

Non-Medical Prescribing in Chronic Non-Malignant Pain

Obi Peter Adigwe

Submitted in accordance with the requirements for the degree of PhD

The University of Leeds, School of Healthcare

March 2012

The candidate confirms that the work submitted is his own, except where work which has formed part of jointly-authored publications has been included.

The contribution of the candidate and the other authors to this work has been explicitly indicated overleaf.

The candidate confirms that appropriate credit has been given within the thesis where reference has been made to the work of others.

This copy has been supplied on the understanding that it is copyright material and that no quotation from the thesis may be published without proper acknowledgement.

The right of Obi Peter Adigwe to be identified as Author of this work has been asserted by Obi Peter Adigwe in accordance with the Copyright, Designs and Patents Act 1988.

Publication

The following jointly authored paper included in this thesis emanated from the work carried out during this study.

- Adigwe, OP., Strickland-Hodge, B., Briggs, M., Closs, SJ. 2011 Prescribing By Pharmacists in the United Kingdom: What Can We Learn? *The Nigerian Journal of Pharmacy* 44:1

I conducted the literature review on which the article was based and conceived the idea of relating the findings to a developing country scenario.

Strickland-Hodge Barry, Briggs Michelle and Closs José provided advice on the structure and content of the article.

The above published article is included as an appendix to this thesis.

Acknowledgements

I would like to thank Professor José Closs and Drs Briggs and Strickland-Hodge for the immense support they provided as my supervisors.

I would also like to extend my gratitude to the prescribers, patients, colleagues and others that facilitated my work at the University of Leeds.

I finally thank Dr and Mrs Justin and Theresa Adigwe whose enduring guidance and support led me to this stage, Kaneto and Kali for the light they have brought into my life and most importantly Tochi whose patience, love and understanding ensured the completion of this thesis.

Abstract

INTRODUCTION: Chronic non-malignant pain poses considerable risk to patients and the health service but its management is still inadequate. The introduction of prescribing for nurses and pharmacists suggests that non-medical prescribing can improve some important aspects of healthcare services

AIM: To provide new insights and theory regarding how nurses and pharmacists prescribe for chronic pain, together with how the service is perceived by chronic pain patients and to uncover barriers and facilitators encountered when this group is prescribed for.

METHOD: A mixed methods strategy was employed in this study. A grounded theory approach was used to collect data from non-medical prescribers and patients. Non-medical prescribers were then surveyed to confirm the emerging theory and determine barriers and facilitators.

FINDINGS: The theory 'safety and support within the prescribing environment' explains the relationship that non-medical prescribers have with colleagues, patients and other factors in their prescribing environment in their prescribing for chronic pain. Non-medical prescribers are motivated by various factors and may adopt an innovative or conservative approach in their prescribing. Nurses were more likely to engage in informal mentoring relationships, but were limited by their lack of medication knowledge. Pharmacists were limited by a lack of experience with patients, inaccessibility to formal CPD in paid work time and the threats introduced by concerns around 'second checking'. Chronic pain patients had strategies to maintain relationships with their prescribers and this relationship influenced the likelihood of considering other measures to cope with their pain.

CONCLUSION: Nurses and pharmacists who qualified as prescribers would be more likely to prescribe for chronic pain if they perceived certain essential elements in their prescribing environment. This theory can facilitate assessment of non-medical prescribers' support, involvement of patients and the development of resources to encourage prescribing.

Table of Contents

Contents

Non-Medical Prescribing in Chronic Non-Malignant Pain	1
Publication	2
Acknowledgements.....	3
Abstract.....	4
Table of Contents	5
List of Tables and Figures	9
List of Appendices.....	10
Abbreviations	11
CHAPTER 1	
INTRODUCTION.....	13
1.1 Background	14
1.2 My place in this study – a reflective account	17
1.2.1 Professional background	17
1.2.2 Being an international student.....	18
1.3 Terminology and writing style	19
1.4 Structure of the thesis.....	20
CHAPTER 2	
LITERATURE REVIEW.....	23
2.1 Introduction	23
2.2 Method of the literature review	23
2.3 Results	24
2.3.1 Views and experiences of non-medical prescribers.....	24
2.3.2 Patients’ views and experiences of non-medical prescribing	32
2.4 Limitations of the literature review	39
2.5 Conclusion	39
2.6 Research questions.....	41
CHAPTER 3	
METHODOLOGY.....	43
3.1 Introduction	43
3.2 Methodology	43
3.2.1 Qualitative or quantitative.....	43
3.2.2 Mixed methods.....	44

3.2.3 Qualitative research.....	45
3.2.4 Grounded theory.....	46
3.2.5 Constructivist grounded theory.....	48
3.3 The bigger picture.....	50
3.4 Chapter summary.....	51
CHAPTER 4	
A GROUNDED THEORY EXPLORATION OF NURSES' AND PHARMACISTS' VIEWS AND EXPERIENCES OF PRESCRIBING FOR CHRONIC PAIN.....	53
4.1 Introduction.....	53
4.2 Methods.....	53
4.2.1 Ethics and research governance.....	54
4.2.2 Sampling.....	55
4.2.3 Data collection.....	57
4.2.4 Data analysis.....	59
4.2.5 Quality in data management.....	66
4.3 Results.....	68
4.3.1 Demographics.....	69
4.3.2 Motivation.....	73
4.3.3 Approaches.....	85
4.3.4 Nature of the prescribing environment.....	95
4.3.5 Acquiring knowledge.....	121
4.3.6 Gaining experience.....	131
4.3.7 Reflecting on practice.....	139
4.3.8 Health information technology.....	145
4.4 Discussion.....	154
4.4.1 Approaches.....	154
4.4.2 Motivation.....	155
4.4.3 Acquiring knowledge and reflecting on prescribing.....	157
4.4.4 The role of gaining experience.....	158
4.4.5 Health information technology.....	160
4.4.6 Nature of the prescribing environment.....	161
4.5 Chapter summary.....	166
CHAPTER 5	
SURVEY OF NON-MEDICAL PRESCRIBERS.....	168
5.1 Introduction.....	168
5.2 Methods.....	168

5.2.1 Questionnaire design.....	168
5.2.2 Quality.....	169
5.2.3 Piloting.....	171
5.2.4 Sample.....	171
5.2.5 Inclusion and exclusion criteria.....	172
5.2.6 Data collection.....	172
5.2.7 Data analysis.....	173
5.3 Results.....	173
Demographics.....	174
5.3.2 Nature of the prescribing environment.....	175
5.3.3 Acquiring knowledge.....	177
5.3.3 Gaining experience.....	181
5.3.4 Health information technology.....	182
5.3.5 Logistic regression.....	184
5.3.6 Missingness.....	185
5.4 Discussion.....	186
5.4.1 Demographics.....	186
5.4.2 Nature of the prescribing environment.....	187
5.4.3 Acquiring knowledge.....	188
5.4.4 Gaining experience.....	189
5.4.5 Health information technology.....	190
5.5 Chapter summary.....	190

CHAPTER 6

A GROUNDED THEORY EXPLORATION OF PATIENTS' VIEWS AND EXPERIENCES OF PRESCRIBING BY NURSES AND PHARMACISTS FOR THEIR CHRONIC PAIN.....	193
6.1 Introduction.....	193
6.2 Methods.....	193
6.2.1 Ethics and governance.....	194
6.2.2 Sampling.....	194
6.2.3 Data collection.....	195
6.2.4 Data analysis and ensuring quality.....	196
6.3 Results.....	197
6.3.1 Demographics.....	197
6.3.2 Interacting with non-medical prescribers.....	200
6.3.3 Dealing with medication.....	209
6.3.4 Exploring other measures.....	215

6.4 Discussion	223
6.4.1 Non-medical prescribing and using medicines	223
6.4.2 Using other measures	225
6.5 Chapter summary	227
CHAPTER 7	
INTEGRATED DISCUSSION AND CONCLUSION.....	229
7.1 Introduction	229
7.2 Theoretical model.....	231
7.3 Integrated discussion.....	232
7.3.1 Nature of the prescribing environment	232
7.3.2 Approaches: innovative vs. conservative.....	234
7.3.3 Knowledge and experience	234
7.3.4 Health information technology	235
7.3.5 Motivation.....	235
7.3.6 Relationships between chronic pain patients and non-medical prescribers	236
7.3.7 Depending on other measures	236
7.4 Limitations of the thesis.....	237
7.4 Conclusion	239
7.5 Recommendations.....	240
7.5.1 For research.....	240
7.5.2 For policy	241
7.5.3 For practice.....	241
7.5.4 For education.....	241
7.6 Dissemination strategy	242
REFERENCES.....	243
APPENDICES	257

List of Tables and Figures

Tables

Table 1: Characteristics of non-medical prescribers	69
Table 2: Respondent demographics and prescribing status.....	174
Table 3: Components of a ‘safe environment’ with respect to prescribing.....	175
Table 4: Trust as a facilitator to prescribing for chronic pain	177
Table 5: Level agreement to statement relating to CPD-needs in prescribing	178
Table 6: Level of agreement to statement regarding gaining experience.....	181
Table 7: Level of importance attributed to aspects of health information technology.....	183
Table 8: Access to prescribing software as facilitator for prescribing for chronic pain...	183
Table 9: Access to patients’ records as facilitator for prescribing for chronic pain	184
Table 10: Logistic regression showing significant variables (in the equation)	184
Table 11: Characteristics of patients	197
Table 12: Publication plan	242

