.

6. Stage of morbidity / activity: Clinicians recorded the progress of the problem in three stages as new, ongoing, or old. The difference between ongoing and old stages in the raw data did not provide useful information so we later merged them into one stage (chronic).
7. Encounter number: Every encounter had a special number. As mentioned earlier, it was possible to enter more than one reason for the consultation (diagnosis/activity) within one encounter as a new case using the Read coding system with the same encounter number.
8. Date of encounter: This refers to the date the contact took place. The study used only the data from the contacts between GPs/practice nurses and patients in 2002.

9. Anonymized Health Care Professional Identifier (HCPI): Every professional had a special ID which enabled us to measure the workload differences between professionals among and across practices. This also indicated the number of clinicians involved in data collection. However, the Whole Time Equivalent (WTE) information for individual clinicians was not available within the dataset.

The sum of WTE for GPs in every practice was available in the practice characteristics dataset (see chapter 4.2.1), but not for practice nurses.

10. Staff ID: This field allowed identification of the staff (as a GP or a PN) who undertook the consultation. This allowed identification of the different disciplines.

11. Type of encounter: This identifies what type of contact took place, e.g., a home visit, out of hours contact, surgery or clinic contact.

The two datasets were merged together into one comprehensive SPSS file that contained 1,380,164 entries. Basic descriptive and frequency analyses were performed to assess the properties of the data and to correct any problems before the analysis phase.

The largest PTI practice was used as a pilot to provide some early indications and to illustrate some of the ways in which the data could be analysed to give a more complete picture of activity within the practice. Full analysis was performed for all practice activities and then a comparison between GPs and practice nurses workload/caseload was conducted.

4.3. PTI practices in a Scottish context

This section compared PTI practices with all general practices in Scotland to examine to what extent PTI practices represented the Scottish context of general practice. It is important to mention that, as our interest is to compare the PTI group with the whole general practice set, so the 1046 Scottish practices group consists of 1009 non-PTI and 37 PTI practices groups. As already mentioned, it was not possible to extract the PTI practices from the whole Scottish group due to anonymity of the dataset, so a separate file for PTI practices' characteristics was obtained in anonymous form.

4.3.1. Geographical distribution

The geographical distribution of the practices was investigated by two different methods. The first counted the number of practices in each Health Board, while the second calculated the geographical distribution of practice populations in urban, small town and rural areas.

By Health Boards

The distribution of PTI practices differed between Health Boards. For example, the 128 practices in Lothian Health Board included only one PTI practice. There were no practices providing PTI data in Borders, Orkney or the Western Isles Health Boards, nor significantly, from Greater Glasgow Health Board, which contained 216 general practices. PTI practices were over-represented in other Health Boards. For example, Ayrshire & Arran contained the highest percentage (22%) of PTI practices, but had only 6% of Scotland's practices. The remaining Health Boards had similar representation for both groups (Table 4.1).

Table 4.1: Distribution of practices by Health Board

Health Board	PTI Practices		Scottish Practices	
	Number	(%)	Number	(%)
Ayrshire & Aran	8	(21.6)	61	(5.8)
Borders	0	(0.0)	23	(2.2)
Argyll & Clyde	5	(13.5)	97	(9.3)
Fife	5	(13.5)	60	(5.7)
Greater Glasgow	0	(0.0)	216	(20.7)
Highland	3	(8.1)	73	(7.0)
Lanarkshire	2	(5.4)	100	(9.6)
Grampian	5	(13.5)	86	(8.2)
Orkney	0	(0.0)	15	(1.4)
Lothian	1	(2.7)	128	(12.2)
Tayside	2	(5.4)	72	(6.9)
Forth Valley	4	(10.8)	56	(5.4)
Western Isles	0	(0.0)	14	(1.3)
Dumfries Galloway	1	(2.7)	35	(3.3)
Shetland	1	(2.7)	10	(1.0)
Total	37	(100)	1046	(100)

By urban/rural location

The populations of the two groups of practices were represented in most of the 8 geographical categories of Scotland (Scottish Urban Rural Classification 2004). The populations of 20 PTI practices (54% of PTI practices) were located in urban settlements compared with the populations of 251 Scottish practices (24% of all Scottish practices). Only 2 PTI practice populations (5.4% of PTI practices) were located in primary cities compared with 413 Scottish practices (40%) (Table 4.2).

A different pattern appeared in the remaining categories. For example, small towns contained 9 PTI practices (24% of PTI practices) compared with 136 Scottish practices (13%), while rural areas contained 6 PTI practices (16%) compared with 225 of all Scottish practices (23%). Thus populations living in primary cities were under-represented in the PTI dataset, while those living in urban settlements and small towns were over-represented.

Table 4.2: Geographical distribution of largest proportion of population

Geographical category practice population	PTI Practices		Scottish Practices	
	Number	(%)	Number	(%)
Primary Cities	2	(5.4)	413	(39.5)
Urban Settlements	20	(54.1)	251	(24.0)
Accessible Small Towns	7	(18.9)	98	(9.4)
Remote Small Towns	1	(2.7)	21	(2.0)
Very Remote Small Towns	1	(2.7)	17	(1.6)
Accessible Rural	2	(5.4)	99	(9.5)
Remote Rural	0	(0.0)	39	(3.7)
Very Remote Rural	4	(10.8)	95	(9.1)
Missing	0	(0.0)	13	(1.2)
Total	37	(100)	1046	(100)

4.3.2. Deprivation

The Scottish Index of Multiple Deprivation (SIMD) has been used to identify the deprivation status across different areas in Scotland. It is based on six domains comprising data on Current Income, Employment, Housing, Health, Education and Geographical Access to Services. These dimensions together provide a comprehensive assessment of the level of multiple deprivation in an area (Scottish Executive 2004).

To compare the deprivation status for PTI and Scottish practice populations, we used the modified SIMD that excluded the access to services domain according to place of residence, which we had already investigated in the previous section, and also the health domain to remove any ‘built-in’ association between deprivation and health (McConnachie, Sutton, & Watt 2003). Since the SIMD score for each practice reflects the characteristics of the majority of the practice population, the modified SIMD mean scores were categorized into 5 quintiles with quintile 1 representing the most affluent practice populations and 5 as the most deprived in Scotland. PTI practices had higher percentages within the first 3 quintiles. The main difference between the two groups was in quintile 5 with 11% of PTI practices compared to 22% of Scottish practices (Table 4.3). The absence of PTI data from Greater Glasgow, which contains the most deprived practice populations, had a marked impact on the representation of deprivation within PTI practices.

Table 4.3: Distribution of practices within the five quintiles of the mSIMD

SIMD Scores	PTI Practices		Scottish Practices	
	Number	(%)	Number	(%)
Q 1	9	(24.3)	206	(19.7)
Q 2	9	(24.3)	216	(20.7)
Q 3	9	(24.3)	194	(18.5)
Q 4	6	(16.2)	185	(17.7)
Q 5	4	(10.8)	232	(22.2)
Missing	0	(0.0)	13	(1.2)
Total	37	(100)	1046	(100)

The above pattern was also apparent when calculating the sum of practice populations in each quintile. The most obvious differences were noticed in the most affluent quintile which contained 31% of PTI practice populations compared with 20% of all Scottish

practice populations. On the other hand, 9% of PTI practice populations were located in the most deprived quintile compared with 20% of Scottish practice populations (Table 4.4).

Table 4.4: Distribution of practice population within the five quintiles of the mSIMD

SIMD Scores	PTI Practice Population		Scotland Practice Population	
	Population	(%)	Population	(%)
Q 1	77979	(31.1)	1058061	(19.8)
Q 2	49373	(19.7)	1050341	(19.7)
Q 3	45662	(18.3)	1050848	(19.7)
Q 4	54728	(21.8)	1061489	(19.9)
Q 5	22796	(9.1)	1053808	(19.7)
Missing	0	(0.0)	62342	(1.2)
Total	250538	(100)	5336889	(100)

4.3.3. Size of the practice and number of female GPs

It was possible to compare the size of practices in two ways. First, we used the Whole Time Equivalent (WTE) number of principal and non-principal GPs in the practice which showed that PTI practices were bigger than the average Scottish practices: 41% of PTI practices had more than 5 WTE partners compared with 26% of Scottish practices. Both groups had the same percentage (27%) of medium practices with 3.1 to 5 WTE partners (Table 4.5).

Table 4.5: Distribution of practices by Whole Time Equivalent (WTE) of principals and non-principals GPs

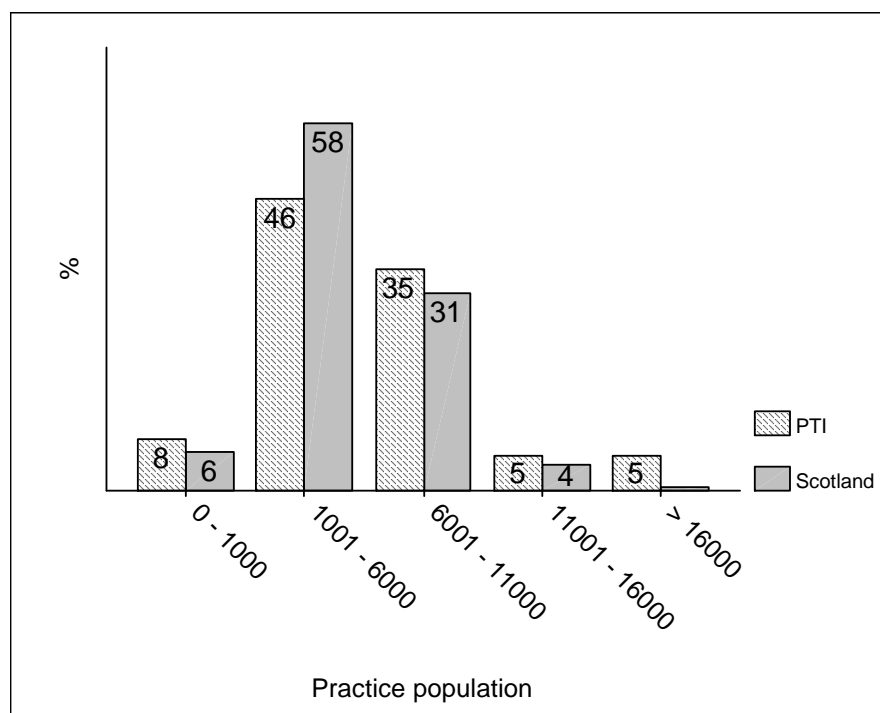
Practice size	PTI Practices		Scottish Practices	
	Number	(%)	Number	(%)
Small <= 3 WTE	12	(32.4)	489	(46.7)
Medium 3.1 – 5 WTE	10	(27.0)	282	(27.0)
Large > 5 WTE	15	(40.5)	275	(26.3)
Total	37	(100)	1046	(100)

Second, the practice lists were divided into 5 categories based on list size (Figure 4.1). In general the mean number of patients in PTI practices was 6771 (Median = 5705, SD = 4277, 95% CI = 5345 – 8197) compared with 5102 patients in Scotland as a whole (Median = 4530, SD = 3293, 95% CI = 4902 - 5302). The difference between the list sizes

in both groups was significant (M-W U = 14841.5, p = 0.016). The main difference was in the category contained 1001 to 6000 patients with 46% of PTI practices compared with 58% of Scottish practices.

30 PTI practices (81%) and 801 Scottish practices (77%) had at least one female GP as a partner in the practice ($X^2(1) = 0.394, P = 0.530$).

Figure 4.1: Distribution of practices by number of patients in the practice list



4.3.4. Practice activities

Both PTI and Scottish practices were similar in claiming fees for Night Visits, Minor Surgery, and Chronic Disease Management (Table 4.6).

Table 4.6: Activities that practices claimed fees for

Activity	PTI Practices		Scottish Practices	
	Number	(%)	Number	(%)
Night visit	35	(94.6)	1000	(95.6)
Minor Surgery	37	(100)	981	(93.8)
Chronic Disease Management	37	(100)	1028	(98.3)

4.3.5. Participation in voluntary schemes

A higher percentage of PTI practices took part in voluntary initiatives concerned with improving quality and services development. These schemes are described in box (4.1).

Box 4.1: Definition of voluntary schemes

Practice Accreditation (PA): this scheme was developed in 1999 as part of the Royal College of General Practitioners quality assessment program. The scheme was designed to ensure that general practices meet the minimum standards for Clinical Governance and Health & Safety. The award recognizes teamwork and is designed to be achievable by any practice team. Working towards the award is intended as an educational process for the practice team, affording them the opportunity to demonstrate quality practice to a defined standard. It is hoped that a practice having achieved this award and in particular having attained many of the quality criteria will progress to the Quality Practice Award. A practice will see a progression by achieving more quality criteria to eventually be able to make a submission for QPA. The PA scheme ended on 31 March 2005 (Royal College of General Practitioners - Scotland 2006).

Quality Practice Accreditation (QPA): is a quality assurance process undertaken by practices, which recognises a high standard of quality patient care delivered by every member of the practice team. It was conceived in 1996 by a group of GPs in North East Scotland who, after undertaking Fellowship by Assessment (FBA), realised that their achievements would not have been possible without the support of the practice team. They went on to develop a scheme based on FBA, with the help of a multi-disciplinary group, which recognised the commitment of the entire practice team in providing quality of care for patients and staff (Royal College of General Practitioners 2006).

Personal Medical Services (PMS): is the system for the delivery of personal medical services introduced by the National Health Service (Primary Care) Act 1997 (“the 1997 Act”). PMS was conceived to operate in parallel with general medical services (GMS). Since it was introduced in pilot form in 1998, the overriding principle of PMS has been to give primary care professionals the freedom to innovate and work more closely as a team to improve services for patients. The contract gives primary care teams the scope to try out new and better ways of meeting the needs of their local patient populations and addressing inequalities in health care provision. This might mean, for example, offering different surgery opening hours or setting up new services for special groups such as minority ethnic communities or the homeless (NHS Primary Care Contracting 2006).

SPICE: The Scottish Programme for Improving Clinical Effectiveness in Primary Care (*SPICE-PC*) was introduced in 1999 with the aim of helping general practices in Scotland with their management of a range of chronic diseases. It achieves this aim by offering practices a voluntary scheme under which they can submit data on their clinical effectiveness and receive feedback on their performance relative to other participating practices. The programme is backed by the Royal College of General Practitioners Scotland and the Scottish General Practitioners Committee. Participation in SPICE-PC is voluntary (Yeung et al. 2004).

The differences were not significant for Practice Accreditation and Personal Medical Services (Table 4.7). However, only 4% of Scottish practices obtained the Quality Practice Accreditation compared with 22% of PTI Practices. Furthermore, 24% of Scottish practices were training practices compared with 46% of PTI practices.

For the Scottish Programme for Improving Clinical Effectiveness (SPICE); 15% of Scottish practices had participated in that program compared with 49% of PTI practices.

The PTI scheme itself, as mentioned earlier, is not only voluntary, but also demanding so it may be expected that this group of practices would be more likely to participate in other voluntary activities.

Table 4.7: Participation in voluntary schemes

Scheme	PTI Practices		Scotland Practices		Statistical Significance
	Number	(%)	Number	(%)	
Practice Accreditation	8	(21.6)	215	(20.6)	$X^2 = 0.25$ $P = 0.875$
Quality Practice Accreditation	8	(21.6)	40	(3.8)	$X^2 = 26.724$ $P = 0.001$
Personal Medical Services Practice	5	(13.5)	89	(8.5)	$X^2 = 1.129$ $P = 0.288$
Training Practice	17	(45.9)	248	(23.7)	$X^2 = 9.561$ $P = 0.002$
SPICE Practices	18	(48.6)	153	(14.6)	$X^2 = 31.108$ $P = 0.001$

To conclude, there were some important differences between the characteristics of PTI and Scottish practices, particularly in relation to deprivation, geographical location, practice size and participation in voluntary schemes such as the Quality Practice Award and the Scottish Programme for Improving Clinical Effectiveness (SPICE).

4.4. Analysis of practice activity

4.4.1. Data analysis and inclusion criteria

The doctors and nurses combined-work dataset consisted of 1,380,164 entries with 11 types of activity carried out by GPs and practice nurses in 2002 (Table 4.8). The types of entries varied between the 37 practices. Most practices had no data entries for house visits, drop-in-clinics, or telephone consultations, so these entries were excluded from the final analysis.

Daytime house visits composed 4% of total activities and were mainly documented by GPs, District Nurses, and Health Visitors, but were not part of practice nurse's duties. In addition, clinic entries were related to other professionals in the practice such as physiotherapists and nutritionists, so all these were also excluded from the analysis.

The final analysis was confined to activities that carried out by GPs and practice nurses during consultations. These entries composed 93% of all activities.

Table 4.8: Types of activity within the PTI dataset

Activity	Number	(%)
Group Contact	4	(0.0)
Unknown	5	(0.0)
House Visit	44	(0.0)
Drop-in Clinic	198	(0.0)
Telephone Consultations	203	(0.0)
House Visit (Night)	1716	(0.1)
Data Entry	6402	(0.5)
Clinic	11242	(0.8)
Out-of-hours co-operative	23389	(1.7)
House Visit (Day)	51968	(3.8)
Consultation	1284993	(93.1)
Total	1380164	(100)

An anonymized ID was available for each professional in every practice, but without Whole Time Equivalent work information. 570 staff contributed to data documentation (411 Principal and non-principal GPs and 159 practice nurses). Of these, 195 (154 GPs and 41 practice nurses (34.2% of total staff)) documented less than 2.5% of activities in their practice's total workload for each profession. The total number of these activities in the dataset was 50518 (3.6% of total activities). So 34.2% of staff produced only 3.6% of total activity. To eliminate the effect of staff who worked for a short period or who saw small number of patients, we excluded activities involving GPs or nurses involved in less than 2.5% of activities for each group in every practice.

The final dataset contained 1234475 activities (89.5% of the total after excluding non-consultation activities (6.9%) and workload of staff carrying out less than 2.5% of activities in the practice (3.6%)).

4.4.2. Workload analysis

Definition of terms:

Practice population: individuals registered with the general practice including not only individuals who attended the practice during 2002 but also those who did not attend.

Patients: individuals who had at least one encounter with the practice during the year.

Encounter/contact: a face-to-face contact between the patient and the practice team during the year. The health care professional could document more than one diagnosis/procedure during one encounter. If a patient contacted both a GP and a PN during one visit, each contact was given a different encounter number.

Activity: this could be a diagnosis/procedure, condition/morbidity, or a combination of these. If the health care member performed more than one activity in the same visit, he/she should document every activity as a new case but with the same encounter number.

Contacts with the practice

There were 250538 individuals registered with the 37 PTI practices as total practice populations. 78.4% (196406 patients) contacted the practices in 2002. Of these, 180032 (91.6% of patients) had at least one contact with a GP and 98050 patients (49.9%) had at least one contact with a practice nurse. The total number of patients who contacted the GPs and who contacted the PNs add to over the number of patients who contacted the practice as mentioned above because of the double counting effect.

To illustrate, the number of patients who were seen by both GPs and PNs during the year was 81676 (41.6% of patients who contacted the practice during the year). 98356 patients contacted only a GP (50.1% of practice patients) without any contact with a nurse. On the other hand, 8.4% of patients contacted the practice nurse at least once during the year without any contact with the GP.

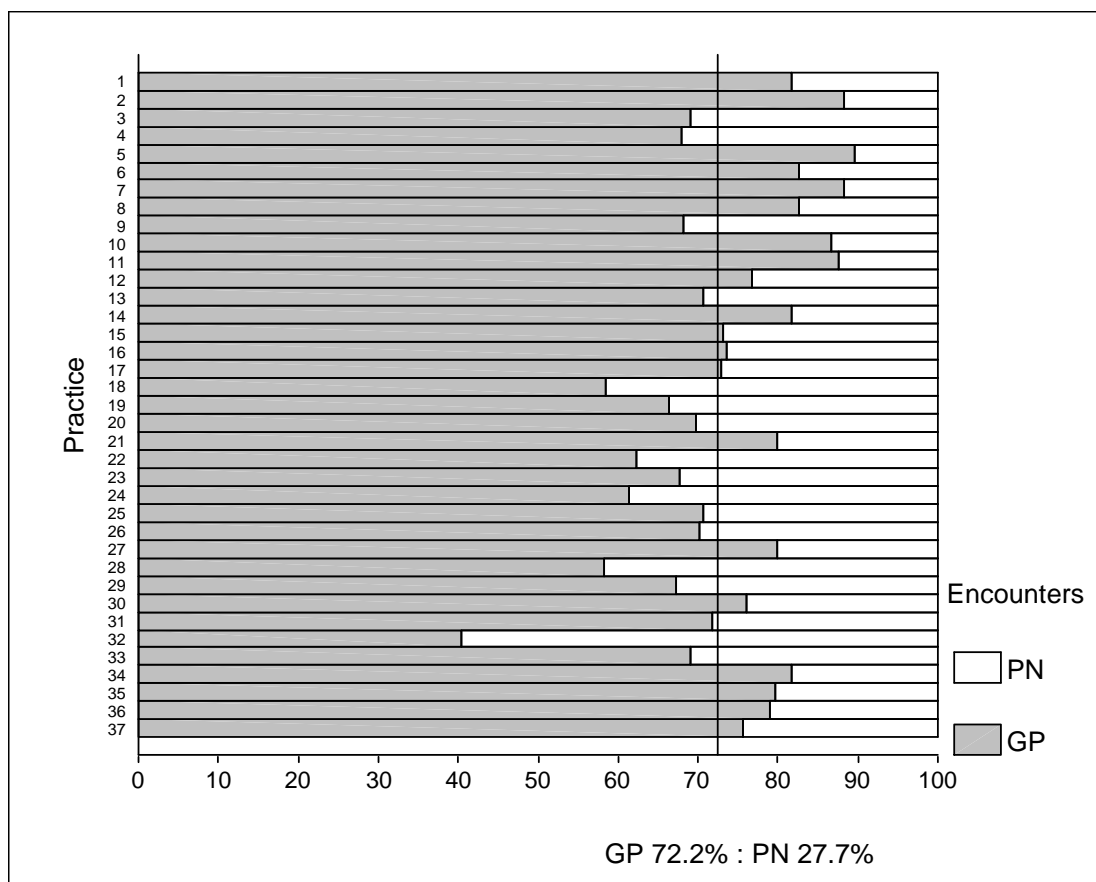
In total, 865089 encounters resulted from patients' contacts with their practices. The average number of encounters for practice populations was 3.5 per head. The average number of encounters for patients who actually contacted the practice was 4.4 encounters per patient.

72.5% of total encounters (627572 encounters) were managed by GPs. The GP encounter rate for the total practice population was 2.5 encounters per head, while for patients who consulted a GP, the encounter rate was 3.5.

Practice nurses carried out 27.5% of practice total encounters (237517 encounters). The encounter rate with the practice nurses for the total practice population was 1.0 while for patients who actually contacted a practice nurse, the encounter rate was 2.4 per head.

The workload percentages between doctors and nurses within the individual practices ranged from 40.4% to 89.7% for GPs and from 10.3% to 59.6% for nurses (Figure 4.2).

Figure 4.2: Distribution of encounters between GPs and nurses for 37 practices



The line denotes the mean % spilt across all PTI practices.

Contacts by patients' characteristics

Female patients had more encounters than males with both GPs and practice nurses (Table 4.9). Overall, they accounted for 61% of total encounters at a rate of 4.2 encounters per head in the practice population compared with 39% of encounters for males (2.8 encounters per head).

The encounter rate for female patients was 3.0 encounters with the GP and 1.2 with the practice nurse per head of the practice population. For male patients, the demand was 2.0 encounters with the GP, and 0.8 with the practice nurse per head of the practice population.

Table 4.9: Distribution of encounters with GPs and PNs by gender

Gender	Encounters with GPs		Encounters with PNs	
	Total	(%)	Total	(%)
Male	247380	(39.4)	92236	(38.8)
Female	380192	(60.6)	145281	(61.2)
Total	627572	(100)	237517	(100)

The distribution of encounters with GPs and practice nurses varied between age groups. General Practitioners had 37961 encounters in the age category 0 to 4 years, accounting for 83% of encounters in this age group. The remaining 17% of encounters were carried out by practice nurses. The practice nurse share of work increased gradually with age to reach 38% and 36% of encounters in the age categories 75 to 84, and above 85 years (Table 4.10).

The breakdown of practice population, actual consulters and encounter rates by age group is summarised in Table 4.11.

Table 4.10: Distribution of encounters by age group between GPs and PNs

Age Group	GP			PN			Practice	
	Number	(% of encounters within Age Category)	(% of encounters of GPs' workload)	Number	(% of encounters within Age Category)	(% of encounters of PNs' workload)	Number	(% of total Practices' Encounters)
0 – 4	37961	(83.0)	(6.0)	7798	(17.0)	(3.3)	45759	(5.3)
5 – 14	39522	(78.0)	(6.3)	11125	(22.0)	(4.7)	50647	(5.9)
15 – 24	64904	(76.2)	(10.3)	20229	(23.8)	(8.5)	85133	(9.8)
25 – 44	177423	(77.1)	(28.3)	52548	(22.9)	(22.1)	229971	(26.6)
45 – 64	189155	(71.6)	(30.1)	74958	(28.4)	(31.6)	264113	(30.5)
65 – 74	70587	(62.7)	(11.2)	42027	(37.3)	(17.7)	112614	(13.0)
75 – 84	41145	(62.2)	(6.6)	25045	(37.8)	(10.5)	66190	(7.7)
> 85	6875	(64.5)	(1.1)	3787	(35.5)	(1.6)	10662	(1.2)
Total	627572	(72.5)	(100)	237517	(27.5)	(100)	865089	(100)

Table 4.11: Distribution of practice population, actual patients, encounters, and demands by age groups

Age Category	Practice population		Practice patients (actual consulters)		% Patients / practice population	Total Encounters		Demand= Encounter / Practice Population
	Number	(%)	Number	(%)		Number	(%)	
0 – 4	12640	(5.0)	12640	(6.4)	100	45759	(5.3)	3.6
5 – 14	31663	(12.6)	21019	(10.7)	66	50647	(5.9)	1.6
15 – 24	30074	(12.0)	24102	(12.3)	80	85133	(9.8)	2.8
25 – 44	72588	(29.0)	55768	(28.4)	77	229971	(26.6)	3.2
45 – 64	65993	(26.3)	51203	(26.1)	78	264113	(30.5)	4.0
65 – 74	20879	(8.3)	19000	(9.7)	91	112614	(13.0)	5.4
75 – 84	12763	(5.1)	10406	(5.3)	82	66190	(7.6)	5.2
> 85	3938	(1.6)	2268	(1.2)	58	10662	(1.2)	2.7
Total	250538	(100)	196406	(100)	78	865089	(100)	3.5

The age category 45 to 64 years (accounting for 26.3% of practice population) produced the highest number of encounters with practices (264113 encounters; 31% of total encounters; encounter rate = 4.0 per head of practice population) (Table 4.11). Of these, 72% were managed by GPs and 28% were managed by practice nurses (as shown in Table 4.10).

However, the highest demand was in the age category 65 to 74 years (encounter rate: 5.4 per head of practice population; GP: 3.4 encounters per head of practice population; PN: 2.0 encounters per head of practice population) (Table 4.12). While this age category composed 8.3% of practice list size, it generated 13% of total encounters. 81% of registered patients had at least one contact with a GP compared to 64% with at least one contact with a practice nurse.

Table 4.12 displays the patient percentages seen by GPs and PNs, and encounter rate for each age category. 72% of the PTI practice populations had at least 1 consultation with a GP (encounter rate = 2.5). This compared with 39% of the practice population who contacted the practice nurse, equivalent to 1 encounter per head of practice populations (Table 4.12).

All patients aged 0 to 4 years were seen by their GP (encounter rate of 3 per head). Only 39% of this age group was seen by practice nurses (encounter rate of 0.6 encounters per head for that age group). The age category 5-14 years had the lowest contact rate with both GPs and practice nurses. In general, younger patients had lower encounter rates with practice nurses compared with older patients.

Table 4.12: Age Group (% of practice population and Encounter rates) with GPs and practice nurses

Age Category	% practice population seen by GPs	Encounter rate with GPs	% practice population seen by PNs	Encounter rate with PN
0 – 4	100	3.0	39	0.6
5 – 14	60	1.2	21	0.4
15 – 24	74	2.1	35	0.7
25 – 44	72	2.4	36	0.8
45 – 64	74	2.9	44	1.1
65 – 74	81	3.4	64	2.0
75 – 84	76	3.2	58	2.0
> 85	54	1.7	34	1.0
Total	72	2.5	39	1.0

The frequency of contacts with the practice

21.6% of the registered population (250538) had no contact with the practice during the year. 28% did not contact a GP and 61% did not contact a PN.

19.5% of the practice population had only 1 contact with the practice (GP or PN) during the entire year, accounting for 5.6% of all encounters (48822 encounters). The 38.1% of population who contacted the practice 2 to 5 times accounted for 34.8% of encounters. Furthermore, 32% of all encounters were generated by the 14.7% of practice populations who had 6 to 10 contacts. What kept the practice most busy, however, was the 6.2% of population who had more than 10 contacts, accounting for 27.7% of all encounters (Table 4.13).

Table 4.13: Number of patient contacts with the practice and their encounters

Number of Contacts	Total Practice			
	Patients	(%)	Encounters	(%)
0	54132	(21.6)	0	(0.0)
1	48822	(19.5)	48822	(5.6)
2	34621	(13.8)	69242	(8.0)
3	25989	(10.4)	77967	(9.0)
4	19466	(7.8)	77864	(9.0)
5	15167	(6.1)	75835	(8.8)
6	11481	(4.6)	68886	(8.0)
7	8960	(3.6)	62720	(7.3)
8	6814	(2.7)	54512	(6.3)
9	5283	(2.1)	47547	(5.5)
10	4203	(1.7)	42030	(4.9)
>10	15600	(6.2)	239664	(27.7)
Total	250,538	(100)	865,089	(100)

General Practitioners managed 627572 encounters in the 37 practices. 21.9% of the population generated 8.7% of these encounters by contacting their GP only once. 36.8% contacted the GP 2 to 5 times, accounting for 45% of all encounters. 10.6% had 6 to 10 contacts which accounted for 31% of encounters. Finally, the 2.7% of the population who had more than 10 contacts during the year produced 15.2% of GP encounters (Table 4.14).

Table 4.14: Number of patient contacts with the GP and their encounters

Number of Contacts	General Practitioner			
	Patients	(%)	Encounters	(%)
0	70506	(28.1)	0	(0)
1	54781	(21.9)	54781	(8.7)
2	36462	(14.6)	72924	(11.6)
3	25195	(10.1)	75585	(12.0)
4	17831	(7.1)	71324	(11.4)
5	12571	(5.0)	62855	(10.0)
6	9204	(3.7)	55224	(8.8)
7	6520	(2.6)	45640	(7.3)
8	4646	(1.9)	37168	(5.9)
9	3439	(1.4)	30951	(4.9)
10	2553	(1.0)	25530	(4.1)
>10	6830	(2.7)	95590	(15.2)
Total	250538	(100)	627572	(100)

Practice nurses had 237517 encounters with 39% of the practice population. 19.9% of the population had only one contact with their practice nurse, comprising 21% of nurse encounters. 16.2% contacted the practice nurse 2 to 5 times, accounting for 48.4% of nurse encounters. A small percentage of patients generated about one third of nurse workload as 2% of practice population had 6 to 10 contacts and used 16.1% of nurse encounters. Furthermore, 0.8% of the population were responsible for 14.6% of nurse encounters by contacting nurses more than 10 times during the year (Table 4.15).

Table 4.15: Number of patient contacts with the practice nurse and their encounters

Number of Contacts	Practice Nurse			
	Patients	(%)	Encounters	(%)
0	152488	(60.9)	0	(0.0)
1	49832	(19.9)	49832	(21.0)
2	20815	(8.3)	41630	(17.5)
3	10885	(4.3)	32655	(13.8)
4	5848	(2.3)	23392	(9.9)
5	3409	(1.3)	17045	(7.2)
6	2098	(0.8)	12588	(5.3)
7	1298	(0.5)	9086	(3.8)
8	858	(0.3)	6864	(2.9)
9	583	(0.2)	5247	(2.2)
10	453	(0.2)	4530	(1.9)
>10	1971	(0.8)	34648	(14.6)
Total	250538	(100)	237517	(100)

4.4.3. Activities in the practice

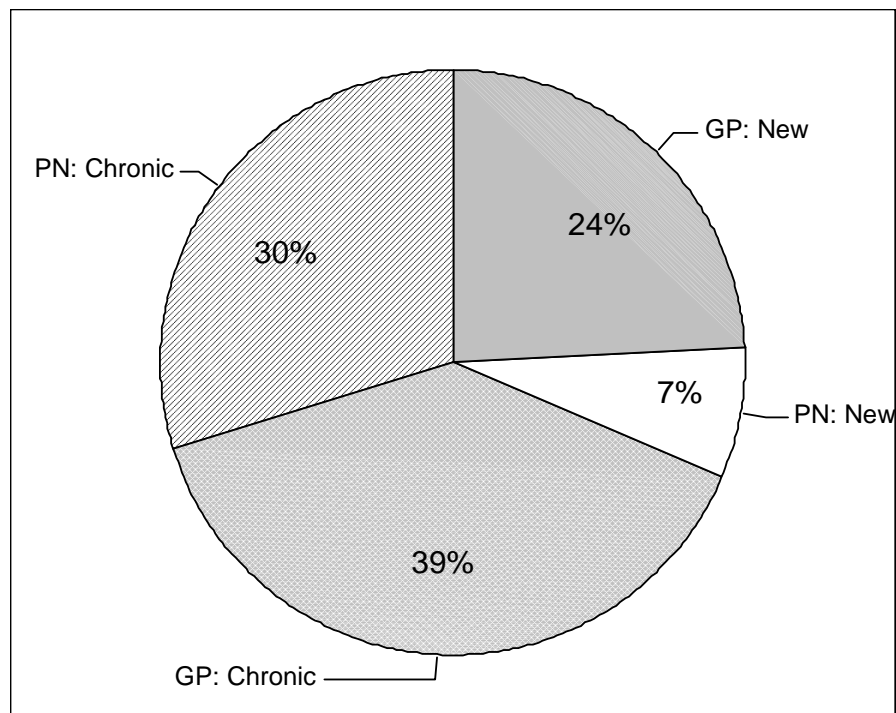
The 37 practices had 1234475 activities (specific reasons for consultation, either as a diagnosis or a procedure) that were documented during the year (Mean: 33366; Median: 26986, SD: 20894, Range: 4466 - 94727, 95% CI: 26399 - 40332). Of these, 63% were carried out by GPs and 37% by practice nurses.

These activities came under 161 different morbidity groups (161 groups were reported by doctors and 86 by practice nurses). These groups included 2225 different activity codes. GPs used 2051 different codes and PNs used 611 codes. Some of these codes were used by both clinicians; others were used solely by one profession.

31% of practice activities (386566) were documented as new problems/cases. Of these, 78% were managed by GPs and 22% by practice nurses. The other 847965 (69%) activities were documented as old/chronic problems. GPs managed 57% while nurses managed 43%. Figure 4.3 displays the distribution of total workload between GPs and practice nurses according to the stage of the presented problems.

GP workload consisted of 38% new problems and 62% old/chronic problems, while for practice nurses, it was 19% new problems and 81% old/chronic problems.

Figure 4.3: Distribution of stage of the presented problem between GPs and practice nurses



Caseload analysis

The Read codes in the dataset can be analysed as: (1) the specific reason for contacting the practice (a diagnosis/procedure), and (2) a common or standard morbidity group that comprised all related diagnoses/procedures. For instance, the morbidity group 'Hypertension' contained 82 sub-diagnoses/procedures related to hypertension such as:

<u>Morbidity Group</u>	<u>Specific reason for consultation</u>	<u>Read Code</u>
Hypertension	Hypertension treatm. Started	662F.
	Hypertension monitoring	662P.
	Hypertens. monitor phone invite	90I8.
	Essential hypertension	G20..
	Essential hypertension NOS	G20z.
	Hypertensive heart disease NOS	G21z.
	Hypertens renal dis+renal fail	G222.
	Secondary hypertension	G24..
	Hypertension secondary to drug	G24z1
	[D]Raised blood pressure read.	R1y2.

The following analysis focused first on the top 10 morbidity groups seen in the practice by GPs and practice nurses as one team. Later analyses focus on the 10 morbidity groups seen by each professional group alone.

The top 10 condition / morbidity groups:

The top 10 conditions/morbidities managed by the practice team (both GPs and practice nurses together) comprised 33% of the total workload (32% of GPs workload and 34% of nurses workload). Of these, 62% were managed by GPs and 38% by practice nurses (Table 4.16).

Hypertension-related problems were the most common reason for attendance (5.3% of all conditions/morbidities) and was managed equally by GPs and practice nurses. Another featured group was patients who came for contraceptive management (GPs managed 63% and practice nurses managed 37% of cases). Five groups from the top 10 list were managed mainly by GPs (acute upper respiratory tract infections: 100%; depression & other affective disorders: 99%; back & neck disorders: 99%; anxiety and stress related disorders: 95%; and diseases of the skin: 88%).

Practice nurses largely managed three morbidity groups (immunisation & hazards related to communicable diseases: 87%; injuries: 80%; and examinations & investigations: 77%).

Table 4.16: The top 10 conditions/morbidities managed by GPs and PNs in the practice

	Condition / Morbidity	GP Number Row %	PN Number Row %	Practice Number [%] of total
1	Hypertension	33727 (51.1)	32213 (48.9)	65940 [5.3]
2	Diseases of the skin	47772 (87.7)	6680 (12.3)	54452 [4.4]
3	Examination & investigation	12028 (23.1)	39959 (76.9)	51987 [4.2]
4	Depression & other affective disorders	39442 (98.7)	517 (1.3)	39959 [3.2]
5	Immunisation & hazards related to communicable diseases	4810 (12.9)	32621 (87.1)	37431 [3.0]
6	Injuries	7255 (20.1)	28881 (79.9)	36136 [2.9]
7	Back & neck disorders	29448 (99.2)	250 (0.8)	29698 [2.4]
8	Contraceptive management	18720 (63.2)	10913 (36.8)	29633 [2.4]
9	Anxiety & stress-related disorders	27607 (94.7)	1547 (5.3)	29154 [2.4]
10	Acute upper respiratory infections	28302 (99.6)	108 (0.4)	28410 [2.3]
	Total Top 10 Within the top 10	249111 (61.8)	153689 (38.2)	402800 (100)
	Within staff workload	31.8	33.9	[32.6]
	Total 161 conditions	782447 63.4	452028 36.6	1234475

The above table shows how can the inclusion of practice nurses activities over and above GP recording gives a much more complete picture of patient care in general practice. Many chronic conditions are increasingly managed by nurses rather than GPs. The NHS Scottish Information Service Division states that for many conditions, including nursing contacts in calculations of numbers of patients consulting the practice will be likely to result in figures

that are closer to the population prevalence compared to analysis based on GP contacts only (Information Services Division-NHSScotland 2008d).

Following this, the top 10 conditions managed by either GPs alone or by practice nurses alone were separately analysed and compared with each others. These differed significantly from the content and order of the combined list. First, the GP's top 10 conditions/morbidities list comprised 36.9% of their total workload while for practice nurses it comprised 42% of their activities (Table 4.17). Second, 62% of GPs top 10 conditions/morbidities were chronic/old problems compared with 81% of PNs list (Figure 4.4 and 4.5).

Only 2 conditions/morbidities featured in both top ten lists, hypertension (ranked 3rd in both lists, comprising 4.3% of GP's total workload and 7.1% of nurse's total workload) and contraceptive management (ranked 10th in the GP's list comprising 2.4% of their workload and ranked 6th in the nurse's list comprising 2.4% of their workload).

The GPs top 10 list was composed mainly of conditions that needed clinical diagnosis and direct medical treatment. For example, skin diseases were ranked first (6% of GPs total workload), depression and related affective conditions (5% of total workload) were ranked second. The remaining 6 groups in the GP list were also complex problems that required medical care rather than nursing follow up and management.

Five of the condition/morbidity groups in the practice nurses top 10 list were chronic diseases or conditions associated with chronic disease (hypertension, diabetes, obesity, asthma, and respiratory diseases). However, the largest group in terms of workload related to uncertain cases came for examinations and investigations (9% of total nurses workload), which required nurses to carry out a range of procedures and tasks (Table 4.17).

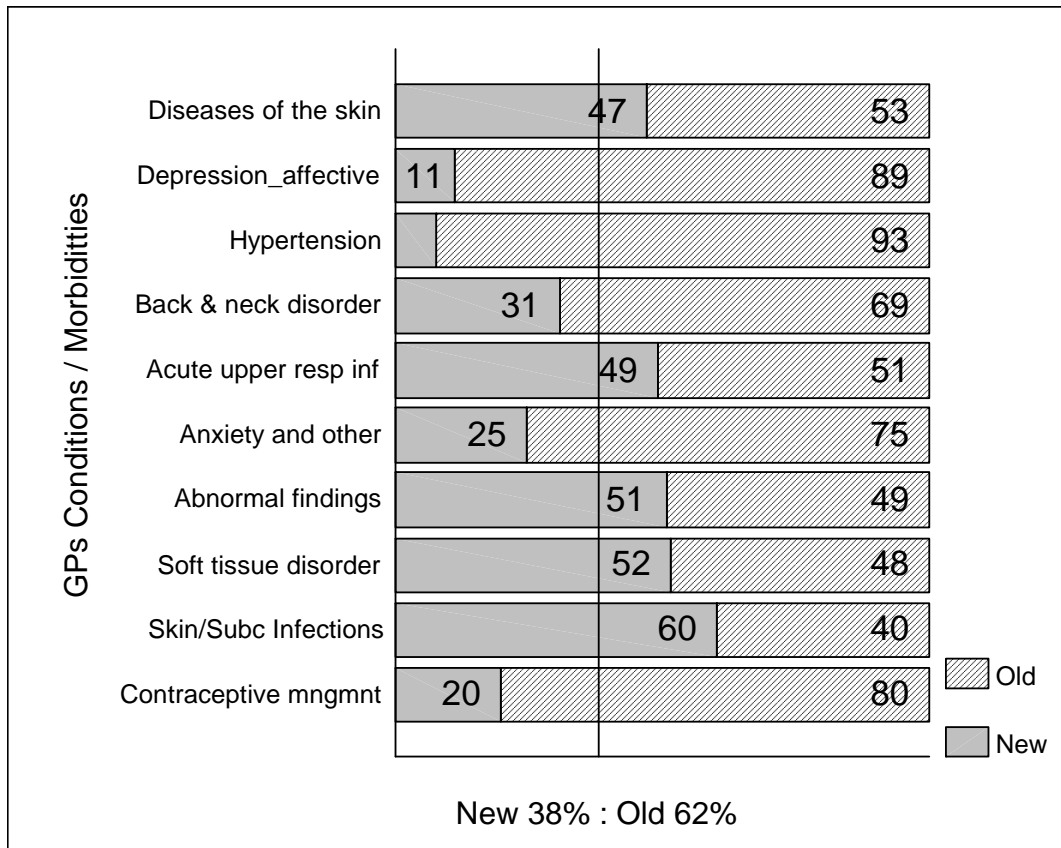
Table 4.17: The top 10 conditions/morbidities managed by GPs or nurses alone

	GP Condition/Morbidity		PN Condition/Morbidity	
		Number (% of total conditions)		Number (% of total conditions)
1	Diseases of the skin	47772 (6.1)	Examination & investigation	39959 (8.8)
2	Depression & other affective disorders	39442 (5.0)	Immunisation & hazards related to communicable diseases	32621 (7.2)
3	Hypertension	33727 (4.3)	Hypertension	32213 (7.1)
4	Back & neck disorders	29448 (3.8)	Injuries	28881 (6.4)
5	Acute upper respiratory infections	28302 (3.6)	Diabetes	12774 (2.8)
6	Anxiety & stress related disorders	27607 (3.5)	Contraceptive management	10913 (2.4)
7	Abnormal clinical & laboratory findings	23209 (3.0)	Obesity	10213 (2.3)
8	Soft tissue disorders	21212 (2.7)	Asthma	8376 (1.9)
9	Infections of the skin	19003 (2.4)	Diseases of the respiratory system	8274 (1.8)
10	Contraceptive management	18720 (2.4)	Diseases of the ear & mastoid	7062 (1.6)
Total		288442 (36.9)		191286 (42.3)

* Column percentages related to all conditions and not only the top 10 morbidities/conditions (GPs = 782447; PNs = 452088).

38% of morbidities managed by GPs were documented as new problems and 62% as old/chronic problems (Figure 4.4). Old or chronic problems were particularly associated with the areas of hypertension (93% of total hypertension contacts), depression (89%), anxiety (75%), and contraceptive management (80%).

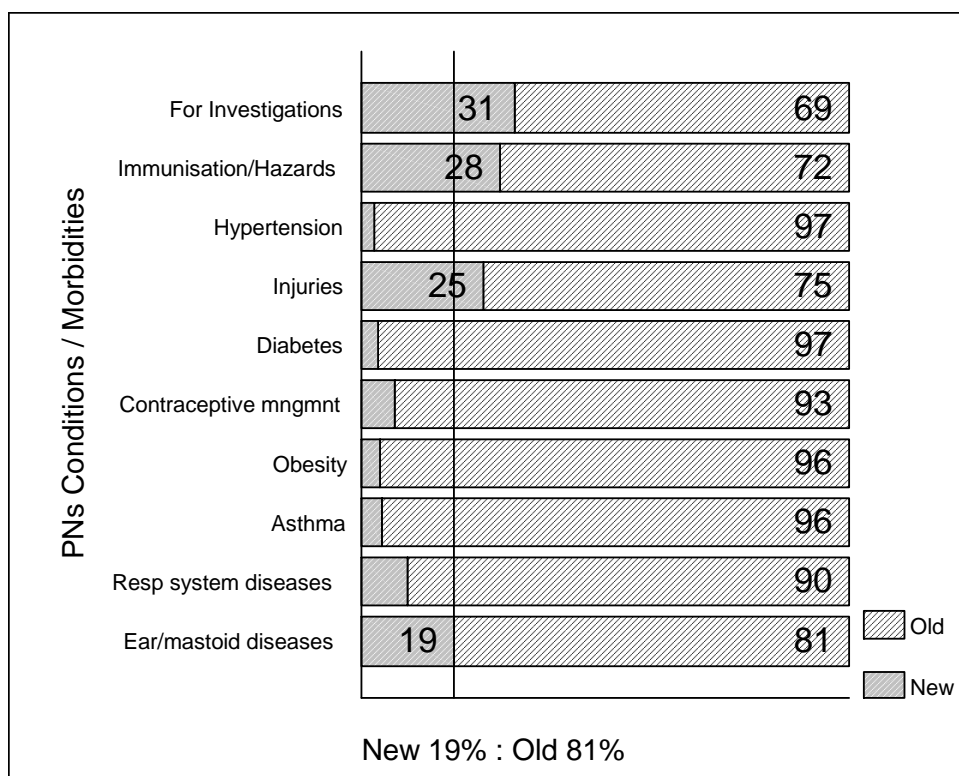
Figure 4.4: Top 10 conditions/morbidities managed by GPs



The line denotes the mean % spilt as new and old/chronic across GPs' top 10 morbidities.

