Pharmacists in general medical practice:

a case study of clinical commissioning groups

by

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Dedicated to my wife and children for all their help, support and encouragement

Without continual growth and progress, such words as improvement, achievement, and success have no meaning.

Benjamin Franklin

Abstract

Pharmacists have been identified to address the increasing workload in United Kingdom (UK) general practice. A pilot has been commissioned by National Health Service England (NHSE) to upskill pharmacists for this purpose. Evaluation is underway and early reports indicate that there have been integration issues.

The value of pharmacists working in general practice and the level of training required for the role are not fully understood. The research reported in this thesis was started before the NHSE pilot. It was conducted to understand the background of Clinical Commissioning Group (CCG) practice pharmacists (PPs), and their interactions with stakeholders. The rationale was to provide an insight into their working relationships and to generate recommendations to support the integration of pharmacists into general practice. The project was conducted in four CCGs in the West Midlands in 2014 using an interpretive/collective case study approach incorporating mixed methods for data collection. Quantitative data was collected on the background, employment and activities of PPs. Qualitative data was collected on stakeholders' views of the CCG PP role from commissioners, general practitioners (GPs), and patients. Different commissioning models for PPs were studied to provide a deeper understanding of PPs' interactions. The workload problems in general practice subsequently modified the focus of this thesis to determine the value of PPs to general practice, the level of training required and to propose a model for the integration of pharmacists into UK general practice.

The thesis study identified some determinants of integration found in previously published studies but also discovered new areas specific to the integration of pharmacists into UK general practice. These areas can be grouped into three elements - the pharmacist's skills and attributes, practice level facilitation and national level support. They are presented as a unique *Model for the Successful Integration of Pharmacists into General Practice Teams*.

Publications and Presentations

Published abstracts

Saunders, R., Black, P. and Mills, E. (2015) What is the working relationship between practice pharmacists and general practitioners? Int J Pharm Pract 23 (Suppl.S2) 0070

Poster presentation

Saunders, R., Black, P. and Mills, E. (2014) What is the value of practice pharmacist activities? Life Long Learning in Practice Conference 2014, Florida University

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Abbreviations

ADR	Adverse Drug Reaction
BMA	British Medical Association
CCG	Clinical Commissioning Group
CDM	Chronic Disease Management
CPD	Continuing Professional Development
CPPE	Centre for Pharmacy Postgraduate Education
CSU	Commissioning Support Unit
CWR	Collaborative Working Relationship
DPharm	Professional Doctorate in Pharmacy
EO	Educational Outreach (Therapeutic Detailing)
ePACT	Electronic Prescribing Analyses and Cost
FHSA	Family Health Services Association
FPC	Family Practitioner Committee
FYFV	Five Year Forward View
GP	General Practitioner
GPhC	General Pharmaceutical Council
HCA	Health Care Assistant
HCP	Health Care Professional
HoMM	Head of Medicines Management
IP	Independent Pharmacist Prescriber
IPE	Inter-professional Education
LTC	Long Term Conditions
MPharm	Master of Pharmacy degree
MHRA	Medicines & Healthcare products Regulatory Agency

MR	Medication Review
MUR	Medicines Use Review
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NMP	Non-medical Prescribing
NPC	National Prescribing Centre
PCT	Primary Care Trust
PCG	Primary Care Group
PP	Practice Pharmacist
PTL	Provider Team Leader
QIPP	Quality Innovation Prevention & Productivity
QoF	Quality and Outcomes Framework
RCT	Randomised Controlled Trial
RCGP	Royal College of General Practitioners
SD	Standard Deviation
UK	United Kingdom
WTE	Whole Time Equivalent

Glossary

Chronic Disease Management	The management of patients with a disease that will require long-term treatment over many years e.g. Chronic Obstructive Pulmonary Disease or Diabetes.
Commodified	In this thesis, it refers to the transformation of medicines into commodities or objects of trade.
Deprofessionalisation	In the context of this thesis refers to the spread of knowledge to the public that challenges professional status.
ePACT	ePACT.net is an application which allows authorised users at Primary Care Organisations (PCOs) / Area Teams / Trusts and National users to electronically access prescription data.
Learning@Lunch	Clinically focused distance learning training provided by Centre for Pharmacy Postgraduate Education for pharmacists working in primary and secondary care.
Long-Term Condition	Patients with a disease that will require long-term treatment over many years e.g. Chronic Obstructive Pulmonary Disease or Diabetes.
Medicines Optimisation	A patient-focused approach to getting the best from investment in and use of medicines.
Pharmaceutical Care	The responsible provision of drug therapy to achieving definite outcomes that improve a patient's quality of life.

Polypharmacy	Patients taking multiple, five or more, different medications.
Portfolio working	Having an income stream from more than one sector of the pharmacy profession.
Professional respondents	For the purposes of this thesis, these are the GPs, HoMMs and pharmacist respondents.
Reprofessionalisation	In the context of this thesis it is the response to deskilling of the pharmacy profession by redefining the pharmacists' role.

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I hope that this research reinforces the value of pharmacists working in general medical practice and the wider National Health Service.

Preface

This thesis comprises nine chapters. Chapter one introduces the thesis project and describes the current situation in primary care and how this has stimulated interest in the development of more pharmacists to work closely with general practitioners. This overview is followed by a brief description and analysis of the National Health Service England (NHSE) initiative to train and part-fund pharmacists to work in general practice and indicates some of the remaining issues with this initiative that will be addressed in this thesis project. The Chapter includes a working definition of the term Practice Pharmacist (PP) and concludes with a review of the literature relevant to the research project.

Chapter two begins with my background and experience and describes how and why I became a PP and my initial investigations into the role. This is followed by a summary of the Initial Study that I undertook to support my DPharm research and to begin to understand some of the questions I had about the PP's role within Clinical Commissioning Groups (CCG) after the 2013 changes. The chapter concludes with the derivation of my thesis research questions and the relevance of these to current developments and the necessity for scientific investigation.

Chapter three begins with a reminder of the project aims and research questions followed by a detailed description of the methods chosen to carry out the thesis project including how the data was analysed. This is followed by an outline of my perspective, the methodological approach and a discussion of the methods chosen and why others were rejected. The chapter concludes with a statement of the ethical approval obtained before the project commenced.

Chapter four begins by describing the selection of the four thesis project CCGs. It goes on to introduce the case study project teams by respondent group and describes who they were. Descriptive data is reported for all the respondent groups, but in the case of the PPs this is

more detailed and includes their professional background, levels of education and employment status within the CCG. Qualitative data is also included on the reasons why pharmacists take on the PP role and why some maintain a portfolio career. This overview of the PP participants, within the case CCGs, will indicate if they are typical of primary care pharmacists studied elsewhere.

Chapter five describes the effects of the NHS change from the point of view of the stakeholders as Primary Care Trusts (PCTs) transitioned to CCGs in 2013. It begins by outlining why the PP Teams could no longer be directly employed by the CCGs and then goes on to describe the structure and commissioned functions of the CCG PP teams and how these functions were perceived by the stakeholders. There follows a brief discussion on how the PP role was assessed by the commissioners and the stakeholders' views on the work plans agreed by the commissioners. The chapter continues with the effects of the transition on the relationships between the professional stakeholders, how the PP role changed and concludes with a discussion on the current training of PPs.

Chapter six begins with the importance of the PP role, including the value of PP prescribing, from the stakeholders' point of view. The stakeholders' aspirations for the future of the pharmacist's role within general practice are then described. The Chapter continues by defining the drivers for the integration of pharmacists into primary care that have been identified during the thesis project and draws attention to some remaining perceived obstacles.

Chapter seven discusses the results of the thesis project related to the research questions. It includes the background of the PPs, their attributes and the effects of the 2013 NHS changes on them and their teams. The stakeholder perceptions of the PP role are discussed, including the value of the PP including pharmacist prescribing. These perceptions are followed by a discussion about the future of the role PP role and the opportunities and

perceived barriers. The chapter concludes by discussing the transferability and limitations of the thesis study.

Chapter eight summarises the thesis study results related to integration and postulates a ***Model for the Successful Integration of Pharmacists into General Practice Teams*** based on my findings from the Initial Study and the thesis project. I present a unique model, the elements of which may be generalisable to facilitate the integration of clinical pharmacists into general practice in a UK setting.

Chapter nine, the Conclusion, summarises the background to the thesis project, and the similarities with other studies. This summary is followed by a brief description of the Model for the Successful Integration of Pharmacists into General Practice Teams and how it might benefit integration in the NHSE Pilot and elsewhere in the UK. The chapter continues by describing the implementation of the Model and ends with recommendations for further research.

Chapter 1: Introduction and Review of the Literature

Currently, there is a workforce crisis in primary care that has come about because of inadequate workforce planning and increasing workload (Dayan *et al*., 2014). This situation has coincided with increasing numbers of registered pharmacists in the workplace (Centre for Workforce Intelligence, 2013) creating one obvious solution. The professional bodies for Medicine and Pharmacy have promoted the use of pharmacists to fill some of the gaps in the primary care workforce (RCGP and RPS, 2015). This is supported by existing research into the role of pharmacists in general practice, and by the activities of PPs that been working in general practitioner (GP) surgeries since the 1990s (Blenkinsopp *et al*., 2001). Nevertheless, there are concerns that the value of pharmacists working in general practice and the level of training they required still needs to be defined (NHS Alliance and Royal Pharmaceutical Society, 2014). The Government, via NHSE, has promised a substantial sum of money, £143 million by 2020 (NHS England, 2016a), to increase the numbers of pharmacists working closely with GPs, and has set up a National Training Pathway (Centre for Pharmacy Postgraduate Education, 2016). The initial funding was to train, and part-fund the salaries of, 250 more pharmacists to work in GP practices in pilot sites in England (NHS England, 2015a). A further two waves have been authorized with the intention to have a further 1500 pharmacists in general practices by 2010.

There are several outstanding issues, besides the level of training and the value of pharmacists in general practice being unclear. The second wave of pilot sites have been recruited (NHS England, 2017) before formal evaluation of the pilot due in February 2018. It is unknown if the pilot is fit for purpose or addresses the issues around training and subsequent value. The National Training Pathway may be incomplete in the area of critical practical and human issues that arise when new individuals join established teams, although Primary Care Commissioning (PCC) are supporting pilot practices to embed pharmacists into their teams (Primary Care Commissioning, 2016). Nationally, there is some urgency to recruit

pharmacists to GP practices. The demand for the pilot has been high and places limited, and there is evidence that some GP practices have hired inexperienced pharmacists outside the pilot (Mills, 2016) where the processes for recruiting are unclear. In addition, the Government plans to improve GP recruitment and retention (NHS England, 2016a), potentially filling the workforce gap in the future, questioning the long-term future of pharmacists working with GPs.

The research reported in this thesis addresses these important issues by identifying the value of pharmacists to stakeholders and the level of training that pharmacists need to work in general practice. Also, a model for the integration of pharmacists into existing teams will be promulgated along with some of the long-term roles that pharmacists are specifically suited to undertake now and in the future. There is a lot at stake for patients, the credibility of primary care, the pharmacy profession and the Government, including the substantial human and financial investment in this pilot.

The origins of pharmacists working closely with GPs in primary care goes back to the introduction of fundholding in 1991 that created an internal market (Wilkin, 2002), and provided financial incentives for cost-effective purchasing and drug use (Shortt, 2003). Pharmacists were utilised by a small number of Health Authorities in the early 1990s (Blenkinsopp *et al*., 2001) to help realise savings from improved prescribing. The role developed quickly, and by 1994 at least one practice employed a pharmacist full-time, in a non–dispensing role, and had already given the pharmacist a wider remit beyond cost control (Wells, 1997). By 2005, 8.2% of registered pharmacists were working a proportion of their time in primary care (Seston and Hassell, 2009), but numbers appear to have subsequently fallen (Phelps *et al*., 2014). It is likely the numbers of pharmacists working in primary care will now begin to rise again.

Pharmacists that work closely with GPs have been defined as Primary Care Pharmacists (Marinker M and Reilly P, 1994, p.107). In 2000, the National Prescribing Centre (NPC)

further described their mode of working as *"pharmacists working either full-time, part-time, or on a sessional basis for PCTs, Primary care Groups (PCGs) or GP practices"* (National Prescribing Centre and NHS Executive, 2000, p. 2). Blenkinsopp *et al*. (2001), p. 684 further defined the role as *"a pharmacist who works with primary care physicians and patients to enhance the quality of prescribing and use of medicines, and to contribute to resource management of medicines"*. Mullen (2003) differentiated between pharmacists that work for NHS Authorities and those that work wholly or part of their time in GP practices, calling the latter Practice Pharmacists. For this thesis, a PP is defined as "*a pharmacist, that is dedicated wholly or part of their time, to working in a GP practice with practice staff and patients to ensure the safe and effective use of medicines."*

This thesis project investigated the role and relationships of West Midlands pharmacists, that were commissioned by four CCGs to work in primary care, after the NHS changes in 2013. The implementation of the Health and Social Care Act 2012 radically changed NHS structures in primary care including the abolition of PCTs and the creation of CCGs (NHS England, 2015b). The project PPs were previously employed in established teams commissioned by PCTs, but it was unclear how these pharmacists fared during this restructuring and how their work and relationships with stakeholders were affected. Determining changes in these relationships formed the original basis for this thesis.

The 2013 NHS changes were identified as an "*instance*" (Bell, 2010, p. 8) prompting a change in how the PP teams were commissioned and potentially creating new ways of working and an interruption in the PP and stakeholder relationships. I identified an opportunity to examine this change, and its effects on PP relationships, in a case study as a result of the pre-project questionnaire where several models of commissioning of PP teams were outlined. An interpretive/collective case study approach was appropriate because the PPs worked in discreet groups and their relationships could be examined in the context of each of the commissioning models to provide a deeper understanding of their interactions.

A mixed methods approach was adopted with a descriptive survey to establish the background, levels of postgraduate education, and employment status of the CCG commissioned pharmacists, thereby providing quantitative data for comparison and analysis. Qualitative semi-structured interviews with commissioners, general practitioners (GPs) and patients, and focus groups with CCG commissioned pharmacists, were used to ascertain the working relationships with stakeholders. The qualitative data sets were analysed using the principles of grounded theory.

The literature review that follows details and analyses the evidence relevant to the thesis project reported here and how this evidence relates to and supports the project research questions. Each section begins with a brief explanation of why this literature is relevant.

1.1 National Health Service organisational change

It is important to understand the background to previous and current iterations of the NHS as they form the backdrop to the project, and more significantly the genesis of the PP role and its subsequent development over the last twenty years. Analysis of the literature also explains why the commissioning of PP teams had to change from 2013 onwards.

1.1.1 General practice fundholding

The last twenty-five years have seen unprecedented changes in the structure of the NHS and particularly primary care, although it has been said by some that the NHS has been in a continuous state of reorganisation since 1974 (Socialist Health Association, 2015). The National Health Service Reorganisation Act 1973 established Regional and Area Health Authorities and Family Practitioner Committees (FPC) ("National Health Service Reorganisation Act, 1973). The latter replaced Local Executive Councils and took over the management of primary care. The FPCs were themselves replaced by Family Health Services Authorities (FHSA) as a result of the National Health Service and Community Care Act 1990 ("National Health Service and Community Care Act," 1990), after which the

government introduced a range of National Health Service (NHS) reforms in April 1991 (Kay, 2001). These reforms were radical, and changes were made to the GP contract (Wilkin, 2002), and for the first time the British Medical Association (BMA) and the Royal Colleges were not part of the review group developing the policy and as such the medical profession was excluded from medical policy making (Kay, 2001).

A major factor in these reforms was the introduction of the internal market into healthcare including fundholding (Petchey, 1995; Kay, 2001; Wilkin, 2002; Shortt, 2003; Smith *et al*., 2010.). This separated the purchasing (commissioning), and provider functions (Kay, 2001; Wilkin, 2002). The principal idea behind fundholding was to improve incentives for local hospitals and to encourage GPs to control costs. Fundholding was based on a model of healthcare suggested by two academics Professor Alain Enthoven of Stanford University Business School and Professor Alan Maynard from the University of York (Kay, 2001). Fundholding was driven by the new purchasing power of GPs, allowing them to stimulate innovation in services (Kay, 2002). The reforms and expected outcomes were not supported by any evidence for effectiveness (Petchey, 1995: Kay, 2001), and were opposed by both the BMA and by the parliamentary opposition party, the latter proposing to abolish the scheme if they were elected (Kay, 2001). The government decided against any evaluation or piloting of the scheme as they were, arguably, afraid of any criticism (Kay, 2001, 2002).

Nevertheless, the Public Accounts Committee and some academics did produce reports on the effects of fundholding. They suggested that fundholding practices did improve access to services, improved the range of available services and reduced waiting times (Kay, 2002). Other benefits were in reduced prescribing costs, at least in the short-term, and providers that were more responsive to their patients need for services (Coulter, 1995). Negative issues raised were an increase in administrative costs, a concern that benefits were at the expense of non-fundholding practices and that some evaluations were inconclusive (Kay, 2001, 2002; Wilkin, 2002; Shortt, 2003;). These issues were partly due to the selection criteria for fundholding practices that tended to attract innovative and well-organised

practices with affluent patients, rather than inner city practices with more deprived patients (Petchey, 1995; Kay, 2001, 2002; Wilkin, 2002).

This era is significant because Pharmaceutical and Medical Advisers were appointed to FHSAs (Walley, 1993) and in the early 1990s the first pharmacists were introduced into GP practices to provide advice on medicines and prescribing (Blenkinsopp *et al*., 2001). Initially, this was in an attempt to assist GPs in saving money (Britten, 2001), but the role developed more widely into medicines education, efficacy, and safety (Wells, 1997; National Prescribing Centre and NHS Executive, 1998; Fish *et al*., 2002). By 1996, PP numbers were increasing with support from Pharmaceutical Advisers and funding from prescribing budgets, with some thirty Health Authorities supporting PP schemes (Blenkinsopp *et al*., 2001).

1.1.2 Primary Care Organisations

In 1997 the Labour party was elected to government and suspended entry into the fundholding scheme (Kay, 2001, 2002). The abolition of fundholding, however, did allow the adoption of any aspects of fundholding that were beneficial, but the lack of good evidence and evaluation meant that these were unclear (Kay, 2001). The new government published The New NHS: *modern. dependable* in 1997 (Department of Health, 1997), and established PCGs throughout England in 1999 (Smith *et al*., 2000; Bindman *et al*., 2001; Bojke *et al*., 2001; Britten, 2001; Kay, 2001, 2002; Wilkin, 2002). While legislation was going through Parliament, forty GP commissioning pilots were initiated in 1998 to trial some aspects of the PCGs and to provide some evaluation (Smith *et al*., 2000).

The aims of PCGs included developing primary care and community health services, improving the quality of care in the NHS, and taking responsibility for commissioning services for their population; in short developing primary care-led health delivery (Bindman *et al*., 2001; Bojke *et al*., 2001). The PCGs also had the responsibility to improve the quality of care given by primary care health professionals via clinical governance (Bindman *et al*., 2001; Wilkin, 2002). While fundholding was voluntary, all GP practices had to belong to a PCG

within the coterminous health authority and local authority boundary (Bindman *et al*., 2001), so GPs had to be involved in the organisation (Smith *et al*., 2000).

Other early goals for the PCGs included, building structure and process and multidisciplinary team working to manage local services (Smith *et al*., 2000; Wilkin, 2002), resolving IT system incompatibilities (Smith *et al*., 2000; Bindman *et al., 2001)* and financial management (Smith *et al*., 2000; Bindman *et al*., 2001; Britten, 2001; Kay, 2001, 2002; Wilkin, 2002). Financial management involved managing the budget for hospital and community services (Smith *et al*., 2000; Britten, 2001; Kay, 2001; Wilkin, 2002), indicative budgets for all practices (Smith *et al*., 2000; Kay, 2001; Bojke *et al*., 2001; Bindman *et al*., 2001; Kay, 2002) and controlling prescribing costs (Smith *et al.*, 2000; Britten, 2001; Kay, 2001). Prescribing costs were seen as a major risk and, in response, PCGs were recruiting pharmaceutical advisers over medical advisers (Britten, 2001) with the numbers of pharmacists reporting that they worked in primary care rising from 6% in 2002 to 8% in 2003 (Hassell *et al*., 2004).

The NHS Plan 2000 (Department of Health, 2000) indicated the government's intention that by April 2004, all PCGs would become PCTs and also the joining of PCTs with health and social care to form Care Trusts. The plan also called for the expansion of Personal Medical Services contracts as an alternative to the standard General Medical Services contract and the expansion of the numbers of salaried GPs. There were also changes in the GP relationship with the NHS during the following years. The practice or firm held the contract instead of the GP and by March 2007 about thirty companies had contracts; medical services could be commissioned from any capable provider, so effectively GPs lost control of services (Pollock *et al*., 2007). GPs became responsible for standards across the PCT instead of just for their practice (Wilkin, 2002).

Soon after PCTs were created concerns were raised regarding their commissioning abilities (Smith and Mays, 2005), effectiveness, capacity to negotiate with acute trusts and to manage

public health. There was a dilemma, whereby, smaller PCTs lacked negotiating powers and larger PCTs would find clinician engagement more difficult (Walshe *et al*., 2004). All PCTs had limited autonomy and weaker clinical leadership than the NHS Trusts (e.g. hospitals), with whom they had to negotiate (Smith *et al*., 2010) and it was not long before Strategic Health Authorities effectively "clustered" some PCTs together (Walshe *et al*., 2004). These mergers reduced PCTs to around 100-150, the same number of health authorities that they replaced, despite no evidence of benefit in doing this.

While GP Principles and Partners with ownership of the general practice business appeared to lose both autonomy and the right to practice in a "closed shop" environment, the new organisations effectively expanded the opportunities for healthcare professionals to enhance their roles and to work as part of the larger organisation (Wilkin, 2002). For pharmacists, this was facilitated by the PCGs, and PCTs commissioning PPs, to deliver a provider function. This created a dilemma because policy dictated that commissioning should be separated from any provider provision (Smith *et al*., 2010). However, PCTs did commission pharmacists to work in their GP practices.

1.1.3 Clinical Commissioning Groups

The election of the coalition government in 2010 brought with it promises to reduce bureaucracy, strengthen monitoring, secure health funding and to end top-down NHS reorganisations (Travis, 2010). The new Secretary of State for Health had spent six years in opposition preparing for the reorganisation, with access to the evidence that government NHS reorganisations were poorly managed, with limited benefits and an adverse effect on performance (Walshe, 2010). Despite this and including the promise to end top-down reorganisations, the plans went ahead. There was a brief "pause" in April 2011 for further consultation and some changes (Gerada, 2013), but shadow CCGs signed up as Pathfinders and began to consider how they would function (Checkland *et al*., 2013*)*. The wide-reaching reforms abolished Regional Strategic Health Authorities and PCTs, transferred

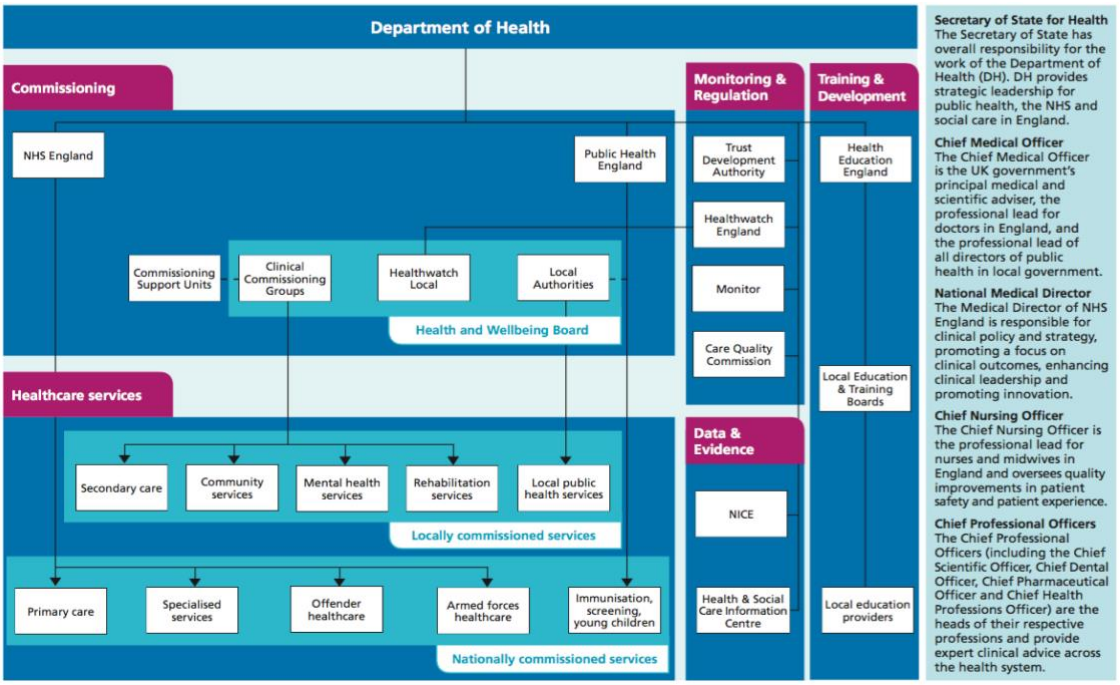
commissioning responsibilities to GPs and moved Public Health to Local Authorities. It also created Public Health England and the National Commissioning Board (NHS England) and established Local Authority-based Health and Wellbeing Boards (Checkland *et al*., 2013). The former National Prescribing Centre was also absorbed into NICE (National Institute for Health and Care Excellence, 2011), resulting in a significant reduction in training opportunities for PPs that will be discussed later in this thesis.

During the period between the election and April 2013, there was much uncertainty amongst PCT staff with many experienced managers aware of the likelihood of cuts in the numbers of personnel. Some with transferrable skills left the NHS and others retired as predicted by Ham (2012), thereby compromising organisational memory. The CCGs had much smaller staff allocations and were encouraged to use the services of the newly formed Commissioning Support Units (CSU) to aid their workload. There was a lack of constraints on how CCGs were structured that led to a difference in size, structure and GP involvement in the new organisations (Checkland *et al*., 2016).

Figure 1.1 shows the structure of the NHS after 2013 and shows CCGs as commissioning organisations (NHS England, 2014a). This restriction presented a problem for CCGs who wanted to retain PPs teams when these were essentially a provider service.

Figure 1.1 The NHS in 2013 (Source: NHS England, June 2014)

Permission to reproduce this figure is shown in Appendix 1.1



1.2 The Pharmacy profession and pharmacists

The status of the Pharmacy profession and pharmacists are important as dissatisfaction is a potential catalyst for change. The profession has had to come to terms with changes in its core role, and the corporatisation and increasing business focus of its largest sector, community pharmacy. The way that pharmacists perceive their position in healthcare, their traits and the way that they use their knowledge and skills are significant to their future development if they are to progress to more clinical roles.

1.2.1 Dissatisfaction with the hospital pharmacist role

A study of hospital pharmacists in 2001 showed that senior grades were more likely to be satisfied with their salaries than more junior grades, but senior grades are more likely to perceive their workload and hours as being excessive (Rajah *et al*., 2001). Hospital pharmacists reported less stress than their community pharmacist counterparts but agreed on the top three most stressing situations, namely interruptions, excessive and or increasing

workloads and insufficient staff (McCann *et al*., 2009a). Other factors that repeatedly led to job dissatisfaction for hospital pharmacists included poor relationships with line managers, a lack of career progression and a lack of trust between management and staff (Ferguson *et al*., 2011). A lack of autonomy was identified in lower grades of hospital pharmacists as well as dissatisfaction with both duties and salary, as contributing factors to job dissatisfaction; it is not known if these are interrelated, but junior grades would naturally receive more supervision and lower wages (Rajah *et al*., 2001). Historically hospital pharmacists are more likely to be satisfied with their careers than community pharmacists (Boardman *et al*. 2001).

1.2.2 Dissatisfaction with the community pharmacy role

Despite agreement with hospital pharmacists on some factors that induce stress, stress factors in community pharmacy were found to be higher (McCann et al., 2009a). Reasons for this have included role extension due to the New Pharmacy Contract in 2005, failure to use skill mix to release pharmacists from the dispensing role, increasing demand for pharmaceutical services from an ageing population, technological advances and increasing prescription numbers (Gidman, 2011).

In 2001, a study of recently qualified, largely community pharmacists, identified that their role was not sufficiently demanding. In the same study, two main themes for leaving the profession were internal factors, for example, professional satisfaction, self-image, and external factors-such as working conditions and career structures (Boardman *et al*., 2001).

One possible reason for community pharmacists being more dissatisfied than hospital pharmacists is that they have less flexibility in the way that they work. Within community pharmacy, the level of autonomy is related to the status of the pharmacist, with pharmacy owners having more autonomy (Harding and Taylor, 1997) and reporting higher levels of satisfaction than employees (Boardman *et al*., 2001). The growth of multiple (chain) pharmacies (Bush *et al*., 2009) in a regulated market, has increased the proportion of employee pharmacists, decreasing overall autonomy and satisfaction.

Community pharmacy has been described as a target driven environment with pressure to undertake Medicines Use Reviews (MURs), sometimes with unrealistic expectations and insufficient numbers of staff (Eden *et al*., 2009). A study of community pharmacists in Northern Ireland identified some other issues relating to pharmacists' stress, including inadequately trained staff, interruptions interfering with workflow, lack of breaks, open plan dispensaries, professional isolation, new services and demands of the public (McCann *et al., 2009b)*. Public expectation regarding the time taken to dispense prescriptions and dealing with customer complaints were a source of stress, but positive interactions with the public were a source of job satisfaction.

The new contractual framework for community pharmacy, introduced in 2005 (Bradley et al., 2008) has not altered the fact that community pharmacists continue to spend the majority of their time on activities related to dispensing. Eden *et al.* (2009) postulated that the routine and intensive nature of this work was a cause for resentment and has had a resultant negative effect on job satisfaction and frustration at the lack of opportunity to use clinical skills. Community pharmacy has to manage healthcare policy in a business environment, and it has been suggested by Jacobs *et al.* (2011) that dispensing takes precedence over patient outcomes. Prescription numbers have continued to increase and there is an incomplete understanding of how pharmacists cope with the increasing dispensing pressures and the new services (Hassell *et al*., 2011). A systematic review in 2012 (Lea *et al*., 2012) concluded that community pharmacists have some difficulty with work-life balance due to increasing workloads leading to increasing stress levels. This has resulted in community pharmacists working longer hours to meet job demands. More recently, Davies *et al.* (2014) confirmed that community pharmacists spent about 25% of their time in activities related to dispensing, 10% of their time on clinical checking of prescriptions and only 3.2% on pharmaceutical services. The community pharmacist's role remains dominated by dispensing and checking prescriptions, with a high workload and a lack of adequate breaks and trained staff. Individuals' dissatisfaction with work has long been associated with stress and anxiety

and can affect decisions about leaving a job (Seston *et al*., 2009), and may affect the ability to practise safely and effectively (McCann *et al*., 2009b).

1.2.3 Drivers for pharmacists to become Practice Pharmacists and to maintain a portfolio role.

Blenkinsopp *et al.* (2001) found that the PP role used pharmacists' skills appropriately and that those interested in the role wanted to work more closely with other healthcare professional (HCPs). Mullen *et al.* (2005) found that PPs with a community pharmacy background took on the role because they wanted to use their knowledge and have more interesting work. Flexible working has been identified in the literature as an advantage of the PP role and of working as a locum (Mullen *et al*., 2005; Shann and Hassell, 2006). Blenkinsopp *et al.* (2001) suggested that there are cross-sector benefits to community pharmacy where PPs continue to work in both sectors as part of a portfolio career.

1.2.4 Part-time working

Part-time working, within the profession, had remained static at 32.5% in 2003, and 33.3% in 2008 while the proportion in primary care had risen from 36% in 2005 to 39.5% in 2008 (Hassell *et al*., 2004; Seston and Hassell, 2009). The proportion of pharmacists working part-time in the latest survey was 27% for pharmacists overall and 42% for pharmacists working in a primary care setting (Phelps *et al*., 2014). In the profession as a whole more female than male pharmacists work part-time (Blenkinsopp *et al*., 1999; Hassell, 2000; Hassell *et al*., 2004, 2006; Seston and Hassell, 2009). In 2016 Mills found that 56.3% of the PPs studied worked full-time in the role [personal communication from author]. This compares favourably with the 2013 survey where 58% of PPs worked ≥30 hours a week in the PP role (Phelps *et al*., 2014).

1.2.5 Pharmacy workforce issues

Historically, there has been a shortage of available pharmacists (Hassell *et al*., 2004) leading to recruitment issues in both hospital and community pharmacy. Demand has outstripped supply and from the early 1990s practice pharmacy was added as an additional career option (Blenkinsopp *et al*., 2001, 1999, Boardman *et al*., 2001, 2000; Hassell, 2000; Mullen *et al*., 2005). Overall, pharmacists could, therefore, demand higher remuneration (Blenkinsopp *et al*., 1999), have more career choices and the flexibility to work where and when they liked (Shann and Hassell, 2006). Some believe that there is now an oversupply of pharmacists (Wright, 2013). An oversupply is likely to have a negative effect on all pharmacists related to income as remuneration, particularly in community pharmacy, is thought to be sensitive to the supply and demand of pharmacists (Smith and Sukkar, 2014). The latest plans to employ more pharmacists in GP practices are predicated on the increasing availability of the pharmacy workforce (NHS Alliance and Royal Pharmaceutical Society, 2014).

1.2.6 Pharmacy as a profession

There are theories as to what constitutes a profession dating back to the 1940s (Traulsen and Bissell, 2004). A profession is a special kind of occupation and has been described as having some traits that include specialised training and education, formal examination of its members and a service based on altruism rather than just profit. The professional service is linked to and supports the maintenance of the social system (Harding and Taylor, 1997). Professionals support the social system by putting service before self-interest and by applying scientific and rational knowledge to individual cases based on an objective view of illness. In this way, professionals maintain their authority to exercise their function and determine the relationship between the patient and the professional (Harding and Taylor, 1997; Traulsen and Bissell, 2004). These traits confer professional authority over the patient and establish confidentiality in the interaction (Traulsen and Bissell, 2004). The definition of a profession has been further expanded to include additional common characteristics such as a shared ideology, a binding ethic, a unique body of knowledge, a set of technical skills, a

guild of those entitled to practice with licensure or certification and a recognised setting for practice (Agomo, 2012).

The business focus of community pharmacy has been considered in the literature in the context of the potential conflict of interest and a barrier to inter-professional working (Hughes and McCann, 2003; Bereznicki *et al*., 2011; Rubio-Valera *et al*., 2012). The commercial interests of community pharmacy can be viewed as unprofessional because they may conflict with the trait of putting service ahead of self-interest (Traulsen and Bissell, 2004).

According to Harding and Taylor (1997), the social object of pharmacy has changed from compounding to the symbolic act of transformation, namely dispensing. Traditionally pharmacy was science-based with an emphasis on technical skills; however, of the technical skills, only dispensing remains since raw drug procurement, storage and compounding have largely been taken over by the pharmaceutical industry (Edmunds and Calnan, 2001; Traulsen and Bissell, 2004). It has been argued that doctors maintain control of medicines as a social object (Traulsen and Bissell, 2004) and that this reinforces the distinction between doctors as autonomous prescribers, and pharmacists as dispensers, supporting a differential status (McDonald *et al*., 2010). Harding and Taylor (1997) pointed out that Medicine has also potentially lost some control of medicines as a social object as pharmacists have become more involved in the production of formularies. Non-medical prescribing might also constitute a further loss of medicines control and challenge medical control (Weiss and Sutton, 2009).

Waterfield (2010) has suggested that community pharmacists use more technical knowledge than judgment and that this leads to low expectation from the public. If pharmacists used more judgment, indeterminate knowledge, than technical knowledge, and moved away from dispensing towards “know how” then this may improve the public perception of community pharmacy. There is also a public image of community pharmacists as shopkeepers. This “shopkeeper image” is a recurring theme in the literature from the UK (Chen and Britten,

2000; Rutter *et al*., 2000; Agomo, 2012; Elvey *et al., 2013),* Northern Ireland (Hughes and McCann, 2003), The Republic of Ireland (Grimes et al., 2009), Canada (Motulsky *et al*., 2008), Australia (Tan *et al*., 2014a), and New Zealand (Bryant *et al*., 2010).

If some pharmacists' altruism is in dispute and they no longer need their technical skills, then their professionalism relies on their training and knowledge. Pharmacists undergo unique training and examination that is different from any other HCP. Nevertheless, there is confusion in the minds of the public and other HCPs as to the role of the pharmacist in the modern NHS. According to Waterfield (2010), one of the key challenges for the Pharmacy profession today is to demonstrate the benefit of pharmacists using their knowledge in primary care. Waterfield (2010) also identified two key ideas associated with knowledge and professionalism; the inaccessible nature of professional work without appropriate training, and that the knowledge related to a profession cannot be standardised, rationalized or commodified. Waterfield (2010) went on to argue that dispensing and checking are technical tasks that can be undertaken by trained technicians and that the only part of the process that needs a pharmacist is the clinical check.

Differentiating between information and knowledge is important. Information is detailed specifics, for example, facts, figures and data, whereas knowledge requires the complex assimilation, cross-referencing and analysis of different types of information (Waterfield, 2010). In the modern world, information is freely available, but information only becomes knowledge when it is assimilated, analysed and cross-referenced. The use of knowledge is a key professional attribute.

1.2.7 Pharmacists' self-perceptions

A few studies have looked at the way pharmacists see themselves. Social groupings of Danish pharmacists, influential in the development of the role of the community pharmacist, were studied in 2001(Nørgaard *et al*., 2001). More recently Elvey *et al.* (2013) studied the

perceptions of UK community, hospital and primary care pharmacists, and Salim and Elgizoli (2016) interviewed community pharmacists in Sudan. These studies were undertaken in different countries, health care systems and at different times, but similar identities were described.

The Danish study identified pharmacists as technical drug experts providing traditional dispensing and standardised advice on how to take medicines, and as drug experts co-operating with other HCPs without personally assessing individual patients. Also, the study identified a leadership and training role and responsibility for providing tailored information for individual patients.

The UK qualitative study involving forty-three community, hospital and primary care pharmacists identified an additional six identities and acknowledged the need for pharmacists to have good social and communication skills. Additional roles identified included “the scientist”, acknowledging the training and background of pharmacists, “the social carer”, communication and relationship building with patients. Two other roles identified were “being a manager” and “business person”, although these were related to a community pharmacy background. The “medicines maker” was another role that was nostalgically viewed as an historical activity. There was also a perception that pharmacists were “unremarkable characters” due the hidden nature of their work, and a lack of recognition. The authors suggested that pharmacists do not appear to have regained as clear or strong identity as that of a traditional medicines maker, although the scientist was the strongest of the identities to emerge. The study undertaken in the Sudan identified similar themes but included “a monitor of medicines”, health promotion and a family practice identity as roles.

1.2.8 Pharmacists’ personality traits

Research into pharmacists’ personality traits was initially related to role expansion and the

relationship between US pharmacists and physicians (Lambert, 1996). Lambert found that older pharmacists and hospital pharmacists were more likely to make recommendations to physicians, and he postulated that experience might engender confidence. Lambert suggests that the setting was significant as community pharmacists more positively identified the physician as having power and expertise. Rosenthal *et al.* (2010) in Canada studied pharmacy culture and detailed five personality traits of pharmacists related to patient care; a lack of confidence, fear of new responsibilities, paralysis in the face of ambiguity, need for approval and aversion to risk. They concluded that pharmacists were thoughtful, careful, attentive and compliant and more like scientists than traditional health care practitioners, these traits being valuable in traditional pharmacists' roles.

Frankel and Austin (2013) investigated barriers to practice change in Canadian pharmacists and identified medical hierarchy, poor pharmacist role definition, a lack of preparedness to take on patient responsibilities, and need to develop clinical reasoning and confidence as barriers. The same study identified a difference in pharmacy and medical students at the beginning of their respective courses. A later study comparing the personality of pharmacy and medical students throughout their course supported a difference in traits of the two groups at baseline and suggested that traits were modified or enhanced by their courses (Cordina *et al*., 2015).

Published evidence shows that pharmacists appear to be closely aligned to their scientific background and that this is associated with a need for "certainty" rather than ambiguity and risk. They have been shown to have a deep desire to follow the rules and to conform. Not surprisingly these traits make any change and risk-taking uncomfortable. Some groups of pharmacists appear to be more innovative confident and ambitious and wish to be different from their colleagues. Innovative pharmacists take on new roles, but still retain a cautious approach to patient care linked to their personality (Frankel and Austin, 2013; Hughes *et al*., 2014; Rosenthal *et al*., 2010), pharmacy education (Frankel and Austin, 2013; Rosenthal *et*

al., 2010), and the culture in healthcare (Austin *et al*., 2007; Rosenthal *et al*., 2010; Hughes *et al*., 2014).

1.3 Pharmacists' roles in primary care

The clinical roles that pharmacists have undertaken, and subsequent outcomes, are important to inform the role of PPs in CCGs and elsewhere in primary care. They provide the evidence for the effectiveness of pharmacist interventions to inform the roles that they might undertake and outline the potential value of pharmacists to general practice that still needs to be defined (NHS Alliance and Royal Pharmaceutical Society, 2014).

1.3.1 Chronic disease management

There are relatively few studies conducted in the UK that document the effectiveness of pharmacist-led chronic disease management (CDM). Those that have been published (Macgregor *et al*.,1996; McDermott, 2005; Reid *et al*., 2005; Jamieson *et al*., 2010; Lowrie *et al*., 2012; Chlid *et al*. 2012) broadly show that pharmacists can manage those chronic illnesses studied and that, where patients opinion is sought (Macgregor *et al*., 1996; McDermott, 2005; Reid *et al*., 2005; Jamieson *et al*., 2010), pharmacist management is acceptable.

One evaluation of a pharmacist-led anticoagulant clinic in a GP practice (Macgregor *et al*., 1996) demonstrated that the international normalised ratio control (within range) significantly improved after transfer to the clinic and that patient knowledge was improved along with access and reduced waiting times. Two studies were based around a pharmacist reviewing treatment for a specific disease. McDermott (2005) studied chronic pain, using patient questionnaires, relating to pain control and general well-being before and after a pharmacist review. The pharmacist made recommendations in >85% of patients, and 77% of these recommendations had all been carried out after six months. The authors confirmed the potential value of a pharmacist-led review of pain management in primary care but called for more research. A further study into a review of antipsychotic prescribing in dementia (Child *et*

al., 2012) used a team of primary care pharmacists to review patients in one PCT; pharmacist interventions were shown to limit the prescribing of antipsychotics in these vulnerable patients.

Despite the seemingly positive results of these evaluations, only small numbers of patients (n<100) were included in the final analysis (Macgregor *et al*.,1996; McDermott, 2005; Child *et al*., 2012) and in all cases the reviews were protocol driven and only limited attempts were made to compare pharmacist interventions with those of other HCPs, for example, nurses.

Where patients were randomised to the care of a pharmacist or usual (GP) care, two studies on hypertension (Reid *et al*., 2005; Jamieson *et al*., 2010) reported statistically significant reductions in blood pressure. However, a third study (Lowrie *et al*., 2012) looking at patients with left ventricular systolic dysfunction showed improved prescribing with no effect on outcomes, but patients were described as being "relatively well treated" at baseline. There are, however, methodological problems with these trials regarding design. Patients were aware of which HCP was providing their care, and in all cases, the control was "usual care" that was not well described. Where documented, pharmacist clinic appointment times were fifteen (Reid *et al*., 2005) and thirty minutes (Lowrie *et al*., 2012), and frequency of visits every two weeks to two months (Reid *et al*., 2005) monthly or weekly (Jamieson *et al*., 2010) or two weekly (Lowrie *et al*., 2012). Also, the pharmacist provided additional information to the patients in the study groups in all three studies. It is unlikely that "usual care" by a GP would allow for these levels of interventions (Jamieson *et al*., 2010), and the novelty of a pharmacist-led clinic may have affected patient uptake and engagement (Reid *et al*., 2005). It is, therefore, not known if the apparent effectiveness of pharmacist-led clinics is a function of the pharmacist's skills and knowledge or is because of unfair comparisons between study and control groups.

1.3.2 Educational outreach

Educational outreach (EO), sometimes known as academic detailing, has been described as

"*a personal visit by a trained person to health professionals in their practice own settings*" (O'Brien *et al*., 1997, p. 2). Two early US studies using "clinical pharmacists" to provide EO established that pharmacists could affect changes in physicians' prescribing of vasodilators, an antibiotic, propoxyphene (Avorn and Soumerai, 1983) and psychoactive drugs in nursing homes (Avorn *et al*., 1992). A later study in South Africa demonstrated that pharmacists could deliver a statistical improvement in asthma symptoms in children (Zwarenstein *et al*., 2007), as part of an EO programme, although no subjective improvements in asthma severity or school activities were identified.