Figures

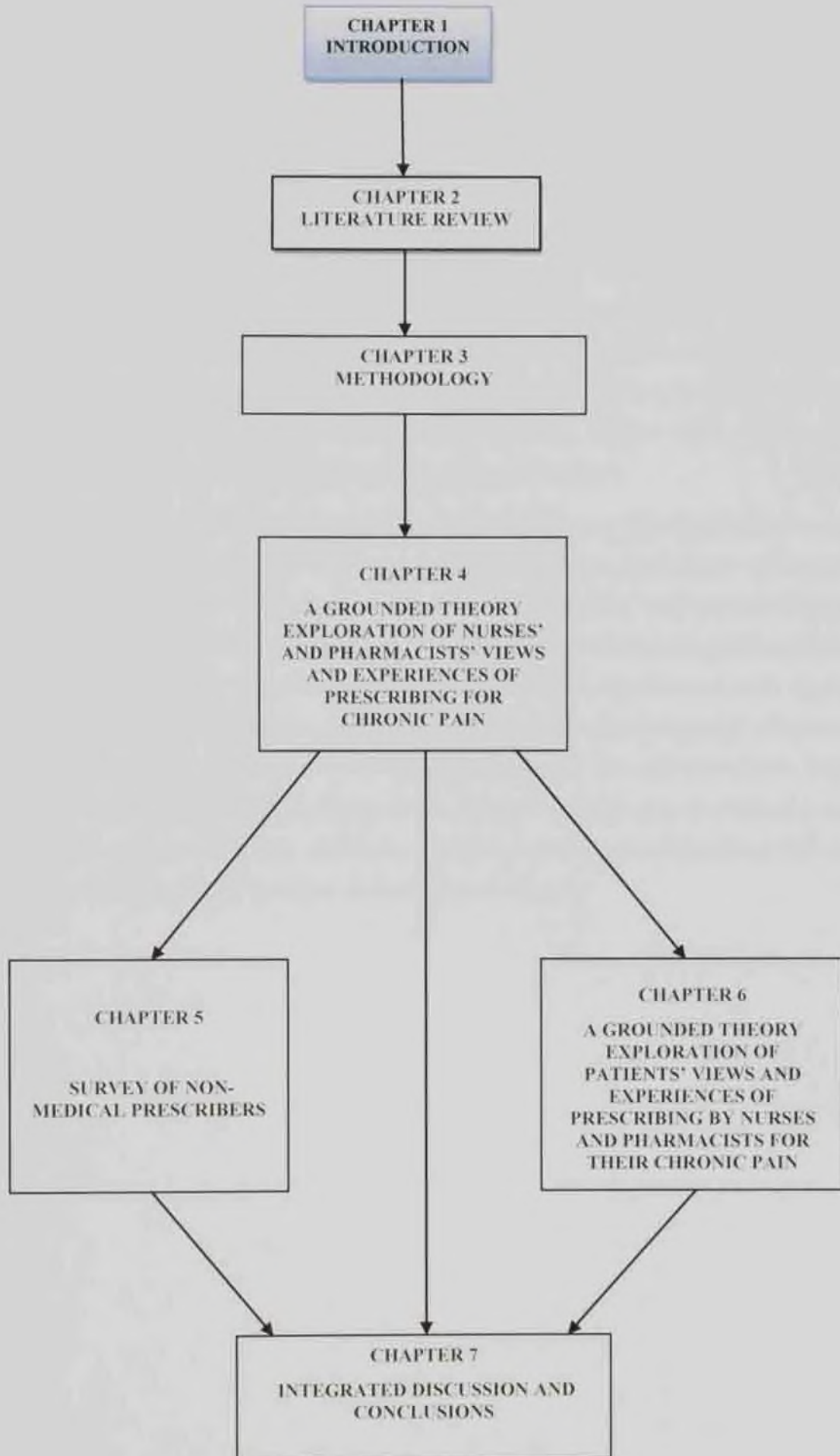
Figure 1: First Level Coding	61
Figure 2: Second Level Coding.....	62
Figure 3: Third Level Coding	64
Figure 4: Coding Diagram	65
Figure 5: Diagram of coding – non-medical prescribers.....	72
Figure 6: Facilitators to prescribing for chronic pain.....	176
Figure 7: Access to CPD during paid work time.....	178
Figure 8: Preference regarding access to CPD during paid work time	179
Figure 9: Preference regarding carrying out CPD in own time.....	179
Figure 10: Forms of CPD carried out by non-medical prescribers.	180
Figure 11: Lack of relevant experience as a barrier to prescribing for chronic pain.....	182
Figure 12: Diagram of coding – chronic pain patients.....	199
Figure 13: The integrated model for ‘safety and support within the prescribing environment’	230

List of Appendices

Appendix 1: Hits for literature search.....	258
Appendix 2: Letter from ethics meeting.....	263
Appendix 3: Favourable ethical opinion.....	268
Appendix 4: Research governance approval.....	275
Appendix 5: Ethics amendment letter.....	279
Appendix 6: Research passport.....	282
Appendix 7: Letter of access.....	286
Appendix 8: Prescribers' consent form.....	288
Appendix 9: Prescribers' information sheet.....	289
Appendix 10: Topic guide for non-medical prescribers.....	291
Appendix 11: Topic guide nurses and pharmacists not prescribing for chronic pain.....	294
Appendix 12: Memo.....	296
Appendix 13: Field note.....	297
Appendix 14: Meeting note.....	298
Appendix 15: Abstract from School of healthcare conference.....	299
Appendix 16: Abstract from British and Canadian Pain Society conference.....	300
Appendix 17: Coding diagrams for non-medical prescribers' project.....	301
Appendix 18: Non-medical prescribers' survey.....	308
Appendix 19: Draft of non-medical prescribers' survey.....	318
Appendix 20: Letter to non-medical prescribing leads.....	323
Appendix 21: Questionnaire flow chart.....	324
Appendix 22: Patients' information sheet.....	325
Appendix 23: Patients' consent form.....	327
Appendix 24: Topic guide for chronic pain patients.....	328
Appendix 25: Coding diagrams for chronic pain patients' project.....	330
Appendix 26: Journal publication.....	333

Abbreviations

AIDS.....	Acquired Immune Deficiency Syndrome
BMJ.....	British Medical Journal
BNF.....	British National Formulary
CPD.....	Continuing Professional Development
CRB.....	Criminal Records Bureau
DoH.....	Department of Health
DSS.....	Department of Social Security
EMIS.....	Egton Medical Information Systems
GP.....	General Practitioner
GPhC.....	General Pharmaceutical Council
HIV.....	Human Immuno-Deficiency Virus
OH.....	Occupational Health
PCT.....	Primary Care Trust
PGD.....	Patient Group Directions
MAS.....	Minor Ailment Scheme
MRCGP.....	Member of the Royal College of General Practitioners
QOF.....	Quality and Outcomes Framework
RPSGB.....	Royal Pharmaceutical Society of Great Britain
SF12.....	Short Form 12-Item Survey
TB.....	Tuberculosis
TTO.....	To Take Out
NICE.....	National Institute for Health and Clinical Excellence
NMC.....	Nursing and Midwifery Council



CHAPTER 1

INTRODUCTION

This thesis is a report of the research carried out during a PhD study undertaken at the University of Leeds' School of Healthcare. Two of the schools research groups, the Symptom Management and Long Term Conditions programme and the Medicines Management programme, were behind the initiation of this studentship. They focus on issues such as availability, access and adequacy of healthcare services for patients in general, including those that suffer from chronic non-malignant pain (chronic pain). This thesis could therefore be said to be a nexus in their research interests and has the potential not only to improve understanding of how people in chronic pain get treatment, but also to give more insight into the implementation of the 'non medical prescribing' policy in England.

This first chapter starts by providing a brief overview of the way that chronic pain is currently managed, as well as giving a contextual background to the development of non-medical prescribing in England. Following this, the reader is acquainted with the PhD student that played the role of the primary investigator. This early introduction is made in order to facilitate the reader's journey and is in line with the approach underpinning this work (this approach is further explained in chapter 3). A brief section then outlines the writing style adopted in this work and also introduces the more common terminology used throughout the thesis. Finally, a summary of the contents of each chapter of the thesis is then provided. It is intended that this 'chapter by chapter' summary in addition to the maps provided at the beginning of each chapter will improve the ease with which the entire thesis is navigated.

1.1 Background

Chronic pain has been defined as a continuous, unpleasant sensory and emotional experience which may be due to actual or potential tissue damage and has occurred for more than 12 weeks or past the time that healing would have been thought to have occurred in pain after trauma or surgery (Merskey and Bogduk, 1994; British Pain Society, 2011). This qualifying duration within which the pain is classified as chronic or persistent has also been extended to at least six months (Breivik et al., 2006). Chronic pain represents significant discomfort to individuals with the condition and also has important implications for the healthcare system that provides services for these individuals. In addition to the pain suffered by patients, there is evidence that the condition may also affect their quality of life, productivity and socioeconomic position (Breivik et al., 2006). In the UK, evidence suggests that between 20% (Smith et al., 2001) and 50% (Elliot et al., 1999) of the adult population may suffer from chronic pain, potentially constituting a major concern for healthcare providers.

Adequate standards of care regarding treatment and management of chronic pain are not being achieved. These relate both to how care in this area is provided and to issues in the way those patients with the condition access their care. From the perspective of healthcare providers, several reasons exist for the inadequacies in the current management of chronic pain. They include: communication related problems, such as disregard for the patients' perspective and non concordant practices (Breivik et al., 2006; Walsh et al., 2008); access to and availability of pain-specific training for clinicians (Stannard and Johnson, 2003); clinician related factors such as attitude towards the patient (Sherwood et al., 2000); concerns about the adequacy of analgesic prescribing by clinicians as well as the availability of qualified healthcare professionals to carry out this service (Schafheutle et al. 2001); access to related healthcare services (Green et al., 2003); and availability and effectiveness of such services when they are needed (Stannard and Johnson, 2003).

From the patient's perspective, chronic pain has been associated with other problems which though significant, may not initially seem important or apparent. It has been identified that the chronic and intractable nature of their pain renders this group of patients predisposed to disturbed social and vocational functioning (McCracken et al., 2002). For patients with chronic pain, there is also usually an additional need to address other behavioural and psychological issues that often arise from their condition (Walsh et al., 2008). As a result of these, it is not uncommon for patients with chronic pain to utilise considerably more healthcare services, compared to other members of the general population (Von Korff et al., 1991; Eriksen et al., 2003). Other related issues that may influence the way chronic pain is managed include the ambiguity expressed by patients regarding satisfaction with the service provided and their achievement of pain relief (Chung and Lui, 2003) as well as the propensity for these patients to

miss appointments and switch healthcare providers as a result of being dissatisfied with services received (McCracken et al., 2002).

In addition to these issues, studies have revealed that although more than 75% of chronic pain sufferers resort to conventional treatment for pain relief, the desired goal is not achieved in at least one in three patients (Breivik et al., 2006) and perhaps as a result of this, patients may seek additional care, even when it may not be advisable (McCracken et al., 1997). Some other measures that patients with chronic pain have been known to resort to for their pain relief include massage, home remedies, exercise and Transcutaneous Electrical Nerve Stimulation (TENS) (Ferrell et al., 1993; Shi et al., 2007; Nnoohan and Kumbang, 2008). Evidence suggests that some of these may not be as effective as conventional medicine (Shi et al., 2007). However, simultaneously accessing services from multiple providers may complicate the efficiency and effectiveness of their treatment.

