Non-medical prescribing – successful models in community pharmacy

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Abstract
Non-medical prescribing (NMP) – successful models in community pharmacy
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Despite the introduction of NMP for pharmacists in 2003, uptake amongst pharmacists delivering NMP services from community pharmacies has been poor. This failure has previously been accounted for by a number of perceived barriers. Across the UK however, some pharmacists have overcome these barriers and deliver successful NMP services from a community pharmacy. This study aimed to identify the likely predictors of successful NMP in a community pharmacy setting, what barriers were required to be overcome and how these were overcome in order to achieve success.

Method
Eighteen pharmacists were recruited via the Royal Pharmaceutical Society NMP forum, Centres for Pharmacy Postgraduate Education (England and Wales), NHS Education for Scotland and NHS NMP leads across England. Participants were also identified from case studies in pharmaceutical literature and snowballing. Semi-structured telephone interviews were carried out with 18 participants. From these, a purposive sample of 14 pharmacists was selected. Eleven were subsequently invited to participate in further face-to-face interviews, by which stage the researcher decided that data saturation had been reached. Interviews were audio-recorded and transcribed verbatim. Thematic analysis of the data was undertaken using Nvivo software.

Outcomes
All participants were strongly motivated and innovative, offering their rationales for starting their NMP services as increased job satisfaction and clinical role, identification of local need, professional development and business opportunities. Pharmacists in England and Wales, where central funding was not available, described accessing funding as being a key issue. Pharmacists in Scotland, where central funding was available, cited continuity of funding as being of greater importance. The type of funding model utilised appeared to impact on the area of prescribing. All centrally funded NMP services in Scotland and two in England, supported long-term conditions and areas of public health. Whereas the remainder of the NMP services in England and Wales based on private funding models, prescribed for innovative niche areas such as acute conditions, travel prophylaxis and influenza vaccination. In turn, the therapeutic area prescribed for appeared to be interrelated with the pharmacist prescriber’s ability and need to access patient records. Interviewees delivering a NMP service for long-term conditions all accessed patient records pre and post consultation, whilst those prescribing for non-long-term-conditions did not consistently do so. Differing degrees of collaboration were seen between the pharmacists and local health professionals. The extent of communication between the pharmacist prescriber and the patient’s GP was strongly related to the degree of collaboration between the two. A ‘good relationship’ with the local GPs was deemed essential for success by the majority of the pharmacists.

Conclusions
This study has provided insights into how barriers can be overcome in order to deliver a successful NMP service within a community pharmacy setting. Likely predictors of success have been identified as: strong pharmacist motivation, a high degree of collaboration and a ‘good relationship’ with local healthcare professionals.
Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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Preface

Louise Cope has been registered as a practicing pharmacist in the UK since 1987. Her pharmacy career has seen her working in all sectors of pharmacy practice. Including community pharmacy, primary care pharmacy, hospital pharmacy and in the last five years as a lecturer in higher education. Throughout her pharmacy career to date, Louise has also worked as a community pharmacy locum. Louise is a qualified independent pharmacist prescriber, with her specialist area of interest being that of cardiovascular medicine. Louise has previously delivered non-medical prescribing services in primary care settings, including a General Practice (GP) surgery and an out-of-hours walk-in centre. As a senior lecturer at Edge Hill University, Louise is joint coordinator for a non-medical prescribing programme, whilst also delivering lectures in pharmacology across a range of modules and programmes.

Acknowledgements

I have received extensive support from many people throughout the course of my MPhil programme. My deepest and most sincere thanks go to Dr Mary Tully, my supervisor. I can honestly say that without her direction and overwhelming support I would not be at the stage in my academic development that I am today. Mary has enabled me to not only develop my research skills, but to find the confidence to do so. I have been privileged to have had the opportunity to study under her, and to have had her as my supervisor, thank you Mary.

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This research would also have not been possible without the support and co-operation of the pharmacist prescribers, the length and breadth of the United Kingdom, who allowed me to interview them.

Lastly I wish to say thank you to my sons Jack and Thomas, my parents and my friends for their support, tolerance, patience and understanding over the last three years.
General Introduction

Despite the introduction of non-medical prescribing for pharmacists in 2003,\(^1\) uptake amongst community pharmacists delivering services from high street pharmacies has been poor. Whilst the role of the pharmacist non-medical prescriber has developed and paths forged by pharmacists working within GP surgeries and in the secondary care sector, it appears to have failed to thrive in the community pharmacy setting. This failure has previously been accounted for by a number of perceived barriers. In some areas of the UK however, community pharmacists have overcome these barriers and have achieved success by developing, delivering and sustaining such services by pharmacists based in community pharmacy.

The challenge of delivering timely, quality healthcare in the UK is ever increasing, necessitating the redesign of how and where, patients receive their healthcare. NMP is a great opportunity for community pharmacists to become more involved in the future delivery of healthcare at a local level. It is hoped that further research into how the barriers to NMP in a community pharmacy setting can be overcome and the identification of the likely predictors of successful NMP services may support and facilitate pharmacists in evolving and expanding their future roles as non-medical prescribers in the community pharmacy setting.

The research aim of this study is to explore and identify the likely predictors of successful NMP models in a community pharmacy setting.
The objectives to deliver this aim are to identify:

- What works well?
- What barriers were required to be overcome?
- How these barriers were overcome in order to achieve success.

The content of this thesis is structured into five chapters, the contents of which are outlined below:

**Chapter 1**: provides an evaluation of the published literature on pharmacist non-medical prescribing in general, whilst also focusing on prescribing by pharmacists in a community pharmacy setting. In particular literature regarding the barriers and challenges to NMP in community pharmacy was evaluated. Literature on organisation culture and motivators to change within community pharmacy was also explored.

**Chapter 2**: explains the research methodology that was utilised in this study, including: selection of the research method, consideration of sampling and interviewing processes, analysis of the interviews, data saturation and considerations of quality.

**Chapter 3**: discusses the ethical considerations of the study, including: consent, anonymity, confidentiality and the protection of participants and the researcher from harm.

**Chapter 4**: discusses the demographics and characteristics of the sample and presents the findings from the interviews conducted.

**Chapter 5**: presents the strengths and limitations of the study, a discussion of the findings, suggestions for future research within the area of NMP in a community pharmacy setting and a brief conclusion to the study.
Chapter 1: Review of literature on pharmacist prescribing and the likely predictors of successful NMP models in the community pharmacy setting

1.1 Search strategy

A large and growing body of literature on NMP to date has been centred upon the nursing profession, with little published literature on pharmacist prescribers. Where the unit of analysis has been the pharmacist, research has tended to focus on NMP in the primary or secondary care setting. There is a paucity of literature which directly examines pharmacist prescribing in a community pharmacy setting. Often studies tend to explore the perceived and actual barriers to NMP and less so the motivators and facilitators and how the barriers were overcome in order to achieve success.

Successful models of community pharmacist prescribing do exist however, despite several barriers. The purpose of this literature review is therefore to establish the extent of the current literature and critically analyse the emerging themes and issues in relation to the likely predictors of successful NMP models in the community pharmacy setting and how barriers were overcome in order to achieve success.

A comprehensive thematic search of the literature was conducted by utilising electronic databases and by individually following up original articles cited in pertinent research and literature. CINAHL, Medline and Embase databases, the Proquest journal collection and the ISI Web of knowledge were searched. These resources were selected for their inclusion of nursing and pharmacy practice issues, including service development.
Pharmacists were granted prescribing authority following implementation of Section 63 of the Health and Social Care Act 2001. ¹ The selected timeframe for the search therefore was literature published from 2001 to June 2011 (the date the literature review was executed) to reflect this. Search terms used included different combinations of the following keywords: ‘Supplementary’, ‘Independent’, ‘Prescrib*’, ‘Nurs*’, ‘Non medical’, ‘Non-medical’, ‘Pharmac*’ and ‘Community’.

Using the search criteria described, 204 references were retrieved. The search results were scrutinised and literature relevant to the study obtained, with a total of 91 references being examined.

In addition, during the period from June 2011 to June 2013 (the date the thesis was completed) Pubcrawler® and Mimas Zetoc® alerting services were utilised to capture newly published research around the area of NMP. Both Pubcrawler® and Mimas Zetoc® scanned for literature using the terms ‘pharmacist prescribing’, ‘nonmedical prescribing’, ‘non medical prescribing’ and ‘independent prescribing’. From this, after scrutiny, a further seven references were included in the literature review.

Of particular significance was the identification of five major evaluations and a national survey ⁷-¹² of nurse and pharmacist prescribers. These evaluations are notable due to their mixed-methods approaches over a wide range of stakeholders so examining multiple aspects of NMP.

Exclusion criteria for the search included references relating to Prescription Analysis and Cost (PACT) data, health visitor or district nurse prescribers (V100 and V150 qualified nurses) who are only able to prescribe from a limited formulary. ¹³ These are in contrast to independent nurse prescribers (V300) who are most similar to pharmacist prescribers, and are able to prescribe from the whole of the British National
Formulary. Literature focused on V300 nurse prescribing in a secondary care setting and or that reviewing the education of non-medical prescribers was also excluded.

1.2 Evaluation of literature

Literature was identified which was directly associated with pharmacist prescribing, in particular pharmacist prescribing within a community pharmacy setting in the UK, but also included literature which could relate to and inform the study aim and objectives in a more indirect capacity e.g. pharmacist prescribing outside of the UK, NMP by other health professionals within a community setting, organisational culture and motivators to change. Ultimately the literature review identified research published in the following areas:

1.2.1 Demographics of pharmacist prescribers

To place the research study into context, an account will be given of the current status quo of the demographics of pharmacist prescribers in the United Kingdom (UK). An evaluation by Latter et al7 commissioned by the Department of Health to look at the extent and quality of nurse and pharmacist independent prescribing in the UK, reported that in July 2010 there were 1500 pharmacist prescribers in the UK (1106 independent/supplementary and 394 supplementary). Of the total population of UK registered pharmacists, 2-3% were qualified as independent prescribers at the time of the evaluation.

Pharmacist independent prescribers who were using their prescribing qualification at the time of the evaluation (ibid) amounted to 71% (148) of those who responded to the questionnaire. These results corroborated with the findings of an earlier study by Baqir10 carried out in the North East (NE) of England, which found that 64% (62) of
respondents recorded current use of their prescribing qualification. However, a survey by Winstanley \cite{12} in 2009 reported that only 48% (140) of respondents were currently prescribing. The results of the survey by Winstanley (ibid) were further broken down to show that 60% of the pharmacist prescribers who worked in a primary care setting made use of their prescribing qualification, compared to just 25% of community pharmacists.

Reasons for the differences in findings between those of Latter et al\cite{7} and Baqir\cite{10} compared to Winstanley\cite{12} are unclear, but there were distinct variables between the three studies which may have affected the results. Winstanley\cite{12} and Baqir\cite{10} included independent and supplementary pharmacist prescribers whereas Latter et al\cite{7} focused on independent prescribers alone. The sample sizes within the studies carried out by Winstanley\cite{12} and Latter et al\cite{7} (294 and 208) were also larger than that achieved by Baqir\cite{10} (98). These variances make it difficult to directly compare the results of these three studies.

Several studies have reviewed the sectors within which pharmacist prescribers reportedly carry out their prescribing.\cite{7,10,12}. Results indicated that between 37.6% and 55.2% of pharmacist prescribers were working within the primary care sector 55.2% (115), 37.6% (35)\cite{10} 52.9% (102)\cite{11} and 48% (121)\cite{12}. The second most common sector was that of a secondary care setting with results of 36.4% (76), 62.3% (58)\cite{10}, 40.4% (78)\cite{11} and 34% (99)\cite{12}. It was however often unclear in the studies as to the actual percentage of primary care pharmacists that were based in community pharmacy.

No data was recorded in the studies by Baqir\cite{10} and Latter et al for pharmacists prescribing specifically in a community pharmacy setting.\cite{7,10} Winstanley\cite{12} however reported that 49 (17%) of respondents reported community pharmacy as their main
sector of work. It is however unclear if these pharmacists were currently prescribing at the time of the evaluation. Bissell et al.\textsuperscript{11} reported that 7.3\% (14) of participating pharmacists worked in the community as opposed to general practice but again it was unclear if this was in a community pharmacy setting.

The therapeutic areas within which pharmacist independent prescribers were prescribing were studied by Latter et al.,\textsuperscript{7} and the top three identified as hypertension (25\%), cardiology (9.6\%) and the prevention of coronary heart disease (CHD) (5.8\%). The findings of Latter et al.\textsuperscript{7} support those of an earlier analysis of prescribing data, albeit of supplementary pharmacist prescribers\textsuperscript{11}, which found also that the therapeutic area with the largest volume of prescribing was that of the cardiovascular system.

1.2.2 Pharmacist prescribing in a community pharmacy setting in the United Kingdom (UK)

Literature exploring pharmacist prescribing in a community pharmacy setting is sparse. There are only two case reports in the literature that describe established models of community pharmacist prescribing based in Scotland.\textsuperscript{15,16}

The first case report\textsuperscript{17} describes the work of a team of seven pharmacists who run a series of prescribing clinics based in community pharmacies across Ayrshire and Arran. The clinics include smoking cessation, respiratory, diabetic and sexual health clinics and have developed following the establishment of an original award winning hypertension clinic in 2005. Evaluations of the clinics to date, have found that patients have benefited from longer consultation times with the pharmacists compared to those with GPs, and easier access to the pharmacist led clinics; the pharmacist prescribers have benefited by utilising the NMP clinics to identify gaps within their clinical knowledge and hence new learning needs.
The report goes on to describe how local GPs were initially cautious and reserved about the clinics, concerned that the pharmacists may encroach on territory they considered their own. This corroborated with previous studies which suggested that inter-professional relationships between GPs and community pharmacists have been identified as one of several barriers to the development of pharmacist prescribing clinics in community pharmacy. This report suggested that the relationships strengthened as the services became more established, and the pharmacist prescribers earned the trust and confidence of the local GPs. It was not clear from the report if the clinics had developed to incorporate pharmacist independent prescribing.

A second case report of community pharmacist prescribing, again in Scotland, described a pharmacist-run chronic obstructive pulmonary disease clinic which had initially started in a GP surgery, but later relocated into community pharmacy. Despite having recently extended her prescribing qualification to that of an independent pharmacist prescriber, the pharmacist chose to continue to prescribe as a supplementary prescriber. The pharmacist rationalised her decision by explaining that she felt her prescribing decisions to be more transparent to the rest of the healthcare team by prescribing within a pre-agreed clinical management plan.

Interdisciplinary relationships appeared to be well developed in this case study. The pharmacist however still felt that the GPs within the surgery healthcare team were more comfortable with her restricting her prescribing to that of a supplementary rather than an independent prescriber. It would have been interesting for the report to have explored this concept and the beliefs of the pharmacist and GPs further.
A challenge highlighted in the report, was that of accessing the patients’ clinical records held within the surgery. This was overcome by the pharmacist visiting the surgery daily to input the data herself onto the patient record system after each clinic.

Of note is the fact that both reports described how information recorded during the prescribing consultation with the pharmacist e.g. the patient’s smoking status and recent blood pressure, supported the GPs’ Quality and Outcomes Framework (QOF). This resulted in increased financial remuneration via the QOF for the GP surgery, raising the question of the extent to which this support influences the degree of acceptance of the clinics by GPs. This is an interesting concept when a comparison is made with often held GP opinions of community pharmacists as ‘shopkeepers’, and the GPs’ concerns that prescribing decisions by community pharmacist prescribers may conflict with their commercial interests.

1.2.3 Pharmacist prescribing internationally

In at least 16 states in the USA, pharmacists prescribe alongside doctors. This is carried out within Collaborative Drug Therapy Management (CDTM) clinics where pharmacists initiate, monitor and adjust medication for patients. A team approach where pharmacists contribute their pharmacological expertise, the doctors their diagnostic skills and both have access to patient records. These collaborative clinics are usually based in primary or secondary care locations. Florida is the only state to date that has permitted independent pharmacist prescribing from a limited list of medications. All other states operate either dependent prescribing (equivalent to supplementary prescribing in the United Kingdom) with an agreed management plan or independent prescribing using locally agreed protocols in clinics such as veterans’ affairs centres.
The development of pharmacist prescribing in the USA has followed a similar pathway to that in the UK, albeit with one major difference. Pharmacist prescribers in the UK, once qualified, may move between organisations with their qualification. American pharmacists are accredited by their organisations and so cannot transfer their prescribing skills if they relocate.\textsuperscript{22}

In Canada, pharmacist prescribing of emergency contraception has been permitted in certain provinces since 2000. The province of Alberta however, nationally recognised as a leader in healthcare reform in Canada, now legally permits two categories of pharmacist prescribing.\textsuperscript{23,24} Several other Canadian provinces are seeking to replicate the Alberta model.\textsuperscript{24} Category one involves “adapting a prescription”, whereas the diagnosis and initial prescription are given by the doctor. With the patient’s permission the authorised pharmacist may make changes to the prescription such as generic or therapeutic substitutions or dosage adjustments; so becoming the legal prescriber and carrying full accountability and responsibility for the prescription.

Category two is “initiating/managing drug therapy”. Appropriately qualified pharmacists in this category are able to diagnose and initiate medication. A collaborative approach with a doctor often occurs, but the pharmacist again takes full responsibility and accountability for their prescribing. From July 1\textsuperscript{st} 2012, community pharmacists are also paid a fee to ‘renew’ prescriptions.

Prescribing by pharmacists is currently not permitted anywhere else in Europe other than the United Kingdom. Pharmacists are not currently permitted to prescribe in Australia or New Zealand. Legislation in New Zealand is however in the process of being altered to allow pharmacists to prescribe as part of a Collaborative Health Team.
Prescribing pharmacists will be explicitly forbidden from dispensing their own prescriptions or having a financial interest in a pharmacy.  

1.2.4 Non-medical prescribing by other health professionals

Several other groups of healthcare professionals also practice non-medical prescribing within a community setting. As such, similarities may be seen between the challenges faced by pharmacists attempting to prescribe in a community pharmacy setting to those seen by nurses and allied health professional prescribers also working in the community.

It was therefore decided to include a brief overview of NMP by community based nurses and allied health professionals within the literature review.

1.2.4.1 Nurses

Nurses make up the largest proportion of non-medical prescribers in the UK. In July 2010 the number of nurse independent and supplementary prescribers was recorded as being 17,105 in contrast to 1,500 pharmacist prescribers. This represents 2-3% of the total population of registered nurses. The total number of nurse prescribers is however significantly greater than that of pharmacists due to the larger number of registered nurses overall and as such is similar to the 2-3% of UK pharmacists registered as prescribers.

There are two types of nurse prescribers:

- Community practitioner nurse independent (V100 and V150) prescribers who are permitted to prescribe from a limited range of dressings, appliances and licensed medicines in the Nurse Prescribers’ Formulary.
- Nurse independent (V300) prescribers who can prescribe independently from the whole of the British National Formulary. Or, as a supplementary
prescriber, they will use a clinical management plan, for a patient who has previously been clinically assessed and diagnosed by a doctor (or dentist).

Of the 976 nurse independent prescribers that completed the questionnaire for the evaluation by Latter et al 7 58% (566) indicated that the majority of nurse independent prescribers worked in a GP or acute trust setting (34.8% and 24.2%). These results are comparable with pharmacist prescribers. The remainder reported working in walk-in centres, mental health services, community midwifery, care homes, prison, hospices, family planning clinics and the private sector.

Nurse prescribers working in a GP or acute trust setting have direct access to patients’ records. Those working in the NHS community sector e.g. district nurses or community matrons may receive discharge or referral notes and have access to patients’ hand-held records such as those created during the Single Assessment Process.26 If necessary these nurses may then access a patient’s records in more detail via the GP surgery. Nurses prescribing for patients in out-of-hours and walk-in-centres will not usually have ready access to patients’ medical records and will rely on completing a thorough patient consultation themselves. All nurses are professionally bound to record details of the patient consultation according to Nursing and Midwifery Council Guidelines.27

Aesthetic nursing is a rapidly expanding sector for nurse independent (V300) prescribers. Aesthetic nurses may work within the NHS but a large number are working in private practice. Estimates suggest that there are between 3000 and 4000 aesthetic nurses working in the UK.28,29 Private aesthetic nurse prescribers do not have ready access to patients’ medical records, and so have to rely on their own patient consultation skills to obtain information in order to prescribe safely, just as nurse colleagues prescribing in walk-in and out-of-hours centres are required to do. The
community based nurse prescriber scenarios described in the section above bear many similarities to the scenario of a prescribing pharmacist working in a community pharmacy setting, such as restricted access to patients’ records.

1.2.4.2 Allied Health Professionals (AHPs)

Podiatrists, optometrists and ambulance paramedics have been able to legally access, supply, administer and sell specific prescription only and pharmacy only medicines for many years via a variety of processes e.g. patient group directions and exemptions.\textsuperscript{30,31} Physiotherapists and radiographers in contrast have only been legally permitted to supply or administer restricted medicines since 2005. Appropriately qualified podiatrists, optometrists, physiotherapists and radiographers have also until recently been legally permitted to prescribe prescription only medicines, albeit solely as supplementary prescribers, working to a tripartite clinical management plan agreed by an independent medical prescriber and the patient.\textsuperscript{32}

On the 20\textsuperscript{th} August 2013, legislation\textsuperscript{33} was passed to further allow appropriately qualified podiatrists and physiotherapists to prescribe as independent prescribers. The impact of this change will not however become apparent until summer 2014 when the first of these AHPs complete their NMP training courses.

Podiatrists and optometrists have often been considered to be distinctly separate from other AHPs, as their practice usually placed them outside of the hospital setting. This is in contrast to radiographers and physiotherapists who were traditionally recognised as NHS employees working in a definite hospital environment.

Physiotherapists and radiographers prescribing within a hospital environment have direct access to patients’ clinical records. Podiatrists and optometrists prescribing in a
community setting do not have such access. This represents a similar challenge to a pharmacist prescribing in a community pharmacy setting. No literature could be found discussing the issue of access to patient’s records by podiatrists and optometrists.

1.2.5 Organisational culture in community pharmacy and its effect on the evolution of pharmaceutical services

The last 25 years have seen policymakers set out their visions of the role that community pharmacy should play in order to fulfil the agenda for National Health Service (NHS) pharmaceutical services in England.\textsuperscript{34-42} Community pharmacy has been recognised as having the potential to offer more than just the safe, effective dispensing of medicines. Community pharmacists have been challenged to integrate their clinical skills and expertise into the delivery of better services to patients.\textsuperscript{41}

The need for community pharmacy to redefine itself and change in order to meet these challenges has necessitated a move away from the role of apothecary; a supply and procurement role to one providing more patient focused services. Clark et al\textsuperscript{43} explain this transformation as “The “count – and – pour” era replacing the “compounding” era and, in turn, being overtaken by the “clinical pharmacy movement.” Other research\textsuperscript{44} has described this evolution as passing through the traditional, transitional, and patient-care stages of development.

The late 1990s saw the introduction of the term ‘cognitive pharmaceutical services’. ‘Cognitive pharmaceutical services’ are pharmaceutical services which extend beyond the traditional roles of dispensing and procurement. Defined by Cipolle\textsuperscript{45} as ‘the use of specialized knowledge by pharmacists for the patient or healthcare professionals for the purpose of promoting effective and safe drug therapy’ (p269).
A major landmark which influenced this transitional reprofessionalisation of community pharmacy came in 2004 with the implementation of the new NHS community pharmacy contract. Dynamic changes were seen in the way that community pharmacy was remunerated for its provision of services as this new style contract was employed. Pharmacists were now offered formal recognition and remuneration for the delivery of pharmaceutical services that went beyond the traditional role of dispensing and procurement e.g. opportunistic advice on public health issues and the promotion of healthy lifestyles. The new contract not only formalised such services, but also introduced a new range of pharmaceutical services e.g. medicines use reviews.

Community pharmacists had been delivering many of these pharmaceutical services for years but had not been formally recognised or rewarded for them. Indeed it could be argued that pharmacists have been ‘informally’ prescribing for years, through the act of what was previously known as ‘counter prescribing’. After consultation with the customer, the pharmacist would advise on the most appropriate Pharmacy or General Sales List medicine to treat their ‘condition’. The more recent official qualification as a pharmacist prescriber has been considered to be an adoption of the legal responsibility through a change in liability. For the purposes of this literature review non-medical prescribing will be embraced as a cognitive pharmaceutical service.

Uptake in the provision of a range of cognitive pharmaceutical services by community pharmacy has however been slow. Literature has reported several actual and perceived barriers and facilitators that could and do influence the implementation and indeed the sustainability of new innovative cognitive pharmaceutical services in community pharmacy.
Previous studies have argued that, despite the presence of facilitators or the removal of identified barriers by matching solutions to problems e.g. pharmacist education and training, where a lack of knowledge was cited as a barrier, \(^{51}\) “...there is [still] a need to go beyond categorisation of barriers and instead to search for a greater understanding of the change processes and their facilitators.” \(^{52}\)

A recent study has suggested that organisational culture may be the missing link and determining factor in the success or failure of cognitive pharmaceutical services by community pharmacy. \(^{53}\) So what is organisational culture? Edgar Schein, \(^{54}\) a pioneer of organisational development has offered the following definition:

“...a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.” (p18)

Although extensive research has been carried out on the application of organisational theory to non-pharmaceutical business models, no single study exists which covers the application of an organisational framework to a community pharmacy based NMP service. The review of literature had been widened therefore to include studies which describe the actual or conceptual application of organisational theory to community pharmacy or community pharmacists as the unit of analysis, and the impact of this application on the implementation of cognitive pharmaceutical services.

Despite widening the search of the literature, studies attempting to explain the relationship between organisational culture, community pharmacy and cognitive pharmaceutical services are limited and often do not consider this relationship to be significant to the implementation and sustainability of change in community pharmacy. \(^{55}\) In contrast, a study by Seahill et al \(^{53}\) explored different organisational
frameworks, and suggested that recognition and understanding of the influence that organisational culture exerts is essential in order to be able to fully comprehend and research the concept of the implementation of cognitive pharmaceutical services in community pharmacy.

An Australian study \(^6\) conducted a series of interviews with community pharmacy staff and pharmacy “strategists” and found the need for organisational frameworks to be acknowledged, understood and applied to the development of cognitive pharmaceutical services within community pharmacies, in order for these services to be successful. This study was particularly valuable as it explored both the views of pharmacists and non-pharmacist support staff in the community pharmacies providing the services. These findings have been supported by a further study investigating the use of change-management principles during the initiation of an asthma management service across community pharmacies in New South Wales, Australia.\(^7\) The study explained that change is not ‘straightforward’ and is a multistep process over time. The study concluded that all of the 37 community pharmacists involved in the study lacked depth of understanding regarding the concept of change management when introducing a change in service. It was therefore suggested that a change-management framework should be applied to support the development of specific services in the future.

Further studies have indicated\(^{55,58,59}\) that pharmacists are realising the importance of organisational culture and the importance it holds for the management of pharmacy organisation and the implementation of cognitive pharmaceutical services but need to still advance a long way towards its understanding and application.
1.2.6 Motivators to change: pharmacist prescribing in the community pharmacy setting

A study by McDonald et al.\textsuperscript{60} reviewed the impact of incentives on the behaviour and performance of primary care professionals, including community pharmacists. It concluded that financial incentives acted as powerful levers to change behaviours in the delivery of services, and led to an increase in the volume of incentivised activities. Although pharmacist prescribing was not identified as a specific service, the theory could be applied if the NMP service was incentivised. In a report by Tann et al.,\textsuperscript{50} although focusing on innovation in community pharmacy, identified factors acting as key enablers in the delivery of a new innovative service. The most highly ranked being remuneration.

1.2.7 Barriers and challenges to pharmacist prescribing in the community pharmacy setting

Literature was reviewed with respect to the barriers and challenges to pharmacist prescribing in the community pharmacy setting. The identified research has been organised from the perspective of challenges and barriers internal and external to the community pharmacy, and challenges and barriers internal and external to the pharmacist.

1.2.7.1 Internal to the pharmacy

1.2.7.1.1 Information Technology (IT)

Previous studies in the United Kingdom and Australia have reported the barriers of access to patient records and IT connectivity facing pharmacists that prescribe.\textsuperscript{4,61} This is a very specific challenge for community pharmacists where the location of the clinic is
separate from the GP surgery. Sillito 19 described how the lack of internet connectivity between the pharmacy and the surgery and consequent access to patient records was a challenge; but she overcame this by visiting the surgery in person and updating the patient records herself, usually within 24 hours of prescribing for a patient. This is a time consuming task and one greatly exacerbated if the patients were from several GP surgeries. Literature is sparse offering suggestions as how best this barrier may be otherwise overcome.

The NHS in England is presently reviewing the method of storing and sharing patient health records, in particular, with a view to the introduction of a Summary Care Record (SCR). 62 Currently, in an emergency or an out-of-hours situation, healthcare professionals are unable to access a patient’s health care records. The introduction of the SCR would enable all healthcare professionals, including community pharmacists, access to essential information such as prescribed medication, allergies or adverse reactions. Where the prescribing of medication is involved or suspected of causing adverse effects this information will help support the healthcare professional to make an informed clinical decision for that patient. A final report of the pre-implementation evaluation of the SCR 63 concluded that the benefits of the programme were however less than anticipated. Development of the programme had also been slower than expected due to several problems including out-of-date and inaccurate GP records, and agreeing available routes for the public to be able to ‘opt out’ of the programme. By May 2011 however, over six million Summary Care Records had been created in England, with only 1.16% of patients who had been informed of the SCR programme ‘opting out’. 62

The SCR programme appears the ideal solution to support NMP by community pharmacists, allowing them access to patient records from the community pharmacy.
Access to the SCR by community pharmacists offers the potential to positively influence the issues of patient safety and communication between themselves and other health professionals, so providing a more seamless and enhanced quality of care for patients.

To date, community pharmacists across England, Scotland and Wales are still not able to access patients’ medical records without going via the patient’s GP. The issue of confidentiality and the sharing of patient records between healthcare professionals has long been a concern held by GPs.

Recently however, central opinions are changing regarding this attitude of GPs. The NHS Constitution\textsuperscript{64} has set out a pledge that all staff involved in a patient’s care should have access to their health data. A recent Government commissioned information governance review, the second Caldicott Review,\textsuperscript{65} has concluded that relevant health data should be shared among all registered healthcare professionals directly involved in a patient’s care and stated that “\textit{data sharing is vital for patient safety, quality and integrated care}”.