Educational outreach has been evaluated in the UK as a method of supporting guideline awareness among GPs across a range of therapeutic areas. These areas include non-steroidal anti-inflammatory drugs, ulcer-like dyspepsia and *Helicobacter pylori* eradication, antiplatelet therapy, angiotensin-converting enzyme (ACE) inhibitors in heart failure and the use of antidepressants. Three studies used community pharmacists (Hall *et al*., 2001; Watson *et al*., 2001; Freemantle *et al*., 2002), one used primary care pharmacists [with or without a mental health HCP] (Patel and Afghan, 2009), and one used pharmaceutical advisers (Eccles *et al*., 2007). The details of the training received by the pharmacists, where stated, ranged from one (Patel and Afghan, 2009) to three days (Freemantle *et al*., 2002). It is difficult to compare the effectiveness of the pharmacists in delivering educational outreach in these studies, given that the baseline experiential status and post-training education and communication competencies of the pharmacists involved are unclear. In one case, additional support from a specialist practitioner was available during some of the visits (Patel and Afghan, 2009). Four studies were described as randomised controlled trials (RCTs) (Hall *et al*., 2001; Watson *et al*., 2001; Freemantle *et al*., 2002; Eccles *et al*., 2007). Of these, three used the educational outreach as the intervention, and one included a third "guideline only" group (Watson *et al*., 2001). Only one of these trials obtained evidence of a modest improvement in guideline adherence, due to educational outreach, which was due to

a marked improvement in guideline uptake in smaller practices only (Freemantle *et al*., 2002). The remaining three trials found no significant difference.

The non-randomised study (Patel and Afghan, 2009), that used educational visits to support guideline adherence, was unique in concluding that this intervention successfully influenced prescribing behaviour across a Primary Care Trust (PCT) that included both smaller and larger practices. Although this conclusion looks positive, the study design provided a lower level of evidence than an RCT and was also conducted in a PCT that is used to receiving similar pharmacist-led campaigns in the past.

Only one of the five studies used patients' notes to verify changes in prescribing (Freemantle *et al*., 2002), which is likely to be a more accurate method of data collecting than electronic prescribing analyses and cost (ePACT) used by the other studies to monitor prescribing. ePACT collects information on all NHS prescriptions issued by general practitioners that are dispensed by contractors (Majeed *et al*., 1997). One of the limitations of ePACT is that it records all dispensing, but no therapeutic or patient detail and therefore cannot be directly linked to a specific intervention. Dispensing is a reflection of all prescribing that occurs, within any selected time frame, so the drug choice must be made carefully, as many have more than one indication, affecting the sensitivity of the drug as a marker (Hall *et al*., 2001; Eccles *et al*., 2007).

More recent studies have had more positive results. A study of EO to prevent adverse drug interactions (ADRs) used pharmacists to provide targeted interventions to identify and address ADRs within seventy-two GP practices (Avery *et al*., 2012). The pharmacists received training on the evidence-base, EO techniques and the study outcomes and interacted with the practice for a twelve-week period using a variety of interventions. Control practices received computerised reports of potential ADRs and supporting information. The intervention was more effective and clinically relevant than computerised reports and

information and was also cost-effective. The authors suggested that the overall effects were probably greater as the control was likely to be better than usual care.

Lowrie *et al.* (2014) used pharmacists to deliver EO to increase statin prescribing in patients with vascular disease in thirty-one GP practices. The pharmacists had not delivered the intervention before but had over forty hours of clinical and academic detailing training by consultants, HCPs and the research team. The pharmacists worked for one day a week in their allocated practices for one year supporting them to improve statin prescribing. Patients from practices with the pharmacist support were significantly more likely to have their cholesterol to target due to improved prescribing.

The studies discussed above used surrogate markers, so the true effect on patient outcomes remains unclear. The equivocal nature of some of the results suggests that the most effective methods of providing pharmacist-led EO are still being refined. The latest studies, which used pharmacists to provide both education and follow up, look promising and support the role of a pharmacist as an agent for change working within the primary care team.

1.3.3 Medication review

Clinical medication review has been described as *"the process where a health professional reviews the patient, the illness, and the drug treatment during a consultation"* (Zermansky *et al*., 2001, p. 2). It has been suggested that pharmacists can identify and resolve medicines-related issues (Furniss, 2000; Krska *et al*., 2001; Lowe *et al*., 2000; Krska and Ross, 2002; Zermansky *et al*., 2001, 2002, 2006; Silcock and Petty, 2008; Desborough *et al*., 2012), and that despite incentives for (at least) annual medication review to be carried out by GPs, it is unlikely that this is achieved in practice (Krska *et al*., 2006), even for older people with multiple co-morbidities (Blenkinsopp *et al*., 2012).

Several RCTs have reported benefits from pharmacist-led medication review including a reduction in the number of inappropriate drugs prescribed (Furniss, 2000), significant

changes in patients' drugs (Zermansky *et al*., 2001), resolution of pharmaceutical care issues (Krska *et al*., 2001), and appropriate suggestions for clinically acceptable changes in care home patients' medication (Zermansky *et al*., 2006).

There is little hard evidence to support patient orientated outcomes from these trials, such as a reduction in hospitalisation (Furniss, 2000; Zermansky *et al*., 2006), improvement in quality of life (Krska *et al*., 2001; Holland, 2005;) or mortality (Holland, 2005; Zermansky *et al., 2006)*. Holland *et al* reported no effect on hospital admission after pharmacist-led medication review. Zermansky *et al.* (2006) did show a significant reduction in falls as a result of pharmacist review of patients in care homes, but the authors failed to recruit sufficient patients to detect significant changes in other secondary outcomes.

A systematic review, including UK trials, concluded that there was no clear effect on outcomes and that this was not related to the type of pharmacist conducting the review or the intensity of the review. But, there were methodological weaknesses including difficulty in the comparison between studies (Holland *et al*., 2008). The results of cost analyses within RCTs have also yielded equivocal results, some showing savings (Furniss, 2000; Zermansky *et al*., 2001), and others being cost-neutral (Krska *et al*., 2001; Zermansky *et al., 2006)*.

A more recent study (Desborough *et al*., 2012), of an established team of pharmacists reviewing medication as part of a service to support patients in their homes, demonstrated cost-savings and a reduction in hospital admissions. Although there was no control group, it supports the argument that established inter-professional relationships are possibly key to improved outcomes (Furniss, 2000; Holland *et al*., 2006). One study in Australia concluded that integrating a pharmacist into a GP practice increased the frequency and rate of medication review (Freeman *et al*., 2012a). Another Australian study comparing medication reviews completed by integrated and non-integrated pharmacists found that both groups of pharmacists made similar recommendations (Freeman *et al*., 2013). The integrated

pharmacists identified fewer drug-related problems, which was rationalised by the authors to be due to the pharmacist having access to the patient notes, thereby allowing the pharmacist to have more insight to drug choices and rationale. The uptake of recommendations by GPs was greater in the integrated pharmacist's group compared to non-integrated pharmacists.

The process of medication review can lead to improved patient understanding, changes to more appropriate formulations and better compliance; the lack of evidence of positive patient orientated outcomes may be due to inappropriate measures (Krska *et al*., 2007) or the lack of suitably designed large-scale trials (Blenkinsopp *et al*., 2012). A recent systematic review of pharmacist medication review in the community included 31 studies (Jokanovic *et al*., 2016). The review, of what appears to be suitably chosen studies, supported the value of pharmacist-led medication review related to surrogate outcomes in blood pressure, cholesterol and diabetic control, but not for prevention of hospitalisation. The authors called for more research on cost-effectiveness, patient satisfaction and medicines taking.

1.3.4 Prescribing advice

Some studies have looked at the pharmacist's role in the prescribing process in helping to prevent adverse drug reactions (Shulman *et al*., 1981; Gray *et al*., 2008; Cresswell *et al*., 2012) and hospital admissions (Royal, 2006). Also, at their contribution to formulary development (Green, 1985; Hamley *et al*., 1997), clinical audit (Panton and Fitzpatrick, 1996; Rodgers et al., 1999), prescribing cost control (Rodgers *et al*., 1999; Hamley *et al*., 1997; Ragubeer and Patel, 2011), medicines adherence (Chen and Britten, 2000) and safety (Avery *et al*., 2002; Petty, 2003; Cresswell *et al*., 2012). There is no strong evidence of improved patient outcomes, but some trials have indicated that potential adverse patient outcomes have been prevented (Gray *et al*., 2008; Shulman *et al*., 1981; Avery *et al*., 2012), that the pharmacists were probably cost-effective (Rodgers *et al*., 1999; Chen and Britten, 2000; Teal *et al*., 2002; Avery *et al*., 2012), and that no patient harm from the pharmacists' intervention were identified (Teal *et al*., 2002). Outcome measures of the effectiveness of

pharmacist activities in primary care have included analysis of PACT data (Green, 1985; Rodgers *et al*., 1999; Teal *et al*., 2002) and a reduction in hospital admissions (Royal, 2006). The limitations of PACT data have been discussed in section 1.3.2.

Single interventions in primary care appear to have limited impact (Rodgers *et al*., 1999; Fish *et al*., 2001; Cresswell *et al*., 2012) and can lead to professional isolation (Avery *et al., 2012)*, but the research has shown that pharmacists are seen as agents of change and as a credible solution to prescribing and monitoring issues in primary care. Therefore, there is an argument for a wider integration of pharmacists into general practice teams (Cresswell *et al*., 2012) to work on these issues, possibly using a mixture of interventions (Avery *et al*., 2012). Other practice pharmacist activities that have been suggested as possibly beneficial are generic substitution (Hamley *et al*., 1997; Rodgers *et al*., 1999; Williams *et al*., 2000), medicines consultation and patient education (Chen and Britten, 2000; Teal *et al*., 2002), post hospital discharge support, professional education and drug information (Williams *et al*., 2000). These suggestions were made some time ago, and it is likely that most (if not all) have become accepted practice. It is problematic to find suitable outcome measures for some of these activities, therefore, any attempt at a full cost-effective analysis is likely to be complex and potentially incomplete.

1.3.5 Non-medical prescribing

Pharmacists have been able to counter prescribe an increasing but restricted list of medicines in the community for many years. Changes in legislation in 2003 and then in 2006 allowed pharmacists with at least two years' experience to train as supplementary and independent prescribers respectively (Guillaume *et al*., 2008; Stewart *et al*., 2009a; Cooper *et al*., 2012; Gerard *et al*., 2012). The numbers of qualified pharmacist prescribers have increased steadily from zero to around 1600 in 2010 (Stewart *et al*., 2010) by which time 71% were actively prescribing (Latter *et al*., 2010). The numbers of registered independent pharmacist prescribers are currently 3743 for England, 266 for Wales and 612 for Scotland

(General Pharmaceutical Council, 2017). National data in 2013 indicated that only 61% of prescribing pharmacists had prescribed in the last 12 months; male pharmacists were more likely to prescribe than female ones, and younger pharmacists were more likely to prescribe than older ones (Phelps *et al*., 2014). A more recent survey (General Pharmaceutical Council, 2016) of a smaller sample (651) of pharmacist prescribers suggested that the numbers of pharmacists that had ever prescribed since qualifying have increased to 74%, with 41% prescribing every working day and 18% prescribing more than 50 items a week. Most respondents (57 %) reported that they found it either easy or very easy to find opportunities to prescribe, although it was more difficult to find opportunities to prescribe in community pharmacy. This is potentially encouraging, as in 2013 the levels of prescribing in a primary care setting were modest with 58% of pharmacist prescribers issuing 10 or fewer items a week and only 10% issuing more than 50 items a week (Phelps *et al*., 2014).

Published studies show that pharmacist prescribers were confident in the prescribing role (Guillaume et al., 2008), that their prescribing was appropriate (Stewart *et al*., 2009a; Latter et al., 2010). Their patients found the service, which prescribing pharmacists provided, was acceptable (Latter *et al*., 2010; Stewart *et al*., 2009a, 2011; Cooper *et al*., 2012; Gerard *et al*., 2012). Despite patients being positive about the experience, some reported being initially unsure of what to expect from their encounter with a pharmacist prescriber (Stewart *et al*., 2009a). One large study (n=451) has identified that female patients and patients of both genders with long-term conditions, actually preferred prescribing pharmacist services to those provided by GPs; appointment length was not a factor for patient preference in this case (Gerard *et al*., 2012). Other studies have suggested that appointment length may be significant (Smalley, 2006; Stewart *et al*., 2009a), and that increased appointment times provided by prescribing pharmacists allowed for a more comprehensive medication review than that provided by doctors, and reduced patients' medication burden (McCann *et al*., 2012). It has also been suggested by Bruhn *et al*. (2011, 2013) that medication review by a pharmacist prescriber confers an additional benefit to that of medication review alone or GP

usual care, in chronic pain at least. It has been reported by Courtenay *et al.* (2012) that levels of prescribing by non-medical prescribers (NMP) are influenced by a number of organisational factors; employer, the level of experience before becoming an NMP, and existence of governance procedures and support for the prescribing role. A recent Cochrane review of predominantly RCTs from mostly high-income countries supported the view that non-medical prescribing, by nurses and pharmacists, is acceptable to patients and delivers comparable outcomes to usual medical care, at least as far as surrogate outcome measures and adherence are concerned (Weeks *et al*., 2016).

Training for prescribing pharmacists appears to be fit for purpose, although some concerns have been raised, for example, around diagnostic skills (Latter *et al*., 2010) and ruling out conditions outside the pharmacist's competency (Stewart *et al*., 2010). Latter *et al.* (2010) reported that the implementation of non-medical prescribing was not entirely supported by policy in about half of all NHS Trusts, but most Trusts did have governance arrangements in place at the time. Other researchers have shown that pharmacist prescribing appears to reduce GP workload (Lloyd *et al*., 2010) and improve patient access to medicines (Smalley, 2006; Stewart *et al*., 2009a), although one systematic review could not find any evidence of health economic analysis or impact of non-medical prescribing on health services (Bhanbhro *et al*., 2011). Latter *et al.* (2010) have argued that there is a need to provide data on patient outcomes, both clinical and financial, and McCann *et al*. (2012) have argued for further research into the integration of pharmacist prescribers into multidisciplinary primary care teams to maximise patient benefit.

1.3.6 Repeat prescription management

Repeat prescriptions, described by Zermansky (1996), p. 643 as *"those issued without a consultation to patients on long-term treatment",* then represented at least 66% of all GP prescriptions and 80% of drug costs. Harris and Dajda (1996) obtained a similar figure of 81% of all drug costs from 1993 data related to 500 GP practices, but the proportion of

repeat prescriptions was higher at 75%. Petty *et al.* (2014) looked at repeat prescribing and found that 77% of all primary care prescriptions were repeat prescriptions but, while the proportion was the same, the volume of prescriptions has doubled in the last 20 years.

One CCG has published a report on a pharmacist-led repeat prescription management service that utilises pharmacists to assess the appropriateness of repeat prescription requests before issuing a prescription (Walsall Clinical Commissioning Group, 2014). The service is designed to deliver both patient safety and cost effectiveness and runs in 52 out of 62 GP practices. For 2013/14, the service delivered net savings of £610,270, equivalent to £3.05 savings for every £1 invested in pharmacist time. This figure does not include any savings that may have been made on GP time or any from avoiding negative patient outcomes such as adverse drug reactions. The potential for preventing adverse drug reactions from medication errors from repeat medicines was demonstrated by Avery *et al*. (2012).

1.3.7 Practice Pharmacists demographic background

The demographic background of PPs in published studies is important for comparison with those in the thesis project reported here to indicate if the PPs were similar. The outcomes of the project are more likely to be meaningful to a wider sample of pharmacists if the PPs in the thesis project are similar to PPs studied elsewhere.

Several studies in the UK and Australia have studied multiple aspects of individual groups of PPs regarding demographic and working practices in any detail. The Australian studies (Freeman *et al*., 2014; Tan *et al*., 2014a) were undertaken in a different health care system. Three UK studies, all over ten years old, were undertaken in previous iterations of the NHS (Martin *et al*., 1998; Blenkinsopp *et al*., 2001; Mullen *et al*., 2005), but there is one recent study of PPs working in London and the South-East (Mills, 2016).

Martin *et al.* (1998) identified 414 pharmacists working in GP practices in 1996, of which 174 (42%) responded to their structured postal questionnaire. Some pharmacists worked in more than one practice, so the total number of practices covered by the 174 pharmacists was 200 from 10 regions of the UK, excluding Northern Ireland. There were fewer male (39%) than female respondents and they were, overall, more likely to have been pharmacists for over 20 years, with 89.1% having more than one role. The most common portfolio roles were community pharmacy manager (n=68), community pharmacy locum (n=48), a smaller proportion were hospital pharmacists (n=30) and academics (n=12). Postgraduate qualifications, usually a diploma, were held by 36.2%. The majority were funded by the FHSA or directly by the medical practice and worked between one and ten hours a week. The roles reported were somewhat dependent on the funding source but included analysis of prescribing data, prescribing advice, formulary, guideline and protocol development and liaison with the FHSA pharmaceutical adviser. Thirty-two pharmacists ran CDM clinics, and more of the PPs funded by the surgeries felt “highly involved” with the practice. Despite a low response rate, the study represents an early example of the profile of PPs in Scotland, Wales and England.

Blenkinsopp *et al*. (2001) studied PPs in the West Midlands by sending a questionnaire to all working registered pharmacists. Questions explored the sectors in which they worked and might consider working, and the hours worked in each. They achieved an overall sample of 1767 pharmacists of which 53% were female. There was a high level of interest in the PP role amongst the pharmacists surveyed at the time. The authors also carried out a postal survey of sixty-six PPs and 30 newly employed PPs and showed that 98% worked part-time with 82% of these working eight or fewer hours a week as a PP. Twenty respondent also took part in semi-structured telephone interviews that included ten PPs and ten aspiring PPs. Of the twenty pharmacists interviewed on the telephone, their background role was largely community pharmacy (n=14) with the majority being female (n=14), aged between 21 and 40 years (n=18), and having been qualified for 0-20 years. Four of the ten pharmacists working

as PPs spent 1-4 hours a week in the role, three worked 5-8 hours a week, and a further three worked over thirteen hours a week. Two-thirds of the PPs were under forty years of age, and 60% were female. The authors concluded that PPs found high levels of satisfaction in their work and that the overall level of interest in the PP role was related to pharmacists' dissatisfaction with other roles.

The tasks undertaken by the telephone interviewees that were PPs included prescribing data analysis, repeat prescribing support, medicines reconciliation and prescribing advice. Several PPs mentioned further qualifications as a way of achieving and maintaining appropriate levels of service, even though they had received some training before starting in the role. None of the PPs in the telephone interviews had face-to-face contact with patients, but they found their work professionally satisfying and intellectually challenging.

Mullen *et al.* (2005) used a structured questionnaire and in-depth semi-structured telephone interviews to investigate the motivations for pharmacists to move into primary care in England. The structured questionnaire was completed by 432 pharmacists, and twelve were interviewed by telephone. Of the PPs who completed the survey, 73% were female representing a greater proportion than in the 2002 census. There was little difference between the male and female age ranges, and overall 43.2% were in the 30-39 age group with 32.7% in the 40-49 age group. In this study, 52% of pharmacists had migrated into the role completely, and most of these (28%) were former hospital pharmacists compared with 19% former community pharmacists. Community pharmacists were more likely to be portfolio workers (31.5%) than hospital pharmacists (9.3%). Motivations for moving into the PP role included more interesting work, better use of knowledge, increased professional status, a more clinical environment, flexible hours, increased autonomy and responsibility. Drivers from previous employment included the converse of the motivators and needing a change, being undervalued, poor working conditions, and isolation. Hospital pharmacists were less likely than their community pharmacist counterparts to consider that primary care had more

interesting work, made better use of their knowledge, increased their professional status, or was a more clinical environment. They were, however, more likely to refer to flexible hours, better remuneration, increased autonomy and responsibility as factors driving them to the PP role.

More recently, Mills (2016) looked at the training needs of PPs who were not participating in the NHSE Pilot. The thirty-two PPs who were recruited to the study self-disclosed as working at a senior (n=16) or junior level (n=16). The junior PPs were statistically more likely to be younger and had been registered as pharmacists for less time than the senior PPs. The PPs had worked in this role for a mean of 5.3 years (range 0-19 years). The number of PPs in each age range was as follows:
21-30 years (n=8); 31-40 years (n=12); 41-50 years (n=8); 51-60 years (n=3); 61-70 years (n=1). The proportion of time spent in face-to-face consultation with patients was: less than 20% (n=11); 21-40%(n=10); 41-60% (n=3); 61-80% (n=6); 81-100% (n=2). Most of the PPs, (n=20) were directly employed by a GP surgery with eleven being employed by a CCG.

Three PPs had more than one employer for their PP role, and eighteen worked full-time; they all had previous experience in community (n=22) and hospital pharmacy (n=14) with smaller numbers in the pharmaceutical industry (n=2), academia (n=2). Other pharmacy role (n=6) and other non-pharmacy related role (n=1). Twenty-two PPs also continued to work in another sector of pharmacy, community (n=13) and hospital pharmacy (n=3) with two PPs working each of the following: academia, other pharmacy role and other non-pharmacy related role. Senior pharmacists were statistically more likely to work in a wide variety of sectors. Nine PPs had no postgraduate qualifications at all, and senior PPs were significantly more likely to hold a diploma or prescribing qualification. Ten PPs had a postgraduate certificate, fifteen a postgraduate diploma, twelve were prescribers and five had higher degrees. Of the twelve prescribers, nine prescribed less than 50 items a month and the remaining three prescribed less than 100, less than 200 and more than 200 items a month

respectively.

The training needs identified by Mills were dependent on the length of experience of the pharmacists but overall were related to clinical examination and assessment, monitoring, long-term conditions, minor ailments, leadership and management. Mills recommended that, to work in general practices, pharmacists should have a postgraduate diploma and a prescribing qualification (possibly delivered via distance learning) and that the pharmacist's role needs further examination.

Tan *et al*. (2014a) explored stakeholders' views on pharmacist integration into general practices in Victoria, Australia in 2010-11. They used qualitative sampling techniques to identify a sample of GPs (n=11) and pharmacists (n=16). The respondents were interviewed via the telephone or face-to-face. Eleven of the pharmacists were female, and five were male. Eleven of the pharmacists came from a community pharmacy background; overall their average age was 39.6 years (range 25-65 years) with an average of 11 years of experience (range 3-45 years) as a pharmacist. Three pharmacists had previous experience as a PP. This study focused on integration, and only a few PP roles were reported, such as prescribing advice. There was no intention to provide robust quantitative data, and many of the pharmacists were not fully integrated into practices.

Freeman *et al.* (2014) recruited 26 Australian PPs to a mixed-methods study that looked at the PP role, their attributes and the impact of working in a general practice setting. Most of the respondents were female (58%) and were in the 30-49 age group (62%). The PPs had been qualified for between 1 and 45 years with 6 in the 6-10 years band and 4 in each of the 11-15 and 16-20 years band. The average length of time that they had worked as a PP was 1.2 years (range 0-16 years). Over half of the PPs (58%) had postgraduate qualifications, with 27% having a coursework masters, 23% a graduate diploma and 15% a research doctorate. Fifty-eight percent continued to work in other areas such as independent

consultancies (27%), academia (23%), and in community pharmacy (23%). The qualitative results showed that the respondents gained professional satisfaction from the role and felt valued by GPs.

The common limitation in all the studies is that there is no national register of PPs in the UK (Jesson, 2001) or Australia (Freeman *et al*., 2014) from which to obtain a definitive list. Sampling frames are, therefore, uncertain and vary with the method of respondent recruitment and may not identify representative respondents.

Formal national workforce surveys were undertaken in the UK in 2002 and 2003 (Hassell et al., 2004), 2005 (Hassell *et al*., 2006), 2008 (Seston and Hassell, 2009), 2011 (Hassell, 2012), and most recently in 2013 (Phelps *et al*., 2014). Care must be taken when comparing figures from these surveys as the methods used to collect data in each survey were different (Phelps *et al*., 2014), not all pharmacists took part, and there were biases regarding gender and age with female and older pharmacists more likely to respond (Hassell *et al*., 2006, 2004; Phelps *et al*., 2014; Seston and Hassell, 2009). Nevertheless, the surveys provide national data for comparison.

Part-time working has become more prevalent, and the numbers of pharmacists working in primary care appear to have grown steadily until 2005 but have declined since then. The NatCen Social Research Registrant Survey for the General Pharmaceutical Council (GPhC) (Phelps *et al*., 2014) was carried out after the NHS changes in 2013, which may have contributed to the lower reported figures as PP teams were realigning into new NHS organisational structures during this time. This 2014 survey also reported data on postgraduate education and indicated that prescribing pharmacists were more likely to have postgraduate qualifications than non-prescribing pharmacists.

1.4 Pharmacist integration into primary care

From my personal experience as a practitioner, to maximise the pharmacist's input to general practice, the process of integration must be as efficient as possible. The pharmacist must be able to make their contribution to the workload of the practice, while avoiding any conflict with the existing team associated with their employment. The process of integration is examined in the literature.

According to Pettinger (2002), barriers to effective change in a managerial sense can be classed as either operational or behavioural, as shown in table 1.1.

Table 1.1 Barriers to effective change (Pettinger, 2002).

Operational	Behavioural
Location -need to relocate staff	"It cannot be done" -lack of information
Tradition-moving from successful traditional roles	"There is no alternative" -loss of influence of staff or representative bodies.
Success and perceived success-similar to tradition. "why change something that works."	
Failure -changes in the status quo	Lack of clarity -poor organisational information
Technology -it's effect on work patterns	
Vested interest -change resisted by those it affects negatively	Fear and anxiety -natural response to change and uncertainty
Managerial -divorcing ownership from control	
Bureaucracy -order and control	Perfection -there is nothing wrong with the current model
Redundancy -change producing redundancy and employment	

Technology is changing the way that pharmacy is practised; robotic dispensing in hospitals, the electronic transfer of prescriptions and remote dispensing in community pharmacy are all likely to change work patterns and create uncertainty. Those pharmacists that wish to become PPs may need to re-locate and leave previously secure positions in large organisations (e.g. hospitals and national pharmacy chains), change work patterns and be

freed from large bureaucracies.

Pettinger's managerial barriers may apply to GP practices. Practice staff may feel that there is no need to introduce a pharmacist as the existing team has traditionally performed well, and the existing way of working does not need changing. Some staff may feel threatened by the introduction of a pharmacist. This suggests that GP practices should be open and clear in their planning and supply accurate information to existing staff, e.g. explain increasing workload, inability to recruit a partner or salaried GP.

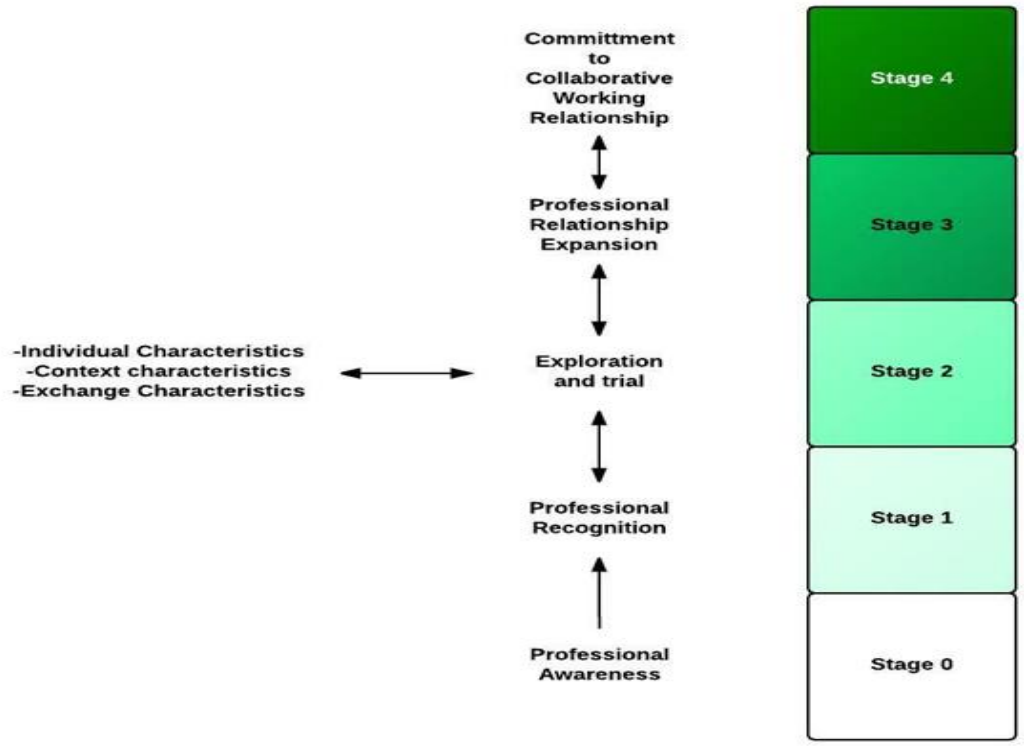
Several studies have looked at the determinants of integration. Axelsson and Axelsson (2006) based their conceptual model (See figure 1.2) in the context of public health, but their model does offer insights into the way that organisations or organisational units can work together through vertical integration and horizontal integration. Vertical integration takes place between units on different levels in the hierarchical structure, and horizontal integration takes place between units on the same hierarchical level. A common management hierarchy can encourage vertical integration through co-ordination. Applying this model to the thesis project PP teams, that are commissioned by the CCG to which the GPs also belong, should facilitate integration. This conceptual model suggests that the highest form of integration is co-operation, where there is a common management hierarchy, but there is built-in flexibility to allow for informal arrangements between "organisations".

Recently, a French study reviewed four pre-existing conceptual models of doctor/community pharmacist collaboration (Bardet *et al*., 2015). McDonough and Douchette (2001) considered the collaborative working relationship (CWR) between pharmacists and physicians and synthesised the model shown in Figure 1.3.

Figure 1.2 A Conceptual scheme of different forms of integration (Axelsson and Axelsson, 2006).

		Horizontal integration Higher degrees of integration require more horizontal integration	
		-	+
Vertical integration Lower degrees of differentiation can be managed by vertical integration	+	Co-ordination	Co-operation
	-	Contracting	Collaboration

Figure 1.3 Staged approach to developing a pharmacist-physician collaborative working relationship. (McDonough and Doucette, 2001)



This model suggests that as the relationship progresses through the stages, efforts to maintain it become more bilateral. Individual characteristics affect the willingness to change and accept collaboration, “socialised” professionals are more likely to accept collaboration. Context characteristics are driven by proximity and coterminous patient groups that encourage collaboration and information sharing. Exchange characteristics relate to the

value of the collaboration to the parties involved which is enhanced by increasing trust and respect over time. Once practitioners reach Stage 4, commitment to the CWR has been achieved, and those involved have an interest in sustaining the relationship, communication is bilateral, and mutual trust and respect have been established.

Bradley *et al*. (2012) considered collaboration between GPs and community pharmacists in Local Pharmaceutical Service pilots and Repeat Dispensing Arrangements and proposed a model comprising seven factors and three levels. Collaboration occurred when the pharmacist and GPs were co-located, had a formal and historical working relationship and there was interdependency. Mutual trust and respect was gained over time and the parties in the relationship had been "socialised" to working with each other, were comfortable communicating with each other and shared the goal of patient care which was valued above professional difference.

Van *et al.* (2012, 2013) suggested theoretical models of inter-professional collaboration in Australian GPs and community pharmacists determined by interactional and environmental determinants. See Table 1.2. The pharmacist's role in medicines management was found to be a strong predictor of interactional determinants, confirming that role recognition shapes interactions.

Bardet *et al.* (2015) postulated a meta-model of physician/community pharmacist collaboration (PCPC Meta-model) that recognises the core determinants of trust and interdependence that requires four processes to develop perceptions, expectations, skills and interest for collaborative practice. These processual determinants characterise the move from independent to shared practice, from a strong individual professional identity to collaboration.

Table 1.2 Interactional and environmental determinants of GP/pharmacists collaborative behaviour.

Interactional determinants	Environmental determinants
• Communication • Trust in the pharmacist • Mutual respect • Willingness to work together • Clear roles in patient care • GP expectations of the pharmacist	• Pharmacists location (relative to GP) • Participation in Home Medication Reviews* • Contact with pharmacists in GPs formative years.
Role for pharmacists in medicines management	**specific to Australia*

The development of collaboration is also facilitated by two development tools, i.e. role definition and communication. Role definition is important as it defines the sharing of responsibility within the relationship, avoiding conflict over overlapping responsibilities. Communication supports the pharmacist's contribution, mutual respect and other attitudes. The authors suggested that it is, therefore, crucial to determining the roles of each professional and that patient expectation should be included in any collaborative model. They go on to conclude that the collaboration of community pharmacists and physicians is a voluntary, complex and dynamic process.

Several recent non-UK studies have looked specifically at the integration of pharmacists into primary care teams. In Australia, (Freeman *et al*., 2012b) used qualitative techniques (focus groups and semi-structured interviews) to ascertain the views of patients, GPs, pharmacists and practice managers on integration. Tan *et al.* (2014a) used semi-structured interviews with GPs and pharmacists to explore their views on integration.

Both studies found that funding was a barrier and proposed that additional training facilitated integration. Freeman found that larger practices were more likely to have a PP and the PP respondents felt that training for PPs should be to an advanced practitioner level, although no competency framework was available at the time to support this. Tan found that GPs who were familiar with PPs were more supportive of the role, but the need for a PP was not well

defined and lacked the evidence-base to drive it forward. Other barriers identified by Tan included poor understanding of pharmacists' training, negative non-pharmacist practitioner perceptions to integration, a lack of infrastructure, and that GPs may feel threatened by the PP role.

Two Canadian studies have attempted to provide a roadmap for the integration of pharmacists into an existing primary care team (Kolodziejak *et al*., 2010; Jorgenson *et al*., 2013). Both studies agreed on several points related to the pharmacist. The PP role should meet the needs of the practice and be defined and clearly understood by all staff. Resources and space required should be defined. The pharmacist's credibility should be established with their new team and the relationship should continue to develop with regular feedback from the primary care team.

Kolodziejak *et al.* aimed to provide guidance on the integration of pharmacists into primary care using action research to define the role of the pharmacist and provide services based on this for eight weeks. The service was evaluated using focus groups, and the pharmacists' suggestions were used to produce a guide to integration. Additional suggestions, not included in the guide, were to collaborate on the role definition, decide on patient referral and hours of work, and to select a primary care team that is positive about taking on a pharmacist. Jorgenson *et al*. (2013) carried out a literature review of pharmacists who had successfully integrated into primary care to produce a draft list of eleven recommendations that was then circulated to a network of experienced primary care pharmacists and then graded. A list of recommendations for integration was drawn up, including the need to understand other team members' roles, to have infrastructure that supports their clinics, and to keep their skills up to date.

Jorgenson *et al.* (2014) later undertook another qualitative study using telephone interviews to evaluate the barriers and facilitators that were experienced by pharmacists who had been

integrated into primary care teams. Similar themes emerged concerning relationships, trust and respect, role definition, support, pharmacist personality and professional experience and presence and visibility, resources and funding and the value of the pharmacist role.

In 2015-16, Campbell *et al*. in conjunction with NHS Education South West, developed, delivered and evaluated a programme of continuing professional development for registered pharmacists who wished to work in primary care. A training needs analysis was used to design the training. This project found that there was considerable local and national interest in the further integration of pharmacists into primary care. Pharmacists expressed concerns about the lack of clarity of their developing role, and in the training requirements and career pathway of pharmacists in general practice roles. Pharmacists also expressed concerns about gaining competence for extended roles in primary care and access to workplace support. The Authors recommended accredited and tailored training for the pharmacists based on their roles and needs and that a prescribing qualification helped to fully utilise the pharmacist's skills. In addition, further work at a national level was identified to define the required standards and competencies, and on the role definition and value of pharmacists in general practice. They also suggested that there should be a review of pharmacy undergraduate and pre-registration training, given the developing clinical roles of pharmacists, and that commissioners, primary care teams and patients should be made aware of the pharmacist's role in the practice.

The General Pharmaceutical Council has recently published a report on UK pharmacist prescribers (General Pharmaceutical Council, 2016). A total of 651 respondents took part in an electronic survey of all registered prescribers with available email addresses. The respondents (17.4% response rate) were mostly qualified independent prescribers working in hospital and primary care. The survey highlighted some issues around integration of pharmacist prescribers in general. The lack of a national policy for pharmacist prescribing was an issue, although the NHSE pilot was recognised as a means to possibly increase the

opportunities for pharmacist prescribers. Other integration issues identified related to, doctors not understanding the skills of pharmacists or accepting them into their team, and "competition" with nurses. Some pharmacists reported that relationships and the degree of acceptance improved over time and that their prescribing role was enhanced by multidisciplinary team working.

1.5 The Medical profession

A key driver for more pharmacists to work within GP practices is the workforce shortage in primary care (NHS Alliance and Royal Pharmaceutical Society, 2014). It is, therefore, important to understand how workforce issues in Medicine have come about and, how and when these may be addressed in the future.

1.5.1 General practitioner job satisfaction and workforce issues

Problems with the UK general practice workforce are historical with investigations into GP job satisfaction going back many years. Sibbald *et al*. (2000) studied job satisfaction in GPs in 1987, 1990 and 1998 and found that this declined from 1987 to 1990, improved between 1990 to 1998, but not to pre-1987 levels. This coincided with political change and the introduction of fundholding by the Government in 1991 (Kay, 2001, 2002); this will be discussed in detail in a later chapter of this thesis. Sibbald *et al*. (2000) identified several factors that negatively affected GP satisfaction with their role including increased workload, undermining of clinical autonomy and increasing patient demand.

Other issues affecting the GP workforce have been identified in the past. These include the changing composition of the workforce, with vocationally trained doctors not wanting to commit to full time partnerships (Young and Leese, 1999) and the feminisation of the workforce adding to the number of GPs that had a career break (Young and Leese, 1999; Jones and Fisher, 2006; Lakasing, 2009;). Also, older GPs had been encouraged to retire early by the NHS pension scheme changes in 1995, or to consider part-time working, as a

way to avoid burnout (Young and Leese, 1999) and remuneration problems. Young and Leese (1999) also suggested that GP salary structures remained static and did not evolve to match the changing aspirations of the workforce.

The shortage of GPs that was predicted by Young and Leese has now materialised (Irish and Purvis, 2012; Peile, 2013; Dayan *et al*., 2014). Population drivers for the workforce crisis in primary care are well documented such as the ageing population (Dayan *et al*., 2014; Irish and Purvis, 2012), increasing complexity of treatments, earlier hospital discharge and more community-based treatments (Irish and Purvis, 2012). Other issues in general practice include the continuing move away from doctors wanting to be principals (Jones and Fisher, 2006), high GP vacancy rates, doctors choosing the GP role later in life and problems recruiting nurses (Irish and Purvis, 2012). These are further compounded by falling GP remuneration with increasing demands, possible inadequate levels of support staff and the on-going desire for part-time working amongst GPs (Dayan *et al*., 2014). There is also a "retirement bulge" with large numbers of GPs approaching retirement, often wanting to retire before the usual retirement age (Dayan *et al*., 2014; Irish and Purvis, 2012). These factors, O'Dowd (2015) argues, have been exacerbated by past under-investment in primary care

There is a perception that red-tape, e.g. Quality and Outcomes Framework (QoF) and Care Quality Commission inspections are encouraging GPs to leave the NHS (Rimmer, 2015). Dayan *et al*. (2014) have reported that insufficient GPs are being trained and the Royal College of General Practitioners (RCGP) have predicted that it may take until 2034 for the extra 5000 GPs, promised by the current Government, to be realised (Rimmer, 2015). According to Jones and Fisher (2006), the GP role is not seen as attractive by medical school graduates because the role has high workloads and poor morale. Consequently, in 2012, only one in five medical graduates indicated a desire to be a GP. In 1999, it was suggested by Young and Leese (1999), that medical schools should be more positively inclined to general practice and that more medical students should be exposed to primary

care, but funding, secondary care demands and working time constraints have prevented this (Irish and Purvis, 2012).

O'Dowd (2015) reported that NHS England's Chief Executive had admitted that it would be difficult to recruit the target number of GPs within the timescale and that general practice needed to be more attractive to recruit despite the 2014 Five Year Forward View (FYFV) published by NHS England (2014b). FYFV promised a new deal for primary care and acknowledged past underfunding compared with secondary care. It also promised to stabilise funding for two years, shift investment from acute to primary care, to expand HCP training and increase investment in new roles and returner and retention schemes. Also, the FYFV intended to improve primary care infrastructure, incentivise working in deprived areas and encourage multidisciplinary working as a means to provide expanded services in the community. It was unclear how far these plans had been implemented for primary care by May 2015 (Rimmer, 2015). There was, however, a clear commitment to strengthen primary care services by investing in estates and IT to deliver the workforce plan and to also negotiate a new contract for GPs, by March 2016. The latter was agreed for 2016-2017 (NHS England, 2016b). Health Education England is, reportedly, making efforts to improve GP recruitment and retention (Health Education England, 2015b), and are committed to retaining existing GPs and to make the role more attractive to medical graduates as laid out in the New Deal for General Practice (RCGP *et al*., 2015a). This plan includes the creation of training hubs to upskill other HCPs.

1.6 Significant developments for Practice Pharmacists

There have been increases in the demand for PPs because of the primary care workforce issues as previously discussed, and two related initiatives that were not announced until after the data collection phase of the project reported in this thesis had been completed. The developments are outlined in 1.6.1 and 1.6.2 and add weight to the further integration of pharmacists into general practice.

1.6.1 Royal Pharmaceutical Society and NHS Alliance round-table meeting

On the 30th September 2014, the Royal Pharmaceutical Society (RPS) and NHS Alliance held a round table discussion with general practitioners (GP) and members of the public to address the workforce crisis in primary care. The report, published in October 2014 (NHS Alliance and Royal Pharmaceutical Society, 2014), acknowledged the background to the crisis and proposed that suitably qualified pharmacists should be recruited to "fill the gaps" in primary care due to GP recruitment problems and the increasing workload. The report suggested that pharmacists already working in GP practices have improved both working patterns and the provision of care. Patient feedback has been positive and many traditional GP roles have been taken on by pharmacists in order to release GP time.

The report asked a key question: *"Why does employing a pharmacist in a GP practice remain an exception rather than the rule?"* and identified a lack of understanding of the PP role and issues with funding and training. Some suggestions to address these barriers were provided in the report such as managed integration, formal business cases, education and sharing best practice.

The document also stated, "*There are an increasing number of highly trained and skilled pharmacists emerging from university, yet not doing the jobs to match their skill level".* While both statements may be true, the PP role requires a level of experience and postgraduate education that is not normally attained by recently graduated pharmacists. As previously stated, the report also wanted to understand the value of pharmacists working in general practice, what training is required and how best to integrate pharmacists into the general practice teams.

1.6.2 National Health Service England Pilot

In 2015, NHS England announced a £15 million pilot (NHS England, 2015a) to facilitate and train pharmacists to work in GP practices and address the workforce issues in primary care.

Further details were given in a report commissioned by the RCGP, BMA NHS England and Health Education England. (RCGP *et al*., 2015b). The scheme was oversubscribed, and a further £16 million investment was announced in October 2015 (NHS England, 2015a) with further funding of over £112 million announced in 2016 (Sukkar, 2016). The pilot is underway and uses senior clinical pharmacists (also prescribers) to provide clinical supervision to several (unspecified) other clinical pharmacists working together in clusters or federations of practices for clinical and peer support. The pilot will fund the PPs on a reducing scale, 60% for year one, 40% for year two and 20% for year 3 with a focus on medicines optimisation and achievement of indicative outcomes. These outcomes include freeing up GP time and improving access to care, communication across patient care pathways and numbers of medication reviews. Also, there are some disease-specific outcomes that are much more difficult to attribute to a single intervention in practice, such as a reduction in COPD admission rates and CHD risk in high-risk patients. (RCGP *et al*., 2015b). The scheme has raised the profile of, and interest in, pharmacists supporting GPs in primary care, but not all pharmacists employed as a result of increased interest have undertaken the Pilot training or had significant previous experience in primary care (Mills, 2016). The Pilot includes a National Learning Pathway, "Developing clinical pharmacists in general practice," that was developed in 2016 by CPPE (Centre for Pharmacy Postgraduate Education, 2016). The Pilot, including the training pathway, has yet to be formally evaluated. Primary Care Commissioning has been engaged to prepare and support the pilot GP practices to embed the pharmacist into their teams (Primary Care Commissioning, 2016) and is using the NHS Sustainability Model in this regard (NHS Improvement, 2017). Primary Care Commissioning has recently published a series of case-studies that provides some indication of the success of the Pilot so far (Primary Care Commissioning, 2017). Most feedback has been positive, often related to saving GP time, with the pilot pharmacists involved in most of the roles reported in the literature, depending upon experience. Pilot pharmacists have also started to expand their roles into telephone consultations, polypharmacy clinics and home and care home visits. While acknowledging their vested interest in a favourable outcome, the PCC

have reported several problems which suggests that there are some integration issues that have not been fully addressed. This thesis project hopes to clarify these and suggest solutions.