Reforms in the United Kingdom aimed at improving the provision of health care (including the management of chronic pain) have resulted in the establishment of various schemes. Apart from non-medical prescribing which is the focus of this study, others include minor ailment schemes (MAS) and patient group directions (PGDs). It is beyond the purview of this work to discuss these and further details are available elsewhere (Blenkinsopp, 2003; Department of Health (DoH), 2009). Non-medical prescribing has undergone several changes since its inception. Initially, only some appropriately qualified community nurses could prescribe. The main aim of this policy was to improve the speed and access of care to patients while ensuring that safety was maintained (DoH, 2002). There were however concerns regarding how this was being applied in practice such as the potential for duplication of prescriptions due to the significant limitations in terms of the number of drugs that these nurses could prescribe (Mula and Ware, 2003). Subsequently, based on a review of the existing legislative framework on prescribing, supply and administration of medicines (DoH, 1999) further changes were made to include pharmacists and others, as well as to further develop the existing models to allow these healthcare professionals to prescribe.

Although now, some other healthcare professionals also have prescribing rights, nurses and pharmacists became the first major groups to achieve non-medical prescribing (DoH, 2008). Generally, for nurses and pharmacists, the two major categories of prescriber status are supplementary and independent. Nurse and pharmacist independent prescribers are able to prescribe medicines for any medical condition within their competence. For nurses this includes some controlled drugs (DoH, 2006a) but not for pharmacist independent prescribers currently. Supplementary prescribing on the other hand is subject to a partnership with an independent prescriber (a medical doctor or a dentist). This involves implementing an agreed patient-specific clinical management plan after obtaining the patient's consent and allows prescribing of any drug within the practitioner's competence (DoH, 2003).

The foremost objectives cited by the Department of Health (DoH) for putting in place the reforms that have led to prescribing rights for nurses, pharmacists and other healthcare professionals include the following:

- Improving healthcare services for patients
- Better access to medicines
- Availability of more choice for patients
- Cost efficiency
- Better use of the skills mix of healthcare professionals (DoH, 2008).

The evidence suggests that some of these objectives are being met. For instance, studies have found that prescribing by nurses and pharmacists has been associated with increased and safer access to medicines, as well as a perception of more effective use of healthcare professionals' expertise (Luker et al., 1998; George et al., 2006). Other related benefits that have also been associated with non-medical prescribing were better job satisfaction for nurses and pharmacists and a perception of a more important role in teams they belonged to (Warchal et al., 2006; Bradley and Nolan, 2007; Lockwood and Fealy, 2008). There have however also been pitfalls in the implementation of the policy. Some of the barriers that have been identified to the development of non-medical prescribing include a lack of adequate infrastructure such as prescribing pads and electronic prescribing packages (Baird, 2004; Warchal et al., 2006) and various other hurdles specific to their organisations (George et al., 2007). For others, lack of integration into the healthcare team and inadequate support from other members of the healthcare team were pinpointed as hindering the way that they were able to carry out their prescribing (Stenner and Courtenay, 2007; 2008). These barriers perhaps give an indication of why 50% of pharmacists (George et al., 2007) and 25% of nurses (Bradley et al., 2007) in their respective cohorts had not started prescribing more than six months after qualifying.

For some time now, there has been some awareness of the need for healthcare professionals to adopt a more patient oriented approach. In the 1970s, a working party report on pharmacy practice in hospitals urged pharmacists to take more responsibility for ensuring that together with colleagues, a more effective treatment was made available to patients (DSS, 1970). Recently, the focus of healthcare delivery on the patient has become even more important. The practice of concordance in the way that prescribing is carried out is an illustration of this paradigm. It has been suggested that focusing on the patient has the potential to achieve: better relationships between patients and prescribers; better understanding of the patient as a person and incorporation of the patient's perspective in terms of beliefs and expectations (Brown et al., 1995; Little et al., 2001). In line with this, clinicians have in recent years been encouraged to change from the paternalistic model of consultation and prescribing where patients were expected to 'comply with instructions', to the more concordant approach that regards the patient as an equal partner in the decision making process (Weiss and Britten,

2003). There is empirical evidence that when compared to control, the patient-focused model (Cox et al., 2003) and the adoption of a more concordant approach (Smith et al., 2008) may lead to an improvement in expected outcomes. Focusing on the patient and seeing them as partners have thus been suggested to have the capacity to improve the effectiveness of health care delivery (Law and Britten, 1995; Little et al., 2001; Weiss and Britten, 2003). It is therefore important that the consideration of patients' views and experiences form an integral part of any research into how non-medical prescribing may affect the way healthcare is provided for patients.

1.2 My place in this study – a reflective account

Initially, I was uncertain about including this section in the thesis because as the author of this document, it was rather difficult to draw a line between what constitutes a reflective account and a personal story. This account has been included to inform the reader of the context in which the study was carried out and more importantly, providing such an account is justified by the methodology underpinning this work that is the decision to adopt a constructivist approach. This is further explained in chapter 3.

The relevance of this account becomes clearer when the methodology underpinning this work is explained (in chapter 3), as well as when this approach is applied in the way that the qualitative data were collected, analysed and the results reported. From the onset and throughout this study, reflection was a regular exercise during the study design, data collection, analysis, results collation and writing up as such, this account integrates the possible influences from past professional experiences and an overview of other relevant aspects that may have influenced decisions taken during the study.

1.2.1 Professional background

My journey to this thesis did not actually start when I was admitted for a PhD in 2008, but rather in 2007 when I decided to come to the UK to study for a Masters in Global Health and Public Policy at the University of Edinburgh. Having previously studied pharmacy in the mostly 'chalk and talk' educational approach used at the time in Nigeria, I was very keen to use the masters degree to experience the more interactive learning style used here, as well as gain more insight into the British health care system.

During my scholarship interview, I recognised this project as one which would not only facilitate my learning process as an independent researcher, but would also enable me to gain considerable exposure to the highly regarded NHS (from a developing country perspective). So far this intuition seems to have paid off. An article authored by my supervisors and I regarding

the potential of pharmacy prescribing model in the UK for a developing country healthcare system, has been published in West Africa's most widely read pharmacy journal and has generated considerable debate (Adigwe et al., 2011).

Although my professional training (in pharmacy) has mostly been in the positivist paradigm, my masters degree marked the beginning of my exposure to other research approaches. In addition to being exposed to other important models of health care and types of health care systems than I was previously used to, considerable effort was made to broaden students' views and experiences of diverse research approaches. Unlike my British colleagues who may have been exposed to these other approaches at a much earlier stage of their educational career, this period was probably the foundation of the 'broad mindedness' that I depended on early in the PhD to match methodology to the research questions.

1.2.2 Being an international student

A considerable effort is made both by universities in general and supervisory teams to ensure that international research students are well supported in their studies here in the UK. For instance, most universities and faculties have international offices and international liaison officers dedicated to providing assistance specifically tailored for this group. However, there were certain experiences, which were encountered as a result of being an international student particularly from a developing country, which may have influenced aspects of my study.

Recently there have been a significant number of changes in the way that international students are monitored (UKBA, 2011) perhaps in a bid to prevent abuse of the immigration system. Keeping up with the constantly changing legislation, as well as always ensuring that the associated mandatory requirements are met requires considerable time and effort. Furthermore these have the potential to affect the psychological and other aspects of the students' welfare and in turn may influence the way that their research work is carried out.

For instance, increased vigilance on international students requires a minimum number of contacts with university officials, suggesting that they may not have the same level of flexibility in working that may be available to their colleagues (for instance working from home for extended periods). Also by the time that this thesis would have been submitted my family and I would have applied for and undergone at least three screenings for permission to be in and remain in the UK. Current requirements include the completion of a document (43- 53 pages long) for each member of the applicant's family, as well as evidence of minimum amounts of money for the applicant as well as for each dependent. It is possible that the uncertainty regarding the outcome of the application as well as the duration of the whole process (usually more than three months) may influence the aspects of the study being carried out at that particular time.

The requirements in terms of ethics and other administrative processes were a major challenge in the way I managed this study, perhaps due to my naivety of the administrative system in UK research. The ethics and governance application processes differ significantly from my previous experience in healthcare research. For instance, while ethics and governance approvals are given together by a central body in Nigeria (the ministry of health), here they are separate and are administered at Trust level, rather than centrally. Although now I feel that I have now gained considerable experience in navigating the ethical and governance space, on reflection I realise that I may have been quicker in gaining these approvals if I were more adept and savvy. It is possible that the considerable amount of time expended in achieving ethics and governance approvals may have impinged on the time taken to carry out this study

Finally, prior to coming to study in the UK, I had never heard of or been aware of the existence of CRB or OH checks. For researchers used to the system, these checks may be taken lightly. However certain aspects of these processes were quite daunting. For instance researchers from Sub-Saharan African countries may have to undergo additional tests (such as TB and HIV/AIDS) and the associated psychological effects may introduce more stress to their working environment.

Although professionally my training as a pharmacist together with the masters provided inside knowledge of the study area, my status as an international student also suggested that I was an outsider. This hybrid status may have enabled a fresh perspective to the way that research in this area was approached by the thesis.

1.3 Terminology and writing style

Two main writing styles dominate the way this work is presented. Firstly, a subjective temporal narrative has been used to present the results from the grounded theory phase in order to capture the reflective stance adopted as part of the approach. Here, there has been an alternation between the third and the first person narrative mode, to reflect the participants' views and experiences as well as my opinions and observations. This was done in line with the acknowledgement of the influence of my place (as the researcher) in the data collection and analysis. (This approach is further explained in chapter 3 where the constructivist approach chosen to underpin this study is explained and justified). However, in other areas of this work, a third person objective style has also been used. This is the case in the sections of this work such as the report of the quantitative project and the discussion. The change to this more objective style, though in line with the convention for reporting such research, also reflects my more objective stance in those aspects of this work.

As has been indicated in the first paragraph of this chapter, the term 'chronic pain' has been substituted for chronic non-malignant pain. This continues throughout this thesis. As such

although in the literature chronic pain includes pain of cancer origin, in the context of this work, chronic pain refers only to that of non-malignant origin and has only been used in this way to improve the flow of the thesis.

In this work, to facilitate reading and comprehension and to widen the readership where possible, I have limited the use of technical terms. For instance grounded theory terms have been substituted for language that may be regarded as more familiar to readers from diverse methodological backgrounds. However, in areas where these cannot be avoided, care has been taken to describe the terms the first time that they are used. Also in the presentation of the results from the qualitative projects, quotes and verbatim terms from the research participants have been used often to contextualize descriptions and help provide contextual descriptions to the theme being reported. This is in line with the use of 'in vivo' terms which are terms that emerged from the data in the same way that they were collected from the participants. This is consistent with the grounded theory approach. In the discussion, where the results from this study are situated within existing literature, where possible, these 'in vivo' terms are replaced with more acceptable definitive terms.