A higher proportion of practice nurses morbidities (81%) were documented as old/chronic problems. Dealing with old/chronic problems dominated PN workload. More than 90% of 6 morbidity groups in the PN's top 10 list were documented as chronic problems: hypertension, diabetes, contraceptive management, obesity, asthma, and respiratory diseases (Figure 4.5).

Figure 4.5: The top 10 conditions/morbidities managed by practice nurses



The line denotes the mean % spilt as new and old/chronic across PNs' top 10 morbidities.

The top 10 specific reasons for consultations

2225 separate reasons for consultation were reported during the year through the Read code system (1614 (72.5%) used solely by GPs + 174 (7.8%) used solely by PNs + 437 (19.6%) used by both). So around one fifth (20%) of specific reasons for consultation were common between GPs and PNs.

The top 10 reasons for consultation combined list comprised 219833 entries (17.8%) of the practices' total workload for GPs and PNs as one team (11% of GPs workload and 30% of practice nurses total workload). 39% of these activities were documented by GPs and 61% by practice nurses.

The list indicates a clear dichotomy of work between GPs and practice nurses, with 6 out of 10 groups managed entirely either by GPs or by nurses. For example, more than 99% of cases of upper respiratory infection, backache, and depressive disorder were managed by GPs. On the other hand, most blood pressure readings, taking blood, and wound dressings were carried out by practice nurses (Table 4.18).

Essential hypertension was reported equally by GPs and nurses, but for unconfirmed essential hypertension (Not Otherwise Specified)² cases, 72% were seen by doctors and 28% by nurses. Other areas where practice nurse care predominated were influenza vaccinations (80% managed by nurses) and cervical smear biopsies (85% taken by PNs).

Table 4.18: The combined top 10 reasons for consultation managed in the practice

	Reason for consultation	GP Number %	PN Number %	Practice Number % of total
1	Nursing care – blood taken	139 0.3	50491 99.7	50630 [4.1]
2	Essential hypertension NOS	17252 71.8	6761 28.2	24013 [1.9]
3	Wound dressing NOS	0 0.0	22084 100	22084 [1.8]
4	Essential hypertension	10681 51.2	10177 48.8	20858 [1.7]
5	Blood pressure reading NOS	1260 6.1	19518 93.9	20778 [1.7]
6	Upper respiratory infection NOS	20647 99.5	96 0.5	20743 [1.7]
7	Influenza vaccination	3675 20.2	14523 79.8	18198 [1.5]
8	Backache	15223 98.6	215 1.4	15438 [1.3]
9	Depressive disorder NEC ³	14042 99.7	38 0.3	14080 [1.1]
10	Cervical smear biopsy taken	1973 15.2	11038 84.8	13011 [1.1]
	Total for the top 10 activities	84892	134941	219833
	Within the top 10	38.6	61.4	17.8
	Within staff workload	10.9	29.8	
	Total for all 2225 activities	782447	452028	1234475
		63.4	36.6	

² Read Code Dictionary: Not Otherwise Specified (NOS) denote to a condition that not explicitly diagnosed. Version three of the dictionary has replaced terms that included NOS with more definite diagnoses wherever possible since this is not a convention normally used in primary care (PTI Read Coding Dictionary 2007).

³ Not Elsewhere Classified (NEC): The condition is not covered by any other category. This type of coding is unlikely to be common in clinical practice but occasionally it may be impossible to find a suitable term for a condition without having 'NEC' attached (Read Code User Guide 2000).

When those codes used only by GPs or PNs were examined, there were almost no similarities in the top 10 reasons for consultation for each profession. The only exception was essential hypertension (Table 4.19). An important difference between the lists of GP's and practice nurse's top 10 reasons for contacting the practice was that doctors mainly gave medical diagnoses to their activities, in contrary to nurses who tended to use tasks and procedures codes, which could be ascribed to the way that professionals were instructed to code their activities for more accuracy. Nevertheless, this sort of data analysis reveals the real work that both professionals carried out in the practice.

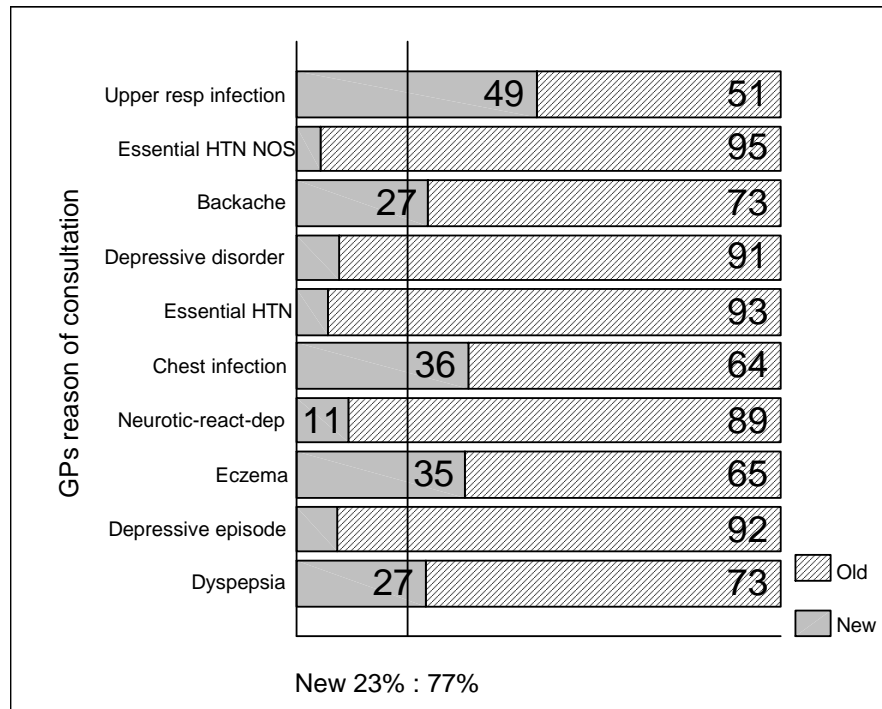
Table 4.19: The separate top 10 reasons of consultation lists

	GP Reason of consultation		PN Reason of consultation	
		Number (% of total activities)		Number (% of total activities)
1	Upper respiratory infection.	20647 (2.6)	Nursing care - blood taken	50491 (11.2)
2	Essential hypertension NOS	17252 (2.2)	Wound dressing	22084 (4.9)
3	Backache	15223 (1.9)	Blood pressure reading	19518 (4.3)
4	Depressive disorder	14042 (1.8)	Influenza vaccination	14523 (3.2)
5	Essential hypertension	10681 (1.4)	Cervical smear biopsy taken	11038 (2.4)
6	Chest infection	9545 (1.2)	Essential hypertension	10177 (2.3)
7	Neurotic (reactive) depression	8538 (1.1)	Infectious diseases: prevention & control	9767 (2.2)
8	Eczema	7737 (1.0)	Health education	9178 (2.0)
9	Depressive episode	7484 (1.0)	Raised blood pressure reading	7747 (1.7)
10	Dyspepsia	6769 (0.9)	Irrigation for the external auditory canal	7559 (1.7)
Total		117918 (15.0)		162082 (35.9)

* Column percentages related to all conditions and not only the top 10 morbidities/conditions.

77% of the Read cods coded in the GPs' top 10 list were old/chronic problems. For the areas of hypertension and depressions, old/chronic problems this accounted for 90% or more of the activity (Figure 4.6).

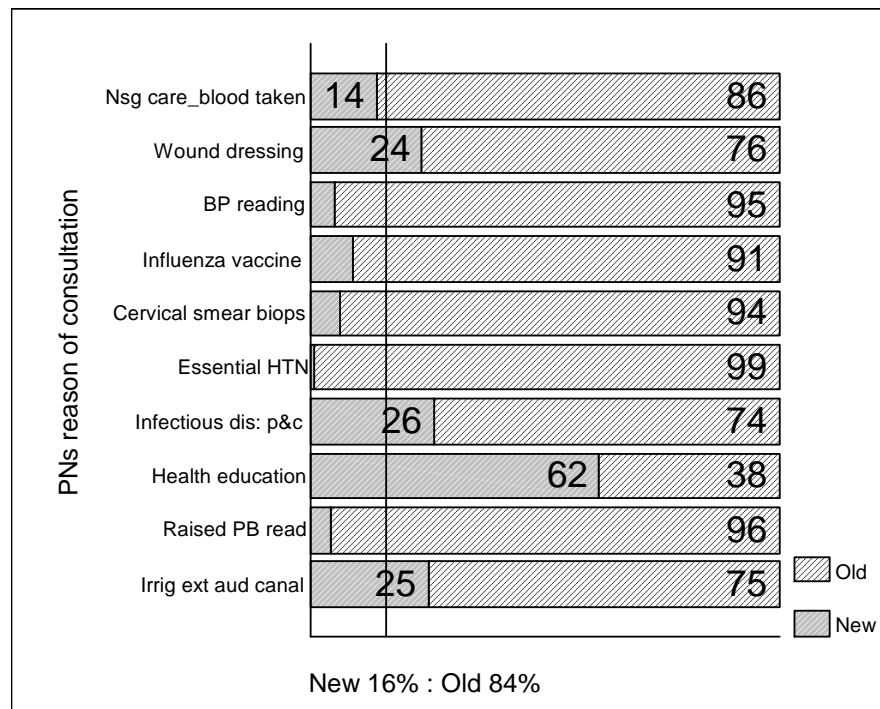
Figure 4.6: The top 10 reasons of consultation managed by GPs



The line denotes the mean % spilt as new and old/chronic across GPs' top 10 reasons of consultation..

Practice nurse's top 10 reasons for consultations were composed of 84% old/chronic problems and only 16% new problems. Old/chronic conditions predominated for blood pressure readings, influenza vaccination and cervical smears (Figure 4.7). The major exception was in activities coded as health education, where only 38% were old/chronic problems and 62% were new.

Figure 4.7: The top 10 reasons of consultation managed by nurses



The line denotes the mean % spilt as new and old/chronic across PNs' top 10 reasons of consultation..

4.4.5. Staff activities and characteristics of practices

The 37 PTI practices were atypical practices, compared to all practices in Scotland, with respect to their geographical distribution, deprivation characteristics, size, and participation in voluntary schemes. In the following section, we investigate whether the workload and caseload between doctors and nurses were affected by the deprivation and size of practices. First, practices were categorized into four groups on the basis of their deprivation and size characteristics. The subsequent analyses focus separately on deprivation (dividing practices into five quintiles with number 1 as most affluent and number 5 as most deprived) and size of practices (dividing practices into small and large on the basis of WTE GPs).

Workload variation by deprivation and size of practices

Practices were divided into two halves according to their modified Scottish Index of Multiple Deprivation scores (mSIMD). The first group composed of the most affluent 18 practices and the second group of the remaining 19 most deprived practices.

Practices were then categorized into small and large practices according to the number of Whole Time Equivalent partners in the practice. Practices that had less than 5 WTE GPs were considered as small (18 practices) and those had 5 or more WTE partners considered as large (19 practices). The list size for all small practices contained less than 5000 patients. The choice of using 5 WTE GPs was pragmatic as it divided the 37 practices sample into 2 equal halves (Table 4.20). The GPs WTE was also used as a proxy for nurse numbers, due to the absence of WTE data for practice nurses.

Table 4.20: Categorization of practices by deprivation and size

	Small	Large
Affluent	7	11
Deprived	11	8

Small affluent practices had the lowest average list size (916 per WTE GP), but the highest demand with a rate of 4 encounters per head of practice population (Table 4.21).

Large deprived practices had the highest average list size per WTE GP, but the encounter rate was similar to the average rate for all practices (3.5 encounters per head of practice population).

Table 4.21: Encounter demands by practice deprivation

Practice	Demand = encounters / list size	Average list size / WTE GP
Small and affluent (7 practices)	4.0	916
Small and deprived (11 practices)	3.4	1378
Large and affluent (11 practices)	3.4	1384
Large and deprived (8 practices)	3.5	1476
Total	3.5	1313

The distribution of encounters between doctors and nurses varied between the four groups. Doctors in small deprived practices were the most busy with 3608 encounters per WTE GP in that year, compared with 2065 encounters per WTE GP in small affluent practices. Practice nurses were least busy in small deprived practices. They carried out 21% of total encounters with an encounter rate of 879 per WTE GP (Table 4.22).

Doctors in large affluent and large deprived practices had encounter rates of 3411 and 3464 respectively. Practice nurses were busier in large practices than in small practices, especially in large deprived practices with 1763 encounters per WTE GP (about double the nurse encounter rate in small deprived practices).

Table 4.22: The distribution of encounters between GPs and PNs by deprivation

Practice	Encounters seen by GPs (%)	Encounters seen by GPs / WTE GP	Encounters seen by PNs (%)	Encounters seen by PNs / WTE GP	Total practice Encounters / WTE GP
Small and affluent (7 practices)	52426 (73)	2065	19637 (27)	997	3062
Small and deprived (11 practices)	111356 (79)	3608	29668 (21)	879	4487
Large and affluent (11 practices)	269099 (73)	3411	100067 (27)	1300	4711
Large and deprived (8 practices)	194691 (69)	3464	88145 (31)	1763	5227
Total	627572 (72.5%)	3431	237517 (27.5)	1299	4730

A similar categorization of practices by deprivation and size was also used for the sampling framework in the subsequent qualitative study. This will be further discussed in the qualitative study chapter.

Workload variation by deprivation

To remove any confounding effects of deprivation and size on each other, a detailed analysis for workload and caseload was carried out for each variable separately. The 37 practices were categorised into 5 quintiles based on the modified Scottish Index of Multiple Deprivation (mSIMD) mean score weighted by practice populations.

The encounter demands were similar in the most deprived and most affluent quintiles (3.4 and 3.3 encounters per head of practice population), while the average list size per WTE was higher for the most deprived practices (1639 head per WTE GP). The demand was highest (3.9) for practices in quintile 3; these same practices had the smallest list size per WTE GP (Table 4.23).

Table 4.23: Encounter demands by practice deprivation

5 quintiles – mSIMD Score	Demand = encounters / list size	The average list size / WTE GP
1 (6 practices)	3.4	1413
2 (6 practices)	3.2	1124
3 (10 practices)	3.9	1067
4 (8 practices)	3.4	1404
5 (7 practices)	3.3	1639
Total	3.5	1313

There were some variations among the different five quintiles. The workload rate (i.e. total practice encounters per WTE GP) was higher in the most affluent practices (quintile 1) than practices in quintiles 2, 3, 4, and was very close to the workload of practices in quintile 5 (the most deprived) (Table 4.24).

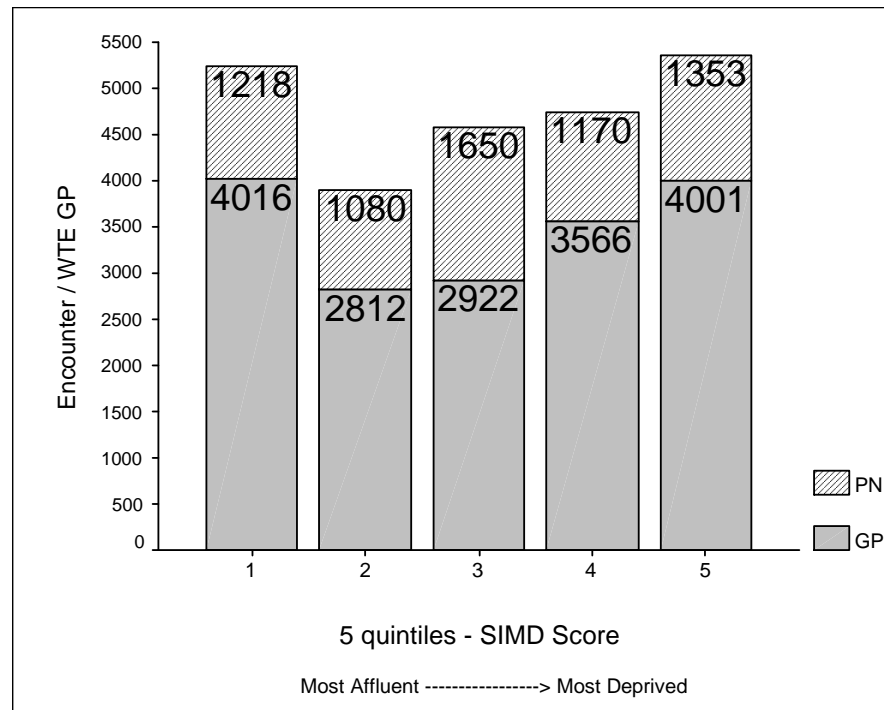
Doctors in quintiles 1 and 5 had similar encounter rates (around 4000 per WTE GP), but practice nurses had a higher workload in quintile 5 (1353 encounters per WTE GP) than nurses in quintile 1 (1218 encounters per WTE GP).

Table 4.24: Workload variation between GPs and PNs in the by practice deprivation

5 quintiles – mSIMD Score	Encounters seen by GPs (%)	Encounters seen by GPs / WTE GP	Encounters seen by PNs (%)	Encounters seen by nurses / WTE GP	Total Practice encounters / WTE GP
1 (6 practices)	141470 (76.7%)	4015.6	42901 (23.3%)	1217.7	5233.3
2 (6 practices)	105207 (72.2%)	2811.5	40415 (27.8%)	1080.0	3891.5
3 (10 practices)	118117 (63.9%)	2921.5	66698 (36.1%)	1649.7	4571.2
4 (8 practices)	137223 (75.3%)	3566.0	45036 (24.7%)	1170.4	4736.4
5 (7 practices)	125555 (74.7%)	4001.1	42467 (25.3%)	1353.3	5354.4
Total	627572 (72.5%)	3430.5	237517 (27.5)	1298.3	4728.8

Practices in the second quintile had the lowest workload, then it increased gradually across quintiles 3 and 4, reaching its maximum in the most deprived quintile (Figure 4.8). The encounter rate for PNs was highest in the 3rd quintile (1650 encounters per WTE GP). They carried out 36% of encounters while the average in the 37 practices was 27.5% of total encounters.

Figure 4.8: Encounter rates per WTE GP for doctors and nurses by practices deprivation



Caseload variation by deprivation

The top 10 reasons for consultation varied by deprivation. Some conditions and activities, e.g. dressing wounds, were only found in the more affluent quintiles (Table 4.25). Furthermore, the rank of the featured conditions also changed considerably. For instance, depression ranked fourth in the first quintile and seventh in the fifth quintile.

A number of conditions had the same distribution of workload between doctors and nurses in all quintiles. Taking blood, wound dressing, and BP measurement were managed mainly by nurses; upper respiratory tract infections, depression, backache, and chest infections were managed mainly by doctors.

However, other activities split differently between doctors and nurses amongst the affluent and the deprived quintiles. For instance, nurses managed 14% of cases with the imprecise diagnosis of 'Essential hypertension (Not Otherwise Specified)' in the most affluent quintile compared with 52% in the most deprived quintile. On the contrary, nurses managed 37% of cases with clear diagnosis of 'Essential hypertension' in the first quintile

compared with 16% in the most deprived quintile. This could mean that while routine tasks (e.g. BP reading) were totally carried out by nurses in affluent and deprived practices, nurses in deprived practices made a higher contribution to managing cases with imprecise diagnoses such as 'Essential hypertension NOS'.

Nurses carried out 72% of the cervical smears and gave 73% of the influenza vaccinations in the most affluent practices compared with 83% and 84% respectively in the most deprived practices.

Table 4.25: Distribution of top 10 reasons for consultation between GPs and PNs by practices deprivation

	Quintile 1	GP %	PN %	Quintile 2	GP %	PN %	Quintile 3	GP %	PN %	Quintile 4	GP %	PN %	Quintile 5	GP %	PN %	Total practices	GP %	PN %
1	Nursing care–blood taken	0	100	Nursing care–blood taken	0	100	Nursing care–blood taken	0	100	Nursing care–blood taken	0	100	Nursing care–blood taken	1	99	Nursing care–blood taken	0	100
2	Essential HTN NOS	86	14	Wound dressing	0	100	Wound dressing	0	100	Upper respiratory infection	100	0	Essential HTN NOS	48	52	Essential HTN NOS	72	28
3	Upper respiratory infection	100	0	BP reading	8	92	BP reading	3	97	Essential HTN	61	39	Upper respiratory infection	100	0	Wound dressing	0	100
4	Depressive disorder	100	0	Essential HTN	83	17	Essential HTN	46	54	Influenza Vaccine	41	59	Influenza Vaccine	16	84	Essential HTN	51	49
5	Wound dressing	0	100	Upper respiratory infection	100	0	Essential HTN NOS	32	68	Essential HTN NOS	58	42	BP reading	3	97	BP reading	6	94
6	Essential HTN	63	37	Cervical smear biopsy	6	94	Influenza Vaccine	7	93	Neurotic depression	100	0	Backache	99	1	Upper respiratory infection	99	1
7	Backache	99	1	Essential HTN NOS	63	37	Raised BP reading	26	74	Backache	99	1	Depressive disorder	100	0	Influenza Vaccine	20	80
8	Infectious disease prevention & control	3	97	Influenza Vaccine	26	74	Depressive disorder	99	1	Depressed	100	0	Essential HTN	84	16	Backache	99	1
9	BP reading	0	100	Contraceptive management	69	31	Backache	97	3	Cervical smear biopsy	21	79	Infectious disease prevention & control	1	99	Depressive disorder	100	0
10	Cervical smear biopsy	28	72	Impacted cerumen	19	81	Diabetes Mellitus	32	68	Chest infection NOS	100	0	Chest infection NOS	99	1	Cervical smear biopsy	15	85
	Top 10 Total	46	54	Top 10 Total	29	71	Top 10 Total	23	77	Top 10 Total	59	41	Top 10 Total	52	48	Top 10 Total	39	61
		69	31		61	39		51	49		70	30		67	33		63	77

As mentioned earlier, PTI data contains the full range of Read codes allowing analyses of clinical activities both by individual codes (specific reason for consultation) and by morbidity groupings. This allowed us to explore the conjecture that work sharing between GPs and PNs would be more apparent across general groups of condition/morbidity, which combined all the relevant reasons for consultation together. To the contrary, Table 4.26 shows that some general morbidity groups were still exclusively managed either by GPs or practice nurses. For example, depression, anxiety, acute upper respiratory tract infections, back and neck disorders and skin diseases were completely managed by doctors in all five quintiles. Nurses carried out most of the activities relating to immunisation.

The variations of work sharing between GPs and practice nurses in the different deprivation quintiles were clear in the following most common condition/morbidity groups:

- Contraceptive management: Nurses carried out 13% of activities in the most affluent 1st quintile, 35% in the 2nd, 52% in the 3rd, 38% in the 4th, and 48% in the most deprived 5th quintile.
- Abnormal clinical & laboratory findings (NEC): Nurses carried out 8% in the 1st quintile, 11% in the 2nd, 17% in the 3rd, 5% in the 4th, and 13% in the 5th most deprived quintile.
- Infections of the skin: Nurses carried out 24% in the 1st quintile, 36% in the 2nd, 37% in the 3rd, 6% in the 4th, and 11% in the 5th quintile.
- Injuries: Nurses carried out 83% in the 1st most affluent quintile, 81% in the 2nd, 87% in the 3rd, 71% in the 4th, and 70% in the 5th quintile.

Table 4.26: Distribution of top 10 Conditions/morbidities between GPs and PNs by practices deprivation

	Quintile 1	GP %	PN %	Quintile 2	GP %	PN %	Quintile 3	GP %	PN %	Quintile 4	GP %	PN %	Quintile 5	GP %	PN %	Total practices	GP %	PN %
1	Diseases of the Skin	91	9	Examination & Investigation	20	80	Hypertension	33	67	Hypertension	50	50	Hypertension	56	44	Hypertension	51	49
2	Hypertension	67	33	Hypertension	58	42	Examination & Investigation	15	85	Diseases of the Skin	95	5	Diseases of the Skin	92	8	Diseases of the Skin	88	12
3	Examination & Investigation	33	67	Diseases of the Skin	82	18	Diseases of the Skin	77	23	Examination & Investigation	25	75	Depression & affective disorders	99	1	Examination & Investigation	23	77
4	Depression & affective disorders	98	2	Injuries	19	81	Injuries	13	87	Depression & affective disorders	99	1	Examination & Investigation	25	75	Depression & affective disorders	99	1
5	Immunization & related hazards	7	93	Immunization & related hazards	22	78	Immunization & related hazards	6	94	Anxiety & stress related disorders	95	5	Immunization & related hazards	9	91	Immunization & related hazards	13	87
6	Injuries	17	83	Depression & affective disorders	98	2	Diseases of the respiratory system	56	44	Immunization & related hazards	23	77	Contraceptive management	52	48	Injuries	20	80
7	Acute upper respiratory infection	100	0	Acute upper respiratory infection	100	0	Depression & affective disorders	98	2	Back & neck disorder	99	1	Back & neck disorder	100	0	Back & neck disorder	99	1
8	Contraceptive management	87	13	Contraceptive management	65	35	Back & neck disorder	98	2	Acute upper respiratory infection	100	0	Acute upper respiratory infection	100	0	Contraceptive management	63	37
9	Back & neck disorder	99	1	Infection of the skin	64	36	Anxiety & stress related disorders	86	14	Contraceptive management	62	38	Anxiety & stress related disorders	98	2	Anxiety & stress related disorders	95	5
10	Anxiety & stress related disorders	96	4	Diseases of the respiratory system	70	30	Infection of the skin	63	37	Diseases of the respiratory system	71	29	Abnormal findings	87	13	Acute upper respiratory infection	100	0
	Top 10 Total	70	30	Top 10 Total	55	45	Top 10 Total	47	53	Top 10 Total	71	29	Top 10 Total	69	31	Top 10 Total	62	38
		69	31		61	39		51	49		70	30		67	33		63	37

Workload variation by size of practices

To investigate whether the work carried out by doctors and nurses could be affected by the size of the practice, the 37 practices were divided into 3 main categories: those with 1 to 3 WTE GPs as small (12 practices), 3.1 to 5 WTE GPs as medium (10 practices), and practices with more than 5 WTE GPs as large (15 practices).

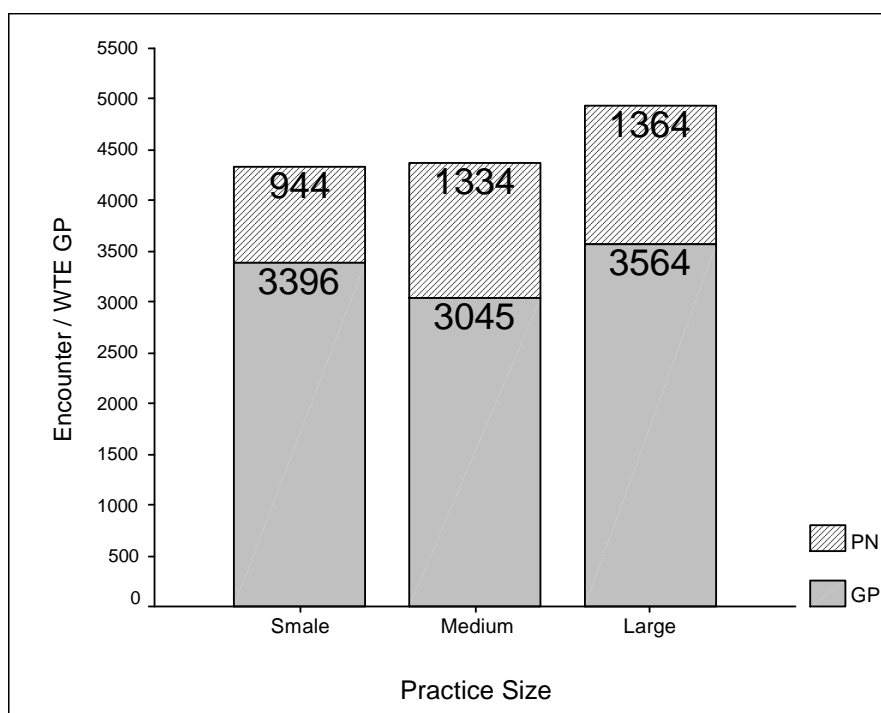
78% of encounters in small practices were carried out by GPs with a rate of 3396 encounters per WTE GP. In medium practices, GPs had less contribution as they carried out 69% of encounters and had the lowest rate of 3045 encounters per WTE GP. Large practices were the busiest for both doctors and nurses. Doctors carried out 72% of total encounters with a rate of 3594 encounters per WTE GP in large practices (Table 4.27).

The lowest contribution for nurses in managing patient contacts was in small practices with 22% compared with 30% and 28% in the medium and large practices respectively. The encounter rate per WTE GP for nurses was 944, increasing to 1334 and 1364 in medium and large practices (Figure 4.9).

Table 4.27: Workload variation between GPs and PNs by practices size

Size of the practice	Number of practices	Number of WTE GPs	Encounters seen by GPs (%)	Encounters seen by GPs / WTE GP	Encounters seen by PNs (%)	Encounters seen by nurses / WTE GP	Total Practice encounters / WTE GP
Small Practice	12	25.3	85947 (78.2%)	3395.8	23904 (21.8%)	944.4	4340.2
Medium Practice	10	45.3	137819 (69.5%)	3045.0	60391 (30.5%)	1334.3	4379.3
Large Practice	15	112.4	403806 (72.5%)	3593.5	153222 (27.5%)	1363.5	4957.0
Total	37	183	627572 (72.5%)	3430.5	237517 (27.5%)	1298.3	4728.8

Figure 4.9: Encounter rates per WTE GP for doctors and nurses by practices size



Caseload variation by size of practices

The top 10 reasons for consultation were broadly similar in the different sizes of practice. The workload split between GPs and PNs mirrored that seen for deprivation. Doctors managed almost all of upper respiratory infections, backache, and depression. Practice nurses carried out most of activities around venepuncture, BP measurement and wound dressing (Table 4.28). The featured reasons for consultation were distributed between the 2 professions as follows:

- Essential hypertension: Nurses managed 45% of these cases in small and medium practices, and 21% in large practices.
- Essential hypertension – Not Otherwise Specified: Nurses managed 29% in small practices, 67% in medium practices, and 42% in large practices.
- Influenza vaccination: Nurses managed 78% in small practices, 88% in medium practices, and 77% in large practices.
- Cervical smears: nurses managed 87% in small practices, 83% in medium practices, and 85% in large practices.

Again, for the top 10 conditions/morbidities groups were compared across practice size. As before, regardless of practice size, doctors managed depression, anxiety, back and neck disorders and acute upper respiratory tract infections; nurses managed immunisation and related activities (Table 4.29).

As a summary, the above analysis shows that deprivation status may affect practice workload distribution between doctors and nurses more than the size of the practice. More research is needed to uncover the impact of practice size and deprivation status on the evolving roles of practice nurses and the distribution of workload between the practice team members. We will address some of these aspects in the PNs survey and interviews studies in the following chapters.

Table 4.28: Distribution of top 10 reasons for consultation between GPs and PNs by practices size

	Small Practices	GP %	PN %	Medium Practices	GP %	PN %	Large Practices	GP %	PN %	Total practices	GP %	PN %
1	Nursing care – blood taken	2	98	Nursing care– blood taken	0	100	Nursing care – blood taken	0	100	Nursing care– blood taken	0	100
2	Essential HTN	55	45	BP reading	6	94	Wound dressing	0	100	Essential HTN NOS	72	28
3	Essential HTN NOS	71	29	Essential HTN NOS	33	67	Upper respiratory infection	99	0	Wound dressing	0	100
4	Upper respiratory infection	100	0	Essential HTN	55	45	Essential HTN NOS	58	42	Essential HTN	51	49
5	BP reading	8	92	Influenza Vaccine	12	88	BP reading	6	94	BP reading	6	94
6	Backache	99	1	Wound dressing	0	100	Influenza Vaccine	23	77	Upper resp. infection	99	1
7	Depressive disorder	99	1	Raised BP reading	28	72	Essential HTN	79	21	Influenza Vaccine	20	80
8	Wound dressing	0	100	Asthma	26	74	Depressive disorder	100	0	Backache	99	1
9	Influenza Vaccine	22	78	Upper respiratory infection	100	0	Backache	99	1	Depressive disorder	100	0
10	Diabetes mellitus	33	67	Cervical smear biopsy	17	83	Cervical smear biopsy	15	85	Cervical smear biopsy	15	85
	Top 10	48	52	Top 10	23	77	Top 10	40	60	Top 10	39	61
	Total	68	32	Total	58	42	Total	64	36	Total	63	77

Table 4.29: Distribution of top 10 conditions/morbidities between GPs and PNs by practices size

	Small Practices	GP %	PN %	Medium Practices	GP %	PN %	Large Practices	GP %	PN %	Total practices	GP %	PN %
1	Hypertension	58	42	Hypertension	38	62	Diseases of the Skin	88	12	Hypertension	51	49
2	Diseases of the Skin	92	8	Examination & Investigation	17	83	Hypertension	56	44	Diseases of the Skin	88	12
3	Examination & Investigation	24	76	Diseases of the Skin	86	14	Examination & Investigation	26	74	Examination & Investigation	23	77
4	Depression & affective disorder	98	2	Immunization & hazards related to communicable diseases	11	89	Depression & affective disorders	99	1	Depression & affective disorders	99	1
5	Anxiety & stress related disorder	94	6	Depression & affective disorders	99	1	Injuries	18	82	Immunization & hazards related to communicable diseases	13	87
6	Back & neck disorder	100	0	Injuries	21	79	Immunization & hazards related to communicable diseases	14	86	Injuries	20	80
7	Diabetes	40	60	Diseases of the respiratory system	50	50	Contraceptive management	65	35	Back & neck disorder	99	1
8	Acute upper respiratory infection	100	0	Contraceptive management	61	39	Back & neck disorder	99	1	Contraceptive management	63	37
9	Immunization & hazards related to communicable diseases	12	88	Back & neck disorder	99	1	Acute upper respiratory infection	99	1	Anxiety & stress related disorders	95	5
10	Contraceptive management	59	41	Acute upper respiratory infection	100	0	Anxiety & stress related disorders	95	5	Acute upper respiratory infection	100	0
	Top 10	68	32	Top 10	52	48	Top 10	63	37	Top 10	62	38
	Total	68	32	Total	58	42	Total	64	36	Total	63	37

4.5. Discussion

4.5.1 Introduction

This was an exploratory analyses based on the first availability of PTI data from 37 practices, providing unique preliminary data on GP and PN workload. The aim was to investigate the components that make up the work of doctors and nurses in general practice and to obtain benchmarks for working out what constitutes a manageable caseload for both professionals. It is clear that there is a lack of published material on workload comparison between both professions in primary health care, and this study heightened the need to verify and authenticate what was happening in the practice teams.

The practices were not representative of all Scottish general practices in terms of participation in voluntary quality initiatives (such as Quality Practice Accreditation and SPICE) and were more typical of forward looking practices since the PTI scheme itself is voluntary and clinically demanding (Mackay, Sutton, & Watt 2005). However, both groups of practices were similar in performing other conventional activities such as night visits, minor surgery, and chronic disease management.

PTI practices were represented in the different size and deprivation categories, but were generally larger and more affluent than the average Scottish practice. Furthermore, there was a reasonable spread across geographical areas, and areas with contrasting socio-economic status, with the notable exceptions of Greater Glasgow and some outlying Health Boards such as Borders, Orkney, and the Western Isles.

The data were useful in providing a preliminary picture and identifying issues and questions requiring further investigation. First, it enabled us to compare the workload of GPs and PNs in terms of number of patients, encounters and activities in the practice. Furthermore, the caseload comparison for the most common general groups of morbidity or the specific reasons for consultation clarified the actual roles of each profession and the potential areas of work sharing. However, the data does not tell us why and how these trends have taken place; this paved the way to the subsequent practice nurses' survey and interview study within this thesis.

The PTI data came from 2002, two years before the introduction of the nGMS contract, with its substantial impact, particularly on PN workload and roles; this simplifies the current analysis but clearly it would be very interesting to repeat this type of analysis in the wake of the new contract and its changes.

The analyses captured about 90% of all patient contacts, involving practice-based encounters and excluding a wide range of other types of contact; it also excluded encounters involving very part-time or temporary staff, with small numbers of encounters.

All face-to-face contacts between GPs or practice nurses and patients were recorded. Clinicians were asked to describe the signs, symptoms or diagnoses as applicable to that contact as specifically as possible (Information Services Division-NHSScotland 2008a). These were recorded in the practice computer system using the 'Read' clinical coding system. It was possible to enter several Read codes in respect of a single contact with a patient. Our analysis reveals that practice nurses usually recorded their 'activities' along with the reason for that activity (diagnosis/procedure, if appropriate). GPs generally recorded their activities in the form of morbidities along with diagnosis and/or signs and symptoms. This could be due to the instruction of ISD at that time. In addition, we cannot be sure how accurately the data were recorded nor the completeness, reliability or similarity between GPs and PNs.

4.5.2. Strengths and limitations of the PTI dataset

The PTI dataset provided the first routine recording of activity and morbidity across different professional groups in general practice in Scotland. This enabled us to compare and understand how workload is distributed between doctors and nurses. However, as no one has analysed this data in this way before this study, the results should be read with some caution.

Strengths

* PTI data enabled us to have an estimate of the number of patients who were consulting doctors and nurses separately, and how these consultations were broken down by number of contacts, general morbidities, and the specific reason for the consultation for the most commonly seen conditions/diseases.

* Data collected allowed the analyses of the demographics of patients by age, gender and deprivation category. Practice size was also available and was used based on both the list size and on the number of WTE GPs per practice. Other routinely collected data, such as Quality & Outcomes Framework (QOF), only provides overall prevalence rates (Information Services Division-NHSScotland 2008d).

* The inclusion of practice nursing activities in addition to the GP recording gives a much more complete picture of patient care. Our analysis shows that many chronic conditions are increasingly managed by nurses rather than GPs. Including nursing contacts in calculations of numbers of patients consulting for any given condition gives figures that are closer to the population prevalence compared to analysis based on GP contacts only.

* PTI offers information on the number of patients consulting general practice and the number of consultations per patient with doctors and nurses. This allows us to compare between numbers of consultations for different demographic categories of patients by discipline of clinicians, showing how the different trends of consultation can affect workload for doctors and nurses in the general practice.

Limitations

* PTI estimates for workload were based on patients contacting a member of the practice team for one encounter at some point during the year of interest. The professional could record more than one condition or activity during that encounter, but we did not know the main reason or complaint for that consultation.

* As PTI data are based on a small sample of practices, it is not suitable for estimating the prevalence of rare conditions. Where there are only a small number of consultations observed within PTI practices for a specific condition, it would not be appropriate to use these as an estimate of the number of consultations for Scotland as a whole.

* With the exception of Greater Glasgow and the most severe deprivation, the PTI scheme covers a reasonable spread of the population, but the practices may not be typical of practices serving these types of population.

* Patient and contact rates are derived using population estimates based on the number of people registered with a general medical practice at the midway point of the year (30th September). Any person not registered with a practice at the time of the population extract

would not be included in the population totals. Conversely, any person not yet removed from the register is included.

* There was no available data on the Whole Time Equivalent (WTE) number of practice nurses working in general practice, therefore we had to use the GPs data as a proxy to estimate populations contact rates with practice nurses. This may lead to over – or underestimation of practice nurse workload.

* It was not possible to make sure that all professionals among the 37 practices used the same criteria for documenting their activities especially for practice nurses who were participating in this scheme for the first time.

4.5.3. Discussion of the main findings

The analyses of the 37 PTI practices workload showed that 78.4% of registered patients had at least one visit to the practice. Of these, 50.1% were only seen by GPs, 8.4% were only seen by PNs, and 41.6% of patients had at least one encounter with a GP and another encounter with a PN.

In general, GPs managed 72.5% of total encounters, this percentage ranged from 40.4% to 89.7% between the different practices. These variations may reflect the makeup of the practice population (older and more deprived populations may consult more) or the organization of the practice (some may have more nursing staff or deploy them in different ways). The demand on GPs was 2.5 encounters per head of practice population. Importantly, 28% of practice populations did not contact their GPs during that year. For patients who did contact the GP, 36% had one or two visits and this produced about 20% of the total encounters of GPs' workload. 33% of patients came to see the GP for 3 to 10 times during the year and produced 65% of total encounters. But GPs were most busy with 2.7% of patients who consulted more than 10 times, consuming 15% of total GPs' encounters during the year. However, these figures varied greatly between practices.

This finding raises an important question as to whether it is necessary or not for the GPs to spend 15% of their clinic contacts on a small number of patients? It would be very useful for service re-organisation to examine further if it is feasible for these frequent attenders to

be managed by non-doctors. If some of these encounters were delegated to other members in the practice team, this could save GPs' time and decrease their workload significantly.

The demand on PNs was one encounter per head of practice population. High frequency attendance behaviour had a greater impact on the workload of practice nurses, where 0.8% (1971 patients) had more than 10 visits and consumed 15% of nurses' encounters, although the majority of practice populations (61%) did not have any contact with nurses during that year. However, the nGMS contract which came into effect 2 years later encourages general practices to bring in as many non-attenders as possible for health promotion and disease prevention purposes (Chamberlain-Webber 2004). A repetition of this sort of analysis after 4 years of implementation will reveal the real impact of the nGMS contract on the workload of clinicians in general practice.

The most updated version of PTI data on the ISDSScotland website shows that the variation in contact rates between practices, and also in the ratio of GP versus practice nurse contact rates for 2006/2007 is still large. In general, 76% of registered patients had at least one contact with a GP compared to 44% with a PN. Second, the total contact rate (GP and practice nurse contacts combined) varied from less than 3 to close to 7 per registered patient. Similar to our results, in some practices the GPs do the bulk of the consultations whereas in other practices the practice nurses have more patient contacts than the GPs. The estimated contact rate based on all 45 current PTI practices and standardized for the Scottish population is nearly 4.2, with GPs accounting for roughly twice as many contacts as practice nurses (Information Services Division-NHSSScotland 2008a). This differs from our findings of 3.5 contacts per registered patient (3.5 for GP and practice nurse contacts combined) in 2002. The differences could relate to the inclusion criteria that we have adopted that led to analyses of 90% of the total dataset, or due to different contact rates of the new 8 practices which were added to the 2006/2007 dataset. A third possibility could be that this is a real increase in contact rate as an impact of the nGMS contract.

The gap in encounter rates between 2002 and 2007 for doctors and nurses was also gender specific. Early in 2002 female patients had a rate of 3 contacts per head of practice population with GP and 1.2 with practice nurses. This increased to 3.4 and 1.5 respectively by 2007. The same pattern was observed for male patients as well: their encounter rate increased from 2 encounters with the GP, and 0.8 encounters with the practice nurse in 2002 to 2.2 with GPs and 1.2 with practice nurses in 2007.

Our analysis also shows that the proportion of practice nurses workload increased gradually with patients' age. For instance, while nurses managed only 17% of encounters/contacts for patients in age category 0-4, they managed 38% of encounters for the age category 75-84 years. This trend correlates with nurses' increasing role of managing chronic diseases, which usually increase with age.

Clinicians were asked to document the patients' reason for consultation. They could also enter multiple activities (as diagnoses/procedures) under the same encounter number. In general 63% of these activities were documented by GPs and 37% by PNs. The share of GPs' activities had increased to 67% in 2006/2007 (Information Services Division-NHSScotland 2008b).

The majority of PNs activities (81%) were reported as management of old/chronic problems compared to 62% of GPs workload. This information is not available in the new updates at the ISD-Scotland website for subsequent years; however, we assume that this figure has increased after the introduction of the nGMS contract as more incentives are given to chronic disease management (Information Services Division-NHSScotland 2008d).

The list of the practices' top 10 condition/morbidity groups (GPs and PNs combined) shows that nurses and doctors shared the management of the first two most common groups (hypertension-related problems and contraceptive management). Then, there was a clear caseload division between the two professions. Five groups in the list were mainly managed by GPs ([1] Skin diseases; [2] Depression and related disorders; [3] Back and neck disorders; [4] Anxiety and stress related disorders; [5] acute upper respiratory infections). The remaining three groups were largely managed by PNs [1] General examinations and investigations; [2] Immunization and related activities; [3] Injuries.

Only the two most common groups from the above list featured in the top 10 separate lists for each profession (hypertension and contraceptive management). The GPs' top 10 list was composed mainly of either complex problems or cases that needed clinical and medical care rather than routine follow up, while half of nurses' list were chronic disease groups that usually required follow-up by practices. The other half of the nurses' list included groups of morbidities that mainly needed to be handled by manual procedures and traditional tasks (such as examination and investigation, immunizations, and treatment of injuries).

The ISD-Scotland website published the list of the top 10 morbidities for 2005/2006. Three out of 10 morbidities in the 2002 list had disappeared: ([1] Anxiety, [2] Skin/Subcutaneous infections, [3] Contraceptive management). These were replaced by ([1] Digestive/abdominal signs and symptoms; [2] Circulatory and respiratory signs and symptoms; and [3] Diseases of upper respiratory tract).