The reported problems have included intrusion or encroachment into other HCP roles and a lack of patient understanding due to difficulties in explaining the role and purpose of the pharmacist in advance of appointment to the role. Part-time working has been problematic for some pharmacists, and there have been recruitment and pharmacist availability issues leading to some practices leaving the pilot. Training needs have been underestimated with some pharmacists requiring training in communication and integration skills. While acknowledging that pharmacists are not replacing a GP, some practices felt pharmacists were expensive and that GP budgets were a limiting factor in pharmacist employment.

Chapter 2: Background to the Research

2.1 Overview

This chapter begins with my background and experience and describes how and why I came to be a Practice Pharmacist and my initial investigations into the role. This is followed by a summary of the Initial Study that I undertook to support my DPharm research and to begin to understand some of the questions I had about the Practice Pharmacist's role within CCGs after the 2013 changes. The chapter concludes with the derivation of the research questions for my thesis and the relevance of these to current developments and the necessity for scientific investigation.

2.2 My background and experience

I qualified as a pharmacist in 1976 and worked as a hospital and community pharmacist before becoming a proprietor in 1985. Owning a pharmacy gave me more freedom, but after 14 years I became disenchanted with the community pharmacy role, which had not appreciably changed since I qualified. One aspect of the role that remained interesting was building a relationship with local practices and being asked for advice about medicines. I had also become interested in the burgeoning role of the practice-based pharmacist but was concerned about my lack of knowledge about disease and therapeutics. I felt that I needed some formal qualification to prove that I could work at a postgraduate level and to support my future career as a PP, so I undertook a postgraduate diploma in 1998. In 1999, encouraged by my initial success, I started work as a PP for a local PCG.

The PP role was a revelation to me; it was challenging because there was a steep learning curve; often you would have to research a problem to find a solution, but also satisfying because of this. There were opportunities for much more satisfying patient interaction, and it was also much less professionally isolating than community pharmacy had been. It was based on teams of pharmacists and pharmacy technicians and had excellent educational

support from the NPC and other organisations giving access to high-quality therapeutic training, further consolidating my PP skills. It was refreshing to be out of a commercial environment and into a more professional role. There was a significant difference in the way that PPs interacted with GPs and their staff, compared to interacting with a community pharmacist and, in most practices, I felt part of their team. I watched the genesis of pharmacist prescribing with interest and began considering how I might become a prescriber myself. I was among the first pharmacists in the UK to qualify as a supplementary prescriber in 2003 and then converted to an independent prescriber in 2007.

I took on a more strategic role in 2007 but was still able to see patients and prescribe for them, while supporting the management of a large team of PPs, most of whom were prescribers. During this period, I worked closely with secondary care on formulary management and the implementation of NICE guidance across primary care. Some of the most rewarding work was supporting our prescribing PPs to run CDM clinics.

In 2010, I started a Diploma in Advanced Professional Practice and after completion I was invited to undertake the new Doctor of Pharmacy (DPharm) course. I had to complete an Initial Study (to determine my suitability for part 2 of the course, so I chose to look at the activities that PPs carried out and their relationship with GPs. This was because I felt that the PP role was professionally fulfilling with the potential to develop into a future alternative to traditional pharmacist roles, but I had observed some issues with the integration of PPs into GP practices. Sometimes the PP/practice relationship broke down, or the PPs were reluctant to prescribe. I found this interesting because the practices were turning down a resource and I wondered why a pharmacist would take on the prescribing course and not want to prescribe. There were other issues that needed clarification.

There was published research on the PP role, but none related to hard patient outcomes (e.g. a reduction in morbidity or mortality), perhaps not surprisingly due to the cost of

undertaking long-term research and lack of obvious funding streams. The lack of evidence was a little disappointing, but there was burgeoning local evidence of PPs being cost-effective. Further background reading showed that the numbers of primary care pharmacists had declined in 2008 (Hassell *et al*., 2004, 2006; Seston and Hassell, 2009). I felt that the declining numbers and lack of evidence were disappointing and contrary to my personal experience and expectation for the future of the PP role. I was also curious about how the latest iteration of the NHS and changes in primary care structures had affected the PPs and their role. These changes provided an opportunity because CCGs were new organisations there was no published evidence, at the time, describing the current range of activities carried out by CCG PPs and the relationship between PPs and GPs within CCGs.

I felt compelled to research the PP role because it changed my life. It helped rescue me from processing endless repeat prescriptions and made me believe that there was an alternative long-term future for the profession in primary care. I have witnessed the benefits of a pharmacist in a GP practice where PPs have used their pharmaceutical knowledge and judgment to problem-solve and facilitate solutions for patients around medicines taking. I believe there is a need for pharmaceutical input in primary care that is independent of the need to compensate for shortages of other HCP groups, which is reported to be a driver to integrate pharmacists into general practice (NHS Alliance and Royal Pharmaceutical Society, 2014). I believe that the assumption that suitably qualified pharmacists can offset the lack of GPs and practice nurses in primary care is overly simplistic. While undoubtedly there is a role for prescribing and non-prescribing pharmacists in CDM, this must be appropriate for the skill mix within the individual practice. Pharmacists should be part of the primary care multidisciplinary team where they can flourish and deliver a truly clinical pharmaceutical role. I feel privileged to be practising at a time when pharmacist prescribing has emerged, and there has been the opportunity to work in an alternative patient-facing role to hospital and community pharmacy. These factors have positively transformed my outlook on my career and the pharmacy profession. It has given me job satisfaction, motivation and continually

challenged me to increase my skills and knowledge.

2.3 The Initial Study

From my understanding of the PP role, my initial survey of the literature, and discussion with my supervisory team, the focus of the Initial Study was around the activities of PPs and the GP and PP perceptions of the role. The premise was that there was a lack of understanding of the current role of Practice Pharmacists within CCGs and the opinions and expectations of the PP role by both PPs and GPs.

2.3.1 Initial Study research questions

A literature search was conducted using terms related to pharmacists, general practitioners, primary care, inter-professional relationships and known pharmacists' roles (these were added to as other relevant terms were identified). Only UK sources were included in the initial search as the differing healthcare systems in other countries were initially thought to restrict or power the pace or direction of change of the pharmacist's role thus making these less relevant to the UK model. The research aim and two objectives for the IS are listed in Table 2.1.

Table 2.1 Initial Study research aim and objectives

Research question- What is the current scope of Practice Pharmacist activities?	
Aim	
	To begin to develop an understanding of the current scope of Practice Pharmacist activities in general practice
Objectives	
1	To develop an understanding of the range of Practice Pharmacist activities
2	To develop an understanding of Practice Pharmacist and general practitioner perceptions of Practice Pharmacist activities

Relevant references and citations of the articles found were included in the review. The search identified some PP activities like those suggested by the NPC in 1998 (National Prescribing Centre and NHS Executive, 1998). These activities

included CDM, MR, EO prescribing support and pharmacist prescribing. Prescribing by pharmacists came about after changes to legislation in 2003 and 2006 respectively (Guillaume *et al*., 2008; Stewart *et al*., 2009a; Gerard *et al*., 2012). Pharmacist prescribing was included in the literature review as it is likely to have a bearing on PP activities where the pharmacist is also a prescriber.

2.3.2 Initial Study methods

Ethical approval was sought from the study CCG's-Research Governance Group and was granted on 12/4/2013. A qualitative approach was taken as the study was exploratory because little was known about the role of the PP and participant perceptions within CCGs. Focus groups were considered more convenient regarding time and ease of data collection for the PP respondents, but it was felt that it would be difficult to get GPs to attend a focus group because of the time required and the difficulty in arranging dates convenient to all involved. Semi-structured interviews were chosen as an alternative as they could be conducted within the GP practice at a time convenient to the individual GP.

Purposive sampling was used to ensure that the participants would have sufficient experience working with or as a PP. A minimum of four years' experience was feasible, in this established team, and allowed for relationships to develop. Contact with potential participants was initially made by e-mail or telephone to outline the purpose of the study and to obtain outline consent to take part in the IS. Follow-up contact by e-mail or telephone was employed to reaffirm agreement to take part and to check availability and confirm dates and times for the focus groups and interviews. I conducted the focus groups and interviews and selected the participants.

Focus groups participants were PPs, with at least four years' experience in the CCG Medicines Management Team. The PPs were chosen to form homogeneous groups as these groups are thought to be more productive when little is known about the topic (Smith, 1998a).

No account was taken of their age, gender, position in the team, job title or prescribing status during the selection process. At the beginning of the focus groups, the attending PPs were asked to state their age band, gender and the number of years they had worked as a PP. Data on educational achievement and how many hours each week the PPs worked for the study CCG were also collected. The focus groups took place on CCG property in the evening.

A total of three GPs were selected for interview based on having had at least four years' experience of working with a PP and being available for an interview. No account was taken of age, gender, seniority in the practice, or practice demographics. Each GP was asked, at the beginning of the interviews, to state their age band, gender, list size, the number of years they had been qualified and how long they had worked with a PP. They were also asked about their current position in the practice.

The data gathering took place over four weeks (April-May 2013), which was dependent upon arranging the focus groups and interviews. All the focus groups and interviews were audio-recorded, transcribed verbatim and checked by RS. All participants were informed about the study and what was expected of them in advance. Written consent to the study itself and for the use of anonymous quotes was obtained from the participants before the focus groups and interviews commenced. The recordings were transcribed and checked by me. The analysis was undertaken using Dedoose® software and the principles of grounded theory (Silverman, 2011).

2.3.3 Initial Study results

A total of ten participants took part in two focus groups and three semi-structured interviews (See Table 2.2).

Table 2.2 Method of data collection, participants and work profile

PP	Gender/ Participant No	Age band	Pharmacist prescriber	Years in CCG	Hours a week as PP	Previous branch of the profession	PG education
Focus Group 1	M/P1	25-34	Yes	5	16	Community Pharmacy	MSc
	F/P2	35-44	Yes	4	4	Community Pharmacy Education	Clinical Diploma
	F/P3	25-34	Yes	5	8	Community Pharmacy/ Private hospital	Modules and Certificate in Diabetes
	M/P4	45-54	Yes	7	16	Community Pharmacy Industry	MBA
Focus Group 2	M/P5	35-44	Yes	6	40	Community Pharmacy	None
	M/P6	55-64	Yes	5	40	Community Pharmacy	PG Certificate
	M/P7	45-54	Yes	11	40	Community Pharmacy	Clinical Diploma
GPs	**Gender/ Participant No**	**Age band**	**Years qualified**	**Years in CCG**	**Current Position**	**List size Approx.**	**Years working with a PP**
Semi-structured Interviews	M/GP1	35-44	12	12	GP Partner	9600	12
	M/GP2	35-44	9	9	GP Partner	10700	9
	F/GP3	Over 65	38	38	Principle	2800	17

Pharmacists reported several reasons for becoming a PP with many like those previously identified in the literature. Once in the role pharmacists felt that they had more freedom to contribute to patient care, were more professional and were involved in the practice. The role was intellectually challenging, diverse and required continuous updating of clinical knowledge and skills.

Pharmacist prescribing was identified as a significant way of freeing up GP time since it was viewed as facilitating CDM. This was appreciated by GPs who saw that this allowed them to focus on more complex patients. Efficiencies related to cost-effective prescribing were a high priority for GPs who were concerned about minimising waste.

The PP and GP respondents achieved a good correlation when identifying the current roles undertaken by the PP, in their practices, which were broadly like those roles identified in the literature. The IS identified several themes for PP activities, practice educational activities, patient safety, freeing up GP time, efficiencies and liaison with community pharmacy. Educational activities in the practice included direct prescribing advice in answer to individual queries and educational outreach to provide an overview of a prescribing topic or specific disease. This kind of advice, and the PP as a resource, was valued by GPs. Activities related to patient safety were delivered through direct patient contact, medicines reconciliation and via audits and the implementation of safety alerts and drug withdrawals.
Other roles that the IS PPs were carrying out were, efficiencies such as dose optimisation, switching to more cost-effective drugs and operating the repeat dispensing arrangements.

The IS PPs were also involved in roles not previously reported in the literature related to repeat prescription management. These included the management of repeat prescribing, reviews of patients taking sip feeds (using Malnutrition Universal Screening Tool (MUST) score (Bapen, 2016)), synchronising medicines (aligning prescription items to the same renewal date) and monitoring non-patient prescription requests from third parties such as contractors and care homes. The management of repeat prescriptions by PPs has subsequently been shown to be cost-effective and to improve patient safety (Walsall Clinical Commissioning Group, 2014). Liaison with community pharmacy was seen as a role suited to PPs where a good relationship with community pharmacy was believed to facilitate cooperation. All the GPs, interviewed in the IS, acknowledged their PP's contribution to reducing the GP workload. They also said that pharmacists were doing most of the work for the incentive scheme and were prescribing in the management of chronic disease and for third-party requests.

When pharmacists were first introduced into GP surgeries, I would argue that there was little

understanding of the benefits that practice-based pharmacists could bring. This was probably due to a lack of familiarity with the pharmacist's skill set, and its application to general practice and also a suspicion of their role. Over time this had changed, and in the IS, GPs felt that PPs were a resource, for not only extra work but also for their specific skills and contribution to the practice per se. The GPs saw PPs as part of their team and respected their role. This was supported by their understanding that PPs were being funded by the CCG, and therefore the PP's agenda was comparable to the agenda of the GP and the practice, e.g. ensuring the quality of care, cost-effectiveness and patient safety. Both professional groups felt that PP role had changed over time from quite simple beginnings, such as generic substitution, to now being a complex role and a trust had been built up based on past evidence of benefit to the practices. Pharmacists now felt integrated into their practices, part of the team, and enjoyed their interactions with the GPs and the practice staff. This integration was linked to an improved ability to effect change resulting in a feeling of having made a difference and of achievement. Once change had been achieved the outcomes were considered more visible to the PPs and could be followed through if necessary.

GPs felt that, aside from formal qualifications skills and knowledge, there were behavioural attributes that positively contributed to the value of pharmacists. For example, the ability to positively interact at a simple level with the practice staff was a key skill that pharmacists displayed, simply "joining in" social events was considered important as was good communication skills. The GPs thought that a community pharmacy background was also a positive attribute as the business skills were useful in understanding the motivation behind some prescription requests.

Ability to fit in with different GP attitudes and practice agendas was identified in the focus groups as a key skill, alongside communication skills. The pharmacists agreed that no matter

how highly qualified a PP was, they would not be able to function effectively unless they could engage with the practice staff and patients. Once again community pharmacy was identified as a good training ground for attaining some of these necessary skills. They also felt that there were some benefits of being in a large team regarding peer support.

Seeing patients was viewed positively by PPs, but they were cognisant of the fact that they had the luxury of twenty-minute appointments, compared to much shorter appointment times for other HCPs. The PPs also felt that patients appreciated this, being grateful for the extra time to discuss their medicines issues and to receive information. Positive comments from patients provided PPs with job satisfaction. Pharmacists also considered that they brought a different professional perspective to the practice that was medicines focused and they were more likely than other HCPs, to pick up on compliance issues or side effects of medication. The PPs also felt that there was a difference in patient perceptions of GPs and pharmacists; patients were perceived to be less threatened by the status of a PP compared to the status of a GP, and as a result, perhaps asked different questions.

While indicating that there were similarities in the skill set required for both GPs and pharmacists, GPs thought that there were also significant differences. Practice pharmacists were thought to have better knowledge of interactions, side effects and contraindications and were likely to be better than GPs at conducting medication reviews.

The GP respondents identified some negative perceptions about the PP role. The GPs wanted more PP support, particularly in larger practices, and for consistency, with the same PP to provide that extra support. The service consistency was also an issue with PP holiday and sickness when a replacement was not provided, thereby making planning difficult and potentially compromising the value of the PP service to the GP. This was linked to the current employment mode compared with direct employment. Pharmacists were aware that their relationship with the practice was based on a positive track record of decision-making

and behaviours built up over time so maintaining the same PP was considered preferable. The GP respondents differentiated between the role of the PP and the role of the community pharmacist and acknowledged a more clinical focus for the PP role. GPs were aware that community pharmacists had business targets to meet and that this might override their clinical judgment and patient focus of the community pharmacist. Doctors did express confidence in some community pharmacists, but this was earned from experience of working with them over time rather than an automatic response. Community pharmacists were not considered by GPs to be part of the practice team.

Some negative aspects of the PP role were identified by the PPs. Professional isolation, especially for those that worked for only one or two sessions a week, was associated with the ad hoc/piecemeal provision of the service. The pharmacists also saw the lack of a prescribing qualification as a limiting factor regarding the effectiveness and the range of activities in the role. An increase in workload was thought to be restricting the time available for qualified PPs to prescribe and was perceived as a threat to the enhanced appointment times that pharmacists were allowed when seeing patients. A heavy audit workload made the pharmacists feel that the skill mix of the team needed reconsidering, and they suggested that pharmacy technicians could carry out this work more efficiently.

There was some pressure from practices for PPs to carry out non-core activities, outside the pharmacist's work plan for that practice, that was also linked to the piecemeal provision of the service. Pharmacists also felt that they were sometimes sent the "difficult patients," where other practice staff had been unable to resolve issues such as a request for branded prescribing. On some occasions, the pharmacist's decision had been given as the reason that a GP could not supply items that patients had requested, simply to avoid confrontation.

There was some speculation on the future of the PP role by both professional groups. The CCG appeared to be driving the work plan, and the PP team was perceived as integral to

delivering this. The need to adhere to the work plan was thought to be partly driving GPs to request more pharmacist support. Larger practices appeared to be considering direct employment to address the piecemeal provision of the current service and to customise the role to suit their requirements.

Pharmacist's felt that they were taking on more clinical work and expressed aspirations to manage more chronic diseases while acknowledging the need for appropriate training to be able to do so. It was suggested by both professional groups that a future model, where GPs would diagnose, and pharmacists would take on the responsibility of treatment, was ultimately feasible.

2.3.4 Discussion of Initial Study results

This Initial Study began to determine the key aspects of the PP role, within CCGs, regarding its constituent activities and the understanding of that role by GPs and pharmacists. The IS had limitations; purposive sampling yielded pharmacists and GPs with experience in working as, or with, a PP, but as inclusion in the study was dependent on both volunteering and availability, it is likely that the most interested and motivated individuals took part and therefore their observations and opinions may not be representative. The small sample sizes may also mean that the full range of activities and perceptions may not have been identified. The CCG PP Team was not necessarily representative of other teams. The IS was conducted during a period of assimilation of new responsibilities and consolidation for CCGs, therefore, conducting the study within this period may have affected the results.

I conducted all the focus group and interviews for the IS which could have posed several issues regarding my position in the team. I was a senior professional within my organisation and part of the culture, ethos and workplace mission (Drake, 2010), I tried to ensure objectivity when considering the outcomes of this evaluation, but I was an early adopter of the PP role and had worked in GP practices for 16 years. My "insider" status conferred

responsibilities of loyalty, confidentiality and trust (Lytle and Zeni, 2001) to my colleagues. Regardless of the outcome of the evaluation, I had to continue to work with the pharmacists and GPs who participated in the IS. My colleagues may have felt obliged to take part in the evaluation and thought that it might provide unspoken benefits or have even felt threatened because of my position in the team and this may have discouraged frank and open discussions in my presence (Drake, 2010) or affected what was said.

The IS pharmacist respondents reported similar reasons for becoming PPs that have previously been reported in the literature, related to the perceived shortcomings of community pharmacy and the more clinical nature of the PP role. Despite this, community pharmacy was considered by GPs to be a good background for PPs in helping them to understand the motivations for some prescription requests and to also facilitate liaison with community pharmacy on medicines issues. A prescribing qualification was felt to make the PP role more effective with pharmacist prescribing freeing up GP time for more complex patients which were valued by GPs.

The correlation between the views of GPs and PPs of the PP role suggests that there is now a good understanding between the two professional groups of the activities undertaken. The GP respondents were easily able to differentiate between community and practice pharmacy. The PP role had grown over time. The IS identified several themes for PP activities, practice education, patient safety, freeing up GP time, efficiencies, liaison with community pharmacy and checking the suitability of repeat medication. This kind of advice and the PPs specific skills were seen as a resource and valued by GPs. The IS has identified both established activities and some new ones, indicating that the role continues to evolve in response to changes in local and national priorities.

Pharmacists brought a different perspective to the consultation, more medicines focused.

Patients were felt to be more open about medicines with pharmacists, but this was also linked to PPs longer appointments. GPs wanted more support from their PP and there was evidence of some degree of dependence on PPs by the practice.

The relationship between GPs and PPs has evolved from uncertainty, through acknowledgement of the role and skills required, to mutual respect and increasing dependence on the PPs to manage the primary care workload. The perception of this relationship was tempered by issues about employment based on a lack of continuity that was identified by both respondent groups. Both professions identified formal qualifications and good communication skills as important attributes. The ability of the pharmacist to socially interact with practice staff is also important. A prescribing qualification was felt to make the PP role more effective. The PPs thought that they were part of the practice team and had a different relationship with patients to that of the GP.

The direct employment of pharmacists could be a solution to the dilemma around prioritising PP work. It is not clear from the IS if pharmacists would like to be employed directly by GPs or if this would detach them from central or peer support. The PPs identified increased job satisfaction, but also an increasing workload because of practice requests. Practice pharmacists may reduce GP workload, but there were concerns about the amount of this work that transferred to the pharmacist. The excessive workload may have a detrimental effect on the role perception and may reduce pharmacists' appointment times that were perceived as advantageous to patient care. Not all the PPs work full time and will often have a portfolio career including community pharmacy and other roles. A preference for a portfolio career may limit the time that some pharmacists contribute to the PP role. Also, the trust built between GPs and PPs may be potentially undermined by a conflict of interest with other portfolio roles.

2.4 Development of research aims and questions.

In developing the research questions for the main thesis project, I felt it would be useful to repeat some exploration begun in the IS to see if respondents' opinions had been modified over time as CCGs became more established, and to look further into the effects of NHS changes on the PP teams.

The IS had also collected some personal information on the respondents, particularly the educational status of the PP, most of whom had undertaken postgraduate education. It was important to consider if the PPs in the project reported in this thesis were comparable with other PPs nationally so that other project data collected could be framed in relation to a representative or non-representative PP sample.

I believe that the relationship between the CCG commissioned PPs, and other stakeholders could potentially be a factor in the way that PPs work in practice now and in the future. The commissioning organisation and PP relationship, and the patient and PP relationship, were not investigated in the IS but were important because the CCG commissions the service and patients are the end-users. Patients are ultimately the judge of a service and have the right to comment on the quality and availability of a service and to complain if dissatisfied (Department of Health, 2015). I felt that these relationships require some further research to understand their relevance to the PP role and establish whether or not they are driving change. The literature does indicate that, in general, patients are happy to consult with pharmacists in the general practice setting and that they also currently accept prescribing by a pharmacist, but I felt that this needed to be investigated further as acceptable or not under the new commissioning arrangements.

The CCG influenced the role of the PPs that the IS indicated was sometimes at odds with the practice agenda. There was also an associated issue with the hours that PPs were

commissioned to work in practices. If there is a significant difference in the expectations of the PP role between the commissioner and constituent practices, then the PP/GP relationship may break down, and PP functions may be limited or cease altogether. I felt that further investigation into the aspirations of the stakeholders for the PP role in the future was required to help to understand where they feel it should be heading and how this might be achieved. This is particularly important in the case of GPs who can hire additional practice staff to cover GP shortages and to meet the needs of the practice.

The IS suggested that the PP role in primary care continues to develop in response to changes in the NHS and practice workload. The aspirations of CCG employed PPs, therefore, needs to be considered and their fit with the current and possible future models. Currently, most PPs work part-time and may undertake traditional roles as well; the reasons for this should be explored to see if there are any significant benefits in a portfolio role to the pharmacists or other stakeholders. If the demand for PPs increases, then individual PPs may be under pressure to work more, or even all their working hours in primary care. Full-time working may not suit all PPs, as the IS showed that some liked the flexibility that the role offered. The aspirations of PP themselves are important if they are to continue to integrate into primary care. From the literature and the IS, we know that for some pharmacists, if the role becomes repetitive or ceases to be challenging and does not meet their desire to help patients, then they may look to change to a role that does.

The NHS changes prompted me to conduct the IS, and in turn from this, my choice of topic for the main project reported in this thesis emerged. The IS only sampled respondents from one CCG, but from my initial observations, it was clear that there were examples of other models of commissioning in the region that presented an opportunity to investigate how these functioned. Overall it was initially intended that the postulation of a future model for PP Teams might be the main thrust of my research. However, the focus of my research changed because of the potential significance of relationship issues identified in the IS and the

national investment in pharmacists in general practice. This thesis now considers the development of a model for the integration of pharmacists into GP practice around which there appeared to have been no previous work conducted in the UK, apart from my IS.

2.5 Thesis study research aims and questions

The aim of this research was to understand the background of CCG commissioned PPs, and their relationships with stakeholders, to identify the elements necessary to support the successful integration of pharmacists into general practice teams

The research questions were:

1. What is the background, educational and employment status of primary care pharmacists working in CCGs?
2. What is the impact of the recent NHS changes on primary care practice pharmacist teams?
3. What are the key stakeholders' perceptions of the current practice pharmacist role and its future, including prescribing?
4. What are the personal and career aspirations of primary care practice pharmacists and the perceived opportunities and barriers to achieving these?
5. What recommendations can be made to support the successful integration of pharmacists into GP practice teams?

2.6 Relevance of the topic and the necessity for scientific investigation

The PP role has developed gradually since the mid-nineties, but without definitive evidence of patient outcomes and in the face of NHS structural change. Nevertheless, the fact that it has developed in these circumstances and endured suggests that both commissioning organisations and GPs continue to see empirical value in the role. Public money, in the shape of NHS funding, is being used to provide PPs on an "invest to save" model (that the pharmacists will save more money than they cost) at a time when NHS funding is under extreme pressure. There is some recent evidence to support the "invest to save" model for

both direct financial savings (Walsall Clinical Commissioning Group, 2014), and indirect savings by reducing patient risk from adverse drug reactions (Avery *et al*., 2012). The way that CCG commissioned PPs function in primary care needs to be researched as it provides working models that can be investigated to understand the basis of the relationship of PPs and the stakeholders, what the benefits of a PP service are to those involved, and if these are modified by different commissioning models.

This research is even more pertinent now because of the recent and substantial national investment for expansion in the numbers of pharmacists working with GPs, to address workforce problems in primary care. This expansion is being partly funded by NHS England as a pilot from public money but does not appear to be modelled on any existing PP service. Understanding of the current relationship between PPs and stakeholders and assessment of the acceptability and benefit to patients is essential to support the expansion of the role to manage the expectations of all stakeholders and to integrate pharmacists into primary care successfully.

Chapter 3 Methods and Methodology

3.1 Overview

This Chapter begins with a reminder of the project aims and research questions followed by a detailed description of the methods chosen to carry out the thesis project including how the data was analysed. This is followed by an outline of my perspective, the methodological approach and a discussion of the methods chosen and why others were rejected. The chapter concludes with a statement of the ethical approval obtained before the project commenced.

3.2 Method

3.2.1 Project aim, research questions and overview of method

The aim of this research was to understand the background of CCG commissioned PPs, and their relationships with stakeholders, to identify the elements necessary to support the successful integration of pharmacists into general practice teams.

The research questions were:

1. What is the background, educational and employment status of primary care pharmacists working in CCGs?
2. What is the impact of the recent NHS changes on primary care practice pharmacist teams?
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4. What are the personal and career aspirations of primary care practice pharmacists and the perceived opportunities and barriers to achieving these?
5. What recommendations can be made to support the successful integration of pharmacists into GP practice teams?

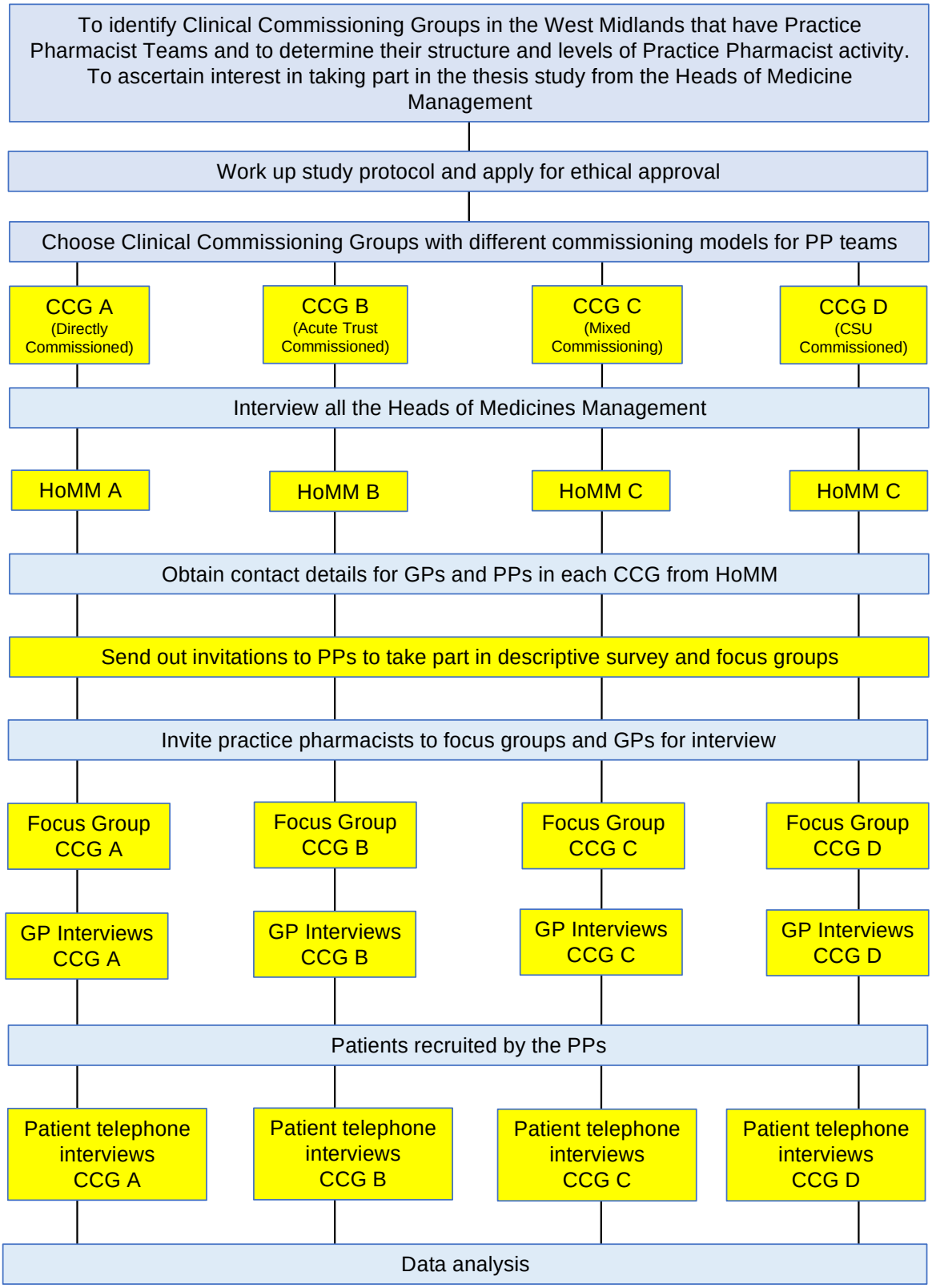
An interpretive/collective case study incorporating mixed methods for collecting data was carried out. Quantitative data was collected on the educational and professional background, current employment and prescribing activities of PPs. Qualitative data was gathered from the commissioners of the service, general practitioners, and patients to ascertain stakeholder views of the CCG PP role.

3.2.2 Recruitment challenges to be addressed

At the time of the thesis project, CCGs had only been in existence for about a year. Although there was a centrally published list of CCGs, there was no published list of those that commissioned PP teams or how the teams were commissioned. There were similar issues with the identification of potential participants. There was, and still is, no central or national register of PPs in the UK, and the numbers of patients that have had a consultation with a pharmacist are relatively small compared with all consultations, making identification of suitable PPs and patients potentially difficult. A pre-study survey (Appendix 3.1) was devised to identify CCGs that had PP teams, their team structure and to assess their levels of PP activity. Contact was made via their commissioning manager, the Head of Medicines Management (HoMM), and outline permission was sought for the CCG to take part in the thesis project.

A project protocol was devised (Figure 3.1). It illustrates how the participants were identified and the way the data was collected from the chosen CCGs, which had been identified in the pre-study survey. The CCG HoMM provided the contact details of the PPs working for them. This was needed to recruit PPs to the descriptive survey and focus groups. The HoMM also identified which GP practices within each CCG could be used to recruit the GPs for the interviews. The PPs were subsequently utilised to recruit patients to the project; this took place after a normal patient consultation with the PPs. By this means only professional participants with suitable experience of working, as or with PPs, were chosen and only patients who had had a consultation with a PP were selected for an interview.

Figure 3.1 Thesis Project Protocol



3.2.3 Clinical Commissioning Group identification

Being familiar with the West Midlands area for over 30 years, I was aware that there were significant numbers of PP teams within the region, but it was unclear how many of these teams had transitioned into CCGs and in what form. The pre-study survey was sent to CCGs in the West Midlands Area identified from a list published by NHS England on their website (NHS Choices, 2013). The pre-project survey was designed to identify CCGs with a significant number of PPs and pharmacist prescribers, to establish the PPs current roles including consultations with patients and prescribing, and to see if the organisations might be interested in taking part in the project.

There were twenty-two CCGs in the West Midlands area at the time of the study. Eleven of the geographically closest CCGs, to the author's place of work, were contacted (between July and August 2013) initially by e-mailing the pre-project survey to their respective HoMM. Selecting geographically close CCG helped minimise travel time, particularly for the GP interviews that were conducted during working hours. The email addresses were obtained from the CCG websites or by direct contact. After two reminders, seven CCGs expressed an interest in taking part, with patient populations ranging from 250,000 to 500,000 and between three and ten whole time equivalent (WTE) PPs and 0-10 WTE pharmacy technicians. Within these CCGs the number of prescribing PPs varied between 0-15 individuals with one CCG describing their prescribers as 'not active'. Most CCGs described their PPs as being employed by the CCGs, with two stating that they were employed by other NHS organisations. Another CCG was transitioning from CCG employed PPs to commissioning from a provider organisation. The range of PP activities across the seven CCGs were similar, with one CCG having a more limited range of activities. The pre-study survey provided sufficient data to select four CCGs with different models of commissioning, with similar patient populations, PP team sizes and numbers of actively prescribing pharmacists.

Two CCGs were rejected because they had small PP teams (< 4 pharmacists), and either no, or inactive, prescribing pharmacists. A third CCG had more pharmacy technicians in their team than PPs, and although an interesting model, was outside the scope of my research.

The remaining four CCGs had varying models of commissioning of PP teams that presented an opportunity to treat each CCG as an individual case highlighting similarities and differences. The participating CCGs were anonymised by randomly assigning one of the first four letters of the alphabet (ABC or D).

3.2.4 Participant recruitment

The commissioners (HoMM) sample size was fixed by the number of CCGs, (i.e. four), and all HoMMs met the inclusion criteria. Demographic data on their professional experience was collected for comparison along with their CCG data using a pre-interview questionnaire (Appendix 3.2) for comparison of replies within and between the HoMM and the CCGs.

To select participants with sufficient experience to answer the research questions, a purposive sampling method was used to recruit GPs, focus group PPs and patients. Only those GPs and PPs that had at least one year's experience of working with or as a PP respectively and patients that had at least one consultation with a PP were recruited. Proposed sample sizes are shown in Table 3.1. and were chosen to provide theoretical data saturation based on experience from the IS and by the population of each group.

Table 3.1 Proposed participant sample sizes

Heads of Medicines Management	4
Practice Pharmacists Survey	60
Focus Group Participants	24
General Practitioners	12
Patients	30

Additional inclusion and exclusion criteria for all participants were:

Inclusion Criteria-All participants will be 18 years of age or over and must be able to give informed consent.

All professional participants must have at least one years' experience of working with, or as, a PP.

Exclusion Criteria-Participants over the age of 18 years that cannot give informed consent,

including vulnerable adults. Participants who have a poor command of English (translators were not available) and telephone interviewees who cannot communicate over the phone. The thesis project data was collected between July and December 2014, and I conducted all the interviews and focus groups.

Informed consent was obtained from the HoMMs, GPs, and PPs by asking individuals to sign a generic consent letter immediately before the interview or focus group commenced. This letter also covered consent for the audio recording and use of quotes (Appendix 3.3). Consent for the descriptive survey and the patient interviews is covered in sections 3.2.6 and 3.2.9 respectively. All participants met the inclusion criteria for the project.

3.2.5 Heads of Medicines Management and Clinical Commissioning Groups

After ethical approval had been obtained, the HoMMs were interviewed first, since each was key to the identification of other participants. A semi-structured interview guide was devised to collect data from the HoMM on aspects relevant to research questions numbers two to five (Appendix 3.4). An information sheet was e-mailed to each HoMM before the interview (Appendix 3.5). All HoMMs consented to be interviewed, and each was interviewed independently. The inclusion and exclusion criteria for the project were explained to the HoMM. Each of the four HOMMs was asked to provide contact details of the PPs that they commissioned and to identify some GPs from varying practice list sizes in their CCG that they considered would be suitable for the thesis project.

3.2.6 Practice Pharmacist descriptive data

The HoMMs reported that they commissioned a total of seventy individual PPs. The HoMM total was approximate as some PPs worked for more than one project CCG, so the number of potential individual PP respondents was less than seventy and probably nearer my initial estimate of sixty. The descriptive cross-sectional survey form was designed to collect data

relevant to research question one, around the background, educational and employment status of PPs. In the two CCGs that directly commissioned the service, pharmacists were identified by the HoMM and then sent a link via e-mail by the HoMM, to an online Google© Forms© descriptive survey tool (Appendix 3.6) with the second link to the descriptive survey information sheet (Appendix 3.7). In the case of the two indirectly managed PP team members, the Provider Team Leader (PTL) was identified by the HoMM, and the PTL then e-mailed both links to their respective teams. The information sheet gave details about the project and stated that by completing the descriptive online survey, the PPs had given consent for their anonymised data to be used in this project and future research. The online tool was piloted for suitability and functionality by reviewing the first six respondents' data. No changes were made to the collection tool. To encourage non-responders, the PPs were reminded to take part in the descriptive survey three months after the initial contact, via the HoMM or PTL. All the PPs who completed the descriptive survey had at least one year's experience of working with a GP.

Google© Forms© allowed respondents to alter their submitted responses, up until the tool was removed from the internet, and automatically presented the data in a spreadsheet format. The survey data was checked before it was anonymized by comparing email addresses and individual entries for duplicated data to ensure that each PP only contributed once to the online survey. One PP declared that they had completed the prescribing course but were not yet a prescriber and were awaiting registration. This pharmacist was treated as a non-prescriber as they were not able to prescribe at the time of the project data collection. The survey was closed at the end of the data collection period. Once checked and anonymised, the data was analysed in SPSS©, and Microsoft Excel© to provide descriptive statistics to define and summarise the sample of PPs.

3.2.7 Focus groups

The focus group topic guide (Appendix 3.8) was designed to answer aspects of research

questions two to five; the questions were developed from the focus group questions in the IS. The HoMM or PTL had identified the pharmacists that wanted to take part. They were asked to contact me, and I arranged a mutually acceptable time and venue for the focus groups. All prospective PP participants were sent a copy of the focus group project information sheet before they attended their respective focus group (Appendix 3.9). Focus groups were arranged so that the PPs commissioned for each CCG were interviewed in separate focus groups. Not all pharmacists who had initially agreed to take part attended the individual focus groups, so the number of participants varied. A pragmatic approach was adopted as the time taken to contact and get responses from the HoMM or PTL varied greatly, and there was a need to obtain data within a limited data collection period. As previously discussed, two of the PPs in one focus group also undertook PP work in another project CCG, but only attended one of the focus groups. The PPs that attended each focus group were asked if they would be prepared to recruit patients for the thesis project, and those that agreed were shown the relevant paperwork and had the process explained to them.

3.2.8 GP interviews

The GP interview guide (See Appendix 3.10) was designed to collect data relevant to research questions two to five, and was developed from the GP interview questions in the IS. Using the contact details provided by the HoMM, eight GPs agreed to take part in the project. A GP Information Sheet (Appendix 3.11) was provided via e-mail if they expressed an interest and a time and date for the interview was agreed. All GPs consented to be interviewed and each was interviewed individually. One GP refused consent to the audio recording of the interview but agreed for written notes to be taken. Demographic and other data was collected related to the GP and their practice (Appendix 3.12). All the respondent GPs were asked if they would consent to have their PP recruit patients to the project. Those that agreed were shown the relevant paperwork and had the process explained to them. Any PPs that worked for the project GPs and had not attended a Focus Group had the relevant paperwork and had the process explained to them by me.

3.2.9 Patient telephone interviews

An interview guide for the semi-structured telephone interviews (Appendix 3.13) was designed to collect data relevant to aspects of research questions two to five. Patients who met the inclusion criteria were invited to take part in the project by their PP at the end of a normal consultation. The PPs had either already taken part in a focus group or worked for a GP that had already been interviewed, therefore, facilitating permission from the practice to recruit patients. If the patient expressed an interest, the PP gave them an information sheet (Appendix 3.14), that included a provisional consent statement and requested contact details should the patient then wish to take part in a telephone interview. The contact details of patients who gave provisional consent were passed on to me by the PPs, and I contacted the patient by phone to arrange a date and time for the telephone interview. Before the interview commenced, prospective patient respondents were asked to confirm their consent for the interview, and this was noted in the interview guide. One patient that gave initial consent was not interviewed, as there were difficulties in establishing contact. All other patients met the inclusion criteria, and all gave verbal consent to both the interview, audio recording and use of quotes. Limited demographic and other data were collected as part of the interview.

The respondents from the focus groups and interviews were anonymised by assigning them with the prefix HoMM, GP, PP or P (patient) followed by the letter assigned to the CCG they were associated with. A number was then assigned to distinguish between individuals within respondent groups in each CCG.

3.2.10 Research questions addressed in the topic and interview guides

The interview guides and focus group topic guides contained similar questions, framed to relate to the different respondents. This commonality allowed some measure of triangulation between groups of respondents to overcome some of the weaknesses of individual methods (Alaszewski, 2007).

Table 3.2 shows the common areas of questioning asked in each of the interviews and focus groups.

Table 3.2 Research Questions in the Topic and Interview Guides

Areas of questioning	Research Questions no	GP	HoMM	PP	Patient
The practice pharmacists' role and its value	1, 3, 4,	Yes	Yes	Yes	Yes
Role changes since GP Commissioning	2, 3,	Yes	Yes	Yes	-
Practice pharmacists' training	1,3,5	Yes	Yes	Yes	-
Training updates for practice pharmacists	1,3,4	-	Yes	Yes	-
The importance of a non-medical prescribing qualification to the PP role	1,2,3,4	Yes	Yes	Yes	Yes
Use of a competency framework	3, 4,5	-	Yes	Yes	-
The future of the practice pharmacists' role	2,3,4,5	Yes	Yes	Yes	Yes

3.2.11 Transcription

The Interviews and focus groups were recorded and transcribed verbatim by me or by a professional transcription company (Transcribe Me©). All transcripts were checked by me for accuracy against the original recordings and then anonymised before being analysed using NVIVO© 10 software on a password-protected computer. Recordings were deleted from recording devices once the transcriptions had been completed. My supervisory team reviewed a sample of transcripts to provide guidance and some assurance of my interview and focus group techniques and analysis.

3.3 Methodological approach and my perspective

There are two main paradigms in research, the positivist or deductive and the interpretivist or constructive. Methodology is a term used to describe an outline of the broad principles and philosophies governing research, associated to a paradigm (Broom and Willis, 2007) and is a way of discovering knowledge in a systematic way (Killam, 2013). Associated methods are

only one component of an overall methodology but determine how the research will be conducted.

Pharmacists have been traditionally trained to take a scientific approach to their work. In my clinical role, this usually meant searching for definitive answers to clinical questions in the evidence-base. This often involved looking at experimental drug trials that adopted a realist, also known as positivist or deductive, ontological belief about reality. The assumption is that is that there is one reality to be discovered and that this reality is context-free and does not change (Broom and Willis, 2007; Killam, 2013). Typically, an experimental study would involve an attempt at removing all variables apart from the ones under study. An example would be comparing drug to drug or drug to no drug in a highly-controlled environment, the clinical trial. The aim is to provide high-quality evidence and reproducible results that can be reliably applied to a wider population. The relationship between the researcher and the research (epistemology) is driven by the realist approach (Guba and Lincoln, 1994; Killam, 2013). The view is that because reality is fixed and measurable, researchers are therefore external to the experiment or observation and should strive for objectivity; researchers adopt an etic or outsiders perspective (Killam, 2013). The researcher strives to be an impassionate observer and to have no effect on the outcome of the experiment.