1.4 Structure of the thesis

The thesis is presented in seven chapters. At the beginning of each chapter, a visual aid in the form of a chapter map is presented. The chapter immediately following the map is highlighted in blue. Below are the synopses of all the chapters in this work.

Chapter 1: Introduction.

This chapter introduces the reader to the work and gives an indication of the origin of the research study. It provides the background for the relevant component topics and also introduces the reader to the researcher who carried out the study and authored this work. Finally it provides a means of helping to familiarise and signpost the reader to the remaining contents of the thesis.

Chapter 2: Literature review.

In this chapter, the scope of the relevant research area is defined. It provides details of the strategy employed in searching and retrieving relevant studies in this research area. Furthermore it provides information regarding the inclusion and exclusion of relevant studies and carries out a critical review of the selected works. Based on the critical review of the extant literature in this area, the research gaps are identified and the chapter is then concluded with the presentation of the formulated research questions.

Chapter 3: Methodology.

This chapter focuses on the consideration and choice of methodologies underpinning this work. The various relevant arguments for approaches considered are presented here and the justification for the chosen methodology is given.

Chapter 4: A grounded theory exploration of nurses' and pharmacists' views and experiences of prescribing for chronic pain.

This chapter provides an account of the grounded theory exploration of nurse and pharmacist prescribers' views and experiences. Here, the methods detail the stepwise processes employed in the data collection and analysis, followed by the results achieved in this project. This chapter is concluded by a discussion of the findings of this project in relation to the existing literature

Chapter 5: Survey of non-medical prescribers.

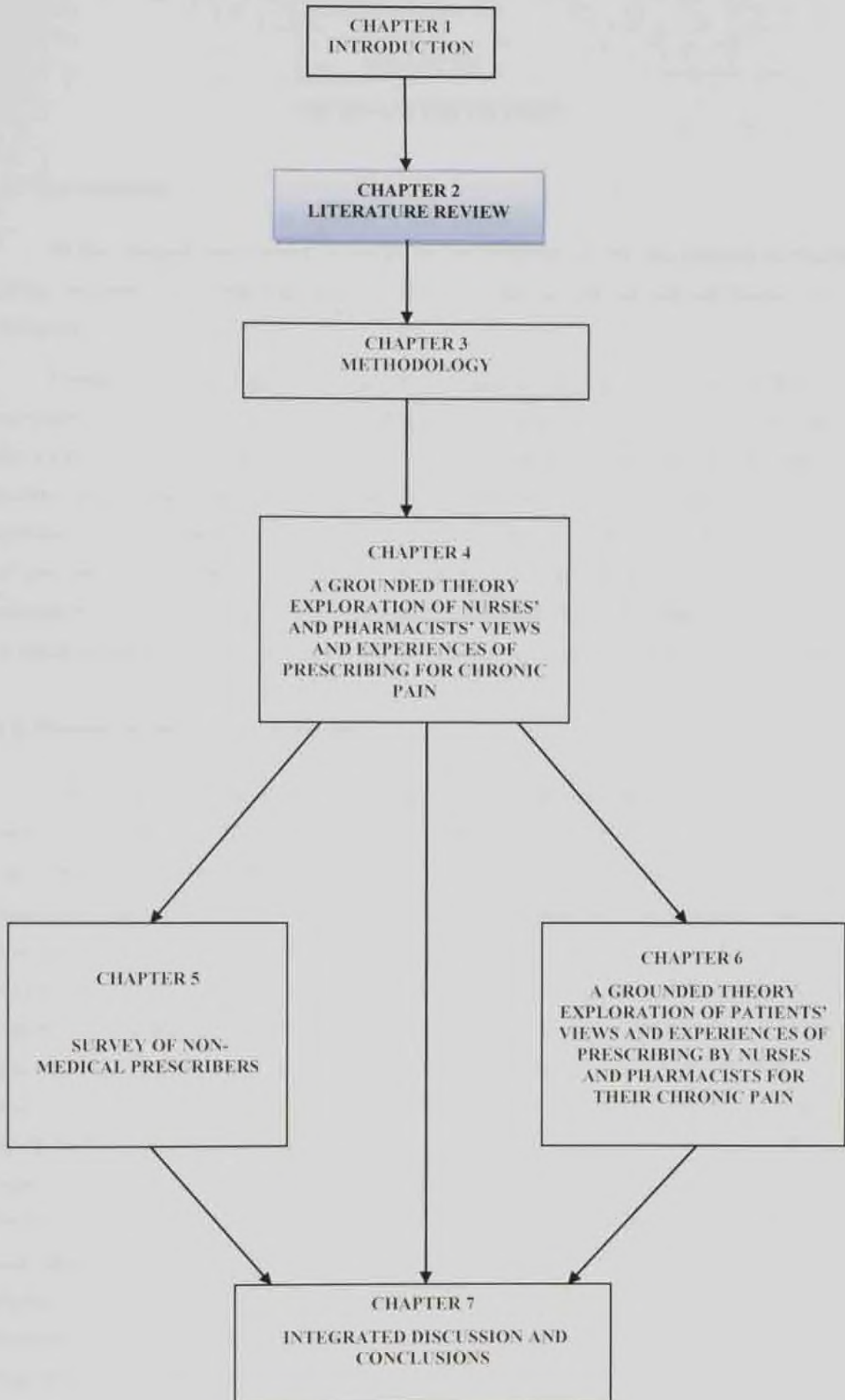
Here, the independent survey that was designed and carried out as part of the study is reported. Aspects of the emerging theory as well as other related barriers and facilitators were incorporated in the questionnaire designed in this project. The validated and piloted questionnaire was disseminated to qualified non-medical prescribers. Other aspects presented in this chapter include details of the analysis and the measures taken to ensure quality

Chapter 6: A grounded theory exploration of patients' views and experiences of prescribing by nurses and pharmacists for their chronic pain

This chapter presents the independent exploration of chronic pain patients regarding how they perceived non-medical prescribing. An overview of the methods employed in the data collection and analysis of this project is provided here. The results of this project are also given and discussed in relation to the existing literature.

Chapter 7: Integrated discussion and conclusion.

The discussion in this chapter integrates the distinct projects that made up this study. The theoretical model that emerged in this thesis is presented here. Recommendations for stakeholders and further research are given. The thesis is then concluded and the strategy for disseminating the findings given.



CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, the existing literature on the influence of the non-medical prescribing policy on provision of healthcare services and its impact on how patients are treated will be reviewed.

Firstly, the detailed manner in which the literature review search was carried out is presented in the methods section of this chapter. Here, although a systematic review was not part of the study, systematic methods were employed to ensure that as many relevant studies as possible were included. In the next two sections, the relevant articles are presented in two main sections: views and experiences of non-medical prescribers and patients' views and experiences of non-medical prescribing. In each of the above sections, the results as well as critical evaluation of the relevant articles are presented. In the final part of the chapter, the conclusion of the literature review is presented, leading into the research questions proposed for this study.

2.2 Method of the literature review

The literature review aimed at exploring existing literature to identify themes important to prescribing by nurse and pharmacists, as well as determining how this is currently being carried out in the area of chronic pain. The literature search was carried out systematically using the following databases: Embase, Medline, CINAHL, International Pharmaceutical Abstracts, Pharmline (National electronic Library for Medicines) and Index to Theses. Key words and phrases were used to focus the search and to identify relevant articles. In addition to this, sensitivity in the search was increased using wildcards and Boolean operators to ensure that all relevant articles within each database were captured. Two strategies were employed in the literature search. Firstly, multipurpose field searches, where keywords are searched in the most likely fields. Secondly, in indexed databases such as Pharmline and Embase subject headings were scrutinised in an attempt to identify areas likely to be missed out by the first strategy. Primary sources of government policies such as government publications and websites were consulted. Scanning of reference lists and citation indexing were carried out on the obtained papers. Colleagues were also asked for suggestions and conference abstracts were searched. Following the search, titles and abstracts were reviewed and if the relevant inclusion criteria were met, the articles were included in the review. The search terms and hits are presented in appendix 1

2.3 Results

The results of the literature review are presented in two sections: views and experiences of non-medical prescribers in the first, views and experiences of patients and service users in the second.

2.3.1 Views and experiences of non-medical prescribers

Preliminary searches revealed a significant amount of research focused on supplementary nurse and pharmacist prescribing. It was decided to exclude them to enable a more focused review of those that had included the more recent independent prescribing. Also, those nurses and pharmacists who qualify as independent non-medical prescribers also hold the supplementary prescribing qualification and so are more likely to have relevant experiences in using both modes of prescribing. Furthermore, the initial overview revealed the existence of research that involved both nurses and pharmacists together. These two initial groups of prescribers are the main focus of the current research so this was also included in the criteria for inclusion. However, any study that had focused on chronic pain irrespective of the mode of non-medical prescribing used or professional background of the prescribers involved was included.

2.3.1.1 Inclusion criteria

Any studies that reported having carried out original research in the following areas were included in the review:

- Nurse and pharmacist independent prescribing
- Non-medical prescribing for chronic pain
- Nurse supplementary prescribing for chronic pain
- Pharmacist supplementary prescribing for chronic pain

2.3.1.2 Exclusion criteria

The following were excluded from the review:

- Studies on extended formulary nurse independent prescribers
- Letters of opinion to peer reviewed journals
- Self reported descriptive studies
- Descriptions of single practice settings
- Editorials
- Non-English language studies

2.3.1.3 Studies involving nurse and pharmacists prescribers together

The literature review identified five studies that had explored the views and experiences of both nurse and pharmacist independent prescribers which were not specifically related to chronic pain. The first was an evaluation of how non-medical prescribing had been implemented in one

NHS hospital Trust (Shrestha et al., 2011). This study adopted a quantitative methodology in surveying their non-medical prescribers as well as some other healthcare professionals whose views were considered of interest. Their sampling frame included 6 pharmacist prescribers, 15 pharmacists who were not prescribers, 20 nurse prescribers and 60 doctors. They achieved 100% response rate for prescribing pharmacists; 93% for the pharmacists who were not prescribers; 35% for nurse prescribers and 20% for doctors. They found that while over three quarters of the pharmacist prescribers were concerned about competency regarding diagnostic skills, the nurse prescribers in their sample were not. They also found that the pharmacist prescribers expressed time constraints as a major barrier to their prescribing. In a similar vein, they found that the pharmacists who prescribed were still expected to fulfil similar duties to pharmacists who did not prescribe, in addition to their prescribing roles. Although most of their sample viewed non-medical prescribing positively in terms of improving patient care, almost half of the doctors in their sample had concerns about the professional boundary encroachment posed by non-medical prescribing (Shrestha et al., 2011).