In England, an information technology strategy has been launched by PharmacyVoice.\textsuperscript{66} A collaboration of community pharmacy organisations, formed to represent community pharmacy. The strategy is specifically aimed at community pharmacy and aims to “\textit{create the right infrastructure for community pharmacy to develop capacity and capability}”. In Wales, the Royal Pharmaceutical Society’s Welsh Pharmacy Board has also prioritised IT development across all sectors of pharmacy, and aims to be working towards allowing access by pharmacists to independent health records. Whilst the Welsh Health Minister has described plans in partnership with the Royal College of General Practitioners to ensure that GPs and pharmacists can share essential patient information to improve
patient care. These follow on from manifestos by the Royal Pharmaceutical Society and Community Pharmacy Scotland, who requested Scottish Ministers to remove barriers to pharmacist prescribing and allow shared health records. The Scottish Government has since committed to giving pharmacists online access to patient records, but there is much debate over the source of funding to achieve this.

In England the SCR has seen two pilot schemes to date. The first in Bradford was put on hold due to concerns by GPs over patient confidentiality. The second was in Greater Manchester. Due to the capacity of the DoH to be able to successfully deliver the programme being called into question, it was scrapped in 2011. The concept has once again been rekindled with the Government recently announcing plans for a paperless NHS by 2018. This includes plans for an electronic health record allowing a patient’s health information to follow them around the health and social care system. Whether this will be successful, or if it will include community pharmacists remains to be seen.

1.2.7.1.2 Time

Hospital pharmacist prescribers who took part in focus groups for a study by Lloyd et al felt there was a lack of time to deliver a prescribing service on top of regular workload demands, and this was considered to be a barrier to the implementation of a prescribing service by the pharmacists. Community pharmacists in the focus groups felt that the hospital pharmacists had more time available than themselves and were better placed to offer the service. Overall it was felt that the time constraint was less of an issue with pharmacists working in primary care e.g. for primary care organisations, as they had more control over how they organised their own workload. Lack of time to develop the role was also identified in a recent survey of pharmacist prescribers across all sectors. Community pharmacists felt that they were already struggling with a lack
of time without also prescribing, and that a second pharmacist would be needed in order to deliver the service. This study will aim to inform how this challenge has been overcome by the successful prescribing models in community pharmacy.

1.2.7.1.3 Space

Prior to the New Pharmacy NHS Contract in 2004, the lack of a suitably private consultation area had been an issue in community pharmacies. One study, which surveyed women undergoing consultations for emergency hormonal contraception, indicated that 20% of the participants felt that there was insufficient privacy in the community pharmacy to facilitate a private consultation. It was suggested that the availability of a private consultation room could affect a patient’s choice to use a particular pharmacy for certain services. However, since the introduction of the new NHS Community Pharmacy Contract, community pharmacies are now required to have a private consultation room to a specified standard if they wish to provide the advanced service of Medicines Use Reviews. The majority of community pharmacies therefore now have consultation rooms which are able to be utilised for a pharmacist prescribing service. This should no longer be a barrier for the majority of community pharmacies.

1.2.7.1.4 Potential conflict of pharmacists’ roles

The issue of a potential conflict of interest and of clinical governance for community pharmacists who both prescribe and dispense has been previously identified. The 2002 consultation document around pharmacist prescribing stated that ‘Prescribing and dispensing responsibilities should, where possible be kept separate in keeping with the principles of patient safety and governance.’ From a safety point of view, the Department of Health has stated that ‘where a pharmacist both prescribes and dispenses a medicine, a ‘second check’
must be carried out by a suitably competent person.' This could include a pharmacist or an Accredited Checking Technician (ACT). From a clinical governance perspective, this conflict can be overcome where two or more pharmacists are on duty at the same time. One pharmacist could prescribe and another pharmacist could supervise the dispensing of the prescription and carry out the final check. The need for two pharmacists to ensure clinical governance will always be an issue unless the patient chooses to take the prescription to another pharmacy to be dispensed. This is of course the patient’s prerogative, but is unlikely to occur due to the convenience of having the prescription dispensed at the point of care. Indeed more and more prescriptions are repeats and are delivered to the patient’s home or care-home making the convenience of prescribing and dispensing in one place even more attractive and convenient.

There is also the issue of a conflict in prescribing and dispensing from a business perspective and the potential for financial incentives to influence the prescriber’s decision. Research has indicated that the issue of conflicts of interest is a real concern for GPs.

A question that must be asked however, is how the conflict of interests between prescribing community pharmacists is any different to those experienced by dispensing GPs? An article by Richardson questioned the appropriateness of community pharmacies in delivering NHS services due to the conflict of interests, of being a business and needing to ultimately make a profit at the end of the day. A response by David Reissner, partner in Charles Russell solicitors, argues that to run a profitable business alongside providing ethical NHS health services is acceptable as long as professional regulatory standards are adhered to. Indeed Reissner suggests this is already the case for certain GP consortia who have joined together to compete for NHS pharmacy contracts or those who house pharmacies within their surgeries from whom
they ultimately receive rent. Reissner goes further to ask the question of why dispensing GPs write more prescriptions than non-dispensing GPs, and to add weight to his argument asks why, at a recent Local Medical Committee conference, GPs put forward a proposal to have ‘universal dispensing powers’ to enable them to compete with community pharmacies.

Dame Janet Smith stated in her Fourth Shipman Enquiry Report. 81

“It is generally recognised that the scrutiny that can be applied to prescription by a qualified pharmacist independent of the prescribing doctor, provides a better clinical safeguard than that provided by a dispenser or even a pharmacist who is employed by the prescribing doctor...There is another public interest reason...why pharmaceutical services provided by pharmacists may be preferable to those provided by dispensing doctors. An independent pharmacist is or should be a safe check on malpractice by a GP in connection with drugs of potential abuse.” (p75)

Can and should the same logic be applied to prescribing community pharmacists who then go on to dispense the same prescription? Canadian pharmacists who prescribe are not permitted to also dispense the prescription, unless ‘no reasonable alternative’ is available. 24 Prescribing pharmacists in New Zealand are ‘explicitly forbidden’ from dispensing their own prescriptions, or having a financial interest in a pharmacy. 25

Nissen 82 talks of a financial ‘moral hazard’, applicable even where the pharmacist is not the proprietor of the business, but is merely employed by a pharmacy company. Nissen (ibid) goes further to suggest that the answer to this potential conflict will be ‘unpalatable’ by pharmacists and that prescribing by pharmacists should be restricted to outside of the community pharmacy setting.

The Pharmacists’ Defence Union has proposed 83 that a ‘Two-Pharmacist’ model be adopted for community pharmacy. One pharmacist working “front of house”, checking prescriptions previously made up by a registered technician, whilst the second
pharmacist runs a variety of clinics (which could include prescribing). The second pharmacist would hold the contract for the service being provided, the list of patients registered for the service and the patient records.

There is a definite lack of literature on how community pharmacists who currently provide a prescribing service have managed this potential conflict of interests. This study should contribute greatly to the literature base around this contentious area.

1.2.7.2 External to the pharmacy

Several factors external to the community pharmacy have the potential to influence the success of a NMP service delivered by a pharmacist within this setting.

1.2.7.2.1 Public awareness of, views on, and attitudes towards pharmacist prescribers

A recent evaluation of nurse and pharmacist independent prescribing in the UK \(^7\) reported that 87% (123) of patients were very satisfied with their experience of pharmacist independent prescribing. When questioned if they had confidence in their pharmacist independent prescriber 77% (109) replied positively. This evaluation corroborated with the findings of Hoti et al \(^8^4\) that 71% (284) patients trusted pharmacists as prescribers, but with 66% (264) still preferring the initial diagnosis to be made by their doctor.

An earlier study \(^8^5\) included in-depth interviews with 18 patients who had experienced prescribing by pharmacists in either a GP surgery or secondary care setting. The patients acknowledged the specialist pharmacological knowledge of pharmacists but still held concerns that pharmacists did not have the ‘hands on’ clinical skills of nurses and lacked a private space in a pharmacy to conduct a confidential consultation. It was also
identified that the patients lacked an appreciation of the training requirements required to be undertaken by pharmacists in order to qualify, not only as a pharmacist, but as a pharmacist prescriber. The restriction of the study to just the two practice settings may have impaired the patients’ vision of how the process might actually work in a community pharmacy. A further study 86 which surveyed 132 patients, reported that 115 (87%) patients were happy receiving a minor ailment service from a community pharmacy but only 32 (28%) would consider having their hypertension managed in this way. This number increased to 55 (42%) when it was suggested that the hypertension clinic would be modelled on that in a GP surgery. This could suggest that patients often struggle to visualise how a prescribing service would actually be delivered from a community pharmacy.

A Scottish study by MacLure et al, 87 which involved responses to a survey of 505 members of the public, supports the above findings. Opinions given by the respondents to the survey suggested their unfamiliarity with pharmacist training, concerns for the location of the consultation in a community pharmacy to ensure privacy and confidentiality, and anxiety over the need for the pharmacist to access the patient’s medical records. One respondent’s comment summarised the challenge of acceptance by the public for NMP from within a community pharmacy.

“I think the cultural place of the “doctor” or GP is so firmly fixed in our communities that it is maybe a difficult job to promote the value of other professionals “prescribing”/diagnosing. Doctors have very high social standing and other professionals are perceived as less qualified”. (p14).

A further study by Stewart et al 88 indicated that just over half of the 1728 respondents claimed to have been aware of NMP. Respondents reported to have been more comfortable with pharmacist and nurse prescribers compared to other Allied Health Professionals. Concerns voiced however, were around the large range of drugs able to
be prescribed, ability to diagnose and the absence of input from a doctor. These concerns were in contrast to previous studies where privacy, confidentiality and access to records were prioritised. A potential weakness of the studies by MacLure et al and Stewart et al were that members of the public were surveyed who may not have actually experienced NMP themselves.

A further study of 103 participants, although on a smaller scale, surveyed patients that had actually experienced pharmacist prescribing, sixteen of which experiencing it in a community pharmacy setting. These patients described positive experiences and satisfaction with their consultation with the pharmacist prescriber.

**1.2.7.2.2 Opinions of GPs on pharmacist prescribers**

Pharmacists’ roles are expanding and developing to provide more diverse services to patients outside of the traditional apothecary role of procurement and supply of medicines. As the role of pharmacist prescriber has developed, it has necessitated their more extensive integration into and acceptance by, the wider healthcare team.

Lloyd et al suggest that doctors and nurses working in secondary care are more familiar with pharmacists in their clinical roles and more frequently recognise them as active members of the healthcare team; attending ward rounds and providing specialised pharmaceutical services. A greater amount of contact time is seen between pharmacists, doctors and nurses in secondary care in comparison to the primary care setting. Lloyd et al further suggest that increased contact between prescribing pharmacists and doctors has served to improve these professional relationships within primary care.

Previous studies have identified inter-professional barriers between pharmacists and health professionals such as GPs. Historically, GPs have shown particular concern for
the concept of NMP, and have even suggested that patients would be endangered by this new role. A survey of 'hundreds' of doctors carried out by Pulse, a magazine for GPs, found that 89% believed that the controls surrounding independent NMP were insufficient to protect patients. The GPs strongly voiced their opinion that independent prescribing was a 'reckless expansion' of the NMP role. The Royal College of General Practitioners backed this statement by adding that it believed that the extension of prescribing rights had gone too far. The validity of this survey however is questionable, and therefore, due to a lack of the critical details such as the total number of respondents, must be taken merely as a straw poll. With such a high percentage of respondents feeling adverse to the changes it still however provided a ‘feel’ for the general atmosphere amongst doctors on what is becoming an emotive topic of debate.

Previous studies have suggested that community pharmacists are often perceived by GPs as ‘shopkeepers, business people or specialist retailers’, and that GPs view commercialism as a conflict of interest for pharmacists who also provide healthcare to patients. A study by Hughes et al revealed beliefs by GPs that there were ‘perverse incentives’ for community pharmacists where medicines were prescribed by the pharmacists alongside their commercial activities. Some GPs suggested that this scenario was similar to general medical practice pre 1970s when there was a more commercial aspect to community medicine. One question that has to be asked, however, is whether this situation is really that far removed from the current general practice remuneration system?

A study by McDonald et al which reviewed the impact of incentives on the behaviour and performance of GPs, dentists and community pharmacists concluded that financial incentives acted as powerful levers to change behaviours in the delivery of healthcare services. Currently GPs are financially rewarded for meeting targets under the Quality
and Outcomes Framework (QOF).\textsuperscript{20} This frequently involves the prescribing of certain medications for specific groups of patients e.g. Angiotensin converting enzyme inhibitors for patients with diabetes and albuminuria. The study by McDonald et al (ibid) was conducted shortly after the introduction of the new GP contract and prior to the reorganisation of the NHS pharmacy contract\textsuperscript{46} and so does not go on to further explore these similarities. Other literature\textsuperscript{17,19,61} has suggested that where pharmacist prescribing has helped GPs to meet QOF targets, this has acted as an incentive for GPs to be more accepting of pharmacist prescribing.

A study by Hughes et al\textsuperscript{5} reviewed the self-perceived roles of GPs and community pharmacists within the health care team. The GPs conveyed their concerns that as prescribers, pharmacists would be encroaching on GP territory. Equally, pharmacists who took part in the study also believed that the GPs would see pharmacist prescribing as professional encroachment to the GPs. This study, although restricted to GPs and pharmacists working in three localities in Northern Ireland, mirrored the findings of a study based in England.\textsuperscript{90}

Significantly, prior research has also reported that doctors often do not fully appreciate or understand the level of training that pharmacists undertake to qualify\textsuperscript{5} both as a pharmacist generically, but also as a non-medical prescriber. This could have an impact on their perceptions of pharmacists in their prescribing roles.

Much of the literature reviewed focused on the tensions in doctor-pharmacist relationships. This could potentially create a barrier for pharmacists who are attempting to establish themselves in a community pharmacy based prescribing role. In contrast, results from an evaluation of nurse and pharmacist independent prescribing in the UK,\textsuperscript{7} suggested that 95.8\% of the 208 pharmacist independent prescribers who were surveyed
strongly agreed (53%) or agreed (42%) that the doctors they worked with were supportive of pharmacist independent prescribing. A further 74% of the pharmacists strongly agreed (32%) or agreed (42%) that their prescribing practice has increased the respect they received from doctors. The evaluation detailed the different settings in which the pharmacists included in the evaluation prescribed. Community pharmacy was not distinguished as a setting. A category of ‘other’ was given, however with 18 pharmacists (13%) prescribing in this category. This may have included community pharmacy but it is unclear.

Literature is scarce regarding relationships between GPs and actual community pharmacist non-medical prescribers and little of this focuses on how relationships have or can be improved. This study will therefore endeavour to add to this gap in knowledge.

1.2.7.2.3 Funding

A lack of funding has previously been cited as a barrier to NMP. Theoretically, in England, central funding may be accessed via the current contractual framework for remuneration of community pharmacy services in England, which allows for locally commissioned supplementary prescribing services. Where a need is deemed necessary and unfulfilled, a community pharmacy can apply to provide a locally commissioned supplementary prescribing service. A draft template for an independent prescribing locally commissioned service is also available. Currently however, on the Pharmaceutical Services Negotiating Committee (PSNC) website, from an archived database of 659 commissioned services, there are only two pharmacist supplementary prescribing services listed. These were funded by their local Primary care Trusts (PCTs) before the recent restructuring (April 2013) of the NHS. Due to this change in NHS
structure and the archived status of the database, it is uncertain of the current position of these services.

Community pharmacies in Wales do not currently have any provision in place to provide a centrally funded community pharmacy based NMP service. Nuala Brennan, Chair of the Royal Pharmaceutical Society of Great Britain (RPSGB) (later devolved into the GPhC and RPS), in a foreword for a resources document to support NHS planning in Wales\textsuperscript{95}, discussed the embryonic stage of NMP by pharmacists. Ms Brennan went on to reiterate her recognition of the opportunities NMP offers pharmacists to become involved in healthcare delivery. Lastly, explaining her aspiration that the resources document (ibid) would stimulate ideas amongst Health Boards for utilising pharmacist NMP services.

In contrast to England and Wales, the Scottish Government has formally provided funds for the set up and running of supplementary and independent pharmacist prescribing clinics in community pharmacy for several years. \textsuperscript{96} This study will explore how successful models of community pharmacist prescribing in England, Scotland and Wales have dealt with the potential barrier of funding.

A systematic review of literature\textsuperscript{97} assessing the contribution of prescribing in primary care by nurses and allied health professionals have concluded that there are substantial gaps in the knowledge base to inform evidence-based policy around non-medical prescribing.

1.2.7.2.4 

Employer and primary care organisation support

Research\textsuperscript{98} has identified support of pharmacist prescribers by prescribing peers, employers and service commissioners as a facilitator of the success of NMP services.
Hospital pharmacists and their doctor mentors have described a lack of feeling supported by their hospital trusts when attempting to implement a NMP service. Pharmacist prescribers in both primary and secondary care explained that although they felt that they received adequate personal support from their mentors whilst undergoing training to become non-medical prescribers, their mentors did not then continue this support by ‘actively campaigning’ for NMP to be higher on the Trusts’ lists of organisational priorities.

Focus group discussions by pharmacists and doctors in the same study expressed opinion that it would be difficult for community pharmacists to have the appropriate ‘back up’ from a doctor in the community pharmacy setting, and that a busy community pharmacy environment would not lend itself to pharmacist prescribing. The study focused on a model of supplementary NMP. Although restricting the study to supplementary prescribing could be seen a potential limitation of the study, at the time of the study pharmacist independent prescribing was in its infancy. As such, being focused on Northern Ireland alone, the research team would have been unlikely to find sufficient numbers of independent pharmacist prescribers to extend the study.

An evaluation in the NE of England surveyed 24 pharmacist prescribers on why they had not yet prescribed despite obtaining the NMP qualification. 54% (13) reported that there was no defined role for them in their organisation as a non-medical prescriber and that NMP was not a priority for their Primary Care Trust. An earlier UK wide survey carried out in 2005 of primary and secondary care pharmacists, showed results consistent with more recent studies. Reporting that 57% (55) of chief pharmacists in secondary care and 56% (100) of lead pharmacists in primary care intended to implement pharmacist supplementary prescribing (pharmacist independent prescribing was not yet introduced at the time of the study), before the end of the year.
In 2011, an evaluation of nurse and pharmacist independent prescribing in the UK \(^7\) reported that only half of NHS Trusts admitted to having a formal strategy for the future development of NMP. More recently, a study by Courtenay et al\(^9\) gave an overview of NMP by both nurses and other non-medical health professionals, including pharmacists across one strategic health authority. The study concluded that if non-medical prescribers are to maximise their contribution to healthcare services in the primary care setting, support from primary care organisations is essential.

1.2.7.3 Internal to the pharmacist

1.2.7.3.1 Pharmacists’ attitudes towards their roles as prescribers

Results of an evaluation of nurse and pharmacist independent prescribing in the UK \(^7\) suggested that to date the development of NMP has been driven by individual practitioners rather than organisations. These results are supported by previous research\(^10\) which reported that when asked why they became a prescriber, pharmacists stated, development of their clinical role 86\% (83), personal development 79\% (77) and to increase job satisfaction 58\% (56) as reasons. Whilst only 23\% (22) indicated that it was a workplace requirement.

An Australian study\(^84\) surveyed 1049 pharmacists on their perceptions of expanding their roles to encompass prescribing. The majority, 83\% (873), were community based employee pharmacists. The main reasons for wishing to prescribe were cited as better use of pharmacists’ skills 78\% (817) and to ease the workload of GPs 78\% (814). The minority, 43\% (449) supported pharmacist prescribing to increase profits in the pharmacy business.
A study in Northern Ireland\textsuperscript{100} surveyed 76 pharmacist prescribers. The majority again concurring with previous studies\textsuperscript{7,10} that pharmacists were self-motivated to train as prescribers by reporting that prescribing increased professional autonomy 92\% (70), increased job satisfaction 91\% (69) and brought an elevation of professional status 87\% (66).

A survey of 418 newly qualified UK pharmacists\textsuperscript{101} indicated that 80\% (342) were happy to become a pharmacist prescriber and that 91\% (381) felt this would enhance their professional standing. Reservations were made however around the large change to their current practice that prescribing would bring, and the demands on their time.

In contrast, a study by Williams\textsuperscript{61} reported a ‘lack of vision and drive’ by community pharmacists themselves as a barrier to pharmacist prescribing. Similarly, in Alberta, Canada an annual report by the Alberta College of Pharmacists\textsuperscript{102} announced that from a register of almost 4,300 pharmacists, only 155 had applied for ‘additional prescribing authorization’. This was despite the fact that the additional prescribing activity was funded by the Alberta Government.

Rosenthal et al\textsuperscript{103} suggest that, although barriers to change in community pharmacy practice have previously been identified e.g. time, funding and lack of support, the removal of these barriers has not always resulted in a sustained change in practice. Rosenthal et al (ibid) go further to propose that the barriers identified may in fact be excuses and are a ‘convenient script’ for pharmacists. The real barrier, proposed Rosenthal et al (ibid), is the ‘pharmacists’ own psyche and culture’; further suggesting that the real focus to the advancement of pharmacy practice, therefore should be on understanding pharmacy culture, rather than the identification and removal of previously cited barriers. Culture being defined as a ‘patterned system of perceptions, meanings, and beliefs about the
organization which facilitates sense making amongst a group of people sharing common experiences…\textsuperscript{104}

Professional and organisational cultures are interrelated. The effect of organisational culture has been discussed previously in section 1.2.5. However, Rosenthal et al\textsuperscript{103} have related pharmacists’ perceptions of themselves to that of professional culture within pharmacy as a whole by suggesting that personality traits of pharmacists in general include: lack of confidence, fear of new responsibilities, paralysis in the face of ambiguity, risk aversion and a need for approval. Rosenthal et al (ibid) propose that the negative impact of such traits on the success of changes in pharmacy practice is significant. This study will further explore pharmacists’ attitudes and perceptions towards themselves and their role as prescribers.

1.3 Conclusion

Given the massive and ever increasing demands being placed on the limited resources of the NHS it seems reasonable to look further at any service developments that may alleviate the burden on healthcare resources.

With the introduction of independent NMP, the Department of Health \textsuperscript{78} aimed to:-

- Improve patient care without compromising patient safety
- Make it easier for patients to get the medicines they need
- Increase patient choice in accessing medicines
- Make better use of the skills of health professionals
- Contribute to the introduction of more flexible team working across the NHS
Non-medical prescribing, in particular community pharmacy based NMP, has the potential to deliver all of these aims. Recent research has recommended that during pathway redesign, NMP should be considered wherever medicines are prescribed or supplied.

There is a dearth of literature on the subject of pharmacist prescribing in a community pharmacy setting. Although the barriers have been widely reported, successful models of community pharmacy based prescribing clinics do exist. This study aims to explore these successful models of NMP in greater depth.

**Aims and Objectives**

The aim of this study is to explore and identify the likely predictors of successful NMP models in a community pharmacy setting.

The objectives to deliver this aim are to identify:

- What works well,

- What barriers were required to be overcome

- How were these barriers overcome in order to achieve success?


Chapter 2: Research methods

2.1 Introduction

This section will rationalise the choice of methodology selected to execute this study. It will describe the options of data collection available and justify that chosen by the researcher. An outline will be given of the sampling and recruitment techniques applied in the study and a discussion of the processes involved in data analysis. Lastly, considerations regarding the quality of the study will be discussed.

2.2 Selection of research method

When deciding upon the appropriate methodology to utilise in a study, ultimately it is the research question itself which should determine the research method to be used.\textsuperscript{106} The two methodological approaches broadly exist as either quantitative or qualitative in nature.\textsuperscript{106,107} Quantitative research can be described as a systematic process where data is of a numerical nature, which may be analysed via statistical processes. In contrast, qualitative research is concerned with words, and aims to ‘study things in their natural setting, attempting to make sense of, or interpret phenomena in terms of the meanings people bring to them’.\textsuperscript{108} Meadows\textsuperscript{106} offers the theory that the focus of qualitative research is to determine ‘why?’ rather than ‘how many?’, as in quantitative research. Aiming to answer questions such as, “what is X, and how does X vary in different circumstances, and why?” That is not to say that qualitative research is unable to be measured. Pope et al\textsuperscript{109} suggest that measurement in qualitative research is possible, but is more concerned with taxonomy or classification, as opposed to numerical analysis.

This study aims to explore and identify the likely predictors of successful NMP models in a community pharmacy setting. Identifying what works well, what barriers were
required to be overcome, and how these were overcome in order to achieve success. As the study is questioning ‘what’ and ‘how’, qualitative methodology was therefore decided to be the most appropriate approach in an attempt to answer this research question. This study could be suggested to be an example of ‘stand alone’ qualitative research, as termed by Pope et al\textsuperscript{109}, who suggested that ‘stand alone’ studies using qualitative research were now being used more frequently to carry out research into health service organisation and policy. In previous research,\textsuperscript{110} qualitative ‘stand alone’ studies have been used to successfully evaluate organisational reforms and changes to health service provision. The delivery of NMP services by a pharmacist based within a community pharmacy setting could certainly be classed as a change to usual health service provision.

Qualitative research methods typically include: in-depth, open-ended interviews, direct observation and written documents.\textsuperscript{111} All of these methods were considered during the planning phase of this study. The data obtained from direct observation may have been useful to inform certain aspects of the study, such as the patient’s experiences of the consultation, and around the pharmacists’ activities such as behaviours, actions and interactions. This study however was asking more in-depth questions than would be answered purely by observation. Such as what barriers were required to be overcome in order to deliver the NMP service, and how? On a practical basis observation would have also been challenging to organise. Several of the pharmacists did not provide their NMP service on an appointment system, requiring the researcher to wait within the pharmacy until a patient requested a consultation. For some of these pharmacists this may have been several days. Commercial and ethical considerations would also have been more complex to organise, such as consent of both the patient and the pharmacist’s employer.
An analysis of written documents could also have added insights into certain aspects of the NMP services being delivered. However, as discussed above, the questions being asked within this study are focused around the experiences of the pharmacists, their opinions, feelings and knowledge. Data from such sources could in fact be utilised to further explore certain aspects of NMP services in the community pharmacy setting, as the participants in the study frequently offered the researcher the opportunity to view paperwork used in the provision of their NMP services e.g. clinical management plans and promotional literature. Thus, the decision was made to utilise interviews as the mode of data collection within this study.

Kvale et al\textsuperscript{112} succinctly describe an interview as being ‘an inter view [sic], an inter-change of views between two persons conversing about a theme of mutual interest’. There are however different types of interviews. The next decision to be made regarding this study was whether to conduct individual or group interviews (e.g. focus groups). Potential advantages existed to using a focus group methodology such as that described by King et al\textsuperscript{113} who suggest that participants interacting within a focus group are more ‘naturalistic’ i.e. closer to everyday life than an interview carried out on a one to one basis. Whilst a large quantity of data may be obtained from focus groups it has been suggested that the detail achieved from carrying out one to one interviews will not be matched.\textsuperscript{106} This study in particular is aiming to examine each individual successful NMP model identified, and to ascertain what has worked well, what barriers were required to be overcome and how in order to achieve success within that model. In addition, the widespread geographical location of the participants in this study across England, Scotland and Wales, would have been a strong logistical barrier to coordinating a focus group. It was therefore decided that the most appropriate and
practical type of interviews for this study would be individual interviews carried out on a one to one basis.

The three main types of one to one interviews: structured, semi-structured and in-depth were then considered for use within the study. Structured interviews are usually based around rigid, structured questionnaires with the interviewer asking questions with a fixed choice of answers. Semi-structured interviews, although being based upon an initial set of questions provide a looser structure with open-ended questions which would allow the interviewer and interviewee to diversify, and explore the areas under discussion in more detail. In-depth interviews were not chosen to be used in this study, as these would lack sufficient structure for the interview to cover all of the areas which were planned to be explored. In-depth interviews usually cover only one or two issues but in much greater depth than the semi-structured or structured interview.

As the physical distance of the researcher from all of the participants was considerable, it was decided to initially use semi-structured telephone interviews to ‘filter’ the participants. This enabled the researcher to determine each participant’s relevancy and usefulness to the study without the time and expensive of travel. Irvine\textsuperscript{114} reports that traditional methodological texts have previously advised that telephone interviews were not suited to qualitative research, “restricting the development of rapport and a natural encounter”. Irvine (ibid) goes on to report however, that many researchers, including himself, are finding this not to be the case; but agrees that interactional differences do still exist between face-to-face and telephone interviews. He suggests that it is important to ‘prime’ interviewees before the telephone interview for them to understand that expansive responses are required, and for the interviewer to ensure that during the interview they explicitly encourage the interviewee to elaborate where appropriate. King\textsuperscript{115} reiterates this concept by suggesting that one of the problems with telephone
interviews is for the interviewee to think that only factual information is required from them, or that the interview is merely an informal chat. King (ibid) advises alike Irvine\textsuperscript{114} that the participant should be made aware before the telephone interview what is required from them. In this study each participant was given a Participant Information Sheet (Appendix 6) before any of the interviews were carried out, detailing what they should expect. In addition, this study used telephone interviews primarily to ascertain which participants had actually been involved in the inception and development of the NMP clinics, and as such were able to tell the researcher what they wanted to know, and so progress on to face-to-face interviews.

As discussed above, during telephone interview, suitable participants were invited to undergo a face-to-face interview with the researcher (see Figure 1). The decision was made to progress onto face-to-face interviews with the participants in order for the researcher to be able to review the information gained from the telephone interviews, and be able to fill any gaps or explore previously discussed areas in more depth. During face-to-face interviews the interviewer would also be able to observe the participants in the community pharmacies from where they delivered their NMP services and body language could be seen to emphasise responses to the questions.

Whilst this study was not informed by a formal theoretical framework, an attempt was made to understand the factors contributing to successful delivery of community pharmacist prescribing clinics by embedding a qualitative approach in the methodologies of telephone and face-to-face interviewing. Phenomenological and ethnographical streams of thought were also drawn upon to inform the study.
2.3 Sampling

Despite practising pharmacists in the UK being required to register with the General Pharmaceutical Council (GPhC), and if qualified as a pharmacist prescriber having this annotated on the GPhC register, the register does not contain sufficient detail to ascertain if the pharmacist is currently prescribing or which sector of pharmacy they are prescribing within. In addition, at the time of the sampling phase of this study, the Royal Pharmaceutical Society of Great Britain had recently devolved into two separate bodies; a regulatory body (GPhC) and a professional body (Royal Pharmaceutical Society). Due to the restructuring, the GPhC was not permitting access to the membership register. A sampling frame was therefore not available for this study.