Positivist methodology and methods have been criticised (Guba and Lincoln, 1994). For example, experimental studies remove bias by controlling variables within the study, typically excluding any patient with co-morbidities. This controlling makes it difficult to apply the study results and expected outcomes to the general population which often have common co-morbidities. Experimental studies measure probability within a population, and so individual outcomes cannot be predicted from the study alone. Also, positivist methods cannot assess a person's experience and social life (Broom and Willis, 2007). Experimental studies do not include any assessment of patients' feelings about the intervention and so cannot predict how patients will react when the intervention is applied more widely in the population, e.g.

compliance with medication.

While this has been the case for most my working-life, once I embarked on the IS, I had my mind opened to the constructivist view of the world. A relativist, also known as inductive or constructive ontological view, is that there are multiple perspectives of reality that evolve from culture and experience. Context cannot be separated from reality because it does not exist outside the individual (Killam, 2013). The inductive view is that, because reality is based on the perceptions of individuals, the researcher and the project participants co-create findings, so knowledge will be maximised by increasing the proximity between the researcher and the researched; an emic or insiders perspective is adopted (Killam, 2013). Interpretive approaches in healthcare also have issues at the paradigm and methods levels (Broom and Willis, 2007). There is no consensus on data collection and analysis, and studies often use small samples that cannot be realistically used to provide data that can be generalised. Sample selection is potentially biased because it is not randomised, and researchers can unconsciously (or consciously) influence the respondent. Respondents and researchers may confuse real-world events with those constructed from memory within the focus group or interview, for example.

The realist and relativist ontological views are the two dominant paradigms used in healthcare research. The distinction between paradigms has been debated for many years (Guba and Lincoln, 1994; Bowling, 2009; Killam, 2013), but the division between them is not fixed or unchanging. Guba and Lincoln (1994) suggest that dialogue between the proponents is required for resolution. However, Killiam (2013) described a more modern viewpoint, based on the work of Kuhn, where a paradigm is described as *"basic sets of viewpoints and practices that scientists agree on at a particular point in time"* (Kuhn and Hacking, 2012). Despite the fact that the two approaches to healthcare research appear to be in opposition, the reality is that no one paradigm is superior or better than another, (Broom and Willis, 2007; Killam, 2013) and each has their strengths and weaknesses.

I have adopted a pragmatic approach and have matched the methods I used to the questions being answered, as has been suggested in the literature (Broom and Willis, 2007). The quantitative and qualitative paradigms are considered complementary, especially in healthcare research, that starts with a practical question rather than an ideological stance. Qualitative methods can be used in complex situations or as a precursor to, or support for, quantitative work (Pope and Mays, 1995).

A realistic approach is that the research question should dictate the correct methodology to use (Broom and Willis, 2007; Killam, 2013). Where there are quantifiable results that can be measured, a positivist approach is more suitable. Where the thoughts and perceptions of individuals are being investigated, then a relativist approach is likely to be more suitable, especially where little is known about a topic.

Despite positivist roots, I now realise that there is another way of looking at the world that provides insights into the human condition where a positivist approach is impractical. Neither paradigm is perfect and can be potentially influenced by the human observer. Witnesses very rarely give the same account of what happened and recreate memories rather than playing them back as a recording (Arkowitz and Lilienfeld, 2010). Humans see what they want and ignore what they do not want to see; one cannot be impartial without conscious effort, and even then, biases and preferences will still be there in the subconscious making the "truth" relative to perspective. Broome and Willis (2007) stated that "*all knowledge produced by research is subjective, interpreted, political and partly ideological, regardless of the paradigm*". Bowling (2009) agrees by saying that *"investigators cannot be divorced from the cultural, social and political context of their topics"*. Therefore, if true objectivity is elusive, researchers must be open about their biases and subjectivity regardless of underlying ontology. The researcher must be clear about their beliefs and try to avoid bias and to generate theory from the data rather than their preconceptions. My experience tells me that the PP's role positively contributes to patient care. I have this preconception in mind, so it will

undoubtedly affect every aspect of my thesis project, from the initial idea to setting the aims and objectives to the conclusions. I cannot avoid it, but I can acknowledge it and attempt to be reflexive by constantly checking that I am not being biased and being open to the opinions of others and not promote my thoughts and feelings over theirs (Pillow, 2003).

3.4 Discussion of methods used

3.4.1 Quantitative methods

The research question involving the background, educational and employment status of primary care pharmacists working in CCGs involved gathering information that could be analysed and represented in numerical terms, for example, the percentage of PPs with a diploma. Descriptive studies have been used in the evaluation of service development and have been used for hypothesis testing, but exploratory analysis of the data can also be hypothesis generating (Smith, 1999a; Bowling, 2009;). A quantitative methodology such as cross-sectional studies, surveys, structured interviews or structured questionnaires were possible choices of methods for this project. Descriptive cross-sectional surveys can be used to describe phenomena and obtain information about prevalence at a point in time (Bowling, 2009). They have also been used to document professional practice where they can be repeated over time in the same individuals as a longitudinal study, or in different individuals as a repeated cross-sectional study (Calnan, 2007; Smith, 1997). A quantitative, descriptive, cross-sectional survey was, therefore, chosen as an appropriate method to collect data on the background, educational and employment status of PPs at a point in time (Bowling, 2009). There is was no need to repeat it to collect data over time for analysis for this project, although it could be used to measure changes in employment and levels of educational achievement over time. Surveys are not experimental or likely to adversely affect the PPs, but permission needed to be obtained from the pharmacists and data was anonymised to ensure confidentiality.

The descriptive survey had several potential limitations. A one-off descriptive survey cannot

describe trends or explore reasons behind the data (Calnan, 2007; Bowling, 2009). The survey questions were structured to effectively obtain specific information about the pharmacist respondents without allowing for any elaboration or explanation of the answers. This is unlikely to be a problem with simple factual questions about age and gender but can lead to ambiguity where there are potentially more answers than options given in the questionnaire.

The descriptive survey was not validated. It was not tested for reliability (reproducibility), although the results from the survey were subsequently found to be like those in other previously published studies. The survey questions were also framed, I believe, in an appropriate language for the intended respondents (Calnan, 2007). No attempt was made to go further than gathering simple descriptive statistics for the survey data since it was intended to inform further research and not to confirm or deny a hypothesis.

3.4.2 Qualitative Methods

Qualitative methods include the use of interviews, questionnaires, focus groups and observations (Smith, 2010). Because the views and experiences of HCPs and patients were being sought, for example in research questions two to five, interviews and focus groups were considered suitable for gaining the relevant information. They also had the advantage of allowing follow up questions if necessary. Other methods were rejected, for example, unstructured interviews since it has been suggested that these are less effective in gathering data on what people do, and that data is retrospective (Low, 2007). Structured and semi-structured questionnaires can be a useful method of obtaining large amounts of information relatively quickly, but they were also rejected since they have limitations over interviews in as much as it is not usually possible to follow up ambiguous or particularly interesting answers from a questionnaire.

Validity and reliability are different concepts in qualitative methods, relating to the richness of data and method respectively. Qualitative methodologies have their strengths and

weaknesses (Smith, 1999b), and it is usual to attempt to gather data by at least two other methods and to compare these in a bid to corroborate the initial findings (Bowling, 2009). This triangulation of data provides content validity, the extent to which all available data on relevant issues has been collected (Smith, 1999b). Possible triangulation methods could have included participant or non-participant observation e.g. of the PPs in practice. But these methods may have possibly limited the data that could be collected, as the consultation with the patient must take precedence. Also, participant or non-participant observation may have affected the consultation (Bowling, 2009; Hughes, 2007) and introduced additional (observer) bias thereby affecting the validity of the data (Smith, 1998b; Bowling 2009). Observation of PPs face-to-face encounters with patients would have required consent from each PP, patient, and the relevant GP practice because of issues of patient confidentiality and was considered too impractical and intrusive in a time and resource-limited project.

The methods that I selected for my study were chosen as suitable based on my understanding of those available and my analysis of their compatibility to answering my research questions.

3.4.3 Sample selection

Sampling in qualitative studies is non-random and usually involves small numbers of respondents; the aim is to understand complex relationships and to generate theory (Bowling, 2009). Respondents are likely to be unrepresentative of the population as a whole, and this restricts generalisability (Low, 2007; Bowling, 2009). There are four qualitative sampling (non-random) methods (Bowling, 2009). The intention of the thesis project was to use purposive sampling to ensure that the selected participants had the experience and characteristics to be able to answer the relevant research questions and enhance the richness of the data. Convenience or opportunistic sampling, using individuals who were easy to recruit or likely to respond, was not chosen because this would not necessarily select suitable respondents with the required experience. Snowballing can be used where there is

no understanding of the size of the population under study where respondents recruit other respondents within the same study characteristics. While this was, theoretically, a potential method for recruiting patients, as they are a hard to reach group, it was felt that the social networks required to make snowballing work were not established for patients that had a consultation with a PP. The fourth method, theoretical sampling, is discussed in section 3.4.4.

3.4.4 Qualitative data analysis

Qualitative research is undertaken in the real-world, i.e. the research setting is not controlled, as it is in quantitative studies, and data analysis involves identifying key themes and concepts from the transcripts related to the respondents' perceptions of their social reality (Bowling, 2009). The analysis of the data from the interviews and focus groups utilised the principles of grounded theory, first proposed by Glaser and Strauss (Corbin and Strauss, 1990), that is an inductive method producing theory from systematic research using qualitative data (Silverman, 2011). In its purest form, the researcher starts with no preconceived ideas, research questions or literature review of the topic or area under study and allows analysis of the data to create themes and concepts (Allan, 2003). The continuous comparison of new data with emerging themes and concepts ensures that the data and concepts remain closely aligned. In this way, any resulting theory is grounded in, or justified by, the data (Bowling, 2009; Silverman, 2011). In the analysis of the data in the thesis project, several principles of grounded theory were used. There were no preconceived hypotheses, the data was coded and re-coded as more data became available, and emerging themes and concepts were continuously related back to the data. Memos were used to support the analysis along with the recognition of categories from within the code lists; categories were linked to developing concepts.

There are several recognised problems with grounded theory that are relevant to the project reported here. It is difficult to resolve the principle of no preconceptions or a neutral approach

to research with the benefits that being an insider or emic researcher have on understanding the context of the research. A focus must be applied in advance to provide a project protocol and topic guides both necessary for research governance and to set up initial interviews and focus groups. Theoretical sampling of participants to strengthen or pursue emerging themes (Low, 2007; Silverman, 2011) is technically difficult in a project that is time and resource limited and that must pre-define respondent numbers for governance purposes. There were project specific issues of recruiting busy healthcare professionals at a time of profound change within the context of recently formed CCGs. These difficulties also potentially challenged the ability of any project to pursue respondent validation and theoretical data saturation.

The thesis project, therefore, used the principles of grounded theory, within the constraints of research governance and resources available, to objectively build a model of integration from social reality (Silverman, 2011), i.e. the models of CCG commissioning of PP teams. The data were analysed systematically to ensure rigour (Smith, 1998b); this specifically requires that there is consistency in the results using the same method and that there is uniformity of results across a range of methods (triangulation) (Smith, 1999b).

3.4.5 Case studies

Differing models of commissioning presented an opportunity to treat each CCG as an individual case in an attempt to detect any common features by applying the same research tools to each (Bowling, 2009). At the start of the project it was not clear if the differing models of commissioning affected the PP role and their relationship with stakeholders, so a case study approach was considered appropriate. In this context it fits the definition of a case study proffered by Yin 2003, Stake 2005 and Johnson and Christensen 2008.

Case studies are considered qualitative in their nature, not being able to prove cause and effect (Runeson and Höst, 2009), but can be designed to incorporate a survey or to be supported by survey acquired quantitative data (Yin, 2003; Runeson and Höst, 2009; Bell,

2010; Smith, 2010). Case studies have been further qualified by Stake (2005) as intrinsic, instrumental and collective. Intrinsic case and instrumental studies look at individual cases, but collective case studies look at multiple cases simultaneously or sequentially to further increase understanding (Crowe *et al.*, 2011). Case studies have also been categorised as positivist, critical and interpretive (Klein and Myers, 1999). A positivist case study can measure variables and use representative samples to generalise the results to a wider population. Critical case studies look at social situations to challenge inequality, and interpretive case studies are based on the inductive/constructive ontological paradigm seeking meaning from respondents' perceptions of the situation within a context. Thus, the thesis project case study could be described as collective and interpretive.

Case studies also have their strengths and weaknesses (Runeson and Höst, 2009); they are carried out in a real-world situation and therefore are realistic and can provide a deep understanding of a situation. They have the same limitations as qualitative studies in that they cannot prove cause and effect and may be compromised by the researcher's personal feelings and stance (Runeson and Höst, 2009; Crowe et al., 2011). The strength of the case study can be improved by using theoretical sampling and respondent validation and being clear about the steps involved in the research protocol, the methods used and interpretation of the results (Crowe *et al.*, 2011). The problems of theoretical sampling in the context of the thesis project have been discussed in section 3.4.4. Triangulation of data in case studies increases the precision of the data and can be achieved by collecting data at different times, by different methods or by different observers and by considering alternative theories and viewpoints (Runeson and Höst, 2009). The thesis project achieved some degree of triangulation by asking similar questions to different groups of respondents. (See Table 3.2 page 77)

3.4.6 Focus groups

Focus groups are an alternative to face to face interviews (Smith, 1998a) and are appropriate methods to capture the views of both PPs and GPs. Focus groups normally involve 6-12

individuals and one or more facilitators; this range allows group members more freedom to talk about their views and also to discuss these views with others in the group, broadening overall discussion (Green, 2007; Bowling, 2009).

Focus groups should be representative of the population being studied so purposive sampling is helpful. Homogeneous focus groups, those with participants with similar backgrounds, appear to be more productive but this can limit generalisability. Conversely, having members with differing perspectives (heterogeneous groups) will improve content validity possibly at the expense of productivity, that in this context refers to the participation of all group members and the depth of discussion achieved (Smith, 1998a). The thesis study was exploratory, and so a heterogeneous focus group was appropriate at this stage. Further study with homogenous focus groups could be used in the future to investigate issues in more depth. Confidentiality is not possible within a focus group (Bowling, 2009), but permission was sought to record the groups' conversations (Smith, 1998a), and comments from the transcripts were not be attributed in the report to any individuals. The group itself should be the unit of analysis and the discussions rather than individual ideas, should be reported (Green, 2007; Bowling, 2009).

Focus Groups allow for examination of what people think, how they think and why they think that way (Bowling, 2009) and can be useful in an exploratory and descriptive context to generate a wide range of ideas and issues (Smith, 1998a). The optimal size for a focus group has been debated in the literature with numbers of participants of between 5-10 (Huston and Hobson, 2008), 6-9 (Smith, 1998a) and 6-12 (Green, 2007; Bowling, 2009). In the IS it was difficult to get more than six PPs to attend an evening focus group, so a target of six PPs was adopted for each of the project focus groups. The number of interviews or focus groups required depends on a theoretical estimate of the number needed to reach data saturation. Saturation is reached when no new data emerges and where categories of data have depth, and the relationships between concepts are defined (Corbin and Strauss, 1990). The IS indicated that a focus group size of 4-6 allowed for free, in-depth discussion and that all themes were identified within one to two hours.

3.4.7 Semi-structured interviews

Semi or unstructured interviews, arguably obtain richer data than semi-structured questionnaires, but they are difficult and more time-consuming to undertake and analyse (Bowling, 2009) and require more commitment from the respondent. Semi-structured interviews were chosen for the HoMMs and GPs because complex questions needed to be asked and detailed responses encouraged and clarified (Bowling, 2009). In addition, the numbers of respondents involved made interviewing the individual HoMMs and GPs at a time and place convenient to them, relatively easy. Focus groups were rejected because of practical difficulties of arranging agreeable times and venues for these busy individuals. The numbers of HoMMs was fixed for the study. The GP sample size of twelve was based on experience in the IS where no new topics were identified after three interviews. The IS indicated that GP interviews of 30 to 45 minutes were acceptable to the respondents and allowed for in-depth discussion with all themes identified in this time frame. This was expanded to the four CCGs to compare the GPs' views over the four different commissioning models.

3.4.8 Telephone interviews

Telephone interviews are an alternative to face-to-face interviews where the topics are non-controversial (Calnan, 2007; Bowling, 2009;). They also may be more economical to conduct (Bowling, 2009; Irvine *et al*., 2013). Telephone interviews were chosen as a practical solution for patients, and to encourage their participation since there was no need for them to travel to be interviewed and they could participate from their home. This also avoided cost and inconvenience of arranging multiple venues as they are a respondent group that could have been resident in any part of the four CCGs or surrounding areas. Face-to-face semi-structured interviews may have allowed for a more in-depth dialogue, but this would have been more time consuming for the respondent and may have affected recruitment. Concerns have been expressed that use of the telephone does not allow the interviewer access to non-verbal communication, patient physical characteristics or the respondents

setting (Irvine *et al*., 2013). However, Holt supports the view that telephone interviews may give more "control" to patients, reduce feelings of intrusion into their social life and increase response rates (Holt, 2010). Naturally, the tone of voice and speech patterns were discernable over the telephone and allowed some assessment of the mood of the respondent and willingness to participate. The restrictions on translation excluded patients who could not converse in English. The views of some ethnic minority patients were, therefore, not fully represented and may be different in their evaluation of patient care, as has been suggested in the past (Mead and Roland, 2009). The patient sample size of thirty was manageable within the time frame for data collection because the interview guide was relatively simple, non-confrontational and did not require a long telephone conversation.

3.5 Ethical approval

The research was conducted in accordance with the ethics and research governance policies of Keele University. An application form (Appendix 3.15) for independent peer review was completed and then submitted, reviewed and approved by the Independent Review Panel in January 2014.

Full ethical approval was sought via the Integrated Research Application System (IRAS) and was granted after a Proportionate Review (Appendix 3.16) by the NRES Committee South-East-Surrey on the 8th May 2014.

Local approval was sought and obtained from the four individual CCGs and two associated PP Provider Organisations between 13th May and the 26th June 2014. Despite there only being four CCGs, local ethical approval had also to be sought from one commissioning support unit and one acute trust, since two of the PP teams were employed by these other NHS organisations.

Chapter 4 The Case Study Participants

4.1 Overview

This chapter begins by describing the selection of the four thesis project CCGs. It goes on to introduce the case study project teams by respondent group and describes who they were. Descriptive data is reported for all the respondent groups, but in the case of the PPs this is more detailed and includes their professional background, levels of education and employment status within the CCG. Qualitative data are also included on the reasons why pharmacists take on the PP role and why some maintain a portfolio career. This overview of the PP participants, within the case CCGs, will indicate if they are typical of primary care pharmacists studied elsewhere.

4.2 Research question

1	What is the background, educational and employment status of primary care pharmacists working in CCGs?

4.3 The Clinical Commissioning Groups

The details of the four CCGs, which participated in this study are shown in table 4.1. Figures published in 2013 show that, at the time, the average CCG served 263,997 patients (Health and Social Care Information Centre, 2013). The average population served by the four project CCG was 280,000 (range 260,000-300,000), and they commissioned an average of 17.5 PPs (range 8-35) equating to a WTE average of 7 PPs (range 4.5-10). The average number of PP that were prescribers was 12.3 (range 5-20). Three CCGs employed an average of 2.3 pharmacy technicians (range 1-3). At the time of the project, all the HoMMs were considering employing more PPs and technicians. The funding for PP teams came from a variety of sources, and was different for each CCG, although the prescribing budget was a resource for two CCGs. All the CCG populations had similar demographics with areas of low to high levels of deprivation.

Despite similar populations and commissioning intentions, there was a wide variation in the numbers of PPs, WTE equivalents, and the proportion of pharmacist prescribers in each PP team.

Table 4.1 Clinical Commissioning Group Practice Pharmacist Teams' structure and funding

CCG	**A**	**B**	**C**	**D**
Population (1000)	270	260	300	290
Number of PPs	35	8	17	10
WTE PPs	10	4.5	8.5	5
Independent prescribing PPs	20	8	16	5
Technicians	1	3	0	3
PP Team Provider	CCG-via SLA	Acute Trust	Multiple	CSU
Funding	**A**	**B**	**C**	**D**
Top Slice Prescribing Budget	Yes	-	Yes	-
Programme Budget	-	Yes	-	-
Transformation Budget	-	Yes	-	-
Medicines Management Budget	-	-	Yes	Yes
Central Management Budget	-	-	-	Yes
Recruitment of more PPs and Technicians	Possibly	Possibly	Possibly	Possibly

4.4 Heads of Medicines Management

The average age of the four HoMMs interviewed was 48.3 years (range 39-53 years). They were all experienced pharmacists and had been registered for an average of 25.8 years (range 18-30 years). Three of the HoMMs were active prescribers and had worked as PPs for an average of 16 years (range 15-18). When asked about future PP recruitment, two of the HoMMs considered that this process would be relatively easy, with the remaining two stating that it could be "difficult" and "very difficult". Three HoMMs had a preference to recruit a prescribing pharmacist over one without the qualification.

4.5 Survey of Clinical Commissioning Group Practice Pharmacists

Forty-nine PPs responded to the descriptive survey. The HoMMs reported the numbers of PPs in the four project CCGs as 70 (See Table 4.1), but two of the survey respondent PPs disclosed that they also worked for one of the other project CCGs, thereby reducing the

overall numbers of PPs to a maximum of 68.

The response rate for the survey was therefore 72%, but this could be an overestimation as the CCG PPs that did not take part in the survey may also have been employed in more than one CCG. Respondents were asked to complete the survey with data from the CCG in which they spent the most time working. The four PPs who took part in the focus group for CCG D did not complete the descriptive survey despite reminders.

4.5.1 Practice pharmacists' demographic and personal information**.**

Table 4.2 below shows the descriptive statistics for the study PPs. More male PPs took part in the survey (n=29) than females (n=20), with the majority (44.9%) of PPs in the 30-39 age group. The gender bias was affected by the largest PP team where most PPs were male. Combined male/female PP ages ranged from 26 to 61 years (range 35 years), with a median of 40 years and mode of 32 years.

Table 4.2 Descriptive Statistics for PP Age, Registered Years and Years as a PP.

(n=49)	**Mean**	**Median**	**Standard Deviation (SD)**	**Range**	**Minimum**	**Maximum**
Age (M/F)	42.3	40	9.8	35	26	61
Age (F) (n=20)	44.1	44	8.9	31	30	61
Age (M) (n=29)	41.2	38	10.3	35	26	61
Years as a PP (M/F)	8.4	9	4.8	17	1	18
GPhC registered years (M/F)	19	16	10.4	36	3	39
Years as a PP (F)	9.5	11	5.4	17	1	18
GPhC registered years (F)	21.3	22	9.8	31	7	38
Years as a PP (M)	7.7	8	4.3	15	1	16
GPhC registered years (M)	17.4	15	10.7	36	3	39

The SD of 9.8 years is small about the mean showing that the spread of ages is close to the mean (all ages are within two SDs of the mean) and that the mean age of 42.3 years is representative of the project PPs as a group. The average age of the female PPs was higher than that of the male PPs by 2.9 years, but the lower SD and range age range, 31 years for

females versus 35 years for males, shows that there was a smaller variation of ages in the female PP cohort.

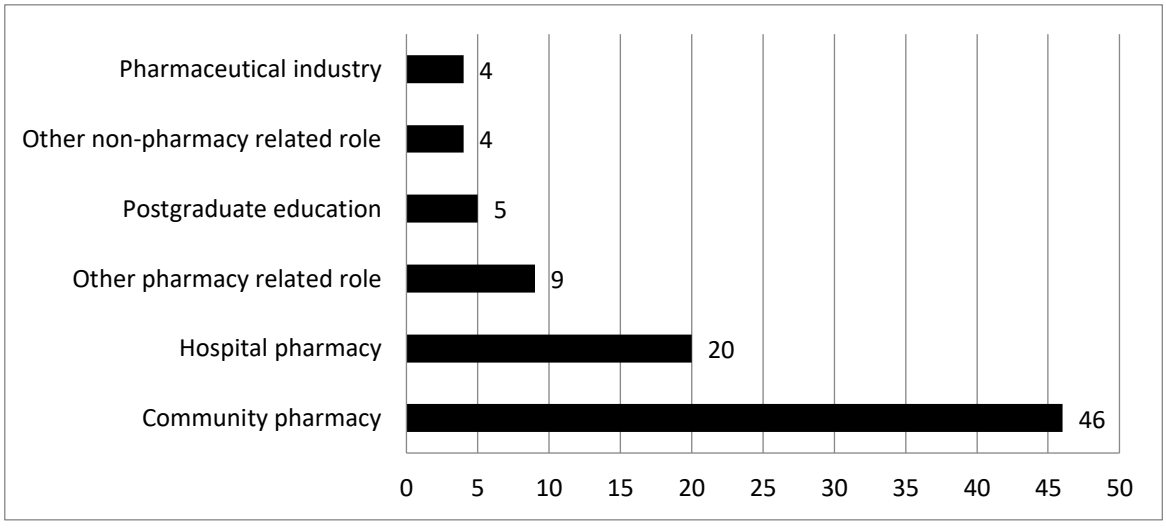
Female PPs had been qualified as pharmacists for longer (a mean of 2.9 years) with a smaller range of qualified years but a larger range of years as a PP, compared to the males. The average difference between the number of GPhC registered years and years as a PP was 11.8 years for the females and 9.7 years for the males.

4.5.2 Professional background

Figure 4.1 shows a cumulative total of the number of background roles in which the PPs had experience, so that some PPs will be included in more than one total. The majority, 46 (93.8%) had experience in community pharmacy and 20 (40.8%) in hospital pharmacy. Five PPs (10%) had experience in postgraduate education, four in the pharmaceutical industry (8%) and nine in other pharmacy roles (10%) with four having experience in non-pharmacy related roles. Twenty-one (42.9%) had worked in one sector only, 28 (57.1%) in more than one sector and nine (18.4%) in more than two sectors.

Figure 4.1 Cumulative Practice Pharmacist background roles

(n=49)



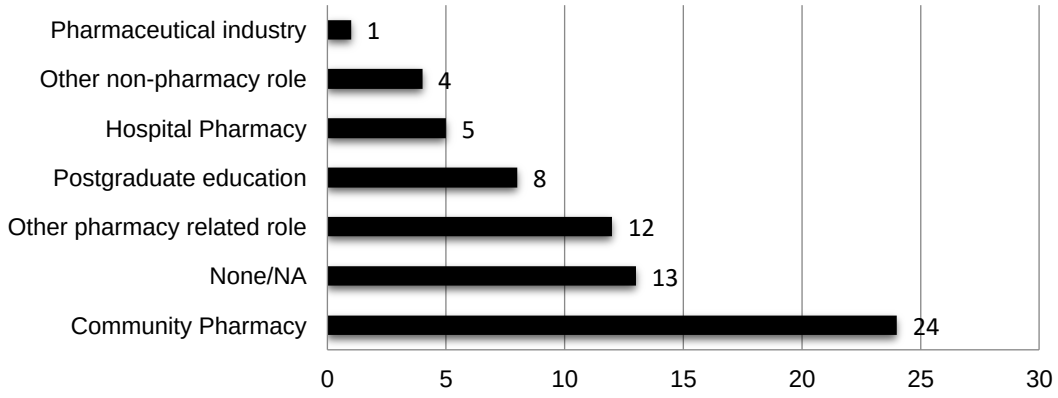
The number of professional background roles tended to increase with age; nine PPs under the age of 41 had experience of more than one sector, but none had experience of more than two sectors. In contrast, PPs with experience in three or more sectors were all over the age of 41 with only three over the age of 50 years having single sector experience.

4.5.3 Portfolio roles

Figure 4.2 shows a cumulative total of the number of on-going roles undertaken, so some PPs will be included in more than one total. The majority, 36 (73.5%) of the PPs said that they continued to combine the PP role with other roles, but 13 (26.5%) had no other role. Twenty-four (48.9%) continued to work in community pharmacy, five (10.2%) in hospital pharmacy, 12 (24.5%) in another pharmacy related role, and eight (16.3%) in postgraduate education. Non-pharmacy related continuing roles were reported by four, and one PP reported having an on-going role in the pharmaceutical industry. Regarding multiple other roles, 11 (22.4%) reported two or more other roles and four reported more than three other roles in addition to the PP role.

Figure 4.2 Cumulative Practice Pharmacist on-going roles in other sectors

(n=49)

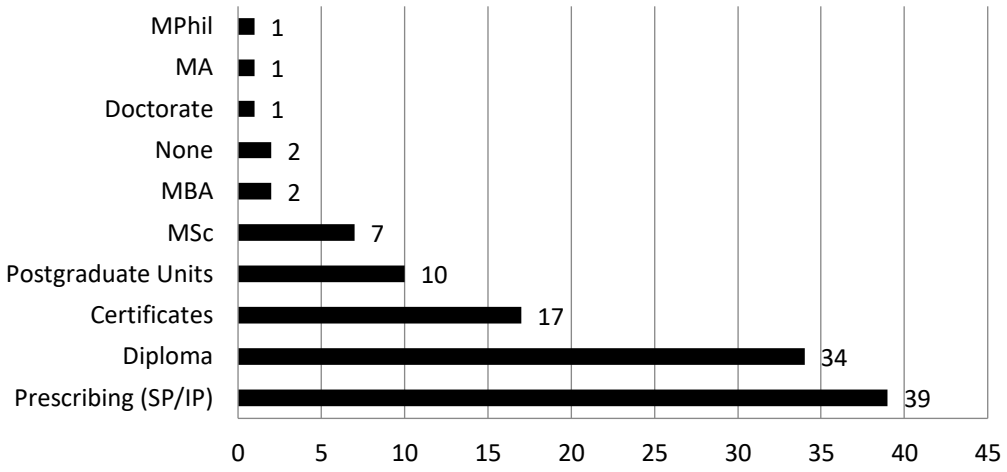


4.5.4 Education and training

The numbers of PPs with various qualifications are shown in Figure 4.3 with some PPs having more than one postgraduate qualification, so they appear more than once. Only two of the respondents did not have formal postgraduate qualifications. The most common qualifications were supplementary or independent prescribing and a postgraduate diploma, 39 PPs (79.6%) and 34 PPs (69.4%) respectively. Twelve PPs (24.5%) had higher degrees, 17 (34.7%) had postgraduate certificates and ten PPs (20%) had completed postgraduate accredited units. The length of experience and levels of postgraduate education were possibly related to the established nature of the CCG teams before the NHS changes.

Figure 4.3 Cumulative Practice Pharmacist postgraduate qualifications

(n=49)



4.5.5 Prescribing

Thirty-nine (79.6%) PPs were prescribers, but there were proportionately more male PPs with the qualification (24, 82.8%) than females (15, 75%). Prescribers were on average seven years older than the non-prescribers (See Table 4.3) and had been registered and worked as PPs for longer than non-prescribing pharmacists. Mills (2016) also found that more senior pharmacists were more likely to have prescribing qualifications. There was a broad range in the number of prescription items (individual drugs and devices) prescribed by

prescribing PPs. The majority reported that they wrote 50 or fewer items a month, with only three writing over one hundred items a month.

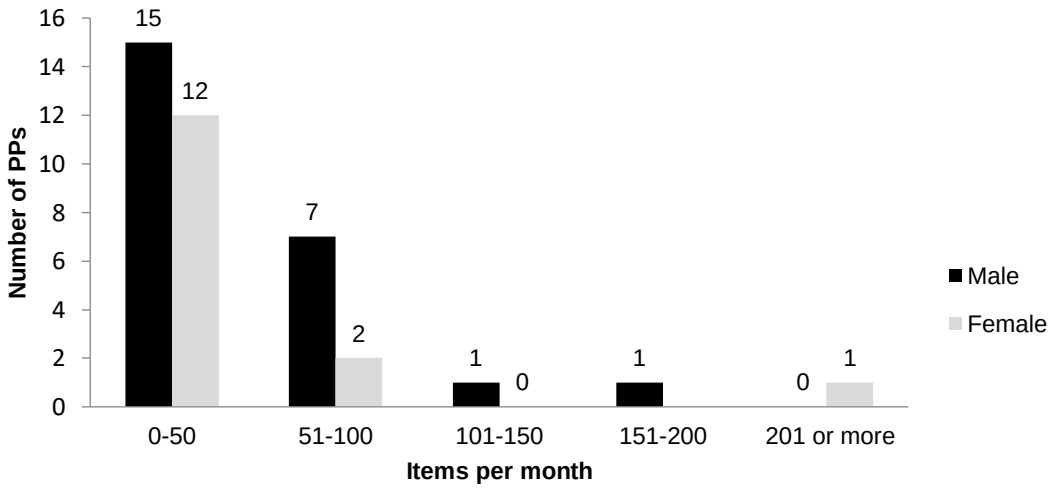
Table 4.3 Descriptive statistics for prescribing and non-prescribing Practice Pharmacists

Age	**Prescriber (n=39)**	**Non-prescriber (n=10)**
Mean	43.8	36.8
Median	41	34.5
Std. Deviation	9.9	58.4
Minimum	30	26
Maximum	61	50
Range	31	24

Figure 4.4 shows prescribing activity in the independent prescribing qualified PP respondents. The most active prescriber was female, but male prescribers wrote more items each month than their female counterparts. Younger prescribing pharmacists (< 40 years) in the project prescribed more often than older pharmacists.

Figure 4.4 Number of prescription items written per month and Practice Pharmacist by gender

(n=39)



4.5.6 Current Employment in the PP Role

The majority, (40, 81.6%) of PPs worked part-time in the role; there was a small difference between the genders in that 17 (85%) females worked part-time compared with 23 (79.3%) males. The number of hours a week spent as a PP varied between 4 and 40 hours with nine (18.4%) pharmacists stating that they worked full-time as a PP.

4.5.7 Direct patient contact

Figure 4.5 shows the percentage of time that PPs spent face-to-face with patients. Most PPs spent less than 20% of their time with patients, with only ten (20.4%) spending 41% or more of their time with patients.

Figure 4.5 Percentage of time spent face-to-face with patients by Practice Pharmacists (n= 49)

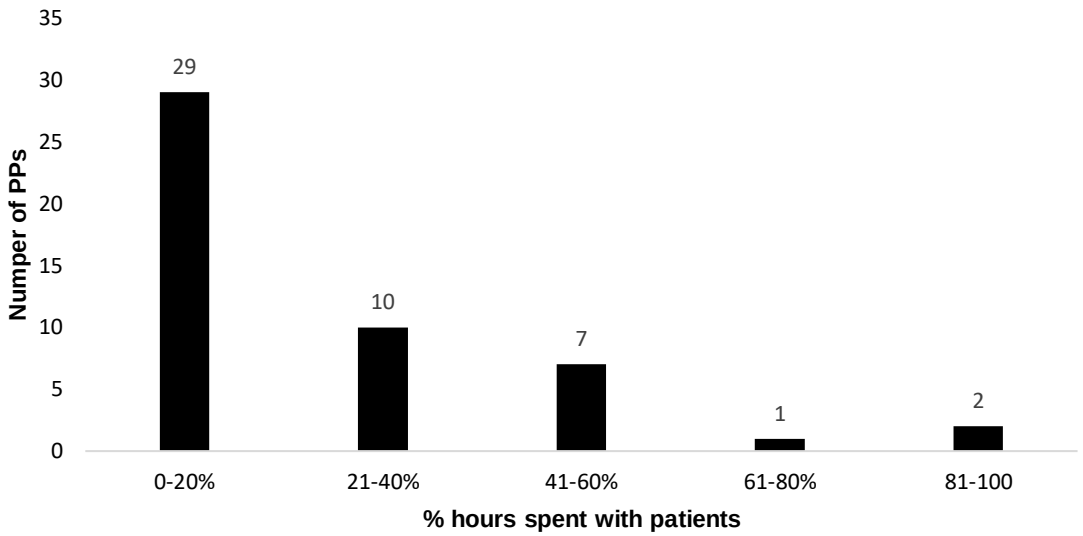


Table 4.4 shows the relationship between the total number of hours that pharmacists were employed as PPs per week. There was a tendency for time spent face-to-face with patients to increase with increasing hours of employment as a PP and prescribing PPs appear to spend more time with patients than non-prescribing PPs (See Table 4.5).

Table 4.4 Practice Pharmacist hours spent face-to-face with patients and employed hours

(n=49)	Time spent face-to-face with patients									
PP hours per week	**<20**	**(%)**	**21-40**	**(%)**	**41-60**	**(%)**	**61-80**	**(%)**	**81-100**	**(%)**
0-10 (n=11)	9	(81.8)	1	(9.1)	1	(9.1)	0	(0.0)	0	(0.0)
11-20 (n=15)	8	(53.3)	5	(33.3)	2	(13.3)	0	(0.0)	0	(0.0)
21-30 (n=8)	5	(62.5)	1	(12.5)	0	(0.0)	1	(12.5)	1	(12.5)
>30 (n=15)	7	(46.7)	3	(20.0)	4	(26.7)	0	(0.0)	1	(6.7)

Table 4.5 Practice Pharmacist hours spent face-to-face with patients and prescribing status

Prescriber↓	**<20**	**(%)**	**21-40**	**(%)**	**41-60**	**(%)**	**61-80**	**(%)**	**81-100**	**(%)**
No (n=10)	7	(70.0)	3	(30.0)	0	(0.0)	0	(0.0)	(0)	(0.0)
Yes (n=39)	22	(56.4)	7	(17.9)	7	(17.9)	1	(2.6)	2	(5.1)

Overall male prescribers appeared to spend more time with patients and wrote more prescriptions, although one female prescriber did prescribe over 201 prescription items a month. The data on prescriptions written was collected on bands starting with 0-50 items per month. This did not differentiate between the extremes of each band and did not differentiate prescribers that were inactive in the 0-50 band.

4.5.8 Practice Pharmacists by Clinical Commissioning Group data summary

Summary data for the PPs by CCG is shown in Table 4.6. Unfortunately, CCG D is only represented by one PP, so the data is unlikely to be representative of that CCG. Comparisons between the remaining CCGs show significant variation and that the PPs from CCG A had the lowest average age, the highest proportion of full-time employees and non-prescribing pharmacists. It also had the lowest proportion of 0-50 prescription items a month and of 20% or less contact time with patients and the lowest average years as a PP.

Table 4.6 Practice Pharmacist data by Clinical Commissioning Group

CCG (no of PPs)	PP Average age	Employed full-time	Salaried employee	% Female PPs	Average hours a week as a PP
A (n=30)	40.5	23.3%	13.3%	36.6%	20.6
B (n=7)	48.0	14.2%	100.0%	71.4%	26.9
C (n=11)	44.0	9%	0%	36.3%	21.8
D (n=1)	40.0	0%	100%	0%	9.0

CCG (no of PPs)	% of 0-50 Rx items a month	% Non-prescribing PPs	% of PP with less <20% patient f-to-f contact time	Av. years on register	Av. years as a PP
A (n=30)	70.0	30%	50%	16.9	6.9
B (n=7)	100.0	0%	85.7%	25.7	11.4
C (n=11)	72.7	9%	63.6%	21.2	10.9
D (n=1)	100.0	0%	100%	9.0	5.0

4.6 The focus group Practice Pharmacist participants

The following data is based on the number of PPs that volunteered the information or where it could be determined visually. A total of eighteen PPs attended four focus groups held within their relevant CCG areas. The number of participants ranged from two to seven. The majority, (14, 77.8%) were female with an overall average age of 44.1 years (See Table 4.7). Females were over-represented in the focus group, based on the national percentages of registered pharmacists (60% female) and the subset of registered pharmacist prescribers, (70% female) (Phelps et al., 2014).

The FG participants had an age range of 31 years. They had been registered with the GPhC for an average of 20.9 years and worked as a PP for an average of 9.4 years. These figures are similar to those PPs who completed the descriptive survey, where the average age was

42.3 years, the age range was 35 years, with an average of 19 GPhC registered years and 8.4 years as a PP.

Table 4.7 Focus Group descriptive statistics

(n=15)	Mean	Median	Mode	Std. Deviation	Range	Minimum	Maximum
Age	44	46	30 (lowest)	11.7	31	30	61
Years on GPhC register	20.9	22.5	25	10.9	33	5	38
Year as a PP	9.4	10.5	14	4.6	14	1	15

4.7 Focus group themes related to the Practice Pharmacist role

4.7.1 Why do pharmacists choose the Practice Pharmacist role?

Focus group participants indicated that they chose to become PPs because of a desire to either move away from current roles or a need to find a new more challenging role. Those participants with a significant hospital background felt that there was a danger of becoming too specialised if they remained in hospital pharmacy and also that there were limited opportunities in obtaining promotion.

"Me personally, there was an issue of career progression in secondary care, I think it's extremely difficult now … I know people that historically would have done a clinical diploma and automatically jump a band, that's no longer the case, that's saturated now …" PP B7

Participants with a community pharmacy background identified some concerns that they had with the current community pharmacy model as among their reasons for seeking a new role; they felt that it was too centred in business aspects and was focused on income generation.

"It's [community pharmacy] all to generate money, the script numbers as well. So that generates extra income for them [the employer], and I think it's driven by income...the model

is fundamentally geared towards quantity rather than quality… " PP A6

Community pharmacy was also described as repetitive, boring, monotonous, and a "prescription factory", as well as being stressful with high workloads and a poor career structure. For one respondent, this was a sufficient driver to leave the sector.

"Mine [reason for leaving the sector] was more of a need to step away from community pharmacy as opposed to going into practice pharmacy…. I was finding community pharmacy a little bit mundane, so I thought I would try something different, something a bit more clinical, and I found that I quite enjoyed it..." PP A1

The dispensing workload was also perceived as a barrier to the necessary integration of community pharmacy with practice in primary and secondary care.

"The stumbling block here [to community pharmacy integration] is the community pharmacy model; that's got to change…I mean when some guys are doing five to seven hundred [prescription] items in a day they just haven't the time". PP A6

Lack of use of their skills was a key issue in encouraging a change in role, both regarding dissatisfaction with their current role and their desire to move on to a more clinical role.

"So, I just wanted to go into a role where I could put my clinical skills to better use, and I've been doing it for ten years now. Really enjoy it." PP D2

Not all PPs were unhappy working in hospital or community pharmacy, as many continued in these roles part-time, some considered the PP role allowed them to be more decisive and effective.

"I think I enjoyed what I was doing, but I felt it was being wasted, I wasn't being used to my full capacity with what I could do as a community pharmacist, I just felt held back all of the time, and I just felt as a Practice Pharmacist you could make decisions and have an effect, get things done." PP C2

Some also perceived the PP role as an opportunity for professional development.

"...so, there's different sort of things, you can develop yourself more and do the IP course, Masters or, most people have done the clinical diploma as well, so there's just a general development there." PP A4

Others wanted variety in their working hours and were curious about the PP role, and some early adopters felt that it was an opportunity to take part in the development of a new role. Patient contact, as well as the ability to effect changes, were other attractions of the PP role with some pharmacists giving this as a reason for moving into it

"I also wanted more patient contact 'cos I felt that, at the time, pharmacy for me was more about the checking of the prescription than actually speaking to the patient and improving their lives or helping them with their medicines." PP B2

Participants discussed their perceived hierarchy of pharmacy roles and felt that PPs were more highly respected than community pharmacists, certainly in the eyes of other HCPs and that this was probably because of their closer working relationship with GP practices. It was also felt that other pharmacists "looked up" to PPs

"The role's a bit higher than community pharmacy, in the pharmacy hierarchy it' s bit more- the other pharmacists look up to you as well." PP A3

One participant illustrated this difference in an example around the perceived value of advice given by the same pharmacist in different settings. They felt that advice from a PP was valued more by patients than the same advice from a community pharmacist.

"I know if I'm the Practice Pharmacist and I'm working in the pharmacy my advice is not taken in the same way as in the surgery. I'm the same person, giving the same advice to the same people in the same way, but how they [patients] value that opinion is different." PP A1

At least one pharmacist in each focus group mentioned employment flexibility as an additional benefit that attracted them to the PP role. This was linked to family commitments, work-life balance, return to work after maternity leave.

"I just wanted to try a new sector, really, and in all honesty, it fitted in better with family life. That's how I started - I have three children, and hospital pharmacy wasn't very flexible…" PP D2

There was also flexibility related to the commitment required for the PP role.

"The opportunity was there at that moment in time they were happy for you to do whatever you could do, so you did have that relative flexibility…" PP C1

The variety of work available in the PP role, and also working with other HCPs, was mentioned in all four focus groups as a reason for starting and continuing in the PP role.