For the PNs' list of top 10 morbidities, five groups did not match between 2002 and 2006. The groups that disappeared from the list were:

- Patients attended for investigations
- Immunizations and related activities
- Contraceptive management
- Obesity
- Respiratory system diseases

At the same time, the groups that emerged in the new list are:

- Circulatory and respiratory Signs and Symptoms
- General abnormal Signs and Symptoms (NES)
- Diseases of the skin
- Conduction disorders and cardiac arrhythmias
- Ischemic heart diseases

GPASS codes provided a detailed level of analyses through the specific cause of the consultation (either as a diagnosis or an activity). In total 2225 detailed codes were used. Of these, 437 codes (19.6%) were used by doctors and nurses. This in theory indicates that around one fifth of doctors and nurses' workload could be shared or even transferred from doctors to nurses. However, 1614 detailed codes (72.5%) were used only by GPs, and 174 (7.8%) were used only by nurses.

Nevertheless, the analyses of the top 10 morbidity groups again shows that there was a clear partition of caseload between GPs and PNs in the combined top 10 list of specific reasons for consultation. For instance, upper respiratory infections, backache, and depressive disorders were managed solely by GPs. On the other hand, blood pressure reading, venepuncture, and wound dressings were mainly carried out by nurses. The shared

areas were [1] essential hypertension (for both confirmed and unconfirmed (NOS) cases), [2] influenza vaccination and [3] cervical smear biopsies.

Data was available for PNs' top 10 specific reasons for consultation (2005/2006) but not for GPs. By 2005/2006, three activities which featured in 2002 had disappeared: essential hypertension, cervical smears and irrigation for external auditory canal. The new activities were all incentivised by the nGMS contract (smoking cessation advice, asthma monitoring, and diabetes monitoring).

4.5.3. Staff activities and characteristics of practices

A major strength of this study is that it allowed analysis of doctors and nurses activities by the characteristics of the practices. For instance, the analysis of clinicians' workload by practices' combined characteristics of size and deprivation reveals that while small affluent practices had the highest population demand (4 encounters per head of population), these practices were well staffed as doctors had the lowest encounter rate of 2065 per WTE GP compared to the average of 3431 in the whole sample. To the contrary, GPs in small deprived practices were the most busy with 3608 encounters per WTE GP.

Large deprived practices had the highest average list size (3464 per WTE GP), but the populations' demand did not differ from the average (3.5 encounters per head of practice populations). Doctors in these practices had encounter rates close to the general average (3464 versus 3431 encounters per WTE GP), but nurses there were busier with 1763 encounters per WTE GP, compared to 1299 in the whole sample. Furthermore, nurses also carried out 31% of total encounters in these practices compared to the average of 27.5%.

The separate workload analysis for deprivation status reveals that GPs had the same workload in both the most affluent and most deprived practices as they carried out around 75% of total encounters with 4000 encounters per WTE GP. But they were less busy in the middle (3rd) quintile, carrying out 64% of total encounters with a rate of 2921 per WTE GP. On the other hand, nurses were most busy in 3rd quintile as they carried out 36% of total encounters with 1650 encounters per WTE GP. Furthermore, nurses had higher workload in the most deprived practices (with 1353 encounters per WTE GP) than nurses in most affluent practices (1218 encounters per WTE GP).

Distribution of caseloads between doctors and nurses in the five deprivation quintiles did not differ significantly, but nurses in most deprived practices appeared to have had more advanced roles and were more involved in independent activities than nurses in affluent practices (e.g. they carried out 48% of contraceptive cases in the most deprived practices compared to 14% in the most affluent practices). Nurses in deprived practices made a greater contribution to managing cases with undefined diagnoses (for example, nurses managed 52% of Essential Hypertension -Not Otherwise Specified (NOS)- in the most deprived quintile compared to 41% in the most affluent quintile).

The analysis by size of the practices shows that, in general, doctors and nurses were busier in large practices than in medium and small practices. Nurses in large and medium size practices managed 28% and 30% of patients' contacts compared to 22% in small practices.

Similar to the role of nurses in the most deprived practices, nurses in large practices had a higher contribution in managing cases with unclear diagnoses. For instance, they managed 42% of 'Not Otherwise Specified essential hypertension', but for patients with clear diagnosis of 'essential hypertension' fewer cases (21%) were managed by nurses. However, the dataset does not provide enough details about what exactly was done for patients, so we cannot confirm whether or not the management of those patients were delegated to nurses in large practices.

In conclusion, the need for reliable information within the health service is becoming more important over time, with the current UK government's emphasis on efficiency, effectiveness, and value for money (Farmer et al. 2005). This study represents one of the first instances that data derived from the Scottish NHS initiative, CMR/PTI, have been used to examine differences between the activities of doctors and nurses working in a sample of general practice settings in depth. As such, to an extent, the study represents an exploration of what data can be gathered, and how it might be analysed and used to inform research, practice, and health policy. For example, findings about high frequency attendance behaviour of a small proportion of practice populations might be taken at face value to indicate demand on general practice services, but this could be affected by organizational factors and how practices use the available human resources. So further research and investigations are needed in order to be able to answer what is the most efficient and effective way to deliver health services. However, this analysis highlights the limitations in the application of workload data and suggests that understanding the nature of work in relation to local circumstances is important in service redesign.

CHAPTER FIVE

PRACTICE NURSE SURVEY

5.1. Introduction

The skills, expertise and knowledge base of nurses who work in community health services need to be developed to meet the challenges created by an increasingly more informed public, advances in technology, and the potential for better service outcomes (Scottish Executive Health Department 2006). Practice nurses should contribute to these developments by fully utilising and developing their skills, working in professional teams, and expanding their roles within the scope of professional practice (Caldow, Bond, & Russell 2001). To achieve this we need to know their current situation. Thus, the aim of this study was to describe practice nurses' activities, future training needs, and to analyse these in relation to several key characteristics.

At the beginning of 2004, before the implementation of the new General Medical Services (nGMS) contract, NHS Greater Glasgow Primary Care Division had carried out a postal survey to determine practice nurses' training needs. The present survey, 18 months after the implementation of the nGMS contract, provided an opportunity to compare nursing workforce activity and development needs before and after the implementation of the new contract and helped us to determine practice nurses needs post nGMS. Such data could inform the planning process for practice nurses and the redirection of available human resources.

5.2. Study objectives

- To describe the general characteristics and activities of practice nurses working in NHS Greater Glasgow⁴.
- To describe the views of practice nurses about their training and continuing professional development needs.

⁴ The survey was conducted prior to merger with NHS Argyll and Clyde.

- To investigate whether practice nurses' skills and qualifications match their current clinical roles.
- To explore the relationship between key characteristics (years of experience; intention to leave; experience of team working; nurse prescribing; and isolation) and current activities and future needs.

5.3. Method

5.3.1. Setting

The study was a descriptive, cross sectional survey of practice nurses working in general practice within NHS Greater Glasgow using a self-completion postal questionnaire. This was the most appropriate method to obtain detailed data directly from this population and was conducted in collaboration with the Greater Glasgow Primary Care Division practice nurse advisor and workforce planning project manager.

5.3.2. Questionnaire design

Questionnaire items were derived from three sources: a literature review on the role of practice nurses; informal discussions with nurses in management positions, including a deputy nursing director in the Primary Care Division, NHS Greater Glasgow; and the previous questionnaire conducted in 2004. Completion of the questionnaire was taken to mean consent, i.e. implied consent (Office of Research Services 2008). Most of the questions contained in the previous questionnaire were retained for comparative purposes. New questions concerning the evolving role of practice nurses were added.

The final questionnaire contained 34 main questions, including 9 open questions (Appendix 2). The questionnaire covered four main areas:

1. Demographic data and professional / educational qualifications

This section gathered data on nurses' demographics, age, qualifications, years in practice and general practice working environment.

2. Practice nurses current workload and clinical roles

The second section explored their workload and clinical activities including audit, research, and prescribing.

3. Continuing Professional Development (CPD)

The third section explored opportunities for CPD, training support and barriers to CPD.

4. Access to professional support

The last section concerned access to professional support, from practice nurse groups and from the Primary Care Division.

At the end of the questionnaire respondents were given the opportunity to add any further comments regarding their role and support issues.

5.3.3. Study population

The target population for the survey was all 329 practice nurses working within NHS Greater Glasgow in 2005. Surveying the whole population was feasible with the cooperation of Greater Glasgow Primary Care Division practice nurse advisor, which minimised bias by not leaving any small groups unrepresented. The absence of central published statistics about the nursing workforce, and how they could be approached, was overcome by working with the practice nurse advisor, who had access to the mailing list of practice nurses and could distribute the questionnaire to every practice nurse known to be working within NHS Greater Glasgow.

The possibility of including practice nurses from other NHS boards was considered. However, owing to constraints of time, money and manpower this was not considered to be feasible.

5.3.4. Questionnaire distribution

All practice nurses received a copy of the questionnaire, a covering letter from the Practice Nurse Advisor, an information sheet (Appendix 3) and a reply-paid envelope. Completed questionnaires were returned to the General Practice and Primary Care Section, University of Glasgow. The absence of the practice code or any identification number within the questionnaire, due to the NHS Research Ethics Committee instructions, made it impossible to know who responded in the first round and who did not. As a result, a reminder letter (Appendix 4) was added to the survey package and sent to all practice nurses 21 days after the initial questionnaire had been sent out, through the practice nurse advisor, NHS Greater Glasgow Primary Care Division. The reminding letter asked the nurses to ignore the second package if they had already responded in the first round.

5.3.5. Optimising the response rate

Several strategies were used to increase the response rate:

1. The survey was conducted and distributed in collaboration with the practice nurse advisor and workforce planning project manager of NHS Greater Glasgow.
2. The questionnaire was printed on coloured paper to increase its visibility.
3. A reply paid envelope was included.
4. A copy of the final results was offered to all respondents.

5.3.6. Data entry and analysis

Responses were entered into SPSS 11.5 for windows by HJ. A 10% sample was double entered by a department secretary and used to check for data quality and consistency.

Analysis was carried out in two stages. First, frequency tables and descriptive statistics were produced for all of the variables in the questionnaire. Content analysis was used for

each open question to identify broad themes. Secondary analyses focussed on 5 main areas of practice nursing (years of experience; intention to leave; experience of team working; regular prescribing; and feelings of isolation). Different statistical significance tests were used according to the nature of data as described earlier in Chapter 3.4.

5.4. Main Results

5.4.1. Introduction

A final response rate of 61% was achieved, with 200 completed replies from 329 practice nurses. This was better than the response rate of 44% obtained by the Primary Care Trust's PN Advisor's questionnaire in 2004, probably because that was based on a single approach with no follow-up. Practices were also busy adapting to the nGMS contract at that time. As not all practice nurses provided an answer for every question, the results are presented as both the number and frequency (%) of responses.

The removal of the practice code from the questionnaire, according to the LREC's instructions, made it impossible to link nurse's responses with the characteristics of the practice where they work. Based on nurse reports of practice list size, however, it appeared that there were more responses from large practices (> 6000 registered in the practice list: 37% of respondents versus 26% of the actual NHS Greater Glasgow practices) and fewer from small practices (< 6000: 60% of respondents versus 75% of actual NHS Greater Glasgow practices). Given the association between small practices and areas of socio-economic deprivation (Mackay, Sutton, & Watt 2005; Saxena et al. 2007), this implies that there were fewer responses from nurses working in areas of deprivation.

5.4.2. Demographics

About half (49%) of the respondents were aged between 40 and 49 years old; 22% were below 40 and 29% older than 50 (Table 5.1). This indicates that about one third of the practice nurse workforce have 10 years or less until retirement.

Table 5.1: Age of the practice nurses

Age categories	Number	(%)
20 – 29	2	(1)
30 – 39	41	(20)
40 – 49	97	(49)
50 and above	58	(29)
Missing	2	(1)
Total	200	(100)

The majority of participants (80%) had “practice nurse” as their job title (compared with 89% in 2004). Other titles included Senior Practice Nurse (12%), Practice Nurse Manager (5%) and Nurse Practitioner (2%).

Table 5.2 shows the academic qualifications held by practice nurses. 96% of respondents were Registered General Practice / State Registered Nurses. 20% held the Specialist Nurse in General Practice qualification, which is considered to be at degree level. 12% had the post-registration Practice Nurse Certificate, and 4% held a Masters degree.

Table 5.2: Qualifications of practice nurses

Qualifications	Number	(%)
Registered General Nurse /State Registered Nurse	192	(96.0)
Enrolled Nurse	19	(9.5)
Nursing degree	45	(22.5)
State Certified Midwife / State Midwife	50	(25.0)
Registered Mental Health Nurse	7	(3.5)
District Nurse	20	(10.0)
Health Visitor	3	(1.5)
Specialist Nurse in General Practice	40	(20.0)
Practice Nurse Certificate	24	(12.0)
Masters Degree	7	(3.5)

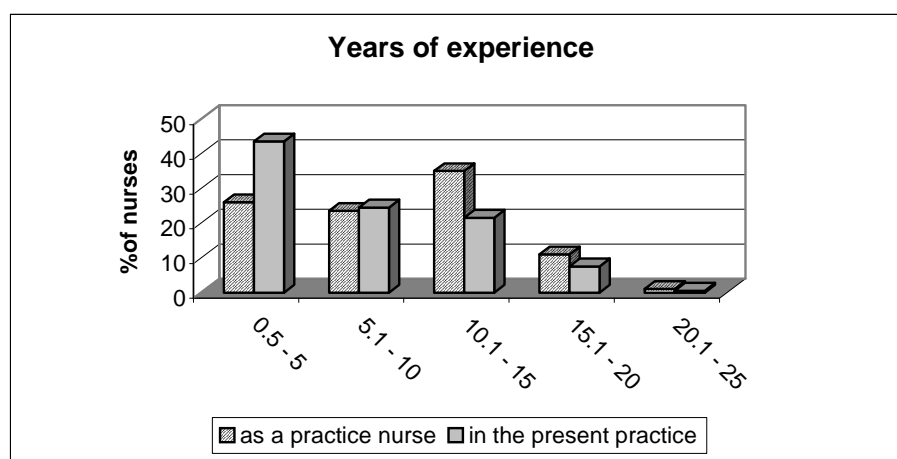
Most practice nurses had multiple qualifications, with 40% having 2 qualifications, 17% 3 qualifications, and 10% 4 or more qualifications. 76% of the nurses believed that their training and qualifications were used to the full in their current job, while 20% did not.

Most respondents (71%) were G grade nurses, reflecting the characteristics of practice nurses as a whole, where 70% are on G grade according to NHS Greater Glasgow practice nurse advisor statistics. 18% were H grade; the remainder (1.5%) were grade D or E.

5.4.3. Practice nurse experience

Length of service as a practice nurse ranged from 0.5 to 24 years, with an average of 9.9 years (SD: 5.2, 95% CI: 9.2-10.6). The length of service in their present practice ranged from 0.5 to 24 years, with a mean of 7.8 years (SD: 5.2, 95% CI: 7-8.5). A breakdown is shown in Figure 5.1.

Figure 5.1: Length of service as a practice nurse and in their present practice



The posts held before becoming a practice nurse were split between primary care (e.g. Treatment Room Nurse, Community Staff Nurse, and District Nurse), and secondary care (e.g. Ward Sister, General Staff Nurse, and Staff Midwife), but the majority had hospital experience.

Nurses reported more than one reason for becoming a practice nurse. More than half (51%) saw it as a career, but 48% chose it because the working hours suited their other commitments. Autonomy was mentioned only by 18% of the nurses. Most respondents (82%) envisaged continuing to work as a practice nurse for the coming 5 years, while 15% did not.

5.4.4. Working hours

22% reported working full-time with contracted working hours ranging from 30 to 37.5 per week. Of these, 76% worked exactly 37.5 hours per week. The majority of respondents (78%) regarded themselves as part-time, with contracted working hours ranging from 8 to 35 hours per week. There was no change from the 2004 survey, when 23% were full-time and 77% part-time.

39% of nurses worked overtime, ranging from 1 to 12 hours per week with an average of 3.8 hours per week (SD: 2.3, 95% CI: 3.2-4.3).

5.4.5. Nursing team in the practice

The mean practice list size was reported to be 5836 (SD: 3021. 95% CI: 5405-6268), with a range of 1000 to 14000. 60% of respondents reported that their practices had less than 6000 patients compared with 75% of all practices in the Health Board; 28% reported between 6000 and 10000 patients, compared with 21% of all practices; 9% reported more than 10000 patients, compared with 4% of all practices. The 2006 survey results were similar to those reported in 2004.

Less than one third of respondents (31%) worked as the sole practice nurse in their practice; 43% worked in a team consisting of two practice nurses and 20% in teams of three nurses. Only 6% reported working in practices with more than three nurses. Differences between single-handed nurses and those who work in teams of nurses are investigated later in this chapter.

40% reported that they worked in structured teams (an increase from 30% in the 2004 survey), while 29% were employed as individuals with no leader (38% in the 2004). However, 28% of respondents did not consider either description to apply. When asked whether there was a practice nurse leader within the practice, 63% said no and 31% said yes. Of those saying yes, 75% indicated that the seniority of the practice nurse leader was recognized by their being on a different staff grade.

5.4.6. Appointment system

Almost all respondents (96%) worked in clinics with an appointment system. The average number of appointment slots per day per nurse was 27 (range: 8-70, SD: 8.7, 95% CI: 25.6 – 28.3). The average length per appointment was 13.4 minutes (range: 5-30, SD: 3.7, 95% CI: 12.8 – 13.9).

When absent or on holiday, 67% reported that their clinics were cancelled, while 33% have colleagues who increased their working hours to cover the absence.

5.4.7. Health Care Support Workers

Health Care Support Workers (HCSW) were employed by 45% of practices for practice nurse-like duties - an increase from 26% in 2004. Of these, 66% were receptionists and 33% comprised other administrative staff, health care assistants and primary health care support workers.

HCSW duties included phlebotomy (93%), blood pressure measurement (73%), urinalysis (62%), height and weight measurement (58%) and new patient medicals (40%). Other tasks included data entry, stock order and control, clerical support, dressings, ear syringing, ECGs, suture removal, simple wound care and assisting at clinics under the supervision of the practice nurse. Just over half of the nurses (56%) whose practices employed HCSW acted as mentors for them. However, only 25% had received training in mentorship.

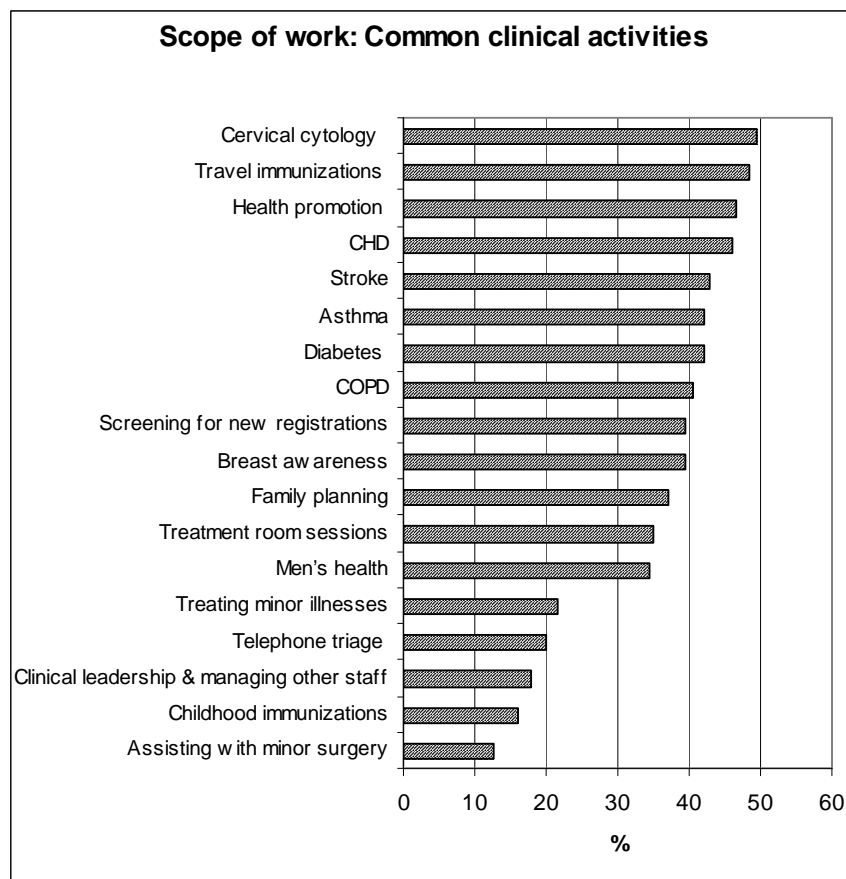
5.4.8. Practice nurses' clinical role

Clinical activities

Nurses were asked about their current clinical activities within the practice (Figure 5.2). The most common activities were cervical cytology (49%); travel immunizations (48%); and health promotion (46%). The next most common activities involved chronic disease management (CHD, stroke, asthma, diabetes and COPD). The least common activities were childhood immunizations (16%) and assisting with minor surgery (12%). 27% of

respondents listed other activities including women’s health, antenatal and postnatal care, epilepsy, hypertension, IT management, leadership and mentoring, prescribing and mental health. Generally speaking, 70% of the nurses who listed these additional tasks said they had received previous training and 56% felt they were in need of further training.

Figure 5.2: Practice nurse clinical activities



The amount of training that nurses had received in each area varied considerably (Table 5.3). Over 80% of respondents had received training in cervical cytology, asthma, COPD and diabetes. Fewer than 20% had received training in minor surgery.

The level of specialized training that nurses had received clearly impacted on their perceived need for future training (Table 5.3), with treatment of minor illness and men’s health being most frequently cited as areas where training was required. COPD was also frequently cited, despite 54% of nurses having already received training. Some areas, such as treatment room sessions and assisting with minor surgery did not appear to be important areas for practice nurses, either in terms of current activity or future training (Figure 5.3 and Table 5.3).

Figure 5.3: Training for clinical activities

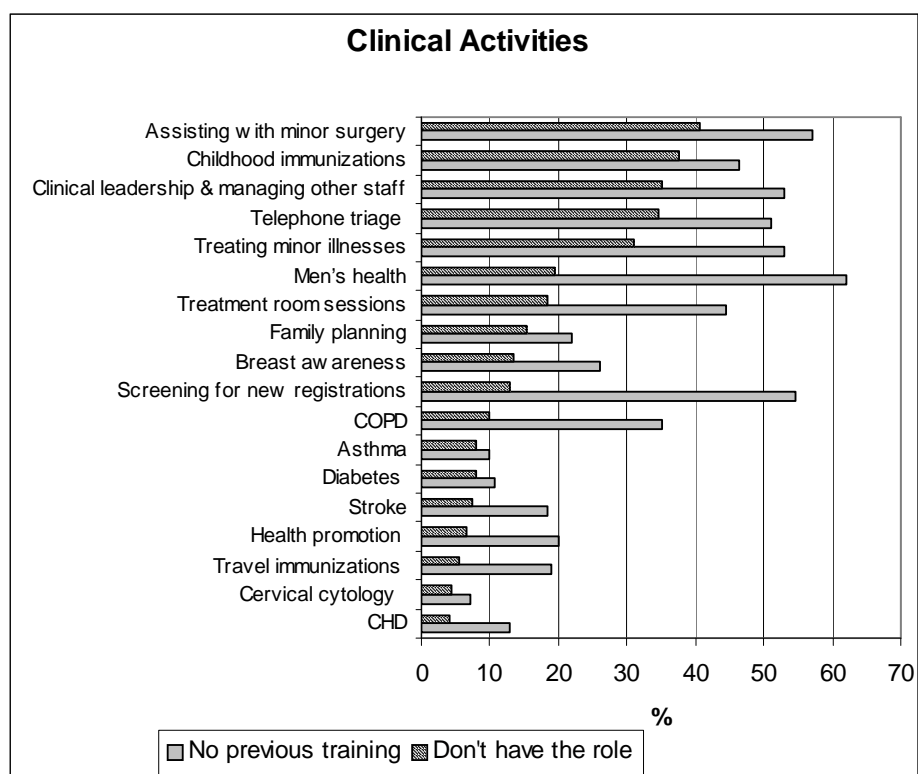


Table 5.3: Current and future training

Clinical Activity	Have previously received specialized training		Would like specialized training in the future	
	Number	(%)	Number	(%)
Cervical cytology	176	(88.0)	25	(12.5)
Travel immunization	147	(73.5)	74	(37.0)
Health promotion	143	(71.5)	48	(24.0)
CHD	162	(81.0)	53	(26.5)
Stroke	144	(72.0)	54	(27.0)
Asthma	166	(83.0)	50	(25.0)
Diabetes	160	(80.0)	47	(23.5)
COPD	108	(54.0)	86	(43.0)
Screening for new registrations	64	(32.0)	13	(6.5)
Breast awareness	123	(61.5)	42	(21.0)
Family planning	133	(66.5)	75	(37.5)
Treatment room sessions	73	(36.5)	36	(18.0)
Men's health	40	(20.0)	86	(43.0)
Treating minor illness	49	(24.5)	83	(41.5)
Telephone triage	57	(28.5)	64	(32.0)
Clinical leadership & managing other staff	50	(25.0)	46	(23.0)
Childhood immunization	61	(30.5)	46	(23.0)
Assisting with minor surgery	34	(17.0)	31	(15.5)

Audit and research

Three quarters of nurses were involved in audit. Of these, 69% had received at least some training, while 18% had no training. About half of respondents (48%) indicated they would like more training in audit. Only 9% of respondents were involved in clinical research.

Prescribing

Almost one quarter (24%) of respondents regularly prescribed medication, compared with 17% in 2004. 23% had a nurse-prescribing certificate/qualification. Of the 153 nurses with no prescribing certificate, 81% were involved in prescribing medications for their patients, with GP back up. 56% of all respondents agreed that nurses should have an independent role in prescribing new medications for chronic diseases and 79% agreed that nurses should be able to prescribe for an agreed list of conditions.

5.4.9. Continuing Professional Development (CPD)

Almost all respondents (94%) had had the opportunity to undertake CPD activity, as outlined in Table 5.4. The area in which most CPD had been taken was that of diabetes.

Table 5.4: Certified courses completed by practice nurses in the past three years

Certified courses completed in the last 3 years	Number	(%)
Diabetes	134	(67.0)
CHD	92	(46.0)
Stroke	81	(40.5)
Asthma	54	(27.0)
Epilepsy	51	(25.5)
Triage	51	(25.5)
Family planning	43	(21.5)
Nurse prescribing	40	(20.0)
Marie Curie breast and cervical screening	36	(18.0)
COPD	35	(17.5)
Nurse Practitioner	10	(5.0)
Minor Illness	6	(3.0)
Multiple Sclerosis	4	(2.0)
Travel Health	3	(1.5)

Most respondents had undertaken several CPD courses in the last three years: 38 (19%) had taken 1 course; 95 (48%) had taken 2-4 courses; and 52 (26%) had taken 5 or more courses. Only 10 (5%) had not taken any courses in the past three years.

Respondents identified a range of additional CPD which they would like to see in place, including updates on chronic disease management (particularly structured courses leading to specialist nurse in practice nursing qualifications), family planning/sexual health, breast screening, men's health, extended nurse prescribing, IT training, health promotion, leadership/mentoring, minor illness management, triage, and women's health courses.

Access to CPD activities

Nurses had an average of 6.1 study days in the last year (SD: 5.67; range: 1-30 days, 95% CI: 5.2 – 6.9). Only 3% did not have any study days; 53% had 1 to 4 days; and 31% had 5 or more study days. 74% reported it was easy to attend study days, and 27% of respondents decided themselves which courses to attend. Generally, however, the decision was made jointly with the GP (15%), the practice manager (5%) or the lead practice nurse (4%). For a further 13%, the decision was made by the GP and practice manager.

Barriers to CPD activities

Getting time off work to attend CPD sessions was the major barrier for 39% of practice nurses. Travelling long distances (20%) and the financial cost (12%) also restricted attendance. Family commitments, GPs' consent, the business of the practice, and lack of management by the practice manager were other reasons. For almost half of the respondents (47%), the time to attend training was part of their paid working time. This was sometimes the case for a further 46%. For 10% of nurses, training was additional to their normal working hours. The majority (67%) reported that their fees were paid for them; 26% reported that fees were sometimes paid for them; and 5% reported that fees were not paid for them.

Training

72% of respondents had completed in-service continuing training/education activities within their practices. Furthermore, 55% of nurses had participated in regular training activities in their practice with both GPs and practice nurses in the last 6 months, 11% had

participated only with GP colleagues and 9% with nursing colleagues only. 23% had had no regular training activities at their practices in the last 6 months.

Personal development plans and appraisal

Personal development plans were reported by 82% of the respondents in 2005 compared with 54% in 2004. Participation in appraisal also increased, from 50% in 2004 to 87% in 2005. Of those reporting having been appraised, 43% felt it was productive, while 35% were unsure. 9% felt it was of no benefit.

5.4.9. Professional issues

Access to professional and personal support

91% of practice nurses had access to someone with whom they could discuss a clinical and/or professional problem. In 2004, 59% had had access to someone with whom they could discuss a personal problem, compared with 73% in 2005. Although 9% reported feeling isolated and lacking the opportunity for clinical supervision in their work situation, 43% only felt that sometimes, and 47% reported never feeling isolated.

Nurses were asked about their awareness of the Community Health and Care Partnership (CHCP) practice nurse groups and quarterly voluntary practice nurse meetings. Almost 99% of respondents were aware of the Glasgow local practice nurse group, but only 41% had the opportunity to attend meetings regularly, 39% attended occasionally and 19% never had the opportunity to attend.

On the other hand, 54% of nurses attended LHCC practice nurse meetings with the Practice Nurse Advisor, 31% attended occasionally, while 14% never attended. 73% of nurses found these meetings helpful.

5.5. Special groups of practice nurses

The following analysis explores the influence of key characteristics on nurses' responses. These are:

- 1) **Length of experience:** comparing more and less experienced nurses.
- 2) **Intention to leave:** comparing those preparing to leave within the next 5 years with the rest.
- 3) **Experience of team working:** comparing those working alone (single-handed) with those working within a team (team-member).
- 4) **Prescribing:** comparing regular nurse prescribers with the rest.
- 5) **Isolation:** comparing nurses who felt isolated in their work place with the rest.

While statistically significant differences are reported, some important non-significant differences are also reported, where appropriate.

5.5.1. Length of experience

The number of years of experience in general practice was used to differentiate between nurses who had substantial experience and those who were less experienced. An alternative may have been to use the age of the respondents, but many had resumed work after a gap of some years or had come to general practice from the secondary health care sector. Therefore, the actual number of years experience was more appropriate.

Years of experience were categorised into > 10 years (experienced) and <= 10 years (less experienced) for two reasons. The first was historical, as the last decade has witnessed significant changes to the practice nurse role. The second was methodological: respondent's years of experience in general practice ranged from 0.5 year to 24 years with a mean and median of 10 years. So, a cut-off of 10 years divided the sample into two relatively equal halves. Actually, 94 nurses (47%) had more than 10 years of experience in practice nursing, 99 (50%) had 10 years or less, and 7 nurses (3.5%) did not respond.

Demographics

More experienced nurses were older and were on higher grades, particularly grade H (Table 5.5).

Table 5.5: Age and Grade differences between less experienced and experienced nurses

	Experience < 10 years		Experience > 10 years	
	Number	(%)	Number	(%)
Age				
20 – 39	36	(36.3)	6	(6.4)
40 – 49	52	(52.5)	43	(45.7)
> 50	10	(10.1)	44	(46.8)
Missing	1	(1.0)	1	(1.1)
Grade				
D	1	(1.0)	0	(0.0)
E	2	(2.0)	0	(0.0)
F	10	(10.1)	2	(2.1)
G	75	(75.8)	64	(68.1)
H	11	(11.1)	25	(27.6)

Less experienced nurses were more likely to have the Enrolled Nurse qualification (13% versus 5%) and nursing degree (27% versus 18%) as detailed in Table 5.6. However, more experienced nurses were more likely to have the Practice Nurse's certificate (23% versus 1%) and the Specialist Nurse in GP qualification (28% versus 12%). More experienced nurses had more total qualifications than less experienced nurses (44% versus 11%).

Table 5.6: Qualification differences between less experienced and experienced nurses

Qualification	Experience < 10 years		Experience > 10 years	
	Number	(%)	Number	(%)
EN	13	(13.1)	5	(5.3)
RGN/SRN	96	(97.0)	93	(98.9)
SCM/SM	17	(17.2)	32	(34.0)
RMN	0	(0.0)	7	(7.4)
DN	6	(6.1)	13	(13.8)
HV	0	(0.0)	3	(3.2)
Nursing Degree	27	(27.3)	17	(18.1)
Practice nurse's certificate	1	(1.0)	22	(23.4)
Specialist Nurse in GP	12	(12.1)	26	(27.7)
Masters Degree	2	(2.0)	4	(4.3)

Only 10% of less experienced nurses envisaged leaving practice nursing within 5 years. This increased to 21% for experienced nurses ($X^2 (1) = 4.476, p = 0.034$), most probably due to their being older.

Type of contract

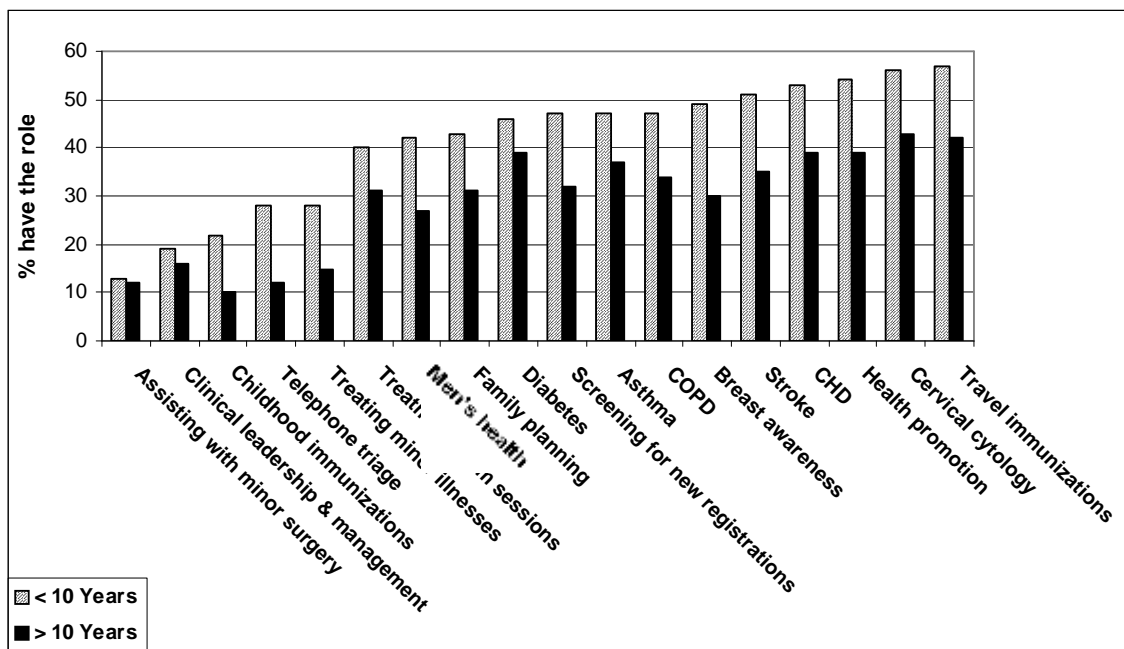
The average number of contracted hours for less experienced nurses was 24.6 hours per week (SD: 7.5, Range: 8-37.5, 95% CI: 23-26). Only 17% had a full time contract. More experienced nurses worked longer hours with a mean of 28 contracted hours per week (SD: 7.3, Range: 12-37.5, 95% CI: 26.5-29.5); 29% had full time contracts. While differences between the two groups concerning full time contract status were not statistically significant ($X^2 (1) = 3.7, p = 0.056$), the differences in the number of contracted hours were statistically significant (M-W U = 3526, $p = 0.002$).

Experience was reflected in job titles, with 20% of the more experienced nurses having the title of Senior Practice Nurse compared to only 4% of less experienced nurses.

Clinical activity

Less experienced nurses reported higher rates of involvement for all clinical tasks than experienced nurses (Figure 5.4). As experienced nurses had longer hours of work, this suggests that experienced nurses use their extra time and skills in more specialised areas or in management activities rather than in general activities.

Figure 5.4: Differences in role performance between less experienced and experienced nurses



In contrast experienced nurses had undertaken more training across almost all areas (Figure 5.5). Less experienced nurses acknowledged a higher need for more training in all of the listed clinical tasks with the exception of asthma and clinical leadership and managing other staff (Figure 5.6).

Figure 5.5: Differences in the previous specialized training between less experienced nurses and experienced nurses

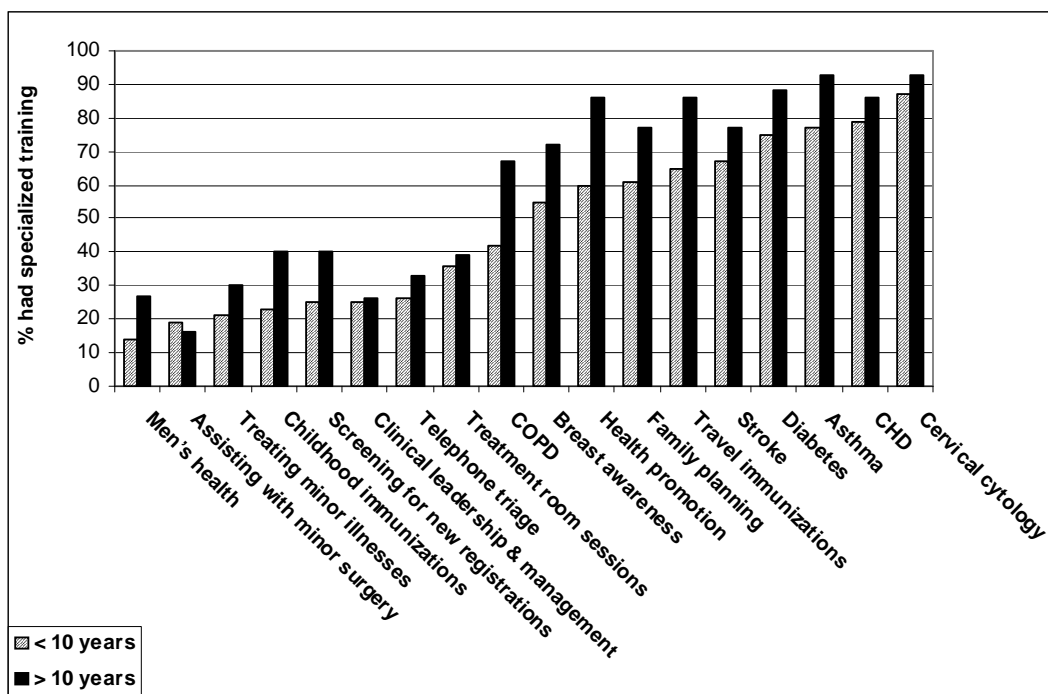
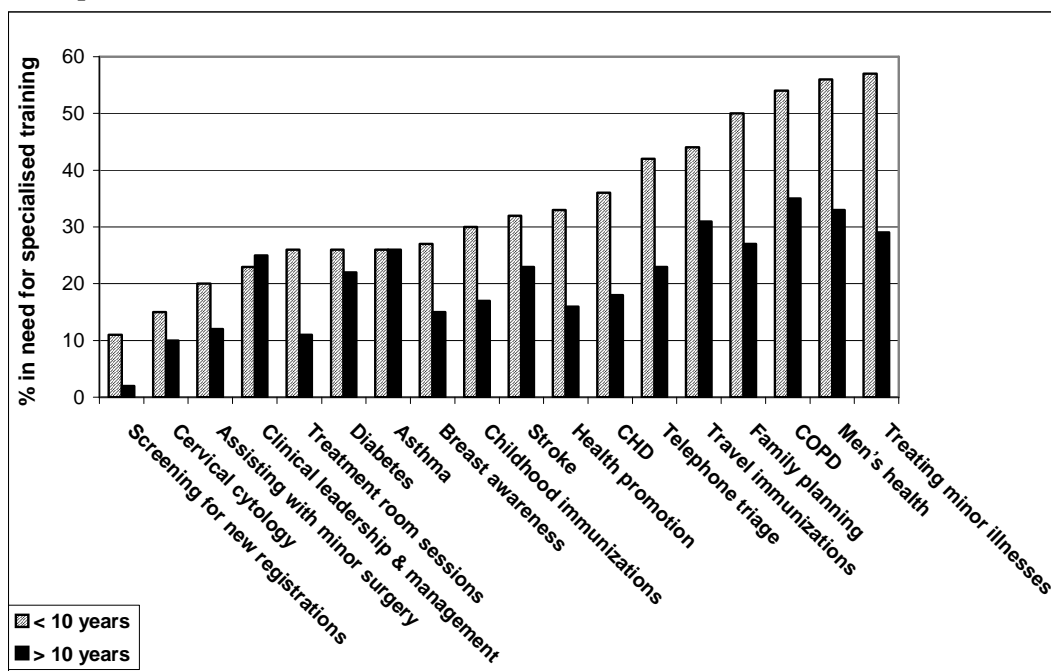


Figure 5.6: Differences in the need for future training reported by less experienced nurses and experienced nurses



There was a significant association between experience and whether or not the nurses were involved in audit (<10 years = 68%, >=10 years = 85%; $X^2(1) = 8, p = 0.005$).

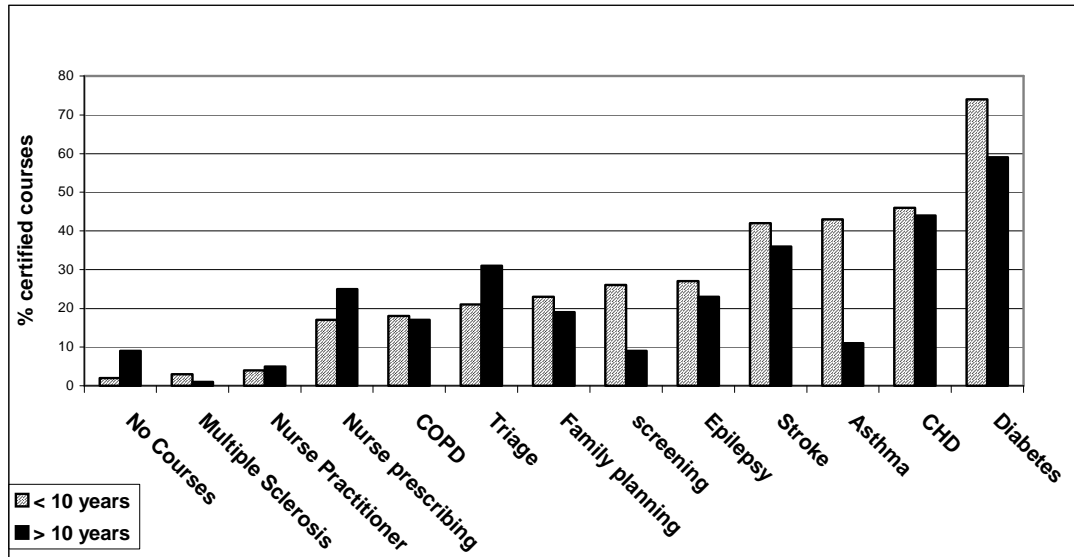
Prescribing

About one third of the experienced nurses (30%) stated that they regularly undertook prescribing for their patients, compared to 19% of the less experienced group, although this was not significant ($X^2(1) = 2.7, p = 0.099$). Experienced nurses were, however, more likely to have a prescribing certificate/qualifications (< 10 years = 14% >= 10 years = 32%; $X^2(1) = 9.17, P = 0.002$). Both groups were supportive of practice nurses developing an independent role in prescribing.

Continuing Professional Development

Less experienced nurses had higher participation rates in most of the certified courses related to practice nursing within the last 3 years with the exception of nurse prescribing and triage courses (Figure 5.7). Only 2 nurses (2%) from the less experienced group had not attended any course compared to 8 nurses (9%) in the experienced group. The association between experience and whether or not nurses attended any of the mentioned courses was significant ($X^2(1) = 4.13, p = 0.042$).

Figure 5.7: Differences in certified courses undertaken by less experienced and experienced nurses



More experienced nurses were more likely to have participated in regular practice based training involving GPs (74% versus 57%) and to have had an appraisal with their GP (80% versus 68%). However, neither of these differences were statistically significant.

Health Care Support Workers

Experienced nurses were slightly more likely to act as mentors for HCSW (27% versus 22%). However, they were less likely to have received training in mentorship (18% versus 30%; $X^2(1) = 4.92, p = 0.027$).

5.5.2. Intention to leave

30 nurses (15%) reported that they did not envisage continuing to work as a PN in 5 years time. In this section we investigate the main characteristics of this group and why they wanted to leave practice nursing.

Respondents were categorised into those who intended to leave practice within the coming 5 years (the leaving group) and nurses who planned to stay in practice (the staying group).

Demographics

The leaving group was generally older than those intending to stay (Table 5.7). However, 12 (40%) were less than 50 years old.

Table 5.7: Age categories for the staying group and the leaving group

Age Category	Staying Group		Leaving Group	
	Number	(%)	Number	(%)
20 – 39	37	(22.7)	4	(13.3)
40 – 49	86	(52.8)	8	(26.7)
50 and above	38	(23.3)	18	(60.0)
Missing	2	(1.2)	0	(0.0)
Total	163	(100)	30	(100)

Grades and Experience

There were title differences in the grades of each group. However as reported previously, nurses who envisaged leaving were more experienced; with 67% working as a PN for more than 10 years (Mean: 12.5, SD: 6, 95% CI: 10.3-14.7), compared with 45% of the staying group (Mean: 9.5, SD: 5, 95% CI: 8.7-10.2). This difference was significant ($X^2(1) = 4.48$, $p = 0.034$). There were no major differences in nursing qualifications between the two groups.

Absence coverage

Given that 15% of the respondents did not envisage working as a practice nurse after 5 years, it was important to know how their current absences are covered, in order to assess the possible consequences of their leaving. In their absence, workloads were cancelled for 80% of the leaving group compared to 65% of the staying group ($X^2(1) = 2.84, p = 0.09$). Colleagues increased their working hours to cover the absence for 17% of the leaving group compared to 37% of the staying group ($X^2(1) = 4.65, p = 0.031$). None of the leaving group had used the NHS GG Practice Nurse Locum Service compared with 13% of the staying group ($X^2(1) = 4.34, p = 0.037$).