2.3.1 Sampling strategy

Based on the need to select a sample of pharmacists to best inform the research question, the technique of purposive sampling was chosen for the study. Patton suggests that “the logic and power of purposeful sampling lies in selecting information-rich cases for study in depth”. The participants for this study were selected as all were delivering successful NMP models in a community pharmacy setting, and as such were information-rich around the phenomenon being studied. Patton (ibid) goes further to explain that there are several strategies which may be applied in order to select information-rich cases; the choice of which depending on the purpose of evaluation. The strategy of extreme or deviant case sampling was chosen for use in this study, as the purpose of this strategy is to learn from highly unusual manifestations of the phenomenon of interest. In this study the manifestations of interest were successful models of NMP prescribing, which are unusual in a community pharmacy setting.
As the study progressed, the sampling strategy changed to include snowball sampling. This occurred as referrals were made to the researcher by participants who were aware of other information-rich cases of NMP prescribing, which they believed would fit the study criteria.

2.3.2 Sample size

Kvale et al\textsuperscript{112} suggest that qualitative interviewing enables the researcher to get close to people’s lives, rather than including a large number of participants in a study.

The number of participants invited to take part in this study was a pragmatic decision, based initially upon the number of pharmacists able to be identified as prescribing in a community pharmacy setting. This was then further informed by the quality of data that each pharmacist was able to contribute and the time available to carry out the interview process. The sampling (both purposive and snowball) continued until the researcher recognised that no new cases were appearing. This has been described\textsuperscript{116} in the literature as a point of data redundancy, and can be seen to be similar to that of data saturation which will be discussed later in section 2.6. A total of 18 pharmacists were initially screened to take part in this study. Semi-structured telephone interviews were carried out with all 18. From these, a purposive sample of 14 was selected who fulfilled the study criteria (see section 2.3.5). After completing face-to-face interviews with eleven of the 14 pharmacists, the researcher decided that data saturation had been reached. Brinkmann\textsuperscript{117} suggests ‘as a rule of thumb’ that research based on interviews generally involves around 15 participants; large enough to gather an amount of data that can be practically handled and small enough to gather sufficient data of a suitable quality. Although the number of participants in this study was decided upon pragmatically (as
described above), the final number of participants was in keeping with that suggested by Brinkman.117

2.3.3 Identification of participants

Four of the potential participants were initially identified via four gatekeepers.115 Gatekeepers are defined as persons having the ability to facilitate access to the potential participants. Gatekeepers in this study included tutors working for the following postgraduate education organisations:

- Centre for Pharmacy Postgraduate Education (CPPE) in England.
- NHS Education for Scotland (NES) Pharmacy Directorate.
- Wales Centre for Pharmacy Professional Education (WCPPE).

Other gatekeepers utilised in the study were NMP leads for primary care and acute trusts within NHS NW; the locality where the researcher was based, and so geographically close to participants. Gatekeepers were asked to distribute invitation letters, consent forms and participant information sheets via e-mail, (see appendices 4, 6 and 7) to pharmacists prescribing in community pharmacy settings that the gatekeepers identified to be potential participants. ‘Insider’ assistance was also utilised in Scotland. An initial key participant assisted the researcher by actively identifying community pharmacists working within a specific health board area who met the sampling criteria of the study. As the geographical area was remote from the researcher this brought advantages as it helped to increase participant numbers, and the prospective participants appeared happy to participate as they knew and trusted their colleague. Disadvantages however included the risk that the insider chose potential participants that they believed
would be ‘good’ for the study or that the pharmacists would feel pressurised to agree to take part.

Requests for participants for the study were also placed on the Royal Pharmaceutical Society virtual networks. Including:

- Pharmacist prescribers’ discussion group
- General discussion group
- Local Practice Forums
  - Cheshire and Mersey
  - Lancashire Coastal

Lastly, two participants were also identified from a review of the pharmaceutical literature, identifying case studies of best practice for community pharmacy based NMP clinics. If a potential participant did not respond to the first letter after two weeks, a follow up letter was then sent (Appendix 5) along with another participant information sheet and consent letter.

### 2.3.4 Inclusion and Exclusion Criteria

The principal inclusion criteria were for a participant to be a pharmacist providing a successful NMP service (of at least one clinic) at the time of the study. The NMP service could involve pharmacist independent/supplementary prescribing (any therapeutic area), but had to be delivered in a community pharmacy setting in Great Britain. The community pharmacy was accepted whether an independent privately owned pharmacy, or a pharmacy belonging to a large multiple chain of pharmacies. The participant must have been involved with the setting up of the NMP service rather than
just delivering the service. The participant must also have been able to tell the researcher what they needed to know. Exclusion criteria included pharmacists that fulfilled the inclusion criteria but did not consent to take part in the study. Or, those who had initially stated that they were prescribing in a community pharmacy but had moved to another setting by the time they were approached by the researcher.
2.4 Interview process

Figure 1: Interview Process
2.4.1 Interview schedule development

Interview schedules were designed for both the telephone and face-to-face interviews in this study (See Appendices 8 and 9). Although qualitative interviewing requires flexibility, the use of semi-structured interviews necessitates the utilisation of interview schedules to give some degree of structure to the process. Interview protocols translate the research question that the study is attempting to answer into questions that can be asked of the participants in their ‘language’. King suggests that there are three main sources from which to draw upon and develop an interview schedule: personal experience of the research area, research literature and informal preliminary work. The interview schedules for this study were developed from the personal experiences of the researcher as a community pharmacist and pharmacist prescriber, the literature review (Chapter 1) and from discussions with the study supervisor.

Patton proposes six types of question that are possible to be asked in a qualitative interview: demographic, experience, opinion, feeling, knowledge and sensory questions. The interview schedules (Appendices 8 and 9) in this study covered areas for discussion that would require the full spectrum of question types e.g. demographic questions such as when the pharmacist qualified as a prescriber. Or those based on feeling, such as what the participants felt that the opinion of the local medical profession was to their NMP service. During the telephone interviews, participants were initially asked to describe their professional background both as a pharmacist and as a prescriber. This included a request for them to give a brief description of their NMP service and their extent of involvement with it. This was to ascertain if the participant had been involved with the setting up of the NMP service in question rather than just delivering the NMP service. This knowledge enabled the interviewer to decide if the participant would be able to go on to tell them the type of information they wanted to know. If the
The interviewer found that the participant had been involved in the setting up of the NMP service, the interviewer would commence the second part of the telephone interview schedule with the participant. The second part of the telephone interview enabled the interviewer to go on to discuss aspects of the NMP service in more detail with the participant. Aspects such as how the barriers were actually overcome (see Appendix 8).

An interview protocol was also utilised to loosely structure the face-to-face interviews (Appendix 9). The face-to-face interview protocol contained the same questions to that used in the telephone interviews. Actual areas discussed however, and to what depth, depended on the data obtained from the initial telephone interview. Areas were discussed that had been identified by the interviewer after the telephone interview that the researcher decided would be worthy of further exploration. Gaps in data that had been identified after the telephone interview were also explored. Participants were finally asked at the end of both the telephone and face-to-face interviews if there was anything else they wished to talk about in relation to the study, or would like to go back to.

As the interviews were semi-structured and iterative in nature, the interviewer reflected after each interview to consider if changes were needed to be made to the schedules. It was decided after the second telephone interview to add a further question to part two of the telephone interview schedule. The participants were asked, in their opinion, what one or two things they thought had made their NMP services successful. It was felt that by asking the participants this question directly, in addition to discussing the areas detailed on the interview schedules, more information would be obtained to help inform the original research question.
2.4.2 Arranging the interviews

Pharmacists who agreed to take part in the study were asked to read and sign the consent form and return it to the researcher. Once the consent form had been received by the researcher, the pharmacist was then contacted and a mutually agreed time and date agreed for the researcher to telephone the pharmacist to conduct the telephone interview. After the end of the telephone interview, where the researcher considered that the pharmacist was able to tell them what they needed to know, the pharmacist was asked if they would agree to take part in a further face-to-face interview. Again a mutually agreed time, date and venue was agreed between the researcher and the participant in order to carry out the face-to-face interviews.

2.4.3 Conduction of the interviews

Immediately before each of the interviews the researcher ensured that the participant was aware of and understood the purpose of the study. This was done by the researcher discussing the contents of the participant information sheet (Appendix 6) with the participant and answering any questions they may ask. By this stage a consent form had already been signed by the participant, which included them consenting to being audio recorded during the interview. Each participant was again asked however before the interview commenced, if they still agreed to this being done.

All of the interviews were undertaken by the author and the respective interview schedules (Appendices 8 and 9) used to loosely structure both the telephone and face-to-face interviews. The interview schedules were not followed verbatim. Points were often discussed during the interviews in a different order to that outlined in the schedules. This was permitted in order to keep the interviews relaxed and to allow the information to flow as the interviewee talked. The length of the interviews varied
depending on how talkative the interviewee was. The length of the telephone interviews ranged from 9 to 54 minutes with a mean of 20 minutes. The length of the face-to-face interviews ranged from 15 to 45 minutes with a mean of 35 minutes. Notably the mean length of the face-to-face interviews was longer than that of the telephone interviews. An occurrence also identified in previous research.\textsuperscript{114} In addition, as the interviews progressed the length of the interviews reduced; whether telephone or face-to-face. Although a potentially random occurrence, this was suggested as probably being due to the improving interviewing skills of the researcher.

As previously discussed, the time and date for each interview was arranged by mutual agreement between the researcher and the interviewee. The location for the interview was however the choice of the interviewee. This is generally accepted to be good practice, as it allows participants to select somewhere on ‘their’ territory, if that is what they so wish.\textsuperscript{115} All of the telephone interviews were carried out whilst the participants were in their place of work, with one exception which was carried out with the participant at their home. The face-to-face interviews were also carried out in the participants’ places of work i.e. a community pharmacy, with the exception of one which was carried out in a hotel lounge. Before the interviews, the researcher requested where possible that a quiet location be available within the pharmacy to conduct the interviews. Unfortunately, due to the physical layout and working logistics of community pharmacies this was not always possible. The majority of the interviews were therefore carried out with interruptions from pharmacy staff, noisy surroundings and a lack of privacy. This made the interviewing process, and ultimately the transcribing of the interviews, challenging.

Dearnley\textsuperscript{118} expounds that reflection is vital to ensuring a collaborative and transparent approach to qualitative interviewing. The reflections of the researcher were discussed
with the study supervisor throughout the interview and transcribing phase of the study. The researcher was therefore able to utilise the processes of reflection and discussion with the study supervisor to develop their interview and transcribing skills.

2.5 Analysis of the interviews

2.5.1 Transcription

All of the interviews, both telephone and face-to-face were audio recorded and then transcribed. Kvale\textsuperscript{112} describes research interviewing as a craft, and states that one of the best techniques of learning is for the researcher to transcribe a number of sound-recorded interviews themselves. This, he explains, will enable the researcher to reflect on the processes and problems of interviewing and transcribing. The researcher began the process of transcribing the recorded interviews immediately after the first interview was carried out. In addition, the researcher also produced hand-written field notes after each interview, and again after the transcription of each interview. This was in order for the researcher to be able to reflect on all aspects of the interviews; both as they happened and after being transcribed e.g. their own interview performance and questioning technique, the application of the interview schedule and the responses of the interviewee. The interviews were transcribed by the researcher and created as documents in Microsoft Word\textsuperscript{®}. The transcripts were then imported into NVivo\textsuperscript{®}, a software tool used to store and assist in the analysis of the data.

A universal code for the transcription of research interviews does not exist.\textsuperscript{111} As such, a decision was made by the researcher on the level of detail that was to be recorded within the transcriptions. As the analysis of the interviews for this study was to be primarily based on thematic analysis, as opposed to detailed linguistic analysis; it was decided to transcribe the interviews verbatim but to exclude details such as overlaps,
prolongation of sounds and pitch. The transcriptions were anonymised by removing all references to names, whether of people, places, organisations or companies. Within the transcriptions, each interviewee was allocated a number along with the letter ‘P’ in order to maintain anonymity. For the reporting and discussion of the findings of the study each interviewee was later allocated a pseudonym. The pseudonyms were allocated in alphabetical order to correspond with the order in which the initial telephone interviews were carried out. After the end of the interview, if the interviewee made further pertinent comments after the recorder had been turned off, the interviewee was asked to repeat the comments whilst the interviewer restarted the audio recorder. The transcriptions were finally checked against the audio recordings to ensure that words had not been misheard during transcribing. Corrections were made against the transcriptions where necessary.

2.5.2 Thematic analysis

In this qualitative study, the analysis of the data could have progressed in one of three ways: thematic analysis, grounded theory or a framework approach. The method of thematic analysis was chosen to analyse the data, as unlike grounded theory the analysis of the data would not be feeding into subsequent sampling and data collection. The framework approach was also excluded, as this method of analysis is more explicit and more strongly informed by *a priori* reasoning than was to be intended in this study. Braun et al propose that thematic analysis is a foundational method for the analysis of qualitative data, and that due to its theoretical freedom offers a flexible approach to analysing such data. The act of transcribing has been suggested to be an excellent way for the researcher to begin familiarising themselves with the data.
Mayes et al\textsuperscript{121} propose that the art and skill of transcription and the interpretation of the data contained are learned ones. The challenge to provide a fair and unbiased view is all the greater where the researcher is a novice. As a validity check on these interpretative processes, the outcomes were discussed with the study supervisor. This provided an alternative perspective to the interpretation of the data and the identification of themes.

Initially the transcripts were read by the researcher in order to familiarise herself with and immerse herself in each interview as a whole. Relevant material was then highlighted and descriptive codes applied to the data. The identification of themes, patterns and the application of codes require interpretation of the meaning of the data. The interpretation of the data from this study was the researcher’s own understanding of the material and as such could have been interpreted differently by another person. Verbatim extracts reported within the findings of a study however provide evidence to support the thematic analysis and account and their inclusion in a written account offers a means of validation.\textsuperscript{122} The validity of the study will be discussed further in section 2.8.

The descriptive codes were then reviewed and several grouped together that appeared to ‘share a common meaning’.\textsuperscript{113} Interpretative codes which the researcher felt ‘captured’ the meanings of the groups were then created and applied to the groups. Overarching themes were identified from the analysis of the data. The process of coding and the ultimate identification of themes were iterative, and as such the codes were reviewed, redefined and reapplied throughout the thematic analysis, whilst constantly returning to the raw data. Braun et al\textsuperscript{119} offer an explanation of a theme as:
‘A theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set’ (p82).

Braun et al (ibid) go further to question how big a theme needs to be within the process of coding to be classed as a theme. The prevalence of the theme is suggested to be of key importance, but it is left ultimately to the researcher to decide. The ‘keyness’ of the theme is also suggested to not depend on quantifiable measures, but on whether it captures something important in relation to the overall research question. An increased prevalence therefore does not necessarily indicate that the theme is more important.

In thematic analysis, themes can be identified within the data using one of two methods; inductively (bottom up) or deductively/theoretically (top down). The inductive approach sees the themes being strongly linked with the data. Braun et al explains the inductive process as coding the data without attempting to make it fit a pre-existing coding framework. I.e. the process is data driven. This is in contrast to a deductive or theoretical process where the thematic analysis is driven by the researcher and their theoretical or analytical interests. This study was designed and planned to follow a process of inductive analysis.

2.6 Data saturation

In qualitative interviewing there is no literature to support a particular sample size to assure that data saturation has been reached. As discussed in section 2.3.2, Brinkmann suggests that around 15 interviews are generally carried out in qualitative research to achieve an adequate amount and quality of data, without being too unwieldy to manage. Guest et al concurred with this by describing a study on data saturation where, despite 60 interviews being carried out, data saturation was decided to have occurred after just 12 interviews. In this study, as described in section 2.3.2, a final number of 11
pharmacists out of an initial purposive sample of 14 underwent semi-structured face-to-face interviews. The remaining 3 participants did not undergo face-to-face interviews; as after all of the telephone interviews, and 11 of the face-to-face interviews, the researcher was not hearing any new information. The decision was therefore made at this point that data saturation had been reached.

2.7 Researcher bias

When engaged in qualitative interviewing there are three epistemological stances that may be taken by the researcher, that of a realist, contextualist or constructionist. As a realist the researcher aims to avoid bias by being objective and detached. In contrast, from a contextual epistemological position, the subjectivity of the researcher is a vital element of the procedure. Lastly, a constructionist researcher is a ‘co-producer’ of knowledge. The epistemological approach taken by the researcher in this study was that of realist, with the aim of avoiding bias by remaining objective and detached from the data.115

One of greatest underlying threats to the veracity of qualitative research is the social interaction between interviewer and interviewee.125 More dynamically expressed by Kvale as ‘the asymmetrical power relations of the research interviewer and the interviewed subject’.126 Finlay127 expounds that the act of reflection helps the interviewer to consider this asymmetrical relationship, and to consider ways that this interaction may influence data collection and analysis in a study.

The interviews within this study were carried out by an experienced pharmacist and independent prescriber. In addition, the researcher is also an academic who teaches on a non-medical prescribing programme within an institute of higher education. There was therefore considerable potential for researcher bias; the interviewer bringing to the
arena their own knowledge, thoughts and perceptions of this area of research. The interviewees were also aware of the professional roles of the interviewer. From a positive perspective this appeared to facilitate the interviews, as the ability to use professional jargon and the fact that the interviewees knew that the interviewer understood the logistics and politics of community pharmacy, created a very informal and often relaxed environment. As such, the interviewer felt that there was a high degree of rapport and empathy between themselves and the interviewees. The interviewer was conscious however, that at times the interviewees considered the interviewer to be more knowledgeable than them around the subject of non-medical prescribing. This could have been seen to further exacerbate the ‘asymmetrical power relations’ within the relationship (as described by Kvale\textsuperscript{126} above). Consequently, the researcher, whilst being sensitive to this perception, worked hard during the interviews to attempt to ensure that the relationship was as balanced as possible. Whilst politely answering questioning by the interviewees regarding the interviewer’s background, refocusing the interview back to the original task as soon as possible.

Finlay\textsuperscript{127} concludes that the awareness and application of reflexivity within qualitative research by researchers, can enhance the ‘trustworthiness, transparency and accountability’ of their research. The researcher reflected after every interview on the interaction between themselves and the interviewee and discussed the outcomes with the research supervisor.

Researcher bias is also a significant risk during the analysis of data. As described in section 2.5.2, the method of thematic analysis was applied to analyse the data from this study. This involved coding the data and identifying themes. Turner\textsuperscript{128} advocates that the process of coding, although time consuming reduces researcher bias, especially when interviewing several participants. A review of the codes applied and themes
identified by a third party can also be used as a tool to reduce the risk of bias within qualitative research. The allocation of codes and identified themes were discussed with the research supervisor. In particular this aided in the detection of data that did not correspond with or even contradicted the identified themes e.g. ‘deviant case analysis’. Under emphasised and over emphasised points in the analysis of the data were also identified and rationalised.

2.8 Validity and reliability

Britten et al suggest that ‘there is some truth in the quip that quantitative methods are reliable but not valid and that qualitative methods are valid but not reliable’.

Reliability and validity however are a means of demonstrating and communicating rigour in a research process, and the trustworthiness of the outcomes of that research. If the research is to be of use, it should avoid misleading those who use it. It is imperative therefore that both reliability and validity can be demonstrated in any research whether quantitative or qualitative.

Reliability within qualitative research can be understood as the trustworthiness of the procedures and data generated and the extent to which the results of a study can be repeated in different circumstances. Roberts et al suggest that qualitative content analysis is a reliable way of handling data from a qualitative study, with the use of codes being applied to the data, followed by constant comparison and periodic review to ensure stability. In addition, it is also proposed that the use of data analysis software packages such as NVivo® further serve to enhance reliability. Data within this study was analysed by thematic analysis as described in section 2.5.2, codes applied to the data and themes then identified. The codes and themes were constantly compared and reviewed and the software package NVivo® utilised to facilitate this process. Although,
this study must be the work of one researcher by nature of the fact that is being carried out as part of a university award, codes and themes were discussed with the study supervisor to seek a different opinion of the data. Verbatim quotes within the findings of the study demonstrated the strong links between the data and the researcher’s interpretation of it.\textsuperscript{132}

Validity refers to how well a scientific test or piece of research actually measures what it set out to do, or how well it reflects the reality it claims to represent.\textsuperscript{134} A potential risk to the validity of qualitative is that of researcher bias. This has been discussed in section 2.7 above. The risk of bias can also be reduced by a range of tools including respondent validation.\textsuperscript{135} The usefulness of respondent validation has been cited as to not being to solely minimise the risk of bias, but to also provide the researcher with a further opportunity to review and question their initial interpretations.\textsuperscript{136} Due to limited time and financial resources it was decided not to utilise respondent validation for this study.

Triangulation is a further tool that may be used to demonstrate the validity of qualitative research, and may be defined as a ‘combination of two or more theories, data sources, methods or researchers in the study of a topic.’\textsuperscript{437,138} Triangulation was utilised as a method of enhancing the robustness of this study by comparing the data from the different participants and cross checking with the published literature, demonstrated in the discussion of the findings (Chapter 5). Regular meetings with, and peer review by the study supervisor were also carried out regarding the data analysis and findings.
Chapter 3: Ethics

3.1 Ethical considerations

All research raises ethical issues which need to be taken into ethical consideration. The three key ethical issues to be addressed within this study were:

- Informed Consent
- Anonymity
- Confidentiality

Ritchie et al\textsuperscript{139} go further to suggest that the protection of both participants and researchers should also be taken into account when planning a research study. These issues were raised during the application for ethical approval with the University and explanations were required in order to satisfy the University’s Committee on the Ethics of Research on Human Beings. Ethical approval was granted by the University on 26\textsuperscript{th} April 2011 (see Appendix 10).

3.1.1 Informed consent

The Research Governance Framework for Health and Social Care \textsuperscript{140} states that “informed consent is at the heart of ethical research”.

Prospective participants were provided with a Participant Information Sheet (Appendix 6) which they were encouraged to read before deciding if they wished to consent to take part in the study. The Participant Information Sheet explained to the pharmacist the risks, benefits and purpose of the study, information on the confidentiality of data and why they had been invited to take part. It also explained that the pharmacist was under
no obligation to take part in the study and if they did consent to do so, they could withdraw at any time with fear of being penalised. Pharmacists were encouraged to ask questions of the researcher if there was any information they were unsure of before they signed the consent form. Consent was therefore informed and voluntary in nature.

Pharmacists who decided that they wished to take part in the study were required to sign the consent form and return this to the researcher before the initial telephone interview. By signing the consent form, participants were also agreeing to have their interviews audio-recorded. The choice of using “off the record data” e.g. information that may be disclosed by the participant if they continue to talk after the digital audio recorder is turned off, remained with the participant. The participant was explicitly asked for their decision when this occurred.

3.1.2 Confidentiality and anonymity

Participants were reassured before the start of their interview and in the participant information sheet (Appendix 6), that confidentiality would be maintained throughout the interview unless the participant disclosed unsafe, unethical or illegal practice that had not been previously reported through the appropriate channels. It was also explained to the participants, that in these cases the researcher would report such practice to the study supervisor, who in turn would review the practice in accordance with the Professional Standards of Conduct, Ethics and Performance of the General Pharmaceutical Council. If found to be in breach of these Standards the pharmacist would then be reported to the appropriate person dependent on which standard was contravened, the interview stopped and the matter discussed with the participant to make clear what is happening before the researcher then discharges that responsibility.
The researcher maintained complete confidentiality regarding any information about participants acquired during the research process. The researcher also ensured that full anonymity was given to the participants at all times by keeping their personal information separate from the data collected. This was done by applying a method of numbering i.e. numbering participants and interviews. A record of actual names of participants and clinics were kept on a password protected encrypted USB stick and only accessed by the researcher. The allocation of the numbers to the participants and the interviews were carried out at the first involvement of the participant in the study i.e. when the participant consented to take part in the study. The identification of the participants was further protected from the reader by the use of pseudonyms in the reporting of the findings and discussion sections of the study. The researcher of course remaining aware of whom the participants were.

3.1.3 Protecting participants from harm

Within this study there was the potential for participants to be ‘harmed’ via them being inconvenienced, as they will be giving up their time to be interviewed during the study. The researcher attempted to minimise this inconvenience by carrying out the interviews at a time selected by the participants. A further potential for harm was for the participants to have their confidentiality breached. This has been discussed in section 3.1.2 above.

3.1.4 Protecting researchers from harm

Interviewer safety was facilitated by the adherence to the University’s policies on lone working and field working. In addition, where the researcher contacted the participants outside of the University, a unique mobile SIM card was purchased to be used solely for the purposes of the study.
Chapter 4: Findings

4.1 Demographics and characteristics of the sample

A total of 18 pharmacists were initially screened to take part in the study. Semi-structured telephone interviews were carried out with all 18. From these, a purposive sample of 14 was selected who fulfilled the study criteria. One pharmacist, although fulfilling the study criteria, withdrew from the study as he was unable to set aside sufficient time and commitment to participate further. The three pharmacists who did not fulfil the study criteria did so due to a change in roles which no longer included prescribing (two) and not delivering the prescribing service from a community pharmacy setting (one).

Eleven of the sample of 14 pharmacists outlined above, were subsequently invited to participate in further face-to-face interviews. Rather than being performed in two separate waves, the interviews, face-to-face and telephone, were dovetailed together in a case study approach. This was in response to the limited availability of the participants due to their work commitments and geographical diversity. After completing face-to-face interviews with eleven of the 14 pharmacists, the researcher no longer heard new information during the telephone interviews with the final three. The decision therefore was made that data saturation had been reached, as discussed in section 2.6 and face-to-face interviews were not conducted with these three participants. Data were analysed from the telephone interviews carried out with all 14 participants and the face-to-face interviews carried out with the first 11 of these. The demographics and characteristics of all 14 participants are shown in Table 1. Limited personal data has been included in the table, in order to reduce the risk of the participants being identified, thus maintaining confidentiality and ensuring anonymity.
Table 1 Demographics and characteristics of participants* interviewed

Participants are listed in the table in the order in which they were interviewed.

<table>
<thead>
<tr>
<th>Pharmacist's Pseudonym</th>
<th>Country</th>
<th>Funding</th>
<th>Multiple or Independent Pharmacy</th>
<th>Prescribing Area</th>
<th>Time between qualifying as a pharmacist and as a prescriber (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alice</td>
<td>England</td>
<td>Central¹</td>
<td>Multiple</td>
<td>Substance Misuse</td>
<td>&gt;20</td>
</tr>
<tr>
<td>Brian</td>
<td>Scotland</td>
<td>Central²</td>
<td>Multiple</td>
<td>Hypertension</td>
<td>&gt;20</td>
</tr>
<tr>
<td>Craig</td>
<td>Scotland</td>
<td>Central²</td>
<td>Multiple</td>
<td>Smoking Cessation</td>
<td>10-20</td>
</tr>
<tr>
<td>Deborah</td>
<td>Scotland</td>
<td>Central²</td>
<td>Independent</td>
<td>Smoking Cessation</td>
<td>10-20</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>Scotland</td>
<td>Central²</td>
<td>Independent</td>
<td>Smoking Cessation</td>
<td>&gt;20</td>
</tr>
<tr>
<td>Freda</td>
<td>Scotland</td>
<td>Central²</td>
<td>Multiple</td>
<td>Sexual Health</td>
<td>5-10</td>
</tr>
<tr>
<td>Grace</td>
<td>Scotland</td>
<td>Central²</td>
<td>Multiple</td>
<td>Chronic Obstructive Pulmonary Disease/ Asthma Hypertension</td>
<td>&gt;20</td>
</tr>
<tr>
<td>Harriet</td>
<td>Scotland</td>
<td>Central²</td>
<td>Multiple</td>
<td>Hypertension</td>
<td>10-20</td>
</tr>
<tr>
<td>Ian</td>
<td>England</td>
<td>Private</td>
<td>Multiple</td>
<td>Acute Conditions</td>
<td>10-20</td>
</tr>
<tr>
<td>James</td>
<td>England</td>
<td>Private</td>
<td>Independent</td>
<td>Acute Conditions Antimalarials Influenza Vaccination</td>
<td>10-20</td>
</tr>
<tr>
<td>Kevin</td>
<td>England</td>
<td>Private</td>
<td>Independent</td>
<td>Acute Conditions Travel Prophylaxis</td>
<td>10-20</td>
</tr>
<tr>
<td>** Liam</td>
<td>Wales</td>
<td>Private</td>
<td>Multiple</td>
<td>Acute Conditions Antimalarials</td>
<td>10-20</td>
</tr>
<tr>
<td>** Mike</td>
<td>England</td>
<td>Central¹</td>
<td>Multiple</td>
<td>Pain Management</td>
<td>&gt;20</td>
</tr>
<tr>
<td>** Neil</td>
<td>England</td>
<td>Private</td>
<td>Multiple</td>
<td>Acute Conditions</td>
<td>10-20</td>
</tr>
</tbody>
</table>

* = Purposive sample of 14 pharmacists  
Central 1 = English Department of Health funding  
Central 2 = Scottish Government funding  
** = Participants with whom telephone interviews alone were conducted
As previously outlined in section 2.4.3, the telephone interviews had a range of nine to fifty-four minutes and a mean of 20 minutes, whilst the face-to-face interviews ranged from 15 to 45 minutes with a mean of 35 minutes. The total time spent interviewing the participants who underwent both telephone and face-to-face interviews ranged from 37 minutes to one hour and eighteen minutes.

All of the 14 participants interviewed were community pharmacists working in Great Britain. Eight of these were male and six were female. Seven of the participants were located in Scotland and seven in England or Wales. Ten of the pharmacists delivered their prescribing services from multiple pharmacy chains and four from independent pharmacies.

Five of the pharmacists (all based in England and Wales) were providing private non-medical prescribing (NMP) services and nine (Scotland = 7, England = 2) centrally funded NMP services, either via the Scottish Government or the English Department of Health (DOH). The private NMP services being offered to patients were funded by the patients themselves, paying privately for the consultation and resulting prescription(s).

Overall prescribing was from a wide range of therapeutic areas and spanned travel prophylaxis, antimalarials, public health, acute and long-term conditions. None of the privately funded services were provided for long-term conditions.

As reported above, centrally funded models were seen in both England and Scotland (but not in Wales). The models based on central funding were however distinctly different between the two countries. The pharmacists in Scotland received central funding for the setting up of their NMP services, and a weekly reimbursement towards the community pharmacy contractor costs for providing their service from the Scottish Government. This commenced in 2005\textsuperscript{142} when the Scottish Government first provided funding to establish community pharmacy
based prescribing clinics. This was carried out in an attempt to utilise pharmacist prescribing skills, promote closer working between General Practitioners (GPs) and community pharmacists, and to improve patients’ access to medicines. To date, this funding has recurred each year following annual review. The costs of the drugs prescribed via these services however are reimbursed from a unified prescribing budget identified by the community pharmacist. This is usually a local GP practice which has agreed to collaborate with the pharmacy as part of the initiative described above. Five of the six pharmacists delivering NMP services in Scotland were centrally funded via this route and offered prescribing for long-term conditions and public health services only, with a notable absence of services being offered for prescribing for acute conditions or travel prophylaxis. The sixth pharmacist who offered a centrally funded sexual health service, received the set up and running costs outlined above, but the cost of the drugs were met by a local sexual health initiative arrangement between the community pharmacy and the local NHS Board. This was designed to increase access by clients to emergency and non-emergency contraception.