"And the variety in primary care…looking back in hindsight, at the time I didn't know that the work was going to be so varied, but the work is varied, and you work with different teams…" PP B2

The variety of work in the PP role contrasts with the respondents perceived repetitive nature of community pharmacy and to becoming too specialized in hospital pharmacy. Similarly working with other HCPs contrasts with the potential professional isolation of community pharmacy. One respondent particularly acknowledged the time taken to become integrated into the GP practice, as a Primary Care Organisations (PCOs) pharmacist and that integration itself was a source of job satisfaction.

"It's taken us many years in our practice is to get to the point where we are and become embedded in that practice, and you become part of that team… you may be part of the CCG or PCT or whatever you started off as you become integrated into those different teams and I think, you know, that gives me a lot of job satisfaction." PP C1

4.7.2 Portfolio working

Portfolio working was commonplace amongst the focus group participants; pharmacists mentioned several reasons why they continued to work in more than one sector. Working in community pharmacy was perceived as useful to the PP role as it allowed "hands on" experience with new drugs and devices and allowed them to keep abreast of new medicines/devices and supply shortages.

"I was doing my asthma clinics [in the GP surgery], but it's to maybe keep that hands-on [in] community - knowing what's going on in terms of new drugs and availability. So, it is useful." PP D1

Participants also used the knowledge that they gained in the PP role to improve their interventions in community pharmacy, so there was reciprocation.

"Likewise, your practice pharmacy might, for example, increase your clinical knowledge, you might be doing an audit that you can then apply in your community pharmacy role." PP A1

In addition to portfolio roles complementing each other, maintaining a portfolio career also allowed PPs to understand issues in other roles. For example:

"I mean I still do community work as well... and simply because …. you've got to appreciate and understand [their], the difficulties they have as well, [general agreement]*..."* PP B6

"I can now see where all the problems in hospital are raised from, and vice versa." PP D3

Other participants recognised that their personality was the driver for choosing a portfolio career, in that they became bored easily and portfolio working meant that they were constantly being challenged, and this satisfied their nature.

"I think it's probably like my personality, in that I get bored very quickly, I like to do lots of different things, and the current [CCG PP] *role means you go to different practices, doing different roles, doing different things even within those practices…."* PP C1

The undergraduate course had raised one pharmacist's expectation that working as a pharmacist would be diverse and varied; a portfolio career allowed them to achieve this and to apply more of what they had learned.

"You don't get bored, do you, there's variety there, diversity so, when you're taught on your MPharm or BPharm programme…different placements, different experiences you can use different aspects of what you've learnt". PP A3

Some participants had roles outside traditional pharmacy sectors to increase the variety in their work, broaden their outlook and provide personal growth.

"I look after one of the enhanced services on behalf of the LPC, that's a completely different kind of role, you talk to commissioners, and you get engagement with the other stakeholders in the service as well, so it kind of opens horizons a little bit more". PP A6

"Yes, I work for NHS Direct, I work for UKMI, some work for the prisons, so I'm always open to new opportunities to grow yourself as a person". PP C1

The changes in the NHS have led to a degree of uncertainty in the on-going viability of the PP role, and some pharmacists had responded by taking on other roles as income and employment "insurance" against this and any future NHS changes. Two PPs started working for a non-NHS hospital despite not having previously worked in a secondary care environment. They felt that the experience had broadened their horizons and given them an alternative career path in case they lost their PP role in this or any future NHS reorganisation.

"I work at the [hospital name] as a bank-pharmacist too, it's another string to my bow…we knew that we had a job for the next X number of years, but we don't know what's going to happen after then, it was again another interest, another string." PP B2

Given the part-time nature of the PP role, it is not surprising that some pharmacists admitted that they continued to work in other roles for purely financial reasons.

"I mean I still do community work as well, but that's on a weekend, and that's, well financially the reason I do it" PP B6

4.8 The General Practitioner participants

Eight GPs were interviewed, seven were male and one was female with an average age of 48.1 years (range 34-63). They had been qualified as GPs for an average of 18.4 years

(range 4-31 years). They had been working at their current practice for an average of 18 years (range 4-25 years) and had worked with a PP for an average of 11.9 years (range 4-17 years). The average practice population was 6938 and ranged from 3000-11,000 patients (See Table 4.8).

Table 4.8 GP and Practice Demographics

CCG (GP)	Age (Gender)	Position in the practice	Years as GP	Years at current practice	Practice Population (Nearest 1000)
A (1)	54 (m)	Senior partner	25	25	11,000
A (2)	63 (m)	GP Partner	31	31	4000
A (3)	39 (m)	Senior Partner	12	12	4000
B (1)	34 (m)	Sole Partner	4	4	3000
B (2)	52 (m)	GP Partner	26	26	8500
C (1)	41 (f)	GP Principle Partner	15	13	7000
C (2)	57 (m)	GP Partner	15	15	9000
D (1)	45 (m)	Partner	19	19	9000

When asked about their position within their practices, six described themselves as Partners and the remaining two considered themselves to be Senior Partners. Regarding their engagement with the CCG Board four were Board members, two of the non-board members sat on CCG committees, but the remaining two had no formal committee function within their respective CCGs (See Table 4.9). The GP respondents, therefore, came from a range of practice size, were all partners, had significant experience of working with PPs, with the majority being engaged with the management of their respective CCGs at some level.

Most of the GPs interviewed had ten or more years of experience of working with PPs, and most were able to identify which organisation funded their individual PP. Regarding the weekly hours of GP practice contact time with their PP, this averaged to 7.9 hours. But there was a wide variation of between 2 to 17 hours, with the average figure influenced by two practices in CCG A. The GPs reported that six of their practices pharmacists were employed by the CCG to which the practice belonged.

The views of female GPs were under-represented, and no salaried GPs participated in the

project despite the increase in the numbers of GPs employed in this way.

Table 4.9 GP Engagement with the Practice Pharmacists and Clinical Commissioning Group.

CCG (GP)	CCG Board Member	CCG Committees	Years worked with PP	PP Hours per week	PPs work directly for the CCG
A (1)	Yes	Diabetes STaR* GpwSI[#]	17	12	Yes
A (2)	Yes	Clinical Chair	17	8	Yes
A (3)	Yes	Chair of Finance, Commissioning, and Quality, Lead for IT	10	17	Yes
B (1)	No	Pathways Sub-committee	4	4	Yes
B (2)	Yes	Governing Body Member	17	4	No
C (1)	No	Clinical Lead	10	8	Yes
C (2)	No	No	10	8	Yes
D (1)	No	No	10	2	No
*Strategic Transformation and Redesign [#]GP with Special Interest					

4.9 The patient participants

A total of twelve patients agreed to the telephone interview after being identified as per the protocol. There were eight males and four females with an average age of 66.4 years (range 21-77 years). The demographic profile of their postal town is shown below in Table 4.10, based on the patient's postcode and provides some indication that the patients came from a variety of areas with differing levels of affluence. Four patients, A1-A4 came from relatively affluent areas with >50% of the local population from the upper-middle-class, intermediate middle and lower-middle-class segments. Five patients, C1-C5 came from less affluent areas with >50% of the population from lower-middle-class and skilled working-class. Three patients, A5, B1, and B2 came from the least affluent areas represented by the patients in the project. No patients from CCG D were recruited.

The thesis study patient participants were largely male, with an average age of 70 years (range 54-78 years). The female patient respondents had a lower average age of 59.3 years (range 21-77 years). The overall average age was 66.4 years (range 21-78).

Table 4.10 Patient Participants and Demographic Profile of their Postal Town

			Demographic composition of patients' postal towns			
Patient	**Age**	**Gender**	**AB**	**C1**	**C2**	**DE**
A1	64	Male	23.6	31.9	23.4	21.1
A2	>75	Male	23.6	31.9	23.4	21.1
A3	77	Female	23.6	31.9	23.4	21.1
A4	78	Male	23.6	31.9	23.4	21.1
A5	77	Male	6.1	19.1	27	47.9
B1	77	Male	10.1	24.8	29.1	36.1
B2	62	Male	8.5	27.2	17.6	46.7
C1	67	Female	12.5	27.9	27.1	32.5
C2	73	Male	13.4	27.2	29.5	30
C3	21	Female	13.4	27.2	29.5	30
C4	72	Female	13.4	27.2	29.5	30
C5	54	Male	15.8	27.3	24.3	32.6
Population codes Available from http://www.postcodearea.co.uk/postaltowns/ <accessed on 19.7.14>						
A - Upper Middle-Class Higher administrative, managerial or professional						
B – Middle-Class Intermediate managerial, administrative or professional						
C1 - Lower Middle-Class Supervisory or clerical and junior management, administrative or professional						
C2 - Skilled Working-Class Skilled manual workers						
D – Working-Class Semi and unskilled manual workers						
E – Non-Working Casual or lowest grade workers, pensioners, and others who may rely on the welfare state for their income, including students.						

Chapter 5 NHS Changes and the Commissioning of Practice Pharmacists

5.1 Overview

This chapter describes the effects of the NHS change from the stakeholders as PCTs transitioned to CCGs in 2013. It begins by outlining why the PP Teams could no longer be directly employed by the CCGs and then goes on to describe the structure and commissioned functions of the CCG PP teams and how these functions were perceived by the stakeholders. There follows a brief discussion on how the PP role was assessed by the commissioners and the stakeholders' views on the work plans agreed by the commissioners. The chapter continues with the effects of the transition on the relationships between the professional stakeholders and how the PP role changed and concludes with a discussion on the current training of PPs.

5.2 Research Question

2	What is the impact of the recent NHS changes on primary care Practice Pharmacist teams?

5.3 Results

5.3.1 The structure and commissioned functions of the project Practice Pharmacist teams. Despite a desire to continue to employ their PP teams after April 2013, there were insufficient funds in the CCG management budget for this and CCGs were commissioning organisations, so alternative methods for commissioning the teams had to be found. For example, GP B1 revealed:

"…the budget that the CCG had to fulfil management costs was not sufficient for us to employ the team, which is what I would like to do, and the only way to do it is to purchase it as a delivery team through the wider commissioning budget, rather than the management budget…" GP B1

The CCGs addressed this issue in different ways, CCG A commissioned the PP team by indirect employment on service level agreements with effectively no provider organisation. Two CCGs commissioned PP teams from NHS provider organisations, such as acute trusts (CCG B) and the newly formed CSUs (CCG D). The remaining CCG (C) was moving towards the provider model. Funding for the PP teams came from a variety of sources with two CCGs using the prescribing budget and the remaining CCGs using a variety of sources as shown in Table 5.1. At the time of the project, all the HoMMs stated that they would possibly consider recruiting more PPs and pharmacy technicians in the future.

Table 5.1 Commissioned functions of project Practice Pharmacist teams

CCG	Funding	Activities
A	Top sliced from Prescribing Budget	Specific disease management, Repeat prescription management, Medication Review, Therapeutic detailing, Audit, Prescribing and Prescribing efficiencies, Liaison with Community Pharmacy, Medication reconciliation, Supporting QoF and Incentive Scheme
B	Programme Budget & Transformation Budget	Specific disease management, Medication Review, Therapeutic detailing. Audit, Prescribing, Prescribing efficiencies, Liaison with Community Pharmacy, Medicines reconciliation, Supporting Incentive scheme
C	Top sliced from Prescribing Budget	Specific disease management, Repeat prescription management, Medication review, Therapeutic detailing, Audit, Prescribing and Prescribing Efficiencies, Liaison with Community Pharmacy, Medicines reconciliation, Supporting QoF and Incentive scheme
D	Medicines Management Budget & Central Management Budget	Repeat prescription management, Medication review, Audit, Prescribing efficiencies, Liaison with Community Pharmacy, Medicines reconciliation, Supporting QoF and Incentive Scheme

The HoMM were asked to select the PP Team commissioned roles from a list, developed from the pre-study survey (See Table 5.1). The common activities included medication review, audit, prescribing efficiencies, liaison with community pharmacy, medicines reconciliation and supporting the local incentive scheme. Only one CCG did not commission specific disease management and pharmacist prescribing, even though half of their commissioned pharmacists were prescribers. Three out of the four CCGs commissioned

repeat prescription management, and only one CCG did not specifically support the GP practices with QoF although this CCG did allow their pharmacists to undertake CDM that might ultimately support QoF.

Table 5.2 compares commissioned PP roles with stakeholder observed PP roles. While there was a degree of agreement between the HoMM commissioned roles and the GP observed role, the patient observed roles were different, reflecting the operationalisation of the commissioned patient-facing roles and individual patient experiences.

Table 5.2 Commissioned and observed roles by participant groups

HoMM (Commissioned)	GP (Observed)	Patients (Observed)
Audit	Audit	-
Specific disease management	Chronic disease management	COPD, Asthma & anticoagulation management
		Deals with minor ailments
Therapeutic detailing	Clinical information resource	Medicines queries Corrects media hype Drug information Explains disease Reassures patients
	Drug safety	Drug monitoring Identifies ADR and drug interactions
	Facilitating electronic prescribing	-
	Facilitating medication issues	Explains drug rationale Aligns medication Ensure Rx supplies are adequate
Prescribing Efficiencies	Financial control	Stopping glucosamine
Liaison with Community Pharmacy	Liaison with Community Pharmacy	Liaison with Community Pharmacy
Medication Review	Medication review	Medication review
Medication Reconciliation	Medicines reconciliation	-
Supporting Incentive Scheme	Prescribing incentive scheme	-
Repeat Prescription management	Repeat prescribing management	-
Prescribing	Prescribing for patients	Prescribing
Supporting QoF		-

Patients recounted the medicines safety and information giving aspects of the PP role, along with liaising with community pharmacy, CDM, and prescribing. They also recognised a role in minor ailments as PPs dealt with these when in consultation with patients to assist in

managing the practice workload.

5.3.2 Assessment of the role

Only two CCGs (A and C) stated that they formally assessed the PP role. The CCG A evaluated types of interventions, efficiencies, and harm reduction, including Long Term Condition (LTC) Clinics where disease-specific outcomes were also monitored. Whereas CCG C used annual reporting and monthly analysis based on interventions made, work completed against their annual work plan and other interventions.

The HoMMs were asked about this in their interviews, and all four took informal feedback from the GPs, for whom they commissioned the PPs; this was always positive.

"Overall, the feedback is fairly positive… practices get quite sniffy if they think they're going to get reduced [PP] hours. It gives the feeling that they do value what is going on in their practices." HoMM D

One HoMM equated satisfaction with the PPs to an increasing demand for PP services.

"I think our feedback has been very positive…I think the fact that the demand has increased tends to tell you that the GPs appreciate the advice." HoMM A

Another HoMM reinforced this by recounting the GP's attitude to the temporary loss of PP services due to staff issues.

"… if you're in a situation where the pharmacist has been on long-term sick or maternity, they've [GP practice] been without them for a while… they want to know when they are going to get a replacement and so on." HoMM C

The fourth HoMM demonstrated the value of the role to practices by the support that GP s gave during the NHS changes and the expansive use of PPs in practice.

"…PP always come out at the top of any list, and GPs will come up with no end of ways of using them… a five-star service, well valued, you know. If you go back to when all the [NHS] changes came out, a lot of the GPs were very supportive and helped us maintain PPs within [CCGB]." HoMM B

The same CCG (B) had surveyed their practices and found that the service provided by their PPs was valued by their GPs. HoMM D thought that the provider organisation was considering carrying out an anonymous survey of the GP practices that they served.

5.3.3 Work plans

The PPs were given a work plan based on the commissioned functions, usually to address the incentive scheme, as directed by the individual HoMM and the CCG. The CCG priorities, described by the HoMMs, were around the management of medicines because medicines were the most common intervention in health care, and prescribing was a significant proportion of the overall CCG budget. The role of the PP team was to facilitate prescribers to get the best value for money from medicines and to show that this function could have a significant impact on the budget.

"...so, it's [financial control of prescribing costs] very important now, it's one of the few areas where we're managing to control the costs." HoMM B

Another HoMM reinforced this by considering long-term funding for prescribing as the CCGs developed.

"I also think it's because of the pressure from NHS-top down, regarding financial pressures,

CCGs aren't getting [budgetary] uplifts…so, therefore, they are going to be under more financial pressure than perhaps PCTs." HoMM A

The HoMMs felt that there was a duty to patients to optimise the use of medicines for clinical reasons as well as financial. The commissioned functions included interventions that could support both patient care and cost-effectiveness, e.g. medicines reconciliation and repeat prescription management respectively. The CCGs work plans directed the PP team's work but allowed some flexibility to deal with urgent items (recalls and safety alerts) and practice issues to be addressed. The PPs understood the importance of the work plan and accepted that their role included financial savings and patient safety issues and understood the need for flexibility.

"The work plan is predominately driven by safety and cost, isn't it, and I think that's true of every team, cos that's our remit, as long as it fits with that then there's flexibility." PP B5

But there was some frustration at the monetary focus in the work plan.

"We all get slightly frustrated that the focus is financial a lot of the time" PP D2

Some PPs expressed a conflict between their primary commissioned role and the practice agenda, although some PPs were disposed to look at the practice issues first. For example:

"I know my first question is OK then, what have you [the practice] got ready for me? And they'll be several queries waiting to do first before I start my proper job." PPC2

GPs also understood that this work plan was generated centrally to meet CCG goals and that the PP would try and combine this with practice-led tasks.

"Mostly it comes from his managers within the CCG… but he's very flexible, and if we've got things that we need her to do, he'll do that too". GP C1

Despite some negotiation between the PP and the GP practice to prioritise work to suit the needs of the practice, GPs from all CCGs felt that the CCG agenda was also important, and that PP time should include this work. Only one GP stated that they took a more practice-centred approach and would consider blocking CCG work that they did not consider was in their interest.

"So, if the CCG require her to do something that doesn't fit our mode, I will intervene to align their work with mine…." GP B2

5.4.4 Transition of the Practice Pharmacist teams

All four focus groups were asked about the transition of the team from the PCT to the CCG. The responses varied based on the levels of perceived disruption that the transition caused to the individuals and team. For example, CCG A's team felt that the move had been almost without incident, largely because there had been little change in personnel and function.

"I feel quite indifferent because I don't feel like there has been much change, haven't seen much change… you know we've got the same colleagues, doing the same kind of work." PP A1

Despite this, the focus group acknowledged that other teams had not fared so well.

"… other CCGs got rid of pharmacists and they've left without jobs…" PP A3

The situation in CCG C, which had a mixed model for the commissioning of the PP team, appeared to raise more issues, including uncertainty of on-going employment. These were

exacerbated by the fact that the transition was not complete at the time of the focus group. One focus group member was transferring from an acute trust to the CSU, that was itself reorganising at the time. This appeared to create a continual state of flux that was disruptive and time-consuming affecting the PPs core roles.

"It's been pretty disruptive to our working because a lot of times we're taken up with various meetings and reading e-mails about changes to structures…We've just finished going through a second consultation period with the CSU because it's merged with another CSU...It just takes a lot of time and energy really, to deal with the day to day changes to your actual employment status..." PP C1

The PP team in CCG B perceived more disruption and job uncertainty and were affected more deeply, especially one respondent that felt that they had a vocational and personal attachment to the role that was being threatened.

"That is why I got so sad when it was about, you know, all the changes happening because we didn't know if we would have jobs, and it's quite sad when you think, Oh I've found where I am happy in my working career, and you could potentially take all this away from me…" PP B2

This team had little information about the transition due to the difficulties in understanding which organisation would host them.

"I think initially lack of direction, we just didn't have a clue what was going on." PP B4

This uncertainty finally resulted in the team being hosted by the local Acute Trust close to the date that PCTs were disbanded.

"It all happened very quickly and at the last minute." PP B2

Despite the perceived threat of job loss during the transition, one focus group member felt that now there was more job security working for the Acute Trust. Although this was not necessarily in the PP role, they were happy in the knowledge that they were pharmacists within an organisation that employed pharmacists in other capacities, and content that the PPs might cover other roles.

"I just thought our jobs are safer now because we're employed by an acute trust whereas you don't know what's going to happen to the CCGs…it may not necessarily be this [PP] job and I think that there is a possibility that they could say...we need some volunteers...to come and do…sessions at the (Acute Trust)." PP B1

The HoMM that commissioned PP Team B confirmed that their Team had had a bad experience during the transition. The HoMM felt that this was reflected in their feelings about the move that were centred around the demise and loss of their previous affiliation. This HoMM arranged social events to address the feelings of loss.

"There's almost like a bereavement feeling… some people reacted badly to that, angrily to that, and we had to sort of manage it with…, you know, exit-type meetings and nights out, you know what I mean? Almost like 'goodbye, I'm leaving…" HoMM B

One of the GPs in the same CCG noted changes resulting from the new structure and the purchaser/provider split. There was an extra layer of management that subtly changed the dynamic, potentially affecting shared goals.

"…because the team at (Acute Trust) are responsible to the Chief Pharmacist and she is responsible for the service delivery and what we ask her to do, and that's just put an extra

different dimension to it…I know I'm the commissioner, but actually we're all in this together aren't we." GP B1

The same GP considered this further and felt that it was a relationship change that might affect team working.

"I know it's a very subtle change, but it alters relationships, and a lot of the time we are working as part of a team, it's actually the relationships that make the difference…" GP B1

Relative changes in relationships with the provider organisation, the CCG, and the GP practice were highlighted by one of the PPs from the same CCG. Basic PP work had not significantly changed, so the GP/PP relationship was less affected, but the PPs and their new employer's relationship was perceived to be based on little understanding of the PP role and the PP team that they now employed. Within this, the description of GPs as "our customers", suggests a formal change in the way that PPs perceived, or had been told to perceive, the GPs for whom they work.

"…the work in practices is unchanged…what has changed is…our employers [Acute Trust] don't understand what we do, and so we just carry on every day doing what we do [and] try to explain to everybody what it is that we do, but our customers the GPs, understand… and values our job." PP B5

The conflict between the CCG and practice work, the new relationships and mode of employment had left one member feeling additionally conflicted between the needs of the three organisations.

"…because of the way, we are funded and the way we are employed… you are kind of "piggy in the middle" aren't you…" PP B6

When considering the benefits and drawbacks of the provider-hosted model, two HoMMs described a more business-like relationship with the PP team and the provider. The benefits included, not having to manage the PP team, and having a pre-determined work plan, but this meant that any change had to be negotiated within the agreed package of measures.

"…if they [the CCG] want us to do something that's not on the work plan, we ask them what we are going to drop, so that we can make sure that we deliver…it's a more business to business relationship…" HoMM C

A third HoMM stated that they were at "arms-length" from the PP team with contact via an intermediary, suggesting that they no longer felt part of the PP Team.

"We're not as closely involved as we used to be and then we have a contract review meeting with [Provider Manager] around the service they provide, and I get regular monthly reports on progress from her…So it's more 'arms-length' sort of thing now." HoMM B

Another HoMM identified the relationship change and the dynamic with the PP team concurring with HoMM B. Again, the term "customer" suggests the business-like relationship with the provider.

"…I am no longer the direct line manager of the practice base pharmacists. I'm employed by the CCG, but everybody else in our medicines optimisation team is provided by our local CSU. So that has changed the dynamics …I am a customer [of the CSU] rather than just part of the team and a line manager." HoMM D

5.3.5 Changes to role

The professional respondents were asked if the PP role had changed since the transfer to the CCG. Two HoMMs identified only minor changes at a GP practice level. HoMM (C) stated that the mechanism for reporting outcomes had changed because of the new structure.

"Has the role changed? I think fundamentally the work they do hasn't changed, but the reporting upwards did change." HoMM C

The PP role had not changed, according HoMM A, but they considered that cost-effectiveness had become a greater focus due to changes in the CCG financial responsibilities.

"I don't think it has changed locally significantly; I think perhaps there may be more of a focus around the financial savings since we became a CCG and I think that part of the driver for that is the fact that CCGs have to break even on their overall budget that they manage…" HoMM A

HoMM (B) had a strict commissioner/provider relationship with their PP Team, hosted by another NHS provider, where the CCG had stipulated that the PPs should focus on broader patient-related outcomes rather than savings and reporting pathways.

"The focus has got to be now about interaction with patients, recording outcomes, clinical intervention …" HoMM B

HoMM (D) also had a strict commissioner/provider relationship with their PP Team but was interviewed last and had the advantage of having had more time to see how the PCT-CCG

change was affecting the PP team. This HoMM also had strict commissioner/provider relationship with their PP Team, but when asked about changes to the pharmacist role, indicated a change in the way that PPs were perceived by GPs rather than changes to the role although this did relate back to the PP role.

"I think GPs more so than ever do regard the practice pharmacist as their resource, rather than something parachuted in from outside than most. They definitely start to look at those pharmacists as part of the team and looking at other ways of involving them." HoMM D

The GPs interviewed also had a range of opinions about the PP role related to each CCG. The GPs in CCGs (B) and (C) did not identify any changes in the PP role. However, one GP in CCG (D) identified a move towards quality issues.

"I don't think the role has changed a huge amount…I think when they started it seemed to be more about money - saving money… So, I think the quality issue has come in a bit more, recently, in the last year or so." GP D1

In CCG (A), the GPs indicated that any change in focus was organic, part of a natural progression to a more patient-facing role for the PPs and that the development of the PP role was overdue.

"It's going to be a matter of natural progression. Practice-based pharmacy will become a bigger and bigger role-I think it's shocking that it isn't already." GP A1

"I think that the change is more in the sense of what roles can the pharmacist do more and more." GP A2

"I think it seems to have changed, I think they do seem to be doing more face-to-face work,

and I think also they seem to [be] more looking at prescribing for residential homes and patient who are on vast amounts of medication." GP A3

The PPs in the focus groups were divided between no real change and a move towards more financial savings. One PP felt that the focus on cost savings was a cyclical step reminiscent of the early days of PPs.

"I feel like it started off with the cost pressures, you know years ago, then it kind of drifted towards...clinical things and it kind of feels, not like we are going backwards but that we have almost come full circle…" PP A1

Where there was a perceived move towards cost-savings, over other PP work, this was seen as partly generated by another NHS organisation.

"More financially driven, but that's NHS England, (general agreement) that's the goals now." PP B6

Financial pressures were not necessarily a result of the change from PCT to CCG, but more likely due to the poor overall financial situation.

"I am not saying it is the change to the CCG that has caused it; I think it's the general climate [general agreement]." PP A2

They felt that there was a problem in that the financial savings were harder to achieve now than they had been in the past, for example, switching from expensive branded drugs where generic alternative medicines were available.

"There isn't the money to be saved that there was years ago when we were ahead of the

game using simvastatin instead of atorvastatin." PP A2

Despite the cost agenda, some PPs thought there was an increase in the variety of work that they were asked to do confirming the GPs aspirations to expand the PP role.

"The variety of the work has gone up as well; we're getting involved with different things now- that might not have been the same as before..." PP B3

5.3.6 Practice Pharmacist training

The training of Practice Pharmacists is included in this Chapter as it was affected by the NHS changes when the NPC was absorbed into NICE, and a significant source of training for PPs was withdrawn. Provider organisations offered some training for their PP staff such as IT, and other training relevant to the work plans and some PPs obtained information training from the CCG Medicines Management Team as part of the support for the PPs working in practice.

Two HoMMs thought that the provider organisation should fund some basic training.

"…we've written into the contract that the [provider] *should be providing all of their basic training needs..."* HoMM B

"That's one of those areas that's a bit grey and where I potentially think that the [Provider] *should be at least contributing to that because obviously that training and those skills - although are embedded in GP practices…some of them do central work for the [Provider] and work in other areas too."* HoMM D

One CCG used their lead pharmacists to identify training needs from the PP Team and were considering using local specialists to deliver this, particularly where this met CCG priorities.

"Well locally what we have done is to ask our Lead Pharmacists to manage the practice-based pharmacists … requests are around IT and improving their knowledge of chronic disease…[What] we are hoping to do is to use local specialists to try and deliver some of that. I am trying to link it to some of the CCG priorities." HoMM A

The other HoMM encouraged self and group learning with the use of national training sources that were provided free to all pharmacists.

"Yes, so we have a meeting every two months…which do have an educational input, we offer professional development sessions on top of that, like Learning@ Lunch, and we take it in turns at hosting those…" HoMM C

One CCG had begun to use a competency framework for identification of training needs and subsequent continuing professional development (CPD).

"Not formally [using competency frameworks] until recently when we all started going through the Royal Pharmaceutical Society [Faculty] Portfolio… They [PPs] all have contract service reviews, annually and six monthly; we do set clear key performance indicators that they have to achieve, some of which are CPD related." HoMM C

The other CCG used the Practice Pharmacist Competency Framework and an additional one for its prescribing PPs but were uncertain how to use this to confirm prescribing competency in new areas of practice.

"Yes, we've got a Practice Pharmacist Competency Framework, and the prescribers will need to have additional competencies around [prescribing]. What will be interesting is if our [pharmacist] prescribers start working in new areas is how we as a commissioning

organisation can make sure that they are competent in those areas." HoMM A

The HoMMs in CCG (B) and (D) were not aware if their PP provider organisation used any competency framework, but HoMM B was assured that their commissioned PPs had adequate training. The PPs in focus groups B, C and D thought that they were either already using a competency framework or were going to be soon. Only one of the three focus groups (B) mentioned using the RPS Faculty Framework; the Competency Framework for all Prescribers (Royal Pharmaceutical Society, 2016).

"We will be moving in that direction. There is one but because we have had to move into a new organisation we've had to use their competency framework first, but we will be using the Independent Prescribing one" PP B5

All the HoMMs identified gaps in the provision of training, and some were considering or using private providers. Funding appeared to be a limiting factor, but the HoMM with the biggest PP team was also concerned about the logistics of providing training for the whole team.

"I think the other daunting task with that is, with a team of 30+ pharmacists, to release them for a full day would probably be… quite expensive and two, backfill-issues would arise." HoMM A

Overall GPs thought that PPs were adequately trained for their role, with perhaps some provisos.

"They're all very well trained… they come up with a scheme of work, come with all the right tools to do the job … So, I think from that point of view it works well, and I don't see there's a massive training issue or need really." GP B1

"I would think that they are probably adequately trained for the basic stuff that we ask them to do, so in other words medication checking, budget and looking at our prescribing data and doing the searches, I think they are probably OK with that." GP A2

Two GPs did have some concerns about PPs' consultation skills and ability to deal with CDM; this was despite not having had any patient complaints or any detailed understanding of pharmacists training.

"I don't know how much training they get in actually seeing patients, counselling patients." GP C1

"…like hypertension, I think they would have to have special training, so I think whatever you do about increasing their skill base then they will need more training. I suspect that they have a good understanding of patient medication…I haven't had any complaints from patients…" GP A2

One GP did consider that good training on the IP course imparted more clinical skills to the PP and that such skills were necessary for the management of chronic disease.

"I think the [IP] training … gives them that insight into the clinical scenario. I don't think chronic disease management works as well unless you've got that kind of clinical approach." GP C1

Another GP felt that the PPs they had were all "good pharmacists" and therefore they were not so aware of any training issues. They also raised an important issue, that the success of the integration of PPs into GP practice was dependent on training.

"…I would say that I have been spoilt a little bit with good pharmacists, and the whole introduction of pharmacists into primary care does depend on their training…" GP A1

The PPs were resourceful when seeking out training opportunities and mentioned. For example, attending training designed for GPs, and assessing the Medicines & Healthcare products Regulatory Agency (MHRA) education website.

"I go to the [local] Medical Institute, they do GP based kind of lectures, and I find this most useful for my clinical side, it's just because that CPD is more relevant for where I am coming from as a prescriber…" PP A3

"I've been trying to log onto the MHRA education site which is fairly new… hopefully, as an older person's pharmacist, there's loads and loads going on now around dementia."
PP C2

The National Prescribing Centre used to run therapeutic training sessions for PPs and were also important for networking between PP teams. These were highly regarded by PPs but have been discontinued since the organisation was merged with NICE. The Midlands HEI study days were considered as somewhat "filling" this gap, particularly around networking.

"[The Midlands HEI] are filling the gap of the NPC [general agreement]." PP B3

"…the NPC was just therapeutic subjects, on rotation, the networking was brilliant, with other, you know, prescribing advisers, other Practice Pharmacists, you saw what they did…share ideas..." PP B1

Responses from the focus group pharmacists also provided information about their training needs. Three focus groups (A, B and D) wanted more IT training including training on

practice computer systems, ePACT, electronic transfer of prescriptions, mail-merging and spreadsheets. Focus group B pharmacists were particularly concerned about the lack of staff induction for PPs new to their organisation. Communication and clinical topics were mentioned, such as influencing skills, interpreting blood results, health assessment and CDM. One PP felt that current sources of education and training were too focused on community pharmacists but acknowledged that this was appropriate given the number of pharmacists in that role.

"Nearly all pharmacist training is geared towards the community pharmacist, if you look at pharmacy training, and I do appreciate that the large majority [of] pharmacists are community pharmacists?" PP C1

Patients did not often question the PPs competencies related to medicines use and considered that the pharmacist competencies were inherent in their training. Two patients (P A2 and P C3) felt that "any good [GP] practice" would consider the pharmacist's ability to carry out the role before employing them. Thus the practice validated the PP's competency in the patient's mind.

"Obviously, she knows the tablets. She's learned and knows what they do, and apart from anything else, I don't think that a good practice would not have a pharmacist to do these things for them, to be honest." P A2

"I … just assumed, because obviously he's located in my GP surgery, that he could be trusted. So, that was fine. P C3

Chapter 6 – Stakeholders' Views of the Practice Pharmacist's Role and its Future.

6.1 Overview

This Chapter begins with the importance of the PP role, including the value of PP prescribing, from the stakeholders' point of view. The stakeholders' aspirations for the future of the pharmacist's role within general practice are then described. The Chapter continues by defining the drivers for the integration of pharmacists into primary care that have been identified during the thesis project and draws attention to some remaining perceived obstacles.

6.2 Research questions

3	What are the key stakeholders' perceptions of the current practice pharmacist role and its future, including prescribing?
4	What are the personal and career aspirations of primary care practice pharmacists and the perceived opportunities and barriers to achieving these?

6.3 Results

6.3.1 Importance of the practice pharmacist's role

The current roles of the practice pharmacists and the perceived importance of these roles in the four CCGs were discussed with the patients, GPs and HoMMs. The management of medicines was particularly important to all the HoMMs because of the financial and clinical outcomes that it delivered. For example, HoMM D said:

"I think managing and optimising medicines is very important in all CCGs... From the point of view both financial and clinical probity and making the most of how we treat our patients and how we use resources." HoMM D

The HoMMs considered PPs to be essential to medicines management as they were not only able to carry out work at a practice level but could help practitioners change their behavior. One HoMM, whose PP team was commissioned from another NHS provider, saw their PPs as a conduit for the flow of medicines related information between the CCG and their GPs as well as delivering CCG priorities.

"…it's [PPs] my only outlet into other practices other than…top-level communications, newsletters, that sort of thing…so they're meant to act as a two-way communication…to make sure that medicines' safety alerts are implemented and…our means to deliver the … Quality Innovation Prevention & Productivity (QIPP) work within practices and the team themselves on the ground, talk to GPs..." HoMM B

The GPs also felt that the PP role was important for the flow of information between themselves and the CCG related to cost savings and patient safety. The GPs were all aware of the overall cost of medicines and how their prescribing could be improved by liaising with their PP on the appropriate use of medicinal products, although there sometimes was a tension between these two.

"Prescribing appropriately regarding costs, so we don't spend too much, and sometimes those go together, sometimes not." GP D1

One GP picked up on the two-way communication theme where the practice was trying to be cost-effective but could not get other providers to support this. The PP contacted the CCG and the CCG, in their commissioning role, liaised with the provider to negotiate the change.

"…recently we had an issue with quetiapine modified-release versus immediate release cost, trying to get the psychiatrist to prescribe the cheap stuff, there was no real reason not to, and

getting [the PP] to kind of feedback to [the psychiatrist] about that." GP C1

Several of the GPs considered that PPs saved the GP time or undertook things that the GPs should do but did not have time to do. Medicines reconciliation and audit were examples of tasks that required a certain level of training to complete safely and were identified as time-saving functions that PPs could safely undertake on behalf of GPs.

"[medicines reconciliation] It's more complex that we would expect even a fairly senior receptionist to do, particularly where there is a change of medication, a change of doses, trying to tally up different amounts of medication, so I think it does need someone with a professional background to do that…I would suspect that it probably saves each doctor, maybe an hour or two a week." GP A3

Moreover, some functions devolved to PPs would not otherwise take place. For example:

"Going through a list of patients and auditing things... So, it's something that saves us a lot of time. Well, the stuff that we just don't have time to do." GP D1

"[the PP functions] are very important, because the stuff that [the PP] does is clearly stuff we could do, but it's the stuff we often don't have time to do." GP C1

Patients identified a significant number of benefits in dealing with a PP. Saving GP time was identified by patients as a function of the PP role. Moreover, it was felt that PPs could reduce waiting times, and absorb some of the practice workloads.

"Well, maybe you would not have to wait so long to see, you know, someone. It probably would be a bit quicker [to see a PP] because …I think it would be a little pressure off doctors, does that make sense?" P C1

Patients also considered that PPs were more approachable than doctors for issues that they felt were not sufficiently concerning to bother a GP with.

"…you wouldn't go and waste a doctor's appointment time just to say, "Look, my legs are dry." But [named PP] gave me some cream. Now I'm using that cream, and I use it every day, and now I've improved and my legs aren't as dry as they were." P A3

Increased consultation time was a recurring theme related to PP consultations, with patients equating this to a more informative and personal experience.

"They [PPs] seem to give more information than a GP does, they can take that extra time… but they just seem to take their time to get to know you…" P C3

Patients did appreciate that there was an inherent benefit in seeing a pharmacist rather than a doctor. This benefit was not only related to the "*more time*" theme but also to the fact that PPs were non-medical, and they could answer different questions and were focused on medicines use, benefits and harms. In the case of PPs managing chronic disease, there was also a recognition of expertise and, in some cases, even specialism.

"I felt he [PP] seemed to have a specialist interest in that particular aspect of health. When you get older, you've got lots of things wrong with you [chuckles],…It's nicer to have someone who focuses on one of those and gives you his undivided interest in that, and obviously his expertise." P C4

The same pharmacist was acknowledged by their GP as a specialist pharmacist that provided a service to patients and acted as a resource on respiratory matters.

"He is an experienced pharmacist. He is a pharmacist with a special interest, respiratory and is an information source for this and other conditions when necessary." GP C2

6.3.2 Benefits of pharmacist prescribing

The value of PP prescribing to the stakeholders was sought in the interviews and focus groups. Pharmacist prescribing was generally seen as advantageous by the HoMMs, but in one CCG (D) is was not a current priority because of limited capacity and funding.

"…[pharmacist prescribing] it's not part of a standard work that we expect them to do. I strongly hope that as we go forward, it will become part of the work that we commission. But now, I don't think we have the finance or the resource to make it an equitable and viable thing." HoMM D

Two of the other CCGs (C and A) had a high proportion of pharmacist prescribers who were thought by the HoMMs to be actively prescribing in repeat prescription management, post discharge-medicine reconciliation, and CDM.

"Well 16/17 of the Team are non-medical prescribers, all of them use it…" HoMM C

"I think in [CCG A] I am pretty certain that most of our pharmacists prescribe regularly if we look at the definition of regularly as someone who has prescribed in the last two or three months; I suspect that most of our pharmacists are doing that." HoMM A

The benefits of pharmacist prescribing were summarised by one of the HoMM who echoed the overall benefits of non-medical prescribing that are published by the DoH, i.e. increased patient access to medicines, freeing up doctors' time and utilising the skills of other HCPs (Department of Health, 2008). A fourth benefit was around patient safety but related to the perception that pharmacists had a cautious approach to prescribing.

"I think there are also benefits in terms of safety as I suspect that pharmacist prescribers generally are quite careful prescribers ..." HoMM A

Other HoMMs identified further benefits that included the PP delivering a more complete and efficient service that did not require any consultation with the GP

"The added value is that they can give a more rounded service and not always have to then go and give a whole wodge of stuff for the GP to then look at and sign off, and then wait, and then action." HoMM D

Functions like pharmaceutical care would be supported by increasing numbers of prescribing pharmacists; there was an assumption that a prescribing qualification would be more common in the future.

"… the availability of more prescribing pharmacists… in future means that we can actually move forward into this pharmaceutical care model because we have the staff there to start doing that." HoMM D

"I would expect that they would all be prescribers…" HoMM C

Two GPs also identified that completing the consultation independently was a valuable benefit. This function was linked to making changes to the patient's medication and the "responsibility" of completing the consultation by prescribing.

"… it gives them [PPs] more responsibility- enables them to do the job right through to the completion of doing the script and changing the patient." GP D1

"I think a pharmacist with a prescribing qualification who can take that responsibility and complete the task, I think is invaluable." GP A1

Another GP considered that by not being able to prescribe at the end of a consultation somehow reduced patient confidence in the PP.

"…and I think that the act of prescribing at the end of a consultation gives the patient confidence in the clinician (pharmacist), having to get another to sign the prescription somehow reduces the patient's confidence." GP C2

While another GP saw pharmacists prescribing as a learning tool and that the experience and responsibility of being a PP prescriber was a benefit to the PP.

"…when you are a prescriber, your own prescribing, you then see the results of that, that experience then gives you an added edge…as you see how that goes [with the patient], I think that is worth something…" GP A2

Some areas of pharmacist prescribing were acknowledged as cost-saving. Managing the repeat prescription requests from those acting on behalf of patients (third party requests) was something that GPs felt required the scrutiny of a PP to avoid waste.

"*where we have had complex requests for medications say from District Nurses-I think they [prescribing PPs] seem to be quite good in teasing out what's needed in terms of dressings. They also tend to, take responsibility … for managing prescriptions for catheters, bags and appliances and things, which I think has shown huge cost benefits."*
GP A1

Prescribing PPs also echoed the views of GPs around the use of non-medical prescribing to

improve patient access to medicines.

“It's got to be better for patients hasn't it cos they can get the prescription straight away rather than waiting?” PP B4

Pharmacist prescribing was also felt to reduce GP workload by addressing aspects of CDM which freed up GP time to manage more complex patients.

“And I also think that if you follow it all through… we should be reducing the work load of the GP… they could be dealing with more complicated acute illnesses…” PP B6

One PP considered that prescribing equates to autonomy and that this improves both the perception of the patient and their relationship with the pharmacist.

“I think it gives them [patients] a more complete consultation. The autonomy definitely helps improve your working relationship, and it changes the perception of the patient [positively] as well to a certain degree.” PP C1

Among patient respondents who were asked about pharmacist prescribing, there was a range of level of awareness. Some were completely unaware.

“I didn't know actually. I didn't know about them [being able to prescribe]. Completely new to me.” P C5

Another had experience of nurse prescribing in an urgent care setting and also dental prescribing and was not surprised to find that pharmacists could also prescribe.

“Yes. I have been to a "Walk in" clinic, and the nurses there sometimes prescribe…I didn't

find it strange [PP prescribing] because sometimes the dentist will prescribe for you, as well." P C4

Other patients were fully aware and indicated that pharmacist prescribers prescribed a range of medicines for minor ailments and also for chronic diseases to good effect. For example:

"Well, he's changed my medication… the one for asthma. He's actually prescribed a better inhaler…" P C5

Not all HoMMs were convinced that pharmacist prescribing was an essential skill for a PP. Their previous experiences of difficulties around recruitment of PPs, and also issues with finding funding for the non-medical prescribing (NMP) course, seemed to contribute to the view that these factors may be a barrier to the expansion of pharmacists prescribing.

"The downside is funding for NMP, with the loss of training monies I think CCGs will struggle to find funding for NMP, so, therefore, it may mean that pharmacists themselves might have to self-fund which could be a barrier [to increase the number of pharmacist prescribers]" HoMM A

Further issues with pharmacist prescribing for CCG commissioned PPs were linked to how they are deployed and where their funding should come from. HoMM B considered that non-medical prescribing was more applicable to a directly employed role.

…we've struggled a little bit strategically to identify an area where they would best use those [PP] prescribing skills…the NMP role to me more fits more with someone who's regularly employed by the practice…" HoMM B

HoMM A felt that PPs should be integrated into primary care to address long-term conditions

and was unclear how the PP funding could be allocated to make this happen.

"I think the next step is getting the pharmacists integrated into primary care around long-term conditions and other roles that they have the expertise for…I think the crucial question is will that be funded by GP practices or will it be, as at the moment, through the CCG-so somehow, we need to have a shift of funding towards practices..." HoMM A

Two GPs considered that pharmacist prescribing was essential to the PP role, others saw it as desirable. One GP went further and identified the underutilisation of the prescribing pharmacist's skills in CDM, and the potential for improved patient care, despite not being clear about how this could work in the current situation.