Prescribing

24% of the staying group regularly undertook prescribing and had a nurse-prescribing certificate/qualification. In the leaving group, 28% were regularly undertaking prescribing, but only 17% had a nurse-prescribing certificate/qualification (5 nurses). These differences were non significant.

The leaving group were less enthusiastic to expand their prescribing role as only 40% agreed that nurses should have an independent role in prescribing new medications for chronic diseases compared with 59% of the staying group ($X^2(1) = 4.8, p = 0.028$).

Continuing Professional Development:

There were few differences between the two groups in relation to the number of study days, professional development plans, or involvement in formal appraisal. However, the staying group had a higher attendance rate for all of the listed recognised courses related to practice nursing work. The average sum in the staying group was 3.3 courses (Mdn = 3, SD: 2, Range: 0-9, 95% CI: 3-3.6) compared with 2.5 in the leaving group (Mdn = 2, SD: 1.8, Range: 0-7, 95% CI: 1.8-3.2) (M-W U = 1913, 2 tailed significance P = 0.056).

Access to professional and personal support

80% of the leaving group had access to some one with whom they could discuss "a clinical/professional problem" compared with 93% of the staying group ($X^2(1) = 6.3, P = 0.043$). In addition, only 57% of the leaving group had access to some one to discuss "personal type problems" compared with 77% in the staying group ($X^2(1) = 6.5, p =$

0.019). Finally, 73% of the leaving group felt isolated (e.g. lacking opportunities for clinical supervision) in their work place compared with 46% of the staying group ($X^2(1) = 9, p = 0.002$).

More than one quarter (27%) of leaving nurses never had the opportunity to attend local practice nurses group meetings, 17% never attended their LHCC practice nurse meetings compared with 18% and 12% in the staying group. 13% of the leaving group found the LHCC practice nurse group meetings with the Practice Nurse Advisor advantageous, compared with to 6% in the staying group. However the above associations did not achieve statistical significance.

Nurses who intended to leave commented that the ever-increasing workload was their main reason for leaving. Chronic Disease Management in particular was mentioned by many nurses as an area that required more nursing resources to be able to do the work.

5.5.3. Team working

This section investigated how the 61 nurses (31%) who were working alone in the practice (single-handed) differ from nurses who were working in practices that employed more than one nurse (team-member nurses).

Demographics

Nurses working alone were older than those working in teams (> 50: 38% single handed versus 25% team member; < 40: 18% single-handed versus 24% team member).

The two groups had similar nursing qualifications, although single-handed nurses had a higher percentage with SCM/SM (31% versus 22%) and nursing degrees (31% versus 18%). The team-member group had a higher percentage with the Enrolled Nurse certificate (11% versus 7%) and the Practice Nurse certificate (15% versus 7%).

12 (20%) of single-handed nurses thought they would leave practice nursing within 5 years compared to 18 (13%) of team members.

17 (28%) of single-handed nurses had a full time contract, with the remaining 44 (72%) working part-time. This indicates that at least 44 practices (20% of NHS Greater Glasgow's practices) have less than one WTE nurse. Of those working in a team, 20% had a full time contract, with the remaining 80% part time.

The average contracted working hours for single-handed nurses was 27.8 hours per week (SD: 7.8, 95% CI: 25.8 – 29.8) compared to 25.4 per week for team member nurses (SD: 7.1, 95% CI: 24.2 – 26.7) (M-W U = 3405, $p = 0.054$).

Clinical tasks in the practice

Single-handed and team-member nurses have similar clinical tasks and roles in the practice. The most noticeable difference was for telephone triage (15% of single-handed nurses had the role versus 23% of team-member nurses).

The single-handed group reported higher levels of training than those in teams for most clinical tasks with the exception of clinical leadership and managing other staff, telephone triage, family planning, health promotion, and travel immunization. Consequently, more team-member nurses wanted further specialised training for most of the listed clinical roles with the exception of screening for new registrations, health promotion, CHD, stroke, travel immunization and men's health. However, none of these associations were statistically significant.

There was a significant association between the number of nurses in the practice and whether or not nurses were involved in audit (82% single-handed versus 71% team members; $X^2(1) = 3.7$, $p = 0.05$). This finding was not seen for involvement in clinical research.

Absence coverage

45% of team-member respondents depended on their colleagues in the team to cover their holidays and other absences compared with 3% of single-handed nurses ($X^2(1) = 35.7$, $p = 0.001$). Single-handed nurses were more likely to cancel work commitments (82% versus 61%; $X^2(1) = 7.8$, $p = 0.005$). The utilization of the GGNHS Practice Nurse Locum Service was low in both groups (10% of single-handed and 12% of team-member nurses ($X^2(1) = 0.2$, $p = 0.656$)).

Continuing Professional Development

There was little difference between the two groups regarding attendance at study days, although single-handed nurses had more autonomy to decide which courses to attend (77% versus 47%; $X^2(1) = 16.3$, $p = 0.001$).

The two groups had similar attendance for most of the listed courses with exception of the diabetes (79% versus 61%, $X^2(1) = 5.734$, $p = 0.017$), CHD (38% versus 49%, $X^2(1) = 2.136$, $p = 0.144$) and stroke (31% versus 44%, $X^2(1) = 2.816$, $p = 0.093$) courses for single-handed and team-member nurses respectively.

The two groups participated equally in training activities and had the same average number of study days out side the practice (around 6 days in the last year), however, nurses in teams were more likely to participate in in-house training compared to single handed nurses (78% versus 57%; $X^2(1) = 7.7$, $p = 0.006$).

Access to professional and personal support

Both groups had adequate access to someone with whom they could discuss 'a clinical/professional' problem, or 'a personal type problem'. However, 67% of single-handed nurses felt isolated in their place of work compared with 47% of team member nurses ($X^2(1) = 5.8$, $p = 0.016$). In addition, 66% of the single-handed group lacked the opportunity to participate in clinical supervision compared with only 46% of the team-member nurses ($X^2(1) = 1.707$, $p = 0.635$).

Nurses working alone appeared more likely to attend local practice nurse group meetings (89% versus 76%; $X^2(1) = 3.599$, $p = 0.06$).

5.5.4. Regular nursing prescriber group

The following section focuses on nursing prescribing activities, and examines factors which might have an impact on nursing perceptions and motivation to undertake prescribing in their work, and to describe the main differences between nurses regularly undertaking prescribing and those who do not.

One quarter (24%) of respondents regularly prescribed medication and 23% had a nurse-prescribing certificate/qualification. For those with no prescribing certificate (153 nurses), 81% were involved in prescribing medications for their patients, with GP back up. 56% of all respondents (number = 112) agreed that nurses should have an independent role in prescribing new medications for chronic diseases and 79% (number = 158) supported the view that nurses should prescribe for an agreed list of conditions.

These data indicates that most practice nurses were involved in prescribing activities either directly or indirectly. However, we will investigate the differences between the 48 nurses who said they regularly undertook nurse prescribing (regular prescribers) with the 144 nurses who did not undertake prescribing on a regular bases (non-regular prescribers) regardless of the fact that the majority of the respondents were prescribing with the GP's back up.

Demographics

29% of regular prescribers had a full time contract compared to 20% of non-regular prescribers. However, there was no significant association between regular prescribing and the type of contract ($X^2 (1) = 1.688, P = 0.194$).

Those regularly prescribing had higher staff grades with 54% on G grade and 42% on H grade. In the non-regular prescribing group, 10% were under G grade, while the majority (76%) were on G grade, and only 10% on H grade.

Regular prescribers had more qualifications than non-regular prescribers with exception of SCM/SM degree (Figure 5.21). Only 20% of non-prescribers had 3 degrees or more from the listed qualifications compared with 46% of regular prescribers (Table 5.8).

Table 5.8: Qualifications for regular prescribers and non-regular nursing prescribers

Qualification	Regular prescribers		Non-regular prescribers	
	Number	(%)	Number	(%)
EN	5	(10.4)	12	(8.3)
RGN/SRN	47	(97.9)	137	(95.1)
SCM/SM	11	(22.9)	38	(26.4)
RMN	3	(6.3)	3	(2.1)
DN	11	(22.9)	9	(6.3)
HV	1	(2.1)	2	(1.4)
Nursing Degree	19	(39.6)	24	(16.7)
Practice nurse's certificate	9	(18.8)	15	(10.4)
Specialist Nurse in GP	16	(33.3)	21	(14.6)
Masters Degree	3	(6.3)	4	(2.8)

79% of regular prescribers had a nurse-prescribing certificate/qualification compared with 7% of the non-regular prescribers ($X^2 (1) = 82.286, P = 0.001$). Furthermore, there was a significant association between carrying out regular prescribing and having a positive perception of the advanced nurse-prescribing role. For instance, 81% of regular prescribers believed nurses should have an independent role in prescribing new medications for chronic diseases compared with 45% of non-regular prescribers ($X^2 (1) = 14.782, p = 0.001$). In addition, 94% of the regularly prescribing group supported the independent role in prescribing for an agreed list of conditions compared with 74% of the non-regular prescribers ($X^2 (1) = 6.615, p = 0.01$).

While both groups had similar levels of attendance for all other courses, regular prescribers had a higher attendance at triage courses (46% versus 19%, $X^2 (1) = 13.892, p = 0.001$) and nursing prescribing courses (54% versus 7%, $X^2 (1) = 52.695, p = 0.01$).

The non-regular prescriber group reported higher rates in the performance of all listed clinical tasks (figure 5.8), and favoured further specialised training for most of these clinical tasks (figure 5.9) with the exception of five areas: travel immunization, telephone triage, treating minor illnesses, clinical leadership and managing other staff, and assisting with minor surgery. However, these differences were not significant.

Figure 5.8: Performance of clinical tasks by regular prescribers and non-regular nursing prescribers

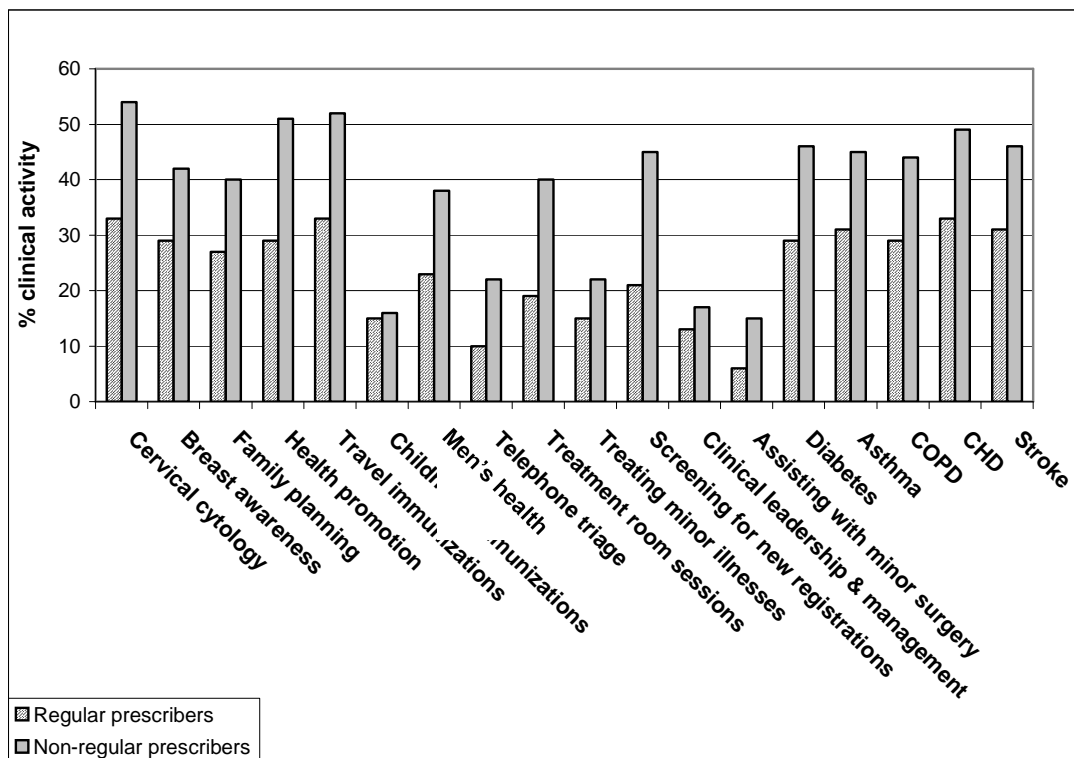
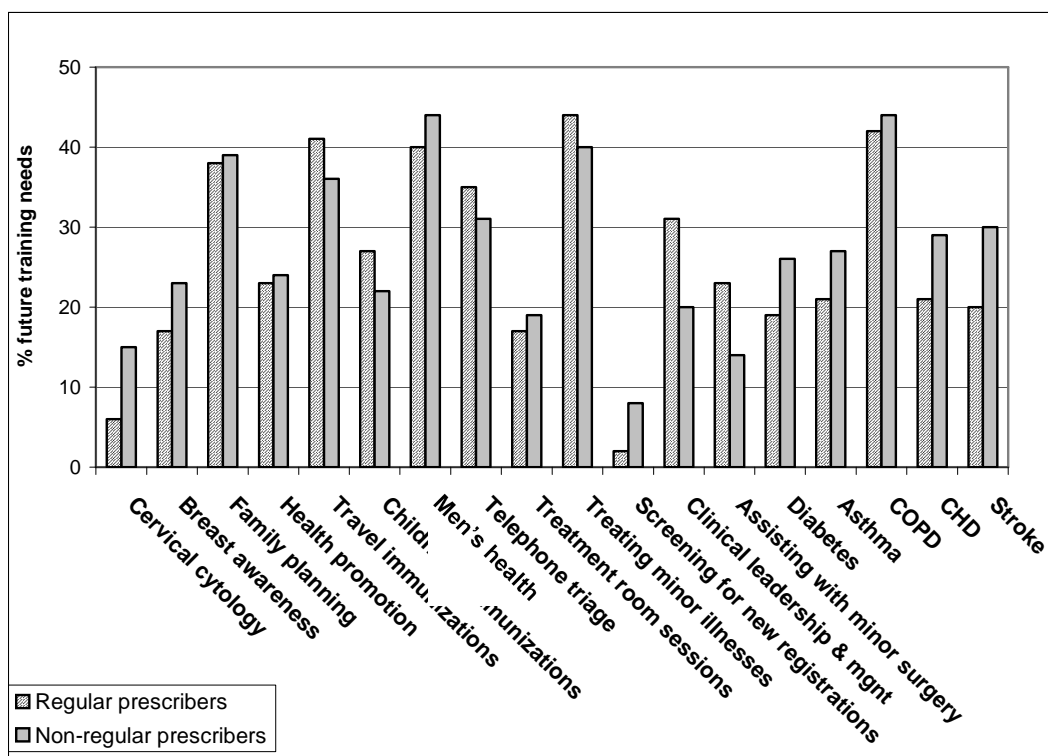


Figure 5.9: Future training needs of regular and non-regular nursing prescribers



5.5.5. Nurses with feelings of isolation

The feeling of isolation reported by some General Practice Nurses could have detrimental effects on their performance and role development. Practice nurses work separately from their nursing colleagues in other practices/sectors due to the independent nature of the individual surgeries, so they could develop the feeling of isolation due to the lack of communication with their nursing colleagues outside the practice. This section investigates the demographics of this group, their roles and training, and finally the support provided for them.

The responses for the question 'Do you ever feel isolated (or alone, lacking opportunities for clinical supervision) in your work situation?' categorised into the isolated group for 103 nurses (51.5%) who said yes / some times, and the non-isolated group for 94 nurses (47%) who answered no; 3 nurses (1.5%) did not respond.

Demographics

A feeling of isolation was reported in all age categories but 55% of the isolated group were 40-49 years old compared with 42% of the non-isolated nurses. In general, isolated nurses were older, and only 12% had H grade posts compared with 25% of non-isolated nurses (Table 5.9).

Table 5.9: Age and Grade of isolated and non-isolated nurses

	Isolated group		Non-isolated group	
	Number	(%)	Number	(%)
Age				
20 – 39	18	(18)	24	(26)
40 – 49	57	(55)	39	(42)
> 50	28	(27)	29	(31)
Grade				
D	1	(1)	0	(0)
E	1	(1)	1	(1)
F	5	(5)	7	(7)
G	79	(77)	61	(65)
H	12	(12)	23	(25)

The average number of years of experience for the isolated group was 9.4 compared with 10.6 for the non-isolated nurses, however, the association between years of experience and feeling of isolation was not significant (M-W U = 3875.5, p = 0.096).

83% of the isolated group had 'Practice nurse' as their job title compared with 78% of the non-isolated, while 10% of the isolated group had 'Senior Practice Nurse' compared with 14% of the non-isolated group (Table 5.10).

Table 5.10: Job title for isolated and non-isolated nurses

Job title	Isolated group		Non-isolated group	
	Number	(%)	Number	(%)
Practice nurse	83	(81)	73	(78)
Senior Practice Nurse	10	(10)	13	(14)
Practice Nurse manager	6	(6)	4	(4)
Nurse Practitioner	2	(2)	2	(2)
Other	2	(2)	1	(1)

Practice size

Unsurprisingly, isolated nurses worked in smaller practices and within smaller nursing teams. The practice list size for the isolated group was significantly smaller than for practices of the non-isolated group (Mean: 5318 versus 6363; M-W U = 3510.5, $p = 0.016$). The average size of the nursing team for those who felt isolated was 1.8 nurses/practice, compared with 2.3 nurses/practice in the non-isolated group (M-W U = 3604.5, $p = 0.002$).

39% of the isolated group were single-handed compared with 22% of non-isolated nurses ($X^2 (1) = 5.79$, $p = 0.02$) (Table 5.11). Further more, only 29% of isolated nurses worked within a structured team compared with more than half of non-isolated nurses (51%) ($X^2 (1) = 4.997$, $p = 0.025$).

Table 5.11: Number of practice nurses in the practice

Number of nurses	Isolated group		Non-isolated group	
	Number	(%)	Number	(%)
1	40	(39)	21	(22)
2	44	(43)	39	(42)
3	16	(16)	22	(23)
4	1	(1)	7	(7)
5	2	(2)	3	(3)

Qualifications

There were no significant differences in qualifications/certificates for both groups, but 67% of isolated nurses said their training and qualifications were used to the full in their current job compared with 92% of non-isolated nurses ($X^2 (1) = 18.07$, $p = 0.001$).

The groups did not differ in their reasons for choosing to become a practice nurse with exception of autonomy which was reported by 14% of isolated nurses compared with 30% of non-isolated nurses ($X^2 (1) = 6.75$, $p = 0.009$).

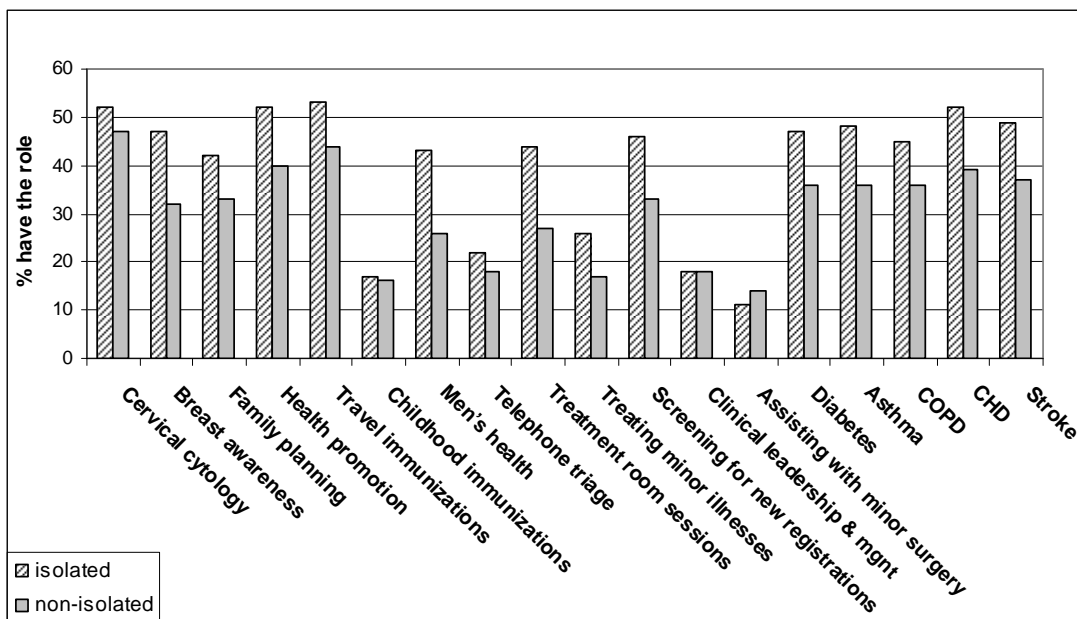
73% of who felt isolated had envisaged continuing to work as a practice nurse for the coming 5 years compared with 90% of non-isolated nurses ($X^2 (1) = 7.077$, $p = 0.008$).

Clinical tasks in the practice

A higher proportion of isolated nurses were involved in all of the listed clinical tasks, the differences being significant for men’s health (43% of isolated versus 26% of non-isolated; $X^2(1) = 4.509, p = 0.034$) and treatment room sessions (44% of isolated versus 27% of non-isolated; $X^2(1) = 4.952, p = 0.026$) and of borderline significance for breast awareness (47% of isolated versus 32% of non isolated nurses; $X^2(1) = 3.524, p = 0.06$) and CHD (52% of isolated versus 39% of non isolated nurses had carried out this role, $X^2 = 3.53, p = 0.06$) (Figure 5.10).

This does not mean that isolated nurses were busier than the non-isolated nurses as both groups had similar working hours per week. However, the isolated nurses had wider clinical roles with the majority of them working in smaller nursing teams and smaller practices as mentioned earlier.

Figure 5.10: Differences in role performance between isolated and non-isolated nurses



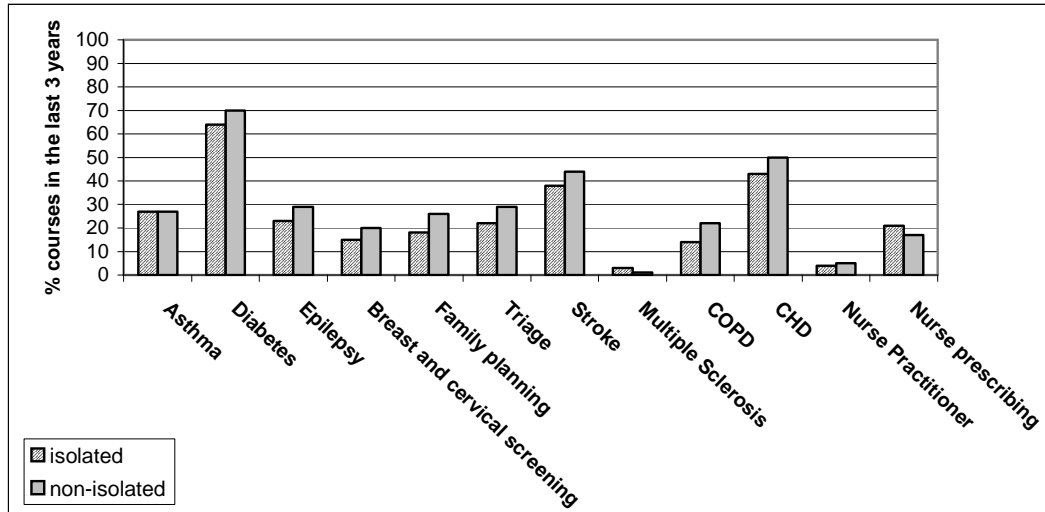
For all of the listed clinical tasks, the isolated group had lower rates of previous specialised training and higher future training needs. Such training needs were significantly higher for family planning, health promotion, telephone triage, screening for new registrations, asthma, COPD, CHD, and stroke (Table 5.12).

Table 5.12: Need for further specialised training for isolated and non-isolated nurses

Clinical activity	Isolated group		Non-isolated group		X ² p value
	Number	(%)	Number	(%)	
Cervical cytology	13	(13)	12	(13)	0.94
Breast awareness	25	(24)	17	(18)	0.38
Family planning	47	(46)	28	(30)	0.03
Health promotion	32	(31)	15	(16)	0.003
Travel immunizations	36	(35)	36	(38)	0.59
Childhood immunizations	22	(21)	23	(25)	0.57
Men's health	50	(49)	35	(37)	0.23
Telephone triage	39	(38)	24	(26)	0.06
Treatment room sessions	23	(22)	12	(13)	0.11
Treating minor illnesses	48	(47)	34	(36)	0.20
Screening for new registrations	11	(11)	2	(2)	0.01
Clinical leadership & management	26	(25)	19	(20)	0.29
Assisting with minor surgery	15	(15)	15	(16)	0.95
Diabetes	28	(27)	19	(20)	0.14
Asthma	31	(30)	19	(20)	0.05
COPD	51	(50)	34	(36)	0.01
CHD	39	(38)	13	(14)	0.001
Stroke	36	(35)	17	(18)	0.006
Audit	54	(52)	39	(42)	0.092

Although the differences were not statistically significant, isolated nurses reported lower attendance rates in all of the recognized courses attended in the last three years (Figure 5.11). The average number of courses for the isolated group was 2.9 compared with 3.4 for the non-isolated group.

Figure 5.11: Recognised courses attended by isolated and non-isolated nurses



Prescribing

25 nurses (24%) in the isolated group and 20 in the non-isolated (21%) had regularly undertaken nurse prescribing. The isolated nurses were more enthusiastic for the independent prescribing role as 60% said nurses should have an independent role in prescribing new medications for chronic diseases compared with 51% of non-isolated ($X^2(1) = 4.180, p = 0.041$). Only 10% of the isolated group did not support the independent nursing role in prescribing for an agreed list of condition compared with 20% of the non-isolated group ($X^2(1) = 3.316, p = 0.069$).

Continuing Professional Development (CPD)

90% of the isolated and 97% of the non-isolated groups had the opportunity for CPD activities. Nurses from the isolated group attributed the lack of CPD opportunities to workload, lack of interest, not done in the practice, no time at work, and GP unwilling to pay.

The average number of study days in the last year for the isolated group was 5.4 compared with 6.8 for the non-isolated group ($M-W U = 2916.5, p = 0.04$).

The training time was part of the normally paid working commitment for 45% of the isolated group compared with 50% of the non-isolated. However, 50% of the isolated group said their training time was partially covered by their practice compared with 44% of the non-isolated group ($X^2 (1) = 0.661, p = 0.416$). 58% of isolated nurses reported that their course fees were paid for them, compared with 78% of non-isolated nurses ($X^2 (1) = 9.759, p = 0.002$).

The isolated nurses had less participation in training activities with their nursing colleagues (39% were single handed in the practice compared with 22% of the non-isolated nurses). 6% of isolated nurses participated with nursing colleagues only compared with 13% of non-isolated (Table 5.13). 28% of isolated nurses had not participated in training activities either with GP or nurses colleagues at the practice in the last 6 months. There was a significant association between the feeling of isolation and whether or not nurses had at least one in-service training activity during the last 6 months ($X^2 (1) = 3.6, p = 0.05$).

Table 5.13: Regular training activities at the practice in the last 6 months

Training activities	Isolated group		Non-isolated group	
	Number	(%)	Number	(%)
With nursing colleagues only	6	(6)	12	(13)
With GP colleagues only	10	(10)	11	(12)
With both GP and PN	56	(54)	54	(57)
No	29	(28)	16	(17)

79% of isolated nurses had personal development plans compared to 87% of the non-isolated group. Furthermore, 85% of the first group had had a formal appraisal in the last 3 years compared to 90% of non-isolated nurses. These differences were not significant, there was a statistically significant association between the feeling of isolation and the nurse's evaluation of whether the appraisal had been productive or not ($X^2 (1) = 18.995, p = 0.001$). To illustrate, only 33% of isolated nurses who had appraisal said their appraisal was productive compared with 67% of non-isolated nurses.

There was no association between the feeling of isolation and the employment of a HCSW in the practice (42% isolated versus 49% non-isolated; $X^2 (1) = 0.810, p = 0.368$). Isolated nurses were slightly less likely to act as mentors for HCSW (22% versus 29%). However, only 18% of isolated nurses had had training in mentorship compared with 32% of non-isolated nurses ($X^2 (1) = 4.165, p = 0.041$).

Access to professional and personal support

Only 35% of isolated nurses had had the opportunity to be part of clinical supervision sessions compared with 53% of non-isolated nurses ($X^2 (1) = 10.514, p = 0.001$). Isolated nurses were less likely to have access to someone with whom they could discuss "clinical/professional" problem (85% versus 98%; $X^2 (1) = 9.639, p = 0.002$) or "personal type" problems (62% versus 85%; $X^2 (1) = 13.646, p = 0.001$).

At the LHCC level, isolated nurses were less likely to attend practice nurse meetings (82% versus 90%; $X^2 (1) = 3.173, p = 0.075$). 69% of isolated nurses found these meetings with the Practice Nurse Advisor advantageous compared with 77% of the non-isolated nurses. However, this difference was not statistically significant.

Both groups were aware of the Glasgow local practice nurse group and 80% in each group had the opportunity to attend their meetings.

Finally, receiving information from the NHS Greater Glasgow Primary Care Division on a regular basis was reported significantly less often by nurses reporting the feeling of isolation (71% of isolated group versus 85% of non-isolated; $X^2 (1) = 4.973, p = 0.026$).

5.6. Discussion

5.6.1. Introduction

Nurses in primary care are going through a rapid state of change and perhaps now, as never before, the scope exists for nurses to develop their careers in response to service demands, professional aspirations, policy drivers, and patients need (Scottish Executive Health Department 2006). Nurses working in general practice have become a very important part of the primary care workforce, having increased in numbers in recent years and borne the brunt of the increased workload generated by the new GMS contract (Alazri 2007;Leese 2007;McGregor, Jabareen, Mercer, Watt, & O'Donnell 2008). The Nursing Officer for Education and Regulation in the Scottish Executive Health Department believed that there was a need to establish new ways of working to best deliver the range and quality of services required, and that the Scottish NHS needed to study the requirements of role development of practice nurses and provide the necessary opportunities for their career progression (Lockhart 2005). There is no doubt that nurses have an important role to play in the modernisation process of the NHS in Scotland (Scottish Executive Health Department 2006). However, developing the nursing workforce needs to happen in parallel with organisational change in the healthcare workforce, taking account of the changing role of other health care professionals, financial resources, and ever changing public needs.

The fact that practice nurses are employed by different autonomous practices and not by a central organization has resulted in information shortages about their characteristics, roles and support needs which are required for any informed decisions. It is hard to directly contact and survey practice nurses, as they are employed by independent general practices, and therefore outside the main structures and arrangements concerning the employment and development of nurses in the NHS. In this study, access was facilitated by the practice nurse advisor for the 329 practice nurses working within NHS Greater Glasgow.

Other factors which facilitated the conduct of this study included building on a previously conducted survey carried out by the Primary Care Trust's PN Advisor, which used the same sampling frame, and had been acceptable to the GPs. The collaboration between these two groups provided a great opportunity for comparing the results of the current and previous survey which was carried out in 2004 by Greater Glasgow Primary Care Division. Second, the location of the researcher in General Practice and Primary Care may have made it more acceptable to GP employers, whose support was obtained via the Local

Medical Committee (LMC). Nevertheless, there were clearly sensitivities about internal practice working and employment arrangements being subject to external scrutiny – this was expressed at the LMC, and again at the Local Research Ethical Committee (LREC). As a result, questions about practice identifiers were not allowed in the survey.

5.6.2. Strengths and limitations of the survey

Strengths

* The survey was conducted by a nurse researcher, and supervised by a team consisting of the practice nurse advisor, an academic GP and a senior non-clinical academic researcher. This mixed approach eliminated any one professional bias, hopefully producing more reliable and objective outcomes.

* The study provided unique information about practice nurses working within NHS Greater Glasgow who, because they were not employed by a central organisation but by autonomous practices, were difficult to access and to find accurate information about practice nurses workforce.

* The survey included the whole population of practice nurses working in NHS-Greater Glasgow, which minimised bias, by not leaving any group unrepresented. The response rate of 61% was respectable and considered good compared with that achieved by similar studies (55%); (Centre for Innovation in Primary Care 2000) and the previous survey by the PN's advisor (44%). This may have reflected the desire of practice nurses in Greater Glasgow to express their views and use the opportunity to make their voices heard by policy makers, especially after the changes introduced by the nGMS contract.

* Although we could not identify individual nurses or their practices, there appeared to be responses from a reasonably representative sample of nurses based on respondents' report of the practice size. We can infer that there were more responses from large practices (> 6000 patients registered in the practice list: 37% of respondents' practices versus 26% of the actual NHS Greater Glasgow's practices) and less from small practices (< 6000: 60% of respondents versus 75% of actual NHS Greater Glasgow). Given the association between small practices and areas of socio-economic deprivation, this implies that there were fewer responses from nurses working in areas of deprivation.

* The survey was carried out at an important time, when PNs were reflecting on their first experience of taking part in the Quality and Outcome Framework (QOF). This could have encouraged nurses to complete the questionnaire about changes in the provision of health care services and consequently their roles and support needs.

Limitations

* There was no information on the 39% of non-respondents. The lack of practice identifiers made it impossible to characterise non-responders in terms of the practices or populations concerned. This left us unable to check or comment on the validity of the responses by practice nurses in relation to these characteristics.

* In order to make it comprehensive, the questionnaire covered a wide range of topics concerning practice nursing. The cost of this broadness was the inability to focus more on specific clinical or professional areas such as independent prescribing, triaging, and minor illness treatment. Furthermore, the questionnaire contained questions about the past experience and training of nurses in the last 3 years and this could have produced some recall bias.

* Another limitation of the analysis of this survey was the small numbers within the subgroups. First, 30 respondents intended to leave the practice were compared with 161 staying nurses. Second, 61 single-handed were compared with 138 team-member nurses; 48 regular prescribers were compared with 144 non-regular prescribers. For experienced versus less experienced nurses and isolated versus non-isolated nurses the subgroups were relatively equal. Nonetheless, the survey did reveal some potentially important issues concerning these sub-groups.

5.6.3. Discussion of the main findings

Practice nurses in Greater Glasgow were a relatively aging group with one third more than 50 years old, implying they have 10 years or less to retirement. Added to this, the growing demand on practice nurses and the 6% of younger nurses who expressed their intention to leave within 5 years time indicates that a severe shortage and recruitment crisis may be expected within the next few years.

Practice nurses at Greater Glasgow were an experienced professional group, with an average of 10 years work in the field. As reported in previous studies (Atkin 1993; Centre for Innovation in Primary Care 2000; Paxton, Porter, & Heaney 1996), many of them had chosen practice nursing because they saw it as a professional career, which suited their life circumstances although only 18% felt general practice nursing offered them autonomy.

While the practice nursing workforce was flexible, it had no identifiable structure at the primary care division level. However, when these findings were compared with the previous survey, there was evidence that the nursing management and leadership aspects were developing gradually in the last couple of years as the percentage of nurses who were working in structure teams increased from 30% in 2004 to 40% in 2006. Furthermore, more nurses in 2006 reported having job titles that indicated seniority, such as 'Senior Practice Nurse' and 'Practice Nurse Manager' compared with 2004. In addition, one quarter of practice nurses had requested advanced training in leadership and management. Our findings support the fact that formal education is a target area to enhance nursing skills, particularly in clinical management and leadership. While 96% of practice nurses had the basic Registered General Practice/State Registered Nurse qualification, only 12% had the post-registration Practice Nurse Certificate and 4% held a Masters degree.

The average length per appointment was 13.4 minutes, longer than findings from other studies of 10 minutes (Freeman, Horder, Howie, Hungin, Shah, & Wilson 2002; Paxton, Porter, & Heaney 1996). Surprisingly, 71% in 2004 and 68% in 2006 reported that their clinics were cancelled when they had been absent or on holiday, the rest of respondents were covered by their nursing colleagues who usually increased their working hours.

The employment of Health Care Support Workers (HCSW) in general practice is a growing phenomenon (General Practice News 2002). The percentage of nurses who reported that their practices were employing HCSW to provide practice nurse-like duties increased from 26% in 2004 to 45% in 2006.

This survey also confirmed that practice nurses carried out a wide range of clinical activities, although it appeared that older nurses and those who worked in large practices, in general, had more specialised roles than others. There was clear connection between the most common activities/conditions managed by nurses and the previous training provided for those nurses (e.g. cervical cytology, asthma, COPD, and diabetes). The greatest future training needs were for specialised areas such as treating minor illness, telephone triage, independent prescribing, and men's health, although traditional areas such as family health planning, travel immunization, and COPD were also required. 56% of all respondents agreed that nurses should have an independent role in prescribing new medications for chronic diseases and 79% agreed that nurses should be able to prescribe for an agreed list of conditions, higher than figures reported by others (Courtenay, Carey, & Burke 2007;Latter et al. 2007).

Another important finding of this study was that 66% of nurses had participated in regular training activities in their practice with GPs. This may be a new development, reflecting the growing potential for more team working as in the past the two professions used to have separate training activities (Curtis & Netten 2007;Drennan et al. 2006). More investigation is needed to explore the reason behind this new trend and how it may be developed.

More than 90% of respondents said they had the opportunity for Continuing Professional Development (CPD), although only 70% found it was easy to attend study days. The problem was not financial, since fees for training courses were paid in most of cases, but getting time off work, as it was difficult to find someone to cover the practice nurse's duties during her absence.

5.6.4. Discussion of special groups' main findings

The experienced group

94 nurses (47%) had more than 10 years of experience in practice nursing and 99 (50%) had 10 years or less. The more experienced nurses were older and on higher grades than the less experienced nurses. Furthermore, the experienced nurses had more professional qualifications, especially beyond the first level of registration, but within the last 3 years, the less experienced nurses had higher participation rates of the certified courses related to practice nursing. One explanation may be that experienced nurses had already attended similar courses before the 3 year period specified in the questionnaire. One fifth of experienced nurses intended to leave the practice within 5 years time compared to one tenth of the less experienced nurses; this mainly related to age differences.

Less experienced nurses had a wider caseload but received less training across almost all areas. At the same time, the more experienced group had longer working hours. This may be due to the more experienced nurses carrying out an advanced (e.g. audit) and specialised clinical tasks (e.g. prescribing, triaging and managing other staff) rather than carrying out a wide a range of generic traditional tasks, but could be investigated further.

Nurses intending to leave practice

30 nurses (15%) reported that they did not envisage continuing to work as a PN in 5 years time. They were older and had more years of experience. There were no differences in the clinical roles between the leaving and the staying groups. Those who intended to leave had carried out more regular prescribing, but were less enthusiastic about the development of more advanced roles (such as independent prescribing).

The leaving group had less access to professional and personal support, felt more isolated, rarely took part in external practice nurses meetings, and gave the ever-increasing workload as the main reason for their decision to leave the practice.

Single-handed nurses

61 nurses (31%) reported that they were working alone in the practice (single-handed). They were older than those working in teams and one fifth intended to leave the practice within 5 years compared to 13% of nurses who said there were more nurses employed in their practices.

The two groups had similar nursing qualifications, working caseloads and did not differ in the number/length of their consultation slots. The single-handed nurses had better previous specialised training for clinical tasks than the team-member nurses, although this may have been compensated for by higher in-service continuing education activities for nursing-team members.

72% of single-handed nurses had part-time contracts with longer working hours per week than the team member nurses. Usually, the work commitment was cancelled when the single-handed nurse was absent, while in the second group, the work commitments usually covered by a nursing colleague.

The single-handed nurses reported having more autonomy in the practice but with a higher feeling of isolation and they lacked the opportunity for clinical supervision in their work situation.

Nurse prescribing group

48 nurses (24%) reported that they regularly prescribe in their place of work (regular prescribers) compared to 144 nurses (72%) did not prescribe regularly (non-regular prescribers). Nevertheless, the majority of respondents were prescribing with the GP's back up.

Regular prescribers were on higher grades, had more professional qualifications, better attendance at continuing training courses especially for triage and nursing prescribing, and had a more positive perception about the independent nursing-prescribing role.

The regular prescribers reported lower rates in the performance of traditional clinical tasks, but had similar working hours per week in the practice; this could indicate that they were spending more of their time performing more advanced, specialised roles than others.

Group with feelings of isolation

103 nurses (52%) felt they were isolated in their work place. These nurses were older, had fewer years of experience as practice nurses, fewer 'H' grade nurses, less previous specialised training, and higher future training needs.

They also worked in small practices with smaller nursing teams than the other respondents and many of them worked alone. Inside the practice, they had less in-service training activities and less opportunities for personal development plans and formal appraisal. There were no differences in qualifications between the two groups but the more isolated group were less likely to feel that their training and qualifications were used to the full. The majority of them expressed their intention to leave the practice nursing within the coming five years.

The isolated nurses had higher workloads for most of the listed clinical tasks and wider caseloads of traditional tasks than nurses who were not isolated. They also tended to work in smaller nursing teams with lower opportunities for work specialization since they had less previous specialised training opportunities and higher future training needs.

The isolated nurses had fewer study days in the last year. Furthermore, they received less support from their practices as their training time was only partially covered and course's fees were not always paid, compared to nurses who did not report feeling of isolation.

The associations between feelings of isolation and access to professional and personal support were all significant. Isolated nurses were less likely to have access to some one with whom they could discuss 'clinical/professional' problem or 'personal type' problem, and had lower access to clinical supervision sessions.

Finally, less isolated nurses were more likely to report receiving information from the NHS Greater Glasgow Primary Care Division on a regular basis and received less information from the NHS Greater Glasgow primary care division.

5.6.5. Conclusion

The aim of this survey was to provide generic data about practice nurses' characteristics, roles, and qualifications / CPD, adding context to the PTI desk-based clinical activities analysis and raising issues for the qualitative study. The main findings support the fact that practice nurses are very busy and more investment is needed to develop this resource qualitatively (e.g. higher qualifications and/or continuous professional development) and quantitatively (e.g. increase their number and attract more nurses to practice nursing).

This chapter confirmed the flexibility of the practice nurse role in general practice. It showed that practice nurses undertook a wide range of clinical tasks, with different training and support needs in order to be able to meet their developing roles and changing responsibilities in the practice. Most of the practice nurses were involved in health promotion, cervical cytology and travel immunization, as well as chronic disease management. The foremost training priorities identified by practice nurses included COPD, men's health, treating minor illness, family planning and travel immunization. As one might expect, the perceived need for training was lower for nurses who were undertaking these tasks than for those who were not. So there was a clear match between nurse's clinical roles and their previous education and training. This could be used by decision makers to address the training needs of practice nurses and the support they may need to prepare them for future responsibilities.

The survey has answered many questions related to practice nurse demographic characteristics, total working hours, clinical issues, training and CPD needs, and supportive arrangements. This could provide managers at the practice and Health Board level with the necessary evidence to make sound decisions to support the practice nurses workforce efficiently and effectively.

Finally, for research, there is a dearth of studies that investigate the generic clinical roles and demographic characteristics of practice nurses at Scotland in general and Greater Glasgow in specific. This survey provides a reference point for future research and could be used to identify issues warranting further exploration, for example why younger nurses (below 50 years old) intend to leave the practice within the next 5 years.

CHAPTER SIX

INTERVIEWS WITH GPs AND PNs

6.1. Introduction

The third phase of this study consisted of face-to-face semi-structured interviews with general practitioners and practice nurses working within NHS Greater Glasgow. Issues for interviews were selected based on review of the literature, findings from the previous two quantitative studies (PTI analysis and practice nurse survey), and the initial research questions. The aim of the interviews was to collect qualitative information at the practice level on the major changes of nurse's clinical roles and how these changes related to doctor-nurse skill mix. So interviews were used to clarify some of previous findings, and to answer the remaining research questions that could not be answered by the quantitative studies.

6.2. Setting of the study

The study utilized one-to-one semi-structured interviews with doctors and nurses working in general practice within NHS Greater Glasgow to investigate the issue of doctors-nurses skill mix with a focus on the evolving role of practice nurses. Similar to the PNs' survey, it was decided to limit the interviews to practices within NHS Greater Glasgow due to constraints in manpower, cost, time, and expenses. Furthermore, Greater Glasgow contained a varied sample of practices with different characteristics that met the criteria of this research and could be representative of Scottish urban general practice.

6.3. Sampling and inclusion criteria

There were 216 general practices located within NHS Greater Glasgow in 2005. A purposive sampling technique was used to select subjects from practices with diverse characteristics to contribute effectively to the discussion and suit the purpose of the study (Brink & Wood 1998; Parahoo 1997). Bowling defines purposive sampling as “a deliberate non-random method of sampling, which aims to sample a group of people, or settings, with particular characteristics” (Bowling 2002). The sampling frame was doctors and nurses working in general practices within NHS Greater Glasgow with maximum variation of the following two criteria:

1. The socio-economic status of the practice population:

The modified Scottish Index of Multiple Deprivation 2004 (mSIMD) was used to identify the most affluent and most deprived practices. There were 31 practices in the most affluent quintile and 51 in the most deprived quintile.

2. The practice size:

The number of WTE partners was used to identify the size of practices as small (>1 - 3 WTE GPs) or large (> 5 WTE GPs). There were 93 small practices and 23 large practices according to the selection criteria.

Practices were matched according to these two characteristics and a 2X2 table was constructed to identify the practices that were eligible for selection (Table 6.1).

Eligible practices were contacted through the practice manager, who was asked to pass the information package (Appendix 6) to doctors and nurses working in the practice. Practice managers were re-contacted 7-10 days later to ask if a GP and a practice nurse had agreed to participate in the study. Later on, the researcher contacted those who had agreed to arrange a suitable time and place for the interview.

Four practices refused to participate in the study without giving a specific reason. For another, the problem was that only one clinician (either a doctor or nurse) from the same practice had agreed to participate or were available at the time of the interviews. Some practices did not refuse to participate but, because they were busy at that period with the requirements of the new GMS contract, asked to be contacted later, which was not

possible. So, these practices were not included either. Finally, nine practices agreed to take part in the study, and 18 interviews were conducted. In all cases the interviews with the doctor and nurse from the same practice were carried out on two different days in order not to disturb the practice schedule and workload. All interviews took place between 15th of January and 15th of July 2006 based on availability of respondents. The sample size was necessarily small due to the complexity of the data, which were time-consuming to analyse, and because the aim of obtaining qualitative data was to provide rich insights to the results of the previous two quantitative studies rather than obtaining statistical representativeness.