While they compared views and experiences of pharmacist prescribers with those of pharmacists who were not prescribers they did not do the same for nurse prescribers. No explanation was provided for excluding nurses who were not prescribers from their sample. This omission may have influenced the findings of aspects where they compared pharmacists to nurses. The research team reported piloting the questionnaire; however, some important preliminary work usually undertaken before piloting were either not carried out, or omitted from their report. For instance, there was no indication as to whether validity and reliability tests were carried out and if so, how they were done. Similarly, they did not provide any information or justification as to how the attitudinal and other items that were included in their questionnaire were developed. It is unclear whether they relied on the extant literature, anecdotal evidence or other means to develop their questionnaire.

The second study focused on pharmacovigilance among nurse and pharmacist prescribers. In this study, Stewart and his colleagues (2011) adopted a quantitative design to survey non-medical prescribers' perceptions of training contributions and potential for enhancement, with respect to pharmacovigilance. In their sampling strategy they recruited nurse prescribers through one route (the Association of Nurse Prescribers), but then targeted pharmacist prescribers using at least four different routes. Using a web based questionnaire, they surveyed 912 nurse prescribers and 2439 pharmacist prescribers, achieving a response rate of 293 (32%) and 320 (13%) respectively. In their study, they found that a significant proportion of the non-medical prescribers surveyed felt that they needed to learn more about pharmacovigilance and reporting adverse drug reactions. Twenty-nine point six percent of the respondents said they were unsure about their competence in aspects of pharmacovigilance and 34.2% of the

population agreed that they needed further training with respect to pharmacovigilance. While 41.4% of the respondents had never submitted a yellow card, pharmacist prescribers were more likely to have reported adverse drug reactions than their colleagues in the nursing profession. Although the study participants reported being knowledgeable about the yellow card scheme, only 22.8% gave correct answers to questions about the scheme (Stewart et al., 2011).

In the UK, more nurse prescribers have qualified compared to pharmacist prescribers (Latter et al., 2010). But in this study, the sampling frame for pharmacist prescribers was almost three times that of nurse prescribers. No explanation was provided regarding why so many pharmacists were recruited, or why the response from this group was significantly poorer than nurses' response. In the parts of their study where they report the results of the statistical analysis carried out, they have included ($p < .001$) suggesting that this was the level at which a result would be deemed statistically significant. They did not however, go on to give more details about the type of tests that were applied to determine the statistical significance of the results. For instance, while the Chi-Square test is considered more appropriate for categorical variables, Fisher's Exact Test is considered more appropriate when at least one of the constituent entries is relatively small (Agresti, 1992).

In the third study, Maddox and colleagues (2010) looked at factors influencing prescribing decisions of nurses and pharmacists. They conducted 18 in-depth interviews with non-medical prescribers whom they had purposively sampled. They found that in contrast to doctors, non-medical prescribers, when faced with a prescribing opportunity made a decision whether to prescribe or to refer their patient to another prescriber. They also found that it was only after this first level of decision making, that these non-medical prescribers made their second decision, with regards to their patients' treatment options. In their study, nurses and pharmacists reported that the choices they made in their prescribing were influenced by their colleagues, regulatory influences, economic considerations, patient factors and the pharmaceutical industry.

Maddox and colleagues (2010) presented their findings in a conference and as such it is understandable that they may have been limited by the word count restrictions. There were however, several omissions in their submission. Firstly, there was little description of the sample that was recruited for the study. They did not indicate how many were nurses and how many were pharmacists. A better description, especially regarding level of experience, professional background and specialty may have provided more context to the results. Secondly, they adopted a qualitative approach in their study and as such carried out interviews which were recorded and transcribed. However, they did not provide any quotes from the participants to enable readers to relate with the emergence of their themes. Thirdly, there was no indication as to whether any measures were taken to ensure trustworthiness in their study. These are measures

that ensure that findings from qualitative research are dependable and worthy of confidence (Lincoln and Guba, 1985; Patton, 2002).

Maddox and colleagues also presented another report on research carried out on non-medical prescribers (Maddox et al., 2011). In this second study, they focused on how non-medical prescribers approached 'taking responsibility' for their prescribing. They used the critical incident technique to carry out semi-structured interviews with 15 nurses and 5 pharmacist prescribers whom they recruited by snowball sampling after contacting the first responders. They found that their study participants had a cautious approach when it came to taking responsibility for prescribing. Some of the reasons why this was the case included a perceived lack of support and potential criticism especially from the media, in the event that prescribing errors were committed. Their sample also felt that their approach may have been due to the emphasis placed on legal implications for mistakes made when prescribing. Furthermore, it was perceived that risk taking in prescribing fitted more with medical prescribing, than with non-medical prescribing.

In this second study, Maddox and colleagues provided further details of their study sample, compared to their earlier work (Maddox et al., 2010). They reported that interviews were carried out with 15 nurses and 5 pharmacists, but other than this, no further information was made available about the average numbers of years their participants had been prescribing, or the specialist areas that their sample was drawn from. Furthermore, there was no indication as to whether sampling stopped due to recruitment difficulties, or because saturation had been achieved. As in their earlier work, there was no indication of how quality was addressed during the study and no quotes from the participants were included.

The fifth study that was revealed in the literature review search was a review of independent prescribing by nurses and pharmacists and was carried out between 2008 and 2009 (Latter et al., 2010). In a rigorous and well designed study, they employed a number of methods in their data collection and analysis which were carried out in three major phases. In the first phase, they used postal and email questionnaires to survey 1146 nurse independent prescribers and 358 pharmacist independent prescribers. They were able to achieve just over 50% response rate in both groups. They also carried out telephone surveys with 52% of randomly sampled non-medical prescribing leads, from a sampling frame that included half of the prescribing leads from the 317 Strategic Health Authority Trusts in England. Additionally, they carried out two focus group discussions and one interview with non-medical prescribing leads in higher education, as well as designated medical practitioners involved in training non-medical prescribers. In addition to the primary data that they collected, Latter and her associates (2010) also carried out a secondary analysis on data already collected by other bodies. In this part of

their study they concentrated on aspects of non-medical prescribing related to safety and analysed data collected from professional bodies such as the Nursing and Midwifery Council (NMC) and the Royal Pharmaceutical Society of Great Britain (RPSGB), NHS organisations as well as establishments providing professional indemnity insurance for nurses and pharmacists.

The second phase of their study included two patient surveys designed to capture patients' views, experiences and preferences. The first focused on preferences and was designed as a discrete choice experiment but was limited by their inability to calculate a sampling frame for the patient respondents. This was as a result of the difficulties that they encountered in achieving governance approvals from the many relevant bodies. The second questionnaire was designed to survey patients' views and experiences regarding aspects of their treatment by the non-medical prescriber, including access to medicines, the consultation process and their clinical outcomes. Here they were able to achieve 27% response rate of the 1010 questionnaires distributed in the primary care sites, but were not able to accurately calculate the response rate for the questionnaires distributed by the nurse independent prescribers that worked in various practices. In this phase, they also investigated the adequacy of existing educational programmes for training nurse and pharmacist prescribers and they concluded this phase by interviewing other healthcare practitioners to ascertain their views and experiences of non-medical prescribing.

In the third phase of their study, they aimed at sharing their findings and interpretations with relevant stakeholders in non-medical prescribing, as well as prioritising the recommendations to be issued from their evaluation. Here they used a multi stakeholder workshop which included nurse and pharmacist independent prescribers, patients and members of the public. Representatives of bodies such as the British Medical Association (BMA) and Royal College of General Practitioners (RCGP), nursing and pharmacy regulators, as well as Department of Health and NHS management were also included. Of the 60 individuals invited to participate, 34 attended in person and 9 contributed in writing.

In the report of their evaluation, Latter and her associates submitted wide ranging findings relating to various aspects of nurse and pharmacist independent prescribing. They found that independent prescribing was the more common mode of prescribing employed and that non-medical prescribing had been largely driven by individual practice. Their work suggested that although non-medical prescribing was currently safe and clinically appropriate, there were some concerns about cost effectiveness and consistency with national guidelines. Furthermore, their findings suggested a need for improvement in assessment and diagnostic skills of non-medical prescribers.

On the role that management organisations had on the development and monitoring of non-medical prescribing, they found that while many Trusts demonstrated evidence of appropriate

governance and risk management structures for non-medical prescribing, only about half of the Trusts in England had a clear strategy for developing non-medical prescribing within their establishments. Regarding patients' views and experiences, they found that patients had a high acceptability of non-medical prescribing and demonstrated no preferences for any one prescribing professional over the others. It was however, important to patients that they developed good relationships with their prescribers, that their views were adequately considered and that they achieved an optimum level of understanding regarding their treatment and medication. Following the conclusion of their evaluation, some of the recommendations included consideration for pharmacists to treat a wider range of conditions as well as the expansion of non-medical prescribing for patients with co-morbidities. They also called for better inclusion of the public and patients in the planning, support and quality assurance framework of prescribers.

2.3.1.4 Non-medical prescribing for chronic pain

In this literature review, although they did not explore the views of both nurse and pharmacist independent prescribers, three research projects were found which had focused on aspects of non-medical prescribing related to pain. The literature review yielded three articles which seemed to report the findings of one research project. Stenner and Courtney explored the views and experiences of nurses who prescribed in various specialties within pain in the UK. In their first article, they focused on how non-medical prescribing legislation influenced aspects of prescribing by nurses (Stenner and Courtney, 2007); in the second paper, they reported the benefits nurses perceived that non-medical prescribing had for patients with pain (Stenner and Courtney, 2008a); and in the third, they discussed the importance of inter-professional relationships and support in how nurses prescribed for pain (Stenner and Courtney, 2008b). In their first article, where the impact of legislation on controlled drug prescribing was discussed, they found that nurses were successfully using independent prescribing powers in their prescribing for pain. The nurses in their study reported that their practice was unimpeded by current legislation. However, the level of access they had to patient history and records limited the completeness of the picture they had of their patients' treatment profile. The nurse prescribers within this study also raised concerns about the confusion regarding how the current legislation was interpreted within their various organisations and the implications for their prescribing practice, as well as for their patients that suffered from various types of pain. They then went further to question the suitability of supplementary prescribing in the way that they were able to provide pain relief for their patients (Stenner and Courtney, 2007).