"You know we have highly qualified independent prescribing pharmacists, and we're not using their skills to the full…we should be using them to deliver all kinds of chronic disease management… so we're going to have to find out where that role sits." GP B1

The GPs felt that the lack confidence among some prescribing PPs meant that they were not utilising the skill. For example:

"…it's the confidence to use the qualification, so I have got some with the qualification who won't use it, where they are of no more benefit as someone without it." GP A1

The PP prescribers identified some issues that they had encountered when they were actively prescribing in practice. For example, there was some pressure to prescribe for patients when there was no GP available.

"I mean the staff sometimes if there are no GPs in the building, it's like can you sign this prescription? "PP C1

This was associated with a perceived lack of understanding of the prescribing pharmacists' role and the need for them to prescribe within their areas of therapeutic competence.

"But I think it's important to say no, I think it's important that the reception staff understand your role…" PP A2

The reluctance to sign ad-hoc prescriptions was linked by the PPs to the perception that pharmacists were much more cautious prescribers than GPs and that a pharmacist prescriber would want more detail before considering prescribing.

"Whereas [compared to a GP] I think as a pharmacist, I would like to think that we are all much more careful about what we sign, and we think about what we are going to sign and what we are not going to sign." PP A2

This cautious approach may be due to a lack of experience or limited areas of competence, whereas GPs were much more accustomed to prescribing and had wider areas of competence. It was also felt that over time experience would make pharmacists less cautious.

"I think…[GPs] they're more relaxed [about prescribing] they do it all of the time, and possibly if you did it every single day we wouldn't [be so cautious]." PP C1

Other prescribing PPs specifically mentioned being limited by competency when considering signing prescriptions for patients.

"There are certain things that like… there was an example today… growth hormone. I'd got the letter from the hospital, but I still didn't feel it was in my competency to sign this

prescription for the growth hormone." PP A2

Other PPs assessed risks, rather than just competency, to set parameters around their prescribing and to determine if they would sign a prescription.

"I've done [prescribed] methotrexate…in another CCG simply because if the bloods are done, and you're happy… and you're confident, and they're on repeat. I wouldn't initiate it obviously, but I'd sign a repeat." PP B6

Another prescribing PP thought that the difference in perception of risk between doctors and prescribing pharmacists was a result of differences in medical and pharmacy training.

"They're [doctors] trained to be autonomous [prescribers]…and we are encouraged to work more as a team; we take less individual, we share our responsibility…" PP B5

Another limiting factor for PP prescribing was the working relationship with other practitioners in the practices. Not all wanted to reduce their workload or felt the need to let the PP see patients with chronic disease.

"…where I do the hypertension clinics; there's a couple of GPs who won't refer patients to me, they just see their own patients and the same with one of the nurses…she's an IP and she prefers to see her own patients…" PP A3

Patients were largely happy for pharmacists to prescribe for them, although some were only comfortable for a prescribing pharmacist to prescribe repeat medications against the diagnosis of a doctor.

"No, I had seen doctors about that in the past, so I think it was a diagnosis made actually by

a hospital, consultant at the hospital, followed up by the GP, and then carried on by the pharmacist, so I felt that was okay." P C4

This feeling was echoed by another patient who also included situations where the patient might have a new condition or felt ill.

"I don't know whether you would want to see the pharmacist if you have a condition if you were looking for help with a new problem. If you have a new condition if you felt ill… I don't think that you would want to go and see the pharmacist then." P A1

For another patient, it was the type of medication that was important.

"Where blood pressure or statins are concerned, that's different, but I take epilepsy medication, I wouldn't like them [PP] to change that." P B2

Other limitations to the PP prescribing role were identified by individual patients. For example, some patients noted that the PP prescriber would not always prescribe all their medication and were not autonomous.

"I wanted other tablets, and he couldn't do it…. he couldn't prescribe my other tablets." P B2

"During the consultation, something arose which required them to speak to a doctor, which is what they did. That was done quickly, and it was resolved there and then." P A1

Others specifically noted restrictions on the availability of the PP.

"…not in the case of the condition that I've got because I know he's a specialist, and he's

there a certain time each week." P C2

6.3.3 Heads of Medicines Managements view of the practice pharmacist role in the future

Two HoMMs had considered the move towards direct employment of pharmacists by GP practices and were supportive of this, despite the likelihood that PPs could be drawn from existing CCG teams being attracted to more patient-facing roles.

"They are now part of the CCG. But I see them ideally becoming part of the individual practice teams, same as the practice nurse and the health care assistant (HCA) are, fully joined up members that are more aligned to the practice than to any outside body." HoMM D

"…if pharmacists become employed by GP practices, that potentially could have an impact on commissioning organisations…I suspect that pharmacists will become attracted by the option of doing long-term conditions work rather than what they might see as more commissioning type roles." HoMM A

Another HoMM identified that one of the drivers for this was the desire of GPs to direct the work PPs were doing in practice.

"The GPs that I have spoken to so far want more control over what the practice pharmacists do." HoMM C

There was an understanding that the integration into practice teams would provide benefits regarding patient facing activities such as clinical medication review and medicines optimisation.

"And where their skills are slotted in with the practice nurses and the other NMPs and HCAs

and GPs, to provide the patients of that practice with a fuller service. And be able to feed in proper clinical pharmacist medication review, as a normal part of NHS provision..." HoMM D

One HoMM wanted PPs to work more closely with community and hospital pharmacists. They saw the PP as a conduit between these two sectors of the profession.

"As the role develops I think… there needs to be better working with your local community pharmacists and also with the hospital pharmacists team because at the end of the day the [PP] is a pharmacist within the health economy and it's about better integration of those groups of pharmacists". HoMM A

They went on to suggest that patient care would be enhanced, regarding interface issues, if this could be achieved.

"…So, for example, could community pharmacists refer patients to a practice pharmacist and vice-versus or could hospital pharmacists refer to a community pharmacist directly…that's something we need to develop as well because I think at the moment there is a dotted line instead of a bold line in terms of continuity for patients etc.…" HoMM A

The HoMMs also identified the need for a better career structure for PPs role related to the expected growth in the numbers of PPs and the likelihood that many would be embarking on the role for the first time. One suggestion was that there should be an entry level with a clear career path to more senior level(s)

"Because whilst there are going to be more pharmacists…a lot of those pharmacists are going to have very little experience. So, we really do need a proper employment framework with potential for stepping up through the grades - a proper career progression model".
HoMM D

6.3.4 General Practitioners' view of the practice pharmacist role in the future

All the GP respondents agreed that the future role of PPs should include patient facing roles that would address the workforce issues in primary care. CDM was frequently mentioned, for example, COPD, diabetes, thyroid disease, asthma and chronic pain, where they felt PP could have an impact.

"I think [PPs] can have a huge role, a bigger role in chronic disease management where that would be structured so that if…a HbA1c is above target; they could work on getting it into target… these things are set out, and most work in algorithms". GP B2

This respondent wanted to limit the role to those conditions where treatment was defined by existing algorithms and was kept broadly within these parameters. Not all GPs agreed with this, and two considered that PPs could get involved in the triage of patients presenting for treatment where a precedent had been set by nurse practitioners.

"…I think it's more about saying how best to use pharmacists in different roles and even to take on, for example, urgent care work…pharmacy triage, for example, nurse practitioners do triage why not pharmacists?" GP A2

One GP went further to suggest that all PPs should be considered for all of the above roles and more, stating that PPs were only limited by access to training, and that specialisation in one area was one outcome that training could deliver.

"But I think they could go into a million and one different roles. They could triage, they could do other chronic disease management, they could help us with the clinical audits, with QoF the over 75s that we are looking at. I don't think there is anything that a GP does that they couldn't do with training and I think particularly a focus on particular specialty." GP A1

Another felt that pharmacists should not only advise on medicines use but also focus on the quality of life issues within treatment protocols.

"*An interesting report out earlier this month with diabetes saying actually although the pills that we prescribe for diabetes make the magic numbers for HbA1C, cholesterol and blood pressure, are we actually improving the patients' quality of life? And I think that a pharmacist may be involved to actually look at those quality of life issues."* GP A3

6.3.5 Patients' views of the practice pharmacist role in the future

All patient respondents thought that there should be a PP in every GP practice often because they extrapolated the benefit to themselves in the wider population, but some did consider that the need for pharmacists would depend on how much demand there was for their services. For example:

"*Well, it's just because he has helped me in so many ways, so I don't see why other people wouldn't want that facility… It kind of depends on their popularity. You know when he is there any you know when to book for him, but I suppose [it] depends if they're needed full time".* P C3

"I don't know what the demand is [for PPs]. I suppose it's like all things. It's money, isn't it? It's whether the demand is there for them." P C4

Patients also felt that the PP could be used to extend the GP consultation where information was required about a new or current medicine.

"… if you're going on to a new treatment, it might have side effects and whatever. And if you

could ring her/him up, or get in touch with her/him quicker…" P C5

"It's nice to talk to someone [like a PP] about their medication. Cos [with] the doctor, all I do now is phone up, and he gives me a repeat prescription, whether it's the right medication for my health at the moment, I don't know." P B1

Also, the PP was a useful contact if the information given by a GP had been forgotten or was required again later.

"…sometimes you've come away from the doctor and thought, "Oh, blast, I never mentioned that." Well, with [PP name], you've got the opportunity." P A3

Saving GP time emerged as a key benefit that patients perceived could be exploited further in the future.

"I think it would take some of the pressure off and spread it around a little bit, and that hopefully will allow people with conditions that needed to see a GP, could see them more easily because there'd be less pressure." P C4

"[PP name] will listen to you, advise you, and she can prescribe. So, that means you don't have to waste doctor's time." P A5

When asked about potential future roles, patients did not have any strong ideas regarding the future role of PPs. They recounted their experiences of PPs current roles in their narratives as they perceived them. For example, medication side effects, minor ailment prescribing, ease of access for further information, community pharmacy interface issues regarding the supply of medicines, interactions, pharmacist prescribing within competence, medicines advice and medication review.

6.3.6 Practice pharmacists' aspirations for their future role

Pharmacists, particularly those commissioned from the CSU, wanted to spend more time at each practice. This model of PP provision lacked quality and the kind of patient focus that the PPs desired.

"Personally, I think going back to what other focus group members said, it would be really nice to be able to spend quality time in a practice…for most of us at the moment, we've got eight or nine practices that you're trying to juggle over two weeks…" PP D1

Some PPs had specific aspirations for the time they wanted to spend in each practice. For example:

"I would like to be doing a day a week in a practice so that you could do the safety issues and see patients and do the long-term conditions…rather than this flitting in and out." PP B2

"But if you were in a practice where if you had maybe only two or three practices and worked in those a couple of days a week in each, that would be the perfect scenario for me." PP D1

This PP summed up for many a general desire for more face-to-face time in any future PP role.

"I'd like to have more patient contact." PP D2

Another PP thought that there was a future role in addressing interface issues. They went on to quote an example in another CCG where this was being tried but were unsure of the outcome.

"We still haven't talked about the interface between primary and secondary care…[other CCG] has got an interface pharmacist…that's definitely somewhere where there's a lot more potential to work." PP D2

The integration of the pharmacy sectors, so that the divisions between secondary care and primary care pharmacy were less well defined, were felt to be important. Community pharmacy was perceived as a block due to the nature of the current model.

"The integration of primary care and secondary care and community pharmacy really is vital, but where it's going to happen or not, I have reservations…The stumbling block here is the community pharmacy model… When that changes, I think you can start to integrate the three services together." PP A6

Integration within the practice was also felt to be important, and it was agreed that this was a way forward. It was suggested that PPs should be directly employed by the practice rather than the CCG.

"What I would like to see in the future… is more integration into the practice, being able to run the practice in combination with other healthcare professionals… actually be part of the practice rather than being a part of the CCG." PP C1

At the time of the thesis project, this was beginning to happen as practices had started advertising for PPs.

"You see practices now openly advertising for full-time pharmacists, there's one near where I live..." PP A1

Another PP had a friend who was employed in this way.

"I know somebody who is directly employed by a practice; it works well for them." PP D2

Some PPs went further and suggested that PP should be involved with the management of the practice. This was a former community pharmacist who would have had managerial experience in this role.

"In one of our practices we have got an advanced nurse practitioner that's a partner in exactly the same way, and there's no reason why we could not be more integrated into the management." PP C1

The prospect of becoming a partner in the practice was discussed again by another former community pharmacist.

"I think a pharmacist should be a partner in the GP practice…I think in that case it could work." PP A2

One pharmacist went on to suggest that they aspired to become a Partner in the practice to improving patient care and income.

"I don't see why a pharmacist can't be a partner in a practice, like you're looking at everything they need to do, and they need to do it efficiently, and I need to get it done then there's no reason why large majority of their QoF and meeting their targets couldn't be done outside the consulting room." PP C1

6.4 Drivers for the integration of pharmacists into general practice

Given the developments in the role of pharmacists in general practice, and the desire from the thesis project to be integrated into general practice, it is important to define the drivers for

the integration of pharmacists into GP practices. These are summarised in Table 6.1 below.

Table 6.1 Drivers for the increase in the numbers of pharmacists working in general practice

Drivers for change	**Leading to current issues**	**Potential solutions delivered by pharmacists**
Workforce deficiencies	Shortage of HCPs especially doctors	Take on workloads e.g. CDM
Appropriate use of NHS funds	The need to ensure that medicine use is appropriate.	Pharmacists prescribing and medication review, medicines optimisation.
The need to improve prescribing	Inappropriate prescribing, ADRs and medicines related issues.	Pharmacists-led medication review, medicines optimisation.
Clinical information overload	More complex and costly treatment, ageing population living with multiple LTCs, increased patient expectation, expanding evidence-base, Increasing national and local guidance.	Pharmacist as manager of clinical information and a conduit for dissemination.
Provision of PPs by CCG (funding and management)	Dissatisfaction with the current service provision via CCGs by GPs and PPs.	Direct employment or CCG/CSS/Acute trust PP budget devolved to practices.
Changing culture	Acceptance of the need for collaborative working. Pharmacists desire for a more clinical role.	Collaborative working.

6.4.1 Workforce deficiencies

All the HCPs interviewed, individually or in the focus groups, identified a shortage of GPs as a potential driver for the inclusion of practice pharmacists into general practice teams as a way of absorbing some of the GP workload. The background to the current shortage of GPs has been outlined in 1.5.1.

There was an awareness of GP shortages and recruitment issues amongst pharmacists who felt that doctors were disillusioned with the GP role and that GP practices were frustrated with the situation and the cost of employing GP locums. Pharmacists reported having seen advertisements for full-time pharmacist posts to work for GPs as employees.

"Yes, but they hired about 4-5 different GPs, and not had much success with any of them, and now they know the situation is going to get worse, they're just frustrated because there's nothing they can do, and they pay locums a considerable rate". PP C1

There was a general acceptance that the workload in primary care was increasing, due to the ageing population and the concomitant increase in chronic disease as well as emerging treatments and technologies. Direct employment of pharmacists was seen by GPs as a way of supporting the practice in managing workload. There was a general acceptance that practice pharmacists were adequately trained for their current role (with caveats about consultation skills) and moreover that they could easily be trained, where necessary, to take on more clinical roles.

"I would be looking for expanding the role of the practice pharmacist as time goes on and give her/him more of a clinical role… we could quite easily up-skill and if you think the pharmacist has all this knowledge about medications, done a lot of pharmacology and a little bit of clinical work as well, you know, in their course, and then you just up-skill them clinically…". GP A2

GPs, pharmacists, and HoMMs also identified the contribution that PPs could make in CDM as a solution to workload problems in general practice.

"…the bottom line is that he helps us … with the chronic disease management which is essential, because we'd have to do it if he wasn't doing that…" GP C1

Despite the above, not all GPs saw the need to increase their practice pharmacist hours. However, the recent introduction of an Enhanced Service providing funding for over 75s care planning (NHS England, 2014c) had stimulated discussion at practice level about increasing practice pharmacist hours. In some cases, this had led to direct employment of pharmacists to support the programme.

6.4.2 Appropriate use of NHS funds

Heads of Medicines Management focused on the need to save money on prescribing within

the NHS as a driver. Medicines were the most common intervention and generated significant cost pressures and drug budgets, they felt, were unlikely to significantly increase in the next few years. Practice pharmacists were considered as one of the ways that drug spending could be controlled through medicines optimisation.

"I think managing and optimising medicines is very important in all CCGs, to be honest… from the point of view both financial and clinical probity and making the most of how we treat our patients and how we use resources." HoMM D

The focus group pharmacists saw themselves as responsible for financial savings and understood that their individual savings would be quantified, and their effectiveness would be monitored.

"We've got set amount of money to save which ultimately that is what it comes back to you - we've got to save this money." PP D1

Efficiencies were also identified by GPs as a key function of the practice pharmacist both concerning the pharmacists' responsibility to the CCG and the individual practice. Practice pharmacists were considered cost-effective in this role by GPs, saving more than they cost.

"It seems the amount that pharmacists can save us completely out-ways the cost [of PPs]." GP D1

The benefit to patients from more PP contact was felt to be potentially very high, and pharmacists themselves wanted to work more closely with patients to make this happen.

"actually, conversations with patients really helps you to understand where the gaps are [in understanding medicines] and how complicated some of these medicines are, maybe simplify them in some case." PP D2

6.4.3 The need to improving prescribing

GPs also identified a pressing need to improve prescribing and reduce hospital admissions due to medication issues.

"There is so much scope for just improving prescribing of medications and reducing prescribing errors which contribute to admissions and these sorts of things, and even just patients not quite understanding how to take things…" GP A2

Practice pharmacists recognised their role in medicines safety as well and linked this to medication review (MR). They felt that regular MR was a key factor in medication safety and, that now GP practice compliance with MR was monitored by the Care Quality Commission (Care Quality Commission, 2016). The focus group pharmacists did not think that GPs carried out MR in sufficient depth and felt that MR by a pharmacist could help reduce hospital admissions, improve prescribing and also save money.

6.4.4 Clinical information overload

GPs and practice pharmacists identified a role in providing information, training and updates to GPs and their staff. GPs felt that they were being overloaded with information related to medicines and that a pharmacist was ideally placed to help with controlling this and providing relevant information to practitioners, including training new staff such as registrars and medical students, especially around rational prescribing.

"We are a training practice, and we have registrars and medical students, and we have asked our pharmacist to do a session, when the registrars start, on sensible prescribing in general practice, because so many junior doctors coming out of hospital training, really haven't a clue, in terms of what's an appropriate amount of pain-killer to prescribe, what dose of antibiotic, oh -what antibiotics do we actually prescribe in primary care as opposed to in the hospital." GP A3

6.4.5 CCG provision of practice pharmacists

The CCG provision of the PP service was considered to be a driver because of the restrictions it placed on the GPs and PPs. The pharmacists in the focus groups raised issues around the time that they worked in practices under their current commissioning model. None of the practice pharmacists in this project were directly employed by their GP practices. Pharmacists spent their time at some practices within their CCG visiting each practice once a week or less, usually for less than 8 hours per practice, so there was an inevitable delay at the beginning of each session as the pharmacist picked up the threads of work not completed at the last session.

"I'll be doing something at one practice, and if I'm not back there then next week, it takes me an hour to get back to where I was when I finished off. I think that lack of continuity is really difficult." PP D1

Working with GPs had shown the PPs that they could demonstrate the worth of the practice pharmacist role and to begin to define the place of the pharmacist within the practice.

"I think the more time you spend there, the more they can see your worth and the more they can appreciate the variety of things you can actually manage or change." PP D3

Sessional working (one or two 4-hour sessions a week per practice) combined with a work plan meant that practice pharmacists had little opportunity to take on any work that was requested by, or that might be more relevant to the individual practices. One PP expressed the view that engagement with the practice agenda might overwhelm them and they would not be able to complete the work plan that had been commissioned.

"Like when we said we can't get involved in some of these areas because if you say, "Oh I can do that for you" you're going to be flooded aren't you but when you only go for half a day per week you just can't offer that service." PP B1

One GP stated that they did not always understand what the PPs were doing in their practice and that the external management of the PP meant that the GP did not have the authority to question their work. This GP also raised another team specific issue related to having more than one practice pharmacist working at their practice and described the service as "piecemeal" and wanted to have one practice pharmacist to undertake in all the work in their practice to ensure continuity and the completion of work from one session to the next.

"I think we have some difficulty with having a piecemeal service, because you've got different pharmacists, and we've been trying to push for having a single pharmacist rather than having different people because you will find that pharmacists will leave work for the other pharmacists tomorrow and you'll find it can be "pass the buck" in some ways. Whereas if there was one pharmacist responsible for all the work, they'll get on and do it and that might mean they'll do it today or tomorrow but it's still their job." GP A1

GPs also expressed a desire to have more control over the work that practice pharmacists undertook. External employers like the CCG, Acute Trust and CSU, were a barrier as they imposed the work plan on the practice. Some GPs felt that changing the commissioning pathway would mean they could be more creative by having more control and the ability to direct the PPs work to meet the individual practice situation and needs. One way to achieve this would be to devolve the practice pharmacist budget to individual practices so that they could manage pharmacists more effectively; this would give the practice ownership of the pharmacist's work and provide greater involvement in the practice team and a wider role in CDM.

"As mentioned before I think there is undoubtedly a role for pharmacists in conditions like diabetes, hypertension management, anticoagulation-there is lots of things which I think a pharmacist could do very effectively but it is a case of trying to work out what the priorities are and ultimately it comes back to who is employing the pharmacist, who is paying for their

time." GP A3

6.4.6 Changing culture

Changing culture within the professions was linked to increasing workload and familiarisation. GPs, pharmacists and HoMM all recognised that both sets of HCP, doctors and pharmacists, possessed an inbuilt reluctance to change. GPs considered that, as a group, they could be protective of their role and to be reluctant to admit that another person could do aspects of their job well, or even better than they could. While this was felt to be a barrier to greater pharmacist involvement, the increasing workload pressures in the NHS were now so great that this reticence was no longer the barrier it once might have been.

"GPs were protective of their job and role, but the pressure of work in primary care is so great now that we will accept help from anyone qualified to help." GP C2

Some GPs, who had worked in primary care for many years, did refer to a concern that had been a barrier in the past but that had now apparently ceased to be an issue. When pharmacists were first introduced into GP practices, there was a suspicion that they were there to effectively "spy" on the practice and report back to the Primary Care Organisation (PCGs and then PCTs at the time). This historic view of the CCG employed practice pharmacist was no longer held, but the fact that it was mentioned at all might indicate that this view is not entirely historical.

"At first when pharmacists started to work in surgeries we though they were PCT spies." GP C2

"I think the initial barrier where GPs were suspicious-I think that has gone now-I don't think any GP is particularly concerned with "they should not be there." GP A2

Pharmacists also echoed the GP's protective attitude towards their role, although this was

only felt to be a concern in a minority of GPs who generally appeared to be disengaged with the changes in the NHS. Most GPs were accepting of the pharmacist's role in general practice and were "pharmacist friendly". Pharmacists did feel that the opportunities for greater involvement in primary care were dependent upon the GP's positive attitude.

Pharmacist resistance to change was identified in both the focus groups and the HoMM interviews. Pharmacists considered that, as a group, they were reluctant to promote themselves or the roles that they could potentially deliver. They also felt that this might change as pharmacists, new to the role, were recruited.

"I think the only other rate-limiting step, as people have said, is - although, hopefully, it won't be such an issue with newer pharmacists - is pharmacist's reluctance to change what they're doing." HoMM D

6.5 Perceived obstacles to the integration of pharmacists into primary care

Participants identified several potential obstacles that need to be surmounted or removed to facilitate the integration of pharmacists into GP practices.

6.5.1 Funding and resources

Practice pharmacists, GPs and HoMM all considered that funding was a major barrier to increasing the time that pharmacists worked in practices. All practice pharmacists in this project were funded directly or indirectly by the CCG (usually from the drugs or management budget), so there was no direct payment from the GPs for the services provided by the pharmacists. The focus group pharmacists felt that GPs, therefore, had little idea of the cost of providing the current PP service and that this made pharmacists nervous about the future.

"I am employed by one of the practice again to help with the repeat prescribing, and when asked what my salary rate was, they almost fell over and said I don't suppose you accept any less would you." PP C2

Many of the GPs interviewed had strategic input to the CCG, so they theoretically had access to the cost of the current practice pharmacist service, but two GPs described practice pharmacists as “expensive”. One went on to suggest that practice pharmacists were a “luxury item” and thought that the commissioner of the service might question the value of a pharmacist compared to that of a nurse practitioner, although the GP did not know how the salaries compared.

“I suppose they're [PPs] still fairly expensive aren't they as well, as professionals go, the CCG might not see the value of them... I don't know whether a nurse prescriber and a practice pharmacist prescriber earn a similar salary or not?” GP C1

One other GP was more pragmatic and felt that the choice between a nurse and a pharmacist depended on the needs of the practice at the time. He also felt that GPs did not invest in sufficient practice nurses and that this had to be addressed before they could consider a PP. The PPs were more direct about this issue and sceptical because nurse salaries were lower than those of pharmacists; nurses would be employed preferentially in the current financial climate.

Changes to GP funding streams via QoF (National Institute for Health and Care Excellence, 2016) were thought to be a threat to the future possibility of pharmacists being directly employed by GPs (independently of any CCG funding); the potential loss of GP income would make it less likely for GPs to be able to invest in a pharmacist to make savings.

Physical space within GP surgeries was also identified as a barrier limiting access to practices.

6.5.2 Value of practice pharmacists based on cost-savings

Another issue related to resources was the current focus on savings; the CCG emphasis was currently on cost saving through the QIPP agenda (Department of Health, 2010) and PPs felt that this was unsustainable given that savings were becoming harder to realise. GPs also considered this unsustainability as a risk.

"I would hope that they [PPs] would be maintained I think there's been a danger that they're seen as one of those luxury items that potentially is cut." GP C1

The threat of removal of the current service provision was considered a backwards step by GPs in general. One GP was prepared to outline the potential impact on their practice of the loss of their practice pharmacist, including the likely cost implications.

"… my biggest fear is that my practice pharmacists will be taken away-not funded…which would be a large detriment… to general practice…I wouldn't be surprised if they were taken away-which would be paradoxical, I think it would end up- to save £50 an hour you'd lose £100." GP B2

6.5.3 Medical education and training

One of the GPs felt that their undergraduate training did not cover the role of pharmacists in primary care and so there was a lack of basic understanding of the benefits of having a pharmacist on their teams when they went into general practice. Practice pharmacists themselves felt that their role was poorly defined, not always related to a relevant competency framework and that, although training opportunities were available, the training was not always relevant to the role. This view may have been exacerbated because of the withdrawal of centrally funded training for PPs, delivered by the NPC.

One HoMM suggested that confusion between the different sectors of the profession was a barrier, particularly where practice pharmacists were confused with community pharmacists. Practice pharmacists and HoMM considered that practice pharmacists are significantly

different from community pharmacists, regarding their training and experience, to be differentiated as a separate group.

"The difference between the different strands of pharmacy: primary care, practice-based, community pharmacy. Every so often, I'll still see a paper that someone's written without talking to me that talks about community pharmacists, and I like to put my hand up and say, "They're not community pharmacists. They're clinical pharmacists, and they're working in practice." HoMM D

6.5.4 Salaried doctors

Salaried doctors have been replacing many retiring partners in GP practices, and this was considered a potential barrier to engagement with the PP and CCG because it was felt that a salaried doctor's relationship with the business aspects of the practice was potentially different to that of a partner. Salaried GPs might not be so likely to care about cost savings or act on the advice of a practice pharmacist, thereby reducing the value of the pharmacist to the practice. This was identified as an issue by both GPs and HoMM but interestingly not by pharmacists themselves.

"Because there's an issue from the practice's point of view and there's also an issue from the engagement with the CCG … you've got salaried doctors who don't necessarily want to follow the formulary..." HoMM B

6.5.5 Practice pharmacists' professional isolation

There was a sense of isolation from the rest of the pharmacy profession, in as much as the number of practice pharmacists was small. It was felt that there was little recognition of the role in the undergraduate course and, arguably until recently, within the professional body.

Since these views were expressed, the professional bodies for medicine and pharmacy and NHSE have increased the number of clinical pharmacists (PPs) and raised the profile of the role, both inside and outside the pharmacy profession. The NHSE pilot has addressed some

issues related to training and funding of pharmacists working with GPs. Health Education England is working to develop pharmacist clinical assessment and consultation skills (Health Education England, 2015a), and has funded independent prescribing courses for pharmacists (Health Education England, 2017).

Chapter 7 Discussion

7.1 Overview

This Chapter discusses the results of the thesis project related to thesis project research questions numbers two-four. It includes the background of the PPs, their attributes and the effects of the 2013 NHS changes on them and their teams. The stakeholder perceptions of the PP role are discussed, including the value of the PP including pharmacist prescribing. These perceptions followed by a discussion about the future of the role PP role and the opportunities and perceived barriers. The chapter concludes by discussing the transferability and limitations of the thesis

7.2 What is the background, educational and employment status of primary care pharmacists working in Clinical Commissioning Groups?

7.2.1 Clinical Commissioning Groups' practice pharmacists background

As far as can be ascertained this project is unique in that it is the first in-depth study of CCG commissioned PPs that has been undertaken since the NHS changes in April 2013. The PP respondents were experienced in the role and where comparisons can be made with previously published UK studies reporting a similar range of variables, the respondents in the thesis project were like those studied elsewhere (Blenkinsopp *et al*., 2001; Martin *et al*., 1998; Mullen *et al*., 2005; Mills, 2016). The PP respondents' similarity to other PPs studied provides some assurance of the validity and reliability of the thesis study data. The project PPs were of a similar age (Blenkinsopp *et al*., 2001; Mullen *et al*., 2005; Mills, 2016), professional background, and spent about the same time face-to-face with patients as PP studied elsewhere. Those PPs qualified to prescribe reported similar levels of prescribing to the PPs in the study by Mills (2016). Like other PPs, many of the thesis project PPs continued to work in community pharmacy and could do so because they were not employed

full time in the PP role. The PPs gave similar reasons for becoming PPs to those given by PPs studied elsewhere and in the IS, related to dissatisfaction with traditional roles (Blenkinsopp *et al*., 2001; Boardman *et al.*, 2001; Mullen *et al*., 2005).

The pharmacy profession has largely lost its prime historical function, the technical skills required to acquire, store and manufacture medicines, other than in an industrial or specialist manufacturing unit. According to Elvey *et al.* 2013 pharmacists do not have a clear self-identity and still cling to the idea of medicines maker and possibly see themselves as unremarkable. This may go some way to explain why pharmacists in the thesis project considered themselves to be diffident and lack self-promotion. While pharmacy undergraduate courses prepare pharmacists to work in any pharmacy sector, the reality is that most pharmacists work in community pharmacy which remains dispensing focused (Davies *et al*., 2014). Consequently, many of the taught skills are not needed or fully utilised affecting personal satisfaction and self-image (Boardman *et al*., 2001). The thesis PP respondents, in common with others studied, suggested community pharmacy did not use their skills, was business focused, created a “shopkeeper image” and lacked autonomy. These were given as reasons for seeking other roles that did use their skills more fully. Mullen *et al.* (2005) showed that pharmacists, especially community pharmacists, moved into the PP role full-time to make better use of their knowledge. In the PP role they had undergone reprofessionalisation that moved them away from technical skills (knowing what) towards knowing how and using judgment, using their knowledge to problem solve medication-related problems, that has been suggested by Waterfield (2010) as a way of improving patient expectations of pharmacists. The thesis project PPs thought that community pharmacy was less respected than the PP role by HCPs and provided some evidence for this by recounting instances of when patients accepted the advice of a PP more readily than that of a community pharmacist.

Many PPs adopted a portfolio career and some had added new roles because of a perceived

uncertainty about future employment as a PP that was related to the timing of the thesis study. Several benefits were identified for portfolio working such as information and skill transfer between portfolio roles that improved the pharmacist's contribution and allowed for a greater variety and range of the pharmacist's skills to be used. Portfolio working continually challenged them to grow professionally. Blenkinsopp *et al.* (2001) had previously implied that there was a synergistic relationship between the PP role and community pharmacy. The PP respondents agreed that the PP role was enhanced by concomitantly working in community pharmacy and also stated that the PP role supported their community pharmacy role. The PP respondents in the thesis study felt that portfolio working was also an opportunity for personal growth and improved their understanding of the perspective of other pharmacists and challenges in other sectors helping them to facilitate the resolution of interface issues. Liaising with other pharmacy sectors was identified in the thesis project as a long-term role for pharmacists in general practice, that has been suggested by Williams *et al.* (2000) in the past. The thesis project respondents thought that a community pharmacist's business skills are useful in understanding the motivation and commercial drivers behind some prescription requests from third parties. These skills could, therefore, be usefully employed by pharmacists in general practice. Moreover, some PPs in the thesis study expressed their desire to utilise their business skills in practice management.

Flexible working itself was identified by the respondents as one benefit of the PP role also found by the past by Mullen *et al*. (2005). Only a small number of PPs mentioned the need to have a portfolio career that was related the financial constraints of the part-time nature of the CCG role or the threat of loss of the PP role. It is, therefore, conceivable that the professional benefits of cross-sector working, flexibility and a desire to have variety in one's work, may be significant to some pharmacists and prevent them from committing to a full-time role in GP practices.

Most of the project PPs had a prescribing qualification (79.6%), and a postgraduate diploma

(69.4%) and many had higher degrees (24.5%). The respondent GPs felt that the PPs were adequately trained for their CCG PP role, thus providing some evidence that the postgraduate education undertaken was fit-for-purpose for the PP role. Some GPs did have concerns about pharmacists' consultation skills, but none provided evidence to support this. Indeed, most PPs were qualified prescribers and would have had their consultation skills assessed, to address the current competency framework for prescribers (Royal Pharmaceutical Society, 2016), during their prescribing course. The training for non-medical prescribing has been previously reported as fit for purpose (Latter et al., 2010).

My research concurs with that of Blenkinsopp *et al*. (2001) confirming that CCG PPs have high levels of job satisfaction and perceive the role to have autonomy, responsibility, and to be interesting and clinically challenging. The motivations of the project PPs to achieve postgraduate qualifications were likely to be due, in part, to recruitment requirements for the PP role, as has been suggested by Thomas (2003) and personal aspirations to improve in the role. The latter view was also expressed by pharmacists in an earlier study of PPs by Blenkinsop *at al.* (2001) where all the PPs had completed further training and some respondents identified the need to keep up to date with the evidence base, with some suggestion of formal education to diploma level as a standard level for the role. Other studies have subsequently identified the potential benefit of a postgraduate diploma and a prescribing qualification to the PP role. (Mills, 2016; General Pharmaceutical Council, 2016) The 2013 Registrant Survey, also showed that prescribing pharmacists are more likely than the general pharmacist population, to be trained to a postgraduate level (Phelps *et al*., 2014) so the prescribing course itself may be a driver for further education. The thesis project PPs were mostly experienced pharmacists who had been in the CCG PP role for an average of eight years. They thought the PP role was developmental and identified that they were personally driven to be high achievers. It is perhaps not surprising, therefore, that they had high levels of postgraduate training.

7.2.2 Pharmacists' attributes

The project PPs were motivated to obtain high levels of professional and job satisfaction that drove some into new or multiple roles to meet this need. Some of the portfolio roles were not pharmacy related, suggesting that PPs are adaptable and have transferrable skills and were not afraid to look outside the profession for remuneration or job satisfaction. The PP role provided a more patient-facing clinical role and was valued by PPs as being developmental requiring the application of more of their skills and providing variety. These factors appear to be attractive to PPs with many wanting even more patient contact. Even so for some boredom was identified as a driver to continually look for personal growth opportunities, so the PP role must remain attractive to highly motivated pharmacists, with high expectations of themselves and their role, to promote recruitment into, and retention in, the role. Jorgenson *et al.* (2014) have reported that motivated pharmacists integrate more effectively into primary care teams.

The PPs in the IS demonstrated the ability to adapt to different GP attitudes and practice agendas. Some PPs, affected by the NHS changes in this thesis study, demonstrated adaptability, in the face of change to maintain employability. Adaptability, identified by Tan *et al.* (2013) as an attribute that supports integration, combined with the need for continual challenge, are potentially positive attributes. But, this may mean that pharmacists with these attributes could be tempted by other roles in pursuit of this kind of stimulation if the PP role does not continue to deliver the necessary challenges in the future. The thesis study found that, in keeping with the latest study by Mills (2016), that the number of portfolio roles increased with seniority. It is not clear if this is driven by personality, opportunity, or a general dissatisfaction with pharmacy as a profession, and needs further study.

Once in the GP practice role some of the thesis study PPs exhibited other traits that have been identified in the literature as part of pharmacists' self-perceptions. Pharmacists also identify themselves as scientists (Elvey *et al*., 2013), but this equates to avoiding risk and a cautious approach to patient care. While this is laudable and encourages patient safety, it

may be a negative trait when related to prescribing that usually involves an element of risk.

7.3 What is the impact of the recent National Health Service changes on primary care practice pharmacist teams?

The NHS changes in April 2013 appear to have had a negative effect on the established PP teams and on individual members, as they transitioned from the PCTs to CCG. The effect was felt a both at a personal and operational level, and some PPs were concerned about the loss of their PP role. The situation created both operational and behavioural barriers to change, similar to those described by Pettinger (2002) about managing change in a business environment and led to demoralisation of the individuals involved. There was evidence of inadequate change management during the transition resulting in a lack of information from the shadow CCGs to the PPs. Moving PPs to a new provider organisation introduced an additional layer of management, effectively creating additional barriers and changing the relationship between the commissioning organisation and the PP team. This extra layer of management exacerbated tension over the prioritisation of work, that already existed between the CCG and practices as identified in both the Initial Study and thesis project.

Axelsson and Axelsson (2006) have reported that integration, within a public health context, occurs when there is co-ordination within a hierarchy of organisations. The thesis study is unique in applying this theory to the hierarchy, in which the thesis study PP worked. The hierarchy formed by the provider, the GP practices and CCG suffered from poor coordination, with the CCG work plans not always matching the practice needs. This resulted in conflict in the role with some GPs becoming dissatisfied with the CCG PP service.

Regarding integration, the CCG/provider commissioned model appears to have limited the ability of PPs to integrate into primary care and possibly to have contributed to the desire for direct employment of pharmacists by GPs. The thesis project suggests that Axelsson and Axelsson's theory may be applicable outside a public health context.

The focus on saving money, related to the current NHS funding problems, was seen by PPs as a retrograde step back to the early days of PPs, that conflicted with more patient-focused interventions and engagement in the practice agenda. The GPs echoed the PP's view because their agenda was to develop the role of the PP to help address the workforce crisis, but CCG financial priorities were seen as a barrier to this. Even so, the PPs and GPs acknowledged the need to promote efficiencies due to the current financial situation. Some GPs were also unhappy where more than one commissioned PP was delivering the service, as this caused issues related to accountability and responsibility for the work. The ability to be proactive and accept responsibility for care have been identified by (Jorgenson *et al*., 2013) as positive attributes for integration of pharmacists into primary care.

All the professional respondents (GPs, HoMMs and PPs) saw the direct employment of a pharmacist as a way of overcoming most of these shortcomings by gearing the PP and their workload directly to the practice management. The HoMMs also saw the benefits of the direct employment of a pharmacist, despite considering that their PP teams would likely be depleted as a result of GPs taking on pharmacists from the teams, with whom they were familiar and trusted. The 2013 NHS changes appear to have effectively supported direct pharmacist employment by emphasising the shortcomings of the CCG commissioned models to both PPs and GPs as discussed in 6.4.5.

Primary care organisations have been the main supporters of the PP role over the last 25 years, and their contribution to the role has been invaluable and must be acknowledged. The CCGs and GPs still valued the PP role in cost-effective prescribing, patient care and safety. Nevertheless, this thesis project has identified several issues with the CCG models for commissioning PPs that suggests that the development of the PP role may be restricted within CCGs. Both the GP and PP respondents wanted more control over the work that the PPs did, but this was constricted by central control of PPs work by the CCG. All the organisations involved will need to co-ordinate their agendas if commissioned PPs are to

develop and fully integrate into GP practices in the CCG models.

There appeared to be difficulties in obtaining relevant training for the PP role. The lack of the formal application of competency frameworks to the PP teams at the time of the study meant that training needs were not necessarily identified methodically. The decommissioning of the NPC (News Team, 2010) had removed a valued training resource, and although PPs were resourceful, this resulted in ad hoc training with materials that were not specifically related to the PP role. Although valued, the NPC delivered training to local CCG PP teams in an all-day face-to-face session, which was a major disadvantage identified by a HoMM, as it disrupted the CCG PP service to GPs. The respondent GPs understood that PPs might need further training to expand their capacity to treat chronic disease, but the source of such training and how the PP would demonstrate competency in that area was unclear.

7.4 What are the key stakeholders' perceptions of the current practice pharmacist role and its future, including prescribing?

7.4.1 Based in trust

The IS and thesis project identified that the PP/GP relationship had evolved from uncertainty, through acknowledgement of the role and skills required, to mutual respect and now increasing dependence on the PPs to manage the primary care workload. The PP role was complex and built on trust, based on evidence of the benefit of their actions, decision-making and behaviours over time. Mutual trust and respect have previously been identified as key components of integration in models of community pharmacist integration (Bradley *et al*., 2012; McDonough and Doucette, 2001; Van *et al*., 2013), and of primary care pharmacist integration (Jorgenson *et al*., 2014). Trust and respect take time to develop (Bradley *et al*., 2012; McDonough and Doucette, 2001); this view was supported by the thesis project GPs who voiced a preference for a long-term relationship with their PP. McDonough and Douchette (2001) considered that trust was likely to be facilitated by socialisation of the individuals and having coterminous patients which was the case with the thesis project PPs

and GPs. The PPs and GP did achieve a level of interdependence and had a shared goal to improve patient care (Bradley *et al*., 2012). Trust and interdependence (Bardet *et al*., 2015) and collaborative working (McDonough and Douchette, 2001) appear to be indicators of the integration of pharmacists into primary care.

Patients saw the employing practice as validating their pharmacist's clinical skills and trusted the practice to only employ PPs of sufficient caliber, effectively making the practice responsible for both the recruitment and training of the pharmacist. It is not known if patients understood that they were engaging with a commissioned PP, or if this might affect their opinion. Validation of the pharmacist's competence by the practice has implications for pharmacist engagement/employment and the credibility of the practice if it does not employ and integrate an adequately qualified and experienced pharmacist.

7.4.2 Benefit to the practice

The benefits to the GP practice of having a practice pharmacist were identified in both the IS and the thesis project. The IS GPs were aware of the roles that the PPs performed, as described in the literature, and identified a new role around monitoring repeat prescription requests from third parties and ensuring the suitability of sip feeds when they were requested. Repeat prescription management by pharmacists appears to be practical and cost-effective (Walsall Clinical Commissioning Group, 2014). Other benefits to the GP practice, described in the thesis project, included the facilitation of two-way communication with the CCG and other Trusts. The GPs thought that PPs could be used in different ways to save GP time by taking over tasks currently being undertaken by the GPs and undertake other tasks that GPs did not have time to do at all, e.g. audit.

Overall the GPs felt that PPs could make a significant contribution to CDM and that this was an obvious next step in the growth of the role. One GP felt some frustration that this next step in the role had not already become mainstream. The study GPs believed that

pharmacists' professional attributes make them suitable for undertaking both medicine reconciliation and medication review. Patients identified that PPs improved their access to a HCPs, allocated more time to individual patients and could provide more information about medication and disease. Informal feedback to the commissioners indicated that the PP service was also valued by GPs, and this was further evidenced by the support that GPs had given the PP teams during the transition to the CCGs. Overall PPs were increasingly perceived by GPs as a practice resource, rather than a commissioned one, indicating the level of need and the desire to direct their work. The thesis study PPs felt integrated into the practices that they served and believed that they were appreciated by the GPs. This has also been reported for PP studied elsewhere (Blenkinsopp *et al*., 2001; Hemsley, 2017).

The HoMMs saw the PP role as a way of implementing change at the practice level and related this to the need to meet the financial targets set for the CCGs. This was also acknowledged by the GPs and PPs. There was some informal assessment of the PP role by the commissioners, although there was a lack of clarity around who was responsible for this in one CCG, the CCG or Provider. The informal assessments were always encouraging and supported the value of the PP to the GPs and practices. It is surprising that there was no formal evaluation of the PP Teams given the numbers of PPs commissioned by the CCGs, the inevitable cost, and the importance of the PPs to the CCGs and GPs. Formal evaluation and reporting of the cost-effectiveness of the PP role, within CCGs and their GP practices, should be a requirement to ensure the best use of NHS resources.