The two pharmacists, Alice and Mike, based in England, who had received central funding, described funding models which were not only different to the Scottish model, but also distinctly different to each other. Both were innovative in nature and had required both Alice and Mike to think ‘outside of the box’ in order to secure their funding. Alice accessed DOH funding via collaboration with a local Drug and Alcohol support Team (DAT) to offer a community pharmacy based substance misuse service. The DAT budget funded both Alice’s time and the costs of the drugs prescribed by her. Mike was awarded funding from the local PCT, following a successful bid for monies to support a pilot Quality, Innovation, Productivity and Prevention (QIPP) Programme\textsuperscript{143} initiative around pain management. The pilot supported the Medicines Use and Procurement work stream of the QIPP. This was to ensure the efficient use of medicines used in primary and secondary care in order to reduce waste, improve patient safety and to support patients in obtaining the maximum benefit from
their medicines. These monies funded Mike’s time to deliver the service whilst the cost of the
drugs prescribed by him were met by the GP drugs budget with whom Mike had collaborated
to deliver his service. None of the centrally funded prescribing services based in England or
Scotland offered prescribing for acute conditions, travel prophylaxis or influenza vaccination.

During the interviews, participants were asked to give an approximate indication of how long
they had been qualified as a pharmacist. This ranged from 11-36 years. They were also asked
to give an approximate indication of how long they had been qualified as a pharmacist
prescriber (supplementary or independent, whichever they achieved first). This varied from
two to seven years. Participants were not asked their age during the interviews as this was not
deemed to be of relevance to the study. All of the pharmacist prescribers were however
predicted to be aged at least 25 years of age, calculated on the basis that:-

• participants will have not commenced their studies at university until at least 18 years
  of age

• the current Master’s degree in Pharmacy is a 4 year course

• the pharmacy pre-registration period is 1 year

• pharmacists are required to have been qualified for at least 2 years to commence
  studies on a non-medical prescribing course

• a non-medical prescribing course is at least 26 weeks in length.

All of the pharmacists were qualified as independent pharmacist prescribers at the time of the
interviews. Some of the pharmacists however were early adopters of NMP, and as such had
initially qualified as supplementary pharmacist prescribers pre-2006. All of these pharmacists
later converted to independent prescriber status from the spring of 2006 onwards, as the
change in legislation allowed pharmacists to prescribe independently. The remaining
pharmacists, who began their programmes of study to become pharmacist prescribers post
2006, were able upon successful completion of the independent pharmacist prescriber programme, to register directly as independent prescribers.

The length of time between the participants initially qualifying as pharmacists and going on to qualify as pharmacist prescribers, ranged from eight to thirty two years. This time was dependent upon the age of the pharmacist when pharmacist prescribing was legislated in 2003, and when the pharmacist entered and successfully completed the necessary programme of study.

Over half of the 14 pharmacists (3 = England, 5 = Scotland) had previous or current experience as pharmacist prescribers in GP surgeries or primary care clinics. Another pharmacist had worked as a practice pharmacist in a GP surgery but not as a prescriber.

Four of the pharmacists (England =1 and Scotland = 3) initially set up their prescribing clinics in locations outside of a community pharmacy setting. Two of these, Alice and Freda, both planned to base their services initially in primary care clinics and to then relocate them into community pharmacies at a later date. This was planned to enable Alice and Freda to obtain relevant prescribing experience in their respective specialisms, within specialist multidisciplinary team settings, before increasing their autonomy as lone prescribers in a community pharmacy setting.

A third pharmacist, Grace, also commenced her NMP respiratory clinic outside of a community pharmacy setting, again in a GP surgery, with a plan to relocate the clinic into a community pharmacy setting when funding was able to be obtained. This was eventually secured via the Scottish Initiative, after which Grace was successful in relocating her NMP service into a community pharmacy setting. The fourth pharmacist, Harriet, by contrast, although also starting her prescribing clinic in a GP surgery, found herself made ‘redundant’, when the surgery, after merging with another, decided that they no longer needed her services, as they already had support from another pharmacist prescriber. Following support from the
local NHS board to unsuccessfully source another surgery requiring her services as a pharmacist prescriber, Harriet decided to recommence the service from within her community pharmacy.

4.2 Overview of Findings

The findings reported in the following sections describe the pharmacists’ own views and opinions of their experiences of providing successful community pharmacy based prescribing services. Quotes from their interviews are shown in italics within the text. The initial letter of the country from within which the pharmacist is delivering the service is given in brackets, after their pseudonym, to enable the quote to be read in context i.e. England (E), Scotland (S) and Wales (W). Quotes have been chosen in order to demonstrate the veracity of the findings and to better depict the depth of feeling of the participants views, by using their own words.

A number of main themes have emerged from analysis of the data and within these further subthemes have also been identified. These themes have been organised in Figure 2 to better demonstrate their position in relation to the chronological process followed by the pharmacists interviewed, as they conceptualised, initiated, developed and maintained their services.
Figure 2 Emerging Themes
Overall the resulting prescribing services were offered from a wide range of therapeutic areas and were based on either central or private funding models. As the pharmacists explained how they further developed their services, the subsequent theme of obtaining funding to support their services came into play, and a strong degree of interrelatedness appeared to emerge between the areas of prescribing and the funding models applied. In certain cases, this complex interaction was further compounded by the suggested influence of the pharmacist’s employer on the area of prescribing within which the pharmacists were permitted to deliver their NMP services.

Further interrelatedness permeated the findings as the theme of collaboration then emerged. This integrated itself into several of the other themes, including funding models, the therapeutic area of prescribing, and the opinions of the pharmacists on their perceived need or volition to access a patient’s records pre-prescribing episode, or to communicate the outcomes with the GP surgery post-prescribing episode.

The pharmacists went on to describe how they felt about their services once they had been established. Further themes emerged as the pharmacists explained the logistics of how their services operated on a day to day basis. On further questioning the pharmacists offered their opinions as to what factors they believed had enabled their services to succeed, and how they had overcome barriers and challenges to achieve this success. Finally, further emerging themes were identified as the pharmacists expressed their views about the sustainability of their services.
ENGLAND AND WALES

CENTRAL FUNDING
DOH

PRIVATE FUNDING

SCOTLAND

CENTRAL FUNDING
(SCOTTISH GOVERNMENT)

- Public Health
  - Substance Misuse
  - Long-Term Conditions
- Acute Conditions
- Travel Prophylaxis
- Influenza Vaccination

- Long-Term Conditions
- Public Health
  - Sexual Health
  - Smoking Cessation

Figure 3 Areas of Prescribing and Funding
4.3 Rationale for starting the service

Upon questioning the pharmacists gave varying rationales for initiating their individual NMP services. Most of the pharmacists based their rationale for initiating their services on more than one factor. Some of these factors were unique to one pharmacist whilst others were shared between pharmacists.

A desire to increase their job satisfaction was expressed by half of the pharmacists as a strong motivator for starting their prescribing services.

Well you spend such a long time at work you just want to make it interesting, that's all – Elizabeth (S).

Well I know that it sounds such a bit trite, but job satisfaction – Grace (S).

Another pharmacist, Ian, stated that an additional motivation for him was his aspiration for an increased clinical role, rather than a predominantly managerial career in community pharmacy.

I qualified (as a pharmacist) and fairly quickly I realised that I wanted a more clinical career than as a manager, and so I did an MSc in Community Pharmacy. I then did the prescribing course. I qualified in March.......and the service went live after Easter of this year – Ian (E).

Neil talked of a desire to stay abreast of his newly acquired field of practice as being one of the drivers for setting up his NMP service. He was determined not to lose these skills, and wished to maintain the competency that he had achieved upon qualification as a non-medical prescriber.

...if I go a year without prescribing then I won't probably feel comfortable going back there and I would have deskilled myself, decommissioned myself – Neil (E).

James and Brian, explained their shared belief that a change was needed within the types of services that were being offered by community pharmacists, if community pharmacies were to be more than just ‘dispensing factories’, or indeed survive altogether. This view appeared to influence their rationales for setting up their individual prescribing services.
...I always think, pharmacy will not survive unless we embrace other things, because you know, anyone can dispense a prescription. The clinical check will need to happen perhaps once, but after that, the repeatable prescription…a machine could dispense them – James (E).

Grace, one of the earliest adopters of pharmacist prescribing in Scotland, explained how after gaining a diploma in respiratory conditions and qualifying as a pharmacist independent prescriber, she was motivated to set up a pharmacist led respiratory clinic within the GP surgery where she worked. She described her motivation to do so from a desire to increase her job satisfaction. Moreover, of particular relevance to this study, was the fact that Grace rationalised that her motivation to then relocate this clinic into a community pharmacy, after funding became available, was to show that ‘it’ could be done.

The whole point of this when we started was to do it (NMP) in the shop, to prove that we could do it. That’s where we started out – Grace (S).

Furthermore, eight of the pharmacists interviewed explained how they had identified a perceived local need for community pharmacy based prescribing in their areas, and that this in turn had motivated and encouraged them to develop their services. Mike, based in England, described seeing patients after they had visited their GP for adjustment of their pain management medication. He felt strongly that their medicines could have been better managed by a pharmacist. He also explained how locally, patients had to wait three to six months for an out-patient appointment in secondary care. After being seen they then had to wait several more months before they saw the hospital specialist again.

If they didn’t get on with their medication what did they do? They went back to their GP and it was like going round in circles. For me there was something missing between the GP and secondary care. I have always felt that the pharmacist is the best healthcare professional placed to manage the medication of patients with chronic conditions; and so it seemed sensible for me to set up a pain clinic, and devise a model that I could use to actually write NHS prescriptions from a pharmacy setting – Mike (E).

Neil explained that in his semi-rural location in England, on one afternoon a week when the local GP surgery was closed, he would often see people with acute conditions that could not
obtain a GP appointment, but needed prompt treatment. When appointments were secured, they would frequently be up to two weeks later. He described having felt helpless, and wanted to help the people to access prescription only medicines such as antibiotics, in order to relieve their conditions.

I saw people with UTIs (Urinary Tract Infections) suffering and the solution was so simple. I had the stuff to help but couldn’t do nothing about it. That was the passion that led me, and I thought, I am just going to do it, and bring about a new service – Neil (E).

Liam, also based in a semi-rural location, but in Wales, explained how he too had identified a local need for a community pharmacy based prescribing service, for people with acute conditions or requiring travel prophylaxis. He explained that due to limited GP services in the semi-rural location, people often struggled to obtain timely GP appointments for acute conditions. Liam explained that as he had previous prescribing experience in a GP surgery and had clearly identified the need for a community pharmacy based acute conditions service, he was motivated to establish his service.

The need for immediate access to medicines to treat acute conditions motivated another pharmacist Ian, who explained how he had identified a need for a local community pharmacy based prescribing service for people with acute conditions. The local GP surgery, adjacent to a university and a children’s nursery, was a satellite practice with limited opening hours, especially out of term time. It appeared to Ian that university students and working parents, dropping off and picking up their children from the nursery, were ‘time poor’. As such he believed that they needed easier, faster access to flexible, drop in style health services, not based upon an appointment system. He explained how this rationale motivated him to commence his service.

After identifying a local need for better access to sexual health services, Freda, based in Scotland described being motivated to start up two community pharmacy based sexual health clinics. The first, in a busy city centre location, frequented by regular commuters who were
generating a large number of emergency hormonal contraception requests. The second, in a nearby but rural pharmacy, which was identified as supplying the highest number of emergency hormonal contraceptives via the NHS Scotland Public Health Service\textsuperscript{144} commissioned Emergency hormonal Contraception Service in the area.

Also as an extension to the NHS Scotland Public Health Service element of the Community Pharmacy Contract\textsuperscript{144} around smoking cessation, Craig, a pharmacist based in Scotland, was motivated to set up a smoking cessation service within his community pharmacy. He identified a need for the pharmacy based service when it became apparent that the local GP surgery was uninterested in providing this extended service themselves but it was in demand by the local population.

\textit{Mine is just an extension of the smoking cessation service that we do in Scotland, where we offer nicotine replacement therapy over a 12 week period. With what I have I place, I am able to prescribe varenicline to patients that are suitable for it. So that is all I do. The reason for that is the surgery we have has a lot of nurses doing diabetes, asthma, respiratory and stuff, so there wasn’t really a niche for smoking cessation there – Craig (S).}

As a pharmacist proprietor in England, James explained that his initial motivation to set up a community pharmacy based prescribing service was opportunistic. He described how he started by offering to prescribe privately for people who came into the pharmacy for advice and treatment concerning acute conditions and travel prophylaxis. James then expounded how his NMP service developed further, again opportunistically, following a discussion with a local GP, who had taught him on his non-medical prescribing course. This resulted in James extending his service to offer private prescribing of influenza vaccine to non-asthmatic siblings of children with asthma, in collaboration with the local surgery.

Health services in collaboration with community pharmacists have also been a motivator to establish a community pharmacy based NMP service. Alice, who provided a substance misuse service based in England, explained that the main driver behind the establishment of her clinic was her collaborative partner, the local drug and alcohol team (DAT).
The DAT actually highlighted that they wanted a non-medical pharmacist prescriber in substance misuse. Not all GPs see the patients. You have to be specially qualified and not all GPs want substance misusers coming to them, and so they were looking for more people. But it’s not ideal for people to always go to the actual drug treatment centres and so I am almost like a shared care doctor......... The DAT wanted me to be a prescriber and so there was already going to be some work for me there and then obviously they knew what I was doing and they wanted some form of pharmacy input onto their treatment services. So, they asked me if I would do some sessions for them – Alice (E).

Visions of business opportunities rather than patient focused drivers were described by two of the pharmacists as motivators to establishing their NMP services in community pharmacy settings. Elizabeth, a pharmacist proprietor based in Scotland, saw that as part of the Scottish community pharmacy contract a new Chronic Medication Service (CMS) was about to be introduced. A service concerned with supporting the pharmaceutical care of patients with long term conditions. Elizabeth felt that this was an opportunity to launch a community pharmacy based prescribing service in her pharmacy as an integrated part of the new CMS.

*We knew the CMS was coming, we knew that prescribing was coming and so I thought.... do the prescribing – Elizabeth (S).*

Kevin, based in England, had opened a pharmacy without an NHS community pharmacy contract. He explained how his rationale for commencing a NMP service was the need to expand the range of services offered by the pharmacy to maximise the income of the business and increase its financial viability.

*One thing that made me determined to do something here was because we did not have an NHS contract. We needed to effectively increase the services. We needed to show the fact that the pharmacy can generate money by upping the services we offer here – Kevin (E).*

Although not the proprietor of the pharmacy, Kevin had a high degree of autonomy in the management of the business of the pharmacy.

In summary, the majority of the pharmacists had decided upon the areas they wished to develop their NMP services within prior to obtaining funding. Most participants cited more than one reason for initiating their services. Over half of the pharmacists developed their
NMP services to address a perceived local need, whilst just under half established their NMP services to fulfil a desire to increase their job satisfaction, for an increased clinical role or to stay abreast of their newly acquired prescribing skills and maintain their professional development. A small number of pharmacists started their NMP services as they believed that diversification was needed in the sorts of services in order for community pharmacy to survive. Lastly two pharmacists initiated their NMP services in order to fulfil a business opportunity.

4.4 Funding

Lack of initial or uncertainty of continued funding may be viewed as one of the ‘barriers of entry’ to undertaking NMP in a community pharmacy setting. As reported in section 1.2.7.2.3, at the time of the interviews, central funding was available to support pharmacists in Scotland to set up and run their NMP services from community pharmacies, but not in England or Wales.

All of the pharmacists interviewed, regardless of location, raised the issue of funding and the impact that this had on their provision of NMP from within a community pharmacy setting. This was discussed either from the perspective of establishment, development or sustainability of the service. Two of the pharmacists (England = 1 and Scotland = 1) explained their decision to develop their NMP services after seeing funding opportunities, and then going on to think about what they could do with these. The majority (12) of the participants however had conceptualised their ideas for their NMP services before they had secured funding.

Six of the seven pharmacists based in Scotland were employees, and as such the central funding for delivering their NMP services was paid directly to their employers. These pharmacists in turn received their standard salary in the usual way, despite being prescribers. In contrast, Ian, Kevin, Neil and Liam were also all employee pharmacists based in England and Wales, but provided NMP services based on private funding models. The private income
from their NMP services was however also paid directly to their employers. The pharmacists again received their standard salaries from their employers.

The central funding for Alice’s substance misuse service was provided through the local DAT, who in turn remunerated Alice’s employers for her time. Alice again like the pharmacists above received her standard salary from her employers.

Mike, who had secured his funding from his local PCT as a QIPP pilot for his pain management clinic, delivered his service on his day off from his regular employer. Mike then directly received a separate salary for his one day a week spent working within his NMP clinic which had been costed into the budget for the pilot.

Elizabeth and James were pharmacist proprietors of their own pharmacy businesses. Elizabeth, in Scotland, received central funding for her NMP service whilst James’s, in England, was a private service. In both cases the monies received were paid directly to their businesses.

4.4.1 Pharmacists’ attitudes to funding

Overall, the challenge of overcoming the ‘barrier’ of funding appeared to be looked upon by most of the pharmacists with a positive attitude.

_The barriers aren’t barriers if you are meant to do it. The barriers are logistics_

- Freda (S).

Pharmacists based in Scotland focused more on discussing their feelings towards the continuation of their funding via the Scottish Government and the possibility of this ceasing, rather than the challenge of obtaining it in the first place. This was in contrast to the pharmacists interviewed based outside of Scotland, who focused more on offering their thoughts around the issue of actually obtaining funding and accessing a prescribing budget in the first place. A strong attitude of determination however was still conveyed by the
pharmacists based in England, as they described how they attempted to obtain funding to develop their services.

Mike, the pharmacist based in England who had secured central funding via the local PCT for a QIPP pilot, recounted how it had taken around 16 months and a large amount of tenacity to achieve success for his proposal from start to finish.

I wrote the proposal for that in July 2010. The whole thing took from 2010 to 2011 to get it all done and sorted. You know, clinical governance issues, patient consent, that sort of stuff. In the meantime I kept up my practice by attending various conferences, workshops and evening meetings. In fact, the consultant at the (NHS Trust name) pain team, I got quite friendly with, and I actually observed his clinic whilst I was training. But, in order to keep up, I went to almost all of the talks that he was invited to between those dates. I think he thought that I was a stalker really! – Mike (E).

In a contrasting scenario, Kevin, who offered his NMP service based solely on a model of private funding, explained how he was resolutely determined to develop his NMP service even without central funding.

We had to make it work. That was the reason why I embarked on that, because I just had to deliver. Because that was my project, my baby and I thought that there was value in that – Kevin (E).

4.4.2 Availability of funding

As stated above, at the time of the interviews, central funding to set up and support pharmacist prescribing from community pharmacies was available in Scotland. Most of the pharmacists, who were interviewed and were based in Scotland, were of the opinion that the availability of this funding, and access to a prescribing budget was key to the success of community pharmacy based NMP services in their country. One pharmacist Grace, in particular felt that funding was indeed the ‘bottom line’.

Well I would have to say the bottom line for the whole thing, never mind have I got a stethoscope and that sort of nonsense, is the funding. That is why we have been successful because we are funded - Grace (S).

Grace, an early adopter of NMP in Scotland, initially set up her respiratory clinic in a GP practice before central funding was available. Later, in 2005 as funding became available
through the Scottish Government Innitative, Grace successfully relocated her respiratory clinic into a community pharmacy.

In contrast, pharmacists based in England and Wales discussed their rationale of deciding to utilise privately funded models of NMP rather than attempt to seek out central funding in order to support the development of a NMP service. This was given particular reference in the economic climate at the time of the interviews, as the NHS in England was undergoing unprecedented restructuring. Four out of the six pharmacists interviewed, who were based in England, opted to establish a model focused on private funding rather than pursuing a centrally funded model.

*This is why I started it as a private service, because there was just no way it was going to be an NHS scheme at this stage, especially with the PCT’s dissolving* – Ian (E).

This decision to utilise private funding models in England and Wales was diametrically opposed to that of two pharmacists, Mike and Alice, who did succeed in securing central DOH funding in England. As discussed in section 4.1, Mike initially planned to run his NMP service from a hospital based pain management clinic, as a Pharmacist with Special Interest. However, he was forced to review his plans, when the funding for this was withdrawn before it even materialised. Mike was determined to see his vision through to fruition and so switched tack, to pursue other funding streams for his own pain management clinic based in a community pharmacy. Mike was innovative in nature and succeeded in obtaining funding through a QIPP initiative pilot from his local PCT and launched his NMP service.

*I have always felt that the pharmacist is the best healthcare professional placed to manage the medications of patients with chronic conditions; and so it seemed sensible to me to try to set up a pain clinic and devise a model that I could use to actually write NHS prescriptions from a [community] pharmacy setting* – Mike (E).

The second pharmacist, Alice, could be viewed to have been more in the right place at the right time in order to obtain central funding for her substance misuse clinic. The local DAT
team were aware of Alice’s special interest in substance misuse and on deciding to include a
pharmacist in the team, approached Alice and invited her to join them. Of note, both Mike’s
and Alice’s services have been developed since the restructuring of the NHS in England began
in 2010.

A further theme that emerged in the pursuit of funding was that of mentorship. Five of the
pharmacists based in Scotland, expounded on how they had been supported and mentored by
another pharmacist, as they attempted to establish their prescribing services and secure
funding. In four cases this was a pharmacist who already provided a prescribing service from a
community pharmacy, and was also a pharmacist ‘champion’, practicing in a strategic role
within the local NHS structure.

I started it (prescribing clinic) with help from (pharmacist name) who works for the Health Board.
Great guy, he’s a lovely guy. So he helped me get the ball rolling. He had already set something up for
himself – Craig (S).

4.4.3 Niche areas

Many of the pharmacist prescribers interviewed have overcome financial challenges in order
to achieve success with their prescribing services. Some had obtained, with innovation and
hard work, central funding to support their services. Others however had needed to identify
and utilise niche areas in which to advance their prescribing services. Niche areas that could be
exploited and a private funding model applied. These niche areas had been identified and
chosen as areas where patients would be prepared to pay privately for prescription medicines.

One such niche area, identified and utilised by two of the pharmacists, Kevin and Ian, both
based in England, was that of the provision of private prescribing services to local university
students and staff. The first, Kevin, as discussed in section 4.1, attempted to offer a rationale
for his service by explaining that he believed that students were often short on time, and
frequently wanted a faster and alternative route to accessing medication for acute conditions
than that provided via a traditional GP appointment system. Ian also expressed the belief that this ease of access to an alternative source of healthcare to address acute conditions was of particular importance for students, more commonly overseas students, who had not yet registered with a local surgery; and as such did not qualify for NHS services from the GP.

_They are students who don’t understand the fact that GPs can’t necessarily see them exactly when they want an appointment. They might come at lunchtime and are told...tomorrow morning and they are like...get a bit...don’t really understand the system – Ian (E)._  

A further similarity between the NMP services offered by Kevin and Ian was the range of medicines offered, which included not only treatment for acute conditions, but also for antimalarials and travel vaccines. Both pharmacists explained that they had found that both the students and staff of the universities were frequent travellers to overseas locations, often requiring antimalarials and/or vaccinations. Overseas travellers are not eligible to receive such medications on the NHS.

The private prescribing of medicines for the treatment of acute conditions was also identified as a niche area for three further pharmacists (England = 2 and Wales = 1). These were reportedly developed due to a need for access to treatment where there were also gaps in provision of GP services e.g. limited GP surgery opening hours in a rural location or at lunchtimes and weekends when the surgery was closed.

Lastly, as reported in section 4.3, James, described how he had developed a private influenza vaccination service, prescribing for children who were ineligible on the NHS to receive the influenza vaccine. These children were usually the non-asthmatic siblings of children with asthma. Adults ineligible on the NHS in England were also offered the service, but James explained that these were usually better served by a private patient group direction (PGD) which he also had in place. His continued engagement with the PGD permitted him to access regular training and continuing professional development opportunities provided by the supplier of the PGD. Children were not covered by the PGD.
4.5 Area of prescribing

Prescribing was seen from a broad range of therapeutic areas and included prescribing for travel prophylaxis, acute conditions, long-term conditions and public health services. Interrelatedness appeared to develop between the availability of funding; the therapeutic area within which the pharmacists prescribed; the influence of the pharmacists’ employers on the choice of therapeutic area and the degree of access to the patients’ GP records prior to the NMP consultation.

4.5.1 Availability of funding and impact on prescribing area

As discussed in the review of findings (Chapter 4), a degree of interrelatedness emerged during analysis of the data between the type and availability of funding, the area within which the pharmacists decided to prescribe, and ultimately the way in which these prescribing services were then delivered (Figure 2). In Scotland where central NHS funding was accessed by all of the pharmacists interviewed, each of the community pharmacy based NMP models were concerned with the management of long term conditions or public health services (Table 1). The two models in England that had secured central DOH funding also delivered a prescribing service around these two areas of long-term conditions and public health. The remainder of the pharmacists interviewed in England and Wales were providing NMP services without central funding by utilising private models to prescribe travel prophylaxis, influenza vaccinations and medicines for acute self-limiting conditions e.g. urinary tract infections.

4.5.2 Influence of employer on prescribing area

The influence of the pharmacist’s employer on the delivery and development of their prescribing service was also identified. One pharmacist in particular highlighted the issue of employer influence around the choice of prescribing area which appears to touch upon the
issues of funding and costs to deliver the service both in pharmacist time and resources. The pharmacist explained that her pharmacy multiple employers would only permit pharmacist prescribers to prescribe within the areas of contraception, substance misuse and smoking cessation. She thought that this was because prescribing services could be delivered to support these public health areas without the pharmacist needing to be absent from the pharmacy for long periods of time, and without the need for costly equipment.

*What can you do where you don’t have to spend the day in the doctor’s surgery researching the notes of the people you are going to see? What can you do that doesn’t require a lot of expensive equipment in the dispensary? If loads of people did COPD they would need a spirometer and they are a lot of money. These are things that take us out of.....I think the idea of pharmacist prescribing is that we would be doing it where we work* – Freda (S).

Two other pharmacists interviewed, also based in Scotland and working for the same pharmacy multiple, did however provide pharmacist prescribing services outside of the three areas listed. This may be due to the length of time since their clinics were begun. These NMP services delivered prescribing outside of the three areas described above were established when pharmacist prescribing was first introduced to the UK in 2005. The policy of the multiple, certainly at a regional level, had apparently since changed and the employer has become more restrictive on the areas of prescribing within which it permitted its employee pharmacists to start to prescribe.

In contrast, the pharmacist working for the same multiple in England did not suggest that any restriction on her chosen area of prescribing had been imposed by her employer. No explanation was offered during the interview as to why this discrepancy existed, other than the location of the pharmacy i.e. England as opposed to Scotland.

Furthermore, only pharmacists who worked for this one multiple appeared to be affected by this influence. Pharmacists who worked for another multiple or as an employee of independent pharmacies did not suggest any restrictions placed upon them by their employer.
Pharmacy name kind of insist that there are only two to three areas they will entertain us in; because they say “you can do other things if you want but you aren’t going to be able to prescribe”. Contraception, substance abuse and smoking cessation, but that is only people who can already prescribe who have added that (smoking cessation) in – Freda (S).

4.5.3 Access to patient records pre-prescribing episode

The previously identified interrelatedness appeared to extend to the therapeutic area of prescribing and the type of funding model to the degree of need or volition to access patient records by the pharmacist prescribers. As the pharmacists expounded their experiences of accessing patient records prior to prescribing, it became apparent that all five of the pharmacists who had prescribed for long-term conditions (substance misuse and pain management being also classed as long-term conditions) in England and Scotland, had accessed patient records prior to prescribing for a patient. As centrally accessible electronic patients’ records were not available for community pharmacists to access in England and Scotland, this was most often carried out by the pharmacist visiting the GP practice prior to the NMP clinic, to obtain the required patient information.

*What I do is I see my first patient at 9 o’clock at [place name], but at 7.45 in the morning, I look at them all, see who is coming and the surgery girls would print me off a copy of each patient’s notes………..I need to do all that first, make my notes and then I’ll go to the shop – Grace (S).*

Alice was able to access the records for her patients held by the DAT in their offices in the town centre near the pharmacy. This was relatively straightforward for Alice, albeit a little time consuming, but which she built into her timetable for the day of her clinic to do so. Alice was able to access the records held by the DAT for her patients but not those held by an individual patient’s GP surgery without explicit permission from the GP. Alice explained that this was usually not a problem, but told of one situation where she was informed by a new patient that they were on a withdrawal schedule involving diazepam prescribed by their GP. As Alice was taking over the prescribing for this patient around the patient’s substance misuse, it was important that Alice obtained the correct and accurate details of the diazepam dosing
schedule from the patient’s GP. Alice described how the GP surgery, despite having been asked, would not tell her the information she required. Ultimately, Alice explained that she decided to write to the GP to inform them that she was taking over the prescribing of the diazepam for the patient concerned and that they should no longer prescribe it. The required information was eventually obtained from the pharmacy dispensing the patient’s prescription.

Innovatively, Mike, who provided the pain management NMP service, described how this need to visit the surgery before and after each clinic session to access patient records was circumvented by the use of a laptop computer. The laptop provided remote secure internet access to the patient record system in the GP surgery.

Essentially what happens is that I am set up through what is called a community unit and that means that I am listed on the GP’s software at his end…..the idea is that they send me an e-mail and electronic notification that they have got a patient suitable for my clinic asking would I accept them? I send that back electronically saying yes and this gives me permission to share the record with that GP – Mike (E).

In contrast, none of the pharmacists interviewed who prescribed for non-long-term conditions in England, Scotland or Wales accessed the patient’s record before prescribing. Many of the pharmacists interviewed who prescribed in these areas were of the opinion that access to a patient's GP record was unnecessary. The pharmacists felt that it was sufficient for the pharmacist prescriber to conduct and document a thorough consultation.

Patients tell me what they do or they don’t. So what we do is to document them. One sheet of paper for my consultation which effectively highlights what I have said and what I didn’t. Side-effects discussed, medication discussed, range, recommendations and so on. Then I have this form which effectively covers all of the co-morbidities, allergies and everything else. If they say no, “I’ve got no...” for example “arrhythmia” that is no and so I have to rely on the patients. If they lie, they lie. I can’t help it – Kevin (E).