Table 6.1: Recruitment schedule for practices selected for interviews (Number recruited/Total number of practices)

	Large	Small
Affluent	2/6	1/8
Deprived	3/5	3/31

6.4. Pilot study

The initial interview schedule was developed and refined through informal discussions with 4 subjects: two pairs of GP and practice nurse working in the same practice. The final interview schedule was then piloted with a practice nurse with full recording and filming. This interview lasted for one hour and was watched carefully in order to examine the applicability of the interview schedule in terms of time and flow of questions; to test the researcher's interviewing skills; to assess if the interviewee could understand the questions in terms of wording; and to test whether the audio tape recorder produced a good quality recording that could be transcribed without difficulties.

The pilot interview was very useful for the researcher, whose first language is not English. The evaluation of the interview did not indicate substantive problems, but minor changes were made to the order of the schedule. Data from this interview was not included in the actual analysis of the qualitative study, as there was no corresponding GP interview.

6.5. Main study

Interviews usually started with a standard introduction about the study then moved to the schedule (Appendix 5), which included eight sections. The order of the interview schedule was as follows:

Section one: Demographic data and current role of practice nurses

This was an introductory section that, first, investigated demographic data about the interviewee such as years of experience in general practice, previous experience, and qualifications. Second, it contained questions about the characteristics of the practice, number of GPs and PNs, and services for practice populations. Third, this section investigated the current roles of practice nurses and the main changes to that role.

Section Two: Drivers for role change

This section explored how the changes in the role of practice nurses came about and why. This allowed the interviewee to express her/his perception of the main drivers of role change. Then I investigated the views of the participants about the role of policy makers, demands in the practice, GPs, and PNs in driving the changes in the practice nurse role.

Section three: Constraints of role change

This section intended to find out what were the main barriers to role enhancement of nurses in general practice and how GPs, PNs, resources, rules and policies, and patients could work against the development of practice nurses.

Section four: Impact of nurses' role change

The aim of this section was to identify the perceived impact of changes on the workload and caseload of GPs, on PNs themselves, on the relationship between doctors and nurses, and finally, the impact on patient health care.

Section five: Current skill mix in the practice

This section was about the current skill mix between doctors and nurses that resulted after changes had taken place. Furthermore, some management issues that related to skill mix were identified at this phase.

Section six: Future direction of role development

In this section interviewees were asked to state their opinion on the future direction of development in practice nurses' roles. In addition, subjects were asked about the potential development of three particular advanced roles of practice nurses: independent nurse prescribing, nurse triaging, and minor illness treatment.

Section seven: Support for role change

The aim of this section was to find out the perceived support that participants thought should be provided for nurses in order to advance their roles in general practice. For example, participants were asked about training needs, cooperation in the practice, and financial arrangements.

Section eight: The new GMS contract

This section was about the impact of the new GMS contract on doctor-nurse skill mix in general practice. Participants were asked how the new contract affected the division of workload between the practice team, the professional and financial opportunities that came with the new contract, how the contract influenced the relationship between clinicians in the practice, and the impact of the new contract on patient care.

At the end, all interviews were concluded by asking the participants if they had anything else they would like to add. This question allowed participants to express freely any issue of concern for them and ensured that the interview did not miss any important aspect of the evolving changes in practice nurses roles not already mentioned in the interview.

6.6. Conduct of the interviews

All interviews, except one, were conducted at the interviewees' practices in a suitable and quiet environment. Most interviews lasted between 75 to 90 minutes and written consent was obtained before the interview began. The audio tape recording failed to save the data in one interview due to an electricity fault (interview with PN; Practice number 7). Data were recovered manually as the researcher wrote down most of the responses of the interviewee immediately after the interview.

6.7. Ethical aspects

Ethical approval was obtained from the Greater Glasgow Primary Care Division Local Research Ethics Committee (LREC) as described earlier (Chapter 3.7). Informed consent was obtained from all participants and confidentiality was assured, with neither individuals nor practices identifiable in any output from the study. An information sheet about the study was sent to all participants during the initial contact with the practices. Participants were also informed that they could stop the interview at any time without prejudice. Interviewees were also reminded that it is University of Glasgow's policy to destroy all audio tapes after the completion of the research.

6.8. Analysis

In the course of the interviews the researcher took field notes in addition to the audio tape recordings. Regular discussions were held between the student and research supervisors to identify the emerging themes and issues requiring more in-depth questioning. The conceptual categories and themes were derived from analysing the initial interviews, as well as from the ideas that the investigator had before conducting and while listening to the interviews.

The audio tape recordings were transcribed verbatim and entered into NVivo version 10. Data were coded by theme or category. Bowling defines data coding as “relating sections of the data to the categories which the researcher has either previously developed or is developing on an ongoing basis as the data are being collected” (Bowling 2002).

A thematic analysis was conducted facilitated using the Framework approach which consists of five key stages (Lacey & Luff 2001; Ritchie & Spencer 1994; Ritchie, Spencer, & O'Connor 2003). First, there was a familiarization phase which involved reading and re-reading the initial data to identify broad categories and codes within those categories. Second, a thematic framework was developed. During this process, the initial coding framework was developed both from a priori issues and from issues that emerged during the interviews. This coding framework was discussed with the research supervisors and other colleagues to uncover any inconsistencies and to satisfy criteria of reliability. The initial categorisation exercise was carried out by both the student and one of his supervisors (as an independent investigator) after completion of the first couple of interviews.

Third was the indexing phase, when the thematic framework was applied to all the interviews transcripts. Thus, specific pieces of data could be identified which corresponded to the different codes.

When applying the Framework approach, the fourth stage is charting when data are extracted into charts according to broad themes and categories. This step was not followed according to Framework. Instead, codes were grouped according to broad categories and sub-categories and the data linked to each code extracted using NVivo. The use of NVivo allowed the ready identification and extraction of chunks of interview text according to codes and allowed the data to be analysed by respondent and, later, compared across respondents. This process was discussed and refined with the supervisors of the research.

The NVivo computer software made the categorization of data easy as it enabled the researcher to enter verbatim transcripts and marked text by theme for the programme to sort and extract in the final analysis. The software also enabled the researcher to build and modify the subsets of categories as analysis proceeded (Bryman 2004;QSR-NVivo 2002). The final stage was mapping and interpretation, when the data were searched for patterns, associations, and explanations, for example, by comparing the responses of GPs with those of nurses under particular categories.

The participating practices were given a unique identifier, from 1 to 9, and were identified by their characteristics either as large or small, and affluent or deprived. A constant comparative approach was used to compare between the views of GPs and PNs within every sub-category (Glaster & Strauss 1968). The quotations that were used to illustrate the opinions of subjects were labelled at the end by [subject's profession as a GP or PN; number of practice; characteristics by size and deprivation status; and the paragraph's number in that interview script] for easy referencing.

The following section presents the findings of the interviews with doctors and nurses. The presentation of data follows a narrative approach that focuses on the importance of the story that the respondents gave with emphases on the actual transcripts. So in order to keep the richness of data, verbatim quotations in original and intact forms were used alongside the researcher interpretations and summary of participants' views.

6.9. Findings from interviews with GPs and PNs

6.9.1. Demographics of the respondents and key themes

Three of the GPs interviewed were female and six were male; their years of experience ranged from 2 – 24 years. All the practice nurses were female and had been practice nurses for between 5 and 16.5 years. The numbers of the nursing team in the nine practices varied from 1-4, and their working hours per week ranged from 30 to 36 (Table 6.2).

Table 6.2: Characteristics of practices and demographics of subjects

Practice number	Socio-economic status	Size of the practice	No. of PNs in practice	Staff	Gender	Working hours per week	Years of experience in general practice
1	Affluent	Large	4	GP	Male	36	21
				PN	Female	30	14
2	Affluent	Large	2	GP	Male	30	20
				PN	Female	36	5
3	Deprived	Small	1	GP	Female	20	2
				PN	Female	30	13
4	Affluent	Small	2	GP	Male	36	6
				PN	Female	36	20
5	Deprived	Small	1	GP	Female	36	23
				PN	Female	30	13
6	Deprived	Small	2	GP	Male	36	14
				PN	Female	34	13
7	Deprived	Large	3	GP	Male	36	24
				PN	Female	27	15
8	Deprived	Large	3	GP	Male	36	15
				PN	Female	30	13
9	Deprived	Large	4	GP	Female	36	26
				PN	Female	36	16.5

Analysis of the 18 interviews identified 8 broad themes (Table 6.3), which will be presented in the following sections.

Table 6.3: Themes identified from interview analysis

No.	Theme
1	Current roles of practice nurses
2	Drivers for role change
3	Constraints of role change
4	Impact of role change
5	Current doctor-nurse skill mix
6	Future direction of role change
7	Support for role change
8	Impact of nGMS on role change

6.9.2. Current roles of practice nurses

The interviewees categorized nurses' work under two main roles: a traditional nursing role and an advanced nursing role.

The traditional nursing role

Activities that were regarded as traditional included taking blood, changing dressings, treatment room activities, health promotion (including height and weight measurement), immunization, cervical smears, and travel advice. GPs often saw these as tasks that nurses provided directly to patients without being asked by GPs. GPs directed work related to the nGMS contract, such as the follow up of patients as part of chronic disease management:

'I suppose you could sort of divide the practice nurse work into the services provided directly to the patients and then the services that we ask them to carry out for us. For the patients the traditional role for the practice nurse are syringing ears, changing dressings, taking stitches out, giving injections, taking blood, immunizations, cervical smears, there is a lot of opportunistic health education, contraceptive advice, and that is the main ones that I can think about at the moment but I am sure there are others that I just forget about which our practice nurses operate quite independently..... Well, the work that we ask for particularly is contract based work..... for people with chronic diseases'.

[GP; 4 small-affluent; Paras: 68, 86]

Most of the interviewees agreed that nurses were doing routine tasks that doctors had done in the past. A lead practice nurse in a large and affluent practice said:

'... doctors used to do more smear tests and when I started practice nursing that was still the case. Now we do about 98% of the smear tests and it's a very occasional GP that does a smear so we have certainly taken that over..... I usually do injections for him, they do not like doing dressings and ear syringing and I do most of the bloods now'.

[PN; 1 large-affluent; Para: 111]

The advanced nursing role

Interviewees mentioned three main areas when asked about advanced nursing roles in general practice: triaging; prescribing; and treating minor illnesses independently. Only three out of nine nurse interviewees felt they had these advanced roles and all worked in large practices.

Interviewees in small practices did not feel that triaging was needed in their practice. Many GPs also believed that practice nurses were not keen to take this role on, although some suggested they would review it if the nurses wanted to do triage. This was not the case in the large practices where nurse triaging fitted successfully with practice needs:

'I think our nurses are very good at triage and are entirely appropriate. The cases that they often select tend to be the more minor illness, the more upper respiratory infections, ear infections, urine infections, chest infections, skin problems and so that is the kind of range that they can do. They will see them and they will deal with them. So in many ways it takes the pressure off the GPs because these are all people who want to be seen that day'.

[GP; 8 large-deprived; Para: 158]

There were different opinions about nurse prescribing but the majority of interviewees were in favour of it especially for non-serious conditions. A GP in a large and affluent practice said:

'Nurse prescribing is a great role. One of our nurses has done the course and the other is doing it. We will continue to trust them to prescribe and a very simple example would be that they normally do checks for women on oral contraceptive pills'.

[GP; 2 large-affluent; Para: 21]

Most interviewees felt that nurse prescribing was needed more for large practices because it could save nurses time by not tailing after different GPs. Participants from small practices thought it was not important for nurses to be independent prescribers mainly because they had easy access to the GP. Some nurses also expressed concerns about their competence to prescribe. One practice nurse thought there was no need to actually sign the prescription herself, adding:

'It is the GP's responsibility at the end of the day to sign the prescription. It is not just writing somebody's antibiotics, especially when you talk about the polypharmacy – when the patient maybe [is] on 3 hypertensive drugs, maybe on 3 diabetic drugs, and on other things such as vitamin D, you know, there could be multiple interactions, it's quite scary..... I am working in a small practice, if I worked in a health centre where we worked with like 8 doctors then I would feel the need because I could not spend the time running after separate doctors to get things done. So prescribing is important for nurses but in the right context'.

[PN; 3 small-deprived; Paras: 278, 290]

Most of the GP interviewees did not support an independent role for nurses in treating minor illnesses even after training. They believed that nurses could give advice for minor illnesses but their skills should be used elsewhere, mainly in carrying out the traditional tasks in the practice - health promotion activities, follow up of long term conditions and chronic disease management where the diagnosis and structure of treatment were quite clear. In addition, doctors were not pressuring them to do it because this area was not funded by the nGMS contract. A GP added that:

'There is not any more funding for managing minor illnesses, so I am not going to employ my nurse to manage minor illnesses unless the only thing I want is to pay for another two half days a week'.

[GP; 6: small-deprived; Para: 398]

Some interviewees were convinced that it was not easy to draw a clear line between a traditional role and an advanced role for practice nurses. In particular, many nurses believed that their role in chronic disease management was no less important than a prescribing role, since it also required advanced training and skills. Thus, chronic disease management appeared to cross the boundary between the traditional and the advanced role.

Chronic disease management (CDM)

Most nurses felt that their CDM role had developed dramatically in the last two years, after the introduction of the nGMS contract. A practice nurse described her role in managing chronic diseases as:

'I do all the chronic disease management. There is the new GP contracts as you know and they have got to achieve these points to get their payments so I'm in charge of all the chronic diseases, so last year we had 10 diseases, this year we have got 19 areas to look at, so I do that'.

[PN; 4 small-affluent; Para: 86]

Nurses often had longer appointment times than GPs, which they felt was justified because they provided a different type of care for patients with chronic diseases, usually more holistic and including a full check up for their patients. A practice nurse said:

'I need an appointment system because I can spend half an hour with my chronic disease patients. For example, when I see my diabetic patient I am doing their bloods, I am talking about their medicines, I am talking about compliance, I might check their feet, and I discuss getting their urine, so I am doing everything he needs. It is not somebody coming in and saying I have got a sore leg, so I need the time to manage all of that properly'.

[PN; 3 small-deprived; Para: 302]

Thus, nursing roles are clearly evolving, for some practice nurses at least, from a traditional task-oriented role, to a more proactive, advanced role. This seems to be most apparent in CDM and will be discussed in more detail later.

6.9.3. Drivers for change in practice nurses' role

Four main drivers for the evolving nurses' role were identified: policy; service demand; general practitioners, and nurses themselves.

Policy

Most practice nurses and GPs recognised that the changes in the practice nurses' clinical role had begun with the introduction of 1990 GMS contract which was considered to be the first catalyst for change. Practice nurses began to gradually take on routine tasks that doctors previously did, partly because practices were reimbursed for their nurse time and so needed to develop a role for them.

A PN said:

'Our role changed from the 1990 contract because GPs were suddenly being paid to provide asthma care, they were paid to provide smoking cessation clinics and weight management clinics. They were paid for every 10 patients that attended a clinic, you know, so the more clinics you had the more money they got. Now they obviously realise that it is much cheaper to have a nurse to provide these services than it is for a GP'.

[PN; 1 large-affluent; Para: 375]

Some nurses suggested that government initiatives had been important not only for extending their areas of practice but also for the development of some new independent roles, citing nurse prescribing and the specialist practice nurse degree course at Glasgow Caledonian University as prominent examples.

'The government has recognized that there is a need for a change to achieve more and quicker access for patients to a health care professional who can undertake their condition, who can competently see this patient. I think the role of the practice nurse is changed in line with that, where we could consult the patient and prescribe for him in replacement or in addition to a GP, so it gives patients another option, another practitioner they can consult'.

[PN; 8 Large-deprived; Para: 672]

Some GPs were concerned, however, that governments were trying to use nurses to provide a cheap version of doctors, promoting it to nurses as professional development. A GP in a small and deprived practice said:

'They promote the heart of nurses and make them feel good about the change, say there you go, you have been trained and we will pay you (x) amount more than what you get as an H grade in a ward. Right, but they are still not getting what the GP gets because they are not doctors. I think it is the government's way of limiting the cost that it is going to have to spend to carry out its objectives that it laid down in its white papers on health'.

[GP; 6: small-deprived; Para: 260]

When interviewees were asked to state their opinion on the purposes of the governmental policies that had led to these changes, GPs generally felt that these were financially driven. One GP ascribed the pressure for practice nurses to take some of the workload off GPs as coming from the limited pot of money that the NHS had available coupled to an increase in highly skilled nurses looking for new roles.

'I think money is the main driving thing behind these changes, its money and also, you know, people realised for a while that they had very senior nurses with a huge amount of skills who were not sort of allowed to use them well, and nurses themselves said look we have got these skills, we want to push our jobs forward a bit and sort of change our role slightly'.

[GP; 4 small-affluent; Para: 224]

Another significant policy issue was the shift of health care from secondary to primary care. Participants reported that a great deal of the care that the hospitals were doing was now coming to primary care, producing high workload in general practice and creating new demands. GPs felt they could not meet this new workload or achieve the targets of the contract alone and had had to set up new chronic diseases clinics and train nurses to run them, with nurses needing to adapt to these changes. This is described here:

'When the new contract came out they were demanding so much more to take care of chronic diseases such as diabetics. Before that it used to be mainly in secondary care, now a lot of the care has shifted to primary care and it is between the doctor and the nurse to carry out the work. Nurses might not have needed to train into anything if the job had not changed or the contract had not come in..... it is almost as though they are being humoured into this'.

[GP; 3 small-deprived; Para: 118]

'a lot of the care that the hospital was doing is now coming out to the primary care, which is putting a bigger workload on a GP practice than what was there before and because the GPs only have set clinics or set appointment system they cant do everything so a lot of it has been put onto the practice nurses'.

[PN; 5 Small-deprived; Para: 244]

There was a consensus that general practice services had changed recently because of the nGMS contract, although there was an acceptance that the contract focussed their activities on the incentivised areas. This is discussed further in a separate section later in this chapter.

Service demand as a driver for role change

There was consensus that changes in the practice nurse role also came as a response to the evolving demands in practice. Most interviewees felt that their workload dramatically increased after general practice became responsible for providing care for older patients with chronic diseases who were previously looked after by secondary care. This led to the need to involve practice nurses in running CDM clinics.

'My personal development plan changed because of the needs of my patients which are the needs of my practice. So your practice usually comes first, now, supposing I was working in another practice with elderly population with emphysema and asbestosis, well, my interest would be in that area because that is my patient's needs, and my expertise would be needed there. There is no point in having an expertise in diabetes if you have got two diabetic patients in the practice, you understand, so our expertise depends on our practice and our practice is our patients'.

[PN; 3 small-deprived; Para: 194]

Some interviewees anticipated that the growing elderly population with very complex clinical problems will pressurise the health service over the next 10 or 20 years and because of that nurses should be trained to manage a whole range of clinical skills.

'If we want to provide good clinical care and follow up these patients at least on an annual basis then you are talking about massive numbers of patients and you also have to say well are GPs the best people to do that for chronic disease and I do not think they are, I think nurses are better at following protocols, at having general guidance given to them, and then making sure that certain things are happening to them'.

[GP; 1 Large-affluent; Para: 379]

General Practitioners as a driver for role change

Most participants agreed that the development of practice nurses' roles should be part of a philosophy of continuous improvement of services provided for patients and that required the GP partners to be aware of the areas that needed improvement in the practice. Some GP interviewees felt that the advancement of the practice nurse role was part of their commitment towards their patients.

'Over the last 10 years or so I have had a general policy of trying to expand the practice nursing role just because that was an obvious need that patients had and if the practice was going to provide the services there was no other way of doing it other than to expand the involvement of nurses in those chronic disease management areas'.

[GP; 1 Large-affluent; Para: 367]

However, when the nurse in that practice was asked about the role of GPs in developing her role, she said:

'It made much more financial sense to them to have the nurse doing it because they are getting her for nothing so let's train her and she can do it. So I think that became financially driven within the practice to get the nurse to do more and more and more'

[PN; 1 Large-affluent; Para: 384]

Many interviewees reported that doctors had been developing practice nursing for many years, since the late 1980s when practice nursing was seen as a very lowly job. A couple of GP interviewees claimed that the health service responded because GPs had seen the great value in practice nurses. One of them described how they expanded the practice nurse role:

'We made the decision to advance the nurses role in the practice, when we appointed our first practice nurse she was going to be involved in health education, chronic disease management and not be involved in the more traditional nurse roles, we then saw the benefits of it and expanded it by appointing a second nurse'.

[GP; 8 large-deprived; Para: 188]

Most PN interviewees agreed that GPs were interested in expanding their roles, but they gave different reasons for that. First, a couple of them believed that some doctors genuinely wanted to advance nurses' roles. Others thought that financial reasons underpinned this as practices were reimbursed for employing nurses. The third group emphasized that doctors were interested in extending nurses roles in order to delegate the more routine work to nurses as a cheaper alternative.

'I agree that doctors have pushed for changes in nurse's role. Although some doctors feel that the contract targets are not crucial but important to get the points and the money. They feel that a nurse can easily do that for them, because it is hard work and slog, you have got to organize it and to get patients in, it is quite labour intensive'.

[PN; 3 small-deprived; Para: 200]

Some GP interviewees believed that they were developing the practice nurses' role for the benefit of the practice and the patients: they gave examples of the advanced nursing roles such as prescribing, triaging and leadership which were not financed by the new contract. One GP said:

'I think many of the things that they are doing now probably are not contract related, for example the prescribing thing does not mean anything for the contract and if they were to do triaging well again it would not mean anything for the contract. So I think the more skills they learn and develop, the better it is for the practice and patients..... I think we encourage their training for development, whether it helps with the contract or not'.

[GP; 2 Large-affluent; Para: 135]

Practice nurses as a driver for role change

There was a general view that practice nurses wanted to take every opportunity available to develop their professional career. Some felt that nurses could go up the ranks fairly quickly in general practice, especially if they were trained. One GP said:

'The nurses we have now and those who went before have always had initiative, they have always wanted to be involved and wanted to learn and do new things and contribute to patient care'.

[GP; 2 large-affluent; Para: 99]

Nurses felt that their new advanced skills and qualifications were starting to be recognised and they had the competence to deal with certain conditions, allowing them to extend and expand within their own guidelines and boundaries. Nurse interviewees who had advanced roles felt that treating minor illnesses independently and prescribing enhanced their job satisfaction. One nurse interviewee, who had her own independent minor illnesses treatment clinic, described that she had reached a financially secure life and would not be in the practice if she did not enjoy her work. She emphasized that nurses themselves wanted the changes in their roles:

'I think as practice nurses we became disillusioned and we wanted more out of the job and I think we fought for that. Practice nurses in general have done more training in their own time than any other nurses across all the different ranges of profession within nursing, we have gone and done asthma, diabetes, family planning, COPD, and some of us have done our prescribing as well. You know, we have all pushed for more and more education and GPs if they realise the value of a practice nurse have supported them in doing that'.

[PN; 9 large-deprived; Para: 260]

Many GP interviewees believed that the majority of nurses were ambitious and keen to develop their profession and that could be of great benefit to patients and practices. However a concern for some of them was that nurses had become reluctant to do some of the things that they used to do and wanted to give it to people who were less trained in order to move onto more interesting tasks and activities.

6.9.4. Constraints for role change

Interviewees were asked about the potential constraints to future practice nurse development. They identified the GPs' role; practice nurses; resources; rules and policy; and patients.

GPs as a barrier

GPs' financial position, their power within the practice, and attitudes of partners were all issues. GPs and nurses interviewees in affluent practices believed that their nurses were fairly paid, but suggested that GPs in other practices curtailed nurse development to avoid rewarding nurses satisfactorily for the extra responsibilities involved. A senior partner at a large and affluent practice said:

'I think sometimes general practitioners just get weighed down with their workload and sometimes they want to take too much profit for themselves, so any employment of any nurse that takes money away from them means that they get less profit so rather than going down the developmental route they prefer to just take as much profit as possible'.

[GP: 1 Large-affluent; Para: 440]

Other GPs explained that they preferred not to develop independent nurses with advanced roles in the practice because that might have unpredictable financial consequences in the practice due to the absence of a payment structure that defined advanced skills and appropriate remuneration. Others suggested that developing new nurse roles, e.g. in minor illness, might increase patient demand or lead to inappropriate use of nurse time.

GPs who opposed nurse development also felt that they were employing them to carry out traditional work in the practice. One GP suggested it was not the role of general practice to promote nurse development. The nurse in that practice commented that GPs were worried that nurses could take their role from them.

'I do not know if they want to let go? You know they have always been seen as the person who is providing the care; some of it has been historically that GPs have not wanted to give up. I think doctors initially were a bit worried that they would not be needed but I never ever see that happening'.

[PN; 9 large-deprived; Para: 580]

Similarly, several nurse participants believed that GPs felt threatened by the advanced roles of nurses and wanted them to do only the basic nursing duties. One PN with an advanced role of nurse prescribing and triaging replied:

'Some doctors probably do not like the nurses seeing minor illness patients at all; maybe they feel they are threatened in one way or another'.

[PN: 8 large-deprived; Para: 437]

GP's power in the practice was seen as another constraint for advancing nurse's roles. Some nurse interviewees reported that nurses were not considered autonomous professionals by some doctors. Nurses thought that being employed by the GP and not the Health Board gave doctors the power to direct nursing work and control what nurses could and could not do. One nurse interviewee added that developing skill mix would be easier if the GPs were not the employer:

'I think part of the problem actually is the fact that the GPs are the employers, I think if they were not the employers it would probably be a much easier skill-mix between the two professions. I don't not think we should ever be grouped as one profession but I think the fact that we are employed by these GPs, people see that as this is your employer and if he says jump, you say how high, you know, he is the guy that calls the shots at the end of the day and I am sure that is a barrier with some folk, I am sure if you were in an organisation where both the nurse and the doctor were employed by the health board, for example, then pushing these boundaries either way might happen a wee bit more easily'.

[PN, 1 Large-affluent; Para: 631]

A GP interviewee confirmed that and said:

'I have heard stories about other practices where nurses are not allowed to do this and are not to do that, and that maybe creates some resentment because they probably feel they have the skills and the skills are not being allowed to develop and that is frustrating for nurses'.

[GP; 2 large-affluent; Para: 249]

However, as part of a possible explanation for this view, many GP interviewees also stressed that they carried the ultimate responsibility in the practice, so they had to have control over nursing activities.

Not all nurse interviewees felt antagonistic about being employed by a GP. This appeared to depend on the management style adopted in the practice and whether the partners were thought to run the practice in a democratic or autocratic style. Similarly, many GPs did not feel that their status as employers was a constraint to developing nursing roles because it depended on how they used their authority in the practice. A senior partner at a large and affluent practice suggested that conflict was more likely in practices where a traditional GP might want to have complete control over an ambitious nurse who wanted to enhance her work. In his opinion, GPs would have to change their attitude in order for nurses to advance professionally. This view was supported by some of the nurses.

'Maybe it is the GPs' attitudes that are crucial because if they are happy for nurses to develop then everything is fine, but if they are very traditional and see nurses just as servants without any initiative then that could cause conflict, so I think maybe GPs' attitudes would have to be open and encouraging to nurses'.

[PN; 2 large-affluent; Para: 315]

However, a couple of nurse interviewees thought that the attitudes of GPs, especially amongst younger doctors, had started to change. They believed this was due to the presence of ‘super-nurses’ who had independent triage and prescribing roles which allowed them to provide wide ranging services to a lot of patients. One of them said:

‘I think things are changing in the medical side nowadays because the younger ones coming in are more tolerant, they think they are equal with nurses, you know, in a lot of ways but you will get the in-between ones or the older ones who are a wee bit frightened that the nurses are going to take over from them. The new doctors think they are on the same status really; they are only just slightly above a nurse. They do not feel they are God compared to the nurses’.

[PN; 5 small-deprived; para: 721]

PNs as a barrier

A significant proportion of participants mentioned four main nurse-related factors that may hinder the advancement of their role: personal issues; competence; training; and time.

Personal issues

Several doctor interviewees identified a lack of interest amongst some nurses to advance their roles as a personality issue; others thought that nurses still have the idea that the doctor has to make the final clinical decision. One interviewee summarized what most GPs believed their role to be on motivating nurses to take on higher level work as:

‘A lot of it is personal interest, some nurses would like to learn more and expand, others are quite happy with what they are doing and they do not want any more, so a lot of it is down to the personality of the nurse. I do not think it is anything external that we can do to motivate them unless there were financial incentives or bonuses to do more, if you do more, you will get more back’.

[GP; 3 small-deprived; Para: 274]

Nurse interviewees, especially those who did not have advanced roles, confirmed that they were not keen to advance their role because their employers were not willing to pay for any advanced tasks they could take on. A PN from small and deprived practice said:

'Nurses who are doing the advanced work are getting paid to do it. They are H grades, so they are getting paid to take on that responsibility but we are not getting paid to do that responsibility, whether we do it or not the pay stays the same'.

PN; 3 small-deprived; Para: 284]

But other nurses justified that they would rather retain a well-structured role that suited their family commitment and that there was no need for them to develop more since they had enough experience and knowledge for the role. One PN said:

'I have got two children at home and I am studying at night, I am sorry I am not super woman, we have got homes as well as work and you have to make a balance. I think I am at a stage now where I have got years of experience and I do not want to come away from the patients to sit at a study book, I have done that for years. I know it is politically incorrect to say that but that is my opinion..... I do not think you can expect every practice nurse to do all these courses plus do everything else, you know, we can not all do the same job, do you know what I mean, none of us can do everything'.

[PN; 6 small-deprived; Para 422]

Finally, some nurses were not interested in taking on advanced roles as they were coming to the end of their career and were close to retirement age.

Nurse's training and competence

When GPs were asked about our findings in the survey that nurses were not involved in the treatment of many conditions, most of them mentioned training as a barrier. For example, they did not involve nurses in managing upper respiratory tract infections (URTIs) because they were not trained to carry out such work. Concerning CDM, doctors felt that nurses were involved where the diagnosis and pattern of management was clear, but were not involved where this was less clear, for example in the treatment of chronic back and neck pain. They added that nurses were trained to manage cases with clear signs and symptoms, but would not expect nurses to manage patients with more complex, less clear-cut conditions such as depression and anxiety. For some, the same belief was applied to triaging:

'I have seen some nurses working in triage situations and find they are not trained to make decisions, they are more trained to do protocol type things. So I find giving a nurse a job for triage is almost like having to do something twice because they might go through everything and then say to the patient at the end of it a doctor needs to see you'.

[GP; 3 small-deprived; Para: 130]

Nurse interviewees also believed their training was not adequate enough to allow them to carry out more complex work. Some of them, for instance, felt that nurses were not efficient prescribers because the available training courses did not give the nurse the full knowledge and ability to prescribe, e.g. for patients with multiple conditions. Others found it difficult to manage patients with skin diseases or mental health problems such as depression and anxiety because they were not trained to diagnose these problems. A PN said:

'I do not have the training to diagnose skin diseases so I could not do it and I am sure the majority of the nurses you are talking to do not have any background in any of these areas and we do not have study courses to cover it'.

[PN; 3 small-deprived; Para: 392]

GP participants whose practice nurses had advanced minor illness treatment and nurse prescribing roles believed that these roles were the maximum that nurses' training allowed, as they did not have the same length of training and experience as GPs to treat more complex cases:

'I think they would find it very difficult because it is managing uncertainty of illness at a very early stage with the capability to keep in mind all the possible and different diagnosis. Nurses are not really trained to do that in the more complex cases'.

[GP; 8 large-deprived; Para: 230]

Time constraints

Participants reported that nurses were already busy and had no time to do additional roles in the practice. This barrier was imposed by the high workload in the practice so they were not able to establish new services such as nurse triage or even for activities that could achieve the contract's targets. A lead practice nurse said:

'It is impossible at all to fit in more services into the existing nursing time. For example, with the introduction of the new contract there was chat about having an epilepsy clinic, but we could not take that on. It was not that we did not want to take it on, we just did not have the time to do it'.

[PN; 1 large-affluent; Para: 538]

Several GP interviewees felt that it was not easy to send the practice nurse for advanced training courses such as nurse prescribing or minor illnesses treatment due to time restrictions and lack of other nurses to fill the role in their absence. One GP said:

'I think the main constraints would be if nurses are away doing training over a long period of time then we lose the service they give. It is not easy to bring in nurses to provide that activities from the Locum Services, that is maybe easy in hospitals to get some bank nursing agencies that will provide a nurse at short notice'.

[GP: 2 large affluent; Para: 213]

As a result, many interviewees thought it was more suitable for the practice to focus the nurses' time on chronic diseases management and the GPs' time on treating minor illness and complex cases.

'I do not agree that the GPs should delegate some complex clinical cases to PNs because we have our busy practices and full workload of chronic diseases. If they delegate complex cases to nurses nothing will be left for them to do'.

[PN; 7 large-deprived; Para: 79]

Resources as a barrier to role development

Almost all GP interviewees, whether from affluent or deprived practices, believed that if there were more external resources coming to the practice they would expand and develop the nursing role within their practices. One GP said that:

'If there was more resource coming into practice you could have nurses much more involved with the GPs to provide a range of services such as mental health clinic, pain control, rehabilitation, rheumatology services, dermatology services, orthopaedic type of musculoskeletal services, sports medicine,.....etc. There are a whole range of other services that if the health service wanted to put some resources into that that both doctors and nurses could respond and deliver more. But there is no point in going into that at the moment because there is no real resource to use or coming our way for that.'

[GP; 1 large-affluent; Para: 610]

On the other hand, more nurse interviewees brought up current lack of facilities in the practice as major constraints to developing new nursing services. More than one nurse interviewee complained that the computer set-up did not allow them to prescribe although they were qualified as independent prescribers. One of them said:

'We have a problem with the computer system because it will not recognise my computerised prescriptions so because of that everything I do I have to enter into the records. That stops me; we decided that I would not go on and develop the supplementary prescribing though until the computer could pick up on my computerised prescriptions.'

[PN; 1 large-affluent; Para: 249]

Others mentioned that they could not take on new roles such as minor illnesses treatment or triaging due to the lack of space in the practice:

'Resources in the practice add another barrier to expand our services, it is not just as easy as saying right okay lets employ another nurse for an extra 10 hours, she can do x, y, or z or I could do x, y or z and give her something that I was doing. We do not actually have the space to put anybody, you know. So these are all constraints, so there are probably lots of areas that we could develop if we have the space.'

[PN; 2 large-affluent; Para: 544]

Rules and policies as barrier for nurses' role development

The influence of the NHS's policies and regulations were brought up by most of the participants, in particular the new GMS contract. Indeed, the new contract has been so significant that it is discussed separately later in this chapter.

Several nurse interviewees pointed out that they had been hindered from taking on more advanced clinical tasks due to the absence of legal coverage for malpractice. One claimed that nurses could carry out most of the new GMS contract targets but would not get any medico-legal protection if anything went wrong. Another felt that nurses received conflicting messages about what they were and were not authorised to do due to the absence of clear rules and instructions from the government or professional nursing organisations that regulate the advanced nursing services. She said:

'You can pick up any journal at any day of the week that tells you do not do x, y and z because you are not covered to do it, you will then go on some training courses where they will tell you, you know, you are competent to do anything that you see yourself as competent to do'.

[PN; 1 large-affluent; Para: 177]

Recent flexibility in rules and regulations was appreciated positively by doctors because it enabled them to extend nurses' activities to meet the practice population's needs. One GP said that:

'I think it is a good thing that rules and regulations are maybe becoming a bit more relaxed and nurses are being introduced to areas which were forbidden before, and prescribing is the obvious one'

[GP; 2 large-affluent; Para: 219]

Some nurse interviewees stressed that, in order to develop the nursing profession, nurses should be able to influence health policies and be involved in the process of decision making at government level. They believed that the rules and policies governing the nursing profession needed modernization in order to match the advancement of nursing science. One PN said:

'There is an awful lot of regulations that we should get rid of. They were alright for Florence Nightingale's days but they are not relevant now, you know, things have changed and the whole atmosphere in nursing and medicine is changing and it is changing for the better skill mix in a lot of ways'.

[PN; 5 small-deprived; Para: 754]

Some GP interviewees, on the other hand, found it difficult to involve nurses in the process of decision making within the current structure of the existing system. They believed that general practice is a bottom up system where decision-making initiated by professionals carrying out the real work of practice flowed up towards the top decision makers. In the practice, they viewed GPs as business owners who generate the income and had the power to make the decisions, so they doubted that the assignment of someone to represent nurses at a governmental level could influence any policies. One GP said:

'I do not think nurses know the system, so how can they be managers in this system? How can they be involved at the policy development level? There were some attempts to involve them but it does not work. General practice is not a hierarchy, it is a bottom up. So you cannot involve them in that way because it would not work in general practice'.

[GP; 8 large-deprived; Para: 404]

Patients and the general public as a barrier for nurses' role development

The majority of GP interviewees, but none of the nurses, believed that patients always preferred to be seen by a doctor regardless of the length of time spent with them and whether the nurse was able to treat their problem or not. For instance, one GP in response to the question what she thought of the Nurse Practitioner role said:

'I think no matter how much you train a nurse, if she has not got doctor in front of her name or she is not a doctor, the lay public will still want to see a doctor, they will never be happy with just seeing a nurse even she is the best clinician in the world that deals with every disease, they will still want a doctor'.

[GP; 3 small-deprived; Para: 466]

In contrast, some GPs felt that patients needed to learn that seeing a practice nurse instead of a GP would happen in general practice and they had to learn to accept these new roles. For instance, one GP thought that there was a need to change public perception first in order to make them satisfied with nursing prescribing:

'A lot of patients would not be happy to be seen, treated, diagnosed and prescribed by a nurse because they still believe that was the doctor's role. So you need to change the public opinion and their expectations before, then they will be happy being prescribed by nurses'.

[GP; 6 small-deprived; Para: 182]

Other GPs thought that patient acceptance of new nursing roles was determined by their perception of their health problem: if they perceived their problem as minor they would accept going to the nurse, but if they thought of their illness as more serious they would not be satisfied without seeing a doctor. One GP said:

'If they think it is a fairly minor thing then they are happy to go and see the nurse but in certain cases such as respiratory infection they would want the doctor to be there and treat them. But I think there will be a move away; I mean I think there will be more acceptance as time goes on'.

[GP; 9 large-deprived; Para: 162]

On the other hand, nurse interviewees confirmed that patients had started to accept being seen only by nurses in the practice. One nurse said that patients had become more educated and more oriented about the services that they could get from the nurse as an independent clinician. She added:

'Patients have started to accept to be seen only by nurses. But there are still some patients who like to go to the GP even to get their blood pressure checked. We usually say we will refer you onto the GP if there is a serious problem. We can check and do all what you need, so when things are fine you do not need to go near the GP'.

[PN; 9 large-deprived; Para: 188]

6.9.5. Impact of role change

Interviewees believed that the changes in nurses' roles had influenced the activities of GPs, the working relationship between doctors and nurses, the services and patient care, and the activities of PNs themselves.

Impact of role change on GPs

All respondents agreed that nurses had taken on many activities that used to be done entirely by doctors and so decreased their workload concerned with less complex morbidities. For instance, most of the long-term management of chronic diseases and associated routine clinical tasks were carried out by nurses, freeing up GPs to treat complex cases. Furthermore, the expansion of nurses' activities to include minor illness treatment in some practices allowed the GPs to focus on treating patients who could not be managed by any other clinician. This was more apparent in practices where nurses had an advanced role of triaging, prescribing, and/or minor illness treatment.

'The minor illness traditionally would only have been done by doctors..... In terms of chronic diseases, if we had not the nurses then the GPs would have had to try and do quite a bit of the chronic disease as well. In many ways they are comfortably taking away a lot of duties and treat a lot of patients that we would see and that frees up the time for us to deal with the more complicated and difficult patients, cases with more uncertainty or multiple pathologies, and where there is a lot of psychosocial conditions'.

[GP; 8 large-deprived; Para: 176]

'The patients that we see in our minor illnesses sessions would normally have seen a doctor so that takes many appointments from them and therefore speed up the doctor to see more problematic patients who more urgently need to see a doctor rather than a nurse'.

[PN; 8 large-deprived; Para: 290]

As a result, several GPs complained that, as they were left to treat mainly complex cases, they had to work continuously under clinical pressure. Furthermore, the inter-professional extension of work was believed to deskill GPs in certain clinical areas such as management of chronic asthma and women's health care. One PN said:

'Now there are certain things that they will come and ask me because they recognise my experience in chronic disease management, you know, they know that I will know what is the work up for this or what is the guideline for that, you know, what drugs would you use first for COPD as an example'.

[PN; 1 large-affluent; Para: 285]

However, some GP interviewees stressed that the advanced roles of PNs would never downgrade their own clinical role in the practice. They believed that the most important task in patient care is the ability to diagnose the problem and initiate the health care plan, which could only be carried out by GPs due to their unique training and expertise. The roles and activities of all other healthcare team-members were to implement and manage that plan.

Most participants argued that independent nurse prescribing did not significantly decrease the GPs' workload or prescribing activities, but it could facilitate the flow of the work in the practice and streamlined the work of nurses as it equipped them to manage the full consultation with patients without unnecessary extra input from GPs. Patients could then leave satisfied as they did not have to come back the next day just to collect their prescription. At the same time, many interviewees wanted to expand the nurse prescribing formulary to cover more conditions. This was expected to have considerable impact on the GP's workload, saving time, and allowing surgeries to proceed without interruptions. One GP described the impact of nurse prescribing as:

'I think all three things apply, it is easier for the patient because it all happens at once, it is more satisfying for the nurse to be able to do that when she already has the knowledge, and it is a little less work for GPs..... I suppose if it happens with a larger number of patients it will save a significant amount of work for the GP. It did not seem much work to sign a prescription but you know if there are large numbers such as asthma drugs or oral contraceptives it might be a significant impact on our work'.

[GP; 2 large-affluent; Para: 33]

One PN said:

'I do not think it reduced the doctors' workload a lot. It might reduce the annoyance factor of somebody chapping their door and hanging about outside their door and waiting for a prescription being signed and it is certainly from our point of view reduces that because there is nothing worse than spending 10 minutes outside somebody's door asking them can they sign this and can they sign that'.

[PN; 1 large-affluent; Para: 303]

The other role mentioned by many participants which could decrease the workload of GPs was nursing triage. Many participants, especially from practices where nurses had advanced roles, believed that an independent triaging role for nurses could decrease GPs' workload, particularly when the same nurses integrated it with independent prescribing and minor illness treatment roles. One of them gave some examples of the sort of conditions that nurses managed in his practice:

'They are very good at triage and I think their service is entirely appropriate. The cases that they often select tend to be the more minor illnesses such as upper respiratory infections, ear infections, urine infections, chest infections, and skin problems, that is the kind of range of problems that they can do. So in many ways it takes the pressure off the GPs because these are all people who want to be seen that day and nurses are usually managing them'.

[GP; 8 large-deprived; Para: 158]

Nurses with advanced roles thought that they were still saving the GPs' time and workload even when they had to refer some cases to them because they made sure that all the investigations and information that the GP would need had already been collected. One of them felt that seeing the patient before the GP could enhance the GP consultation later on by providing laboratory information in addition to her second opinion. She said:

'I do well-woman clinics as well, but if a woman has a problem that I feel I can not manage such as irregular bleeding, I do the tests that I feel they are necessary first, cervical swabs and smear biopsy, so when they go to see the doctor they have got the results in front of them so it is a stage forward. I do that with quite a few conditions but I would make sure the investigations are done first so again I think that is a time saving process by avoiding two trips to the GP'.

[PN; 8 large-deprived; Para: 296]

Impact of nurses role development on PNs themselves

Participants agreed that the impact of these new roles varied according to the management style in each practice. In general, they believed that nurses became more valued with the increasing importance of their role in the practice. This positive impact was felt mainly by nurses who carried out independent prescribing, triaging, or minor illness treatment as they were able to control their own decisions and their workflow. One PN described that as follows:

'Being able to prescribe certainly can make my role much easier, you know, if I am seeing a patient for something such as nicotine replacement therapy I can sit and write the prescription and he leaves with his prescription, that produces job satisfaction for me because I have completed the whole consultation and the patient has left with everything that he came in for'.

[PN; 1 large-deprived; Para: 315]

The majority of doctors and nurses agreed with this view and confirmed that nurses might initially resist the change and were doubtful because it was a new role for them but, once they got familiar with it, they felt more professionally satisfied.

Nevertheless, some complained of the escalation in their workload and argued that they should be able to reduce routine tasks in order to take on these new roles. One PN summarised what most nurses thought of the impact of the change on their work as:

'It just makes us very busy, very busy, you know, in this practice it can takes 5 weeks before people can get an appointment to see the practice nurse, whereas before it used to be just phone up and get an appointment with the practice nurse next day, you just can not do it now. So yes [the] practice nurse is a lot busier but the tasks that they do now are very much like a junior doctor really, you know, they have got the qualification to do it and they probably do it very well'.

[PN; 2 large-affluent; Para: 148]

Impact of role change on doctor-nurse working relationships

Interviewees agreed that the advances in nurses' work had developed the working relationship between doctors and nurses in the practice. Most felt this did not lead to conflict since these changes happened as a part of a larger developmental process at the primary care level, with the agreement and support of the GPs.

However, some of them did acknowledge that personal clashes may still occur, as could happen in every workplace. A possible source of conflict could be if the nurse had a priority in one area that was not seen as a priority by the GP. One GP said:

'I would not anticipate that there should be major problems between nurses and GPs unless the GPs are just resistant to change and not interested in development, that is probably the main issue, you know, a practice that does not want to improve. So some GPs are supportive and some are not and if they are not supportive and a nurse is very keen for development then the nurse will end up moving on because the practice is not keen to go down that road'.

[GP; 1 large-affluent; Para: 428]

It was obvious that the new roles and training had empowered some nurses and provided them with the knowledge and encouragement to get involved in scientific debates with the GPs. Many nurses mentioned that they no longer accepted what the GPs said as solid scientific facts, and subjected their own work to scientific methods and evidenced based thinking. A PN described that by giving the following story:

'Recently, I have seen a lady who was totally breastfeeding. I had said to her that at this point she did not need contraceptives because the breastfeeding would suppress the ovulation, but the GP disagreed with me and said no that she should be taking the contraceptive pills. I looked up and produced the evidence to prove what she was saying was not true, but what I was saying was true. So it is quite good that we can do that within the practice and not feel offended. You know, if the doctor disagrees with me or I disagree with her; we will go and look it up, find the evidence, and present it to each other. By the end the patient did not need contraception as she was totally breastfeeding'.