Patients liked the extra time that PPs gave them in consultations to discuss their medicines and diseases, which has been identified previously by Jamieson *et al.* (2010). Patients wanted more information on drugs and disease, and in some cases treatment for minor conditions. The latter was related to a perceived hierarchy of value in practitioners' time where a PP's time was perceived differently to that of a GP. Patients were comfortable with asking a prescribing PP to treat conditions that they considered were "too trivial to bother the

GP". While this perceived hierarchy may be related to patient perceptions of the higher status of the medical profession over other health professions (McDonald *et al*., 2010), in practice it supports the value of the pharmacist as another clinician for patients to access. Not all the patients who participated in the thesis study were aware that their practices had a pharmacist attached or that the pharmacist could potentially prescribe which may have limited patient/pharmacist contact. Kolodziejak *et al.* (2010) suggest that pharmacists' services should be advertised to help address this and integrate pharmacists into a GP practice.

7.4.3 Pharmacist prescribing

Pharmacist prescribing was commissioned by three CCGs, but not all HoMMs were convinced of the value of pharmacist prescribing despite suggesting that all their prescribing PPs were actively prescribing. The individual CCG PP teams had grown independently of each other to meet the needs of each organisation, reflecting the lack of direction on how CCGs themselves should be structured as indicated by Checkland *et al.* (2016). Therefore, different models were to be expected, but there was no clear strategy or aspiration for the inclusion of prescribing into any CCG PP role, indicating that prescribing was driven elswhere, probably by the PPs and GPs. Nevertheless, the value of PP prescribing was acknowledged by commissioners.

Some HoMMs saw a prescribing qualification as improving patient access to medicines, contributing to seamless care, reducing GP workloads and enhancing PP skills around CDM. These benefits have been previously identified in the literature (Lloyd *et al*., 2010; Smalley, 2006; Stewart *et al.*, 2009a), and support the aims of non-medical prescribing to improve access to medicines and to support the GP role.

Levels of prescribing by qualified PPs in the thesis study were variable and in line with levels of prescribing published by Phelps *et al.* (2014) and Mills (2016). It is of note that the thesis study PPs had higher levels of educational achievement and levels of experience compared

with those PPs studied by Mills but were not more active prescribers. Conversely, some of the PPs studied by Mills were directly employed by the GP practices in which they prescribed, but this had little effect on the overall levels of prescribing in that study. However, the PPs on SLAs reported being more active regarding face-to-face time with patients and prescribing compared with the PPs from the two other CCGs with provider-based models. Levels of prescribing in the thesis study appear to be due to the way the PPs are employed within CCGs and the strategic intentions of the CCGs. Several factors are known to affect the extent of non-medical prescribing, besides the employer, such as PPs' pre-prescribing levels of experience, governance and support (Courtenay *et al., 2012)*, so it is difficult to draw any firm conclusions because of the number of variables. This is an important area for further research, especially if prescribing is limited by pharmacists' personality traits, education and culture as described by Rosenthal *et al.* (2010). Since the thesis project and the survey by Phelps *et al.* (2014), more encouraging national levels of pharmacist prescribing have been reported (General Pharmaceutical Council, 2016).

The PPs in the IS saw the lack of a prescribing qualification as a limiting factor with regard to the effectiveness and the range of activities in the PP role, and most of the thesis project respondents saw the benefits of a PP having a prescribing qualification. The GPs thought that PP prescribing avoided the GP becoming unnecessarily involved in the consultation just to write the prescription. Prescribing allowed the PP to complete the consultation and make changes to the patient's medication. This was felt to increase patient confidence in the pharmacist and allow the pharmacist prescriber to take responsibility for their actions. The overall effect, they felt, was to improve patients access to medicines, reduce the GP workload and allow GPs more time to see more complex patients. The PPs echoed the GPs' perceptions of completing a consultation, giving the PP prescriber more autonomy, and changing the pharmacist/patient relationship. The PPs thought that pharmacist prescribing also supported them to undertake CDM, repeat prescribing and medication review. It is now known that NMPs are as good at CDM as medical prescribers for surrogate outcomes,

patient satisfaction and adherence (Weeks *et al*., 2016).

Not all patients in the thesis study were aware of pharmacist prescribing, but there was an overall acceptance that the role was appropriate and avoided the patient bothering the GP for what they considered to be minor concerns. Where the patients understood that the prescribing PP had a specialist interest, such as asthma or COPD, patients appreciated a focused discussion around the specific condition and felt that there would be improved outcomes from interventions made by a “specialist” PP. The PP’s expertise in a specific area was seen as an information resource for the practice. Given all the benefits of pharmacist prescribing in general practice, that were identified by the participants, it is surprising and disappointing, that there is no coherent policy for implementation within the CCGs and that low levels of prescribing by qualified pharmacists were commonplace.

Several issues with pharmacist prescribing were identified by participants that may limit the contribution that prescribing PPs can make within CCGs and also may be significant in addressing the primary care workforce issues. The HoMMs were concerned about the funding for training pharmacists to become prescribers, as it was not included in the NHSE Pilot monies. One solution proposed was that funding for pharmacists prescribing should come from the practice that would ultimately benefit from it. As prescribing was considered important for the PP role, funding issues may, arguably, restrict the rate at which pharmacists can be trained and therefore their contribution to the practice workload.

The PPs and HoMMs considered that pharmacists were careful prescribers, with prescribing PPs risk assessing their prescribing before deciding to sign the prescription. While patient safety is paramount, there is also a need for prescribers (and their patients) to accept some level of risk and uncertainty as it is not always possible to predict the outcomes from prescribing. One GP was more critical and suggested that some pharmacist prescribers were not confident to use the qualification to the full or even not at all. This criticism was echoed

by the PPs who felt that the confidence to use the qualification was partly related to their prescribing training, where they were encouraged to only prescribe within their areas of competency. Differences in the training of doctors and pharmacists, where doctors were trained to be more autonomous in their prescribing and less cautious than pharmacists, had been alluded to in the study. It was suggested that over time pharmacists would become more confident in their prescribing abilities. Cordina *et al.* (2015) suggested that pharmacy students exhibit a character trait profile with high levels of cautiousness that is maintained throughout the pharmacy undergraduate course, so it may be that more cautious people are attracted to the pharmacy profession and that they struggle in roles where a cautious approach can be a barrier. This view is supported by previous non-UK studies into pharmacist personality traits where pharmacists were identified as being risk-averse (Rosenthal *et al*., 2010). It is of note that small numbers of PP prescribers have much higher rates of prescribing suggesting that some PPs, by circumstance or personality, are less inhibited about prescribing risks. In my thesis study, some prescribing PPs did stay within their original competency areas while others prescribed more widely. Some PPs used an internal risk management assessment when they signed prescriptions for drugs that they would not initiate but were happy to repeat prescribe with the necessary supporting information. Prescribing PPs remained cautious about diagnosing and, rightly, limited this to where they felt confident and competent but were much more confident in prescribing in pre-diagnosed conditions.

Another issue that participants identified with PP prescribing was related to an apparent lack of understanding of the PP role by the practice staff resulting in inappropriate requests to sign prescriptions, for the convenience of the practice, that were outside the PP's competence. Prescribing PPs sometimes used prescribing within competence to "protect" themselves from such requests to sign prescriptions. The IS indicated that the PP's ability to positively interact with the practice staff was important. While data on the importance of the pharmacist's relationship with practice staff appears sparse, Tan *et al*. (2013) found that a

rapport between practice staff and pharmacists helps staff to understand the pharmacist's role and to view the pharmacist as part of the team.

Some GPs and nurses were protective of their patients and workload and did not want to use the PP to support them with their patients. This suggests a need to explain the prescribing pharmacist's role and function to the practice more clearly as suggested by Jorgenson *et al*. (2013) and Kolodziejak *et al*. (2010), to possibly to allay encroachment fears.

As found by Latter *et al.* (2010), patient respondents accepted prescribing by pharmacists but identified that prescribing PPs were limited to prescribing within their competencies. Patients found that prescribing PPs had to refer to the GP on occasions and that PPs were not necessarily always available at the practice. Some patients were concerned with PP prescribing in new conditions or prescribing certain drugs but were more comfortable when this was limited to modifying repeat medications for existing conditions or initiating medications for minor ailments. There is evidence that this is not an isolated finding and that some patients see some medicines as "*stronger*" or some diseases as "*more rare*" (Stewart *et al*., 2009b). My study adds to the sparse knowledge in this area.

7.5 What are the personal and career aspirations of primary care practice pharmacists and the perceived opportunities and barriers to achieving these?

7.5.1 Practice pharmacists' future role

The future of the PP role was discussed with all respondents in the thesis project. The GPs were keen to expand the PPs' existing roles to meet the increasing workload and considered that this would include both CDM and acute disease. The GPs also wanted more control over the workload of their PPs. The GPs felt that current PP roles would continue, such as audit and supporting QoF. A new PP role was identified by the GPs to help manage information

overload and to address the training of new practice staff.

The PP role was expected to naturally progress, but there was feeling that this was not happening quickly enough. The HoMMs were supportive of the direct employment of PPs and understood the desire of PPs to have more patient contact. They were also aware of some GP's aspirations to directly employ their PPs. The HoMMs, three of whom continued to work as PPs, saw the potential benefits to patients from PP roles such as clinical medication review and medicines optimisation, supported by increasing numbers of pharmacist prescribers. An additional role that they suggested for the PPs was to address interface issues between the practice, hospital (previously suggested by Williams *et al*. (2000)) and community pharmacy. Dealing with interface issues was also identified as a role by the thesis project PPs.

Patients did not provide any particular insights into the future role of PPs, although they did identify the current need to take pressure off GPs and suggested ways in which PPs already facilitated this. Patients understood the personal benefit of having a PP in their GP practice and wanted to extend this to other patients but were mindful of the cost and demand for PP services. Despite this, patients wanted access to a PP to discuss medication, receive further information and to be treated for minor ailments, and linked these functions to their convenience and saving GP time. Many of the functions appear to have been carried out by at least some of the more experienced NHSE Pilot pharmacists (Primary Care Commissioning, 2017).

The lack of patient-orientated outcomes and proven reductions in disease and morbidity, due to pharmacist interventions in primary care is a concern. High-quality RCTs are lacking, partly because of difficulties in blinding and also funding since trials would have to be run for several years to be able to detect this level of evidence. Fortunately, since the thesis study data was collected, the evidence that non-medical prescribing delivers similar surrogate

outcomes, levels of adherence and patient satisfaction as medical care, has been strengthened (Weeks *et al*., 2016), supporting the value of PP taking on some of the roles of GPs. There is also growing evidence of the value of pharmacists working with GP practice. Specific interventions are pharmacists supporting repeat prescription management (Walsall Clinical Commissioning Group, 2014) or delivering specific education and following up over time, in patient safety (Avery *et al*., 2012) and effecting change (Lowrie *et al*., 2014). These studies support the thesis project finding that pharmacists can act as agents for change when working within the GP Team and add to the value of pharmacists and pharmacist prescribers working within GP practices.

The evaluation of the NHSE Pilot is will hopefully, add to the existing body of evidence in this respect.

7.5.2 Pharmacists' problematic attributes

The PPs in the study recognised that they could be diffident and reluctant to promote themselves or their role within the practice and felt somewhat isolated from the rest of the pharmacy profession. These attributes reflect those found by Rosenthal *et al*. (2010) a lack of confidence, fear of new responsibilities and risk aversion. Modesty and lack of self-confidence are potentially negative traits, and opposite to the trait of assertiveness that is thought to help pharmacists cope with barriers to integration (Jorgenson *et al*., 2014). More work is needed to explore and address any underlying cause for pharmacists' diffidence and risk aversion. The earlier introduction of undergraduate and pre-registration pharmacists to primary care may improve their confidence to make autonomous decisions (Malson, 2016).

7.5.3 Professional culture

The Medical and Pharmacy professions seem to have a built-in reluctance to changing the way that they work. The respondent GPs initial suspicion of PCO pharmacists seems to have largely been overridden by years of familiarisation and the need to collaborate to address the

workload. The PPs in the thesis study found that there were still some GPs that would not engage with pharmacists, for example, some GPs (and nurses) were protective of their patients despite increasing workloads. Wilcock and Hughes (2015) also detected negative perceptions around the PP role, for example, funding and prescribing that were also identified in other pharmacist integration studies. Tan *et al*. (2014a) have proposed that GPs may feel threatened by the PP role. Pettinger (2001) somewhat supports this view and suggests that a protective attitude towards an individual's workload may be a result of fear of change, role loss or control. Other researchers have proposed that these issues can be alleviated by better communication of the pharmacist's role within the practice (Jorgenson *et al*., 2013; Kolodziejak *et al*., 2010). Nevertheless, the PP respondents stated that most GPs were accepting of the PPs role in primary care, but that the opportunities for greater involvement were dependent upon the GP's positive attitude to the PPs. This thesis study also found that there is a need to ensure that the whole practice supports the PP to facilitate integration and that better communication of the pharmacist's role in the practice is key. (Jorgenson *et al*., 2013; Kolodziejak *et al*., 2010) also published this view.

The lack of the recognition of the PP role within the Pharmacy profession was identified by the thesis project pharmacist respondents and was linked to a perceived lack of training available specifically for PPs along with any necessary funding. A coherent application of competency frameworks within the thesis project PP teams would, it was felt, have helped identify gaps in skills and knowledge that would have aided the identification of training needs. Furthermore, the pharmacist respondents felt that an employment framework within primary care for PPs is required if they wanted to progress within this sector. It was felt that this would also generate learning needs as a means of career progression. Many of the points previously discussed could be addressed by the introduction of a recognised career pathway for primary care pharmacists, linked to experience and appropriate competency frameworks with related training pathways.

7.5.4 Practice pharmacist recruitment

The HoMMs were divided over the availability of suitably qualified pharmacists to take on the CCG PP role, possibly reflecting the difficulties they found with recruitment in the recent past. The HoMMs were concerned that inexperienced pharmacists might be recruited to the PP role, a view that has been partly supported in one recent study (Mills, 2016). An inexperienced pharmacist may only be able to provide a low level of support to the practice initially, not being able to make a full contribution. While this will provide an opportunity for the pharmacists to be trained by the practice, which arguably, could support better integration, it may increase rather than reduce the practice workload significantly in the early days. Practices need to be aware of this and tailor their PPs role to their current level of experience and competency and be open to the need to invest in the future training and development of their PP. A formal training pathway would be helpful here.

7.5.5 Funding

Funding is a key issue for the development of the PP role as it is directly related to recruitment, employment, training and role definition. The NHSE pilot (Sukkar, 2016) is providing significant levels of funding for training and salary, but this is limited to the pilot pharmacists. The thesis project GP respondents were asked about the direct employment of pharmacists, and some had begun to think about this. The negativity around the NHS changes, the commissioning problems, increasing workload and change of focus are all likely to have been significant factors in the growing interest among the PPs and GPs for a direct employment model. Another factor was that project GPs were unsure of future funding for the existing practice pharmacist teams and they did not want the service withdrawn. Despite all this, and even though they believed, as other studies have suggested that practice pharmacists are cost-effective (Patel and Afghan, 2009; Westerlund and Marklund, 2009; Desborough *et al*., 2012), they remained reticent about employing a pharmacist directly.

Several GPs referred to their falling income from the NHS as a barrier to directly employing a pharmacist, but the introduction of extra NHS funding for the over 75s at the time of the thesis project had provided a short-term solution. Some GPs had considered employing a pharmacist, but there was a perception that a pharmacist's time was "*expensive*" and that a nurse would cost less. The PPs were also concerned about the salary differential between nurses and pharmacists being a barrier to pharmacist employment that was subsequently raised in the GPhC Prescribers Survey Report (General Pharmaceutical Council, 2016). There is now a shortage of nurses in primary care (NHS Alliance and Royal Pharmaceutical Society, 2014) that may make the salary argument less compelling, if not redundant.

The commissioning of PPs by CCGs may be another barrier to direct employment because the CCG PPs were effectively a "free" resource. Wilcox and Hughes (2015) found that while the PP service was being supplied by the CCG, the practices were getting the benefits of having a pharmacist, reducing the overall need for them to have a directly employed pharmacist. Funding issues have been shown to be a barrier to primary care pharmacist integration in other countries, for example, Jorgenson *et al*. (2014) and Tan *et al*. (2014a). In the UK, NHS England has provided tapering salary support for Pilot GP practices to employ a pharmacist that may have helped drive interest in the scheme. But practices outside the Pilot will have to fund a pharmacist from within the practice wages envelope. In either case, the salary cost is, arguably, easily offset by substantial savings to the GP practice wages bill because of the doctors that cannot be recruited to the practice due to workforce shortages, and "replaced" by pharmacists at lower salaries. Further research is required to understand the financial pressures and perception inside general practice in relation employing a pharmacist.

7.5.6 Initial and ongoing training

The thesis study respondents suggest that recruitment, integration and role development are

dependent on training. Unfortunately, competency frameworks for PPs were not universally used and, where they were used, the PPs were not always aware of this. This, combined with a lack of formal feedback on service provision, made the identification of training needs difficult. It was suggested by GPs that PPs may require extra training in consultation skills and further training to take on more CDM. Although the respondent GPs were mostly happy with their PP's training, the GPs also acknowledged that they were probably influenced by the high calibre of the PPs that they had dealt with so far. This may not be the case if inexperienced, and less qualified pharmacists are recruited in the future and is crucial since the GPs thought that successful integration was based on the quality and suitability of the PPs training.

The PPs identified other training needs that consisted of both clinical and communication topics similar to those found by Mills (2016). The PPs felt that the training currently available was not tailored to the PP role, also identified by Campbell *et al*. (2016), and so PPs had become resourceful in finding training to suit their needs. The lack of suitable initial training has been somewhat addressed by the NHSE Pilot, but not all new PPs will be recruited via the pilot. Ongoing training for the PP role also remains an issue although, recently, Higher Education Institutions and CPPE have begun to address this (Centre for Pharmacy Postgraduate Education, 2015). If PPs are to take on the role of medicines and therapeutic expert within the practice, then more intensive therapeutic training will be required, like that provided by the National Prescribing Centre in the past. The PPs identified two positive elements to the former NPC training, namely networking (that has been addressed locally to a degree by the HEI) and high-quality therapeutic training that was not currently available. Commissioners were not only concerned about access to training but also the time away from practice that was sometimes required for training to take place. Distance learning may be a practical alternative to study days for the therapeutic training element. The respondent GPs felt that it would be easy to train pharmacists to take on more roles as necessary. When training programmes are being designed for PPs, they should take into account the range of topics required and the means of delivery, being mindful of the need to include networking

and to minimise time away from practice. The use of online courses with access to secure discussion areas may be one solution.

7.5.7 Role definition

A clear definition of the PP role is, arguably, a prerequisite for integration of PPs into GP practices. The PP role appeared to be poorly defined and was linked to a perception of a lack of awareness-raising of the work of PPs in undergraduate pharmacy courses. One GP felt that doctors were also unaware of the benefits and role of pharmacists in primary care due to a lack of exposure to pharmacists during medical and GP training. This lack of awareness of the PP role was also seen in the dealings of the commissioning and provider organisations where the PPs role was confused with the community pharmacy role. The need for a primary care pharmacist to have a well-defined role to support integration has been identified in primary care studies in Canada (Jorgenson *et al*., 2014, 2013; Kolodziejak *et al*., 2010). In the UK several professional bodies have begun to collaborate to support GP practices to employ a pharmacist and to define the PP role (Primary Care Pharmacists Association, 2015). They have produced support pack that includes job descriptions for both junior and senior PPs and sample business cases for their employment.

This Chapter has discussed the themes from the thesis study related to the research questions and has demonstrated the value of pharmacists and pharmacist prescribing to general practice and the training required for the role. The thesis project has also identified potential long-term roles in general practice that pharmacists are particularly suited to, such as, repeat prescription management, medication review and reconciliation, CDM and liaison across interfaces. The pharmacist's role in general practice has, and continues to, develop while still rooted in medicines cost-effectiveness safety. However, an opportunity for an "evolutionary jump" in the role into increasingly patient-facing roles beckons, but not without pitfalls or risks. In Chapter Eight, I go on to propose a Model for the Successful Integration of Pharmacists into General Practice that draws on this discussion, and the evidence gathered

in previous chapters.

7.7 Transferability and limitations

The transferability of the thesis project findings is supported by the similarity of the profiles of respondent pharmacists to those studied elsewhere and the degree of similarity of the findings with other studies looking at the integration of pharmacists into general practice teams. The qualitative elements of the thesis project are bound by the general limitations of inductive studies regarding small sample sizes and non-randomised samples.

The project was conducted in CCGs only one year after their inception. The professional respondents had all been through the transition and for some, particularly a sub-group of PPs, this had been traumatic. The results from the professional interviews and focus groups may have reflected the trauma and proximity of the change and resulted in more negative views being expressed.

The descriptive survey asked about the number of prescriptions written per month by prescribers but only allowed answers to be expressed in bands, 0-50, 51-100 and so on. Similarly, the “time spent with patients” question also used banding. The use of bandings, to avoid a wide range of answers, is a blunt instrument that may not give an accurate picture of activity, for example, the lowest band did not differentiate those pharmacists that were inactive and those with very low levels of activity, thereby potentially overestimating activity here. The descriptive survey was not validated or tested for reliability (reproducibility) and only had a degree of face validity. This limits its value and application to a wider population of PPs. The descriptive survey data was biased towards both male respondents and to one CCG with a large PP team. The CCG with the large team may have been atypical, and this may have affected the data. Most of the data does, however, reflect the national picture, giving some reassurance. The focus groups were biased towards female respondents, but again there were some similarities in the responses in topics where these had been studied

elsewhere.

Another potential limitation of the thesis project was that the PPs were all experienced, highly trained and in one CCG the GPs stated that they had always had “good pharmacists”. This raised the GPs’ expectations of their PPs that may not be realised with less experienced and less well-trained pharmacists. It does, however, set the bar at an appropriately high level.

There was a degree of triangulation of data in the study, but I conducted all the interviews and focus groups, and so the results are potentially biased by my assumptions both in the interviews, focus groups, and in the analysis. I have tried to be objective in all aspects of the study, but I may also have introduced bias in some aspects of respondent selection, also using respondents to identify other individual respondents may have been influenced by the personal biases of others as well. Using HoMMs to identify GPs and PPs and PPs to identify patients may have led to more compliant respondents as it is likely that “user-friendly” respondents would be recruited to avoid repercussions and to subconsciously provide more positive results. This may be particularly significant in the patient respondent selection by PPs, who want to ensure their role is seen positively. The patient respondents could not be said to represent the demographics of the West Midland population; they were largely elderly, and data on ethnicity was not collected. The views of patients whose first language was not English were not represented and therefore the patients’ views may not reflect those of the wider UK population.

There were recruitment difficulties for both the GP and patient respondent groups with only one GP recruited from CCG D. Two focus groups did not recruit sufficient respondents, and although most of the themes discussed in this group were similar, this may have limited the dialogue and the depth of the interaction between respondents in these two groups. Semi-structured interviews might have been a better option if recruitment had been identified early on as an issue. Interviews may have also allowed respondents to be more open (two focus

groups included line managers), and because confidentiality is impossible between focus group respondents, these factors may have limited the discussion on sensitive topics. One of the CCG based focus groups had fewer participants than the other three, so the respondents may be less likely to be representative of that CCG.

This project used a pragmatic approach driven by time constraints; that may not have been ideal, but there was a degree of similarity of results from other PP studies conducted in the UK giving limited assurance. The pharmacist respondents were all commissioned by NHS organisations and may not be representative of the pharmacists that are, or will be, working with GPs in the future. The interviews and focus groups inevitably used relatively small numbers of respondents from one area in the UK, further limiting the generalisability of the results.

Chapter 8 A Model for the Successful Integration of Pharmacists into General Practice Teams.

8.1 Overview

This Chapter summarises the results related to integration and postulates a model for the successful integration of pharmacists into general practice based on my findings from the Initial Study and the thesis project. I present a unique conceptual model, the elements of which may be generalisable to facilitate the integration of clinical pharmacists into general practice in a UK setting.

8.2 Research question

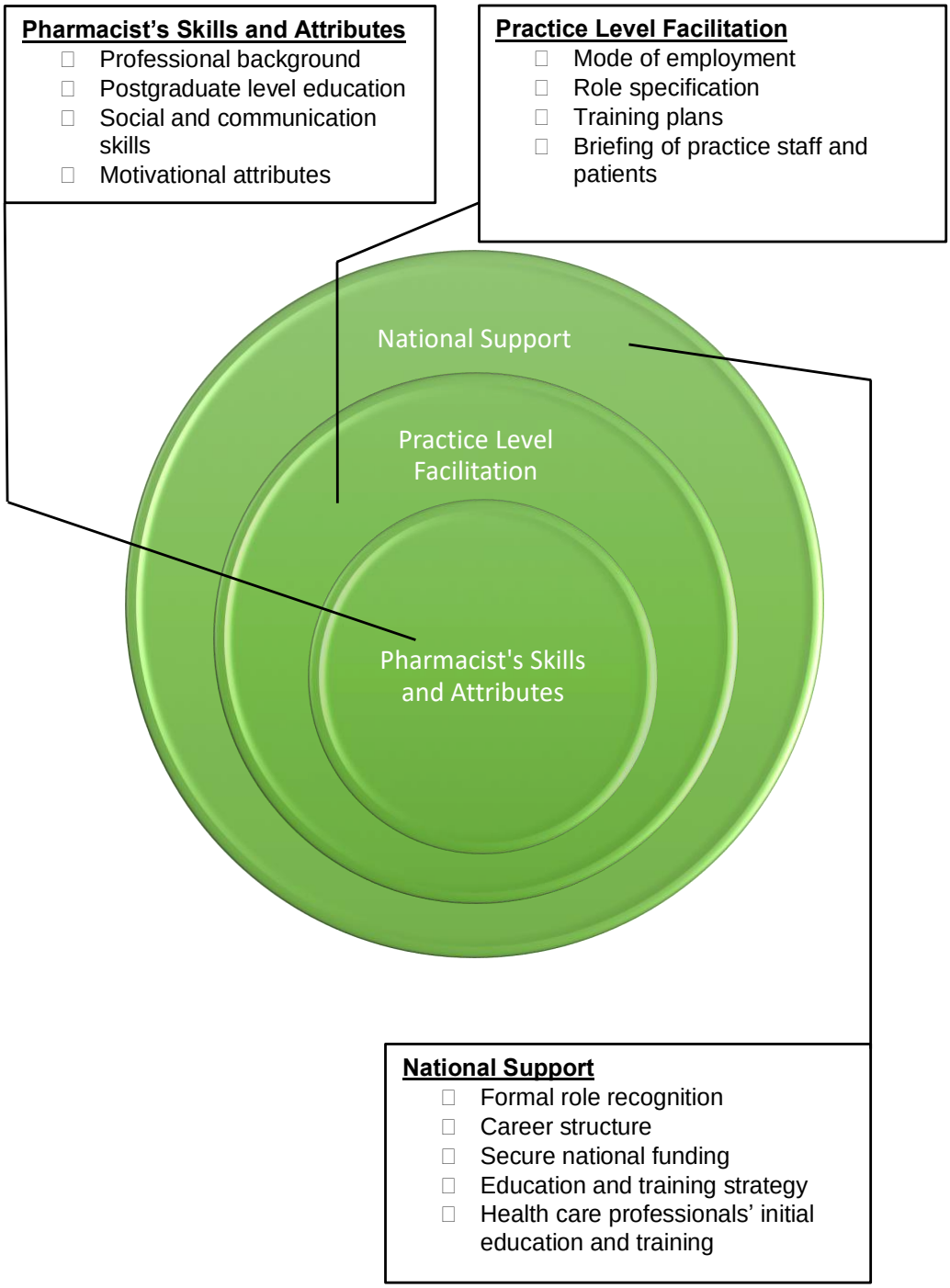
5	What recommendations can be made to support the successful integration of pharmacists into GP practice teams

8.3 Introduction to the Model for the Successful Integration of Pharmacists into General Practice

The integration of pharmacists into existing teams, in the context of general practice, is more complex than simply employing a pharmacist, as the published literature relating to pharmacists' integration in the UK and elsewhere demonstrates. This thesis project and the Initial Study support some of the findings in published studies, but also describe additional unique findings. The synergy between published studies and my study provides some assurance that my findings are relevant to primary care in the UK and can be used to support a model for pharmacist integration into GP practices. A summary infographic of the proposed model is presented in Figure 8.1. The model consists of three main elements, National Support, Practice Level Facilitation and the Pharmacist's Skills and Attributes that together support the integration of pharmacists into UK general practice. The model is shown as stacked concentric circles to emphasise the hierarchical support the pharmacists need and that they are central to the model. I explain and argue my case for their inclusion in the text

that follows.

Figure 8.1 A Model for the Successful Integration of Pharmacists into General Practice Teams



8.4 Pharmacist skills and attributes

Several personal attributes of pharmacists themselves appear to support the integration of pharmacists into UK GP practice teams. The first element of the model are the skills and attributes of the pharmacist which consists of three areas.

8.4.1 Professional background

A background in community pharmacy has been consistently identified in the Initial and thesis studies as beneficial to the PP role. It is thought to help the pharmacists understand the motivations behind prescription requests and would be a useful attribute for those pharmacists working on repeat prescription requests and systems.

8.4.2 Postgraduate level education and prescribing qualification

The level of pharmacist postgraduate education for recruitment to the PP role has yet to be established. Most of the thesis study PPs were trained to postgraduate diploma level or higher and were considered by their GPs to be trained to an adequate level for the PP role. The respondent GPs also wanted their pharmacists to be responsible for training and updating other healthcare professionals on the evidence-base. Ongoing training and CPD are essential to keep up with changes in the evidence-base, not only for the pharmacist's clinical and prescribing role in the practice but also for the proposed information and training role. The thesis study supports the suggestion of Mills (2016), that education and training to a postgraduate diploma level with, or incorporating, a prescribing qualification facilitates pharmacists working in general practice. A prescribing qualification was felt by the thesis study respondents to be a useful enhancement for PPs to have. Prescribing allowed them to complete a consultation without unnecessarily involving a GP, was convenient for patients, and improved the pharmacist/patient relationship. Pharmacist prescribing was also acceptable to the thesis study patients, concurring with Latter *et al.* (2010). Reassuringly, Weeks *et al*. (2016), have confirmed that non-medical prescribing delivers comparable

surrogate outcomes to medical prescribing in acute and CDM. Given the growing body of evidence for the benefits of non-medical prescribing *per se* and pharmacist prescribing, together with the findings from my study, I agree with Campbell *et al*. (2016), that a prescribing qualification should be a pre-requisite for pharmacists working in primary care.

Also, pharmacy students in the UK have called for a prescribing qualification to be included in the pharmacy undergraduate course in the future (British Pharmaceutical Students' Association, 2017). This view is supported by the Professional Body for Pharmacy, related to the taught elements of prescribing (The Royal Pharmaceutical Society, 2017). When implemented, this will further establish pharmacists as prescribers and facilitate their role in supporting patient care.

8.4.3. Social and communication skills

Thesis and Initial Study participants felt that good communication and social skills respectively were important for integration into the practice teams. A rapport with practice staff has been shown to be important in understanding the PP's role (Tan *et al*., 2013). The PPs who took part in my study showed that they were adaptable and proactive because many chose a portfolio career, had to adapt to different practice settings, and some sought alternative employment in the face of job loss. Tan *et al*. (2013) have suggested that adaptability and proactivity are positive characteristics that facilitate pharmacist integration into Australian general practice.

8.4.4 Motivational attributes

The thesis study pharmacists were highly motivated to achieve in the PP role and found the role itself to be developmental. Their motivation was further demonstrated by their ability to access opportunities for training, specific to their needs, despite targeted training not being

available at the time. Jorgenson *et al*. (2014) found that motivated, confident and assertive pharmacists found it easier to forge new roles in primary care teams in Canada. Self-motivation and adaptability have also been recognised as essential attributes for pharmacists working in primary care in the UK (Primary Care Pharmacists Association, 2015). Motivation, adaptability and proactivity appear to be positive attributes to look for in pharmacists working in primary care and are, therefore, included in my Model.

8.5 Practice level facilitation

The Initial Study and thesis project have identified several areas that the GP practice itself can address to help support a pharmacist to integrate into their team. The second element of the model consists of four areas.

8.5.1 Mode of employment.

I recommend that pharmacists should be directly employed by practices. The commissioning of PPs by CCGs induced a conflict of interest in the PPs related to a mismatch in the needs of the CCG and the practice that was further exacerbated if there was a provider organisation involved. The PPs and HoMM saw the direct employment of pharmacists by practices as a way of removing any such conflict, as the PP would be responsible directly to practice management. The HoMMs saw the desire of GPs to employ pharmacists directly, and the GPs themselves wanted more control over the PP's workload.

If recruitment from a provider is inevitable, management of the pharmacist must be achieved by co-operation (vertical integration) between the practice and the provider so that all parties are clear about the pharmacist's remit and workload prioritisation. This is what Axelsson and Axelsson, (2006) proposed for Public Health and can, I argue, be extrapolated to PPs in primary care. The thesis study GPs were unhappy with multiple PPs providing the service. I recommend that job-sharing should be avoided unless there is good communication between the pharmacists to ensure joint responsibility for decisions and any actions.

8.5.2 Role specification

The thesis project PP roles included many that had been identified in the literature but also identified new roles related to the management of repeat prescriptions and addressing interface issues. The management of repeat prescriptions was related to both patient safety and efficiencies. There is a historical, current and future value in managing the cost of medicines while maintaining patient care and safety. The PPs respondents were concerned that efficiencies were diverting them from clinical aspects of their role which caused some dissatisfaction. I, therefore, support the view that pharmacists should lead on the identification of efficiencies, but that achieving these should be a shared responsibility across all practice staff as part of the medicines optimisation agenda (Picton and Wright, 2013). Pharmacists were considered to be well situated to act as a conduit for information and problem solving between sectors and organisations which was facilitated by experience in other sectors. This interface role should be included in the remit of pharmacists working in general practice. Pharmacist prescribing (discussed in 8.4.2) should also be part of the role specification, including specialisation in a disease or body system, as this provides an extra resource for the practice. Being qualified to prescribe will improve patient access to a healthcare professional, make better use of pharmacists' skills and reduce GP workloads. The thesis study pharmacists and patients wanted the pharmacist's time at the practice to be maximised to improve the accessibility of the pharmacist to staff and patients which has been suggested to have a positive effect on integration (Jorgenson *et al*., 2013). I recommend that pharmacists are employed for the maximum number of hours a week that the practice can manage within its staffing budget to facilitate integration and maximize their value to the practice.

Pragmatically, the pharmacist's initial role within the practice should be defined in advance to reflect the needs of the practice and the individual pharmacist's current knowledge-base, skills and competencies. The roles specified, however, should also be developmental. The role should remain interesting, challenging and professionally satisfying to ensure the

recruitment and retention of motivated pharmacists, like those in the thesis study.

The thesis study indicated that patients perceive the practice as validating the pharmacist's skills and expertise. Employing practices should, therefore, ensure that they have employed a pharmacist of the correct calibre as they may be seen by patients as responsible for any failings in the pharmacist's input to patient care.

8.5.3 Training Plans

The study GPs thought that their PPs could easily be trained for new roles and also that GPs should be involved in any training of their pharmacists. The latter was felt to support integration and directed training to the needs of the practice. The study CCGs were inconsistent in assessing the training needs of their PPs and providing training. The employing practice should develop a training plan based on the pharmacist's current competencies and what is required of the pharmacist to meet the current and future clinical needs of the practice, with GPs involved in the training. Tailored training provision, to meet the needs of individual pharmacist and role, has also been recommended by Campbell *et al*. (2016). Base-line competencies should be ascertained by using existing competency frameworks, for example, the RPS Advanced Pharmacy Framework and the Competency Framework for All Prescribers, as appropriate (Royal Pharmaceutical Society, 2016; The Royal Pharmaceutical Society and CoDEG, 2013). Time away from practice for training was raised as a concern in the thesis study; appropriate distance learning may be a potential solution as suggested by Mills (2016). It is not clear, at the time of writing, where targeted training resources can be accessed or how they can be funded, but the current CPPE GP Pharmacist Training Pathway may be a good starting point if this aspect of the NHSE pilot evaluates well. Mentorship, as described in the NHS England pilot, seems to have some merit and should help avoid professional isolation particularly at the junior level.

8.5.4 Briefing of practice staff and patients

In the thesis study, HCPs were reported to be possessive about their patients and workload which was related to concerns about role encroachment. Not all of the patient respondents were aware that practices had a pharmacist, or that suitably qualified pharmacists could prescribe. Where patient respondents were aware that pharmacists could prescribe, they were not always clear about the scope of the pharmacist's prescribing competencies. The PP respondents also reported pressure from practice staff to sign prescriptions outside the prescribing pharmacist's areas of competence. These issues may be reduced, or even eliminated if the role of the pharmacist and scope of practice was explained to all the practice staff and patients before they started work at the practice. This should address the barriers to change identified by Pettinger (2001).

Arguably, the most important aspect of the integration of pharmacists is that of building trust with the GP(s). Trust as a prerequisite for integration was identified in both the Initial and thesis studies and was based on evidence of their benefit and a positive track record of behaviours, built up over time. This view is supported by the literature as a key determinant of integration (Bardet *et al*., 2015; Jorgenson *et al*., 2014; Kolodziejak *et al*., 2010). Employing GP practices should recognise that, unless there has been a prior positive working relationship with the pharmacist, it may take time to develop the necessary trust with the GP(s), and possibly with other practice staff, to achieve integration.

8.6 National support

The Initial Study and thesis project has identified several areas that require a response at a national level to support the integration of pharmacists. The third element of the model relates to the support required at a national level and consists of five areas.

8.6.1 Formal role recognition

The thesis study PP respondents felt isolated from the rest of the profession when working in primary care. They related this to the need for formal recognition of the pharmacist's role in a GP practice and felt that this role should be a mainstream alternative to hospital and community pharmacy roles. Currently only the latter two options are considered as patient-facing for pre-registration training, and pharmacy graduates must spend at least half of their pre-registration study year in either of these sectors. A pharmacist working in a GP practice will also spend time seeing patients and interacting with them, providing a valuable learning experience for pre-registration pharmacists that should count towards the patient-facing time. I recommend, therefore, that the regulatory body for pharmacy (GPhC) should, in the near future, require that work-based experiential learning in primary care is a core element in the undergraduate MPharm course. Pre-registration pharmacists should also be able to complete their pre-registration year solely in primary care. It is encouraging to note that in some areas pre-registration placements are already provided in conjunction with hospital or community pharmacy (Malson, 2016). Campbell *et al.* (2016) have called for a review of undergraduate and pre-registration training to meet the challenges in primary care. If these changes are instigated, then this will support pre-registration training, widen the experience of pre-registration pharmacists and increase the profile of the pharmacist's role in GP practices beyond that generated by the NHS pilot. Given that pharmacists are part of the Government's policy to address workforce shortages, it is illogical to provide initial training without provision for maintaining and widening competencies in the future to allow pharmacists to progress and take on more of the workload as appropriate.

There remains some confusion in the minds of thesis project GPs as to the relative merits of employing a nurse or a pharmacist, that appears to be incorrectly based solely on the cost to the practice. Prescribing pharmacists, in a recent survey, also felt that the relative employment costs were a potential barrier to pharmacist employment (General

Pharmaceutical Council, 2016). I argue that cost is an unreasonable way of differentiating between two professions with inherent strengths and weaknesses and different skill sets. The specific expertise that pharmacists bring to general practice should be openly discussed at the national level, as suggested by Campbell *et al.* (2016), so that GPs and practices can make informed decisions about which HCP fits their needs at the time.

8.6.2 Career structure

The thesis study HoMMs felt there should be a clear career pathway for pharmacists in primary care. To properly recognise the pharmacist's role in GP practices, a nationally approved and recognised career structure should be developed, with appropriate input from the Medical profession, that differentiates between levels of experience and managerial responsibility. A need for a clear career progression pathway for pharmacists in general practice in the UK has also been recommended by Campbell *et al.* (2016)

8.6.3 Secure national funding

Sustained national funding will be required to support increasing the numbers of pharmacists required to address the workforce issues in primary care. If the shortage of GPs (and possibly practice nurses) is not going to be addressed in the next ten years, then significant numbers of suitably qualified pharmacists are going to be required, to meet the need in primary care. Recurring funding for initial training of PPs, prescribing courses and ongoing development will be needed. A lack of funding has been identified as a barrier to increasing the numbers of pharmacists in general practice in the literature (Freeman *et al*., 2012b; Tan *et al*., 2014b), and in the thesis study by the GPs, HoMMs and PPs. A lack of funding for training pharmacist prescribers was also felt to be a barrier to increasing the numbers of prescribing pharmacists by HoMMs in the thesis study; this view was supported in a recent survey of UK pharmacist prescribers (General Pharmaceutical

Council, 2016).

8.6.4 Education and training strategy

The Pharmacy and Medical professions need to agree on a competency framework for pharmacists working in GP practices to use to ascertain their current and future training needs. Campbell *et al*. (2016) also called for a definition of competencies. The RPS *Advanced Pharmacy Framework* and the *Competency Framework for All Prescribers* are validated and were used to a degree by the PP studied by Mills (2016). They still need to be confirmed as suitable for pharmacists working with GPs. An education and training strategy to maintain current, and develop additional competencies, must form part of the National Support element as shown in my proposed Model so that service gaps left by the workforce shortage in primary care can be filled by suitably trained pharmacists.

8.6.5 Healthcare professionals' initial education and training

A longer-term solution to the socialisation of doctors, nurses and pharmacists and their inter-professional understanding of each other's strengths and weaknesses would be to ensure that they are trained together. A Cochrane review (Reeves *et al*., 2013) of inter-professional education (IPE) studies on patient outcomes or healthcare process found that only seven out of fifteen studies reported positive outcomes. Since 1988, IPE of HCPs has been introduced into undergraduate training courses, and while it appears to be feasible and effective, the best method of delivery is currently unclear (Olson and Bialocerkowski, 2014). The continuation of IPE into early years as practitioners should be considered to consolidate the collaborative nature of their roles in practice. A study of Scottish GPs and pharmacists suggests that both professions learn from IPE and that professional socialization occurred. Recently qualified GPs were more open to the pharmacist's input, suggesting that early years GPs would be more open to IPE with pharmacists (Cunningham *et al*., 2016).

The elements and areas that I have presented in this Chapter make up my proposed Model for the Successful Integration of Pharmacists into GP practices. Not every element will be necessary or available to individual pharmacists and practices at the time of the pharmacist's initial appointment to the role. For example, if there is a prior relationship with the pharmacist, then the time required for trust to build between colleagues and patients may be reduced. Utilising my proposed Model will, I argue, benefit the NHS, GP practices and patients by expediting the pharmacist's integration and maximising their anticipated input to patient care.

Chapter 9 Conclusion and further research

9.1 Conclusion

My thesis project has studied PPs working in CCGs in 2014 and their relationship with stakeholders. It is unique in this respect and was designed to address the original research questions related to my research, but also appropriately refocussed due to contemporary developments in primary care. The PPs studied were similar to those studied elsewhere, and many of the thesis study findings related to integration have been identified in other studies. These similarities provide some assurance that the thesis study results apply to pharmacists working in general practice in the rest of the UK. The commissioners, GPs, patients and PP respondents saw the value of the pharmacist to general practice including pharmacist prescribing. The commissioners and pharmacists felt that direct employment by GPs was advantageous as it directly linked the pharmacist's workload to the needs of the practice. General practitioners were clear about the time that pharmacists saved them and wanted more involvement in CDM and saw prescribing as integral to this. Patients indicated that they appreciated the extra time and information that PPs were able to give and were largely happy for pharmacists to prescribe. The PPs wanted more patient contact and to be more involved in LTC management. The thesis project also adds to the growing body of evidence that suggests that UK clinical pharmacists should be trained to postgraduate diploma level with, or incorporating, a prescribing qualification. It has also provided further evidence of the value of a pharmacist to general practice, identified abiding roles that they are specifically suited to, and promulgated a unique Model for the integration of pharmacists into general practice in the UK.

The workforce crisis in primary care has driven the need for more pharmacists to work with GPs to address the shortage of GPs and practice nurses. Significant finance and training have been provided to facilitate this, but it is a high-risk strategy because the Pilot has not been evaluated, yet a second and third wave of recruitment is going ahead. Some integration

issues have already been identified. This is a concern because the failure of this strategy will be significant to the taxpayer, the NHS, and the Medical and Pharmacy professions, and more importantly, patients. The Model which has emerged from this thesis study can be used to specifically address integration issues raised in the Pilot, such as encroachment, role definition and training requirements. It can also be used to support the wider integration of pharmacists into general practice in the UK.