Some of the pharmacists likened this to the scenario in a walk-in centre, where a non-medical or a medical prescriber would prescribe for a patient based solely on information obtained from the patient during the consultation, again without having access to the patient’s full medical record. Most of the participants did however explain that they used a distinct set of
paperwork to document their consultation. At least four of the pharmacists including Alice, Brian, Craig and Grace explained how they still chose to use an unofficial ‘clinical management plan’ to structure and record their consultations despite being independent pharmacist prescribers.

4.6 Collaboration

The theme of collaboration emerged very strongly as the interviews progressed and appeared to integrate with many of the other emergent themes. Collaboration can be defined as ‘the action of working with someone to produce something’ and in this study the context was taken to be the collaboration of the pharmacist prescriber with other members of the healthcare team, as the pharmacist delivered their NMP service. Collaboration was explicitly discussed by ten of the pharmacists interviewed prescribing for long-term conditions and public health services (England =4 and Scotland = 6), with the collaborators being identified as GPs, the local DAT, the local sexual health clinic and the local smoking cessation team. In contrast, reference to collaboration was distinctly absent during interviews with the remaining two pharmacists Neil and Liam prescribing privately for acute conditions.

4.6.1 Degree of collaboration

The degree to which the participants collaborated was seen to extend across a broad spectrum, and ranged from complete integration of the pharmacist prescriber within the healthcare team, to collaboration as a ‘business arrangement’ or referral of clients to the NMP service by the collaborator; through to complete independence and autonomy of the pharmacist prescriber (Figure 4).
Very strong Collaboration
(Complete collaboration)

Strong Collaboration
(Partial collaboration via a formal business arrangement)

Weak collaboration
(Partial collaboration via a non-formal business arrangement)

No collaboration

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All participants could all be placed within this spectrum depending on the degree of collaboration described by them as they provided their NMP services. At the end of the spectrum demonstrating maximum collaboration was Alice, a fully integrated member of the DAT team. Alice’s NMP service was funded by DAT monies; prescriptions were funded through the DAT’s prescribing budget; Alice’s clients were referred to her by the DAT team; and she in turn communicated her prescribing decisions back to the DAT team via a shared client record.

I was an additional resource to make a more rounded DAT team and to bring pharmacy expertise into the whole thing – Alice (E).

Moving along the spectrum of collaboration is Mike. Mike demonstrated collaboration with a local GP in the form of a quite different business arrangement to all of the other participants. Mike’s business arrangement as discussed in section 4.1 was with a single GP practice through the framework of a QIPP pilot. Similar to Alice’s clinic, this worked by the GP selecting the patients that he felt were suitable to be referred to Mike’s pharmacy based pain management clinic. After the patient’s consultation Mike then communicated his prescribing decisions back to the GP by recording these remotely on the patient’s computerised GP based clinical record, which the GP had granted Mike access to. Once again the medication prescribed by Mike was
funded via the GP's prescribing budget. This collaborative arrangement appeared to work well. So much so that Mike explained that locally other GPs had also expressed the desire to be able to refer their patients to his clinics. However due to the limitations of the pilot this was not possible at that time. However, despite collaborating solely with one GP practice and having all of his patients referred to him via the practice, Mike did not appear to be as integrated within the practice ‘team’ as Alice was within the DAT. This could have been due to the fact that Mike’s NMP service had been running for a comparatively shorter period of time than that of Alice and that Mike’s service was a pilot scheme with a set lifespan. Mike’s service was initiated by Mike himself, whereas Alice’s service was initiated by the DAT.

*I devised the inclusion criteria (for the pilot) through consultation with both of the GPs who I have worked closely with to get this going. They have been very supportive – Mike (E).*

Next, demonstrating collaboration through formal ‘business arrangements’, but not as integrated members of a ‘team’ with their collaborators were the seven pharmacist prescribers based in Scotland. Six of these discussed their strong collaboration with local GPs as part of the Scottish Government’s Joint Working Initiative, discussed earlier in section 4.1. These pharmacists were required to form an alliance with a GP practice in order to be considered as part of the Initiative. The GP practice would then refer patients to the community pharmacist to be assessed and to receive if necessary, a prescription. Brian explained that the Health Care Assistants as well as the GPs and practice nurses from the local GP practice referred patients into his NMP service. This referral system was often quite extensive, with the GP practice facilitating the referral process by providing administrative support.

*I also think it (collaboration with GP practice) has worked well because of the girl that does the chronic conditions in the surgery. She is very on top of getting the patients in. She is good at organising and sending letters to getting the patients in. They get another letter that week if they don’t come in and so they are really well followed up to make sure they want to come – Harriet (S).*

Unlike her Scottish counterparts, Freda, the seventh participant based in Scotland formed her collaboration not with a GP but with a sexual health clinic. Freda’s NMP service prescribing
oral contraception was in fact underpinned and funded by a local sexual health initiative scheme, between her pharmacy and the local health board. As such, although Freda’s service was not part of the Scottish Government’s Joint Working Initiative, a formal ‘business arrangement’ was in place with the health board. In addition to her own self-referred clients, the local sexual health clinic could direct clients to Freda’s service if a timely or convenient appointment had not been able to have been provided by the clinic.

In contrast to Alice, the seven participants described above were not reliant on the referral of patients to them by their collaborator. These pharmacists were also able to identify and self-select potential patients to whom to offer their NMP services, as long as those patients were registered with the relevant GP surgery. Or, as in the case of the sexual health NMP service offered by Freda, any patient registered with a GP in the UK could also self-refer.

Progressing across the spectrum, a more informal business arrangement was seen with James whom demonstrated collaboration with two local GP surgeries via a very different model to the other participants. Children who were patients of the two specific GPs whose parents wished them to be vaccinated with the influenza vaccine, but who were ineligible to receive it on the NHS, were referred to James by the GP. James would then prescribe and supply the vaccine on a private basis, and the child sent on to the other GP practice with the vaccine, to have it administered privately by the practice nurse there. Thus circumventing the need for the GP practices to breach their NHS contracts by providing private services to ineligible NHS patients, as at the time of the interview private prescriptions were not permitted to be issued for influenza vaccine within any part of NHS commissioned care.

One of the doctors walked in to the pharmacy and said, “I hear you have some flu vaccine in stock. Can you put one by for my friend?” I said, “I can’t do that, but if you write her a private prescription I will do it for you now”. Then she said, “You are a prescriber, why don’t you prescribe for children?” I said “I haven’t done any research on it” and she said “You should. If you were to prescribe for the children we could send you our patients and then we’ll vaccinate them. As we can’t charge I will ask them to make a contribution to my daughter’s charity or something like that”. – James (E).
This arrangement raised issues regarding a conflict of interests as James being both prescriber and supplier of the vaccine, however these will be further explored in section 5.5.2.2.

Moving across the spectrum to a lesser degree of collaboration are Kevin and Ian. Kevin explained how he had collaborated with a GP practice adjacent to his pharmacy during the provision of his NMP service. Again this collaboration was based on an informal referral system, where the GP surgery referred patients to Kevin for the private prescribing of antimalarials and travel vaccinations. Although the practice was permitted under its NHS contract to prescribe such items where appropriate, the surgery was a small satellite branch based on the university campus, and as such had a limited availability of appointments. The surgery preferred to allocate these to patients who required seeing a GP for more urgent health concerns than travel prophylaxis.

Ian’s pharmacy, similar to Kevin’s, was also located near to a university campus and adjacent to a satellite GP surgery with limited opening hours. Again, this was of particular relevance outside of ‘term time’. Ian described the fact that the GP receptionists were aware of the NMP service he provided for acute conditions, and as such referred patients to him if the surgery had been unable to offer a timely or convenient appointment with a GP.

At the opposite end of the spectrum of collaboration, neither Neil nor Liam offered any indication that they had collaborated with the wider healthcare team in the provision of their NMP services. Both participants offered NMP services for acute conditions and malaria prophylaxis, and were of the opinion that these areas of healthcare were autonomous, and completely independent of the wider healthcare team. As such, both Neil and Liam felt that there was no need for them to collaborate in order to provide their NMP services.
Because the practice have a great deal of difficulty allocating appointments to patients, sometimes they have to wait two weeks, sometimes they would just rather shoot in here first. I get a lot of OTC enquiries in that respect. For example today the doctors closed at 11am…..On a day like today, there is a very high chance that if I saw someone and I felt that they warranted, let's say an infection of the skin, and a course of flucloxacillin would benefit; then it would be something I would suggest. And, if they wanted to, I would do that on a private basis. – Liam (E).

4.6.2 Benefits of collaboration

Several benefits of collaboration between the pharmacists and their collaborators began to emerge as the interviews progressed. Benefits appeared often to be of a reciprocal nature between the community pharmacy delivering the NMP service and the collaborator.

4.6.2.1 Funding

A recurring theme that appeared to mesh very strongly with collaboration in this context was funding. Nine of the 14 pharmacists interviewed (all with central funding, both England and Scotland) explained that it was through their collaboration with the wider healthcare team, that they had either directly or indirectly secured funding. Indeed, this collaboration appeared to be in certain cases an almost ‘make or break’ factor. Grace and Harriet talked of the disruption to, and even the dissolution of, NMP services previously ran by them, due to the merging and relocating of their GP surgery collaborators and the consequent loss of funding.

As outlined in section 4.1, both Alice and Mike both obtained their funding through innovative means. Alice by collaboration with the local DAT and Mike through collaboration with a GP surgery to pilot a community pharmacy based pain management clinic. Both Alice and Mike opted to utilise centrally funded models of NMP rather than to consider private funding for their clinics. The topic area appeared to drive this decision, as the users of these services, both substance misuse and pain management, were more likely to want to access such services with NHS or DOH funding. Consideration did not appear to have been given to entering into a collaborative arrangement on a private basis. Collaboration therefore for Alice and Mike was a strong enabler for them to succeed in establishing their NMP services. Alice
and Mike’s collaboration with the wider healthcare team also provided access to prescribing budgets to fund the medicines prescribed after the initial set up costs.

All seven pharmacists interviewed who were based in Scotland had received central funding, as detailed in section 4.1. Collaboration with a GP surgery had been required for four of these pharmacists to successfully receive central funds to set up their NMP services, whilst the GPs’ prescribing budgets funded the cost of the medicines prescribed. In contrast, Freda’s source of funding for her NMP clinics came from her collaboration with the local health board rather than with a GP. Finally, Deborah and Elizabeth, who worked within the same independent pharmacy, received the funding for their smoking cessation clinics through collaboration with a local NHS smoking cessation organisation.

Well, what happens is, I actually use my mobile and when the smoking cessation advisor is just about near the end of his consultation he texts me and it bings. Then, I come in here and I sign the prescription and so the person leaves the consultation room with a signed prescription. I see every single person, because the advisor will bring me through… If it’s a new patient he will text me and I’ll come through, check what other medication they are taking, chat to them for a while, sign their prescription and then they go. – Deborah (S)

4.6.2.2 Footfall

Increased footfall was suggested as a benefit of collaboration by some of the pharmacists. Ian, James and Kevin, providers of privately funded NMP services, were engaged in weak collaboration with the wider healthcare team and did not receive any direct funding due to their collaborations. The pharmacy businesses of all three pharmacists were suggested however to have benefited financially from the collaboration, due to the increased number of patients accessing their private NMP services having referred to them by the GP Surgery. This resulted in an increased footfall into their pharmacies which it was proposed may have increased pharmacy sales and the number of prescriptions dispensed.
Well, I mean for me that is the beauty of the model because it means that there is a model in place which allows a pharmacist prescriber to run a clinic and there are benefits to everybody, the patients, the GP and of course the store, the pharmacy that actually has the clinic. They (the pharmacy) don’t need to be paid to run the service because they are going to get the benefit of the scripts and the footfall – Mike (E).

4.6.2.3 Quality Outcomes Framework (QOF) Remuneration

Several of the pharmacists interviewed offered how, in their opinions, GP collaborators also benefited from the collaborative arrangements. Five of the pharmacists based in Scotland who engaged in collaboration with GP surgeries, explained how, as a result of their NMP services, they had been able to collect information required by the patient’s GP e.g. smoking status or current blood pressure. This information had then been added into the patient’s clinical record at the surgery and had contributed to the points ‘earned’ by the GP for their QOF. This in turn enhanced the financial remuneration received by the practice from the NHS.

4.6.2.4 Benefits ‘in kind’

Benefits ‘in kind’ were cited by two of the pharmacists in the study to have been achieved due to collaboration with other healthcare professionals. Alice and Mike explained how the consultation rooms in their pharmacies, where they provided their NMP services, had been upgraded via funding from their collaborative partners. Alice’s consultation room was installed in her pharmacy by the National Treatment Agency (NTA). The NTA was a special NHS health authority in England (but became part of Public Health England on 1st April 2013) and was responsible for the allocation of central funding to services that support drug misusers to withdraw from drugs of abuse, such as the local DATs.

After having delivered his NMP service for a period of several months, the consultation room in Mike’s Pharmacy used by him to deliver his service, was upgraded by the local PCT. As explained earlier in section 4.1, the PCT had initially provided the funding for Mike to set up and run his pilot pain management NMP service. The consultation room was used by Mike,
but after the upgrade was also intended to be used by the wider healthcare team such as physiotherapists, nurses and dieticians employed by the PCT.

4.6.2.5 Provision of non-NHS services

James described how his NMP service was based on the private prescribing of influenza vaccinations for the siblings of children with asthma, ineligible to receive the vaccination through the NHS (described in detail in section 4.4.3). This had been the idea of a GP from the local surgery who had approached James with the concept. The GP surgery in turn had also benefited from the collaboration, as the provision of the vaccine via James’s NMP service was a solution to a long term problem the GP practice had up until now been unable to address, due to conflicts with their NHS contractual obligations.

*Yes, they are very happy. It helps them because they have always been faced with this problem for years now and they have a solution to it and so they are quite happy* – James (E).

4.6.2.6 Communication

Alice, in collaboration with the local DAT, explained that as she was a pharmacist, her ability to communicate with other community pharmacists regarding DAT clients was greater than if she had not been a pharmacist herself. In addition, Alice felt that other community pharmacists felt more at ease talking to her regarding DAT clients because she was a pharmacist, when asking for advice, or querying a prescription from the DAT team.

*The other thing is, if there is a query or a problem, because I speak the pharmacist language, often my DAT colleagues will ask me to phone the community pharmacist. Which, I am quite happy to do....., because I know the right questions to get the right information* – Alice (E).

Alice also felt that this facilitated communication was often reciprocated.

*Actually, the DAT nurses will sometimes phone the hospitals for me, because they know how to. When a nurse says whatever a nurse is, sometimes I don’t know what that means, but they know what they do, and they can talk nurse language* – Alice (E).
Alice was also of the opinion, that working as an integrated member of the DAT team had encouraged better communication between the DAT nurses and other local community pharmacists. The suggestion was inferred that the care of substance misuse clients across the primary and tertiary care interface was thus improved.

The other thing is, working with the DAT nurses here in (place name); they actually phone pharmacists up more than before I went there. Like if somebody was on daily supervised methadone and wasn’t coming in for his appointments, the nurse was saying, “oh my goodness, I don’t know if he is dead or whatever”. I said, “Have you phoned the pharmacist to see if he has been in to pick up? Or asked the pharmacist to give him a message?” So now I am often hearing, whereas I used to say “have you phoned the pharmacist?” Now I am hearing, “Oh, I’ll give so and so a ring” – Alice (E).

It has also to be noted however, that despite such a positive experience of collaboration, Alice also described feeling a sense of conflict at times in her role as a member of the DAT team when responding to the actions of another community pharmacist. Alice explained that this was usually overcome by talking the ‘problem’ through with the community pharmacist.

It can be very awkward because I am quite passionate about pharmacy and so sometimes I have to sort of step back and say “is this pharmacist in the right or not?” But although I do quite a bit of standing up for pharmacists, I quite upset when pharmacists don’t do what they should have done. I find that quite, almost personal really.... but then I will talk to that pharmacist, and ask them why they did what they did – Alice (E).

In summary, the benefits of collaboration were varied and were able to be applied to one or both of the collaborators. These benefits were able to be categorised as either ‘hard’ benefits of a pecuniary or nature or as ‘soft’ benefits focused around communication and those of an emotive nature. ‘Hard’ benefits included: funding; increased footfall for the pharmacy business; contribution to the QOF for the GP practice and benefits in kind such as upgraded consultation rooms for the community pharmacy. ‘Soft’ benefits included: the enablement of the GP surgery to deliver non-NHS services and increased communication between the collaborators.
4.6.3 Communication with collaborators post prescribing episode

Communication by the pharmacist prescribers with their collaborators post prescribing did not necessarily involve direct communication with an individual e.g. a GP, but rather with an organisation such as a GP surgery. Whilst the therapeutic area within which the pharmacists prescribed appeared to influence the degree of and need for access to a patient’s records before a prescribing episode (Section 4.5.3), the actual act of communication of the outcome of the prescribing episode to the patient’s records by the pharmacist prescriber appeared to mesh very strongly with the theme of collaboration.

All pharmacists in Scotland, regardless of therapeutic area, and Alice and Mike in England, who prescribed for patients for long-term conditions, communicated their prescribing outcomes to the patient’s GP surgery. The pharmacists interviewed from Scotland who were engaged with the Scottish Government’s Joint Working Initiative were required to “Keep accurate, legible, unambiguous and contemporaneous records of a patient’s care. Information on prescribing and any other relevant details resulting from a patient consultation with a Pharmacist Independent Prescriber must be entered into the shared patient record immediately, or as soon as possible.”

This communication was usually in the form of a letter or management plan. The contents of which, with the patient’s consent, were delivered to the GP surgery via fax, post or secure e-mail, or by the pharmacist prescriber, visiting the GP and uploading the outcome of the consultation onto the patient record system. All methods increased the time commitment of the pharmacist to the service, as all of the pharmacists apart from one reported completing this activity themselves. One pharmacist explained why she preferred to input the data herself.

*I prefer to put it on myself because I make notes about the patients as well, things I want to remember and I like to know that it is all done – Harriet (S).*
Deborah, Elizabeth and Freda had no need to communicate in this way with their collaborators, as their collaboration was not with a GP surgery. As outlined earlier, their collaboration was with the local NHS smoking cessation organisation and local Health Board. All three pharmacists still chose however to communicate the outcomes of their prescribing episodes with each patient’s GP surgery.

In contrast, only two of the five pharmacists based in England and Wales, (Ian and James, who prescribed privately for acute conditions, travel prophylaxis and influenza vaccination) communicated the outcomes of their consultations and prescribing decisions to the patient’s GP practice. James conducted private influenza vaccination clinics whilst also prescribing for acute conditions and malaria prophylaxis. James’s only collaboration with the GP practice as explained in section 4.6.1, was regarding his prescribing of influenza vaccine. James did however communicate the outcomes of all of his prescribing episodes, regardless of therapeutic area, to each patient’s GP surgery. James explained how he had attempted to rationalise his time spent on this process by arranging to send a list of relevant patients to the GP surgery at the end of the vaccination season, rather than after every prescribing episode unlike for the other areas he prescribed in.

*I write a letter to the GP to say “I’ve seen this patient for malaria prophylaxis. I have prescribed X. If you have any query about the prescription please do not hesitate to contact me”. They never do, but the flu vaccination because it was two surgeries, we’ve agreed that at the end of the season I will write them a letter and say here are the people that I saw this season, so they (GP practices) can just record it – James (E).*

Ian also prescribed privately for acute conditions, and despite not being in collaboration with the GP surgery, still communicated the outcomes of his prescribing episodes to them. In contrast, the three other participants, Kevin, Liam and Neil, who were delivering private NMP services for acute conditions and malaria prophylaxis, did not feel that it was necessary for them to communicate the outcomes of their prescribing episodes to GP surgeries at all. The three pharmacists rationalised their shared opinion by explaining that prescribing for acute
conditions and malaria prophylaxis involved only short, one off courses of treatment. They reasoned as long as a thorough consultation was carried out before the decision to prescribe was made, the outcomes would be of no interest to the patient’s GP. Neil suggested that in his opinion some GPs would ignore the relayed information anyway.

_I have seen it in practice when I have been working on the GP side of things. When MUR forms come in for example, some of them (GP practices) are quite good and will scan it (the information) and put it into a patient’s notes. Others just dump it. I do always look for allergies as part of my consultation. I have very good patient records which also helps me a great deal. But no, I don’t pass it (the prescribing outcome) over to the GP – Neil (E)._ 

A relationship appeared to manifest, and suggested that where collaboration existed regardless of therapeutic area or funding model, this fostered the action of the pharmacist to communicate the outcomes of the prescribing episode to the patient’s GP. Where there was no collaboration there was no communication of the prescribing information at all to the GP surgeries.

4.7 Factors contributing to success

Several factors appeared to contribute to the success of the NMP services, not least of all collaboration, as discussed above in section 4.6. During interview however, the opinions of the participants were sought as to what factors they believed had contributed to the success of their prescribing services and enabled them to succeed. Some pharmacists offered a single answer to this question, however most suggested at least two factors that they felt had contributed to the success of their NMP services.

4.7.1 Positive factors

Several positive factors were suggested by the participants to have played a key role in determining the success of their NMP services.
4.7.1.1 ‘Good relationship’ with GP practice

The most frequent reply that emerged from pharmacists in answer to the question of what they thought facilitated the success of their NMP services was that of a need for a ‘good relationship’ with their local GP surgery. A relationship can be defined as ‘the way in which two or more people or groups regard and behave towards each other’.\cite{footnote1} During the interviews ‘relationships’ were regarded in the context of this definition and were considered distinctly different from collaboration as defined in section 4.6.

Several of the pharmacists cited a ‘good relationship’ as being the most important factor in the success of their prescribing services regardless of the country within they were based.

*I think it is the support of the GPs in referring (patients) to you, providing a good service and then word of mouth* – Deborah (S).

*You have to know your surgery or you are dead in the water* – Grace (S).

James, based in England, explained his belief that cooperation with the local GP surgery was vital, and suggested this to be the main reason for the success of his NMP service. James felt that his relationship with the local GP surgery was ‘good’ by the fact that the GP had not obstructed his NMP service and referred patients to him.

*No GP has ever said “what on earth are you doing?” Equally no GP has ever said “thank you for your help” either* – James (E)

Furthermore, James also offered his opinion that pharmacist prescribing services based in community pharmacies raised the profile of community pharmacists whilst increasing their credibility with the local general practitioners and patients alike.

*I think it (the prescribing service) gives us the edge and also it actually gives us a lot of credibility with our GP colleagues.....too many times we are just dispensers here, but we do more. I think we have gained a lot of credibility in people’s eyes, especially those that have used the service* – James (E).
Alice also stated that one of the factors contributing to the success of her NMP service was a ‘good relationship’ with her collaborator, the DAT. Alice explained how the DAT had facilitated the successful establishment of her NMP service and supported her in the setting up and delivery of her NMP service.

The DAT needed it, wanted it. If the DAT hadn’t supported me I don’t think I would have got anywhere. In (place name) we are trying to do the same, but the PCT kept putting barriers up. They keep saying they want it but with the red tape it doesn’t work. The DAT just went through the red tape – Alice (E).

At the time of the interview however, although being qualified as an independent prescriber, Alice was prescribing as a supplementary prescriber within a clinical management plan. This was due to the fact that at the time of the interview, pharmacist prescribers were not permitted to prescribe controlled drugs (CDs) independently. Due to the nature of substance misuse, a majority of Alice’s prescriptions were for CDs. However, Alice felt that even if the legislation was to change to permit her to prescribe CDs independently, the DAT doctor would still prefer her continue to prescribe as a supplementary prescriber.

I am not sure that the doctors would want me to prescribe without a clinical management plan, even though I have said that the doctors are quite good with me, well excellent really. I think that it (prescribing CDs independently) may be a step too far. I am not 100% sure, because then they would have absolutely no control – Alice (E).

Alice went on to explain, that in the event of a change in legislation allowing her to prescribe CDs independently, she was happy to continue prescribing them as a supplementary prescriber in order to maintain the status quo and ‘good relationship’ with the DAT team.

Craig also credits a ‘good relationship’ with the local GP surgery as contributing to the success of his NMP service. He recounted a situation with a patient who attended his smoking cessation clinic, where the patient became irate when Craig refused to prescribe a further supply of Champix® beyond the recommended length of treatment. He told how the patient
went to the GP surgery to complain about Craig, but the GP supported Craig’s decision and backed him up. Craig explained that this had made him feel supported by the GP, and was evidence of his ‘good relationship’ with the surgery.

She changed pharmacy and made a big fuss about it. I spoke to the doctor because I knew she’d make a fuss. I phoned up and said “here’s the situation...” and he said “yeah, I’ll back you up because I think you’ve been absolutely right in what you did” - Craig (S).

Deborah offered her belief that it made a difference in the attitude of the GP surgery towards the pharmacist and ultimately the quality of the relationship, on whether the pharmacist worked for an independent or a multiple pharmacy.

It is better towards the independent pharmacies as they (the GPs) see a bit of leeway, a bit of give and take – Deborah (S).

4.7.1.2 Quality of patient experience

The quality of the ‘patient experience’ for users of the NMP services was also perceived as being important to the success of their NMP services by five of the pharmacists interviewed. All of these pharmacists believed that it was the increased quantity and quality of time that was spent with the patients by the pharmacist prescriber, compared to GPs that contributed to the success of their pharmacy based NMP services.

So, if you had to say one or two things that have made it (the NMP service) successful, what would they be? – Interviewer.

I think it is time actually. The quality of the time and the (place name) people are lovely friendly people who like to have a chat you know – Harriet (S).

The participants described that they felt that being approachable and non-judgemental was essential to ensure that patients returned to them for future consultations. It was also deemed important by the participants that patients were able to ask questions of them during the consultation. Overall, the pharmacists reiterated that it was essential that a ‘good service’ was
provided by them to ensure that their NMP service was viewed in a positive light when it was subsequently marketed via patients’ word of mouth.

The fact that they (patients) can spend a bit more time with the pharmacist prescriber and are able to ask questions; because I think that consultations with the GP are quite rushed. I think that a pharmacist prescriber definitely improves patient understanding. Obviously we are more accessible as pharmacists. GPs are accessible as well, but it is harder to get a GP appointment – Brian (S).

Alice reiterated the perceived connection between a good ‘patient experience’ and word of mouth. She explained how some of the patients who attended her substance misuse clinic had asked if their friends could also access her community pharmacy based NMP service, in preference to going to the main DAT clinic. Deborah also stressed her opinion that a good ‘patient experience’ increased the chance of a patient choosing to access her sexual health clinic again in the future.

You can put up as many posters as you like, but if they (patients) have a good experience then they are going to come back – Deborah (S).

James explained that many of his customers had told him that they preferred to come and see him rather than go to their GP as they felt that they received more explanation about their condition. James explained that his influenza vaccination service had become more popular each year, attracting increasing numbers of clients.

I have received very good feedback with more and more people discovering us every year. They say “if I had known that you did this (influenza vaccination) before…” So yes, very good feedback – James (E).

Mike also reported on the positive feedback that he had received from the patients attending his pain management clinic.

The patients have responded really well......so they were keen to be involved and they have all been very supportive, saying “You know I am glad I have come here and not to the pain clinic.” One of them even said “You actually listen to me and talk to me, rather than just fob me off” –Mike (E).

Convenience and accessibility to NMP services were also believed to be important to patients by four of the participants. The same pharmacists explained that through their NMP services
patients received expedited access to prescription medicines, without the need to wait for an appointment with a GP, or the need to travel a significant distance. The pharmacists went on to state that in their opinion, this ease of access contributed to the success of their NMP services.

_It (prescribing service) is successful because it’s accessible isn’t it? The patients don’t have to see a doctor, which in this day and age it’s all about speed isn’t it really? – Ian (E)._ 

_I think it is the location in the shop. There is no doctor’s surgery and sometimes they (the patients) have to travel to (place name) and see the nurse. So, having it (the NMP service) in the shop they (the patients) quite like it – Harriet (S)._ 

During the interviews the relationship between the participants and the patients appeared to foster reciprocity of a positive nature. When a positive ‘patient experience’ was perceived by the pharmacist to have occurred, the job satisfaction of the pharmacist seemed to also increase.

### 4.7.1.3 Availability of funding

The availability of funding was also proffered by a majority of the participants based in Scotland as a determining factor in the success of their NMP services. This was reported previously in section 4.4.

### 4.7.1.4 Strong pharmacist motivation

Several of the participants reasoned that it was their motivation and they themselves that had assured the success of their prescribing services. They described how they were sure that it was their persistence, determination and drive to develop and maintain their services that had brought about their success.

_It is me because I drive it forward. I have pushed it forward. I drive it, because if I don’t use something that I have learnt then why did I learn it? – Neil (E)._
During interview, all of the participants exhibited strong positive attitudes and great enthusiasm for their prescribing services. Most reported either ‘enjoying’ or ‘loving’ their prescribing role and one described it as a ‘passion’. Alice explained how becoming a non-medical prescriber had changed the way she thought, and that since qualifying she felt that she had actually become a different pharmacist.

* I always thought that I was good at communicating anyway, but I looked at things differently and did find that it (the NMP course) developed me quite a lot. I thought that I was reflective but I wasn’t. Being able to prescribe has made me think differently about things. I am very proud that I can prescribe and that other pharmacists can and I am keen to bring them on board – Alice (E).*

Grace described feeling ‘proud’ of her achievement of being a pharmacist prescriber and of setting up a community pharmacy based prescribing service. Grace, like Alice, talked of her enthusiasm to encourage and help other pharmacists to develop similar services.

### 4.7.2 Negative factors

Several factors were cited by the participants as barriers or challenges that were required to be overcome by them in order to facilitate the initiation and development of their NMP services.

#### 4.7.2.1 Difficult relationships with nurses

The participants frequently reflected on their relationships with nurses based in the local GP surgery or in the case of Alice and Freda, the local DAT and the local sexual health clinic respectively.

Alice explained, as reported in section 4.6.2.6, that she believed the collaborative arrangement between herself and the DAT had served to improve relationships not only between her and the DAT nurses, but also between them and the local community pharmacists. However, despite the fact that the DAT had “needed and wanted” Alice’s community pharmacy NMP service, she explained, that even as a fully integrated member of the DAT, some of the DAT nurses had remained reluctant to share their clients with her. Alice went on to explain how
this issue was overcome by the intervention of the DAT doctor, who in turn would allocate clients to the members of the team, according to client suitability to that particular team member.