In the second article, they reported that their sample perceived that non-medical prescribing represented efficiency and cost effectiveness in the way treatment was provided. It was the view of the nurses in this study that patients could benefit from non-medical prescribing in terms of faster access to treatment and improved safety in the way that their pain was

managed. They then went on to associate non-medical prescribing with some personal benefits to their practice, such as an increase in job satisfaction and the fact that being prescribers helped them gain more knowledge. Finally, it was suggested that nurse prescribing could help improve relations and communications with patients (Stenner and Courtney, 2008a).

Their third article focused on the influence of inter-professional relationships and support on nurse prescribing (Stenner and Courtney, 2008b). In this part of the study, the nurses reported that although within their practice there was some evidence on collaboration with doctors, there were still some concerns about how much their colleagues understood non-medical prescribing and how supported they felt within their prescribing environments. Here also, the importance of clarity in the way their individual Trusts and establishments adopted and administered non-medical prescribing was also highlighted. Finally, the nurses in this study indicated that access to continuing professional development (CPD) was a crucial aspect of the type of support that they needed in their prescribing practice (Stenner and Courtney, 2008b).

It appeared that all three articles by Stenner and Courtney reported findings from the same study. For instance, they all reported collecting data using qualitative interviews, they all sampled 26 nurse prescribers who practiced in various aspects of pain and they all reported using thematic analysis. However, several inconsistencies were revealed. While two reported that the purposive sampling was used to select participants, the third reported that volunteer sampling was used to select the same sample (2008b). Sampling is an important aspect of data collection, as the method of sampling influences the type of data collected and this in turn reflects on the findings of the study. The lack of clarity in the way that these reports were presented could potentially confuse stakeholders in this area. The researchers did provide quotes from the participants in the results section which enabled a better understanding to be gained when the relevant themes were discussed. There was however, little contextual background provided about the participants that provided these quotes, such as an indication of the level of experience, specialty or practice setting of the nurse prescribers that made these statements.

Stenner and Courtney reported that their interviews were qualitative and went on to give further details of the data collection and analysis that they carried out during their work. However, they did not sufficiently address what theoretical approach underpinned their work. This omission, though seemingly small, is a significant one, because each different approach has important implications for the way researchers who adopt them see *their* place in their field work, their analysis and the way they report their results. For instance, constructivists place considerable significance on acknowledging the place of the researcher in their work, as well as on the provision of historical and socio cultural context (Merriam et al., 2002). It is also expected that a study underpinned by the constructivist approach be reported to adequately reflect this influence. Finally, in two of their articles, (Stenner and Courtney, 2007; 2008b) the results, discussions and conclusions are in tandem with the aims and objectives of the study. In

the third however, this is not the case. Stenner and Courtney's (2008a) article on the benefits of nurse prescribing for patients in pain, suggests two sides to the story of how patients in pain receive treatment from nurses who prescribe. Although in their title they make it clear that they are reporting nurses' views, the inclusion of patients' views and experiences would have contributed to the completeness of their story.

In a later study, Stenner and her associates (2011a) used a questionnaire to capture a cross sectional picture of nurses prescribing for inpatient pain in the UK. They used a web based questionnaire to survey 161 nurse prescribers who had been identified as prescribers for inpatient pain across 192 inpatient pain service centres. Their survey focused mainly on describing existing practices and obtaining nurses' views and experiences on their prescribing practice. They found that nurses interested in advancing their roles considered prescribing integral to their practice. They also found that among their respondents, over half had qualified in just the past three years and about a quarter (22%) reported that there were plans underway within their teams to produce more nurse prescribers. Their study also revealed that within this specialty (pain), nurse prescribers were more qualified than their peers in other specialties. This was evidenced by the fact that just over half (56.9%) of the sample had achieved a post graduate qualification at masters level and above. In the same vein, it was reported that these nurse prescribers had significant involvement in the professional development of other healthcare professionals. It was shown that nurse prescribers were involved in the training and education of their peers, pharmacists and doctors within their teams and that they were involved in developing treatment protocols in their establishments.

Other findings of this study included the fact that this group used their independent prescribing more frequently, compared to their supplementary prescribing qualification and that some legislative control associated with using supplementary prescribing had the potential to hinder good practice, within the context of their prescribing. It was also shown that the more senior nurse prescribers (as indicated by their banding) were less likely to spend time educating patients. In their study, Stenner and her associates (2011a) achieved a significant response rate – 85%, which contributes to the validity of their findings. However, they did not report what type of validity and reliability testing, if any, they carried out on their questionnaire. This may influence the way that their findings are interpreted. Also, having used a 27 item questionnaire, applying a test such as the Cronbach's alpha would have given a better picture of the internal consistency of the constituent items. Furthermore, Stenner and her associates (2011a) recruited mainly staff of the NHS for their study but provided little information about the relevant NHS ethics approval that was granted. Obtaining approval from an NHS Research Ethics Committee suggests that the study has been presented to and deliberated upon by a multi-disciplinary panel to ensure that issues such as confidentiality, anonymity and data protection are sufficiently addressed.

In the last study that focused on pain, Bond and her colleagues employed a mixture of methods in investigating pharmacy-led management of chronic pain in Grampian and East Anglia regions of the UK. Their work reports the qualitative aspect of the pilot trial which they carried out with the participating pharmacist prescribers and doctors (Bond et al., 2011). Some other aspects of this same study seem to have been reported in another conference presentation (Bruhn et al., 2011). In the qualitative phase of their work, they interviewed six pharmacist prescribers and twenty three GPs who participated in the pilot trial. In this work, they reported that the pharmacists who participated in the trial described their experience as enjoyable, satisfying and interesting but they also indicated that they found the experience challenging. In their interviews, they also found that although GPs reported trusting and respecting the pharmacist only three quarters (17/23) were supportive of the introduction of non-medical prescribing in their practice. Furthermore, GPs were cynical about the contribution of the pharmacist prescriber to practice and questioned the cost effectiveness of introducing the service.

Although this work was presented as a conference abstract (October 2011), Bond and her colleagues were still able to include some verbatim quotes from the participants. This contributed significantly to providing a rich description of the relevant themes. Bond and her colleagues carried out their qualitative interviews with the healthcare professionals that participated in the pilot randomised control trial. For the pharmacists, they reported interviewing all those who participated, whereas they only interviewed about half of the participating GPs. There was no explanation of how the sampling of the qualitative aspect of their study was carried out. It was unclear if saturation was reached, or even considered during their data collection of this qualitative part of their work. Some description was given regarding how the qualitative data were collected and analysed, but it was unclear what theoretical approach underpinned this phase of the work. Also it could be argued that by not including nurse prescribers in their study, their findings may be relevant only to pharmacists.

2.3.2 Patients' views and experiences of non-medical prescribing

This part of the literature review focused on studies that had explored the views and experiences of patients and service users with regards to non-medical prescribing. Here, although some studies were found to explore the views of the public, only studies that had considered patients were included in the review. Also, studies that reported the views of healthcare professionals regarding the impact of non-medical prescriber on patients were not included, as a sufficient amount of work that had actually explored patients were found in the preliminary search.

2.3.2.1 Inclusion criteria

Any studies that reported having carried out original research in the following areas were included in the review:

- Patients with experience of non-medical prescribing
- Chronic pain patients with experience of either nurse or pharmacist prescribing

2.3.2.2 Exclusion criteria

The following were excluded from the review:

- Studies reporting views of the general public
- Studies on patients with no experience of non-medical prescribing
- Letters of opinion to peer reviewed journals
- Editorials
- Non-English language studies

2.3.2.3 Patients' and service users' views of non-medical prescribing

The literature review identified four original research studies where the views and experiences of patients regarding non-medical prescribing in general, had been explored. In the first, Earle and associates (2011) looked at how nurse prescribing had been provided for mental health service users within one National Health Service (NHS) Trust in the UK. They used semi-structured interviews to collect their data and an interpretative phenomenological approach for the analysis. Although two nurse prescribers had qualified in their Trust, only one had started prescribing and all the service users recruited were her patients. The service users interviewed reported being more relaxed when they saw their nurse prescriber. They also felt that nurse prescribing meant that they had more choice and that their treatment was more accessible. Furthermore they felt that the nurse prescriber that they saw provided the relevant information for their care and were satisfied with the information given alongside their medication. Although generally they revealed that they were more relaxed with the nurse prescriber, one patient still felt that the doctors were more knowledgeable and as such would prefer to see one.

All the service users that participated in the study were patients of a non-medical prescriber who was also involved in the study. It is not clear if the patients were aware that this nurse was involved and it could be argued that the mostly positive feedback may have been as a result of the service users' awareness of their prescriber's involvement in the study. It was also unclear how those selected were chosen from the sampling frame. The strategies used in recruiting and sampling were not properly discussed. Similarly, there was no indication as to whether recruitment of service users stopped because saturation had been achieved, or whether

saturation of the emerging themes had been considered at all. Finally, apart from reporting that these service users saw the mental health nurse prescriber, no further description was provided about the study participants. Furthermore, the quotes used to illustrate the relevant themes were not contextualised by providing any demographic characteristics of the people who made them.

In the second study, Hobson et al (2010) employed a qualitative approach in their exploration of how patients perceived nurse and pharmacist independent prescribing. In 2006, they used semi-structured interviews to collect data from patients in four primary and secondary care NHS Trusts and then subjected the data to interpretative phenomenological analysis. They provided a good description of their sample and reported that the 18 participants in their study were of an age distribution of between 42 and 81, mostly male and saw their non-medical prescribers for hypertension and oncology health needs.

Their findings were that patients compared the service that they got from non-medical prescribers to that they had previously received from medical prescribers. Areas in which these comparisons had been made included the knowledge base from which these healthcare professional prescribed, their professional training and their examination skills. They also found that their study participants associated non-medical prescribing with increased convenience and better access to treatment. Of the two professions, the patients seemed to have higher regard and better acceptance for nurse prescribers than for pharmacist prescribers. It was revealed that there was a poor understanding among the sample of the specific professional skill set of the pharmacist prescriber. Patients in this study had several important concerns about non-medical prescribing. Firstly, the workability of non-medical prescribing in community pharmacies, singling out for special mention issues such as: privacy of the consultation; sufficiency of space within the premises; and the level of access that the pharmacist prescribers would have to their medical history. Patients also had concerns about clinical governance measures for non-medical prescribers and whether the measures were cost efficient to the NHS. There were also concerns about how pharmacist prescribers would cope with the increased workload of prescribing and the adequacy of health information technology systems to support aspects of non-medical prescribing.