The proposed Model for the integration of pharmacists into general practice teams has three elements that are interrelated. Each element is sub-divided into a number of areas. The pharmacist's skills and attributes that support integration are experience in community pharmacy, a prescribing qualification and training to a postgraduate diploma level. An ability to build a rapport with the practice staff and to be adaptable, proactive and motivated are also key personal attributes that support integration. At the practice level, direct employment by the practice is the preferred method with a clear role definition that has been explained to practice staff and patients in advance. An individual training plan needs to be agreed to address gaps in the skills and knowledge of the pharmacists to meet the needs of the practice. National support underpins the other elements of the Model providing strategic structure and funding. More needs to be done to recognise the pharmacist's role in general practice and to raise the profile within and outside the profession. The role of the pharmacist within general practice should be recognised as a patient-facing role suitable for inclusion in pre-registration training and have a nationally recognized career structure. Secure national funding is required for pharmacist prescribing and the initial and ongoing training of pharmacists for the general practice role. This training should be part of an education and training strategy that includes the joint training of healthcare professionals.

The Model for integration detailed in this thesis should be implemented within and outside the NHSE Pilot to minimise the risk of integration failure and maximise the value of pharmacists to the NHS when they are embedded in general practice. It will not be possible

to apply all these factors to support pharmacist integration in every case as many, especially at the national level, are not in place at the time of writing, and the numbers of pharmacists with all the preferred attributes may be limited. The assumption is that the greater number of factors that are in place when the pharmacist is recruited, the easier it will be for the pharmacist to integrate. Unfortunately, it is not clear if some factors are more effective in supporting integration than others, so the proposed Model will require testing to provide assurance and possibly apportion weight to its recommendations. In the interim, any GP practice considering employing a pharmacist to take on some if its workload should consider the elements and areas of the Model that they can control or influence and act on these.

9.2 Further research

Further research is needed to ensure that the integration of pharmacists into primary care is cost-effective, safe and fulfils a sustainable role that utilises a pharmacist's unique skill set to improve patient care rather than just a stopgap for poor workforce planning that may be addressed in the future. Further study into the relative importance of the factors described in the Model could help prioritise those that are essential and provide a clearer focus for the national and local recruitment of pharmacists.

More research is needed on the role, and therefore training required, for pharmacists undertaking the PP role in any capacity as this is a key element of integration. This project identified GP concerns around consultation skills in a largely experienced and highly trained PP respondent group. Despite this concern not being substantiated by any GP or patient, it is worthy of further study. It is not clear how this perceived apprehension around consultation skills relates to the relatively low levels of patient contact that PPs had in this and other studies. The range of levels of prescribing by qualified pharmacist prescribers should also be investigated in the UK to ascertain if this is due to the circumstances of employment, is a function of perceived risk, training or the personal attributes of individual pharmacists.

A concerted effort is required to ensure that practices understand the differences between the skill sets of nurses and pharmacists so that informed decisions can be made by employers. This may require re-evaluation of the role of both professions in primary care in the light of the current workforce issues and changing population demographics.

Patient views of non-medical prescribing need to be more clearly understood as some patients see some diseases and diagnosis of new conditions as not suitable for pharmacist prescribers. More research is needed to understand the issues that facilitate pharmacist prescribing in a wider range of conditions. Prescribing in a wider range of conditions was a way forward identified by the commissioners, GPs and PPs who took part in this study, and is essential if pharmacists are to take an increasing role in the management of long-term conditions.

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Appendices

Appendix 1.1 Permission to use NHS structure diagram

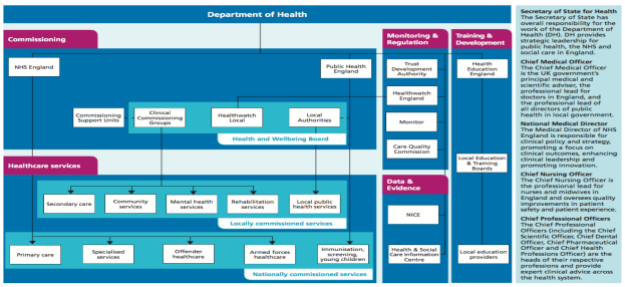
Dr. Felicity Taylor
National Medical Director's Clinical Fellow,
Medical Directorate
Skipton House
80 London Road
SE1 6LH

Robert Saunders
20 Oakfield Road
Bilbrook
Codsall
Wolverhampton
WV8 1LA
07970340843

16.8.16

Dear Dr. Taylor,

I am writing to ask permission to use the diagram below in my thesis to illustrate the structure of the NHS in 2014. It is published in the leaflet Understanding the New NHS. A guide to everyone working and training in the NHS from 2014. It will naturally be fully referenced. I am investigating the role of the practice pharmacists within CCGs in 2014 and this diagram will be part of the chapter on NHS reforms and the effect on practice pharmacist teams.



Yours faithfully,

Robert Saunders

Teaching Fellow-Prescribing Studies
Keele University
r.e.saunders@keele.ac.uk

From: **Felicity Taylor** felicityjanetaylor@gmail.com **Subject:** Use of diagram

Date: 31 August 2016 at 10:11 **To:** r.e.saunders@keele.ac.uk

Dear Robert

Thank you for your letter, which was forwarded to me. Please do feel free to use the referenced diagram.

All the best

Felicity

Dr Felicity Taylor

m: 07951461323

e: felicityjanetaylor@gmail.com

t: @FelicityJTaylor

Appendix 3.1 Pre-project questionnaire to prospective Clinical Commissioning Groups

1	What is the size of the patient population covered by your CCG?
2	How many (whole time equivalent) practice-based pharmacists do you have in your team?
3	How many (whole time equivalent) pharmacy technicians do you have in your team?
4	How many of your practice-based pharmacists are independent prescribers?
5	Who are your practice-based pharmacists employed by:
6	Have you any plans to increase the size of your practice-based team-
	practice-based pharmacists?
	practice-based technicians?
7	If you were to recruit more practice-based pharmacists, how difficult do you think it would be to find pharmacists with the necessary competencies?
8	Which of the following roles do your practice-based pharmacist currently undertake:
	Specific chronic disease management clinics?
	Repeat prescription management?
	Medication review?
	Education to practice staff and patients?
	Audit?
	Prescribing (if qualified)?
	Prescribing efficiencies?
	Liaison with community pharmacy?
	Medicines reconciliation?
	Supporting QoF?
	Supporting GP incentive scheme?
9	Would you consider taking part in a future study into the role of the practice-based pharmacist? (if yes please give a contact e-mail)

Appendix 3.2 Head of Medicines Management and CCG data collection tool

1.	Please state the name of the CCG that you work for?
2.	Please state your gender
3.	Please state your age
4.	How many years have you been on the pharmaceutical register?
5.	How many years, in total, have you worked as a practice pharmacist?
6.	Do you still work in a GP practice as a practice pharmacist?
7.	Are you a qualified independent pharmacist prescriber?
8.	What is the size of the population covered by your CCG?
9.	How many practice pharmacists do you commission to work with GPs?
10.	How many whole-time equivalents does this equate to?
11.	How many of the practice pharmacists that you commission are qualified prescribers?
12.	Would you prefer to commission practice pharmacists that are qualified prescribers?
13.	How many pharmacy technicians do you commission to work in the CCG?
14.	How many whole-time equivalents does this equate to?
15.	Who employs the practice pharmacists that you commission?
16.	How do you fund the practice pharmacist (and technicians if applicable)?
17.	Do you plan to commission more practice pharmacists in the next 12 months?
18.	Do you plan to commission more pharmacy technicians in the next 12 months?
19.	In your opinion, how hard is it to find suitable pharmacists to recruit to the practice pharmacist role?
20.	Which of the following roles do you commission your practice pharmacist team to carry out?

	Specific chronic disease management clinics
	Repeat prescription management
	Medication review
	Therapeutic detailing (practice education)
	Audit
	Prescribing
	Prescribing efficiencies
	Liaison with community pharmacy
	Medicines reconciliation
	Supporting QoF
	Supporting incentive scheme
	Other
21.	Have you evaluated the practice pharmacists' role?
22.	How did you evaluate practice pharmacist's role?
23.	What was the result of your evaluation?

Appendix 3.3 Generic consent form

Keele University

CONSENT FORM

Title of Project: **The Primary Care Pharmacist's Role – a study of current and future models**

Name and contact details of Principal Investigator: **Robert Saunders 07970 340843**

r.e.saunders1@keele.ac.uk

Please tick box if you agree with the statement

1	I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.	□
2	I understand that my participation is voluntary and that I am free to withdraw at any time.	□
3	I agree to take part in this study.	□
4	I understand that data collected about me during this study will be anonymised before it is submitted for publication.	□
5	I agree to the focus group or interview being audio recorded	□
6	I agree to allow the dataset collected to be used for future research projects	□
7	I agree to be contacted about possible participation in future research projects	□

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Researcher	Date	Signature

CONSENT FORM

(for use of quotes)

Title of Project: **The Primary Care Pharmacist's Role – a study of current and future models**

Name and contact details of Principal Investigator: ***Robert Saunders 07970 340843***

r.e.saunders1@keele.ac.uk

Please tick box if you agree with the statement

1	I agree for any quotes to be used	☐
2	I do not agree for any quotes to be used	☐
3	I consent to being audio recorded	☐

_____ _____ _____

Name of participant	Date	Signature
_____	_____	_____
Researcher	Date	Signature

Appendix 3.4 Head of Medicines Management interview topic guide

Introduction

Interviewer Introduction	My name is Robert Saunders and I am a postgraduate student at Keele University and I am interested in the practice pharmacist role and how this is perceived by those the work in the role and those that commission them. I have extensive experience as a practice pharmacist.
Study introduction	This interview is part of my Doctorate in Pharmacy to answer the following research question: The Primary Care Pharmacist's Role – a study of current and future models
Description of the Interview Methodology	A semi-structured interview is a qualitative research technique used to obtain opinions on complex topics.
Rules of a Focus Group	• Reasons for audio tape (Meeting is being recorded to help write the report) • Promise of anonymity (Your name will not be associated with your comments) • Sensitivity of recording (No tapping on the table etc.) • Honest, open opinions • Stay on topic (Avoid moving off topic) • Role of the interviewer • Questions? • **Reaffirm agreement to take part**
Introductory Exercise	• Name and job title? • Name of your employing organisation? • Number of years on register?

Discussion

Exploratory questions	• **What do you think about the current practice pharmacists' role?** o How important is the management of medicines to your CCG? o How important is the role of the practice pharmacist to your CCG? o Has the practice pharmacist role appreciably changed with the move to GP Commissioning? o How have the recent NHS changes affected your practice pharmacist team? o Have the changes affected <u>your</u> relationship with the practice pharmacist team? o Do you feel that you have the resources to commission enough practice pharmacists to deliver prescribing support across your CCGs? o Who determines the work plan for the practice pharmacists and how flexible is this? o What are the benefits of your commissioning model for practice pharmacist support? o What are the drawbacks of this model?

- **What is the importance of a non-medical prescribing qualification to the practice pharmacists' role?**
    - In what ways do your practice pharmacists use NMP in the role?
    - What is the added value of their ability to prescribe?
- **Do you provide training and updates for your practice pharmacists?**
    - How do you assess the training needs of your practice pharmacists?
    - Do you use a competency framework for practice pharmacists?
    - If so which one?
    - Where do you source training?
    - Are these sources adequate-If no, what do you need?
- **What do you think is the future of the practice pharmacists' role?**
    - What are the barriers to practice pharmacists becoming more integrated into primary care?
    - What feedback do you get from GPs regarding the practice pharmacists and how does this influence the future role and levels of support
    - How do you see the practice pharmacist role developing over the next 5 to10 years?
    - In your opinion, how will the increasing numbers of pharmacists affect medicines management teams?

Final question **Are there any other issues, that we have not covered, that you feel are important?**

Ending

Closing Thank all for your help. The information you've shared has been extremely useful. You will receive a written summary of the initial findings in the future.

Appendix 3.5 Head of Medicines Management interview information sheet

Information Sheet

Study Title: The Primary Care Pharmacist's Role – a study of current and future models

Aims of the Research

The overall aim of the project is to develop an understanding of the perceived value of the practice pharmacist role to stakeholders-practice pharmacists themselves, commissioners and patients.

Invitation

You are being invited to consider taking part in the research study-What is the perceived value of the practice pharmacists' role?

This project is being undertaken by Robert Saunders. Robert Saunders is a University student conducting this study as part of educational requirements.

Before you decide whether or not you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with colleagues if you wish. Ask us if there is anything that is unclear or if you would like more information.

Why have I been chosen?

You have been chosen because you are a Head of Medicines Management in a Clinical Commissioning Group that is part of the study-Up to four Heads of Medicines Management like you will be selected for interview.

Do I have to take part?

You are free to decide whether you wish to take part or not. You are free to withdraw from this study at any time and without giving reasons.

What will happen if I take part?

If you decide to take part you will be contacted with a list of alternative dates, times and

venues so that you can choose a time and place that is convenient for you to be interviewed. Before the interview you will be asked to sign two consent forms, one is for you to keep and the other is for our records.

If I take part, what do I have to do?

The interview will be digitally recorded and then transcribed for further analysis. This is likely to take about 30 minutes. The key topic will be your perceptions of the value of the practice pharmacist's role to commissioners.

What are the benefits (if any) of taking part?

We are not aware of any obvious benefits to you as an individual in taking part in this study.

What are the risks (if any) of taking part?

We are not aware of any disadvantages or risks to you in taking part in the study.

How will information about me be used?

The results (including anonymised short direct quotes) will be included in a research report as part of my Doctorate in Pharmacy at Keele University, and may subsequently be published as research papers in academic journals and presented at conferences. No individual person will be identifiable in any direct quotes, reports, papers, presentations or summaries. The results of the study might also be used for additional or subsequent research.

Who will have access to information about me?

All the information that I collect about you during the course of the research will be kept strictly confidential and no one outside the project will be allowed access to it. Electronic data containing personally identifiable information about you will only be stored on password-protected media that only I and my Supervisors will have access to. Tapes will be erased once they have been transcribed. Hardcopies of data and other documentation containing

personally identifiable information about you will be kept secure in a locked cupboard. At the end of the study all data and documents containing personally identifiable information about you will be destroyed. You will not be able to be identified in any reports or publications.

I do however have to work within the confines of current legislation over such matters as privacy and confidentiality, data protection and human rights and so offers of confidentiality may sometimes be overridden by law. For example, in circumstances whereby I am made aware of future criminal activity, abuse either to yourself or another (i.e. child or sexual abuse) or suicidal tendencies. I must pass this information to the relevant authorities.

Who is funding and organising the research?

The study is being organised and funded by the School of Pharmacy at Keele University.

What if there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher(s) who will do their best to answer your questions. You should contact Robert Saunders on r.e.saunders1@keele.ac.uk Alternatively, if you do not wish to contact the researcher you may contact Professor Patricia Black p.e.black@keele.ac.uk

If you remain unhappy about the research and/or wish to raise a complaint about any aspect of the way that you have been approached or treated during the course of the study, please write to Nicola Leighton who is the University's contact for complaints regarding research at the following address: -

Nicola Leighton

Research Governance Officer

Research & Enterprise Services

Dorothy Hodgkin Building

Keele University

ST5 5BG

E-mail: n.leighton@uso.keele.ac.uk
Tel: 01782 733306

Contact for further information

If you have any questions or require any further information, either now or at any time during the study, please contact me Robert Saunders at r.e.saunders1@keele.ac.uk. Alternatively, you can contact me in writing at the School of Pharmacy, Keele University, Staffordshire ST5 5BG.

Appendix 3.6 Practice Pharmacist survey

This survey is designed to collect some basic information about you and your current role as a practice pharmacist. It is part of a research project that is being conducted as outlined in the accompanying study information sheet. By completing this survey, you are consenting to the use of the information provided in the study. The information that you provide will be not be attributed to you in any future report or publication. Please click on submit at the bottom of the page when you are happy with your answers.		
No	**Question and supportive text**	Answer (options as stated)
1	**Please state your name**	Free text
2	**What is your e-mail address?**	Free text
3	**Please state your age** To the nearest year	Free text
4	**Please state your gender**	Female Male
5	**How many years have you been on the Pharmaceutical Register?** To the nearest year	Free text
6	**What is your work background?** Please tick all the sectors that you have worked in before you became a practice pharmacist?	Community Pharmacy Hospital Pharmacy Postgraduate education Pharmaceutical industry Other pharmacy related role Other non-pharmacy role
7	**Apart from any practice work do you continue to work in other sectors?** What other roles do you continue to work in?	Community Pharmacy Hospital Pharmacy Postgraduate education Pharmaceutical industry Other pharmacy related role Other non-pharmacy role
8	**What postgraduate qualifications do you have** Please	Postgraduate unit(s)

	tick all the PG qualifications you have	Certificate(s) Prescribing (SP or IP or both) Diploma MSc MBA Doctorate Other:
9	**How many years have you been a practice pharmacist?** Round up to the nearest year	Free text
10	**How many hours a week, on average, do you work as a practice pharmacist?** Total of all hours worked as a practice pharmacist in all GP practices.	Free text
11	**What proportion of your practice pharmacist time is spent face-to-face with patients?** Please give your best estimate	less than 20% 21%-40% 41%-60% 61%-80% 81%-100%
12	**Are you a qualified pharmacist prescriber?** Only answer yes if you are on the GPhC register as a prescriber	Yes No
13	**If you are a qualified prescriber, what on average is the total number of items that you prescribe each month?** Please give your best estimate	0-50 51-100 101-150 151-200 201 or more
14	**Which CCG(s) do the GP practices that you work for belong to?** Please list all	Six named CCG options plus "other"
15	**Which CCG do the majority of the practices that you work for belong to?**	Free text

	Choose one CCG only as your principal CCG	
16	**How long have you worked for the practice(s) in this principal CCG?** Include time working for the PCT/PCG before if appropriate	
17	**Are you employed full time or part time in your principle CCG?** Part time is less than 37.5 hours a week. Full time is 37.5 hours or more	Full time Part time
18	**Are you self-employed or a salaried employee in your principal CCG?** A salaried employee will have PAYE deducted from their wages	Self-employed Salaried employee
19	**What organisation pays you for your work in your principle CCG?** This will be the organisation that you have an employment contract with	CCG CSU Acute or other trust GP Practice Not known Other

Appendix 3.7 Practice Pharmacists survey information sheet

Information Sheet

Study Title: The Primary Care Pharmacist's Role – a study of current and future model

Aims of the Research

The overall aim of the project is to develop an understanding of the perceived value of the practice pharmacist role to stakeholders-practice pharmacists themselves, commissioners and patients.

Invitation

You are being invited to consider taking part in the research study-What is the perceived value of the practice pharmacists' role?

This project is being undertaken by Robert Saunders. Robert Saunders is a University student conducting this study as part of educational requirements.

Before you decide whether or not you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with colleagues if you wish. Ask us if there is anything that is unclear or if you would like more information.

Why have I been chosen?

You have been chosen because you are a practice pharmacist working in a Clinical Commissioning Group that is part of the study-Up to 60 pharmacists like you will be asked to complete the questionnaire.

Do I have to take part?

You are free to decide whether you wish to take part or not. If you do not wish to take part, please just ignore this e-mail

What will happen if I take part?

If you do decide to take part, you will be asked to complete an online survey. **By completing**

the online survey, you are agreeing to take part in the study and to your dataset to be used in future projects

If I take part, what do I have to do?

Following the link will take you to the online questionnaire. It will only take you 10 minutes to complete. You will be asked to give some details about your career as a pharmacist so far, your postgraduate qualifications and your current employment. No data will be collected that can be traced back to you as an individual.

What are the benefits (if any) of taking part?

We are not aware of any obvious benefits to you as an individual in taking part in this study.

What are the risks (if any) of taking part?

We are not aware of any disadvantages or risks to you in taking part in the study.

How will information about me be used?

The results will be included in a research report as part of my Doctorate in Pharmacy at Keele University, and may subsequently be published as research papers in academic journals and presented at conferences. No individual person will be identifiable in any reports, papers, presentations or summaries. The results of the study might also be used for additional or subsequent research.

Who will have access to information about me?

All the information that I collect about you during the course of the research will be kept strictly confidential and no one outside the project will be allowed access to it. At the end of the study the electronic questionnaire will be removed from the internet. You will not be able to be identified in any reports or publications.

Who is funding and organising the research?

The study is being organised and funded by the School of Pharmacy at Keele University.

What if there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher who will do their best to answer your questions. You should contact Robert Saunders on r.e.saunders1@keele.sc.uk Alternatively, if you do not wish to contact the researcher you may contact Professor Patricia Black p.e.balck@keele.ac.uk

If you remain unhappy about the research and/or wish to raise a complaint about any aspect of the way that you have been approached or treated during the course of the study please write to Nicola Leighton who is the University's contact for complaints regarding research at the following address: -

Nicola Leighton

Research Governance Officer

Research & Enterprise Services

Dorothy Hodgkin Building

Keele University

ST5 5BG

E-mail:

Tel: 01782 733306

Contact for further information

If you have any questions or require any further information, either now or at any time during the study, please contact me Robert Saunders at r.e.saunders1@keele.ac.uk Alternatively, you can contact me in writing at the School of Pharmacy, Keele University, Staffordshire ST5

5BG.

Appendix 3.8 Practice Pharmacist focus group topic guide

	Introduction
Moderator (and scribe) **Introduction**	Housekeeping: Fire exits and alarms, toilets, refreshments, expected finishing time.
Study introduction	This Focus Group is part of my Doctorate in Pharmacy answer the following research question: **What is the value of the practice pharmacist's role?**
Description of the Focus Group Methodology	A focus group is a qualitative research technique used to generate ideas
Rules of a Focus Group	• Informality, but group discussion is an important work session in which everyone should participate • Reasons for audio tape (Meeting is being recorded to help write the report) • Promise of anonymity (Your name will not be associated with your comments) • Sensitivity of recording (No side conversations, no tapping on the table etc.) • Everyone's opinion needs to be included • Honest, open opinions • Agree to disagree (Not striving for consensus) • Stay on topic (Avoid moving off topic) • Role of the moderator • Questions? • **Reaffirm agreement to take part**
Introductory Exercise	• Name • Number of years qualified • Number of years as a practice pharmacist
	Discussion
Exploratory questions	• **What do you think about current practice pharmacists' role?** o Why did you choose the practice pharmacists' role? o If you have other roles (or work as a practice pharmacist in other CCGS), why do you choose a portfolio career? o Has the role changed with the move to GP Commissioning? o Who determines your work plan? o How do you feel about the move to your new organisation? o What are the "pros and cons" of being an employee or self employed • **What is the importance of a non-medical prescribing qualification to the practice pharmacists' role?** o In what ways do you use NMP in your role? o Do you actively diagnose or mostly treat patient with a diagnosis? o What is the added value of your ability to prescribe in terms of: ▪ patients, ▪ GPs ▪ practices? o Do you think other health care professions recognise the added value of your ability to prescribe? • **What do you think about training and education in the practice pharmacist's role?** o Do you use a competency framework? o *If yes-which one?*

	○ Does your employer provide educational support? ○ Where do you source (other) training and education for your practice pharmacist role? ○ If the sources are inadequate, what do you need? • **What do you think is the future of the practice pharmacists' role?** ○ What are the barriers to practice pharmacists becoming more integrated into primary care? ○ How do you see the role developing over the next 5 to10 years? ○ Where do you want to be professionally in 5 years? ○ How will the increasing numbers of pharmacists affect you?
Final Question	• **Are there any other issues, that we have not covered, that you feel are important?**
	Ending
Closing	Thank all for your help. The information you've shared has been extremely useful. You will be notified when a summary of the findings are available.

Appendix 3.9 Practice Pharmacists focus group information sheet

Information Sheet

Study Title: The Primary Care Pharmacist's Role – a study of current and future models

Aims of the Research

The overall aim of the project is to develop an understanding of the perceived value of the practice pharmacist role to stakeholders-practice pharmacists themselves, commissioners and patients.

Invitation

You are being invited to consider taking part in the research study-What is the perceived value of the practice pharmacists' role?

This project is being undertaken by Robert Saunders. Robert Saunders is a University student conducting this study as part of educational requirements.

Before you decide whether or not you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with colleagues if you wish. Ask us if there is anything that is unclear or if you would like more information.

Why have I been chosen?

You have been chosen because you are a practice pharmacist working in a Clinical Commissioning Group that is part of the study-Up to twenty-four pharmacists like you will be selected for four focus groups

Do I have to take part?

You are free to decide whether you wish to take part or not. You are free to withdraw from this study at any time and without giving reasons.

What will happen if I take part?

If you decide to take part you will be contacted with a list of alternative dates, times and venues so that you can choose a time and place that is convenient for you to attend one of the focus groups. When you attend the focus group you will be asked to sign two consent forms, one is for you to keep and the other is for our records.

If I take part, what do I have to do?

You will be invited to join in one focus group, of up to 6 other practice pharmacists, where the groups' comments will be digitally recorded and then transcribed for further analysis. This is likely to take about 90 minutes. The key topic will be your perceptions of the value of the practice pharmacist's role in general practice.

What are the benefits (if any) of taking part?

We are not aware of any obvious benefits to you as an individual in taking part in this study.

What are the risks (if any) of taking part?

We are not aware of any disadvantages or risks to you in taking part in the study.

How will information about me be used?

The results (including anonymised short direct quotes) will be included in a research report as part of my Doctorate in Pharmacy at Keele University, and may subsequently be published as research papers in academic journals and presented at conferences. No individual person will be identifiable in any direct quotes, reports, papers, presentations or summaries. The results of the study might also be used for additional or subsequent research.

Who will have access to information about me?

All the information that I collect about you during the course of the research will be kept strictly

confidential and no one outside the project will be allowed access to it. Electronic data containing personally identifiable information about you will only be stored on password-protected media that only I and my Supervisors will have access to. Tapes will be erased once they have been transcribed. Hardcopies of data and other documentation containing personally identifiable information about you will be kept secure in a locked cupboard that only I have access to. At the end of the study all data and documents containing personally identifiable information about you will be destroyed. You will not be able to be identified in any reports or publications.

I do however have to work within the confines of current legislation over such matters as privacy and confidentiality, data protection and human rights and so offers of confidentiality may sometimes be overridden by law. For example, in circumstances whereby I am made aware of future criminal activity, abuse either to yourself or another (i.e. child or sexual abuse) or suicidal tendencies. I must pass this information to the relevant authorities.

Who is funding and organising the research?

The study is being organised and funded by the School of Pharmacy at Keele University.

What if there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher(s) who will do their best to answer your questions. You should contact Robert Saunders on r.e.saunders1@keele.sc.uk Alternatively, if you do not wish to contact the researcher you may contact Professor Patricia Black p.e.balck@keele.ac.uk

If you remain unhappy about the research and/or wish to raise a complaint about any aspect of the way that you have been approached or treated during the course of the study please write to Nicola Leighton who is the University's contact for complaints regarding research at

the following address: -

Nicola Leighton

Research Governance Officer

Research & Enterprise Services

Dorothy Hodgkin Building

Keele University

ST5 5BG

E-mail: n.leighton@uso.keele.ac.uk

Tel: 01782 733306

Contact for further information

If you have any questions or require any further information, either now or at any time during the study, please contact me Robert Saunders at r.e.saunders1@keele.ac.uk Alternatively, you can contact me in writing at the School of Pharmacy, Keele University, Staffordshire ST5 5BG

Appendix 3.10 General Practitioner interview guide

Introduction

Interviewer Introduction	My name is Robert Saunders and I am a postgraduate student at Keele University and I am interested in the practice pharmacist role and how this is perceived by those the work in the role and those that commission them.
Study introduction	This interview is part of my Doctorate in Pharmacy to answer the following research question: The Primary Care Pharmacist's Role – a study of current and future models.
Description of the Interview Methodology	An unstructured interview is a qualitative research technique used to obtain opinions on complex topics.
Rules of a Focus Group	• Reasons for audio tape (Meeting is being recorded to help write the report) • Promise of anonymity (Your name will not be associated with your comments) • Sensitivity of recording (No tapping on the table etc.) • Honest, open opinions • Stay on topic (Avoid moving off topic) • Role of the interviewer • Questions? • **Reaffirm agreement to take part**
Introductory Exercise	• Name • Number of years qualified • Number of years working with a practice pharmacist

Discussion

Exploratory questions	• **What do you think about the current practice pharmacists' role?**
	  ○ What is the role of your practice pharmacist?
	  ○ How important is their role to you as a GP and to your practice?
	  ○ Has the role changed with the move to GP Commissioning?
	  ○ Has your relationship with your practice pharmacist changed since the move to GP Commissioning?
	  ○ Who now determines the practice pharmacist work plan?
	  ○ Is there a need to increase your practice pharmacist hours?
	  ○ Would you consider directly employing a pharmacist?
	• **Do you feel that practice pharmacists are adequately trained for their role?**
	  ○ If not, what new or current skills, knowledge and behaviour(s) are required or need upgrading?
	  ○ Can you suggest any new role(s) for practice pharmacists and any training required for this?
	• **What is the importance of a non-medical prescribing qualification to the practice pharmacists' role?**
	  ○ In what ways does your practice pharmacist use their NMP qualification in the role?
	  ○ What is the added value to you and the practice of their ability to

prescribe?
    - Have you more respect for a practice pharmacist with a prescribing qualification?
- **What do you think is the future of the practice pharmacists' role?**
    - What are the barriers to practice pharmacists becoming more integrated into primary care?
    - How do you see the practice pharmacist role developing over the next 5 to10 years?

Final question

- **Are there any other issues, that we have not covered, that you feel are important?**

Ending

Closing

Thank all for your help. The information you've shared has been extremely useful. You will receive a written summary of the initial findings in the future.

Appendix 3.11 General Practitioner information sheet

Information Sheet

Study Title: The Primary Care Pharmacist's Role – a study of current and future model

Aims of the Research

The overall aim of the project is to develop an understanding of the perceived value of the practice pharmacist role to stakeholders-practice pharmacists themselves, commissioners and patients.

Invitation

You are being invited to consider taking part in the research study-What is the perceived value of the practice pharmacists' role?

This project is being undertaken by Robert Saunders. Robert Saunders is a University student conducting this study as part of educational requirements.

Before you decide whether or not you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with colleagues if you wish. Ask us if there is anything that is unclear or if you would like more information.

Why have I been chosen?

You have been chosen because you are a GP working in a Clinical Commissioning Group that is part of the study-Up to twelve GPs like you will be selected for interview.

Do I have to take part?

You are free to decide whether you wish to take part or not. You are free to withdraw from this study at any time and without giving reasons.

What will happen if I take part?

If you decide to take part you will be contacted with a list of alternative dates, times and venues so that you can choose a time and place that is convenient for you to be interviewed. Before the interview you will be asked to sign two consent forms, one is for you to keep and

the other is for our records.

If I take part, what do I have to do?

The interview will be digitally recorded and then transcribed for further analysis. This is likely to take about 30 minutes. The key topic will be your perceptions of the value of the practice pharmacist's role in general practice.

What are the benefits (if any) of taking part?

We are not aware of any obvious benefits to you as an individual in taking part in this study.

What are the risks (if any) of taking part?

We are not aware of any disadvantages or risks to you in taking part in the study.

How will information about me be used?

The results (including anonymised short direct quotes) will be included in a research report as part of my Doctorate in Pharmacy at Keele University, and may subsequently be published as research papers in academic journals and presented at conferences. No individual person will be identifiable in any direct quotes, reports, papers, presentations or summaries. The results of the study might also be used for additional or subsequent research.

Who will have access to information about me?

All the information that I collect about you during the course of the research will be kept strictly confidential and no one outside the project will be allowed access to it. Electronic data containing personally identifiable information about you will only be stored on password-protected media that only I and my Supervisors will have access to. Tapes will be erased once they have been transcribed. Hardcopies of data and other documentation containing personally identifiable information about you will be kept secure in a locked cupboard. At the end of the study all data and documents containing personally identifiable information about

you will be destroyed. You will not be able to be identified in any reports or publications.

I do however have to work within the confines of current legislation over such matters as privacy and confidentiality, data protection and human rights and so offers of confidentiality may sometimes be overridden by law. For example, in circumstances whereby I am made aware of future criminal activity, abuse either to yourself or another (i.e. child or sexual abuse) or suicidal tendencies. I must pass this information to the relevant authorities.

Who is funding and organising the research?

The study is being organised and funded by the School of Pharmacy at Keele University.

What if there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher(s) who will do their best to answer your questions. You should contact Robert Saunders on r.e.saunders1@keele.ac.uk Alternatively, if you do not wish to contact the researcher you may contact Professor Patricia Black p.e.black@keele.ac.uk

If you remain unhappy about the research and/or wish to raise a complaint about any aspect of the way that you have been approached or treated during the course of the study, please write to Nicola Leighton who is the University's contact for complaints regarding research at the following address: -

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Research Governance Officer

Research & Enterprise Services

Dorothy Hodgkin Building

Keele University

ST5 5BG

E-mail: n.leighton@uso.keele.ac.uk

Tel: 01782 733306

Contact for further information

If you have any questions or require any further information, either now or at any time during the study, please contact me Robert Saunders at r.e.saunders1@keele.ac.uk. Alternatively, you can contact me in writing at the School of Pharmacy, Keele University, Staffordshire ST5 5BG.

Appendix 3.12 General Practitioner Pre-Interview questionnaire

Your name	Today's date
Please state your age?	
How many years in total have you worked as a GP?	
How long have you worked in this practice?	
What is the list size to the nearest 1000 patients?	
	1
Do you serve on the CCG Board or any of its sub-committees?	2
	3
If so in what position?	1
	2
	3
What is your position in the practice?	
How long (in years) have you worked with a practice pharmacist?	
How many hours a week does a practice pharmacist work at this practice?	
Who employs your practice pharmacist?	

Appendix 3.13 Patient interview guide and verbal consent

Introduction

Patient ID	Date of contact Male Female
Moderator (and scribe) Introduction	Hello, I am Robert Saunders and I am a pharmacist interested in the views of patients, like you, that have been seen by practice pharmacists-**these are pharmacists that work with GPs in their surgeries rather than in a pharmacy**. Thank you for agreeing to let me contact you. Is it convenient to talk to you now? Can you hear me clearly?
Study introduction	I am interested in finding out about what patient's think about the role that practice pharmacists have in the GP surgery and how they value that role. This is part of my Doctoral Studies and I will also be speaking to other patients, doctors, and pharmacists as part of my studies.
Description of the telephone interview	I would like to ask you some questions over the phone as it is a convenient way to gather your views and opinions. It should take no more than 15 minutes. Do you have any questions so far?
Telephone interview pre-amble	Before we start can I just check that you are fully informed of what will happen- did you receive an information sheet? *(If no I will read it out or suspend the interview and send one to the participant and re-schedule)* • Please speak freely and give your honest opinions. Your name will not be associated with your comments. No one, including your doctor or the pharmacist you saw will know what you have said. • The interview is being recorded to help me write the report as it would be difficult to write down everything that you say during the interview. • Your name will not be included in the report. • I will be asking you the same questions that I will be asking other patients who have agreed to take part. • You can decide not to answer any individual question • If you would like to stop for any reason, then please just let me know. • If you wish to withdraw from the study, then you can do so at any time • If you want me to stop recording at any time, or if, after the interview, you would rather I did not use the recording please let me know. • Do you have any further questions?

Reaffirm agreement to take part and consent

Please can you confirm that:

- You have read and understand the information sheet for the above study and have had the opportunity to ask questions.
- You understand that your participation is voluntary and that you are free to withdraw at any time.
- You agree to take part in this study.
- You understand that data collected about you during this study will be anonymised before it is submitted for publication.
- You agree to the telephone interview being audio recorded
- You agree to allow for the information collected to be used for future research projects

Verbal agreement to take part	Yes	No STOP
Verbal agreement for quotes to be used	Yes	No

Initial questions

Can you remember back to the consultation that you had with your practice pharmacist where you were asked to take part in this interview

- Did you know that there was practice pharmacist working at your GP surgery?
  - *If yes, had you ever seen a pharmacist at your GP surgery before this consultation?*
- Were you expecting to be seen by a pharmacist when you went to the doctors on this occasion?
  - *If no-who did you think you were going to see?*
  - *How did you feel when you found out it was a pharmacist?*
- What did the pharmacist do for you at this visit?
  - How did this help you?
- Were there any advantages in seeing a pharmacist rather than a GP or nurse?
- Were there any disadvantages to seeing a pharmacist?
- Would you recommend a consultation with a practice pharmacist to your friends and family?
  - What are your reasons for this answer?
- Can you think of any other useful things that a pharmacist could do for you whilst working at your doctors?
- Some practice pharmacists are qualified to prescribe. This means they could write a prescription for your medication.
  - Did you know this?
  - Did the pharmacist write a prescription for you on this occasion?
  - What do you think about this?
  - Does this worry you in any way?
  - How might this be important to you and other patients?
- Should all GPs have a pharmacist working in their surgeries in this role?
  - What are your reasons for this answer?
  - *If yes –Should the practice pharmacist be available to patients during all surgery hours*
- Would you mind telling me your age?

- And the first half of your postcode?

Have you any further questions?

Thank you for your help. The information you've shared has been extremely useful. I would be happy to send you a copy of the report of this interview or any eventual publication arising from this work

If interested take contact e-mail or address

Appendix 3.14 Patient information sheet and initial consent

Information Sheet

Study Title: The Primary Care Pharmacist's Role – a study of current and future models

Aims of the Research

The overall aim of the project is to develop an understanding of the perceived value of the practice pharmacist role to stakeholders-practice pharmacists themselves, those that employ them and patients.

Invitation

You are being invited to consider taking part in the research study-What is the value of the practice pharmacist's role?

This project is being undertaken by Robert Saunders who is also a pharmacist.

Before you decide whether or not you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with friends and relatives if you wish. Ask us if there is anything that is unclear or if you would like more information.

Why have I been chosen?

You have been chosen because you are a patient that has recently had a consultation with a pharmacist that works at your doctor's surgery. Up to 30 patients like you will complete a telephone questionnaire.

Do I have to take part?

You are free to decide whether you wish to take part or not. You can withdraw from the study at any time.

What will happen if I take part?

If you do decide to take part please write your contact details on the tear off slip below and hand the slip to your practice pharmacist or to reception staff. Robert Saunders will contact

you to arrange a convenient time to contact you to conduct an interview on the telephone.

If I take part, what do I have to do?

It will take about 15 minutes to complete the telephone questionnaire. You will be asked to give your age and gender, and answer some simple questions about your consultation with the practice pharmacist. The data collected will not be traced back to you as an individual.

What are the benefits (if any) of taking part?

We are not aware of any obvious benefits to you as an individual in taking part in this study.

What are the risks (if any) of taking part?

We are not aware of any disadvantages or risks to you in taking part in the study.

How will information about me be used?

The results will be included in a research report as part of my Doctorate in Pharmacy at Keele University, and may subsequently be published as research papers in academic journals and presented at conferences. No individual person will be identifiable in any reports, papers, presentations or summaries. The results of the study might also be used for additional or subsequent research.

Who will have access to information about me?

All the information that I collect about you during the course of the research will be kept strictly confidential and no one outside the project will be allowed access to it. You will not be able to be identified in any reports or publications.

Who is funding and organising the research?

The study is being organised and funded by the School of Pharmacy at Keele University.

What if there is a problem?

If you have a concern about any aspect of this study, you may wish to speak to the researcher(s) who will do their best to answer your questions. You should contact Robert Saunders on r.e.saunders1@keele.ac.uk Alternatively, if you do not wish to contact the researcher you may contact Professor Patricia Black p.e.black@keele.ac.uk

If you remain unhappy about the research and/or wish to raise a complaint about any aspect of the way that you have been approached or treated during the course of the study please write to Nicola Leighton who is the University's contact for complaints regarding research at the following address:-

Nicola Leighton

Research Governance Officer

Research & Enterprise Services

Dorothy Hodgkin Building

Keele University

ST5 5BG

E-mail: n.leighton@uso.keele.ac.uk

Tel: 01782 733306

Contact for further information

If you have any questions or require any further information, either now or at any time during the study, please contact me Robert Saunders at r.e.saunders1@keele.ac.uk Alternatively, you can contact me in writing at the School of Pharmacy, Keele University, Staffordshire ST5 5BG.

Tear off section-please complete and give to the practice pharmacist if you are considering taking part

Please complete your preferred method of contact below hand this slip to your practice pharmacist or to the surgery reception.

I have been given the attached information sheet and I am happy to be contacted to take part in a telephone interview about my consultation with my practice pharmacist today.

I understand that I will be contacted by Robert Saunders to arrange a convenient date and time for my telephone interview and that this interview will be recorded to help write up the report.

I understand that nothing I say during the interview will be attributed to me at any time.

I understand that I can decide not to take part in the telephone interview at a later date.

I would prefer to be contacted initially by phone……

I would prefer to be contacted initially by e-mail……

Appendix 3.15 Keele University independent peer review

Keele University

RESEARCH AND ENTERPRISE SERVICES

16th January 2014

Robert Saunders
20 Oakfield Road
Bilbrook
Codsall
Wolverhampton
WV8 1LA

Dear Robert,

The Primary Care Pharmacist's Role – a study of current and future models

As you know the above project was initially awarded a grade 2 but following assessment of your response to the issues raised the project now has received final approval from the Independent Peer Review Committee and can be submitted for ethical approval. The panel would like you to ensure that your supervisors advice on methodology as the project advances. I am attaching a letter addressed to the Chair of the NHS REC along with the original peer review comments which you can enclose with your NHS REC application.

Management approval

You should arrange for all relevant NHS care organisations to be notified that the research will be taking place, and provide a copy of the REC application, the protocol and this letter. All researchers and research collaborators who will be participating in the research must obtain management approval from the relevant care organisation before commencing any research procedures. Where a substantive contract is not held with the care organisation, it may be necessary for an honorary contract to be issued before approval for the research can be given.

Clinical trial of a medicinal product

Please remember that, if your project is a clinical trial of a medicinal product, MHRA approval is required. You must submit a request for a clinical trial authorisation under the Medicines for Human Use (Clinical Trials) Regulations 2004. Further details can be found at
http://www.mhra.gov.uk/home/groups/l-unit1/documents/websiteresources/con2022633.pdf

If you have any queries, please do not hesitate to contact Hannah Reidy on 01782 733588.

Yours sincerely

HReidy

pp

Professor A A Fryer
Chair – Independent Peer Review Committee

Enc

CC R&D Office, UHNS

Research and Enterprise Services, Keele University, Staffordshire, ST5 5BG, UK
Telephone: + 44 (0)1782 734466 Fax: + 44 (0)1782 733740

Appendix 3.16 NRES Committee letter of ethical approval

NHS
Health Research Authority

NRES Committee South East Coast - Surrey
HRA
Bristol Research Ethics Committee Centre
Whitefriars
Level 3, Block B
Lewins Mead
Bristol
BS1 2NT

Telephone: 01173421328
Facsimile: 01173420445

08 May 2014

Mr Robert Saunders
20 Oakfield Road
Bilbrook
Wolverhampton
WV81LA

Dear Mr Saunders

Study title: **The Primary Care Pharmacist's Role-a study of current and future models**
REC reference: **14/LO/0793**
IRAS project ID: **149628**

Thank you for your letter of 07 May 2014. I can confirm the REC has received the documents listed below and that these comply with the approval conditions detailed in our letter dated 07 May 2014

Documents received

The documents received were as follows:

Document	*Version*	*Date*
Other: Written Consent Form for study and quotes	2	07 May 2014
Participant Information Sheet: Focus Group	2	07 May 2014
Participant Information Sheet: Pharmacist Questionnaire	2	07 May 2014
Participant Information Sheet: Patient Interview	2	07 May 2014
Participant Information Sheet: GP Interview	2	07 May 2014
Participant Information Sheet: HoMM Interview	2	07 May 2014
Participant Information Sheet: HoMM questionnaire	2	07 May 2014

Approved documents

The final list of approved documentation for the study is therefore as follows:

Document	*Version*	*Date*
Evidence of insurance or indemnity		23 July 2013
Investigator CV	Robert Saunders	
Investigator CV	Patricia Black	
Investigator CV	Dr Mills	
Letter from Sponsor		08 April 2014
Other: Study Flow Chart	1	01 February 2014
Other: GP Interview Topic Guide	1	01 February 2014
Other: HoMM Interview Topic Guide	1	01 March 2014
Other: Patient Telephone Interview Guide	1	01 March 2014
Other: Practice Pharmacists Focus Group Topic Guide	1	01 March 2014
Other: Robert Saunders- Approval Letter Peer Review		16 January 2014
Other: Written Consent Form for study and quotes	2	07 May 2014
Participant Information Sheet: Focus Group	2	07 May 2014
Participant Information Sheet: Pharmacist Questionnaire	2	07 May 2014
Participant Information Sheet: Patient Interview	2	07 May 2014
Participant Information Sheet: GP Interview	2	07 May 2014
Participant Information Sheet: HoMM Interview	2	07 May 2014
Participant Information Sheet: HoMM questionnaire	2	07 May 2014
Protocol	1	18 February 2014
Questionnaire: Practice Pharmacists Survey	1	28 February 2014
Questionnaire: HoMM Questionnaire	1	13 April 2014
REC application		

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

14/LO/0793	**Please quote this number on all correspondence**

Yours sincerely

Miss Stephanie Macpherson
REC Manager

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