She (the DAT doctor) has been working in (place name) for years. They (the substance misuse clients) all know her and she knows them. She can look at somebody and say if they are suitable to see me. Somebody else might say a certain client is suitable for me, but when she (the DAT doctor) looks at it she says “no because he (the patient) can go off on one”. She comes here to see the clients, she knows what room I am in, she knows. So, if she says I can see somebody I am happy, and if she says no then I think she probably has a good reason – Alice (E).

Alice explained that when she initially joined the DAT, there were some nurse colleagues who did not believe that she contributed to the team at all. However, overtime the nurses did begin to accept her, as they appreciated the pharmaceutical knowledge Alice brought to the team.

I work with some nurses in the DAT and they are brilliant. Yet I work with some and they just won’t have me. They think that I don’t know anything. After a while, some did start realising that I actually did know a lot more than they did in certain areas and started to ask for help – Alice (E).

James explained that the GP practice local to his pharmacy already had a nurse prescriber, and he therefore believed that the practice understood and accepted the concept of non-medical prescribing. In addition, he reasoned that as he actually did very little prescribing in comparison to the GP practice, the practice did not see his prescribing as a problem for them. James also had the collaborative arrangement with the GP practice which one could suppose would strengthen the relationship with the practice.

Craig explained how he delivered his smoking cessation NMP service also without encroaching on the nurse prescriber in the local GP practice.

Here we have a practice nurse who specialises in respiratory and she has made it very clear that she doesn’t want me involved in that. I send her patients and she is happy to refer all smoking cessation clients to me. We have a working thing now. I am savvy. I don’t rock the boat – Craig (S).
4.7.2.2 Lack of support from primary care organisations

The degree of support received for NMP services from local primary care organisations such as PCTs or health boards (depending on whether the pharmacist was based in England or Scotland) was discussed by some of the participants. Alice, as outlined previously (Section 4.7.1.1) felt that the local PCT had placed large amounts of red tape in her way, as she struggled to initiate her NMP service. She went further to intimate that the success of her service was ultimately down to the local DAT, who cut through the red tape. James explained that he felt that his local PCT were very critical of community pharmacy in his location, and did not “like it when we go outside of the NHS”. James’s NMP services circumvented this barrier by adopting a private funding model. Similarly Kevin felt that he had been let down by his local PCT, who he believed had made promises regarding supporting his NMP service, and then failed to adhere to these, citing NHS reform as their reason for reneging. Kevin had also adopted a private funding model to overcome this barrier.

4.7.2.3 Lack of support from employers

As outlined in section 4.5.2, Freda spoke of the restriction placed upon her to only prescribe within particular therapeutic areas. Freda explained that she complied with this condition in order to be able to deliver a NMP service. However, Freda also explained how she now felt more valued as a pharmacist prescriber by her employer.

Freda explained that prior to offering a prescribing service, although liking being a pharmacist; she did not like “all of the buy one get one free that goes with it”. She went further to explain that she had felt judged by her employers as to how good a pharmacist she was by how many people she had encouraged to sign up for a particular service in a week. She believed that as a pharmacist prescriber she was now recognised and valued more highly by her employer.

…in terms of prescribing being recognised by pharmacist bosses, they recognise it and like they want to hold on to prescribers, they are all for this and it is the future – Freda (S).
Harriet is also employed by the same multiple as Freda and explained how she found her pharmacy manager very supportive regarding her NMP service. However, Harriet felt that this was because the pharmacy received the central funding for Harriet’s NMP service which her manager wished to access as additional income for the business. Harriet felt that while the funding was available she would be allowed to continue with her NMP service.

Alice, who works for the same multiple pharmacy albeit in England, explained that her line manager was very “pro pharmacy” and that her regional manager was also very supportive, but any higher in the management hierarchy she felt that her role as a pharmacist prescriber was not supported. Alice explained that she took the approach of keeping a low profile with her employer in the hope that she would be “left alone” to continue delivering her NMP service.

_I keep my head down. The region is very proud of me and they keep me going, but we’ll see. My line manager says “just get on with it” – Alice (E)._

Mike, who works for a different multiple in England, rationalised the uncertainty he met from his employers when he outlined his plans to commence the QIPP pilot as a community pharmacy based NMP service. However on the production of a strong business plan where the financial ‘risk’ was seen to not rest with them but the local PCT, Mike’s service was allowed to go ahead by his employer.

_I think the one thing with (pharmacy employer) is that they haven’t known what to make of it, as I said before, what to make of pharmacist prescribers. However, as they aren’t funding it is no risk. I think they thought, let’s see what happens, suck it and see………- Mike (E)._

4.7.2.4 **Conflicts of interest**

The potential conflict of interests, with respect to NMP services in a community pharmacy setting, is able to be separated into two main areas. Firstly there is the potential for financial conflict as the prescriber and the dispenser have vested interests in the same financial
package. Secondly there is the potential for error encompassing all aspects of clinical and safety governance. All of the participants explained that the patients were offered the opportunity to take their prescription elsewhere to be dispensed after the consultation.

The participants were all asked to describe the process that would be carried out when a patient attended the community pharmacy, underwent a consultation, received a prescription issued by the pharmacist prescriber and then remained in the pharmacy requesting it to be dispensed. Six of the pharmacists explained the fact that there was always a second pharmacist on duty in the pharmacy, which ensured that if the patient decided to remain in the pharmacy after their consultation and submit their prescription for dispensing, the prescription would be dispensed and checked by a different pharmacist. The majority of the NMP services supporting the areas of long-term conditions and public health were provided in pharmacies where more than one pharmacist was on duty. Seven of the pharmacists explained that generally they would be the only pharmacist on duty in the pharmacy. These NMP services would usually be based on a private funding model and prescribing for acute conditions, travel prophylaxis and influenza vaccinations. The participants explained that there would however always be, at the very least, a pharmacy technician present who could dispense the prescription, whilst the pharmacist took a ‘mental break’ before then returning to check the prescription. Many of the pharmacists, both where there was a single pharmacist or more than one pharmacist on duty, talked of the presence in the dispensary of an accredited checking technician (ACT) who would be involved in the final checking of the prescription. Harriet explained that she overcame the potential conflict of clinical governance by asking the patient to visit the GP surgery the next day to collect the prescription, after she had entered the outcome of the consultation and the prescription details onto the patient’s GP records. Similarly, when James had prescribed a travel vaccination, he explained to the patient that this would need to be ordered in to the pharmacy and the patient asked to return to collect it the next day, by which time a different pharmacist would usually be on duty. All of the
pharmacists who were involved in lone pharmacist prescribing and dispensing talked of the risk benefit ratio to the patient and how this would be judged by the General Pharmaceutical Council, the pharmacy regulator.

…but, if it’s in the patient’s best interest at that time…as long as there’s governance arrangements in place and generally you aren’t working that way. If it’s in the patient’s interest in the few times you have to [prescribe and dispense the prescription], they’ll [the GPhC] accept that – Ian (E).

In summary, participants offered a range of factors they believed had contributed to the success of their NMP services. Some of these were positive in nature and as such contributed directly. Others were negative, but were overcome in order to then contribute to the success of the NMP services. Positive factors included: a ‘good relationship’ with the GP practice; a high quality patient experience; availability of funding and strong motivation of the pharmacists driving their NMP services. Negative factors which were required to be overcome included: difficult relationships with nurses, lack of support by primary care organisations and employers and the potential for a conflict of interests by the pharmacists.

4.8 Sustainability

The pharmacists based in Scotland reported that the central funding available for them to access for NMP, at the time of the study, had recurred on an annual basis. The pharmacists were however concerned of the uncertainty of future funding. Explaining that each year they did often not know until after the start of each new financial year if the funding was to be renewed

Every year they say, this will be it, it is going to finish. It is supposed to be in March but [pharmacist] has spoken to somebody and they said that it is going to carry on. It has been like this since I qualified and so I think that as long as this is the way it is it will be okay, but as I say if there was a financial difficulty. - Harriet (S)

We don’t know if funding is going to continue beyond the first of April. So uncertainty with funding is a problem as well. – Brian (S)
The pharmacists however continued prescribing for patients, maintaining a positive attitude and a hope that the funding would be renewed.

*I'll be surprised if it gets cut back because there are examples of some really good work.* - Brian (S)

Pharmacists in England also had worries. Mike, who had secured central funding via the local PCT for a QIPP pilot project had anxieties about the future of his service. He spoke however of his aspiration and determination to have the service commissioned on a permanent basis after the pilot was complete. He explained that he had collected large quantities of data from the pilot regarding the quality and cost effectiveness of the service in order to support his future bid.

*I was keen to make sure that I gathered enough evidence to prove that the service was successful and the pilot should continue as a commissioned service* – Mike (E).

Similarly, the participants whose NMP services were based upon private funding models also spoke of their concerns regarding the sustainability of their services. As previously reported in section 4.4.3, these pharmacists had identified niche areas within which to develop and deliver their NMP services. The sustainability of their services depended upon the demand for them from the public and the public’s willingness to pay for them. One of the participants, who prescribed influenza vaccinations for patients ineligible to receive them on the NHS, explained how in order to sustain his NMP service he was always seeking new areas to prescribe for. At the time of the interview he was in negotiation with the local GP surgery to extend his NMP service to include the shingles vaccine. This was another niche area that had been identified by the participant, where prescribing on the NHS was limited to a restricted category of patients; in this case 60 years of age and over. The participant felt that there was demand for the vaccine in patients younger than this.
Chapter 5: Discussion

5.1 Introduction

In this section, the key findings of the interviews will be discussed in line with the aim and objectives of the study. The strengths and limitations of the study will then be considered before the results are critically appraised in the context of the published literature.

The aim of the study was to explore and identify the likely predictors of successful non-medical prescribing (NMP) models in a community pharmacy setting. To this end, community pharmacists providing such NMP services were interviewed and their views and opinions analysed in order to meet the following specific objectives:

1. To identify what works well in community pharmacy based NMP services.

2. To identify what barriers were required to be overcome in order to provide NMP services from a community pharmacy.

3. To identify how these barriers were overcome in order to achieve success for the NMP service.

‘Successful models’ were defined as NMP clinics that had been set up and were still functioning and maintaining provision of a service for a period of at least three months.

The aim of this study has ultimately been achieved and the likely predictors of successful NMP models in the community pharmacy settings were identified as:

- Highly motivated and experienced pharmacists being responsible for the initiation and development of the NMP services.
- The identification of a local need for the NMP services.
- Strong collaboration between the pharmacist and another healthcare provider.
• A ‘good relationship’ between the pharmacist providing the NMP service and the local GP surgery.
• The identification of a funding model.

The NMP models studied demonstrated that in order to succeed they had to overcome several barriers including funding, potential conflict of pharmacist’s interests, access to patient records and a lack of support from their employer and or primary care organisation. These have been reported in the findings of the study (Chapter 4) and will be further discussed below.

5.2 Key findings

The key findings from the analysis of the interviews with the participants identified what had worked well in the establishment, development and the running of their NMP services. In addition, the findings indicated which barriers the participants identified they had to overcome, and how they had set about achieving this.

The following appeared to have worked well and were identified as key factors in the success of the NMP services studied:

• Strong motivation
• Strong collaboration
• ‘Good relationships’

Pharmacists responsible for developing and delivering the NMP services included in the study offered a range of rationales for initiating their NMP services. In all cases their reasons were complimented by an extremely strong motivation to initiate, develop and sustain their individual NMP services.

Collaboration of varying degrees was described by a majority of the pharmacists in the study, between themselves and another healthcare provider. Over two thirds of the pharmacists
were able to demonstrate strong or very strong collaboration (see Figure 4) in the NMP models studied. Where collaboration existed, it appeared to have worked well and have been a key factor in the success of the NMP services.

The existence of a ‘good relationship’ between the pharmacists providing the NMP services and other local healthcare professionals, was cited by a large number of the participants to have been a key factor in the success of their NMP services. This was particularly evident where collaboration existed.

The identification of a funding source was essential in order to establish a NMP service. Where central funding was not available, pharmacists were required to be innovative and identify niche areas in which to develop NMP models based upon private funding.

Most of the pharmacists interviewed appeared to recognise the ‘barriers funding,’ to the development of their NMP services more as ‘challenges’ to be overcome, rather than as actual barriers. In the study the participants described a range of barriers they had experienced and how they had overcome these. Funding, access to patients’ medical records, conflict of the pharmacist’s interests, lack of employer support and sustainability of the NMP service were identified by the participants as the most significant to them.

5.3 Study strengths

This study is the first study in the UK that has explored several successful models of pharmacist prescribing within a community pharmacy setting; the majority of which were based on independent prescribing practice. The published literature regarding prescribing by community pharmacists in a community pharmacy setting is extremely limited. Where literature has been available, it has existed in the form of case reports and has often focused on the perceived and actual barriers to NMP, and less so on the motivators and facilitators and how the barriers were overcome in order to achieve success. This study has
gone further to also explore the likely predictors of successful NMP models in a community pharmacy setting. A literature review on pharmacist prescribing concluded that little research had been published on models involving independent prescribing, research to date tending to focus on supplementary prescribing practice.

The participants were selected using a strategy of purposive sampling to reflect varied perspectives of the subject of non-medical prescribing in a community pharmacy setting. The study included community pharmacists based in England, Scotland and Wales providing NMP services from both independent and multiple pharmacies in semi-rural and urban locations. This wide range of variables strengthens the face validity of the findings.

The use of semi-structured interviews allowed for a flexible framework, which enabled the interviewer to adapt the interview schedule rapidly, in real time as new information emerged. Open questions were also utilised to encourage depth of response and to allow the participant to express their views and feeling in their own words. Subtleties and complexities were able to be captured regarding the participants’ views on their NMP services utilising this qualitative research method as opposed to a more positivistic approach.

5.4 Study limitations

One limitation of the study was that the fact that participants were skewed towards community pharmacists based in England and Scotland and only one pharmacist was based in Wales. As described in section 2.3, attempts via a variety of methods were made to invite participants from across the whole of the UK. All of the potential participants identified who fulfilled the study criteria and were able to take part were enrolled in the study. Ultimately the geographical range of the participants identified was largely out of the control of the researcher.
The inclusion of participants from England, Scotland and Wales was sufficient however to enable the comparison of two funding streams for the NMP services, central and private. Although only one participant was based in Wales, there were considerable similarities seen during the interview with this single participant and the participants based in England. It might therefore be reasonable to extrapolate the findings from the interviews with the pharmacists based in England to that of the participant based in Wales.

Potential participants were invited to take part by advertising the study through the Royal Pharmaceutical Society’s virtual network. Participants who were recruited via this route were therefore self-selected. Participants were also identified from a review of the pharmaceutical literature identifying case reports of best practice for pharmacist prescriber clinics, through NHS non-medical prescribing leads or via gatekeepers within pharmaceutical educational organisations. Participants who were recruited via these routes were neither self nor randomly selected. It could therefore be surmised that all of the participants recruited were ‘keen’ to share their stories. Overall, the study population only included pharmacists prepared to give an opinion on the topic of NMP in a community pharmacy setting, who were motivated and vocal and who were prepared to consent to being interviewed. The study population could nonetheless only have been constructed in this way and as such it could be argued that this factor has to be accepted.

A majority of the interviews both telephone and face-to-face, were conducted whilst the pharmacists were within the community pharmacy itself. This was often necessary, as the pharmacist was required to be present in the pharmacy to fulfil the pharmacy’s contractual obligations and did not wish to be interviewed ‘out of hours’. This meant that the participants were potentially able to feel more confident whilst being interviewed on their own territory, but often resulted in the interviews being carried out in a busy environment with several distractions. Although where possible a room adjacent to the pharmacy was utilised, a complete lack of privacy was often experienced by the interviewee during the interview, as
colleagues and other members were also present in the pharmacy at the same time. There was however no evidence that the interviewees were guarded about what they discussed during their interviews. The decision to choose the venue for their interview was given to the participants and so again ultimately this was out of the control of the interviewer.

The relatively small sample size was a potential limitation. However, as this research was of a qualitative nature, the study was interested in understanding the complex processes behind the phenomena of non-medical prescribing in a community pharmacy setting through a detailed study of a few participants, rather than the testing of a hypothesis. The sample was also not intended to be representative of the general population, nor to be representative of all community pharmacy base prescribing services, but to offer diversity. The sample size was sufficient to ensure data saturation was achieved and that key themes were seen to emerge. Indeed data saturation was deemed by the interviewer to have been reached and this was confirmed by the supervisor.

A further limitation was the narrow range of NMP models included in the study. When carrying out research utilising qualitative methods, it has been argued that the representation of diversity is important. It could be suggested that, as a result of the purposive sampling method used in this study, there was a lack of diversity in the range of prescribing models sampled. Although the range included models based on both private and central funding, the privately funded NMP services were all based in England and Wales and tended to focus on prescribing for acute conditions, travel prophylaxis and influenza vaccination. The centrally funded services, being based predominantly in Scotland, and tending to focus on long-term conditions and public health. However, the sampling strategy was extended during the study to include snowballing. This gave the opportunity for other types of models of NMP in community pharmacy settings to be identified.
Other models that could potentially have been identified included privately funded models prescribing for public health areas or long-term conditions in England or Wales; or for any therapeutic area at all in Scotland. Centrally funded models prescribing for acute conditions in England, Scotland or Wales could also have been potentially identified. It could be argued that the non-identification of models such as those described above during sampling, may be because they do not exist due to the factors reported and discussed in chapters 4 and 5. Indeed, the review of the literature (Chapter 1) did not offer up suggestion of the existence of any of these models. Therefore, as there is no complete record of community based NMP models in the UK, it has to be recognised that models such as those may in fact exist; albeit in small numbers. These simply not being identified during the sampling process, and as such have not been included in the study.

The narrow range of NMP models that was included in the study has therefore limited the findings to a restricted set of NMP models. Allmark\(^4\) however, proposed that given the small sample sizes of many qualitative projects, the best way to ensure representation occurs, is to allow a proliferation of such research, not to stipulate such representation in samples.

Qualitative research based on interviews depends on interpretation by the researcher when coding and identifying themes. The resulting data from the interviews with participants was read several times by the researcher. The emerging themes in this study were then discussed with the supervisor and agreement was reached over the potential significance and importance of each theme. The themes were coded twice to ensure that all data was fully utilised. As this was a qualitative study, it could have been possible for the researcher to ‘pick and choose’ what data to include and what to exclude. However, the researcher actively looked for examples in the data of where theories within emerging themes were challenged and the reporting of the data adjusted accordingly.
5.5 Discussion of the findings

The overall aim of this study was to explore and identify the likely predictors of successful NMP models in a community pharmacy setting. A significant step towards determining these predictors was to fulfil the first objective of the study and to identify what worked well within the models examined. The second and third objectives were to identify what barriers were required to be overcome by the participants of the study and how they had done that.

The following section will discuss the findings of the study utilising these objectives as a means of structuring the discussion. A degree of inter-relatedness emerged between the themes as the interviews with the participants were analysed. This will be further explored as the findings are discussed below.

5.5.1 What worked well

5.5.1.1 Strong motivation

Previous research has offered up several reasons as to what has motivated pharmacists to become prescribers. Although the participants in this study discussed their rationales and motivation for initiating their NMP services, rather than simply becoming a pharmacist prescriber, to a degree, the reasons suggested for pharmacists to become prescribers could potentially be extrapolated to why in some instances community pharmacists actually initiated their NMP services. Rationalising this concept i.e. to become a pharmacist prescriber whilst working within a community pharmacy setting, and then to not utilise this qualification, would not fulfil their rationale for becoming a prescriber in the first place. Frequently, more than one factor was cited by the pharmacists involved in these studies as to why they undertook their prescribing role.

Overwhelmingly, the most commonly cited reasons in the literature for becoming a prescriber included a desire for increased job satisfaction, development of the pharmacist's
clinical role, better use of their pharmaceutical skills and overall personal development. This study corroborates these findings as the most common reasons given by the pharmacists interviewed for starting their NMP services to use their training, were a desire for increased job satisfaction, an increased clinical role and to maintain professional development.

Previous research\textsuperscript{100,101} also suggested that pharmacists often cited an aspiration for increased professional autonomy and elevated professional status as a motivator to become a prescriber. Pharmacists in this study concurred with this by expressing their belief that pharmacist prescribing based in community pharmacies raised the profile of community pharmacists, and increased their credibility with general practitioners and patients alike. Another participant explained how she believed that as a pharmacist prescriber she was also now valued and recognised to a greater degree by her employer.

A small number of pharmacists in one study\textsuperscript{100} claimed that to become a prescriber had been a requirement of their employer to increase profits in the pharmacy business. In contrast to this, none of the pharmacists in this study indicated that it was an employer requirement for them to become a pharmacist prescriber. This however could be a reflection of the small sample size of this study. Some did explain however that their employer had placed restrictions on which therapeutic areas they were permitted to prescribe within. Two of the pharmacists interviewed described their motivation for commencing their NMP services as being in order to take up business opportunities; this has also been reported in previous research,\textsuperscript{6} albeit by a very small number of pharmacists. Another study\textsuperscript{60} went further to offer the suggestion that financial incentives acted as powerful levers to the introduction of cognitive pharmaceutical services (in particular the uptake of medicines use reviews) of community pharmacists This did not appear to be a motivating factor for the majority of the participants in this study. Only two of the participants in this study were pharmacist proprietors, the overwhelming majority of the participants received no extra personal financial remuneration above and beyond their
regular salary. Mike however did receive an extra day’s salary as he delivered his NMP service on his day off.

A strong belief was shared by two of the participants in this study that changes were needed in the types of services being offered by community pharmacies if they were to be more than just dispensing factories, and indeed to survive. The identification of this need by these participants reinforced the findings of Anscombe and Thomas, on the forces shaping community pharmacy, and the impact of these on the future financial viability of community pharmacy in England. That report proffered that all community pharmacy contractors had to adapt their businesses in order to survive; independent pharmacies being the most severely challenged. It further argued that up to 900 pharmacies in England, mostly independents, were at risk of closure unless there were major changes in dispensing services and pharmacies were commissioned to deliver a wider range of clinical services. An editorial in the Pharmaceutical Journal offered the opinion that the NHS in England and Wales had squeezed income for community pharmacies on the one hand, but was yet to “keep its side of the bargain” by increasing the commissioning of services on the other. In contrast, the report by Anscombe and Thomas acknowledged that the pharmacy contract in Scotland was more successful due to the different arrangements for central and locally negotiated pharmacy services. The Pharmaceutical Journal also suggested that these differing arrangements had resulted in better integration of community pharmacy in Scotland into the wider NHS, compared to that in England and Wales. This was clearly demonstrated in this study with the centrally negotiated service of NMP for the community pharmacists based in Scotland and their ability to access the central funding for NMP and their greater degree of integration and collaboration with the wider healthcare team.

Anscombe and Thomas (ibid) finally advocated that community pharmacies needed to monetise their role in the frontline of healthcare by reviewing the services they offered and strengthen these in the business mix. Prescribing by pharmacists in community pharmacy in
particular was given specific mention, where it was suggested that pharmacists needed to be freed up, to move out of the dispensary, and engage more with patients by becoming involved in diagnostic and prescribing activities. A recent Canadian study\textsuperscript{155} similarly identified that community pharmacy owners in Canada had recognised and supported community based prescribing services as a growing revenue source. Findings from previous research\textsuperscript{10,156} suggested that it was the pharmacists themselves who were the drivers to becoming prescribers and to initiate their NMP services in community pharmacies, and not the organisations that employed them. This was corroborated by this study, as several of the pharmacists explained that they believed it was they themselves that had been the key factor in the success of their NMP services. Analysis of the interviews with the participants of this study suggested that all were highly motivated, and had a vision of success for themselves as prescribing pharmacists and their NMP services.

In contrast, previous research has described a lack of vision and drive from community pharmacists.\textsuperscript{61,155} A review in Alberta, Canada\textsuperscript{157} of the number of community pharmacists who had opted to become prescribers found that numbers were extremely low (3.6%), despite funding having been made available centrally\textsuperscript{23} for these services. Comparable data was unfortunately not available on the number of community pharmacists in Scotland, England or Wales who had chosen to become prescribers. In Scotland however, where central funding had been made available to community pharmacists to initiate and deliver NMP services, not all of the available funds have been utilised.\textsuperscript{158} This has prompted a review by the Scottish Government of the delivery of NMP clinics by community pharmacists.

In an attempt to offer an explanation for the low uptake of NMP by community pharmacists in Canada, Bacovsky\textsuperscript{155} suggested that many community pharmacists were in fact happy with the ‘status quo’ of the provision of current pharmaceutical services, and as such would only prescribe under pressure. She goes further to state her belief however, that the momentum of community pharmacist prescribing has started, as it did with the start of ‘clinical pharmacy’ in
the late 1970s. This evolutionary process within the world of pharmacy has also been previously identified in research on organisational culture\textsuperscript{43,44} within community pharmacies and the services provided by them. Bacovsky\textsuperscript{155} further surmises that the pharmacists who have embraced prescribing in community pharmacy could actually be role models and sources of inspiration for all pharmacists. Similarly, a number of pharmacists in this study demonstrated aspirations of a ‘role model’ nature by explaining that they felt “proud” of their achievement of becoming prescribers and setting up community based NMP clinics, and were keen to support other pharmacists to develop similar services. These pharmacists, it could be suggested are ‘Movers and Shakers’: ‘Powerful people who initiate events and influence people’.\textsuperscript{159}

Indeed, research by Tann et al\textsuperscript{50} indicated that ‘Shakers and Movers’ [sic] within innovation in community pharmacy have a primary role as ‘change agents’, and may take the form of experts and peer opinion leaders. The authors went further to suggest that ‘change agents’ are often perceived by other community pharmacists to be experts due to their enhanced clinical skills, a working understanding of the current structure of the NHS and/or an ability to act as a ‘broker’ between primary care organisations and local community pharmacists.

The majority of the participants in this study had previously worked as medicines management pharmacists based in local GP surgeries. This suggested a high level of clinical knowledge and skills; a working understanding of the structure of the NHS, at least in the primary care sector; and evidence of their ability to work at the interface between community pharmacy and general practice.

Amongst the participants interviewed based in Scotland, one pharmacist in particular held a dual role as both a community pharmacist adviser on the local health board and a pharmacist prescriber within a community pharmacy. This participant had not only previously established his own NMP clinic, but had also mentored and supported several other participants as they planned, initiated and developed their community pharmacy based NMP services. Many of the
participants based in Scotland offered the opinion that support they received from this pharmacist had indeed played an instrumental part in the success of their NMP services. Previous research\textsuperscript{49} has suggested that ‘change agents’ are likely to be external to the independent community pharmacy sector e.g. employed by a primary care organisation or health board, but internal to pharmacy multiples e.g. professional development staff. This study did not completely reflect this concept, as the pharmacist ‘change agent’ described above, although employed by a primary care organisation also worked as a community pharmacist, where he in turn delivered his own NMP services. This same ‘change agent’ appeared also to have been responsible for motivating pharmacists who worked for multiples to develop their services, rather than a dedicated member of professional development within the multiple the pharmacists worked for.

Tann et al\textsuperscript{50} offered the suggestion that ‘Shakers and Movers’ often took a wider perspective, were in touch with NHS policy at national and regional level and were likely to be close to new research. In this study, many of the participants demonstrated an awareness of NHS policy and research regarding NMP in the community pharmacy setting. Several participants went further still and explained how they had identified gaps within NHS policy regarding delivery of services. Some participants had then exploited these niche areas to develop their NMP services e.g. provision of influenza vaccine to siblings of children with asthma, ineligible at the time of the study to be vaccinated via the NHS. This identification and utilisation of niche areas corroborates the findings of previous research by Tann et al,\textsuperscript{50} where a pharmacist who was asked in their study to identify what they believed had contributed to the success of innovation outcomes replied, “the most successful innovations satisfy an unmet need”.

A briefing paper\textsuperscript{49} by Tann et al, which utilised new research into innovation in community pharmacy, confirmed that the spread of innovation depended on three factors: characteristics of the innovation, adopter categories of the pharmacist, and innovation roles in the management of innovation. The adopter categories were classified according to Rogers\textsuperscript{160} as:
innovators, early adopters, early majority, late majority and laggards. Characteristics of innovators were described as:

- Volunteering for pilots
- Motivated by desire to respond to patient and customer needs
- Likely to be ‘continuous improvers’
- Motivated by the prospect of integrated working with other health professionals
- Not afraid to experiment – risk takers
- Consider money an enabler, not a show stopper.

All of these characteristics have been demonstrated by the participants of this study; indeed many of them exhibited more than one characteristic. In particular, the characteristic of being ‘Motivated by desire to respond to patient and customer needs’ was exhibited by over half of the participants in this study, as they explained how they had identified a perceived local ‘need’ for their NMP services. The identification of this ‘need’ appeared to act as an enabler in the successful development of their NMP services and indeed worked well.

It could be suggested therefore that all of the participants of this study were in fact innovators and that the pharmacist mentor described above, who motivated others to follow his role, was the ‘change agent’. A certain number of the participants in the study based in England and Wales did not however describe the presence or input of a person who could potentially fulfil the role of ‘change agent’ (as did the participants based in Scotland) as they described the implementation and development of their NMP services. It could be further proposed therefore that these pharmacists may have taken the dual role of both ‘change agent’ and innovator.
5.5.1.2 Strong collaboration

As reported in section 4.6, the theme of collaboration emerged very strongly with a large majority of the participants in this study demonstrating some degree of collaboration, albeit across a broad spectrum (see Figure 4). As reported in section 4.6, the collaboration ranged from complete integration of the pharmacist prescriber within a healthcare team, to collaboration as part of a ‘business arrangement’ or referral of clients to the NMP service by the collaborator; through to no collaboration at all.