In this study, Hobson et al (2010) clearly described their recruitment and sampling strategy. They also reported that they stopped sampling when themes ceased to emerge and became saturated. It is interesting however, that they employed randomisation in their sampling strategy and although their justification was that they had a large sampling frame, the employment of a purposive sampling frame may have yielded a more rigorous interrogation of the emerging themes. A significant limitation of this study was their decision to sample only patients who were being seen by pharmacist prescribers. Going on to include the views of these patients on nurse prescribing (which these patients may have had no experience of) and comparing these views to those given of pharmacist prescribing may have led to bias in the way the results were

interpreted. Also the research team, though they were clear about their approaches, were less so about the measures taken to ensure quality in data collection and analysis. It is not clear if measures to ensure trustworthiness were omitted from the report, or were not considered during the study. Hobson et al (2010) collected data for their study in 2006 which was the same year that independent prescribing was introduced in the UK (DoH, 2006b) suggesting that many nurse and pharmacist prescribers may not have fully explored the use of these new independent rights within their prescribing practice at that point. As such patients' views would also be limited to the level of prescribing that had been provided to them at that stage. Furthermore, in their study, patients were not selected specifically for their particular disease conditions. Although they reported that these patients saw the pharmacists for mostly hypertension and oncology, their recruitment strategy suggests that this was because the pharmacist prescribers who agreed to participate in the study practiced in these areas.

The literature search revealed two articles which seemed to report the findings of the third study of patients' views and experiences of non-medical prescribing (Courtney et al., 2010; Stenner et al., 2011b). Forty one patients with diabetes were recruited from six NHS primary care sites. Semi structured interviews were used for data collection following which thematic analysis was conducted on the data collected. These two articles were used to present various aspects of the study carried out to explore aspects of nurse prescribing from the diabetes patient's perspective. In one of the articles (Courtney et al., 2010), they reported on the general views that patients had about non-medical prescribing and in the other they reported the perception that the patients had of the consultation and prescribing sessions that they had with the nurse prescriber (Stenner et al., 2011b).

In the first study (Courtney et al., 2010) patients reported that a mutual trusting relationship had been established with their prescriber. They felt that they had achieved good communication with their prescribers. They also said that they had confidence that the prescriber was skilful enough to provide an adequate level of care for their condition. They felt that their non-medical prescribers were knowledgeable in their specialist areas and were under the assumption that these healthcare professionals should be able to access paid CPD. There was also an assumption that in the context of their care, nurse prescribers and doctors communicated well. In general, they felt that non-medical prescribing could improve the efficiency and speed with which they accessed care.

The second article (Stenner et al., 2011b) concentrated on the findings related to issues that were specific to the consultation process. Here, their research participants reported that nurse prescribers seemed more approachable and that the pace of the consultation seemed less hurried than when they saw their GPs. Some themes that had been addressed in their earlier work were also reiterated here. For instance, continuity of care, the rapport built up with the nurse prescriber, the associated trust achieved and the care that they received were seen as

benefits (Courtney et al., 2010). Patients however had concerns about the level of information nurse prescribers provided regarding side effects (Stenner et al., 2011b).

The fact that these two articles seemed to emanate from one study raised some issues. There was a significant overlap in the results presented. This may have only become obvious due to the fact that they were both included in a review, but the slight variations in the way that the results were presented in each article could result in some confusion in the way these findings are interpreted. In both articles, it was reported that only patients with diabetes above 16 were recruited. The sampling strategy employed by the researchers in their work was however, not clearly explained. In one article, they reported using random selection to invite participants (Courtney et al., 2010) but no further information was given. The authors provided quotes from the participants and this was helpful in picturing the emergence of the themes from the interviews carried out. However, they did not provide more contextual description of the patients that provided these quotes. For instance, an indication of the patients' ages, how long they had suffered diabetes, or how much experience they had of non-medical prescribing would have provided a richer and thicker context during their discussion.

The fourth study explored dermatology patients' views of nurse prescribing in terms of care, concordance and medicine taking (Courtney et al., 2011). Forty two patients with acne, psoriasis or eczema were recruited through nurses located across four strategic health authorities. Qualitative interviews were conducted and these yielded themes that were largely supportive of non-medical prescribing. Here, continuity of care was identified by the participants as a significant benefit of non-medical prescribing. Patients also gave an indication that they carried out some comparison of their nurse prescriber's knowledge and professionalism to that they had experienced when they were cared for by their GP. They reported that they felt they were more involved in the decision making process regarding how their medication was prescribed. They also expressed satisfaction with the information their nurse prescriber provided regarding medicines and side effects. The participants in this study however had concerns with nurses initiating treatment and dealing with complications. The training of nurses to enable them to prescribe was also another important consideration for the patients. They assumed that for these nurses to prescribe for their condition, they must have gained the necessary qualifications.

The findings of this study suggest that nurse prescribing could help improve efficiency in dermatology by supporting patient involvement and contributing to concordance and adherence to medication. Although the authors gave details of the data collection and analysis, they did not sufficiently address what theoretical approach underpinned their work. They used constant comparison to thematically analyse their data and information about their theoretical approach may have improved understanding of how their analysis was carried out. Furthermore, although

the authors provided quotes to indicate the emergence of the themes from the interviews, little contextual description of the patients who provided these quotes were given.

2.3.2.3 Views and experiences of patients with chronic pain

In this literature review three research projects were found that had focused on aspects of non-medical prescribing related to pain. In the first, Hennel, Wood and Spark (2004) explored the benefits and limitations associated with using the clinical management plan as an integral tool for practising supplementary prescribing in rheumatology. Although their study used one case study to explore patients' views on supplementary prescribing, it has been included because it focused on rheumatology. In their survey, Hennel, Wood and Spark used a questionnaire based survey to collect data from 15 rheumatology patients. In their findings, they reported 38% of their respondents were aware that the UK laws had changed to now allow non-medical prescribing. A similar percentage admitted knowing about the training that nurses had to go through to become prescribers. One hundred percent of the respondents reported being comfortable with nurse prescribing and felt that the advice and information nurses could provide with respect to their medication was valuable (Hennel et al., 2004).

The result from this small survey has to be viewed with some caution. Firstly, the authors neither provided any information about their recruitment strategy, nor about how they selected their sample. There are many sampling strategies and each has specific risks and benefits associated with it. More information about the sampling and recruitment strategy may have had implications on how the quality is judged. For instance, if they randomised their sample, this may have implications on the external validity of their findings. Secondly, apart from the fact that their patients were attending the rheumatology clinic, no other description was made available. Many questionnaires routinely collect demographic data but it is unclear whether this was omitted from the results, or not collected at all. In a similar vein, no information was given as to how this questionnaire was developed. It is unclear whether the questionnaire was validated and/or piloted. Finally, no details of the analysis were provided. Although the results suggest that only descriptive statistics were applied, more information about the type of software used (if any) and details of the steps taken in the analysis would have been helpful.

In the second study that focused on aspects of non-medical prescribing related to pain, Bruhn and her associates conducted a pilot trial which investigated pharmacy-led management of chronic pain in Grampian and East Anglia regions of the UK (Bruhn et al., 2011), another presentation that emanated from the same work has been discussed in the section reviewing non-medical prescriber's views and experiences (Bond et al., 2011). Here, the aspect of their work that focused on the patients is reviewed. Their work was a pilot for a proposed randomised control trial, to compare the effects of pharmacist medication review, with or without

prescribing, on patient functioning and pain control. They used three general practices in the Grampian region and three general practices in East Anglia. Patients with chronic pain were identified using a computerised search strategy. Patients after selection were sent a base line questionnaire. Following the return of their completed questionnaires, they were then randomised to either one of the two intervention groups (pharmacist medication review, with or without prescribing), or to the control group (treatment as usual by the GP). Patients were then followed up three months later using a postal questionnaire and their prescribers (Pharmacists and GPs) interviewed to explore their experiences (Bond et al., 2011).

This preliminary work was done mainly to confirm their recruitment strategy, response rates and change in outcomes, in order to provide evidence for a definitive trial. However they reported some important findings. Using CPG (Chronic Pain Grade) as their outcome measure, they were able to determine that more of the patients randomised to the prescribing group achieved better pain relief than those in the review and control groups. The same group of patients also reported greater improvement in 6 of the 8 SF -12 subscales (an instrument for measuring quality of life). In a later article (Bond et al., 2011), they reported on the experiences of the patients that were randomised to the prescribing group. Here, the views expressed by the patients were mostly positive. Most reported that they believed that they were given adequate information and were satisfied with their treatment. Seventy-nine percent reported feeling that their consultation was thorough. There were however, a few that had complaints. A small proportion of the group that saw the pharmacist prescriber said they would have preferred to see their GP (9%), or that they now felt that too many people were now involved in their treatment (11%). A similar percentage (9%) felt that the time spent with the pharmacist was not enough (Bond et al., 2011).

Although their work has been presented at a conference and may have been subject to word count limitations, Bruhn et al have managed to give a concise but clear account of how this pilot was carried out. There were however, a few issues that were not addressed by their study. Firstly, they reported that prior to the commencement of the study, a two day update in pain management was provided for the pharmacists. It is not mentioned if the GPs who participated also had a recent update in the area of chronic pain before they saw their patients. If this was not the case, it is possible that because this update was not provided to all participating healthcare professionals, the level of care they provided to patients would vary and this would in turn influence the results achieved. Secondly, the results of their questionnaire survey of the patients suggest that only a proportion responded to some or all of the items addressed. It was not made clear how missingness was addressed in this study. Missingness refers to the determination of missing or incomplete data and the investigation of the likely implications for the findings of the study in which this has occurred (Little and Rubin, 1987). Different types of missingness have

implications on how results should be interpreted and it is important to determine what type of missingness occurred in a survey and what steps were taken to address this issue. Thirdly, although the authors described how they developed their questionnaire, there was no information provided about how the analysis was carried out. It was not clear if any software was used in the analysis, or which statistical tests were applied, if any.

2.4 Limitations of the literature review

Although a significant effort was made to identify and obtain all the reports of studies considered relevant for this work, there were some barriers encountered to achieving this objective.

Firstly, the mainstay of the strategy used to identify studies for the literature review was to search relevant databases. It was however revealed during the review that with respect to non-medical prescribing, some of the articles in the journals that make up these data bases may have been published some time after the research was carried out. Non-medical prescribing is a new and constantly evolving policy. There is a possibility that some work on the cutting edge of this research area that were not yet in the public domain may have been missed by the search strategy employed.

Secondly, the search strategy employed in the literature review included scanning conference abstracts and asking colleagues for suggestions regarding relevant studies they might be aware of. Some of the relevant studies found had so far only been presented as conference abstracts. Although efforts were made to contact corresponding authors, some the contact details were no longer current, or more comprehensive accounts of their studies had not been published. The inability to get a fuller picture of such studies meant that certain important aspects may not have been included in the report due to the word count restrictions and as such, not available for review.