[PN; 4 small-affluent; Para: 158]

The third area of conflict was over financial issues and salaries in the practice. Participants believed that if nurses were taking greater responsibility and carrying out advanced activities, they should be paid for that. They also suggested that if experienced nurses who could do these advanced activities were not satisfied, they would not stay as there were many employment opportunities available to them outside the practice.

Impact of role change on patient care

Regarding the impact of the new changes in practice's skill-mix on health services delivery, all interviewees thought that there was now a more robust disease management process and formal follow up system rather than the previous ad-hoc arrangements. A nurse with expanded roles could add another option for the patients to choose and consult quickly. The feeling was that this option had reduced patients' waiting time to see a health care practitioner and increased patients' satisfaction with the NHS.

As previously noted, the new nurse prescribing role was believed to smooth the patient's journey within the practice, saved their time, and provided them with high quality care at the same time. One nurse prescriber said:

'Patients now do not have to come back the next day to collect their prescription. I would suspect that patients would feel that the nurse has dealt with everything, therefore, she must know what she is doing when not having to go and ask the doctor all the time, I would expect that it would give the patients a bit more confidence in their nurse that she must be able to deal with this whole problem herself'.

[PN; 1 large-affluent; Para: 303]

When interviewees were asked about the possible fragmentation of patient care if GPs delegate more complex tasks to practice nurses, most disagreed, commenting that doctors and nurses were working in the same surgery as a team. They added that it was unlikely for a patient in a large practice to see the same GP every time, so delegation to nurses would not break that cycle anyway. One GP added:

'Well I am not sure that the advanced roles of nurses could fragment the care between me and her. We are all working in the same building, I think we are both very good in presenting as a team sort of effort, I go and see the nurses and vice versa and I think the communication between those the nurses and the doctors is extremely good particularly here, patients do not seem to report that they are concerned about the usual problems you get with fragmentation of care'.

[GP; 4 small-affluent; Para: 266]

6.9.6. Current skill mix in the practice

The analysis of the participants' responses regarding the current work distribution between doctors and nurses revealed that the roles of nurses had extended to take over a substantial part of doctors' activities in many areas, including long-term CDM and follow up, family planning and immunization. At other levels, nurses had expanded their roles in new areas to supplement doctors' work in treating minor illnesses, prescribing, and triaging. Skill mix configurations within the practice team were described in a number of ways, for example as a hierarchy, allied roles for nurses, separate professions, or independent roles. Many interviewees also brought up managerial and work distribution issues when they were asked about the current skill mix in their practices. These skill mix configurations are now explored in more detail.

Substitution

When asked to describe the current distribution of work between doctors and nurses, all participants agreed that the roles of nurses had extended horizontally to carry out routine general tasks that GPs used to do. Managing the follow up of chronic diseases was the most obvious area of change. One GP confirmed that:

'Nurses have taken over a huge amount of what we used to do with the diabetics and they do it very well. The same for asthma, the only time I really see asthmatics for their asthma now is if they are having acute asthma problems and it is an emergency, otherwise it is managed almost entirely by the practice nurses. Again for the hypertension side of things, it is increasingly more and more going to nurses'.

[GP; 4 small-affluent; Para: 104]

However, nursing involvement focussed on patients where the diagnosis and pattern of treatment were usually quite clear, rather than on cases that required diagnosis. A PN said:

'We have taken quite a lot of the routine work such as chronic disease off of them, hopefully it is leaving them to do what they are trained to do, the more technical work, they are GPs so they have to make the diagnosis, they have to initiate the treatment so we can follow it on'.

[PN; 4 small-affluent; Para: 249]

Complementation

Some of the expansion in PNs' roles were seen to supplement doctors' activities rather than substitute for them, especially for activities considered to be beyond general routine work in the practice. The previously separate roles for each clinician was no longer the case, with doctors and nurses covering the work of each other much more as a team in order to keep the practice functioning effectively. For example, one GP described how the doctor and the nurse worked to complement each other in running a diabetic clinic, he said:

'More recently what we do is we have half an hour meeting between the GP and the practice nurses doing the diabetic clinic and then the nurse will actually see the patients talk about their medicine changes that the GP and the nurse have discussed and will enact those changes and give the prescription to the patient'.

[GP; 1 large-affluent; Para: 61]

Another GP described how nurse prescribing complemented the delivery of health care at the practice and enabled them to work in tandem:

'We totally trust our nurses to prescribe and a very simple example would be that they normally do checks for women on oral contraceptive pills. They check the blood pressure, go over any problem with their periods, and any problem with their pills but then until now they would have to ask one of the doctors to do the prescription, usually there is no change, there is no issue to discuss, it is just a case of signing the prescription so I think it is great that they would be able to do prescribing'.

[GP; 2 large-affluent; Para: 21]

Young GPs from small practices mentioned that they often sought a second opinion from the nurses on clinical issues due to the nurses' long experience and broad knowledge. One said:

'I think the nurses' advanced roles lends more support for us because something complicated might come in and you want to talk about it with somebody and there is not another doctor on the premises and you have got a nurse who is quite well trained in a lot of different fields then it can be quite nice to discuss with another health care professional who has seen a lot and who has got a lot of experience behind her of many years of seeing many things, so it is nice to have a bouncing board'.

[GP; 3 small-deprived; Para: 286]

This was particularly apparent in the area of women's health. Almost all GPs had not worked in midwifery for a long time so when they faced an unusual case they needed to get advice from a person who had more experience in this area – the practice nurse, many of whom had worked in maternity wards before coming to general practice. In addition, as highlighted in our questionnaire to nurses, many had additional training in cervical cytology, family planning and breast awareness.

Hierarchies

Interviewees described a third type of skill-mix in practice, based on a hierarchy in which healthcare team members had different clinical ranks depending on the clinical value of their roles. Several participants believed that the source of GPs' professional seniority was their clinical accountability in the practice. One GP said:

'The GP is the one who is responsible on these premises, it does not matter how much power the nurse has or decisions she makes, when there is something that goes wrong it is straight to us no matter what role she has. I think it is just like any company, there has to be a sort of hierarchy maybe, a hierarchy of who is responsible. In any company there has to be somebody who is responsible, you can not have everybody being the boss..... I agree that nursing is a different profession but there is a reason why the GP has always traditionally been responsible of them because we are ultimately more accountable and I think it comes down to accountability'.

[GP; 3 small-deprived; Para: 364]

This hierarchy was attributed to differences in the skills and training that GPs and PNs had. The belief was that the more advanced skills and the longer training the clinician had, the higher clinical rank they would get.

'There are cases that nurses do not deal with not because we are partners in the practice and they are not, it is because they do not have the training and the experience to deal with what I can deal with, it is exactly the same with consultants, I mean consultants can deal with cases that I do not have the same background, experience, and training to be able to manage what the consultant can manage, so I will just see it as the same idea, it is just we are all in the same clinical spectrum'.

[GP; 8 large-deprived; Para: 242]

The skill mix within nursing teams was also stressed by many interviewees as the right way to provide the service in an efficient and effective way. They believed that every practice should have at least one experienced higher grade nurse to carry out the advanced nursing work, and several less experienced nurses who could develop their skills while carrying out more mundane, routine work. One experienced nurse said:

'We have to do the more advanced nursing stuff and the new nurses can do the basics because that is how we started, you have got to learn how to do a blood pressure, heights, weights and phlebotomy. We have all started there and moved on as great expenses has been invested to train us, but still we are doing a mixed level of work. The new generalist practice nurses would work within that level at the beginning of their career then they go on for further training to do the higher level, but someone has always got to do the mundane work'.

[PN; 4 small-affluent; Para: 585]

Allied roles for nurses

The fourth feature that was brought out by interviewees was the allied nature of nurses' activities to facilitate doctors' workflow and to help the practice achieve the nGMS targets. For instance, many interviewees did not think that GPs should manage the follow up of chronic disease patients; they needed only to design protocols on how to manage it and leave this task to practice nurses. One GP said:

'My attitude tends to be more like that that nurses can be allowed to be trained to do many many things, but for practical purposes I think where nurses are most use to GPs is following up long term conditions where there are clear structures to treatment and you can plan out for nurses the long-term care for patients'.

[GP; 2 large-affluent; Para: 201]

At the clinical level, although the nurse colleague of the above quoted GP had advanced training in several areas, she acknowledged the clinical superiority of medicine over nursing. She thought it was only rhetoric to claim that nurses could perform clinically in the same way as doctors even with advanced training. The belief was that most nursing activities, whether advanced or traditional, were designed by their employers (GPs) and framed as allied roles to enable the partners achieve the GMS requirements and facilitate the flow of work in the practice:

'I would not say we can do things better than doctors, if we were better at doing anything we would be GPs ourselves. We have maybe got more time to deal with patients and that what make us more approachable, so I would not say we are better at doing anything than the GPs. We do a lot of work for them but it is not that we are better at doing it than them, it is just that what they pay for us to do'.

[PN; 2 large-affluent; Para: 484]

Separation of roles

Interviewees agreed that medicine and nursing were still separate professions despite the advances occurring in nursing. For example, they argued that just having additional nurses with advanced roles would neither solve the doctors' workforce shortages nor meet the public's needs.

According to some GP interviewees, the difference in training pedagogy for doctors and nurses was the factor that distinguished medicine from nursing. They thought that nurses were not prepared to make decisions themselves but to implement orders due to their training; this training, they perceived, did not allow nurses to develop as independent clinicians. One young GP said:

'They are almost like a computer; they will do what is required and not think laterally beyond that which is why they are very good at the protocol side of things. While we are quite capable and trained maybe to think laterally so I think it is just totally different professions. I do not think nurses should take over the doctors job of making decisions because they are so good at doing protocols, we are not so good at the protocol type things, I mean we are always finding that doctors are missed to do this and missed to do that because we are not ticking boxes so I think we have got different strengths and weaknesses. It is probably a reflection of their training, nurses have not been told to make decisions for a long long time, they have been told to do and follow a routine. Sometimes I will be doing a surgery and the nurse will be popping in and out regularly throughout the surgery to say what do you think of this or what do you need to do about this or does this sound okay'.

[GP; 3 small-deprived; Para: 136]

When interviewees were asked which tasks only doctors could do, some of them believed that there was nothing a nurse could not do with proper training. However, some nurse interviewees felt it was important to have role boundaries in order to maintain their nursing identity and to keep the balance between role development and acceptance of what nursing is about.

'I think there is a line you have to pull and there is a distinction between practice nurses and GPs. I mean if the practice nurse wants to do that sort of work why does she not go and do her medicine anyway, a lot of the girls are every bit as bright as some of the GPs, you know, but I think nurses have a more practical outlook on things, you know, so I think there is a line that we have to draw, just how far we go in our profession'.

[PN; 5 small-deprived; Para: 547]

Nurse Independent practice

Nurses' independence ranged from follow up of chronic disease management within agreed protocols to independently running specialised clinics. They considered nurse prescribing, nurse triaging, and nurse minor illness treatment as the most independent roles of nurses so far. One practice nurse said about the impact of these changes on her daily work activity:

'As a practice nurse I now probably make more decisions than I did when I first started in the job. I manage conditions independently and if somebody has gone along and for example his blood pressure is fine; then they do not need to see a GP. We are giving all the information and education the patient could need..... I think the patients do appreciate the parts that nurses play within their health care now and we are not just seen as the doctors' hand maidens, we are not here just to pick up after them all the time, they see us as actually having an essential role to play within the practice'.

[PN; 9 large deprived; Para: 224]

As far as the issue of nurse independence in general practice was concerned, most participants from large practices had positive experiences of independence. For instance, one senior partner at a large and affluent practice mentioned that there was usually no debate or change about what the nurse had prescribed for patients. Another GP participant, also from a large but deprived practice, was in favour of nurse independent triaging at his practice. He described how one of the H grade nurses triaged all patients, dealing with those she felt were appropriate in her own clinic, without them being seen by a doctor. A nurse practitioner at another large practice described her independence in the practice as:

'I come in here at 8.30 in the morning and go home at 6.00pm at night having seen 20 to 30 patients, helped them one way or another and I have never had to approach a GP for advice or for patients concerns. I am now just very autonomous and I can get on and do my work myself. I think we need to work as part of a team as well, to work alone you do not learn from others, but it is better to work independently and have the support of others if you need it from, for example, other practice nurses, the GPs, the receptionists, or the secretaries, you know, they are there but it is a new sort of job that you can come in and just work away yourself for a day and at the end of the day go home and think gosh I never spoke to anybody about anything today'.

[PN; 2 large-affluent; Para: 328]

This degree of independence was not experienced by many participants at small practices, although some of them believed that they had some independence in CDM follow up. Nurses' involvement always came after the patient was seen by the GP who made the diagnosis and initiated the treatment, then nurses organised their own recall for patients' check ups and investigations.

Management in the practice

Although it was not an aim of this project to study the management process in the practice, many respondents emphasized management issues relating to skill mix and work distribution in the practice. They stated that one of the most important factors in determining the distribution of workload between nurses and doctors in the practice was the management approach of partners, which was influenced by the way in which practices were financed. In many cases, the interviewees stressed that there was a need to change the management style of GPs as employers in order to enhance and develop practice nursing. One lead practice nurse felt that:

'I think finance has got a lot to do with what nurses do, I definitely do. Traditionally, in the last 15 years or so GPs get us to do things that they were being paid directly to do, so that if it was done they would be paid, if it was not done they would not be paid, so why not get a nurse in to do it. Our new roles depend on the management attitudes of the GPs since the new GMS contract did not enforce the partners to develop the practice team.....I think in some practices you might have one or two GPs that would be quite happy to go to team working but you will also have one or two who do not want to do it'.

[PN; 1 large-affluent; Para: 512]

On the other hand, many subjects confirmed that the old autocratic management approach was no longer in use in general practice because it would not benefit anyone. The majority of participants said that nurses were participating in practice management meetings and in developing practice strategy. However, some nurses questioned nurses' abilities and power to influence any decisions taken in these meetings, saying that nurses could suggest and express their point of view but, at the end, the GPs were the business owners who had the ultimate responsibility and prerogative to make decisions.

Some practice nurses thought it unlikely that there would be professional conflict between doctors and nurses in general practice, as sometimes happened in other health care settings, since GPs (as employers) wanted to run their business smoothly and nurses (as employees) wanted to carry out their duties as successfully as possible. One PN said:

'I do not think there will be clinical conflict between GPs and nurses because we are employed by the GPs obviously, so neither the GPs nor the practice nurses like to have any conflict. He is my employer so why I do need to have a conflict with him. I would not like to think there would be conflict between nurses and GPs because it is down to teamwork at the end of the day'.

[PN; 2 large-affluent; Para: 508]

However, some nurse interviewees expressed anger and negative feelings towards their employers. They believed that doctors did not tend to work as team members and were not trained as managers; nevertheless, all nurse interviewees stated that they had been 'lucky' because they had 'good' GP employers in their own practices. One practice nurse answered the question about conflict between doctors and nurses in the practice as follows:

'No absolutely, not in this practice, but that could be possible in other practices, they get lots of conflict. I mean I have worked in surgeries where you make a decision and the GP will say no and it is just like working against a brick wall. Like say, for example prescribing an inhaler, you might choose to prescribe a more expensive inhaler because it is better for the patient but they will say no, our budget will only accept the cheapest one, so I can see nurses in that position are very frustrated'.

[PN; 6 small-deprived; Para: 668]

Some nurses commented further on the management role of the GPs, saying that they were given the power to be the employers just because it was 'politically correct' to do so despite the fact that they were not trained to be managers and that it took them away from the clinical role they had been trained to do. One nurse said:

'I think doctors have been forced to become business managers and it takes them away from the role of what they really are here to do which is medical care, if you speak to some of the GPs that have retired, one of the reasons they have said that is it, I am out, had enough. They are not allowed to do the job they are trained to do'.

[PN; 9 large-deprived; Para: 484]

This, however, was not a view articulated by any of the GPs. One senior GP said:

'The people who make the decisions as to where the practice is going are the GPs because it is our practice..... I do nurse appraisals because I have that managerial role. They do not have my training, they do not have my experience, and they do not take my level of responsibility'.

[GP; 8 Large-deprived; Para: 482]

6.9.7. Future direction of role development

The interviewees agreed that the increasing demand on general practice services would continue in the future mainly due to the relocation of services from secondary care to primary care and to demographic changes in Scottish society. Thus, there was a need for the proper development of health care workforce roles, especially for practice nurses. An experienced female GP said:

'Absolutely there is a need for the more advanced roles of the practice nurse, no doubt about it, this is going to be more and more inevitable as things get devolved to general practice and primary care, there is a lot more things that we can be doing'.

[GP; 7 small-deprived; Para: 332]

Three directions for nurses' role development were suggested. First, nurses' activities would continue to extend to take over new tasks from general practitioners, freeing their time to see more complex cases. The second was to expand their current activities within nursing boundaries to meet practice population's needs. The final thought was to develop advanced roles that would respond to new health policies and service demands.

Role extension

The majority of GP interviewees believed that it was easy to train nurses to carry out the time consuming routine tasks that doctors had been doing. One GP at a small, deprived practice felt that tasks nurses could completely take from the GP included blood samples, patient education, and follow up of chronic disease management. Again though, the rationale for this view seemed to be the perception that nurses were good at following protocols. Another GP participant said:

'nurses can be trained to do many many things but for practical purposes I think where nurses are of most use to GPs [is] in following up long term conditions where there are structures to treatment... ... they know we are happy with that because we fund their training and give them the time they need to learn'.

[GP; 2 large-affluent; Para: 201]

Role Expansion

Some participants, mainly at large practices, felt that many of the advances in nurses' skills and activities were initiated by nurses themselves to enhance their own careers. Some GP and nurse interviewees believed that the other area amenable to clinical expansion was that of specialised nursing roles similar to those found in hospitals or diabetes specialist nurses in the community. Examples given included respiratory, epilepsy and diabetic specialist practice nurses. These roles were also seen to offer the opportunity for nurses to manage caseloads across practices, as described here:

'I think what is going to happen in practice nursing is that people are going to be more specialised. Whereas I am a practice nurse doing everything here in this small practice but in health centres you are going to have nurses who are more into specialised roles; some of them will do the Diabetes Diploma, Asthma Diploma, or women's issues, family planning and so on. These nurses will run their own clinics for the whole health centre as they are getting more specialised, they are going to be an expert in that area and they will know it down to the ground and they will run their clinics and get good targets'.

[PN; 3 small-deprived; Para: 626]

Role development

As might be expected from earlier findings, most participants suggested nurse triage, prescribing, and minor illness as the roles most amenable to future development.

Prescribing

There was consensus amongst interviewees in all practices (except one small practice) of the importance of nurse prescribing. Interviewees from practices where nurses did not yet have that role said they were thinking of developing it. A lead practice nurse who had just finished the independent extended and supplementary nurse prescribing courses said there was a real need for nurse prescribing in every practice. Another young GP described how nurse prescribing would be useful at his practice:

'I am all for it, to tell you the truth we have not looked specifically at that yet, but yeah the limited nurse prescribing is going to be very useful. At the moment, if you are around here you will see there are nurses hovering outside doctors' doors which is obviously a waste of time that they should be standing around, and if I was a practice nurse I might be slightly frustrated by that because they have already made the clinical decision, printed the prescription out, and I cannot remember the last time I contradicted one of these decisions.'

[GP; 4 small-affluent; Para: 122]

Other nurse interviewees described nurse prescribing as a growing area with more nurses doing prescribing courses in order to become independent and authorized prescribers. Often, if one nurse completed a prescribing course, the practice recognised the value of that and encouraged other nurses to attend, for example:

'I did the specialist nurse practitioner degree at Caledonian University over two years and then (X) our other practice nurse has done the extended nurse prescribing and I am just about to undertake it on Monday for the next 3 months so it makes it easier as well for patients who coming in if we do screening for Chlamydia, Thrush, or Diabetic views. It makes it easy if we can then prescribe and again it takes some of the weight away from the doctors because the patient will not need to go to see them to get prescription after they have seen us'.

[PN; 2 large-affluent; Para: 154]

Minor illness treatment and triaging

Almost all interviewees connected the minor illness treatment role with triaging, believing that nurses could triage patients into those they could manage and those which were beyond their scope, thus requiring referral to general practitioners. GPs generally did not expect any problems with that kind of arrangement because the nurses would be trained by doctors who were working with and supervising them within the same practice. One GP answered the question of how nurses could be involved in treating patients requesting a same day appointment by saying:

'I think it is definitely an inevitable option, we now offer telephone consultation, so if I was speaking to a patient and felt the nurse could take that case, I consider that might be one way of dealing with it. I start to think that maybe there is a role for the nurse to be the first person to take that call from the beginning and to handle minor illnesses as long as it is certain conditions that they feel comfortable with, I mean who is going to train the nurses how to do that, it is us the GPs who are in with nurse in the practice and who would take on the role of training them up for certain conditions'.

[GP; 5 small-deprived; Para: 143]

Another GP, whose two practice nurses were doing these advanced roles said that:

'The new role that I think nurses could develop is nurse triage. From our experience in this practice, nurses' role should be expanded into triaging in terms of not just triaging requests for home visits or emergency appointments but triaging every request for appointments in the practice. Our nurses have done that effectively'.

[GP; 8 large-deprived; Para: 284]

Many practice nurse interviewees emphasized that nurses were going to take on the triage role as this could save the GPs' time.

'I know there are some practices have nurses employed just to do triage and that maybe something we look at in the future. We are moving toward taking on that role because it takes time out of the GP day to actually just sit there in the morning for an hour and do the phones.....I would certainly like to have time in my day and do minor illnesses, you know, so if people are phoning up and saying oh I have got sore ears and things like that they would be fed into me rather than coming down and sitting waiting as an extra for the GP, but it means then that some of my chronic disease stuff would have to go'.

[PN; 9 large-deprived; Paras: 292, 298]

In terms of future roles for PNs, GP interviewees expressed two different points of view. The first group, mostly working in small practices, thought that the main role of nurses was to carry out the routine work in the practice and traditional follow up of chronic disease management, and should not be involved in any advanced work since there was enough routine clinical work created for them, particularly since the introduction of the nGMS contract. One GP said:

'I am sure that nurses can do minor illness treatment roles, but it depends on how much you want to use them in the practice, that is a different matter. I think after a while it does not take a lot of skill to do something once you have done it 100 times but there are many services require their current skills and it is better for the total work in the practice for nurses to do chronic disease management mainly'.

[GP; 9 large-deprived; Para: 210]

The second group, were supportive of the current advanced roles such as independent triaging, prescribing, and minor illness treatment, but thought that nurses should not go beyond these. This was particularly apparent in relation to the care of patients with complex morbidities, where all GPs expressed the same opinion, as exemplified in the following quotation.

'This morning, it is been a short surgery, I have seen eight people and I think six of the eight came with four different problems at the same time and those problems were actually quite complex and difficult that ranging from neurological problems to relatively simple things. I think it is difficult for nurses to cope with such a wide range of things and that is where a GP tends to be more able to function better because of the sort of breadth of knowledge about different clinical areas.'

[GP; 1 large-affluent; Para: 181]

All interviewees agreed that the care of patients with multiple morbidities required knowledge of patho-physiology, anatomy, and drug interactions, which doctors (with their longer training) were better placed to deal with. Some argued that it was not cost effective for the practice to give more complex morbidities to nurses since it would take them longer to deal with them than the GP. Many interviewees thought that nurses could only manage complex cases if there was a clear protocol to follow in order to deal with the uncertain diagnoses, vague signs and symptoms. For instance, when nurses were asked what were the reasons that they, according to our desk-based study, were not involved in treating back and neck disorders, one PN said:

'I think back and neck disorders are a specialised area, isn't it. Why is there a back problem? Is it a slipped disk? Is it a neurological problem? Or is it a trauma? Practice nurses are not specialised in this area. While with Asthma there is a protocol to follow, but back and neck problems is a whole can of worms really. A back problem can be anything from a sore back to a slip disk, and you can make it worse if you did not have the knowledge or the expertise to manage it, well that is why we have got physiotherapists who work with us'.

[PN; 2 large-affluent; Para: 454]

Thus, it was felt that such complex cases needed accurate diagnosis, which could only be done by doctors.

Interviewees also raised the issue of how far up the job scale nurses could go. Some interviewees, who felt that ambitious nurses had no more clinical opportunities in general practice, suggested that they could move to academia or management. One GP from large practice where nurses had independent advanced roles believed nurses could not move higher than I-grade. He said:

'If they want to get higher grade than I, I think it will be taking a sort of career change rather than role expanding. I think that is about as far as they can go, I mean obviously they can argue for an I grade but once they get to it, I do not see that there is much else that they can do. I think they have probably gone as far as they are able to. I do not think they will ever be able to take much more because it becomes out with their expertise, you know, they should realise that is as far as they can go unless they retrain and become doctors and that is the bottom line. I mean how far can I go? You know, I have been a full partner here since 1989, how far do I go? That is one of the things about working in primary care; there is no career structure forward'.

[GP; 8 large-deprived; Para: 446]

This was echoed by a practice nurse:

'I think you will find that a lot of the ambitious nurses because they want to go higher up in the professional ladder, they will leave the practice and go into management positions but to me that is not what nursing is; nursing is dealing on a one to one basis with a patient, you know, so I think the ambitious ones would leave a practice and go into management area'.

[PN; 5 small-deprived; Para: 559]

6.9.8. Support for role change

Respondents were asked to describe the support that nurses need to advance their roles in the practice. Different strategies were suggested as follows:

Training

Almost all interviewees emphasized nurses' need for continuing training, believing that new roles and tasks required re-training. One practice nurse felt that as general practice nursing became a new speciality with new requirements, her previous training or expertise from the hospital setting were not enough to equip her with the necessary skills to do her work competently. GP interviewees considered providing training for nurses as the most appropriate strategy to support the development of their role. They believed that there was a clear need to invest in their training, which could be incorporated into their Personal Development Plan (PDP).

Most GP participants reported that they encouraged their nurses to do external training, with some believing it necessary to invest in developing practice nurses' skills in order to deliver the services required from practices. One GP said:

'Some GPs might say oh well we can not afford it, so their nurses do not get the opportunities to do the necessary training, but we have always tried whenever possible to fund training or find funds for their training in order to allow nurses to develop and I think they do appreciate that that no one is trying to slow them down or stop them progressing. We want them to progress and you know we usually end up paying for their training but we are happy to do that because we know how good they already are and if they can learn new skills they will help the practice in more ways, you know, so we will fund it'.

[GP; 2 Large-affluent; Para: 123]

In-service training for nurses was an option for some participants, particularly those in large practices. A GP and PN at one of these practices felt that such training could be done successfully in the practice. The GP said:

'One layer of training is in the practice, it is quite possible to provide some training and mentoring in a practice like this with 6 doctors and several nurses. We do that and X (the lead practice nurse) has had some support for that. Clearly there probably is a need to have a better range of in-service training for nurses'.

[GP; 1 large-affluent; Para: 337]

Similar to our survey findings, some nurse interviewees felt that there was little relevance between some courses that they had attended and their real work in the practice. For instance, two of them mentioned that the Nurse Specialist Certificate had had no impact on their work. They suggested that the absence of practice nurses' input in designing this course was a problem, as it was developed by academics in universities with little relevance to the needs of the practice.

'The Specialist Nurse Certificate has not added any clinical skills for me and does not make any difference really. I am not doing anything now that I was not doing before I had the degree. It has not affected my practice with the way that I practice but it probably has made me more knowledgeable of policy issues, you know, it has not affected my practice in anyway'.

[PN; 2 large-deprived; Para: 232]

Openness and flexibility

Easy access and openness between doctors and nurses was emphasized by many interviewees. They believed that the ability to have a discussion between the team members updated nurses' information, encouraged teamwork in the practice, and improved healthcare service delivery. One PN said that:

'The support that GPs can provide for us is to be open to our suggestions and to be accessible when we need their back up. For instance, in prescribing, they should have no hesitation in giving their opinion or seeing a patient'.

[PN; 8 large-deprived; Para: 534]

Participants felt that flexible working hours in the practice could attract and encourage nurses to work in general practice. As almost all practice nurses are female, participants felt that working in practice should be flexible to accommodate nurses' family commitments. Many of them also believed that working part-time in the practice was not a barrier to nurses' role development. One GP said:

'We have always been working with part time employees. It is essentially a sort of a privilege we offer to attract quality practice nurses because most of these women are going to have childcare commitments and things like that and you want to be able to fit in with their jobs and their lifestyle. I think full time working is ok for males who have a wife at home looking after the children, but the reality of the situation is that part time work is much more flexible for nurses'.

[GP; 7 large-deprived; Para: 398]

Reward and Employment Status

Participants believed that financial support for nurses was the most influential reward that could be provided to motivate them to do more advanced work. Participants, particularly nurses, thought that their responsibilities were increasing but their salaries were not. However, some GP participants believed that they were paying their nurses at the top end of the scale and it was unlikely that they could find another position that would earn them more than their current salary. Practice nurses, on the other hand, argued that if the GPs believed that this was the maximum salary that they were willing to pay, why should nurses take on more work with greater responsibilities:

'Why should nurses have an extended role if they are not getting paid for it? Why [do] they need to get more responsibility and to take on more work if not being recognised financially as well'.

[PN; 8 large-deprived; Para: 540]

The adoption of *Agenda For Change* in general practice was a debated issue between the doctors and nurses interviewed. Nurses complained that their GP employers refused to apply the recommendations in *Agenda For Change*, which they felt provided a clear and fixed plan that could manage their work requirements. A PN said:

'If they took Agenda for Change we got more holidays than what we have ordinarily, but they do not have to take Agenda for Change. They can stay where they were before the new contract, nothing has changed, and we do not get any extra for the additional work'.

[PN; 5 small-deprived; Para: 292]

GPs believed that there was no need for practice nurses to be on *Agenda For Change* because nurses were contracted with GPs and not employed by the Health Board. However, there was a strong belief that following a structured payment system would set aside much of the conflict that might arise between doctors and nurses when negotiating detailed work conditions and circumstances such as payment, holidays and working hours.

'I feel myself that if someone has more skills then we should consider rewarding them for those skills but how you do it in the current financial context, we have not developed a pay structure, you know, so if a new pay structure is developed that took into account how to reward the nurses with those skills then I am sure we would be happy to go ahead with that, I do not think we feel that confident to deal with that ourselves, it should be there in all practices'.

[GP; 9 large-deprived; Para: 349]

Concerning being directly employed by the Health Board or the trust, interviewees felt this would not be in the best interests of nurses. Doctors in particular thought that the Health Board would not provide nurses with the same level of training and developmental support as GPs, who saw nurse development as an important part of making the practice operate as successfully as possible. One GP said:

'Being employed by the health board is not a good idea for nurses, I do not think they are good employers, I do not think they look after people well, I think GPs are the best employers'

[GP; 7 large-deprived; Para: 404]

Nurse interviewees argued that although the GP had the absolute power to steer the whole practice team, most of them still preferred the independence, security, and flexibility that nurses had with the GP as an employer rather than being controlled from outside. One said:

'The idea to be employed by the Health Board is just bad and hopeless. They could make you move between practices, you know, they might say we are short in practice nurses in Govan Health Centre, you must go there today, I think that kind of control is worse, perhaps you could get moved from your practice to any other practice at any time and do any duties which I would not like at all. We have more stability as long as we are employed by the GP'

[PN; 8 large-deprived; Paras: 582, 618]

Most participants believed that practices would not go to the extent of giving nurses partnership status. The majority of GPs believed it was not necessary to share practice profits with nurses and felt that nurses did not need to be partners because what they were paid was appropriate to their roles and activities in the practice and provided them with secure job conditions. One GP said:

'If nurses are prepared to take on the responsibility of the business management then I do not see there will be a problem with them becoming partners but they have got to remember that if they become partners they are open to the vagrancies of the profit of the practice and not a salary, if the practice fails, their salary fails... ... They have got a fixed salary that is linked to pay rises and cost of living, they have fixed benefits, they have security of employment, and they have employee's rights. But if they become partners, partners have got no similar rights'.

[GP; 6 small-deprived; Para: 428]

The nurse in that practice agreed with her GP employer and said:

'I do not want to be a partner, I do not see why a nurse would want to do that because it is a business, I do not need that financial responsibility. I am quite happy for my wages to get paid into the bank every month and that is secure. If you are talking of being a business partner you are taking on the financial responsibilities as well, it is a big responsibility that I do not want'.

[PN; 6 small-deprived; Para: 325]

Two out of nine nurse interviewees expressed their willingness to be partners in their practice. They mentioned that nursing partnerships had happened successfully at some practices in England and wondered why it would not succeed in Scotland. They believed that partnership status would empower them professionally in the financial and managerial side of the practice:

'I would not mind being a partner in the practice if I could. Management wise, it would improve my monetary issues and my say in the practice. I aware that partnership would imply a lot of responsibilities, apart from money, you have got to look at what that would involve and what are your responsibilities to the practice would be and that needs to be taken into consideration, but I do not see why that could not happen if you have got quite a young ambitious business minded practice nurse then why not. Absolutely it is a way forward and something new to be achieved in our professional journey'.

[PN; 3 small-deprived; Para: 710]

6.9.9. The nGMS contract and current skill mix

The new General Medical Services contract was considered by all interviewees as the most recent crucial event which had influenced the work of general practice. They felt that the nGMS contract had altered the following areas of practice: workload, target driven tasks, professional development, finance, working relationships, and patient care.

The impact of the nGMS contract on workload in the practice

There was a strong view that the contract had increased workload, not only for GPs and nurses, but for the whole practice team. Some participants described the amount of effort that they had put into the contract as phenomenal. One GP said:

'A much greater workload, much more chronic disease management, much higher degree of follow up, far more blood testing than there used to be, far more checking of blood pressures, much more prescribing with checking of prescriptions and authorising of medication. Generally much more work'.

[GP; 1 large-affluent; Para: 464]

Most reported that the implementation of the contract had influenced three areas of their workload: the escalation of chronic disease management (CDM); IT operations; and health promotion. Nurse interviewees in particular reported that their work had increased enormously after the introduction of the contract. One nurse described that when they started to implement it in the practice, they did not realise how hard and time consuming it was going to be. She added that:

'In actual fact, the workload has doubled, in some areas it has trebled. You don't get a minute to yourself, you know, a lot of time you are spending more time on this computer than you are with your actual patients because you are ticking boxes, you know, an extra work because we are putting them on the computer, everything we have done for the patient but you have also still to write it in the case notes you know, it's a lot of extra work and pressure'.

[PN; 5 small-deprived; Para: 631]

This increase was confirmed by GPs interviewees as well, especially for information management and exploratory investigations, which were shared between doctors and nurses in the practice.

'A lot of work in the contract is information gathering and then the subsequent management issues that throws up are usually thrown back to the doctor as well so even though nurses have got a lot more roles, its information gathering and a lot of blood tests and re-checking is being done by myself as well. It is not just that we have given it all to our nurse'.

[GP; 3 small-deprived; Para: 316]

There was consensus that the new requirements of the contract, with ever changing targets contained within the Quality and Outcomes Framework (QOF), was also challenging for practice management. Some GP interviewees felt it was difficult to have a strategic staffing plan in the practice. One partner said:

'The problem we have with this contract it is not a stable situation, it is constantly changing over the last 2 years and the requirements for staff have just been turned on their head..... It is not going to stop changing, it is a sort of a situation in flux at the moment and its difficult to know what you need and I think the bottom line is you have got to be reactive to what happens and change things and we are certainly needing more staff to move with the requirements that are placed on us..... again we have been quite lucky because we have time to change our skill mix but for other practices it must be awful if they suddenly decide they need extra nursing and they do not have that there'.

[GP; 4 small-affluent; Para: 338]

In order to carry out the increased workload after the introduction of the contract, some practices found it effective to employ health care assistants. A nurse from small, affluent practice said:

'From last year's work and looking forward to this year's, the work was much more, so we were thinking who was to do the work and how could we spread out the work in a different way, so that is why we have got two health care assistants'.

[PN; 4 small-affluent; Para: 549]

Most interviewees at large practices thought that there was no dramatic change in the type of clinical work they had been doing before and after the introduction of the contract. There was a feeling that it gave a new structure to practice work and helped to give more attention to some conditions, for example:

'We did all these things before but we didn't necessarily have the same targets in place, so now these are in place. I think our nurses are quite pleased to have that extra involvement and to be given some extra responsibility for helping us reach the targets. You know it is important to the practice that we do hit these targets as much as possible. So I don't think it is much more work because we were already doing the work but the incentive has changed, we are doing it now for its own sake'.

[GP; 2 large-affluent; Para: 297]

The nurse in that practice also felt that while the contract had increased their workload, it hadn't made a tremendous change to the type of work. She felt the main change was in relation to the targets and points contained in the QOF.

'It really has not made that much of a change to our work as a practice nurse because everything that has come up in the contract and every box that has to be ticked we have always ticked before the contract, its made no difference to how we practice but probably we are seeing more patients coming through because more patients are being chased up to come down but it has not made any difference to their care'.

[PN; 2 large affluent; Para: 550]

Interestingly, the view in small practices was totally different. Nurses reported that not only had the scale of their workload increased but also the scope of work had changed, with their roles extending as new types of cases were added to their workload. A nurse described it as follows:

'Well we always did the asthma but we have now to do the diabetic clinic, you know more health promotion, coronary heart disease, stroke clinic, epileptic clinic, and mental health patients. These have all increased and a lot of what the doctors did such as the epileptics and mental health patients, you know, the practice nurse is doing them now. The workload is heavier now than what it was before the introduction of the nGMS'.

[PN; 5 small-deprived; Para: 649]

Some GPs perceived that having targets to achieve in the practice was suitable for nurses because they liked to work within protocols and, because of that, nurses work should focus on chronic disease management and not managing other kinds of morbidities. However, nurses felt that concentrating their work on what the contract valued most reduced their role to focus on the unincentivised areas. One PN said:

'I was more interested in doing minor illness, but because chronic disease management is part of the new contract it would have been enforced upon me. That is a disadvantage for my extended role because I have got more chronic disease management and monitoring patients, without giving the same time for minor illness. Therefore, I think it probably has a negative effect on how I want to develop'.

[PN; 8 large-deprived; Para: 702]

Task driven activities to achieve targets

As previously mentioned, a common view was that the contract had led practices to focus on those areas incentivised by the QOF. Practices had responded by modifying the roles of their team members, with nurses seen to be the most appropriate staff to adapt their roles to meet these new challenges. One GP said that:

'If we want to provide good clinical care and follow up these patients at least on an annual basis then you are talking about massive numbers of patients and you also have to say well are GPs the best people to do all that chronic disease [care] and I do not think they are particularly good at that kind of care, I think nurses are better at following protocols, at having general guidance given to them, and then making sure that certain things are happening'.

[GP; 1 large-affluent; Para: 379]

Participants added that nurses were not involved in minor illness treatment because practices were not paid to do that kind of work. The belief was that most nursing activities were directed to achieve the contract requirements, as mentioned by the following GP:

'A good example would be one of the targets is to have a certain percentage of people with asthma have had a flu injection and you have to hit that target with a higher percentage. We found we were a bit short of that target so X (the practice nurse) looked at a list of people with asthma who had not had their flu injection, she sat down and phoned them up now some of them thought you had to be 65 as well as have asthma to get the flu injection and did not realise that they could get it anyway so she ended up doing 9 flu injections in one afternoon and by doing so we hit the target'.

[GP; 2 large-affluent; Para: 87]

The contract was thought to have changed the PNs' role in a systematic way through the standardization of services for all of general practice. Now, practice nurses have a relatively common basic role throughout practices, whereas before that their work was dependent on the individual doctors in each practice. One GP said that:

'Possibly the contract might [have] helped to make the changes in nurses' role to happen systematically. It means that maybe in some practices they have not done these things and more work has to be done and it has to be done by nurses and I think the GPs there may realised that nurses are good at that kind of thing because they had succeeded in other practices, so they should be allowed to develop their skills, I think the contract might actually have a good influence on that'.

[GP; 2 large-affluent; Para: 315]

Many GP interviewees anticipated that the contract would continue to change and the best way to adapt with these changes in the future would be by adapting the skill-mix within the practice, using practice team members to their maximum potential. One GP said:

'When you look at what is ahead with the contract changes, there is more and more going to be asked for and I think it is reasonable to ask who is going to deliver that services? There has to be involvement with as many people in the team. Maybe some of the tasks could be done by our health care assistant. Some of them obviously need nursing and medical input but I think we have to use everybody to the maximum so if we have a highly trained nurse who is interested in doing other things I would hope they would use that person.

[GP; 5 small-affluent; Para: 191]

Opportunities and professional development brought by the nGMS contract

There was consensus that there had been a gradual evolution in nursing roles and responsibilities before and after the introduction of the nGMS contract. However, the contract requirements had necessitated the updating of the practice team members' skills, therefore nurses were allowed to enrol for different training courses outside the practice. All interviewees, both PNs and GPs, perceived that new training for nurses was a major opportunity brought by the nGMS contract.

Nurses confirmed the fact that the contract had enhanced their training in order to prepare them to take a lot of pressure away from GPs. A PN said:

'We are able to do a lot for them from what we were not trained up to do three and four years ago, but we are trained now to do it and you know we enjoy doing it as well'.

[PN; 2 large-affluent; Para: 82]

In particular, the nGMS contract and QOF had opened the door for nurses to do more courses related to chronic disease management, but not for minor illness treatment. Again, more nurses expressed their desire to be involved in minor illness treatment but they said they could not do that because, for most of the time, they were busy managing chronic disease. One practice nurse said:

'I would just like to see more minor illnesses and to have more clinic time for that. My clinic is always full and I can not see any more patients. I hope I could have less chronic disease management clinics and more minor illness. I probably would like that, but at the moment we need the chronic disease management in relation to the contract requirements but I don't know whether that will change or not '.

[PN; 8 large-deprived; Para: 398]

GPs, however, considered the contract had improved the nurses' job because it gave them the opportunity to develop their roles toward more important clinical work that met the needs of the practice as well. They added that, in order for that to be possible, the more routine work had been taken from nurses and given to health care assistants. One GP said:

'If nurses are keen to increase their skills, the contract is a godsend for them because their employers, the GPs, are wanting them to do all this work and there is a great capacity for running their own clinics and getting much more clinical responsibility, and I think if you have more responsibility you get more job satisfaction so I think it can work very well for nurses that way..... the other thing is what we are taking away from nurses in the mean time which is probably not that exciting either, the height, weight, and doing the slightly dull things so those are getting removed and taken off to health care assistant'.

[GP; 4 small-affluent; Para: 152]

Doctor and nurse interviewees believed that nurses had become more independent particularly in managing chronic diseases after the introduction of the nGMS contract. One GP described the nurses' role thus:

'I think they are tending to be more independent within what they are doing, they are in charge of their own case, they do their own recalls for instance in the asthma clinic they run the system whereby they call patients in for monitoring and for their annual review, they do all that, I used to do it, now they do it, they do it all, they sign and send out the letters, and get the patients in the practice'

[GP; 7 large-deprived; Para: 553]

However, some nurse interviewees believed that doctors were more interested in target achievement than in developing nurses' careers. One nurse said that:

'Can doctors fulfil all the requirements of the new contract by their own? Well, I do not think they could without expanding the roles of the nursing staff. The points they have to achieve regarding chronic disease management, for instance, could not be achieved without the input from practice nurses'.

[PN; 8 large-deprived; Para: 218]

Thus, the new contract was perceived by some as having a negative impact on the development of the practice nurses' role because most practices focused on what was in the contract and not on what was good for patients or nurses. One GP explained that and said:

'Because our income has been dependant on what the contract valued for the last 2 years and what has happened is that we have got our practice nurses essentially running the contract and powering it through and we sort of do our bit but really the fine detail and the sort of pursuing these individual points has to be done by our practice nursing team and done extremely well so it may be that we have ignored a few other things that have not been directly beneficial for the contract but might have been beneficial for our nursing staff and for the practice in general but [once] we have got a bit of time then we will start looking at that'.

[GP; 4 small-affluent; Para: 146]

The financial impact of the nGMS contract on the skill mix in the practice

The financial impact of the nGMS contract was a prominent and recurrent theme in all interviews. There was consensus that practices achieved the contract targets and gained more financially than they had expected at its implementation. Furthermore, most of the interviewees felt that nurses played a major role in helping the practices to hit the contract's targets. One GP said:

'I say we have done very well in the contract this year and it has been almost entirely due to the practice nurses. They have done exactly what we have asked them to do and have made various suggestions. It is essentially them have done the vast majority of work for us'.

[GP; 4 small affluent; Para: 296]

Both doctors and nurses agreed that as nurses were taking a higher level of responsibility, they should be getting a higher level of pay. There was a feeling that practices had increased their income, achieving most of the targets and that partners should make sure that some of that income filtered down to the people who were doing the work. One practice nurse said:

'I think because of the global sum the GPs are getting a lot of the money, actually the practice nurse has done the work and the GPs are benefiting from it and that is not a problem, the only problem is if they are benefiting from it financially then they should increase their staff's wages and give them a salary equivalent to the work they are doing'.

[PN; 5 small-deprived; Para: 268]

However, some GP interviewees reported that all practice team members were benefiting fairly and received salary increases as a result of the increase in practice income. One GP said:

'The first thing we did within the practice was we allocated an additional performance pay to the practice staff and that is just not to our nursing staff only but also to our admin staff and secretaries, so everybody gains through that, they got an 11% rise in their salary. We have rewarded and we do continue to reward them for that but whether you would need to actually bring them into a partnership arrangement where they share profit, I'm not sure whether that is something the GPs would want to do'.

[GP; 1 large-affluent; Para: 422]

Other participants reported that not all practices rewarded their teams in the same way for their hard work in the previous year in order to hit the contract's targets. They added that it was up to the partners in each practice whether to reward their staff or not. Financial reward was seen as an area of conflict between doctors and nurses. More nurse interviewees believed that their role and responsibilities had expanded but their wages remained much the same. One practice nurse said:

'A lot of nursing staff felt all they did was masses of extra work and got absolutely nothing for it, got no thanks, no recognition and certainly no salary. In this country people are rewarded by salary, you know, that is one of the things you work [for]'.