Collaboration appeared to be interrelated with many of the other emergent themes in the study, such as the country within which the NMP service was based, the funding model adopted, the therapeutic area of prescribing and access to patients’ GP records by the pharmacist prescriber. Participants based in England who were providing NMP services for long-term conditions (Alice and Mike) were identified as exhibiting the highest degree of collaboration of all of the participants in the study. These participants were fully integrated with their collaborators within healthcare teams, and the existence of these particular NMP services was in fact dependent upon the collaboration. These NMP services received their funding due to the establishment of these innovative collaborations. The selection of patients utilising their NMP services was controlled by the collaborator and a high level of two way communications existed between the collaborator and the pharmacist. This corroborated with the findings of previous research\(^{162}\) where the degree of collaboration between community pharmacists and GPs reflected the level of communication seen. Where high levels of collaboration existed, communication was reciprocal in nature. Where lower levels of collaboration were demonstrated, communication was generally one-way from pharmacist to GP. As reported in section 4.1, central funding was accessed via the collaborator (DAT) in the first model (run by Alice), and as remuneration for a QIPP pilot study in the second model (run by Mike).
In contrast, although indeed collaborating, none of the participants providing NMP services for long-term conditions in Scotland exhibited it to such a high level. It could be argued that they had no need to do so as funding for their NMP services, at the time of the study, was readily available via the Scottish Government’s Joint Working Initiative. This initiative facilitated collaboration in the form of a formal business arrangement between GPs and community pharmacist prescribers providing the NMP services, but did not require this to be a totally integrated relationship. The patients, although belonging to a specific GP surgery did not have to be selected by the GP, thus leaving the pharmacist prescriber a degree of autonomy in the provision of their NMP service. The remainder of the participants in the study in England and Wales based their NMP services on private funding models, and provided NMP services for areas excluding long-term conditions. Some of these participants demonstrated collaboration with GPs through informal business arrangements. These were often based upon the agreement that the GP would refer patients to the pharmacist prescriber in order to receive NMP services for areas not currently able to be provided by the GP surgery. The pharmacist prescribers did not however rely solely on the GP surgery for referrals, as the NMP service also grew by word of mouth and advertising within the pharmacy. As such, these NMP services exhibited a high degree of autonomy. Communication between the GP surgery and the pharmacist prescriber regarding patient information in these relationships was less than that demonstrated in models involving strong collaboration as described above. Communications between the GP and pharmacist prescriber regarding patient information were usually minimal in these models. The pharmacist prescriber reporting a brief summary of the prescribing outcome to the GP concerning the patient, or notifying the GP surgery on a monthly basis of which patients had received prescribing interventions. Finally, a small number of participants in the study were providing NMP services completely autonomously, without any collaboration with other healthcare professionals. These were also based on private funding models and involved the delivery of
healthcare for short-term conditions and niche areas such as travel prophylaxis and vaccinations. These NMP services did not in fact need to collaborate, as funding was on a private basis and communication with the GP surgery, it could be argued, was unnecessary when prescribing for patients on an ad-hoc basis.

In addition, this study provides significant evidence that where collaborative arrangements existed, both parties benefited from the union in several ways. For the pharmacist this included funding for the NMP services, financial benefits to the pharmacy business due to increased footfall and better communication with the collaborator. This study also suggests that the collaborators received benefits in return, such as facilitated access to pharmaceutical knowledge. This reinforced findings of recent research by Bradley, Ashcroft et al\textsuperscript{162} which suggested that GPs involved in highly collaborative relationships with community pharmacists (in this case involving local pharmaceutical service pilots and the provision of repeat dispensing), recognised the expertise of the pharmacist as an enhancement to the skills of the GP rather than a substitution. Financial benefits were also seen for GPs in this study, as the pharmacist communicated patient data to the GP which increased the GPs financial remuneration via the Quality Outcomes Framework (QOF)\textsuperscript{20}. This corroborates also with findings from previous case reports\textsuperscript{17,19} where pharmacist prescribers in a community pharmacy setting explained how they communicated patient data obtained during their NMP consultations to GPs, such as the smoking status of the patient. Other literature\textsuperscript{17,19,61} has suggested that where pharmacist prescribing has helped GPs to meet QOF targets, this has acted as an incentive for GPs to be more accepting of pharmacist prescribing.

Focusing on the development of NMP services from the perspective of innovation, this study to a large extent corroborated with previous research by Tann et al\textsuperscript{49} where all community pharmacists studied who were responsible for innovative community pharmacy services were found to be in collaboration with other healthcare professionals in order to deliver these services.
Additionally, this study also reinforces findings from a systematic literature review\cite{163} on change and evolution in community pharmacy, where an emerging theme was the “centrality of partnership approaches to working”. The review offered the conclusion that collaboration between community pharmacy and other healthcare professionals was needed in order to deliver community pharmacy based extended services, of which NMP could be perceived as being, as:

‘...a necessary response to the erosion of the established role of the community pharmacist by other primary care professions and the emerging dichotomy between commodity product and specialist service provision within community pharmacy. (p43)

The review (ibid) also supports the opinions of two of the pharmacists in this study, as discussed in section 4.3, that a change in the way and type of community pharmacy services are delivered are imperative in order for community pharmacy to survive.

The collaborations seen within this study have appeared to work well for the collaborators and in turn the NMP services being delivered. Collaborative working between pharmacists, doctors and nurses is not a new concept within secondary care as much as it is within primary care, between community pharmacists and GPs. Research\cite{73} has indicated that increased contact time between prescribing pharmacists and doctors in secondary care has improved their relationship. It could therefore be proffered that for community pharmacy based prescribing, where collaboration exists with other healthcare professionals, inter-professional relationships will be strengthened as time and collaboration progress.

In summary, collaboration between the study participants and other members of the healthcare team, where they occurred, appeared to work well as a strong enabler for the delivery of the community based NMP services.
5.5.1.3 ‘Good relationships’

This study provided evidence of ‘good relationships’, as defined in section 4.7.1.1, where community pharmacists and other healthcare professionals such as GPs regarded each other highly and behaved very well towards each other. Subtlety different to collaboration, as defined in section 4.6, where the different groups of health professionals worked with the community pharmacists to support the delivery of the NMP services.

Inter-professional barriers between pharmacists and other healthcare professionals have been reported through several previous studies. Other research has indicated GP perceptions of community pharmacists as ‘shopkeepers’, with a conflict of interest between providing healthcare whilst running a commercial business. In previous research, hierarchal issues have also been identified between GPs and community pharmacists regarding their perceived roles within the healthcare team, where pharmacists offered their opinion that they believed GPs considered them to be professionally subordinate. Furthermore, GPs and community pharmacists alike also expressed concerns that pharmacist prescribing was a potential encroachment on to the territory of GPs (ibid). The pharmacist prescribers in this study did not appear to identify with this hierarchal theory when discussing their GP collaborators. Where it was reported, it was between the pharmacist and other GPs, outside of that particular collaboration. This study does however corroborate with research which suggested that highly collaborative GPs adopted a non-territorial approach to roles and responsibilities.

In this study, several ‘good relationships’ were related by the participants between the community pharmacist prescribers and GPs. The results of this study could be corroborated by the findings of an evaluation of independent NMP in the UK which reported that a large majority of pharmacist independent prescribers agreed the doctors they worked with were supportive of pharmacist independent prescribing. However, although the evaluation included
pharmacist independent prescribers from a variety of settings, community pharmacy was not distinguished apart from primary care in general.

Some of the participants in this study offered their opinions that community pharmacists, by delivering NMP services, increased their credibility with the local general practitioners. This belief reinforces the findings of previous research\(^5\) which reported that many doctors were unfamiliar with the training required to be undertaken by pharmacists to both qualify as a pharmacist and as a nonmedical prescriber. Further research\(^{162}\) has suggested that where GPs were not interested in engaging in collaboration with pharmacists, they expressed concerns over the level of training undertaken by pharmacists and lacked confidence in their abilities.

The majority of the pharmacists in this study had previously worked, or at the time of the study still worked, in a GP surgery, providing medicines management and or pharmacist prescribing services. Many of the GP surgeries where the pharmacists had worked or did work were the GP surgeries with whom the pharmacists now collaborated. This supports previous research\(^{162}\) which reported that GPs felt very strongly that an important factor in the success of a particular service was for them to know the pharmacist delivering it, and even more importantly for the relationship to be longstanding.

In summary, this study has indicated that within the successful NMP models studied, the following factors worked well and appeared to facilitate the success of the NMP services: strong motivation of the pharmacists who initiated and developed the services; strong collaboration between the community pharmacists and other healthcare professionals and ‘good relationships’ between the pharmacists and other healthcare professionals. Furthermore this study corroborates with previous research\(^{5,162}\) and demonstrates the interrelatedness between relationships, collaboration and in turn communication of community pharmacists with GPs, when attempting to provide a ‘cognitive pharmaceutical service’ (see section 1.2.5).

This study supports the conclusions of the literature\(^{5,162}\) that relationships involving reciprocal
communication are seen to be stronger, and of a higher quality where collaboration is present so contributing to the successful delivery of the service in question.

5.5.2 Barriers overcome

As identified in the literature review (Chapter 1), several studies\(^{3,5,6,150,166}\) have been published outlining a number of potential and actual barriers to NMP by pharmacists within a community pharmacy setting without actually offering solutions to overcome these e.g. funding, access to patient records, potential conflict of the pharmacist’s role and lack of support from employers.

The participants in this study have all successfully initiated and developed a NMP service in a community pharmacy setting. All have had to overcome some or all of these barriers in order to achieve success. The majority of the participants in this study have explained that they looked upon these barriers more as challenges.

5.5.2.1 Funding

Despite a lack of funding being frequently cited in previous research\(^ {73}\) as the largest barrier to the development of NMP services in the community pharmacy setting, all of the participants in this study had successfully overcome this barrier. The pharmacists based in Scotland had all achieved this by accessing central funding. Apart from the two pharmacists delivering NMP services around long-term conditions in England (Alice and Mike), all of the pharmacists in England and Wales were required to be innovative in order to identify niche areas and adopt private funding models in order to deliver their NMP services.

The majority of the pharmacists based in Scotland accessed central funding made available to them by the Scottish Government for the purpose of establishing community pharmacy based prescribing clinics\(^ {142}\). This funding was initially provided in 2005 to support a joint initiative between Scottish GPs and community pharmacists in advance of the introduction of the 2006
Scottish Community Pharmacy Contract,\textsuperscript{167} and has since been reviewed annually. The resulting collaboration with GP practices created a funding source for the on-going reimbursement costs of the medicines prescribed by the pharmacists. Up to the time of this study the funding remains available. This is in direct contrast to Wales where central funding dedicated to community pharmacy based prescribing does not exist. In England, theoretically, central funding may be accessed via the current contractual framework for remuneration of community pharmacy services,\textsuperscript{46} which allows for locally commissioned supplementary prescribing services. To date, evidence from the PSNC database\textsuperscript{94} appears to indicate that this funding stream is either not being utilised by community pharmacists or is not functioning.

Participants in this study, based in Scotland, discussed their concerns regarding the continuation of this central funding, compared to those based in England and Wales who focussed their discussions around the challenge of obtaining funding in the first instance. The Scottish participants explained how they had understood that the central funding had been made available as an interim measure in advance of the full implementation of the new Community Pharmacy Contract,\textsuperscript{167}, and that now that this was finally completed and in place they were warned that, the funding may cease. The threat of the discontinuation of the funding appears to be genuine. The reason however was not due to the final implementation of the contract, but because at the time of writing, a large amount of the funds allocated to support community pharmacy based NMP services reportedly remained unused.\textsuperscript{158} The Scottish Government has asked health boards in Scotland to “provide details as to why the requested funding has not been fully utilised”. The Scottish Royal Pharmaceutical Society has responded by stating that it is supportive of pharmacist prescribing, but acknowledges that there are further barriers to its implementation than just funding. It has been long recognised in the literature,\textsuperscript{3,5,6,166} that funding alone was not the only barrier to developing NMP services. It is however often the primary reason cited\textsuperscript{73} for the non-development of such services in a community pharmacy setting. This is supported by the findings of research by Tann et al\textsuperscript{50}
who reported that the most highly rated key enabling factor for innovation in community pharmacy (by participants in their study), was payment for services, albeit in this case by the local primary care trust. This study however provides strong evidence that the funding barrier, where it exists, can be overcome in a variety of different ways.

As discussed above regarding community pharmacists in Scotland, and in section 1.2.3, regarding community pharmacists in Canada, the concept of funding being made available to community pharmacists for NMP services, but then not being fully utilised, further challenges the suggestion that lack of funding is such a significant barrier. The suggestion could be proffered that for some community pharmacists this ‘barrier’ could be something in fact to hide behind, or that other barriers are actually more influential.

As central funding was not as readily available in England and Wales, study participants based in these countries were required to be innovative in their ideas in order to access funding for their NMP services. As reported in section 4.1, Alice and Mike were able to secure central funding for their NMP services through collaboration with other healthcare organisations. The benefits of collaboration, in particular as a means to access funding, have been discussed in section 4.6.2 above. Finally, as previously reported, the remainder of the pharmacists in this study, based in England and Wales were challenged to seek out and identify more unusual niche areas which could be exploited to enable the application of private funding models in order to develop their NMP services. Niche areas where the public were prepared to pay to access NMP. This study has demonstrated that these pharmacists have been exceptionally innovative in order to succeed in their challenge. Innovation and its place in the development of NMP services within a community pharmacy setting has already been discussed above in section 5.5.1.1 and so will not be discussed further here.

Literature suggests, as discussed in section 1.2.6, that financial incentives can act as powerful levers to community pharmacists to undertake new pharmacy services. This study revealed
however, that the majority of the participants, regardless of the funding source of their NMP services, central or private, continued to receive their standard salary from their employer without any additional financial reward. Only Mike, who was delivering his NMP service on his day off received an additional day’s salary. Financial benefits of the NMP services went directly to the pharmacy business rather than the individual pharmacist responsible for the delivery of the NMP service. In a minority of cases where the pharmacist prescriber was also the pharmacy proprietor, it could be argued that the financial benefits did in fact go to the pharmacist prescriber, albeit indirectly. The majority of the participants however were employees. It could however be suggested that the financial incentives were an enabler to for the pharmacists to obtain support from their employers in order to be permitted to develop the NMP services in the first instance.

This study has shown that although funding has been cited as a significant barrier to the development of NMP services in a community pharmacy setting, it can be overcome. Strong motivation, collaboration and innovation have all served to enable the pharmacists in this study to do so.

5.5.2.2 Conflicts of interest

The issue of potential conflicts of interest where a pharmacist undertakes the dual roles of both prescriber and of dispenser/supplier have previously been identified in the literature as being of paramount importance. It has been the subject of great debate both in the UK and further afield in the USA and Australia. The conflict is potentially twofold – that of a financial nature, and that of clinical governance, in particular the issue of patient safety. This study demonstrated the awareness of the participants of these potential conflicts, their interpretations of them and how the pharmacists overcame these issues.

In this study, all of the participants discussed the issue of the potential conflicts during interview, and acknowledged that although it was far from the most desirable scenario, it was
not illegal in the UK to both prescribe and dispense for the same patient. This is in direct contrast to New Zealand, where pharmacist prescribers are explicitly forbidden from dispensing their own prescriptions or from having a financial interest in a pharmacy where they practice as a prescriber. Two of the participants in this study not only prescribed in a community pharmacy setting but were proprietors of their own pharmacies hence increasing the risk of financial conflict even more.

Guidelines set by the Medicines and Healthcare products Regulatory Agency and the DOH in England around pharmacist prescribing, advise that prescribing and dispensing activities should be kept separate in the interests of patient safety and governance. Where a pharmacist does undertake both the role of prescriber and dispenser, a second check must be carried out by a suitably competent person.

In consideration of the conflict of clinical governance in particular patient safety, almost half of the participants explained that there would be a second pharmacist on duty in the pharmacy whilst the NMP service was being delivered; enabling the prescription to be dispensed and checked by another pharmacist and a pharmacy technician or an accredited checking technician (ACT). This overcame the potential issue of patient safety as the prescribing and the dispensing of the prescription were completely independent. The majority of these pharmacists were providing NMP services for long-term conditions.

It appeared in the study, that where the NMP service was being delivered to support long-term conditions, whether in England or Scotland, a second pharmacist was always present. The ability to plan for a second pharmacist to be on duty at set times was possible, as the NMP services were organised around an appointment system, resulting in a predictable and controlled workload. These NMP services were also all funded centrally, with the overwhelming majority being funded by the Scottish Government’s Pharmacist Prescriber Initiative as discussed in section 4.1. The Scottish regulations regarding pharmacist
independent prescribing, outline that it is not intended for pharmacist prescribers to dispense their own prescriptions, but does state that:

‘in circumstances of urgency or where the patient or the patient’s representative is unlikely to be able to obtain the item without suffering excessive inconvenience or delay, patient need should be paramount and “self-dispensing” may be justified.’ (p5)

Similarly, Canadian pharmacists who prescribe are not permitted to also dispense the prescription in question unless ‘no reasonable alternative is available’.

In contrast, the remainder of the participants explained that they were usually the only pharmacist on duty at the time of delivery of their NMP services. These pharmacists tended to be those providing NMP services for non-long-term conditions, such as public health, travel prophylaxis or the treatment of acute conditions. The majority of these NMP services were based around a model of private funding and available as an ‘as required’ service rather than via pre-booked appointments. The demand for the service, the workload and hence remuneration was therefore unpredictable, and as such the participants explained that they could not ‘justify’ employing a second pharmacist to support the NMP service. The pharmacists did explain however that there was always a pharmacy technician or ACT on duty with them. The pharmacy technician would dispense the prescription and the pharmacist would then check the prescription after taking a ‘mental break’.

The pharmacists in this study who undertook the dual roles of prescriber and dispenser, although agreeing that this was not the ideal scenario, justified their decision to do so on a ‘risk versus benefit’ basis. They argued that they undertook the dual role in order to provide an immediate service to a patient who otherwise would have had their treatment delayed. Guidelines have indicated that for a pharmacist to carry out the dual roles of both prescriber and dispenser, the situation should be one of urgency, where the patient is otherwise likely to suffer excessive inconvenience or delay. This study has demonstrated that some pharmacists have based their NMP service on this ‘clause’, never having a second
pharmacist on duty; rationalising that each patient they have seen has fitted this criteria because of the nature of their patient group.

From the perspective of the potential for financial conflict and the pharmacists pecuniary interests, all of the pharmacists explained that their patients were always given the option to take their prescription away, and were not compelled to have the prescription dispensed by the pharmacy where the NMP service was delivered. It is unlikely however, that due to the inconvenience of doing so, the patients would not remain within the prescriber’s pharmacy. It could be argued that this is similar to the situation where a GP practice has an ‘in-house’ pharmacy owned by the surgery.

One pharmacist reinforced the option for patients to take the prescription to an alternative pharmacy by directing them to collect their prescriptions from the GP collaborator’s surgery the next day, and to then take the prescription to a pharmacy of their choice. The pharmacist also explained that this gave her the chance to second check the patient’s GP records before finally issuing a prescription.

The pharmacists in the study, who delivered their NMP service with only one pharmacist present, did not seem to be concerned about the image this might have portrayed to GPs. Previous research has revealed that GPs believed that community pharmacists who prescribed alongside commercial activities had ‘perverse incentives’. An article in the British Medical Journal also questioned the appropriateness of a community pharmacy delivering NHS services such as NMP (where it was centrally funded), alongside a profit making business. A response by David Reissner, partner in Charles Russell solicitors, defended the position of community pharmacists by surmising that this was perfectly acceptable as long as professional regulatory standards were adhered to. Reissner also raised the issue that statistics had revealed dispensing GPs to have written more prescriptions than non-dispensing GPs.
Correspondence in the Pharmaceutical Journal\textsuperscript{160} from a community pharmacist prescriber and prominent member of the English Pharmacy Board (at the time of the study), also defended the position of those pharmacists who undertook dual roles, by a direct comparison with dispensing doctors. Dajani argued that wherever this situation arose there must be additional safeguards in place to ensure that outcomes are “safe, expected and desirable”. Dajani rationalised that in comparison to dispensing doctors, community pharmacy has stricter controls in place regarding the processes of prescribing and dispensing which involve ACTs and qualified dispensers. He goes further to argue that unlike dispensaries in general medical practice, community pharmacy premises are regulated by the General Pharmaceutical Council, conveying strict clinical governance.

As discussed above, this study demonstrated that pharmacists providing NMP services for long-term conditions usually had more than one pharmacist on duty, whereas those who provided NMP services for non-long-term conditions such as public health e.g. vaccinations, generally did not and therefore acted as both prescriber and dispenser. Dajani’s comments supported the findings of this study as he:

\textit{“Would not recommend combining prescribing and dispensing roles in high-risk areas such as most chronic disease management, or those requiring regular monitoring.”} (p324)

He did believe however that prescribing and dispensing by the same pharmacist for public health areas such as influenza vaccination was “safe”. Dajani took the stance that in the prescribing of vaccines, dosages were standardised and that there was little difference between prescribing and dispensing as a prescriber, and prescribing and dispensing via a patient group direction (PGD). This theory could be extended and applied to most areas of prescribing for public health and travel prophylaxis where a PGD could well be in place.

Furthermore, although several pharmacists in this study prescribed for acute conditions where dosage adjustment and selection of medication is more variable, it could be argued that local
guidelines and formularies could be utilised for the selection of medication. Other than the advice to seek medical advice if the symptoms did not improve or worsened, follow-up and monitoring would not be necessary.

Dajani concluded by making a plea for the full potential of community pharmacy based NMP services to be recognised by commissioners within the NHS and to:

“Stop looking at how to inhibit the combined roles of prescribing and dispensing, but improve the standards and focus on fearlessly addressing and meeting the needs of our patients in practice, and on all political and strategic levels”. (p324)

In contrast, previous research has suggested that pharmacy will be scrutinised regarding the conflict of interests of pharmacist prescribers, and argues that pharmacists’ ‘rhetoric’ around patient safety and the pecuniary interests of other healthcare professionals are also applied to their own prescribing practices, regardless of how that may affect pharmacist prescribing.

5.5.2.3 Access to patient records

Access to patient records has been frequently cited as a barrier to the development of NMP services in the community pharmacy setting, both in the UK and in Australia. The need to access patient records it could be argued, is essential in order to enable the prescriber to familiarise themselves with patient specific information pre-prescribing episode; such as what other medication the patient is already taking or any allergies the patient may have. Similarly, it could also be argued that post-prescribing episode, the prescriber must be able to access a patient’s records in order to document the prescribing outcomes, enabling these to be shared with the patient’s GP and where appropriate the wider healthcare team.

This study found that all of the pharmacists providing NMP services to support long-term conditions expressed the need to, and did in fact access their patients’ records before prescribing. In contrast to those providing NMP services for patients with non-long-term conditions, who did not who did not believe this to be necessary, as discussed in section 4.5.3.
All of the pharmacists delivering NMP services for patients with long-term conditions were also involved in collaboration, to some degree, with their patients’ GP(s). Except for Alice, where her collaboration was with the local DAT. In these cases the collaboration appeared to facilitate access by the pharmacists to the patients’ healthcare records. As reported in section 4.6.2.6, previous research\textsuperscript{162} has indicated a direct relationship between collaboration and communication; the stronger the collaboration the higher level of communication between the pharmacy and the GP surgery. The findings of his study corroborate with this theory, as a high level of communication was seen between the two, as the pharmacists accessed the patients’ records before and after the prescribing consultation to retrieve and supply patient information.

As discussed previously in section 1.2.7.1.1, electronic access to patients’ medical records is currently not available to community pharmacists in England, Scotland and Wales. Hence, in order to access their patients’ medical records, the pharmacist prescribers in the study, with the agreement of the patient’s GP, had to physically attend the GP surgery. The pharmacists prescribing for long-term conditions were able to do this prior to the start of their NMP clinics, as these were all based on a system of appointments. The pharmacists therefore knew in advance which patients they would be seeing at each clinic. A case study report by Sillito\textsuperscript{19} reiterated these findings by describing how the lack of electronic access to patient records was a challenge, but was one that she had overcome by daily visits to the GP surgery. All of the pharmacists in this study voiced a common desire however to be able to access patient records electronically without having to attend the GP surgery.

Mike however, as reported in the findings in section 4.5.3, did have internet access to his patients’ records, albeit remotely via specialised software loaded on to a laptop. This was organised and authorised by the GP surgery with whom Mike was in collaboration. In addition to saving Mike large amounts of time by him not having to attend the surgery, it demonstrated the high degree of trust the GP had in Mike. The trust and support demonstrated by this GP,
is in direct contrast to that experienced in a pilot for the Summary Care Records (SCR) programme. The pilot involved a community pharmacy having electronic access to the SCR of patients from local GP surgeries. The pilot was unfortunately put on hold by the DoH following concerns voiced by GPs over patient confidentiality. The GPs believed that patients would withhold personal information from them, due to fears over who had access to their medical records. A report on the progress and uptake of SCRs in 2011 however, indicated that out of the six million plus SCRs that had been created in England, only 1.16% of patients who had been informed of the programme chose to opt out.

At the time of writing, at a Governmental level in England, Scotland and Wales, there is a strong push and prioritisation for all registered health professionals involved in a patient’s care to have access to relevant health data.

5.5.2.4 Lack of support from employer and/or primary care organisation

Several of the participants in this study, reported a lack of support for their NMP services from their employer, and or local primary care organisation. This finding was supported by previous research which indicated that many pharmacists had not yet prescribed, despite qualifying as prescribers. These pharmacists reported that NMP was not seen as a priority by their NHS trust, and as such there was no defined role for them as a non-medical prescriber within their organisation. A recent evaluation of nurse and pharmacist independent prescribing in the UK has reported that only half of NHS trusts have admitted to having a formal strategy for the future development of NMP. Research has shown however, that support of non-medical prescribers by employers and service commissioners is a strong facilitator of successful NMP services. For some pharmacist prescribers their employer and NHS organisation are one and the same. For the participants of this study, their employers were either independent or pharmacy multiples; meaning that there was the potential for two barriers as opposed to one compared to NHS employed pharmacists.
Mike explained how he overcame the barrier of a lack of support from both his employer and the local PCT, as he set out to develop his NMP service. Mike described how he researched work streams that the local PCT wished to develop and where associated funding was available. One such area was a QIPP initiative\textsuperscript{143} (see section 4.1). Mike adapted his proposed NMP service to fulfil the qualifying criteria for the QIPP and was successful in obtaining both the funding and the support of the PCT and his employer for his NMP service, albeit initially as a pilot. As discussed in section 5.5.1.1, Tann et al\textsuperscript{50} a characteristic of an innovator is that they are often involved in pilots for new services, Mike clearly demonstrated this characteristic.

The findings of this study have suggested that several of the barriers frequently cited to impede the initiation and development of a community pharmacy based NMP service can be overcome. The barriers of particular prominence to the models studied, included: funding; conflicts of interest for the pharmacist, both financial conflict and safety governance; access to patient records and a lack of support from the pharmacists’ employers and/or primary care organisations. This study, has demonstrated that through motivation, innovation, collaboration and the existence of ‘good relationships’ with other health care professionals, these barriers can be looked upon more as challenges and can be overcome.

5.5.3 Sustainability

Sustainability of the NMP services investigated in this study can be regarded from two perspectives; that of a pecuniary nature involving funding and that of the dynamics of the pharmacist who initiated and developed the particular NMP service.

The links between sustainability of the NMP services and their funding is the continuation of the funding for those services which were centrally funded, and continuation of demand for those services which were based on private funding models. Services which were funded centrally will be sustained whilst funding remains available. The issue of continuation of
funding for participants based in Scotland, who accessed their funding via the Scottish Government’s Incentive Scheme\textsuperscript{142} and why this may not continue, has already been discussed in section 5.5.2.1.

Uniquely, Mike, obtained his funding centrally through a PCT based QIPP\textsuperscript{143} pilot scheme. This funding had a limited budget and allowed the NMP service to be delivered for a finite length of time. In an attempt to justify the continuation of the NMP service after the completion of the pilot, and to bid for further funding, Mike explained how he recorded large amounts of data from the service. This included conducting several audits within the pilot around the cost of the medication prescribed, clinical outcomes and patient satisfaction. Mike intended to use this data to bid for a permanent NMP service when the pilot had ended.

Participants based in England and Wales that have developed their NMP services around privately funded models are obviously not dependent on central funding. As previously discussed (Section 4.4.3) these pharmacists have identified and exploited niche areas in which to develop their NMP services. The continued demand for these NMP services within a community pharmacy will therefore be the key to the sustainability of these NMP services. James’s privately funded NMP service for example, where siblings of children with asthma, who were ineligible to receive the vaccine on the NHS, are able to receive the vaccine privately will need to review his area of prescribing. Since the interview with James was carried out, the NHS has introduced a new influenza vaccination policy\textsuperscript{170} for children in England, and as such pre-school and primary school children aged over two years will be eligible for influenza vaccination in 2014. This policy change will greatly reduce the demand for this NMP service. During interview with his participant however, he explained how he was continually ‘horizon scanning’ for future niches in which to develop NMP services. For example, a NMP service to supply shingles vaccine, as this was not currently available from GPs on the NHS, unless aged between 70-79 years of age.\textsuperscript{171}
This study has demonstrated that sustainability of NMP services is not only dependent upon the availability of funding but on the uptake and utilisation of that funding. In particular, where the NMP service is based on a private funding model, the continued demand for the specific NMP service being offered.

The findings of this study have indicated that all of the pharmacists responsible for the initiation and development of the NMP service models studied were highly motivated innovators. If these pharmacists were to leave the community pharmacy from where their NMP service was being delivered, another pharmacist would be required to take over its delivery. With an established cognitive pharmacy service which is embedded in the current NHS Community Pharmacy Contract, this would not usually present a problem. The model of a pharmacist led NMP service however, delivered from within a community pharmacy, is not yet embedded in the NHS Community Pharmacy Contract; the existence of the NMP service being due to the motivated and innovative pharmacist who set it up. It could be argued that the NMP service is dependent upon that pharmacist. As such, if the pharmacist were to leave, it could be suggested that the service may be in jeopardy and its future sustainability uncertain.

5.6 Future development of community pharmacist prescribing

This study has identified a number of factors that have contributed to the success of a number of NMP services based in community pharmacies, and ‘barriers’ that have been overcome by them in order to achieve that success. Prescribing by community pharmacists as a cognitive service however, remains the exception rather than the rule. To enable community pharmacist prescribing to develop further, it could be suggested that support be given, to cultivate these positive factors and to remove the ‘barriers’, which will serve to facilitate the development of community pharmacist prescribing. However, as discussed previously, (sections 1.2.5 and 1.2.7.3.1) studies have argued that despite the presence of facilitators, or the removal of identified ‘barriers’, there is still a need for a greater understanding of change processes and
the identification of a missing driver by the pharmacy world, before a large number of pharmacists will provide cognitive services such as NMP. It has been suggested that a change in organisational culture may be this driver. Community pharmacy based NMP services offer a new and dynamic model of healthcare delivery to patients. This new model of care will impact considerably on the current organisational structure and, as such, strong leadership will be required to bring it about and drive it forward. Drivers initiated at a political level will be required to ensure that they are of a sufficient power to succeed.

Aptly, the Royal Pharmaceutical Society (RPS), acknowledging the recent NHS reforms and an unprecedented era of economic, demographic and technological change, have recently commissioned a report – ‘Now or Never: Shaping pharmacy for the future’. The RPS recognised that this time of extreme change presents not just challenges but also opportunities for pharmacy. The report was commissioned to develop ideas regarding future models of care that can be delivered through pharmacy, and appears largely angled towards community pharmacy. The report claims that public awareness of pharmacy services is lacking and outward looking leadership is required at local and national levels to address this. The report also suggests that pharmacy must recognise the imperative to shift their focus away from the dispensing and supply of medicines towards providing a broader range of services.

Community pharmacy based NMP services have the opportunity to develop within this tide of change and to use this Report as a driver for its cause.

The report has presented different recommendations for pharmacists, local commissioners, the RPS and leaders of the profession and the Government. A key recommendation is for NHS England to consider two separate core contracts for community pharmacy; one for dispensing and supply and one for service provision. Pharmacists should hold this second type of contract as individuals in professional ‘chambers’, rather than through their employers. If this recommendation were to be accepted, this could be a huge facilitator towards the expansion of NMP in community pharmacy. Central funding streams would be re-modelled
and potentially allow for finding for NMP without the pressure from the pharmacy employers to maintain revenue from dispensing. The conflicts of interest often cited as being an issue where NMP is carried out in a community pharmacy, as discussed previously (section 5.5.2.2), would also be diminished with this arrangement of two tiers of pharmacist roles.

The vital importance of pharmacists who develop NMP services to be innovators and motivators has also been discussed (section 5.5.1.1.) The report recommends the formation of a forum of “innovative” pharmacy leaders within the RPS. These leaders could include pharmacists who have established and developed NMP services previously in community pharmacy and campaign for the development of community pharmacist prescribing.

Elizabeth Sukkar, writer for the Pharmaceutical Journal, stated, “So far there has been little political will in dark government circles to move the pharmacy agenda forward, but possibly this report may be the bright spark pharmacy needs.” This report may well be the “bright spark” also needed by NMP.

The RPS report was written with regard to pharmacy in England. In Scotland however, two landmark documents have also recently been published. These are firstly, a ‘Review of NHS Pharmaceutical Care of Patients in the Community in Scotland’ and secondly, a ‘Prescription for Excellence – A Vision and Action Plan for the Right Pharmaceutical Care through Integrated Partnerships and Innovation’. ‘Prescription for Excellence’ has stated that by 2023 all community pharmacists in Scotland are required to be independent prescribers. No further detail has been given as yet regarding the logistics. If this action plan is implemented, although unlike England and Wales availability of funding was not a problem for community based NMP services, this drive for all community pharmacists to become prescribers have made a huge impact on the development of community pharmacist prescribing in Scotland.
As previously discussed in the review of literature, one of the most frequently cited barriers to the delivery of a NMP service from a community pharmacy setting is the ability of the pharmacists to access patients’ healthcare records. Several of the pharmacists within the study, who considered it necessary to access patient records, overcame this barrier via various means. Previous attempts to permit community pharmacists access to patient records in England has been hampered due to the concerns of GPs over patient confidentiality. The challenge of obtaining access to patient records can therefore be seen as not just finding a solution to the logistics but also to that of altering organisational culture. A centralised strategy, supported at a political level, is therefore vital to the successful enablement of community pharmacists to access to patients’ records. The recent Caldicott Review of Information Governance has suggested that co-operation between the members of the healthcare team is essential in order to provide a seamless, integrated service to patients and that “Good sharing of information, when sharing is appropriate, is as important as maintaining confidentiality.” The Government’s response to the review has been positive and concurs with the need for members of the healthcare team to be able to share information effectively and to where necessary, have access to patient records.

In Wales, the Royal Pharmaceutical Society’s Welsh Pharmacy Board has also prioritised IT development across all sectors of pharmacy, and is working towards allowing access by pharmacists to independent health records. The Welsh Health Minister has described plans in partnership with the Royal College of General Practitioners to ensure that GPs and pharmacists can share essential patient information to improve patient care. These follow on from manifestos by the Royal Pharmaceutical Society and Community Pharmacy Scotland, who requested Scottish Ministers to remove barriers to pharmacist prescribing and allow shared health records. The Scottish Government has since committed to giving pharmacists online access to patient’s health records. If community pharmacists finally obtain access to
patient records through the political planning outlined above, this could be a massive facilitator for community pharmacist prescribing.

The opportunity is there, through the changes that are currently sweeping through the NHS in England, Scotland and Wales, for NMP at a community pharmacy level to become integrated as a key focus in the delivery of healthcare to patients.

5.7 Future research

This study has highlighted many areas that could form the basis of further research around pharmacist prescribing in a community pharmacy setting.

Barriers to prescribing based in a community pharmacy setting have previously been explored and reported in the literature.\(^2,3,5,6,150\) This study has gone further however, to examine actual successful models of community pharmacy based NMP services, and how the barriers were overcome in order for them to achieve success. Barriers previously cited by some as being insuperable, such as funding, have been shown to be surmountable and to be regarded as challenges rather than barriers. This study corroborates with previous literature\(^103\) by suggesting that some of these ‘barriers’ may be used by community pharmacists as an excuse in order to justify their lack of development of NMP services. Although a complex area, further exploration of why, despite the absence or removal of certain barriers previously cited as being of great significance, community pharmacists in the UK remain reluctant to advance into this area of practice. Investigations of pharmacy culture and change processes, for example, would be appropriate.

This study has highlighted the factors that have worked well and appear to have had a significant impact on the success of the NMP models studied; factors such as collaboration, the importance of ‘good relationships’ with GPs and the emerging place of innovation in community pharmacy. Although research into the impact of these factors on community
pharmacy services is increasing, further exploration of their contribution to the development and provision of community services such as NMP would be invaluable.

Dr James Kingsland, President of the National Association of Primary Care and National Practice Based Commissioning Clinical Network Lead, wrote in his foreword to Non-medical prescribing – A quick guide for commissioners:172

‘As the environment in which NHS services are delivered becomes more challenging and complex there is an ever increasing need for improved productivity without compromising quality. This challenge can only be met by all medical and non-medical healthcare professionals becoming actively involved in service redesign and gaining more efficiency in the deployment of NHS resource usage. Innovation is a key driver to enable this change, and the increase in non-medical prescribers is part of this. (p3)

The study of innovation in community pharmacy in particular is still in its infancy. Research into the application of innovation on community pharmacy based NMP services will increase understanding of how better to facilitate the future development of NMP services in a community pharmacy setting.

5.7 Conclusion

The research aim of this study was to explore and identify the likely predictors of successful NMP models in a community pharmacy setting. What worked well and what barriers were required to be overcome to achieve that success.

This study has achieved its research aim and has identified that the factors that appeared to work well and to contribute to the success of the NMP services studied. These included: having a ‘good relationship’ with local GPs, a high quality patient experience, availability of funding (in Scotland), collaboration with other healthcare professionals and strong pharmacist motivation. This study further identified the particular barriers which were required to be overcome and how this was done in order for the models studied to achieve success. These barriers included: obtaining funding (England and Wales), difficult relationships with nurses, a lack of support from employers and/or primary care organisations, access to patient records
and conflicts of the pharmacists’ interest. The pharmacists in this study however, appeared to look upon the barriers more as challenges than actual barriers.

The success of the NMP services studied has demonstrated that pharmacist led NMP services based in a community pharmacy setting can be a real option for the delivery of patient focused care within the community. Finally, although this study has been successful in achieving its research aim, in turn it has also served to highlight yet more questions to be answered in future research on this subject.
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Appendix 1: Structure of NHS Community Pharmacy Contract in England

Locally Commissioned Services

Locally commissioned community pharmacy services can be contracted via a number of different routes and by different commissioners, including local authorities (including DAATs), Clinical Commissioning Groups and NHS England's area teams.

Examples include:

EN1 Supervised Administration (Consumption of Prescribed Medicines)
EN2 Needle & Syringe Exchange
EN3 On Demand Availability of Specialist Drugs (Availability of Palliative Care or other Specialist Medicines)
EN4 Stop Smoking
EN5 Care Home (Support and Advice on Storage, Supply and Administration of Drugs and Appliances)
EN6 Medicines Assessment & Compliance Support
EN7 Medication Review (Full Clinical Review)
EN8 Minor Ailment Service
EN9 Out of Hours (Access to Medicines)
EN10 Supplementary Prescribing by Pharmacists
EN11 Emergency Hormonal Contraception
EN12 Seasonal Influenza Vaccination
EN13 Patient Group Directions
EN14 Chlamydia Screening & Treatment

Source: Pharmaceutical services negotiating Committee available at: http://psnc.org.uk/services-commissioning/4-service-domains/ [accessed 31st August 2013]
Appendix 2: Structure of the NHS Community Pharmacy

Contractual framework in Scotland

The NHS Community Pharmacy Contract in Scotland includes four core services:

• Chronic Medication Service (CMS)
• Minor Ailment Service (eMAS)
• Public Health Service (PHS)
• Acute Medication Service (AMS)

In addition to the core contract, additional services can be agreed and provided at either a local or a national level.

Chronic Medication Service (CMS)

Chronic Medication Service requires voluntary patient opt-in prior to participation. The three stages of the CMS process are underpinned by e-Pharmacy.

Stage 1 - Registration of patients

Stage 2 - Pharmaceutical Care Planning and Patient Profiling

Stage 3 - Shared care with the patient’s GP establishing a serial prescription for either 24 or 48 weeks and support for the patient using disease specific protocol.

Minor Ailment Service (eMAS)

Through eMAS eligible patients are able to have minor conditions assessed by their pharmacy. If appropriate they can be treated free of charge or referred on to their GP. To use the service, patients have to register with a pharmacy. This service is enabled by an electronic patient registration system where each patient is assigned their own unique Community Health Index (CHI) number. A central patient registration service maintains a register of patients, identified by their Community Health Index (CHI) number, and their eMAS registration status.
The formulary available to the pharmacist includes all Pharmacy and General Sales List medicines that are not blacklisted, dressings and appliances from Part 2 of the Drug Tariff, selected items from Part 3 of the Tariff, such as bug busting kits, and any Prescription Only Medicines agreed suitable and which are underpinned by a series of core Patient Group Direction (PGDs).

**Public Health Service (PHS)**

Within the Public Health Service (PHS), pharmacies are expected to encourage health promotion by participating in national public health window displays and providing health education information to patients. They are expected to participate in national and local public health campaigns. In addition, pharmacies provide two services as part of the PHS - smoking cessation and provision of emergency hormonal contraception.

**Acute Medication Service (AMS)**

Despite its name the AMS encompasses both repeat and acute prescriptions which are processed electronically. Patients can use any pharmacy and do not have to register for this element of the contract. The pharmacist scans the prescription which is downloaded to the PMR system from the Prescription Message Service (PMS), and once dispensed the claim is sent electronically for re-imbursement.

**Additional services**

National services include: an Ostomy Service and the Unscheduled Care (CPSU) PGD which allows Pharmacists to write and dispense prescriptions for a patient's repeat medication when their GP is not available. Locally negotiated services include:

- Advice to Residential Homes
- Dispensing of Methadone for Drug Users
- Domiciliary Oxygen Service
- Needle Exchange Services
- Disposal of Patients’ Unwanted Medicines

**Sources:**
Community Pharmacy Scotland. Available at: [http://www.communitypharmacyscotland.org.uk/] [accessed 31st August 2013]
Rx Systems. Available at:[http://www.rxsystems.co.uk/scotland]  [accessed 31st August 2013]
Appendix 3: Structure of the NHS Community Pharmacy

Contractual framework in Wales

Essentially, the current community pharmacy contract in Wales is structured similarly to the contractual framework in England, around three levels of services:

- Essential services
- Advanced Services
- Enhanced services

Essential services

Essential services are offered by all community pharmacy contractors as part of the NHS Community Pharmacy Contractual framework, these include:

- Clinical Governance
- Dispensing of Appliances
- Dispensing of Medicines
- Disposal of Unwanted Medicines
- Public Health (Promotion of Healthy Lifestyles)
- Repeat Dispensing
- Signposting
- Support for Self-Care

There are however minor differences in the specification and detail of some of the Essential Services in the Welsh compared to the English Community Pharmacy Contract.
Advanced Services

There are four Advanced Services within the NHS community pharmacy contractual framework. Community pharmacies can choose to provide any of these services as long as they meet the requirements set out in the Secretary of State Directions.

- Appliance Use Review (AUR)
- Medicines Use Review (MUR) and Prescription Intervention Service (PIS)
- Discharge Medicine Service (DMS)
- Stoma Appliance Customisation

Enhanced Services

Locally commissioned enhanced community pharmacy services can be contracted via the local Health Board or Trust. Examples include:

- Targeted medicines wastage
- Emergency Hormonal Contraception
- Seasonal Influenza Vaccination Service

Source:

Community Pharmacy Wales available at:
Appendix 4: Invitation letter to participate

Date

Dear [insert name of participant]

I am approaching you because it has been suggested by XXXXXXXXX at the XXXXX that you are an independent/supplementary pharmacist prescriber providing a service which involves you prescribing in a community pharmacy setting.

I am a pharmacist and an MPhil student at the University of Manchester. I would like to invite you to take part in a study that is attempting to identify the likely predictors of successful pharmacist prescribing clinics in community pharmacy - what works well, what barriers were required to be overcome and further still, how these barriers were overcome in order to achieve that success.

Despite the introduction of non-medical prescribing for pharmacists in 2003, uptake amongst community pharmacists in particular has been limited. Whilst the role of the pharmacist prescriber has developed and forged a path deep into the primary and secondary care sectors, it appears to have failed to thrive in the community pharmacy setting.

In some parts of the UK however, community pharmacist prescriber clinics have overcome the challenges and have achieved success.

Current research into this area is lacking, but it is hoped that the results of this study will help to inform future community pharmacists when evolving and expanding the delivery of successful non-medical prescribing services from within a community pharmacy setting.

I hope that you will take the time to read the attached Participant Information Sheet which outlines the study in more detail and explains what will be involved if you agree to take part.

If you decide you may like to take part in the study please contact me on Louise.cope@manchester.ac.uk or telephone 07747130721.

Kind Regards

Louise Cope

BPharm (Hons) MRPharms Clin Dip PGCert Ed PIP
Appendix 5: Follow up letter to participate

DATE

Dear [insert name of participant]

Recently I contacted you because it was suggested by XXXX at XXXXX that you are an independent/supplementary pharmacist prescriber providing a service which involves you prescribing in a community pharmacy setting.

As I explained in my first letter to you I am a pharmacist and an MPhil student at the University of Manchester. I invited you to take part in a study that is attempting to identify the likely predictors of successful pharmacist prescribing clinics in community pharmacy - what works well, what barriers were required to be overcome and further still, how these barriers were overcome in order to achieve that success.

Despite the introduction of non-medical prescribing for pharmacists in 2003, uptake amongst community pharmacists in particular has been limited. Whilst the role of the pharmacist prescriber has developed and forged a path deep into the primary and secondary care sectors, it appears to have failed to thrive in the community pharmacy setting.

In some parts of the UK however, community pharmacist prescriber clinics have overcome the challenges and have achieved success.

Current research into this area is lacking, but it is hoped that the results of this study will help to inform future community pharmacists when evolving and expanding the delivery of successful non-medical prescribing services from within a community pharmacy setting.

I appreciate that your time is valuable but I hope that you will still consider taking part in the study. I have enclosed the Participant Information Sheet which outlines the study in more detail and explains what will be involved if you agree to take part.

If you decide you may like to take part in the study or would like more information please contact me on Louise.cope@manchester.ac.uk or telephone 07950004449.

Kind Regards

Louise Cope

BPharm (Hons) MRPharms Clin Dip PGCert Ed PIP
Appendix 6: Participant information sheet

Participant Information Sheet

Non-medical prescribing - successful models in community pharmacy

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why this research is being done and what it will involve. Please take the time to read the following information and discuss it with others if you wish. If you have any other questions or clarifications, please do not hesitate to contact me on the details given below.

What is the purpose of the study?

The purpose of this study is to identify likely predictors of successful non-medical prescribing clinics in the community pharmacy setting - what works well, what barriers were required to be overcome and further still, how these barriers were overcome in order to achieve success. Current research into this area is lacking, but it is hoped that the results of this study will help to inform future community pharmacists when evolving and expanding the delivery of non-medical prescribing services from within a community pharmacy setting.

Why have I been invited?

You have been invited to take part in this study as you have been identified as a qualified pharmacist prescriber who is currently prescribing in a community pharmacy setting and has been involved in the development and/or setting up of this service.

Do I have to take part?

No. It is up to you whether you decide to take part in the study. You are free to withdraw at any time, without giving a reason.

What will happen to me if I decide to take part?

You will be asked to take part in an initial telephone interview with myself at a time convenient to you. This will involve answering questions about the prescribing service you currently provide. The initial questions will focus on your involvement with the service, but may go on to encourage you to discuss how and why the service was set up and why you think that the service is successful; furthermore what challenges and barriers the service has had to overcome to achieve success. It is expected that this interview will last no more than 30 minutes.

A smaller number of participants will be invited to participate in the next stage of the study. This would involve me coming along to visit you at the pharmacy, again at a time convenient to yourself to undertake a face to face interview. This second interview would give us the opportunity to discuss and explore the information you have given me previously about your service in more depth and enable me to observe the location from where the service is delivered. It is expected that this interview will last no more than one hour.

All interviews will be audio-recorded with your consent.
All interviews will be audio-recorded with your consent.

**Are there any risks or benefits to taking part?**

I am not aware of any risks or advantages you may experience. However, participation may provide you with a chance to reflect on your practice and the service you provide. You could use your experience of taking part in this study as part of your continued professional development.

**Will the information about me remain confidential?**

Yes. All the information which is collected about you during the course of the research project will remain confidential at all times.

The only occasion that this confidentiality will be broken is if, during the interview, you disclose some unsafe, unethical or illegal practice that has not been previously reported through the appropriate channels. In these cases I will have a professional obligation to make the necessary report myself. The interview will be stopped, the matter discussed with you to make it clear what is happening, before I then discharge that responsibility.

Data from the study will be stored for a period of five years, locked in an archive area of the university and then destroyed.

**What will happen with the results of the study?**

The results of the study will be analysed and may be published in professional journals and at conferences. The results will also contribute to the completion of a postgraduate dissertation which will be stored in the University of Manchester’s library. I can assure you that complete confidentiality will be maintained. All data collected will be anonymised and findings reported from the study will not enable anyone to recognise you.

**Who has organised and reviewed the study?**

The study has been organised and funded by the School of Pharmacy and Pharmaceutical Sciences at the University of Manchester and approved by the University Ethics Committee.

**What if there is a problem?**

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions. If they are unable to resolve your concern or you wish to make a complaint regarding the study, please contact a University Research Practice and Governance Co-ordinator on 0161 275 7583 or 0161 275 8093 or by email to research-governance@manchester.ac.uk.
What do I do next?

If you decide you may like to take part then please contact me via:-

Louise Cope BPharm(Hons) MRPharmS  School of Pharmacy and Pharmaceutical Sciences, University of Manchester, FREEPOST MR9661, Room 1.31, 1st Floor Stopford Building, Manchester, M13 9PT  or email: Louise.cope@manchester.ac.uk

If you need further information please do not hesitate to contact me or if you would rather talk to my supervisor about this project please feel free to do so.

Dr Mary Tully: 0161 275 4242 or email: mary.p.tully@manchester.ac.uk
Appendix 7: Participant consent form

Non-medical prescribing - successful models in community pharmacy

CONSENT FORM

If you are happy to participate please complete and sign the consent form below

Please initial box

1. I confirm that I have read and understood the attached Participant Information Sheet on the above study and have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason and without any consequences for me.

3. I understand that the interview(s) will be audio-recorded and I give my consent for this recording to be made.

4. If selected, I agree to participate in the second stage of the study i.e. the face to face interview.

5. I agree to the use of anonymous quotes from my interview in publications and presentations arising from this study.

6. I agree that all information I provide will be treated as confidential and will be anonymised.

7. I agree to take part in the above study.

_________________________  ______________________  ________________
Name of Participant        Signature              Date

_________________________  ______________________  ________________
Researcher                Signature              Date
Appendix 8: Telephone interview schedule

Non-medical prescribing – successful models in community pharmacy

Telephone Interview Schedule

Introduction

The purpose of the interview is to explore your experiences of setting up and/or the running of a successful community pharmacy based pharmacist prescribing service; your opinions as to why the service is a success and how the service has overcome the challenges presented to it to succeed.

A service defined as successful where, a clinic, having been set up is still functioning and maintaining provision of a service involving pharmacist prescribing for at least three months.

Confidentiality is assured at all times and information analysed or reported from this interview will not enable anyone to recognise you. Patient information is not required; if however, patients are mentioned during the interview their details will be immediately removed from all records.

The only occasion that confidentiality will be broken is if you disclose some seriously unsafe, unethical or illegal practice that has not been previously reported through the appropriate channels. In these cases I will have a professional obligation to make the necessary report myself. The interview will be stopped, the matter discussed with you to make it clear what is happening, before I then discharge that responsibility.

It is not necessary for you to name other people during the interview. The use of a job title alone would be sufficient.

The interview will last up to 30 minutes approximately. This may be more or less depending how chatty we are. The areas to be covered include a few questions about yourself and your background, the particular situation I asked you about and also a few general questions about this topic.

The interview will be audio-taped unless you are opposed to this; in which case I will take written notes alone. The tapes will be kept securely for five years after the study is completed and then destroyed.

Can I first ask you if you are involved in any existing research or have recently been involved with any research prior to this study?

Do you have any questions before starting the interview?
Telephone Interview - Section One

Can you tell me a little about yourself?

- Are you a locum or employee pharmacist?
- How long have you been qualified as a pharmacist?
- Are you an independent (IP) or supplementary (SP) pharmacist prescriber?
- When did you qualify as a pharmacist prescriber?
- Were you involved in the setting up of the service or did your involvement start later?
- If you weren’t involved in the setting up of the service, when did you become involved?
- Can you give me the details of the pharmacist(s) that were involved with setting up the service?

Can you tell me a little about the service?

- Is the service provided by a “multiple” or an independent pharmacy?
- When was the service first set up?
- Have there been breaks in delivery of the service?
- What are the types and number of clinics you run per week?
- What is the average number of patients per clinic per week?

Depending on the resulting answers from section one, the interview will now take one of two directions:

1) From the conversation that we have had and the details of the service you have shared with me, I think that I have enough information from you and will not be asking you to take part in the next stage of the study i.e. the face to face interview. Thank you for allowing me to take up your time and for participating in the study. (Skip to Post Interview.)

Or

2) I am interested to hear that you were involved in the setting up and/or development of the service. Would you mind telling me about this little more depth? (Proceed to section two of the interview schedule).
Telephone Interview - Section Two

Prompts will be used to obtain more in-depth information regarding the service.

Prompts:

- Could you say something more about that?
- Can you give a more detailed description of how that is done?
- You said...what do you mean by that?
- Tell me what you are thinking
- Why did you hesitate just then?
- How did you go about overcoming that challenge?

Areas to discuss in general include the impact of the following themes on the setting up, development, day to day running and sustainability of the service (positive and negative):

- Was there a local need identified (or a particular driver) to support the establishment of the service e.g. Pharmaceutical Needs Assessment?
- Geographical location e.g. country, rural/urban.
- Opinion of the local medical profession on the service.
- Funding both for setting up the service and remuneration for service provision.
- Infrastructure e.g. IT connectivity and access to and recording in the patient records.
- Time commitments to:
  - Set up the service
  - Engage relevant parties
  - Develop systems and protocols
  - Ensure governance arrangements in place.

- Integration into the healthcare team and organisational recognition e.g. method of referrals to and signposting from the service.
- Publicity and networking to promote the service to both health professionals and patients.
- Recognition by healthcare professionals and the public.
- Skill mix of staff and pharmacist locum cover in the pharmacy.
- Space to deliver the service e.g. private consultation rooms.
- Boundaries of responsibilities i.e. prescribing and dispensing in same pharmacy
- Other challenges or barriers perceived by the pharmacist.
- Vision and drive of the pharmacist responsible for setting up the service.
- Vision and drive of the local commissioning body e.g. Primary Care Trust.
Concluding part

Is there anything else you would like to talk about? Or anything you would like to go back to?

This interview has been extremely valuable to the research. I would however like the opportunity to explore some of the issues in more detail with you. I wonder if you are willing to participate in the next part of the study. This would involve a face to face interview with me, carried out at a time convenient to you in the pharmacy from where you provide the service. I anticipate that this second interview would take up to an hour.

*If the participant agrees to participate in the next stage of the study a date and time will be agreed for the face to face interview.*

*If the participant does not agree to continue on to the next stage* go to Post Interview.

Switch off the tape recorder

Post interview

I would like to thank you again for your time. If desired a copy of the interview transcript can be posted on to you. When the study is completed a summary of the findings will be sent to you if you so wish. In the meanwhile please feel free to contact me if you have any questions or other issues would like to discuss.

I would like to thank you for your time.
Appendix 9: Face-to-face interview schedule
Non-medical prescribing – successful models in community pharmacy

Part THREE

Face to face Interview Schedule

Introduction

The purpose of the interview is to further explore your experiences of setting up and the running of a successful community pharmacy based pharmacist prescribing service; your opinions as to why the service is a success and how the service has overcome the challenges presented to it to succeed.

A service defined as successful where, a clinic, having been set up is still functioning and maintaining provision of a service involving pharmacist prescribing for at least three months.

Confidentiality is assured at all times and information analysed or reported from this interview will not enable anyone to recognise you. Patient information is not required; if however, patients are mentioned during the interview their details will be immediately removed from all records.

The only occasion that confidentiality will be broken is if you disclose some seriously unsafe, unethical or illegal practice that has not been previously reported through the appropriate channels. In these cases I will have a professional obligation to make the necessary report myself. The interview will be stopped, the matter discussed with you to make it clear what is happening, before I then discharge that responsibility.

The interview will last up to one hour approximately. This may be more or less depending how chatty we are. The areas to be covered include a few questions about yourself and your background, the particular situation I asked you about and also a few general questions about this topic.

This may be more or less depending how chatty we are. The areas to be covered include a few questions about yourself and your background, the particular situation I asked you about and also a few general questions about this topic.

The interview will be audio-taped unless you are opposed to this; in which case I will take written notes alone. The tapes will be kept securely for five years after the study is completed and then destroyed.

Do you have any questions before starting the interview?

Prompts will be used to obtain more in-depth information regarding the service.
### Areas to be discussed will depend on:-

- Data obtained from the previous interview i.e. has the participant told the researcher what they need to know.
  - Is an area is worthy of further exploration?
  - Have gaps in data been identified?
- Areas identified for discussion from previous interviews.
- The participant’s wishes to add further details to a previously discussed area or discuss an unidentified area.

### It is anticipated that discussion will still be structured around the impact of the following themes on the setting up, development, day to day running and sustainability of the service (positive and negative).

- Was there a local need identified (or a particular driver) to support the establishment of the service e.g. Pharmaceutical Needs Assessment?
- Geographical location e.g. country, rural/urban.
- Opinion of the local medical profession on the service.
- Funding both for setting up the service and remuneration for service provision.
- Infrastructure e.g. IT connectivity and access to and recording in the patient records.
- Time commitments to:
  - Set up the service
  - Engage relevant parties
  - Develop systems and protocols
  - Ensure governance arrangements in place.
- Integration into the healthcare team and organisational recognition e.g. method of referrals to and signposting from the service.
- Publicity and networking to promote the service to both health professionals and patients.
- Recognition by healthcare professionals and the public.
- Skill mix of staff and pharmacist locum cover in the pharmacy.
- Space to deliver the service e.g. private consultation rooms.
• Boundaries of responsibilities i.e. prescribing and dispensing in same pharmacy
• Other challenges or barriers perceived by the pharmacist.
• Vision and drive of the pharmacist responsible for setting up the service.
• Vision and drive of the local commissioning body e.g. Primary Care Trust.

Concluding part

Is there anything else you would like to talk about? Or anything you would like to go back to?

Switch off the tape recorder

Post interview

I would like to thank you for your time. This interview has been extremely valuable to the research.

If desired a copy of the interview transcript can be posted on to you. When the study is completed a summary of the findings will be sent to you if you so wish. In the meanwhile please feel free to contact me if you have any questions or other issues would like to discuss.
Appendix 10: Ethics Committee letter of study approval (with conditions)

Secretary to Research Ethics Committees
Room 2.004 John Owens Building
Tel: 0161 275 2206/2046
Fax: 0161 275 5307
Email: research.ethics@manchester.ac.uk
Ref: ethic/10420

Ms Louise Cope,
MPhil student,
School of pharmacy and Pharmaceutical Sciences
Stopford Building

25th April 2011

Dear Louise,

Research Ethics Committee 1
Cope, Tully: Non-medical prescribing - successful models in community pharmacy (ref 10420)

I write to thank you for attending the meeting on March 22nd and to confirm that, after the submission of the revised information sheet and amendments to the form, project has been given a favourable ethical opinion.

This approval is effective for a period of five years and if the project continues beyond that period it must be submitted for review. It is the Committee’s practice to warn investigators that they should not depart from the agreed protocol without seeking the approval of the Committee. Any significant deviation could invalidate the information arrangements and constitute research misconduct. We also ask that any information sheet should carry a University logo or other indication of where it came from, and that, in accordance with University policy, any data carrying personal identifiers must be encrypted when not held on a university computer or kept as a hard copy in a location which is accessible only to those involved with the research.

Finally, I would be grateful if you could complete and return the attached form at the end of the project or by March 2012.

Yours sincerely

Timothy Galbraith

Dr T P C Galbraith
Secretary to the University Research Ethics Committee

Reference: Report form

The University of Manchester; Oxford Road; Manchester M13 9PL; Royal Charter Number: RC20000391;
Appendix 11: Email from Ethics Committee of study approval

From: Timothy Stibbs
Sent: 19 April 2011 16:51
To: Louise Cope
Cc: mary.tully@manchester.ac.uk; louise.cope@cppe.ac.uk
Subject: RE: Consideration of ethics application 10420

Dear Louise,

Thank you for sending me the amendments to your ethics application. The notes from the meeting state that the following amendments or additions were requested:

Consent form and information sheet to be standardised
Submit letters from management of institutions giving permission to contact email addresses. Or the institution themselves make the contact on behalf of the researcher.
Add to the information sheet how long the participants’ audiotapes will be stored.
Explain how unsafe/unethical/illegal information will the dealt with.
Remove the word “successful” regarding community pharmacies.
Need to give university telephone number or purchase SIM card specifically for study but not use personal mobile number.

6.1 – clarification of safety plan for interviews regarding who is the contact point.

I have checked through these and confirm that all these have been completed. I assume from 4.8 of the form that you have opted for initial recruitment via the institutions making contact.

I am able to confirm, therefore, that your project now has ethical approval subject to the submission of those letters once you receive them. That means that you can start immediately.

I will follow up with a letter.

Best wishes

Timothy Stibbs