[PN; 1 large-affluent; Para: 219]

GPs acknowledged this as an issue and believed they would have to reconsider the current payment system in order to retain their expert nurses in the practice and to sustain the high points achieved in the first round of the contract. One GP said:

'We run a bonus system rather than a salary increase but the salaries have remained pretty much the same, we are paying our staff according to their job description in the practice..... I don't think we are going to be able to carry on paying them what we are paying them now and get away with it because people will come along and pay them more, the high functioning nurses are going to be in huge demand and I think the market will push their wages up'.

[GP; 4 small-affluent; Para: 188]

Many interviewees felt that it was not easy to have a suitable or straightforward equation to sort out the practice's income and expenditure. For instance a GP mentioned that the income of the practice consisted of a combination of planned and opportunistic activities and a lot of it occurred during surgeries. Another GP believed that it would be quite difficult to work out just how much a specific activity or person had generated towards the targets because some activities generated income and others did not. One GP said:

'Some of the nurses are generating virtually nothing towards the points, should they be penalised because of that, compared to another nurse whose role is more to do with chronic disease management whose work has contributed more towards practice nurse traditional role, but the other nurse might be doing more triage and minor illness treatment and prescribing which is not generating anything directly towards points, should she be penalised because she is not doing the same? So again I think it has to be looked at in totality'.

[GP; 7 large-deprived; Para: 344]

Working relationships in the practice after the nGMS contract

For some, the contract had facilitated co-operation and sharing of workload, especially in small practices in order to achieve the targets. One GP said:

'The practice manager flagging up what needs to be done, so sometimes it is such a big workload that is done between me and the practice nurse. So there is not somebody telling us what to do, it is just the work becomes apparent and then we all pitch in and do it, you know we all get jobs related to the contract'.

[GP; 3 Small-deprived; Para: 538]

Most GPs in the affluent practices felt that a lot of what was in the QOF could be carried out by nurses. They suggested that the nGMS contract had made nurses more autonomous and independent since they started to run their own clinics (e.g. asthma clinics) independently. A GP described the impact of the nGMS on the working relationship in the practice as:

'We were all looking at the same thing saying well we want to succeed as a practice. A lot of these things fell naturally as nursing issues so our nurses said yes we can do that, we have got very capable nurses who took this work on and we were extremely grateful for that. I mean, obviously they are our employees but they are working more independently and you get to the situation almost like a partnership status'.

[GP; 4 small-affluent; Para: 182]

However, another GP stressed that although nurses run some of their clinics independently, that did not give them any authority in the practice. He said:

'They are allowed a degree of autonomy within their everyday practice, but they still have to work as part of a team, and the part of the team who make the decisions as to where the practice is going is the GPs'.

[GP; 8 Large-deprived; Para: 482]

At the same time, some nurses felt that they should not accept all the tasks that doctors thought nurses were able to manage. They pointed out that they should be given enough time to do the work and to have the related skills and training. Some nurses emphasized that they would not accept any delegated work if it infringed their Nursing & Midwifery Council's code of conduct. One nurse summarised all that and said:

'The partners can direct us to a certain extent, but you can not make a good nurse by dictating how she should do her job. They can set down and say well we are only going to give you that amount of time to do that amount of stuff, that is fine but if you can not do it all within that timescale then you are a fool if you take short cuts..... As nurses, we would stand up and say there is no way that can be done because we do not have the training and skills to do it..... We are proud of our profession and we very much keep in mind our own NMC code of conduct and no matter what GPs want. I have heard of GPs that have wanted nurses to falsify or put in figures of a good blood pressure, I think as professionals we have to be able to stand up to GPs and say okay that is fine you want your contract but that is what we have found, this is how we are doing it and we record what we see and what we do, not what you want us to see and do'.

[PN; 9 large-deprived; Paras: 628, 638]

In general, GP participants thought of the management role of nurses as only acceptable within nursing issues but not at the practice level because nurses under the nGMS contract did not generate their salaries directly, it was reimbursed as part of the global sum.

The impact of the nGMS contract on patient care in the practice

Although it was beyond the aims of this study, the participants did discuss the impact of the nGMS contract on patients' healthcare.

Many participants thought that the contract had improved care for the practice population, for example better management for chronic diseases. Participants believed that while they were doing all of that work before April 2004, the contract had structured and tightened up their activities making them more aware of what was being done and not done. A PN said:

'10 years ago the areas that you worked in were similar, you had your diabetics and asthmatics, but because of the new contract they have actually to do and achieve more for the patient, you know, to make sure that they are getting the best..... it should not just be because the GP is getting points and getting paid for it. We want to do it for the patients, its best for patients'.

[PN; 4 small-affluent; Para: 225]

Furthermore, they stressed that the contract was not all about ticking boxes, but that the purpose behind these targets was to make sure that everyone in the practice list had the best care possible. One GP thought that, in the past, they assumed that everything was alright for people who had not attended the practice, while after the contract, they had become more proactive about everyone's health. One PN confirmed that:

'Nobody gets lost in the system, you know, everybody is seen appropriately and the people are not brushed under the carpet just because you know they have got too complicated a history or they do not attend for their reviews, everybody gets a chance with the contract, a yearly chance at least so I think it is been a good thing'.

[PN; 2 large affluent; Para: 544]

The contract was seen to encourage health promotion and disease prevention by bringing the healthy population into the practice. One practice nurse interviewee believed that:

'It is a driver for change, before you only saw the people that made appointments because they were unwell, now it is looking at prevention rather than cure so it is actually getting them in early so I can manage them before the problems become serious which need a doctor to diagnose them'.

[PN; 9 large-deprived; Para: 610]

On the other hand, some interviewees criticised the selectivity of the contract's targets and thought they were not comprehensive. A GP and PN from the same practice stood firm against the contract because they thought that the practice was paid only to create a register of morbidities without doing anything to solve the problems of the patient. The GP also thought that the contract was not good for the vast majority of the public, and instead only met the needs of some categories of patients. He said that:

'I have to collect the information of who is fat and who is not, end of payment. Whether I do something with the figures or the results that I get is up to me at the present moment in time, but I am not getting funded to do it but it is my conscience that goes to me and I say right okay we have identified all these obese people, we need to provide a service out of my pocket because we are not getting funded to do it, then I might do that if I feel strongly enough about it..... I do not think the service is good to the vast majority of patients, but for some targeted populations, I guess, their care is better off but I do not necessarily think the same in the whole wide scale of the population, I do not think the service is that much better'.

[GP; 6 small-deprived; Para: 284, 368]

Similarly, the nurse in that practice added that the contract requirements had taken staff time away from patients. She felt that while the contract might help diabetic patients, for example, it only produced a register of other morbidities without treating them. She believed that the contract did not encourage patients to take responsibility for their health and the NHS would not be able to solve everybody's problem without patient's active participation.

Other nurses reported that being able to show that they had done the work, actually took more time than doing the work itself, and that was taken from the time they should have spent with the patient. A PN said:

'You find that you are spending more time on this computer than you are with your actual patient because you are ticking boxes, you know, it is extra work because you need to put everything you have done for the patient on the computer and you have also still to write it in the case notes'.

[PN; 5 small deprived; Para: 631]

Another group of interviewees thought that it was still early to realise the impact of the nGMS contract on population health because it mainly emphasised health promotion activities that need many years to be changed and improved. One PN said:

'For example, just look at obesities and BMIs, we aim to improve the fruit and vegetables consumption and to have more exercise, these are lifestyle issues and that is why they brought it into the new contract, but to change lifestyles is like climbing a mountain. The chance of you changing someone's lifestyle in a short period is pretty mad..... I think, hopefully, in the few years down the line we will see better chronic disease management'.

[PN; 3 small-deprived; Para: 602]

6.11. Discussion

6.11.1. Introduction

This was a rigorously conducted qualitative study with a sample of health care professionals working in general practice within NHS Greater Glasgow. One doctor and one nurse were interviewed from 9 practices. While it could be argued that the findings are not generalizable to other settings in different Health Boards, I believe the converse to be true since Greater Glasgow Health Board contains varied types of practices with a wide range of characteristics. A maximum variation sampling technique was used to select practices according to their size (large and small) and deprivation status (affluent and deprived). Furthermore, interviewees varied in their professional and personal characteristics including age, gender (within GPs), type of contract (full time versus part time), professional interests, and years of experience within each profession. On-going analyses of these 18 interviews showed that common themes were emerging across the interviews, thus I was felt that it was not necessary to recruit more participants. Finally, expanding the sample to include practices from other Health Boards was out with the resources of the study.

The aim of the study was to complement the previous quantitative analyses from the PTI clinical activities desk-based study and PN survey by providing a more detailed understanding of the impact of the changes in general practice after the introduction of the

nGMS contract in April 2004, the emerging roles of practice nurses and the issues impacting on doctor-nurse skill mix as perceived by GPs and PNs themselves. We chose to use individual interviews because we were interested in the individual experience of the professionals as directly affected by the recent developments resulting from the implementation of the contract. The study suggests that practice nurse roles are connected to the broader organization of primary health care, so these roles are changing rapidly as a response to the introduction of the nGMS contract which has produced major changes in practice activity as a result of the contract's incentives within the QOF.

6.11.2. Strengths and limitations

Strengths of the study

- * The study included practices which were typical of two factors likely to impact on the organisational structure of the practice and how practices deliver care, namely size (small and large practices) and the socio-economic profile of the practice population (affluent and deprived).
- * One GP and one PN from each practice were interviewed, with equal weight given to the views of doctors and nurses in order to eliminate any dominance of one single profession. Furthermore, this technique allowed us to compare the responses of each pair of doctor and nurse who were working under similar conditions and characteristics in that practice.
- * The timing of the study provided us with the opportunity to explore the initial impact of the nGMS contract, which was (at that time) the most recent modernization of general practice services.
- * Semi-structured interviews were the most suitable approach to obtain data on the emerging roles and new changes in general practice from clinicians in a prompt and direct manner. Furthermore, the qualitative mode of inquiry allowed the participants to convey the context, attitudes and feelings behind their experiences.

Limitations of the study

* The sample size of 18 interviews (9 per professional group) and the fact that all practices were recruited from one area may have reduced the generalizability of the results. Findings could be affected by the specific context of Greater Glasgow NHS Health Board (a large and urban Board, with high levels of deprivation and previous support for CDM). However, this study provided hitherto unreported details from Scotland and the findings are congruent with similar research in England (Atkin & Lunt 1996a; Horrocks, Anderson, & Salisbury 2002; McDonald, Harrison, Checkland, Campbell, & Roland 2007; Robinson, Beaton, & White 1993; Roland, Campbell, Bailey, Whalley, & Sibbald 2006).

* As the main purpose of this research was to study the evolving roles of practice nurses, it could be argued that, certainly in the case of the roles of the advanced nurse prescribing, triaging, and minor illnesses treatment, the number of nurses with these roles were limited. These roles have not been fully developed in Scotland, and so could not be adequately studied.

* The research was carried out in the early stages of a transition process after the implementation of the nGMS contract, so the results still need to be regarded as preliminary, and further empirical research is needed to confirm the actual and longer term impact of the new contract on skill mix and workload distribution between doctors and nurses.

6.11.3. Discussion of main findings

The number of practice nurses employed in general practice has increased substantially due to reforms in health care policy and changes in the way of delivering general practice services (Atkin & Lunt 1996a). Practice nurse's activities have expanded to cover a wide range of traditional and advanced roles (Bankhead et al. 2001; Breen et al. 2004; Brown & Psarou 2008). This growth in numbers and roles has led many researchers to study the development of practice nurses' role. This study tries to understand the current role of practice nurses in Scotland, how this could have influenced the doctor-nurse skill mix in primary health care, and whether this transition was planned at a strategic level, driven by local needs of practices, or was a result of nursing professional evolution.

The findings of this study revealed that nurses had two main categories of roles in general practice. The first and the main role for every practice nurse regardless of her experience and level of training was managing traditional activities, which included treatment room tasks, in addition to health promotion and long-term chronic disease management, particularly in relation to the nGMS contract. The second and more advanced role consisted of independent triaging, prescribing, and treating minor illness. These advanced roles were not practiced by every nurse. One reason appeared to be that doctors did not ask nurses to take up these roles, as they were not contract-related. However, these roles were more apparent in large practices, facilitating the workload between doctors and nurses, and improving the services provided for patients.

These results confirm that practice nurses' activities still encompass a broad range of work with varied degrees of responsibility, similar to the results obtained by the qualitative work of Atkin and Lunt early in 1996 (Atkin & Lunt 1996a). Another similarity was that nurses in both studies were found to have considerable autonomy only in organizing their work in the practice, but not in deciding the content of that work.

Some participants considered CDM as a cross-over area between traditional and advanced nursing practice where in many aspects nurses could use their advanced skills such as independent prescribing in managing chronic diseases. However, for others, taking on CDM needed specialised training.

Our findings were also consistent with Vaughn's review (2007) who found that many of the traditional tasks previously carried out by doctor are now more effectively managed by delegating, first, the clinical elements to the nurse and, second, the routine aspects of monitoring, recording, and non-clinical and less complex tasks to Health Care Support Workers (HCSW) (Vaughan 2007).

The most notable development since the work of Atkin and Lunt in 1996 is that chronic disease management is now the predominant activity, with treatment room tasks featuring less. This pattern was also inferred from analysis of the clinicians' top 10 activities lists in the 37 PTI practices. To illustrate, Atkin and Lunt found that nurses responsibilities for chronic disease management varied from practice to practice and ranged from supporting the GP in clinics to taking full responsibility for organizing clinics. With the implementation of the nGMS contract in 2004, more incentives were given to chronic disease management, with nurses directed by their employing GP to do chronic disease management. This process was facilitated by the government through the provision of

funded training opportunities, and by the encouragement of GPs by giving nurses the required time to attend these courses, as we found from nurses' survey responses in the previous chapter.

The second important role for practice nurses was health promotion. Atkin and Lunt (1996) found that practice nurses assumed complete responsibility for this work and there was little GP involvement. Our findings confirm that health promotion still represents a major component of practice nurses activity, helping practices to meet the requirements of the nGMS contract. Most GP and PN participants thought that that health promotion was crucial for patients' quality of care, and that practices should focus more on expanding this service. However, participants at one practice expressed more negative views regarding health promotion in the nGMS contract and thought that it involved only ticking boxes and gathering information (e.g. building an obesity register) without providing reward for any actual treatment for their patients.

The focus on health promotion activities was triggered by the 1990 GP contract, with practice nurses undertaking health promotion tasks that were rejected by GPs (Broadbent 1998;Cox 2006;Whitehead 2000). At that time, practice nurses welcomed this role because they saw it as an important professional development in their career and because they had little power to reject a role imposed by their GP employers. Broadbent argued that the nursing workforce was modified into an "absorbing mechanism" within general practice to facilitate GPs' work by carrying out the demands of the 1990 contract which GPs did not want to take on but at the same time wanted to earn the money connected with those activities. The practical solution was to employ nurses or extend their roles to carry out those activities alongside other traditional activities required by the contract, such as screening and immunization. Delegating the unwanted GPs' tasks down to practice nurses was seen as a demarcationary strategy and allowed GPs to protect those clinical tasks which they saw as central to their own role. Practice nurses, in their turn, willingly accepted the tasks allocated to them and developed these areas into a professional nursing practice. The findings reported here suggest that this is continuing, with practice nurses taking on a greater role for CDM and meeting the targets in the QOF, by providing routine care and follow up for uncomplicated cases, by following protocols. GPs, meanwhile, maintain their control over care of patients with complex morbidities and over diagnosis.

There were no substantial differences in the views of participants according to the characteristics of the practices especially between affluent and deprived practices. This might, of course, be influenced by the context of Glasgow, where deprivation is more the 'norm' than in many other areas (Mackay, Sutton, & Watt 2005;McConnachie, Sutton, & Watt 2003).

Size of practice did, however, appear to affect skill mix/workload distribution. For instance, interviewees in small practices did not think there was a need for nurses' advanced roles since they were working closely with and had open access to the GP. On the other hand, it was clear that large practices supported nurse triaging and minor illness treatment. This could be related to the availability of enough workload for these specialised roles in large practices but not in small practices. Half of nurse interviewees in Atkin and Lunt's study (1996) considered themselves not working as part of a team and that they were marginalized in the practice. This was not found in our study, as most of our interviewees were satisfied with the team cooperation level in their practices. There was consensus that it was impossible to provide efficient and responsive primary health care services without orchestrated team working between doctors and nurses. Furthermore, participants believe that team working was beneficial for both GPs and nurses since it could facilitate the workflow of GPs and, at the same time, provided nurses with a recognised professional rank since they were an equally important part of the team (Atkin & Lunt 1996a;Damant, Martin, & Openshaw 1994).

This study provided evidence that the nursing role is developing, particularly in response to the increasing demand of CDM; transfer of care from secondary to primary care; and QOF. This seems to fit Sibbald's s framework of role enhancement (through extending the role or skills of a group) and substitution (where the breadth of a role is expanded, either by crossing professional boundaries or by substituting one type of worker for another) (Sibbald, Shen, & McBride 2004), but with less evidence of role delegation or innovation. While Sibbald's model of doctor-nurse skill mix seems to be the most acceptable and applicable one to general practice nursing (Sibbald, Laurant, & Reeves 2006), participants in our study further differentiated between levels of team working and doctor-nurse skill mix in general practice as follows:

1) Substitution occurred when nurses' roles were extended in order to carry out GPs' traditional non-complex tasks. For instance, participants mentioned it was very rare for a GP to take cervical smear biopsy. As already mentioned, another area was the follow up and routine management of chronic diseases. GPs were thus left to treat mainly complex cases that needed their diagnostic and medical skills.

2) Complementation occurred when nurses expanded their specialised roles to supplement rather than substitute the work of doctors. These roles were common where both clinicians co-operated in their daily activities and depended on each other to cover the practice work. For instance, where doctors and nurses together ran the diabetics clinic.

3) Hierarchical skill mix was also apparent since doctors had the professional seniority in the practice because of their greater clinical accountability due to differences in skills, training, and experience. Although doctors and nurses worked as a team to maximize QOF points, there was still a clinical hierarchy in the practice with GPs managing the complex cases that needed medical care, and practice nurses expanding their role to carry out the less complex workload such as health promotion and the routine follow up of chronic disease management. From the managerial side of the practice, GPs bore the ultimate financial and administrative responsibilities in the practice.

4) An allied role for nurses appeared when practice nurses worked as assistants to facilitate doctors' workflow, such as making sure that all the information that doctor might need was ready in the patient's file, and when nurses completed clerical work to enable the practice to achieve the nGMS targets.

5) The separate / different roles of GPs and PNs was acknowledged since interviewees believed that medicine and nursing remained different professions despite the similarities developing between the two professions. For instance some participants reported that providing a nurse with advanced skills and developed roles would neither solve the shortage of doctors nor would meet the public's clinical needs. Differences were attributed to the different approaches of education programmes and training techniques. According to some GPs, nurses were not prepared to make decisions but were best at implementing protocols.

6) Advanced roles such as prescribing, triaging, and treating minor illnesses were considered to be the most independent roles for nurses and the best examples of role innovation.

These forms of skill-mix in general practice services have not occurred solely as a result of the new contract and QOF, but have been evolving over time especially at large practices. Many scholars have argued that the boundary between medical work and nursing work was ill-defined and dynamic (Broadbent 1998; Richards, Carley, Jenkins-Clarke, & Richards 2000), however, it appears that the decisions about what kind of work the PN does still rests with the GP. For instance, most GPs in this study believed that nurses could only deal with cases where diagnosis and management were clearly predetermined. The nGMS contract has facilitated this decision for GPs by demanding many activities that do not need diagnostic and medical skills. Participants felt that although nurses had many potential areas where they could develop, GPs preferred to encourage them to develop in the areas of health promotion and CDM, which were directly connected to the nGMS contract incentives. In this sense, our study confirms that of Broadbent (1996), Wall (2004), and Leese (2007) that the GMS contract (both in 1990 and in 2004) could determine the context in which practice nurses have the opportunity to develop a particular role for themselves (Broadbent 1998; Leese 2007; Wall 2004).

We found that practice nurses were given autonomy to organize their own workload such as deciding their appointment list size and schedule. This perceived limited independence could be considered the first step to enhancing nurses' status in general practice and both doctors and nurses envisaged that PNs' roles will become more important if the contract continues to focus on services that could be led by nurses. This study illustrated some of the difficulties of establishing new roles in the complex setting of general practice, and how some practices had been able to overcome such difficulties. The study shows that because some partners found the employment of nurses with advanced roles (such as independent prescribing, triaging and minor illness treatment) facilitated workflow in the practice, they were encouraging of other practices to take the same route. Different barriers were uncovered during the analysis of the interviews. First, the absence of a standardised payment structure made some practices reluctant to move nurses up in the professional rank or expand their activities to areas not incentivised by the nGMS contract. The second barrier, as mentioned by some nurses, was the perceived professional threat to some GPs who wanted to maintain their professional power and clinical domination. However, GP interviewees - especially those who had PN colleagues with advanced roles - did not feel they were threatened by these advanced roles and similar, to the English GPs in Roland et al's (2006) study, they were generally positive about the reconfiguration of roles and responsibilities between themselves and the nurses they employed (Roland, Campbell, Bailey, Whalley, & Sibbald 2006). GPs in both studies felt that in order to meet the

increased administration and workload due to the nGMS contract, they should cooperate more with other team members in the practice.

Our nurse interviewees' perspectives were consistent with findings from Broadbent's study in that they felt that their GP employers did not use their potential as well as they might. Similar responses were also obtained from the PNs survey since only 76% of respondents believed that their training and qualifications were used to the full in their current job. This might be due to a lack of interest in developing PNs' careers on the part of the GPs. However, another reason uncovered was that, for some nurses, there was a lack of personal interest in developing their role, generally as a result of family commitments or because they were approaching retirement.

The responses of the participants indicated that the right resources in terms of facilities, space, equipment, and IT were all important in the practice to facilitate the implementation of the new advanced nurses' roles. For instance, one of the practice nurse interviewees did not prescribe independently despite being an authorised nurse prescriber because the computer system was not formatted to accept her ID code as prescriber. In other cases, a lack of physical space was the main barrier to developing advanced roles. Easy access and openness between doctors and nurses were also mentioned as important factors to encourage team working. Flexible working hours also helped them balance work requirements and family commitments. It has been reported that younger practice nurses usually sought career and professional development opportunities, while older and more experienced nurses were more likely to ask for retraining, flexible shifts and assistance with childcare (Leurer, Donnelly, & Domm 2007). In our study, work-life balance was raised as a support issue by many nurse interviewees in order for them to be able to manage their home and professional life.

However, financial earnings were believed to be the most influential reward that could motivate nurses to take on greater responsibilities. While many GPs believed they were paying their nurses at the top of the scale, nurses felt that if they were required to take on greater responsibilities, especially as a result of the QOF, this should be linked to an increase in their salaries. Practice nurses asked to be treated similarly to their nursing colleagues working elsewhere in the NHS by adopting *Agenda for Change* terms. However, while nurses were wanted to be employed under the terms and conditions of *Agenda for Change*, most still thought that the GP was a better employer than the Health Boards for practice nurses' development, time flexibility, work security, and autonomy. Interestingly all nurse participants stated that they had been 'lucky' because they had an

'excellent' GP employer and that they had a 'good' relationship as a practice team, but all of them, at the same time, added that they knew other practices where nurses did not feel valued or supported.

Regarding nursing partnerships in the practice, the majority of participants thought that it was difficult for nurses to become partners because they did not want to carry the responsibility of business management. However, a couple of nurses mentioned that nursing partnerships had happened successfully in some practices in England and wondered why it would not succeed in Scotland.

Regarding the future direction of nurses' role development, Atkin and Lunt in their qualitative study early in 1996 reported that the differences in responses of doctors and nurses reflected each group's own priorities and backgrounds. For instance, nurses usually focused on professional and clinical issues, while general practitioners stressed the importance of developing roles that enabled them to meet the 1990 GMS contract requirements (Atkin & Lunt 1996a). However both groups in our study agreed that the future direction of clinical roles between doctors and nurses encompassed a move from generalism towards specialization. Interviewees predicted that doctors would work more like specialists and diagnosticians, seeing only the more complex or sicker cases, and delegate to nurses the treatment of minor illness and the management of stable chronic diseases. The same view was reported in Roland et al's recent study of English GPs (Roland, Campbell, Bailey, Whalley, & Sibbald 2006). On the other hand, participants in our study, contrary to Roland's et al's findings, did not think that this specialization would undermine the core value of continuity of care provided in the practice since doctors and nurses work in the same premises with open access to each other. Furthermore, there were some comments that provision of primary care was already fragmented through other government schemes such as the NHS 24 (a telephone advice and consultation service led by nurses based in Scotland).

Participants envisaged that practice nurses' roles will develop in three directions to enable the practices to meet the future needs of patients and policy:

- 1) Role extension: This involves continuing to train nurses to carry out the time consuming routine tasks (e.g. venepuncture, patient education and health promotion, and follow up of chronic disease management). This option appeared to be particularly supported by GPs.

2) Role expansion: The drive for this direction was the belief that nurses have not reached their maximum potential in general practice. This role may flourish in large practices and health care centres for example with the continued development of respiratory, epilepsy, and diabetic specialist practice nurses.

3) Role development: Participants thought that the development of independent nurse prescribing was good for workflow in the practice, could save nurses' time, and facilitate the patient journey. Participants also connected minor illness treatment and triaging roles together so the nurse could work as a first point of contact, selecting those cases that she could deal with within her capacity and refer the more complex cases to GPs.

The findings of our study were consistent with Vaughan's conclusion that skill mix changes in the practice can be beneficial in two ways. First, they enabled the practice to make the best use of the available resources to deliver the required services and meet increasing demands. Second, careful skill mix enabled the practices to diversify the range of their services (Vaughan 2007). But some GPs, especially at small practices, thought that nurses should continue to do only the general traditional tasks and that there was no need to advance into new areas. Another group of GPs did not see any role for nurses beyond limited roles of prescribing, minor illness treatment and triaging because the next step involves managing the complex cases which need the skills to diagnose that only doctors could do. The feeling was that any further development for ambitious nurses would not be possible within the clinical field, but could be within academia or management areas.

The capacity to expand the roles of practice nurses into new areas hitherto considered the domain of GPs was limited. First, some GP interviewees believed that nurses were better at following protocols, hence new patient care should be delegated to GPs. This mirrored findings obtained by other recent qualitative studies that investigated the impact of the nGMS contract in general practice (McDonald, Harrison, Checkland, Campbell, & Roland 2007; Roland, Campbell, Bailey, Whalley, & Sibbald 2006). Furthermore, some GP interviewees were quite explicit that they, unlike nurses, were competent in making clinical decisions and not good in carrying out work that followed protocols, so workload should be distributed according to what each profession was good at.

Second, doctors and nurses interviewees at Atkin and Lunt's study (1996) were keen to develop the independent nursing prescribing within circumscribed limits. 10 years later, only 23% of respondents to our PN survey and 3 out of 9 nurses who we interviewed had independent nurse prescribing certificate. Our study has shown that this role has not yet fulfilled its potential, but is of great interest to GPs and PNs since most participants stressed on the importance of enhancing this role in general practice.

The qualitative work indicated that two types of relationship have emerged between doctors and nurses: a business (employer-employee) relationship, and a professional (clinician-clinician) relationship. Doctors and nurses felt the nGMS contract implied that they had to cooperate with each other in order to achieve the targets efficiently, which promoted the profile of nurses as professional colleagues since many of the nGMS targets were being achieved by nurses. For instance, the contract's targets required practices to carry out activities that promote the good health of all the practice population; participants felt these patients did not need the skills of making complex interventions or medical diagnoses, thus creating new kinds of services which were lead by nurses independently.

Broadbent (1998) reported that nurses' satisfaction of their roles was dependent on their relationship with the GPs and the degree of autonomy they had to develop their roles. However, while nurses in Broadbent's study felt that doctors treated them as handmaidens, in the contrary, all interviewees in our study were satisfied with their professional relationship and expressed their good impression about the other group. Nevertheless, three main areas of potential conflict between doctors and nurses were raised in the interviews. Financial conflict was the main one since nurses believed they were not fairly rewarded for the higher responsibilities that were implicated with the new advancements in their roles. The second happened when nurses were keen to develop their role in a specific area and GPs wanted them to develop in a different area. Finally, as nurses became more knowledgeable, this allowed them in some cases to oppose the GP's clinical opinion and to enter into scientific debate with them.

The final issue of the impact of the nGMS contract was on patient care. Interviewees felt that the contract provided a structure for patient care, promoted good health, and uncovered what have not been done especially for patients who did not usually attend the practice. However, perceived drawbacks of the contract were first, that it was reductionist since it incentivised the collection of data and the building of morbidity registers without actually treating patients. Second, it served sub-groups of the practice population but not the majority of the practice population. Third, it did not encourage patients to take the

responsibility of their health, as some felt that the NHS cannot solve everybody's health problems without patient's active participation. These responses were also confirmed by the findings of Roland et al's (2006), where GP interviewees criticized the nGMS contract for its emphasis on individual chronic diseases, as opposed to people with complex health needs or co-morbidity, and especially the care of the whole person (Roland, Campbell, Bailey, Whalley, & Sibbald 2006). They added that GP interviewees predicted unintended consequences to the nGMS contract such as reduced continuity of care, care fragmentation, neglect of unincentivized conditions and, of particular concern, the risk of damage to their internal motivation which might not only change behaviours, but also alter doctors' values such that patients and public interests might become subordinate drivers to personal financial gain (Roland, Campbell, Bailey, Whalley, & Sibbald 2006). This could apply equally to practice nurses and will warrant further research in the future.

6.12. Conclusion

This study has provided detailed qualitative views into the impact of recent changes in general practice on doctor nurse skill mix with a particular focus on the evolving roles of practice nurses especially after the introduction of the nGMS contract. Building on the evolving roles of clinicians and how to mix and use their skills in general practice will become a crucial factor in implementing ongoing and future health care services modernization. Thus, it will be important to keep pace with these changes by conducting more quantitative and qualitative research focussed on general practice nurses' clinical roles and activities, as well as on nurses who have advanced education and training such as nurse practitioners. We hope the findings of this study will help policy makers, lead practice nurse professionals, and general practitioners to improve the workflow at general practice by enhancing the team working between doctors and nurses, advancing appropriate roles for practice nurses by removing the obstacles, and providing the required support that the clinicians themselves experienced in their practices and expressed during the interviews.

CHAPTER SEVEN

DISCUSSION AND FINAL CONCLUSION

7.1. Introduction

Practice nursing is part of a larger health care system, hence it influences and is influenced by any change in that wider system, thus the development of the role of practice nurses cannot be separated from the overall modernization of primary health care services (Atkin & Lunt 1996a; Scottish Executive Health Department 2007b). To begin with, the employment of practice nurses directly by general practitioners was facilitated by amendments to the GP contract in 1966. However, the real growth in the practice nursing workforce began after the introduction of the 1990 GMS contract with its focus on health promotion and preventive care that suited the nursing approach of patient education and self management (Barrett, Latham, & Levermore 2007; Department of Health 1990). For the first time the contract defined what GPs should do in order to receive the capitation element of their remuneration. GPs realised that much of the work required by the contract could be carried out by practice nurses (Broadbent 1998; Jewell, Turton, & Lunt 1994), hence they created new nursing posts or expanded the existing roles of nurses to meet the contractual requirements associated with immunization, cervical cytology, child surveillance, health promotion, chronic disease management, new registration checks and health assessment checks for patients aged over 75. One consequence was that practice nurses started to receive new professional training, with the encouragement of their GP employers, because the GPs were responsible for all services provided in the practice and had to ensure that their staff were trained and competent to perform the required tasks (Hibble 1995; Jewell, Turton, & Lunt 1994).

The scope of practice nurses has further expanded since the introduction of the new GMS contract in 2004, with practice nurses achieving significant success in leading chronic disease management clinics and helping practices obtain high points in the Quality and Outcomes Framework (British Medical Association 2004a; Leese 2007; McGregor, Jabareen, Mercer, Watt, & O'Donnell 2008). These developments have led to a substantial increase in the practice nurse workforce. In Scotland, for example, the ratio of nurses to doctors in the primary health care workforce has undergone a substantial change in the last

two decades. While the number of whole time equivalent (WTE) general practitioners has remained fairly stable, the WTE number of practice nurses has increased 6-fold since 1988 (Information Services Division-NHSScotland 2004), reflecting the positive views of GPs towards employing nurses in their own practices. However, some have argued that while practice nursing could be considered a new branch within the nursing profession, ambitious practice nurses have progressed within their speciality due to their individual interest or good fortune rather than because of a robust career structure (Caldow, Bond, Ryan, Campbell, Miguel, Kiger, & Lee 2007).

As noted earlier in chapter two, the literature pertaining to the clinical role of practice nurses was largely based on anecdote or government reports. While a number of studies were conducted in England, there was less work conducted in Scotland. In addition, many of the studies were small scale, local studies and there were none which simultaneously explored the views of both practice nurses and GPs regarding their evolving roles in general practice and the attitudes of professionals regarding the division of labour and skill mix between doctors and nurses in general practice.

This final chapter of the thesis will draw together findings from the previous chapters and discuss the different variables that have allowed nurses to realize their potential and expand their role into more advanced practice. We will use the main findings of the PTI dataset workload analysis, the PN survey, and interviews with doctors and nurses to discuss how changes in practice nurses' roles have occurred within the current structure of the NHS and how they could develop.

This study shows that some practices have already started the development process by making better use of the team's skill mix and developing new ways of working together influenced by patient needs and contract developments. This has led to the development of new roles, with many nurses taking on new clinical responsibilities that previously fell into the domain of general practitioners. Some of these roles involve carrying out traditional and routine tasks while others involve more complex tasks that have required nurses to develop advanced skills. We found that most GPs have delegated significant aspects of chronic disease management, vaccination and immunization, treatment room procedures, administrative and technical activities to practice nurses. Furthermore, most nurses in large practices were involved to some degree in independent practices such as prescribing, triaging, and minor illness treatment. PTI dataset workload analysis showed that 20% of codes that were used to specify the reason for consultation were featured in both doctors and nurses' independent lists of clinical activities. This in theory could mean that around

one fifth of doctors' workload could be transferred to nurses. The survey revealed that practice nurses are professionally trained and competent to carry out more advanced work. Doctor and nurses interviewees supported this since many of them believed that nurses were able to do more of the GPs' workload with proper training and adequate time and both welcomed the development of the new roles. These positive views broadly agree with the findings of other studies related to acceptability, effectiveness, and cost effectiveness of the advanced roles of nurses in general practice (Bond et al. 1999; Jenkins-Clarke & Carr-Hill 2001; Reveley 1998; Venning, Durie, Roland, Robert, & Leese 2000). Furthermore, some studies have concluded that nurses have great potential to work independently and provide effective health care services (Caldow, Bond, & Russell 2001; Kinnersley et al. 2000; Shum, Humphreys, Wheeler, Cochrane, Skoda, & Clement 2000; Venning, Durie, Roland, Robert, & Leese 2000). Jenkins-Clarke et al. (1998) estimated that practice nurses could manage 17% of cases attending general practice, while Shum et al. (2000), Kinnersley et al. (2000), and Venning et al. (2000) each reported that when nurses had additional training, they could manage most of a general practice's patients (Kinnersley, Anderson, Parry, Archer, Turton, Stainthorpe, Fraser, Butler, & Rogers 2000; Shum, Humphreys, Wheeler, Cochrane, Skoda, & Clement 2000; Venning, Durie, Roland, Robert, & Leese 2000). However, these studies have focused on the work of specialised nurse practitioners and not on general practice nurses.

Building A Health Service Fit For The Future (2005) emphasised the importance of continuous development of primary care services in Scotland. There has been a central government commitment to support general practices to improve standards and provide a wide range of more effective and responsive primary care services to meet the needs of the Scottish population, although this may require systematic changes to working practices at different levels of NHS Scotland (Scottish Executive Health Department 2005a). While health policy makers and managers at the level of primary health care do not control staff working in general practice directly, it is part of their general responsibility to insure that there is a structure in place to make the changes happen in an effective way (Scottish Executive Health Department 2004d). Furthermore, Health Boards and Primary Care Trusts are still responsible for providing professional guidance and standards for practices in order to maintain their quality of care and patient safety (Working in Partnership Programme NHS 2006). The implications of the findings of this study for these different levels will be discussed.

7.2. Strength and limitations of the study

This study had the following strengths:

- * This was an innovative study in Scotland investigating the evolving roles of practice nurses and the impact of changes in general practice on doctor-nurse skill mix. In particular, it provided practice nurses with the opportunity to express their point of view and make it heard by decision makers and the research community.

- * The study was conducted during and immediately after the introduction of the new GMS contract in 2004, a period of great change and development for practice nurses.

- * In this study a mixed methods approach was used (desk-based dataset workload analysis, a substantial questionnaire, and interviews with doctors and nurses) providing rich data. Both quantitative and qualitative methods complemented each other and gave in-depth information about practice nurses' characteristics and their clinical roles, in addition to the new trends in delivering general practice services after the introduction of the nGMS contract.

- * The use of PTI data from practices located in different Health Boards increased the generalizability of the study.

- * The opportunity to interview both GPs and practice nurses within a single practice gave a unique perspective to the interviews, providing an opportunity to explore the views of both professional groups.

However, the findings of this study must be interpreted in relation to the following limitations:

- * As with all non-random samples, a purposive sample (for the interviews), the voluntary nature of PTI scheme, and a 61% response rate to the PN survey may influence the findings through self-selection bias. It may be that practices/clinicians participating in this study were different from those who did not agree to participate with respect to their time constraints, workloads, clinical role, level of autonomy in the practice, education, or other variables.

* Although data were collected anonymously and participants were assured that no individual results would be published, employment consideration in practices may have influenced statements made during the interviews as well as questionnaire responses.

* The removal of practices' ID number from the questionnaire made it difficult to know to what extent the 61% respondents of practice nurses in the survey were representative of the whole population of practice nurses in NHS Greater Glasgow or to connect them to the characteristics of their practices. Furthermore, there were no available complete data on the Whole Time Equivalent number of practice nurses working with the 37 PTI practices, so it was difficult to compare accurately their workload and consultation rates with GPs. The lack of basic information on the number of practice-employed nurses has been a problem for other researchers in England (Atkin 1993) and Scotland (Committee on Primary Care 1992; Paxton, Porter, & Heaney 1996; Peter 1993).

* In this thesis, the widest definition of an advanced role was used (namely: independent prescribing, minor illness treatment, and nurse triaging). The results have demonstrated that the training and scope of practice nursing, in different practices across Greater Glasgow varied, sometimes considerably. It is possible that if a different definition had been used (for example, specialised roles such as: diabetes nurse; asthma nurse; health promotion nurse) a different picture of nurses with advanced roles might have been seen. However, the use of these narrow roles might have obscured actual clinical practice as these include mainly traditional procedures and tasks, but not advanced or independent practice. It must be borne in mind that, to date, the nursing profession is still unable to reach a consensus on what an advanced practice nurse role is or what it should be.

* The resources (time, money, and manpower) for the study were limited, thus the survey and interviews were confined to one Health Board area.

7.3. Generalisability of results

Generalisability, sometimes referred to as external validity, is the extent to which the results of a study undertaken in a sample of a population can be applied to the population as a whole (Polit & Hungler 1995). To address this issue, it is necessary to be able to demonstrate that the characteristics of the sample involved in the study are representative of the population as a whole. Generalisability in this sense applies equally to the 37 PTI practices and to the survey respondents within the Scottish context, but not to the qualitative interview since the distinction between empirical and theoretical generalisation is not universally or consistently applied (Creswell 1995).

PTI practices were representative of the different size and deprivation categories at a population level, but were generally larger and more affluent than the average Scottish practice. There was a reasonable spread of PTI practices across geographical areas, with the notable exceptions of Greater Glasgow and some outlying Health Boards such as Borders, Orkney, and the Western Isles. However, PTI practices were not representative of all Scottish general practices in terms of participation in voluntary quality initiatives. As all of practice nurses working in Greater Glasgow NHS Health Board were included in the survey the results could be considered as representative of all practice nurses in Scotland since NHS Greater Glasgow Health Board contained a wide range of general practices at the time of the study. The research site was the largest Health Board in Scotland, which meant that sufficient numbers of nurses participated in the study. Furthermore, doctors and nurses at the research site operated under the same terms of the national nGMS contract.

For the qualitative interviews, Lewis and Ritchie (2003) report that there is no clear or agreed set of ground rules for the conditions under which qualitative research findings can be generalised or what this process involves, but generalisation from qualitative data can be drawn in relation to the parent population from which the sample is drawn (representational generalisation); about other settings in which similar conditions to those studied may exist (inferential generalisation); and as a contribution to generating or enhancing ideas and theories (theoretical generalisation). In our qualitative study, a maximum variation technique was used to select participant practices according to the socio-economic status of the practice population in order to identify the most affluent and most deprived practices; and the practice size according to the number of WTE partners as small or large. Since the recruited practices covered all these varied qualities, this enhanced the generalisability of our qualitative data.

7.4. The main discussion

The general aim of this thesis was to explore the evolving roles of practice nurses, and to examine the effect on the doctor-nurse skill mix in general practice. Furthermore, the study has also provided insights into the drivers of change for practice nurses roles in recent years, as well as the professional and training support that nurses need in order to embark on new and advanced roles. The following sections will draw together the main findings of the desk-based PTI dataset workload analysis, the survey and interview study.

7.4.1. Current role and drivers for its development

In 1988 there were 205 whole time equivalent practice nurses employed in general practice in Scotland; by 2002 this had reached 1181. What effect has this growth had on the number and types of patients seen by general practitioners and practice nurses? Figures for 2006/2007 from the Information Services Division reported that the workload of practice nurses and general practitioners together had an annual increase of 400,000 face-to-face contacts, from 22.6 million in 2003/2004 to 23.7 million for 2006/2007: of these, 16.0 million contacts were for GPs and 7.7 million contacts for practice nurses. The number of contacts with practice nurse had increased continuously from 6.5 million in 2003/04 to 7.7 million in 2006/07 (Information Services Division-NHSScotland 2008a). These figures shows that practice nurses have evolved from playing a subsidiary role in general practice to taking a leading position in delivering modern primary care services to patients. We found that nurses were carrying out a wide range of activities, in particular chronic disease management and health promotion. In some practices, nurses concentrated on traditional activities, whilst in others they had developed advanced roles such as independent triaging, prescribing, and minor illness treatment, reflecting employers (i.e. GPs) attitudes to nursing roles and their different willingness to invest in developing nurses' skills. All practice nurses participating in the survey reported involvement in chronic disease management. Coronary heart disease (CHD), stroke, asthma, diabetes, and COPD management were the most commonly reported chronic diseases, in addition to cervical cytology, travel immunization, and health promotion (see Figure 5.2). Most previous studies that compared GP and Nurse practitioners who run their own independent clinics found that nurses had longer consultation times than doctors (Kinnersley, Anderson, Parry, Archer, Turton, Stainthorpe, Fraser, Butler, & Rogers 2000;Shum, Humphreys, Wheeler,

Cochrane, Skoda, & Clement 2000; Venning, Durie, Roland, Robert, & Leese 2000). Our study found that the average length per appointment with the practice nurse was 13 minutes. Nurses explained that their consultation's length depended on the type of clinic they were running. For instance, CDM and health promotion clinics needed longer consultation times due to the nature of patient's needs and the requirement to provide patients with more explanation and discussion. However, the GMS contract may be impacting on the quality of the nursing consultation, with many nurses reporting they no longer had the time to spend with patients in the same way as it was before the introduction of the nGMS contract. Our findings were consistent with McGregor et al's (2008) argument that due to the increasing workload and time spent in data documentation for payment purposes, nurses had to decrease their face-to-face consultation time which resulted in a negative impact on patients' holistic care and damaged the nurse-patient relationship (McGregor, Jabareen, Mercer, Watt, & O'Donnell 2008).

PTI dataset workload analysis revealed that hypertension was the most common morbidity managed at all practices in 2002 and was equally managed by doctors and nurses. Diabetes and asthma were also identified as important clinical areas for practice nurses (5th and 8th respectively in the list of morbidities managed by practice nurses). The Sheffield study (2000) also found that diabetes and asthma were chronic conditions in which practice nurses played an important role. There were, however, important differences in how nurses cared for these groups of patients. With diabetes, nurses were more likely to make independent decisions about when to do investigations whilst GPs were more likely to make decisions about diagnosis, instigating and changing treatment (Centre for Innovation in Primary Care 2000). For asthma, nurses often managed the care themselves, making decisions about diagnosis, initiation of treatment and changes to treatment. The PTI analysis also began to shed some light on the issue of frequent attenders: 6.2% of the population had more than 10 contacts per annum with their practices, accounting for 27.7% of all encounters. Nurses borne the brunt of this as much as GPs. The Sheffield study identified a similar population, 1.3% of their patients attending 20 or more times per annum and accounting for 8.3% of all consultations. However, unlike the Sheffield work which found that frequent attenders were more likely to be older, female and to have a chronic illness, the PTI dataset did not have any data on patient characteristics. This is clearly an important area for future work.

The high contact rate with practices reflects the increasing pressure on primary health care services in Scotland. However, it has been proposed that up to 70% of the GP's workload might be carried out by well trained practice nurses (Wanless 2002). The importance of new roles for practice nurses was further acknowledged after the introduction of the nGMS contract, with the suggestion that an increasing shift of patient management from doctors to practice nurses would allow GPs to take on more complex cases (Leese 2007). This was consistent with findings from our qualitative study since all general practitioners felt that they could not meet the requirements of the nGMS contract without practice nurses' input. There was no agreement, however, between doctors and nurses on the sort of work that could be delegated to practice nurses. Similar to other studies (Harrison, Dowswell, & Wright 2002), most GPs thought that practice nurses were generally better at work that could be managed according to clinical guidelines such as chronic disease. On the other hand, some nurses were keen to be involved more in treating minor illnesses and triaging.

Broadbent (1998) explored the extent to which the implementation of a financially based contract for UK General Practitioners had led to the development of practice nursing as a professional project, concluding that "the development of the professional project of the practice nurses is in its early stages and can be argued to be the result of forces outside the occupational groups in question". We believe that since the process of practice nurses' professional development in Scotland is still developing, health policy decision makers should take this opportunity and provide appropriate educational and training support to build and support the practice nursing workforce. This strategy should be planned after conducting larger quantitative and qualitative studies at a national level to understand their evolving roles in general practice and determine their training and development needs.

Most of nurses interviewed suggested they had two main options for clinical role advancement in the practice: the first was to specialise in the care of patients with long-term conditions such as asthma, diabetes, or hypertension. The second option was to learn new skills in how to assess and treat patients with minor illnesses; this was the trend of development in large practices where nurses often independently triaged patients who suddenly became ill and needed appointments on the same day. With either of these two options nurses could also become independent nurse prescribers, managing patient care without needing to ask a GP to sign or write prescriptions for their patients. However, there were some nurses who thought they did not need to be specialists in any area, believing that the advantage of a practice nursing career was the use of a broad set of skills, rather than having to specialise in one particular area.

The findings of this study support what Atkin and Lunt (1996) found regarding the advantages of the advanced role of practice nurses for patients. First, participants agreed that developing the role could expand the range of services offered in general practice to cover those previously available only in hospitals. Second, enabling practices to meet nGMS targets meant that practices were responsive to local population needs. Third, respondents felt that practice nurses were seen as easily accessible by patients because they had unique interpersonal skills and abilities to listen and communicate well with patients. Finally, involving practice nurses was thought to save patients' and GPs' time by preventing the unnecessary consultations. For instance, if nurses managed less complex patients or routine follow-up, this freed up doctors' time to treat more complex cases that needed their medical input of diagnosis and treatment. These findings are confirmed by Vaughan (2007), who asserts that practice nurses are having an impact on the work of general practice and that their roles are expanding (Vaughan 2007). Interviewees also felt that patients' care was not fragmented when nurses ran their own independent clinics because all practitioners were working as one team in the same building.

The qualitative study demonstrated that the structural changes in the practice workforce that came with the nGMS contract, in particular the expanding role of practice nurses, continued a trend seen over many years. A number of earlier policy reforms to general practice made it financially sensible for GPs to employ nurses to deliver important services in the areas of health promotion, chronic disease management, and population health screening (Atkin & Lunt 1996a; Baraniak 2001; Roland, Campbell, Bailey, Whalley, & Sibbald 2006). The interviews with doctors and nurses confirmed this ongoing support but also confirmed that the need to care for increasing numbers of patients with chronic disease was a key driver, whether that was as a result of increasing incentives, changes in the practice population, aging populations or shifts in health care from secondary to primary care. However, we also found that where changes were financially driven, practices often encouraged the extension of nurses' roles only toward incentivised areas such as long-term CDM.

Our data also demonstrated that practice size rather than the deprivation status of the practice populations determined whether or not nurses had developed advanced, independent practice. Results from the PTI dataset analysis, PN survey, and interviews indicate that advanced roles were found in large practices. The justification for this in small practices was that nurses had easy access to GPs so they, for example, did not need to be independent prescribers. In large practices, the advanced role facilitated the workflow of nurses and there were enough patients who needed specialised nursing activities. These

results are consistent with findings of other researchers who found that larger practices were best able to extend nursing roles in order to meet the new performance targets (Baker & Klein 1991;Hirst, Atkin, & Lunt 1995;Sibbald, Shen, McBride, Zafar, & Grimshaw 2002;Sibbald, Shen, & McBride 2004).

This would lead us to conclude that the actual determinants of current practices activities are the targets contained in the GMS contract. GPs thought they would not be able to meet these targets alone and since they are the employers and can decide the work of each professional group in the practice, they could extend nurses roles to carry out activities that achieve the contract targets (British Medical Association 2004a). It seems that GPs have their own pragmatic reasons for delegating clinical work, government has its own financial reasons for encouraging this sort of delegation, and nurses have their own professional purposes to take on more advanced roles.

7.4.2. A political role for practice nursing

Throughout the different stages of this study we noticed that although general practice nursing has progressed as a professional discipline since the introduction of general practitioners contract in 1990, much of their political activities remain small-scale and non-influential. Practice nurses lack a clear strategy on how they can build new roles that contribute to achieving national health priorities for NHS-Scotland and at the same time influence the process of health policy making. The Scottish policy document '*Choices and challenges*' states that nurses should identify their current strengths in order to be able to lobby policy makers to involve them in the planning of health decisions that affect nursing activities (Scottish Executive Health Department 2002). The Royal College of Nursing argues that nurses should develop strong clinical leadership to use the strength of practice nurses in order to help them realize their potential and influence national health care policy making (Royal College of Nursing 2003). However, there was no clear mechanism identified to facilitate this.

Early in 1998, Wright expressed concern about a de-politicizing nursing culture and advocated nurses becoming more politically aware and more active in the NHS (Wright 1989). Our findings were consistent with other previous studies that nurses were not involved in strategic planning or decision making process (Buchan & Calman 2005;Cameron et al. 2004;Leurer, Donnelly, & Domm 2007). West and Scott (2000) found

that nurses were excluded from the process of health-policy making and just involved in the implementation of these policies (West & Scott 2000). Core-Lisle et al. (1999) recommended that professionals who manage nurses should foster nurses' participation in workflow organization and change should be undertaken in a manner that demonstrates respect and value for the nursing staff (Core-Lisle et al. 1999). We believe that the transition of practice nurses from traditional to advanced roles should occur within a coherent strategy at the NHS Scotland Primary Care level that allows a more rationale and consistent approach to practice nursing and addresses important issues such as skill mix and grading in general practice.

The role of external professional support either from Health Board or nursing organisations is particularly important for practice nurses due to the potential isolation that nurses could have in their practices (Centre for Innovation in Primary Care 2000). Almost 99% of respondents to our survey were aware of the Glasgow local practice nurse group, but only 41% had the opportunity to attend meetings regularly. Some nurse participants were concerned that this detachment could affect practice nurses' motivation or decrease their development opportunities. So health policy makers and professional nursing organizations should consider other methods to engage clinicians in general practice in professional activities.

7.4.3. Job grading and professional issues

Job grading and salary was an area of contention, as it was dependent on individual GPs and nurses were acutely aware of their status as employees. This study indicates that there is a need to actively review the grading system for nurses across general practice in order to provide a standardized formula and a common understanding of the level of responsibility expected at each grade. The Primary care management could support this by promoting the adoption of the *Agenda for Change* terms and conditions and provide, for instance, advice and guidance on job evaluation using the Knowledge and Skills Framework (KSF) (Department of Health 2004b; Royal College of Nursing 2005b). GP participants in this study agreed that nurses should be paid fairly according to the type of work they undertook. Most nurse interviewees, however, were dissatisfied with their salaries and confirmed that if the QOF requirements were going to change in the future and nurses were contributing to achieving these requirements, they should be supported with proper training and be financially rewarded to take on the new responsibilities required.

These findings are consistent with Sheffield's Centre for Innovation in Primary Care study, who found that being employed directly by GPs implied both professional advantages and disadvantages for practice nurses (Centre for Innovation in Primary Care 2000). Practice nurses believed that they enjoyed more flexible and stable work conditions; GPs generally supported the development of practice nurses as an investment in an important human resource in their practices. On the other hand, there was an argument that doctors did not make good nurse managers, and many had little real understanding of the professional scope and values of nursing. Our nurse participants reported that although some of them already had good working terms and conditions, the implementation of *Agenda for Change* in general practice would clearly define their roles, remunerate those with advanced knowledge and skills, and ensure equal pay for work of equal value.

Interviewees raised the issue that nurses and GPs should be aware of the legal boundaries and accountability, and should ensure that practice nurses were well prepared and competent to expand their role without breaching the Nursing and Midwifery Council's Code of Professional Conduct (Nursing and Midwifery Council 2002). Indeed, *Working in Partnership programme: Creating Capacity in General Practice* describes the two legal standards that apply to the expansion of nurses' roles: the first is the 'rule of negligence' that requires nurses to perform delegated tasks to the same minimum quality standards as a doctor. The second is the 'rule of law' that commands all professionals to act within the law (Working in Partnership Programme NHS 2007). Similar to findings in other studies, a number of participants saw that the practice of shared care had medico-legal implications of accountability (Willis, Candon, & Litt 2000). This was expressed by some GPs in terms of the fact that PNs would not be indemnified for their autonomous practice if anything went wrong, but that the GP practice as a whole would be liable, and given this, they wished to retain control over the PNs' work. Thus, if the practice nursing role is to continue to expand, this issue requires clarification.

Practice nurses had chosen their career for both professional and personal reasons. Personally, practice nursing was allowed flexibility to juggle their professional and private lives; professionally, autonomy of the profession was another reason to continue working as a practice nurse, although there were different views of what constitutes professional autonomy. For some, it meant the ability to control the nature, time, and pace of the work. This environmental autonomy is what motivated many nurses to join practice nursing and leave the more regulated hospital setting. In their practice nurses study, Sheffield's Centre for Innovation in Primary Care (2000) argued that environmental autonomy can be contrasted with clinical autonomy and confusing these two notions can generate

misunderstandings and professional conflicts (Centre for Innovation in Primary Care 2000). Participants in our study agreed that nurses actually had low clinical autonomy especially for the level of clinical decision they were expected to take without referring or discussing the matter with a GP. Some respondents indicated that nurses with advanced roles did have more autonomy within their area of clinical practice but not for management issues at the practice level. There was a feeling that the independent nursing roles of triaging, treating minor illnesses, and taking major responsibility of chronic disease management were becoming more acceptable, especially in large practices, however, the fully independent practice nurse model was still unfamiliar and team-care between the practice nurse and doctor was more likely to be the rule in the Scottish general practice setting.

Broadbent's study (1998) investigated the attitudes of practice nurses to their roles and to the new responsibilities which they had undertaken as a result of the implementation of the GP contract in 1990 (Broadbent 1998). She found that there was no universal view amongst practice nurses as to the nature of their role. This finding still prevailed amongst all the clinicians that we surveyed and interviewed as every one gave a different perspective about what constitutes practice nursing. For instance, respondent nurses to our survey had different titles, educational certificates, post registration training, support needs, and clinical roles. In addition, each of our interviewee nurses had a different perspective and professional prospects. The variety of practice nurses' functions and approaches amongst practices could be related to the different deployment of the practice team, practice size, and needs of practice populations and their socioeconomic status.

7.4.4. Skill mix and educational opportunities

General practice was still considered a flexible working field where clinicians can use innovative ways to deliver health care services and take on new roles with relative ease, unlike colleagues in other primary and secondary health care settings. Our results, in particular, show that the workload of both doctors and nurses within general practice was increasing, especially after the introduction of the nGMS contract. Unless all clinicians work together and make appropriate use of their skill mix, they will not be able to meet the demand and the patient care may lack continuity.

Investing in General Practice: The New General Medical Services Contract (2003) suggested that, since the final income of the practice would be determined by QOF achievement, all clinicians in the practice should use their skills effectively and adjust their ways of delivering health services in order to achieve these targets (Department of Health 2003). The findings here indicate that practice nurses' roles should develop in parallel with changes in the skill mix of all practice team staff. For instance, participants thought that GPs should focus on managing complex cases that need their unique medical skills such as the ability to diagnose and initiate treatment. At the same time, with the employment of Health Care Assistants, nurses could pass on more routine and traditional tasks to them, saving them time to carry out their new workload. Participants in the interviews thought this hierarchy of skill mix was the most suitable for everyday practice.

The aging of the nursing workforce in UK has been monitored for some time. Vaughan (2007) reported that, in 2001, one in five nurses on the NMC register was aged over 50. Furthermore, Buchan (1999) projected that one in 4 nurses working in UK in 2010 will be aged 50 years or more (Buchan 1999). Indeed, 29% of nurses in our survey were above 50 years. The consequent impact will be a dramatic loss of the acquired knowledge and expertise of experienced nurses. Added to this problem of the potential loss of nursing capital, this study found that 9% of practice nurses under the age of 50 were planning to leave their present job within the coming five years. Many doctor interviews presumed that the loss of years of nursing experience from the health care system, coupled with the nursing shortage, could have a devastating impact on the delivery of health care services. While Leurer et al. (2007) argue that this could be mitigated by effective retention strategies such as retention of nurses until age 65, other more innovative solutions may have to be found.

GPs and practice nurses responded differently when asked what contributed to the effectiveness of the relationship between the practice team. GPs saw it in terms of advantages to the practice and patients, based on trust in the competency of the PN. PNs saw keeping a good working relationship with the GP as crucial due to their employee status. Willis et al. (2000) comment that the interpersonal relationships between the two professions were influenced usually by historical developments and the structural arrangements of health care services (Willis, Candon, & Litt 2000). It was clear during our study that the relationship was influenced by the structure of general practice (in particular size of practice) and the nGMS contract arrangements. However, our results were also consistent with Harrison et al. (2002) and Willis et al. (2000) as the practice nurses were seen by GPs as professional colleagues who could be trusted to perform their tasks

appropriately and who could be consulted for a second opinion (Harrison, Dowswell, & Wright 2002; Willis, Candon, & Litt 2000).

We found that doctors delegated a good deal of their clinical work to practice nurses for two principal reasons. First, nurses were seen by most GPs as reliable and professional when it came to administering routine tasks, so these perceived qualities encouraged GPs to delegate such tasks. Second, doctors had to delegate more advanced tasks to nurses for pragmatic reasons, related to workload and time, after the introduction of the nGMS contract. Sibbald points out that the process of task delegation from doctors to nurses does not always happen smoothly (Sibbald 2003; Sibbald 2005). Our results indicate that, for delegation to work well, it is important, first, to establish a clear definition of the role of the doctor and practice nurse. This means knowing the boundaries of one's own competence, when to refer, and when to deal with uncertainty. Participants also believed it was essential that doctors and nurses develop confidence and trust in each if they are to work effectively as a team. To facilitate this, it is important that practice nurses should have good negotiation skills for this process to be successful at both the practice and broader primary health care policy making organization levels.

This does, however, mean that nurses have to be comfortable and feel confident in the tasks delegated to them. Several nurse interviewees mentioned that they are bound by their Nursing and Midwifery Council Code of Professional Conduct. Section (6.2.) of that code states that nurses “*must acknowledge the limits of their professional competence and only undertake practice and accept responsibilities for those activities in which they are competent*” (Nursing and Midwifery Council 2002). Although this statement warrants a degree of safe practice, it relies on nurses' self-assessment. In future, a more objective evaluation may be required to identify their capabilities and level of responsibility, before they take on new tasks or to identify development needs (Working in Partnership Programme NHS 2006).

7.4.5. Practice nurses and the new GMS contract

The most current health policy reform that has impacted on practice nurses is the 2004 GMS contract. When participants in our study were asked about the impact of the nGMS contract on evolving roles in the practice, they indicated that there had been a profound impact on nurses' roles but less so on doctors. Interviews with nurses indicated that the high workload and pressure in the practice which came with the nGMS contract, for both nurses and GPs, had resulted in them dropping many development activities in the practice and had focused activity on incentivised areas rather than unincentivised areas, such as minor illness. This mirrors findings from both McDonald et al. and McGregor et al, who found that nurses were more concerned than doctors about changes in their clinical role and that the contract had adversely impacted on the consultation with patients (McDonald, Harrison, Checkland, Campbell, & Roland 2007; McGregor, Jabareen, Mercer, Watt, & O'Donnell 2008).

Some researchers argue that the introduction of the nGMS contract in 2004 has changed the nature of health care service provision and refocused the function of general practice, with practice nurses in a stronger position to enable practices to achieve the new contract's agenda (Cox 2006). Certainly, some participants in this study believed that the nGMS contract had created an opportunity to increase nurses' responsibilities in the practice, and hence, new roles had developed presenting the chance for nurses to move upward in the professional ladder, expanding the boundaries of practice nursing to include areas that were traditionally under the medical domain. However, a pessimistic impression could be that the current model of practice nurse employment will not generate effective leadership or explicit mechanisms of development for practice nurses, which will have negative consequences on both the practice nurse workforce and the delivery of general practice services in the long run.

Our results show that the increase in workload made nurses more valued with the increasing importance and demand of their services. The working relationship between doctors and nurses was improved since the changes in nurses' roles had raised their profile. Nurses considered themselves as real clinical partners in the practice, who contributed in increasing practices' high income. GPs on the other hand, aimed to maintain high levels of cooperation in order to improve the service and achieve their targets.

7.5. Implications for professional practice

The findings of this study have several implications for future practice. Firstly, practices which employ practice nurses with expanded roles should ensure they have systems in place to properly evaluate their competence and practice. Secondly, the potential areas for work-sharing between doctors and nurses that were identified in the desk-based analysis, survey, and interviews may be useful for practices to consider and apply. One area could be to involve practice nurses in treating minor illness (especially for nurses who had previous work experience in Accident and Emergency Departments), then to evaluate the impact of this role on patients, practice, and the workload of GPs and nurses. Thirdly, practices should ensure they have robust systems in place to detect and monitor the pattern and nature of the frequently attending patients, with a view to identifying who they see and why, and to develop strategies to help and support such patients.

Findings from the interviews reported in chapter six show that recent changes in practice nurses' roles were as a result of nGMS contract, with a focus on incentivised areas. Consequently, practice nurses had more autonomy in managing and regulating both their workload and caseload but within the traditional activities (mainly monitoring and follow up of chronic disease management) and not the independent advanced roles which were not incentivised by the new contract (prescribing, triaging, and minor illness treatment). Nevertheless, the findings show that many large practices have realised the advantages of these advanced roles and supported their nurses to acquire them. Although the government has promoted the advanced roles of practice nurses in many policy documents, in order for these roles to flourish and be adopted by general practices, there is a need to incentivise them financially, standardise the educational programmes, and ensure that these roles are properly evaluated in practice.

For education and training activities to be relevant, they should be linked to the needs of the practice population and morbidities that are most often managed in the practice. The identification of the top 10 conditions seen by PNs and GPs in the 37 practices provided valuable information for educational organizations of the sort of courses that are required by practice nurses and their practices. Results from the PNs' survey and interviews indicated that the majority of continuing nursing education and training activities were designed around chronic disease management mainly because the nGMS contract has emphasised the providing of high quality care in this area, but that nurses themselves may

have other educational needs that are not being met. The following points could provide further useful direction:

1. Practice nurses should be aware of their professional accountability when considering expansion of their role into areas such as minor illness work and other areas of disease management.
2. Practice nurses should be aware of the greater degree of autonomy their working circumstances afford and how this can enable their professional development.
3. Practice nurse education should be formalised with dedicated and accredited courses.
4. Experienced practice nurses should be trained to take on the role of practice nurse teachers.
5. The implications of an aging workforce, with many reaching retirement in the next decade, needs to be addressed now to allow time for robust recruitment and retention strategies to be put into place.

7.6. Recommendations for further research

There is a continuing need for qualitative and quantitative research to be carried out among a larger number of practice nurses in order to obtain a more accurate picture of the work they carry out across Scotland. A study similar to the national survey into practice nursing carried out in England and Wales after the introduction of 1990 GMS contract (Atkin & Parker 1992) would be the most convenient method to obtain comprehensive information about practice nurses' characteristics, professional needs, roles, and contributions to health care service delivery. Such a national study will enable healthcare services policy makers to decide the necessary measures that should be taken to support healthcare workforces in order to modernize the NHS Scotland and to judge the likely size of the practice nurse workforce in the coming decade.

Further research is required in the area of general practice nurse workloads and how they have developed four years from the implementation of the new GMS contract. We recommend the practice nurse survey to be repeated in order to allow comparisons between our findings a short period after the implementation of the nGMS contract and the findings 4 to 5 years later. As the role of the practice nurse develops it is essential that further evaluations are undertaken to ensure that the care delivered is safe and effective. Instruments and methods described in this thesis could be used in future evaluations.

Further work is required to explore the differences in care provided by the practice nurse and the general practitioner.

Finally, we are left with unanswerable questions regarding the financial arrangements and proper remuneration for nurses working in general practice. A study focusing on this side of general practice is highly recommended in order to reach a clear picture of the best method or framework that can help practices deal with financial remuneration for their practice nurses.

7.7. Conclusion

The role of practice nurses has grown significantly since the introduction of the 1990 GMS contract and developed from carrying out treatment room activities to advanced chronic disease management and independent nurse prescribing, triaging, and minor illness treatment. These roles have developed in response to the needs of an aging population, shortage of general practitioners, and external health policy such as the GMS contract and the transfer of the care of patients with long-term conditions from secondary to primary health care.

The studies in this thesis have demonstrated the complexity and varied nature of the developing roles of practice nurses depending on the practice populations' needs and how human resources were deployed in the different practices by the GPs. Role extension has been shown to be unplanned by nursing professional organizations, but is an inevitable development and further work needs to be done to devise robust strategies to ensure it is contained within nursing boundaries. In addition, general practice policy makers should work closely with higher education institutions to ensure the education provided is appropriate and matches the competencies.

The NHS Working in Partnership Programme (2006) has recommended several criteria for developing new roles for clinicians within the NHS (Working in Partnership Programme NHS 2006). In terms of general practice settings, the findings of our three studies are consistent with these criteria as participants believed that any new role should not contradict the broader objectives of general practice and must support the needs of practice's populations. New roles should reflect nursing philosophy and be located within practice nurse's competence and knowledge. These new roles should be viable financially, so that practices can develop and maintain them over time and be supported by the different stakeholders in order to survive and continues as long as required by practices.

A clear finding from these studies was that only skilled and flexible team working at different levels of professional competency can meet the demands and modernize the services of general practice. This sort of team working represents a hierarchical skill mix, with GPs practicing at the top level of the hierarchy by managing complex cases that require their diagnostic and medical skills. The second level of the professional ladder was the specialist nurse with advanced roles such as independent prescribing and, increasingly, advanced chronic disease management and monitoring. At the next level are generalist practice nurses, carrying out the traditional work of health care, including some of the less advanced requirements of the nGMS contract. Most practice nurses appeared to be practicing at this level, with some combining it with the higher, advanced level. Health Care Support Workers were believed to practice at the bottom of the professional ladder by doing the routine tasks previously carried out by practice nurses.

This study recommends different elements of support be provided for practice nurses in order for them to take on new responsibilities and develop roles that help to achieve what is required within practices. First, practice nurses need professional leadership to aid their development at individual practice and whole primary care system levels. It is necessary to adopt a clear and robust model that identifies the skills and knowledge of practice nurses working in general practice similar to the *Agenda for Change* (Royal College of Nursing 2008). This model should clarify the standards of recruitment and rewarding arrangements that compensate nurses fairly according to their competence and responsibilities. In addition, practices should have a structured competence appraisal to identify the training and development needs of practice nurses according to their role in their practices. Externally, practice nurses should engage with practice nurses forums and have effective communication with their professional organizations in order to overcome the professional isolation that many nurses suffer from in their independent general practices.

Greater political and professional support should be given to practice nurses, in order to improve their recruitment and retention, as well as, to attract new recruits of high calibre. At a practice level, retention or experienced nurses will save the practice the cost of training a new member of staff, maintain the team dynamic and ensure that services are delivered which best meet the needs of each practice's population; at a workforce level, this will facilitate the future development of primary care services able to deliver team-based care for the 21st century.

Appendices

Appendix 1: Ethics Approval

Primary Care Division

Gartnavel Royal Hospital
1055 Great Western Road
Glasgow G12 0XH
Tel: 0141 211 3600
www.nhsgg.org.uk

NHS
Greater Glasgow

Dr Catherine O'Donnell
Senior Lecturer in Primary Care R & D
University of Glasgow
General Practice & Primary Care
1 Horselethill Road
Glasgow
G12 9LX

Date 26 August 2005
Your Ref
Our Ref

Direct line 0141 211 3824
Fax 0141 211 3814
E-mail anne.mcmahon@gartnavel.gla.ac.uk
glacomen.scot.nhs.uk

Dear Dr O'Donnell

Full title of study: Skill mix in primary care: The developing role of practice nurses
REC reference number: 05/S0706/30

Thank you for your letter of 09 August 2005, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information was considered at the meeting of the Committee held on 25 August 2005. A list of the members who were present at the meeting is attached.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised. *However Committee request that practice codes are not used in the study and that all typos be corrected in all documentation e.g. letter to practice nurses*

The favourable opinion applies to the research sites listed on the attached form.


Conditions of approval

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

Approved documents

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

Document	Version	Date
Application		14 June 2005
Investigator CV		14 June 2005
Investigator CV	Supervisor	14 June 2005
Protocol		14 June 2005
Protocol	two	09 August 2005
Covering Letter	two	09 August 2005
Covering Letter		14 June 2005
Summary/Synopsis		14 June 2005



DI61181

Compensation Arrangements		14 June 2005
Interview Schedules/Topic Guides		14 June 2005
Letters of Invitation to Participants		14 June 2005
Participant Information Sheet		14 June 2005
Participant Information Sheet	two	09 August 2005
Participant Consent Form	two	09 August 2005
Participant Consent Form		14 June 2005
Response to Request for Further Information		09 August 2005
Other	Practice Nurse Survey	09 August 2005
Other	Letter to Practice Nurse	09 August 2005

Management approval

The study should not commence at any NHS site until the local Principal Investigator has obtained final management approval from the R&D Department for the relevant NHS care organisation.

Membership of the Committee

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

Notification of other bodies

The Committee Administrator will notify the research sponsor that the study has a favourable ethical opinion.

Statement of compliance

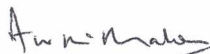
The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

05/S0706/30

Please quote this number on all correspondence

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

Yours sincerely



A W McMahon

Research Ethics Co-ordinator (Manager) on behalf of Dr Paul Fleming, Chair

Email: Anne.McMahon@gartnavel.gla.ac.uk

Enclosures:

Attendance at Committee meeting on 25 August 2005
Standard approval conditions
Site approval form (SF1)

NHS Greater Glasgow Primary Division(PCCD2 - GP)

LIST OF SITES WITH A FAVOURABLE ETHICAL OPINION

For all studies requiring site-specific assessment, this form is issued by the main REC to the Chief Investigator and sponsor with the favourable opinion letter and following subsequent notifications from site assessors. For issue 2 onwards, all sites with a favourable opinion are listed, adding the new sites approved.

REC reference number:	05/S0706/30	Issue number:	1	Date of issue:	26 August 2005
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Chief Investigator: Dr Catherine O'Donnell

Full title of study: Skill mix in primary care: The developing role of practice nurses

This study was given a favourable ethical opinion by NHS Greater Glasgow Primary Division(PCCD2 - GP) on 25 August 2005. The favourable opinion is extended to each of the sites listed below. The research may commence at each NHS site when management approval from the relevant NHS care organisation has been confirmed.

Principal Investigator	Post	Research site	Site assessor	Date of favourable opinion for this site	Notes (1)
Dr Catherine O'Donnell		N/A Site not specified in database.	NHS Greater Glasgow Primary Division(PCCD2 - GP)	26/08/2005	

Approved by the Chair on behalf of the REC:

..... (Signature of Chair/Administrator)
(delete as applicable)

..... (Name)

RESEARCH ETHICS COMMITTEE

Meeting held on: **25 August 2005**

Boardroom
Division Headquarters
Gartnavel Royal Hospital
1055 Gt Western Road
Glasgow
G12 0XH

Committee Members present:

PRESENT:	Dr Carol McKinnon (<i>In the Chair</i>)	- General Practitioner (Vice Chair)
	Dr Jacqueline Atkinson	Senior Lecturer – University of Glasgow
	Dr Phil Cotton	General Practitioner
	Mr John Leinster	Lay Member
	Dr Iain McColl	General Practitioner
	Ms Fiona Roberts	Senior Nurse
	Mrs Helen Ross	Lay Member
	Ms Elizabeth Telfer	Lay Member

Comments Received: Dr Jacqueline Atkinson

Research Protocol

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Appendix 2: PN questionnaire

PRACTICE NURSE SURVEY

PRIMARY CARE DIVISION – GGNHS BOARD

GENERAL PRACTICE & PRIMARY CARE – GLASGOW UNIVERSITY

Please tick in the boxes as appropriate:

- 1a) Are you: Full time
Part time
- 1b) Please indicate how many hours you are contracted to work per week
- 1c) In addition, do you regularly work additional (overtime) hours?
Yes No
- 1d) If yes; how many additional hours per week on average
- 2) What is your present job title? Please select one of the following:
- | | |
|--------------------------|--------------------------|
| <input type="checkbox"/> | Practice nurse |
| <input type="checkbox"/> | Senior Practice Nurse |
| <input type="checkbox"/> | Practice Nurse manager |
| <input type="checkbox"/> | Nurse Practitioner |
| <input type="checkbox"/> | Staff Nurse |
| <input type="checkbox"/> | Other Please state:..... |
- 3) Approximately how many patients are on the practice list?
- 4a) How many practice nurses do you have in the practice?
- 4b) Are the practice nurses, within your practice, employed as?
- | | |
|--------------------------|---------------------------------------|
| <input type="checkbox"/> | A structured team |
| <input type="checkbox"/> | A group of individuals with no leader |
| <input type="checkbox"/> | Not applicable |
- 5a) Is there a practice nurse leader within your practice?
Yes No
- 5b) If yes, is this seniority recognized by him/her being on a different staff grade?
Yes No Not applicable
- 5c) Do any of the practice's district nursing team hold treatment room sessions?
Yes No

About yourself:

6) What is your age? 20 – 29 50 – 59
 30 – 39 60 & above
 40 – 49 Declined to answer.

7) What is your current staff grade?
D F H Other
E G N/A

8a) How long have you been a practice nurse?
Less than 1 year
 Years

8b) How long have you been with your present practice?
Less than 1 year
 Years

9) What position did you hold before becoming a Practice Nurse?

10a) What qualification do you hold? (tick all that apply):
EN RGN/SRN SCM/SM
RMN DN HV
Nursing degree Practice nurse's certificate
Specialist Nurse in General Practice Masters degree
Other Please state:

10b) Do you think that your training and qualifications are used to the full in your current job? Yes No

11a) Initially, what was your main reason for choosing to become a practice nurse?
 The job, itself
 I saw it as a career
 The hours suited my commitments
 The autonomy
 Another Please state:.....

11b) Looking a head, would you envisage continuing to work as a practice nurse for the coming 5 years? Yes No

12a) Do you work in clinics with an appointment system

Yes No

12b) If yes, how many appointment slots do you have per day?

12c) How long, on average, are your appointment slots?
 Minutes

13) What is the scope of your work and training? Please use the following table:

	<i>Hours per week.</i>	Have you had any specialized training in this role?		Do you feel you need more training?	
		Yes	No	Yes	No
General					
Cervical cytology		Yes	No	Yes	No
Breast awareness		Yes	No	Yes	No
Family planning		Yes	No	Yes	No
Health promotion		Yes	No	Yes	No
Travel immunizations		Yes	No	Yes	No
Childhood immunizations		Yes	No	Yes	No
Men's health		Yes	No	Yes	No
Telephone triage		Yes	No	Yes	No
Treatment room sessions		Yes	No	Yes	No
Treating minor illnesses		Yes	No	Yes	No
Screening for new registrations		Yes	No	Yes	No
Clinical leadership & managing other staff		Yes	No	Yes	No
Assisting with minor surgery		Yes	No	Yes	No
Chronic Disease Management					
Diabetes		Yes	No	Yes	No
Asthma		Yes	No	Yes	No
COPD		Yes	No	Yes	No
CHD		Yes	No	Yes	No
Stroke		Yes	No	Yes	No
Others; Please state		Yes	No	Yes	No

- 14a) Are you involved in any aspect of audit? Yes No
- 14b) If yes, have you had training in audit?
 Yes Some training None at all
- 14c) Do you require training in audit? Yes No
- 14d) Are you involved in any aspect of Clinical Research?
 Yes No

- 15a) How are your holiday / other absences covered?
- | | |
|-------|-------------------------------------|
| | Colleagues increase hours to cover |
| | Your work commitments are cancelled |
| | GGNHS Practice Nurse Locum Service |
| Other | Please state:..... |

- 15b) Do you find the locum service satisfactory? Yes No
- 16) Do you undertake sessions with the GGNHS Practice Nurse Performers List (Locum List)? Yes No

Training issues:

- 17a) In the last 3 years, have you undertaken, or are currently undertaking, any recognized (e.g. with a certificate) courses relating to your practice nurse work? Please tick as appropriate from the following box:

	Course	Yes	No
1	Asthma		
2	Diabetes		
3	Epilepsy		
4	Marie Curie breast and cervical screening		
5	Family planning		
6	Triage		
7	Stroke		
8	Multiple Sclerosis		
9	COPD		
10	CHD		
11	Nurse Practitioner		
12	Nurse prescribing		
13	Other (please state)		

- 17b) I haven't done any courses in the last 3 years

18a) Do you regularly undertake nurse prescribing?

Yes No

18b) Do you have a nurse-prescribing certificate/qualification?

Yes No

18c) If the answer is no, does your work involve prescribing medications for your patients with back up from the GP?

Yes No

18d) Do you think that nurses should have an independent role in prescribing new medications for chronic diseases?

Yes No

18e) Do you think nurses should have an independent role in prescribing for an agreed list of conditions?

Yes No

19a) Do you have the opportunity for Continuing Professional Development (CPD) activities?

Yes No

If No why?

19b) What CPD you would like to see in place?

Training support

20a) How many study days did you have last year?

20b) Is it easy to attend study days?

Yes

20c) What inhibits you from attending study days?

<input type="checkbox"/>	Financial reasons
<input type="checkbox"/>	Getting time off work
<input type="checkbox"/>	The problem of travelling long distance to courses
<input type="checkbox"/>	Other Please state:.....

20d) Who decides what study days you attend?

<input type="checkbox"/>	GP
<input type="checkbox"/>	Practice Manager
<input type="checkbox"/>	Lead Practice nurse
<input type="checkbox"/>	Other Please state:

21) Training courses: please answer the related questions in the following box:

Training			
a. Your training time is / was: 1. Part of your normally paid working commitment? OR 2. Additional hours to your normally paid working commitment?	Yes	Some times	No
	Yes	Some times	No
b. Are your course fees paid for you	Yes	Some times	No

22a) Did you participate in any shared training / continuing education sessions with doctors in the last 6 months? Yes No

22b) If yes, the number of sessions

23a) Have you participated in regular training activities at your practice in the last 6 months?

<input type="checkbox"/>	With the nursing colleagues only.
<input type="checkbox"/>	With GP colleagues
<input type="checkbox"/>	With both GPs and practice nurses
<input type="checkbox"/>	No

23b) Do you have In-Service Continuing Training/Education activities at your practice? Yes No

23c) Any other comments about in service training

24a) Do you have a Personal Development Plan?

Yes No

24b) Have you had a formal appraisal in the last 3 years?

Yes No

N/A (e.g., too recently in post)

24c) If yes, who was it with?

<input type="checkbox"/>	Practice Manager
<input type="checkbox"/>	Lead Practice nurse
<input type="checkbox"/>	GP

24d) If yes, was it productive?

Yes A little No

25a) A lot of practices employ Health Care Support Workers (HCSW) for what could be described as 'practice nurse' duties. Does your practice employ any?

Yes No

25b) If yes, who are they?

<input type="checkbox"/>	Receptionist
Other	Please state: <input type="text"/>

25c) If yes, what do they do?

<input type="checkbox"/>	Phlebotomy
<input type="checkbox"/>	Blood Pressure
<input type="checkbox"/>	Height and Weight
<input type="checkbox"/>	Urinalysis
<input type="checkbox"/>	New Patient Medicals
Other	Please state: <input type="text"/>

25d) What sort of training has this member of staff had?

<input type="checkbox"/>	Glasgow Caledonian University course
<input type="checkbox"/>	Bradford Distance Learning course
<input type="checkbox"/>	In-house training only
<input type="checkbox"/>	Don't know

26a) Do you act as mentor for the Health Care Support Workers (HCSW)?

Yes No

26b) Have you had training in mentorship?

Yes No

Communication:

27a) Do you have access to someone with whom you could discuss for example:

A clinical / professional problem

Yes May be / Unsure No

Personnel type problem

Yes May be / Unsure No

27b) Do you ever feel isolated (or alone, lacking opportunities for clinical supervision) in your work situation?

Yes Sometimes No

28a) Do you have the opportunity to be part of clinical supervision sessions?

<input type="checkbox"/>	Yes, regularly
<input type="checkbox"/>	Sometimes
<input type="checkbox"/>	Rarely
<input type="checkbox"/>	Never

28b) If you do not take part in clinical supervision, why not?

29a) Are you aware of the Glasgow local practice nurse group?

Yes No

29b) Do you have the opportunity to attend it's meetings?

Yes Rarely Never

29c) Do you attend your LHCC practice nurse meetings?

Yes Rarely Never

29d) Do you find the LHCC practice nurse group meetings with the Practice Nurse Advisor advantageous? Yes No

29e) Comments

30a) What prevents you from attending practice nurse meetings in general?

<input type="checkbox"/>	Time constraints (e.g., clinics)
<input type="checkbox"/>	Location of meetings
<input type="checkbox"/>	Unaware – no information
<input type="checkbox"/>	Content of meetings doesn't appeal
Other	Please state

30b) If you don't attend due to the content of the practice nurse meetings, what would you like to see in the meetings that would encourage you to come?

31a) Do you receive information from the practice nurse advisor?
Yes Sometimes No

31b) Do you receive information from GGNHS Primary Care Division?
Yes Sometimes No

32a) Would you prefer information to come to you via:
Email Paper

32b) Do you have ready access at work to email?
Yes No

33) Any other comments re-support issues:

General:

34) Any general comments:

**Thank you for taking the time to complete this questionnaire.
You will receive feedback once all the data has been collated.
Gillian Halyburton, Practice Nurse Advisor, GGNHS Board.
General Practice & Primary Health Care Department, University of Glasgow.**

Appendix 3: PN survey information sheet

Dear Colleague

Re: Skill-mix in primary care: The developing role of practice nurses

We are interesting in finding out the current activities and training needs of practice nurses working in Greater Glasgow, as part of a larger PhD study into skill-mix in primary care and the developing role of practice nurses. This PhD is being conducted by Hussein Jabareen, a nursing colleague based at General Practice and Primary Care, University of Glasgow.

Enclosed is a questionnaire seeking your views on your current workload, training issues and needs and your links with other groups within Glasgow. This builds on a survey conducted last year by NHS Greater Glasgow Primary Care Division and is a collaboration between General Practice and Primary Care, University of Glasgow and Greater Glasgow Primary Care Division's Practice Nurse Advisor and Workforce Planning Project Manager. We would be very grateful if you could spend some time completing this questionnaire and return it to the University of Glasgow in the reply-paid envelope. We think it should take no more than 20 minutes to complete.

The questionnaire is being distributed to all practice nurses working within general practice by Gillian Halyburton, the Practice Nurse Advisor, on our behalf. We have no access to this mailing list at the university, so your responses will be anonymous.

Whether or not you decide to take part is entirely your choice. If you decide to take part, you should return the completed questionnaire. If you do return the questionnaire, we will assume that you are consenting to take part in the research. This is known as implied consent. A decision not to take part will not affect you in any way.

We do not think there will be any disadvantage or risk in taking part in this research. We anticipate that it will give you, as a practice nurse in Glasgow, an opportunity to inform both us and the Primary Care Division of the issues and training needs facing practice nurses today.

When the research is finished, it will be written up, as a report and fed back to the Greater Glasgow Primary Care Division Practice Nurse Advisor. A copy of the final report will be circulated to all participants.

If you would like to know more information about the study, please contact:

Gillian Halyburton
Practice Nurse Advisor
Primary Care Division
Gartnavel Royal Hospital
1055 Great Western Road
GLASGOW G12 OXH

Telephone: 0141 232 2066

Email: Gillian.halyburton@glacomen.scot.nhs.uk.

Alternatively, you can 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

Yours sincerely,

Hussein Jabareen, Gillian Halyburton, Dr. Kate O'Donnell, & Prof. Graham Watt

Many thanks for taking time to read this.

**General Practice & Primary Care
University of Glasgow**



Appendix 4: PN survey reminder letter

Dear Colleague,

Re: Skill-mix in primary care - The developing role of practice nurses

We would like to remind you of an ongoing study which is investigating the training needs of practice nurses working in Greater Glasgow. This study is a shared endeavour between University of Glasgow and NHS Greater Glasgow Primary Care Division.

We have sent you a similar questionnaire package three weeks ago, so if you have already responded, please ignore this questionnaire and we would like to thank you very much for your participation. If you have not, please refer to the enclosed cover-letter for further details. If you decide to participate, please complete the questionnaire and return it to the University of Glasgow in the reply-paid envelope.

Finally, we believe that participation in this research will give you as a practice nurse the opportunity to inform the development of your training needs.

Yours sincerely,

Hussein Jabareen
PhD Student

**General Practice & Primary Care
University of Glasgow**



Appendix 5: Interviews schedule

The order of the interview schedule was as follows:

(1) Demographic data and current role of practice nurses

- How long have you been working in general practice?
- How many appointment slots do you have per day?
- How long, on average, are your appointment slots?
- How many GPs/PN do you have at the practice?
- How many appointment slots you think they have per day?
- How long, on average, is their appointment slot?
- What are the main services that your practice provides?
- What are the current roles of the practice nurse?
- Do you think that any part of the current PN role involves work, which was previously carried out exclusively by doctors?

(2) Drivers for role change

- How do you think the change in the role of practice nurses came about? and why?
- What is the role of the following in driving the change in the role of practice nurses:
Policymakers / Demands in the practice / GPs / PNs

(3) Constraints of role change

- What are the main barriers to role enhancement of nurses in general practice?
- How might each of the following work against the development of practice nurses:
GPs / PNs / Resources / Rules and policies / Patients
- What are the worries that nurses have about their new roles?

(4) The impact of nurses' role change

- What is the impact of the change in the roles of practice nurses on:
GPs / PNs themselves
- How can this change affect the relationship between doctors and nurses?
- What is the impact of the change on patient health care?

(5) Current skill mix in the practice

- how did the doctor-nurse skill mix adjust as a result of the change in the role of the practice nurse?

E.g.

- role extension → substitution
- role expansion → supplementation
- role development → independence

- Similar to their roles in CDM, do you think it is possible for PN to succeed in managing the acute problems independently (*not the complex cases*)? like what??

E.g.:

- Upper resp. tract infection
- Depression & anxiety, Skin diseases, Neck & Back disorders.

(6) Future direction of role development

- What other tasks do you feel that nurses could take on?
 - Independent nurse prescribing
 - Nurse triaging.
 - Minor illness treatment.
- What are the career options for ambitious nurses?
- How will the role of practice nurse develop in the future?

(7) Support for role change

- What sort of support do you think PNs need in order to enhance their roles?
 - Inside & outside of the practice
 - E.g.:
 - Training
 - Flexibility / cooperation in the practice
 - Administrative / financial arrangements
 - Nursing professional organizations / PHC trust
 - Political support

Section eight: The new GMS contract

- What is the impact of the new GMS contract on doctor-nurse skill mix in general practice?
- How does the new contract affect the division of workload between the practice team?
- What are the professional / financial opportunities that have come with the new contract?
- How does the contract influence the relationship between clinicians in the practice?
- What is the impact of the new contract on patient care?

- Would you like to add anything that has not been discussed?

Appendix 6: Information sent to Potential Interviewees

Participant Information Sheet

Skill-mix in primary care: The developing role of practice nurses

We are interesting in exploring what health care professionals, in particular practice nurses and GPs, think about the current and evolving role of the practice nurse, what is driving these changes, and how these will impact on medical-nursing skill mix in general practice.

This information sheet tells you how you can help us, if you want to. Please ask us if there is anything that is not clear or if you would like more information.

What is this research about?

We would like to carry out a series of individual interviews, separately with GPs and practice nurses working in the same practice. The interviews will last no more than one hour and would be taped. Our intention is to explore the views and experience of skill mix in typical Glasgow general practices. In this way, we hope that the study will reflect reality on the ground, tuning in to positive and negative aspects of skill-mix, from both medical and nursing points of view. Neither individuals nor practices will be identifiable in output from the study.

We are very interested in hearing your views and experiences about the current and the developing role of practice nurses and the extent to which skill mix is being shared between practice nurses and GPs, to achieve that, we would like to ask you to take part in this study, participating in only one interview.

Why have we been chosen?

Your practice has been chosen because it fulfils the selection criteria for the interviews, based on the size of the practice and the type of practice population served. To explore the views of both medical and nursing professionals, we would like to interview one GP and one practice nurse from your practice.

What does it entail?

You will be interviewed once by the researcher on the project, as part of his PhD study at the University of Glasgow. The time and location of these interviews will be set to suit you. Interviews will be tape-recorded and later transcribed. This is only because we need an accurate record of the discussion. However, everything you say during the discussion will be confidential. No one, other than the research team, will listen to the tape. Interview transcripts will be anonymised, so that individuals cannot be linked to their responses. In writing up the work, we may use quotations from your interview. However, these will also be anonymised and you will not be personally identifiable.

Topics which will be covered during the interview will include the current role of practice nurses; future developments for that role; what factors are driving changes in the role of practice nurses; opportunities for shifting workload between GPs and practice nurses.

Whether or not you decide to take part is entirely your choice. Even if you initially decide to take part, you can change your mind at any time and withdraw.

When the research is finished, it will be written up, as a report and feedback will be discussed with Greater Glasgow Primary Care Division practice nurse advisor & workforce planning project manager. In those reports, we may use little bits of what you say (quotations). However, it will not be possible to identify you or any of the other people who took part in the research. A copy of the final report of the research will be circulated to all interviewees.

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. You don't need a stamp to post it. A member of the research team will contact you in 2 to 3 weeks time to tell you when the interview will take place.

If you would like to know more information about the study, please contact:

Dr Kate O'Donnell

Prof. Graham Watt

Email: Kate.O'Donnell@clinmed.gla.ac.uk 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

If you would like to talk to someone else first or if you ever have a complaint about this research, you can contact:

Gillian Halyburton

Email: Gillian.halyburton@glacomen.scot.nhs.uk.

Practice Nurse Advisor
Primary Care Division
Gartnavel Royal Hospital
1055 Great Western Road
GLASGOW G12 OXH
Telephone: 0141 232 2066

Many thanks for taking time to read this.

General Practice & Primary Care

University of Glasgow



Skill-mix in primary care: The developing role of practice nurses

Agreement to Participate

Confidential

Yes I think I would like to take part in this research.

Please contact me:

Name:	
Address:	
Telephone:	
E-mail:	
GP/Practice Nurse	

PLEASE RETURN IN PRE-PAID ENVELOPE: THANK YOU.

General Practice & Primary Care
University of Glasgow



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