2.5 Conclusion

Five of the studies that met the inclusion criteria did not specifically focus on chronic pain, but provided some insight on the current debate on non-medical prescribing. Of these, one evaluated non-medical prescribing in one UK Trust by surveying healthcare professionals and found that the policy had been viewed positively in terms of improving patient care but with some concerns regarding competencies and time management (Shrestha et al., 2011). Another surveyed non-medical prescribers' perception of competence in pharmacovigilance and found despite feeling knowledgeable in this area there was need for further training with respect to pharmacovigilance and reporting of adverse reactions (Stewart et al., 2011). The others were more general in their research focus. Maddox et al (2010:2011) used qualitative methods in both

their studies and found that nurses and pharmacists approached prescribing decision making differently to their medical colleagues. They reported that non-medical prescribers first made the decision to prescribe or refer, before making decisions regarding patients' treatment. In addition they found that non-medical prescribers may be more cautious in prescribing due to potential criticism and legal implications for committing errors (Maddox et al., 2010:2011). Latter et al (2010) carried out a comprehensive evaluation of nurse and pharmacist independent prescribing in England in three phases using a number of methods. They found that although non-medical prescribing was currently practised in a safe and clinically appropriate way, there were some concerns with skills needed for practice and consistency with national guidelines in certain areas.

Of the literature that had considered aspects of pain, two studies were from the nurse prescribers' perspective. The first qualitatively explored the views of nurse prescribers in various specialties within pain. Here they found that nurse prescribing was associated with inter-professional collaboration, improved job satisfaction and better patient care, but with concerns regarding various organisational factors and the lack of understanding of the policy (Stenner and Courtney, 2007; 2008a; 2008b). The second was a survey that focused on describing existing practices among nurses who prescribed for in-patient pain and revealed that nurse prescribing in this area was on the increase and was seen as an important part of the advanced nursing role (Stenner et al., 2011a). One study was found that considered chronic pain from the pharmacist prescribers' perspective. Bond and associates (2011) interviewed pharmacist prescribers alongside GPs and found that while the pharmacists described their prescribing experience in the area of chronic pain positively, not all the GPs were supportive of non-medical prescribing (Bond et al., 2011).

From the patients' perspective, four of the studies that met the inclusion criteria did not focus on chronic pain but addressed important themes regarding patients' views of non-medical prescribing. The first presented the findings on qualitatively explored views and experiences of patients on nurse prescribing for mental health issues in one Trust (Earle et al., 2011). Service users felt that nurse prescribing represented more choice and were happy with the service but one patient preferred to see a doctor who was perceived to be more knowledgeable. The second explored aspects of nurse prescribing experienced by diabetes patients from their perspective. Patients reported being involved and satisfied with the service but had concerns with the ability of the prescriber to deal with complications and provide sufficient information (Courtney et al., 2010; Stenner et al., 2011b). The third reported qualitative exploration of nurse and pharmacist prescribing by patients with diverse conditions (Hobson et al., 2010). Although patients associated non-medical prescribing with improved convenience and better access to treatment, there were concerns about clinical governance measures and cost efficiency of the policy. The fourth study reported findings from a qualitative exploration of dermatology patients regarding

their experience of nurse prescribing (Courtney et al., 2011). Patients reported feeling more involved in the prescribing and were satisfied with the information nurses provided. They however raised concerns about nurses initiating treatment and dealing with complications.

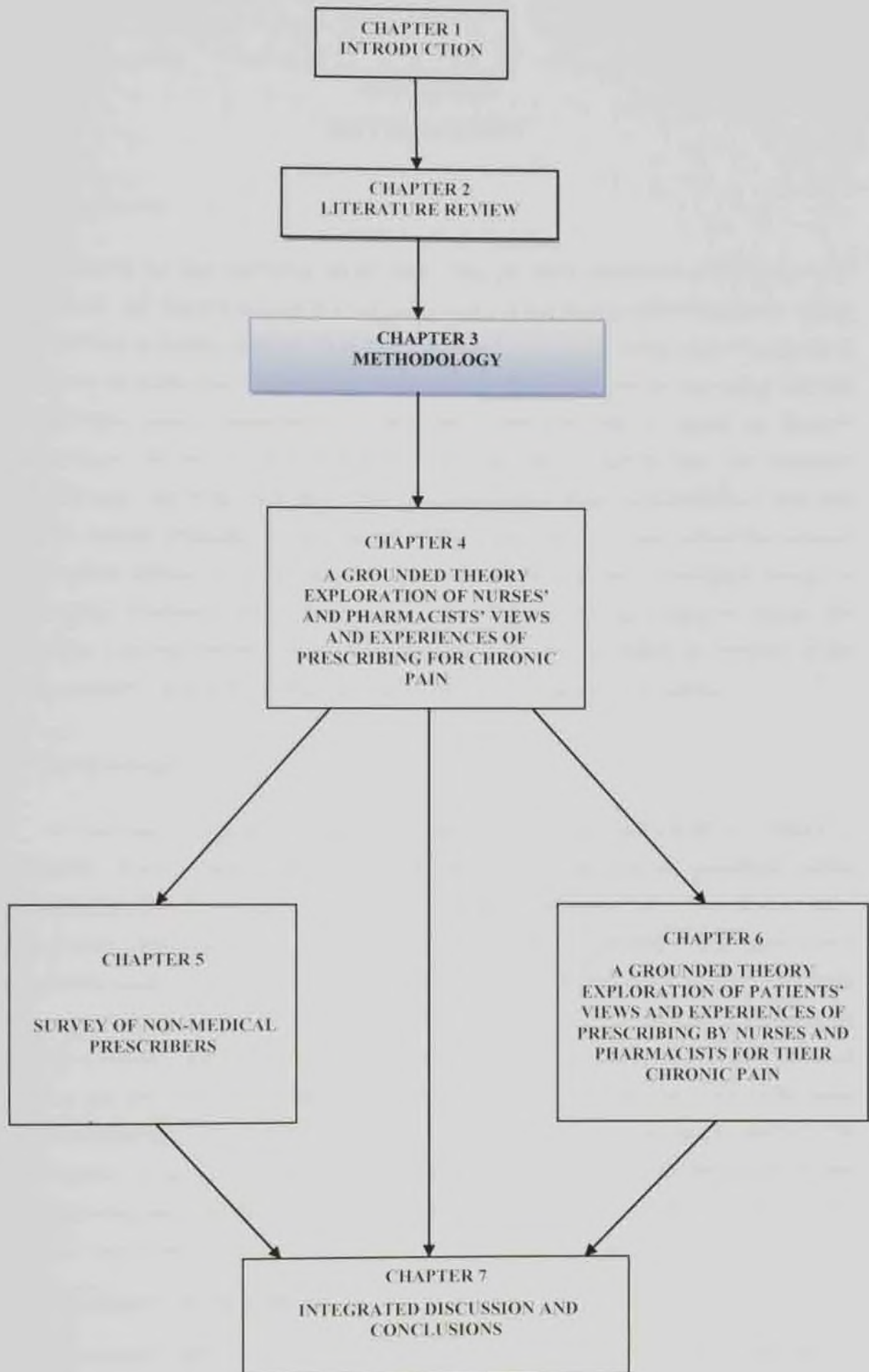
Of the literature that had considered patients' and service users' perspectives, two had focused on aspects of chronic pain. Bruhn et al (2011) included patients' views and experiences in their investigation of pharmacy led management of chronic pain. Patients randomised to the pharmacist prescribing group achieved better pain relief and reported better quality of life compared to control (Bruhn et al., 2011). They also had positive views of pharmacist prescribing, but some still preferred to see a doctor (Bond et al., 2011). The second study was a small survey of rheumatology patients with experience of nurse supplementary prescribing experience. Although patients were comfortable with their prescriber and positive about the policy, only 38% were informed about non-medical prescribing (Hennel et al., 2004). The findings from this study were however limited by its poor design.

In conclusion, the literature review has shown that so far, no study has rigorously explored the views and experiences of nurse and pharmacist prescribers together with chronic pain patients in relation to how prescribing is provided in this area. Also no theory exists to explain how nurses and pharmacists perceive the barriers and facilitators that they come across while prescribing for patients with chronic pain and how these influence the way patients with chronic pain receive care from this group of professionals.

2.6 Research questions

Based on the knowledge gap revealed in the literature review, the following research questions were proposed

1. What are the views and experiences of non-medical prescribers (nurses and pharmacists) in the treatment and management of chronic pain?
2. How is prescribing by nurses and pharmacists in the treatment and management of chronic pain perceived by patients with chronic pain?
3. In the treatment and management of chronic pain, what are the barriers and facilitators influencing the implementation of non-medical prescribing?



CHAPTER 3 METHODOLOGY

3.1 Introduction

Research has been defined as the processes through which phenomena are investigated in a systematic and rigorous manner in a bid to develop and test theories (Bowling, 2009). In this chapter, I look at existing methodologies underpinning how research in this area of healthcare is carried out. In doing this, I also engage with the ongoing debates that are associated with the methodologies under consideration. At every level, care was taken to match the research methodologies to the research questions. Following this, I justify why the particular methodologies used in the study were selected. In discussing these methodologies, I start with brief but general overviews of the approaches that were considered and present the relevant debate which outlines important aspects of the approaches that were considered during the design phase. I however provide further details about the methodology chosen to underpin the study after a choice had been made. I conclude the chapter by providing an overview of the various projects which make up this study and how they are related to one another.

3.2 Methodology

In this section, I examine the theory underpinning various approaches to research in healthcare. Here I explore the relationships between various relevant paradigms within scientific pursuit of knowledge and discuss the different perspectives that various workers have used to make their arguments. I start with briefly looking at the argument of qualitative versus quantitative research. I then follow this by exploring the benefits and risks associated with using both approaches within the same research project. I continue by focusing the discussion on qualitative research approaches, due to the prominence of this paradigm within this study, as will later become clearer. From here onwards I tighten the focus of the discussion on the more relevant methodologies to this study, focusing on the grounded theory approach especially the constructivist variant. At each stage I still explore other alternatives to the methodologies relevant to this study but the emphasis remains on those selected for this study and the reasons why they were chosen.

3.2.1 Qualitative or quantitative

Quantitative research in the context of health sciences research refers to the use of empirical methods to carry out systematic investigation of social phenomena with the objective of testing usually predetermined hypotheses. Crucial to this form of research, is the ability to

measure the relevant phenomena and relate them mathematically to other observable phenomena. Quantitative research is also closely associated with the research more commonly used in the 'natural sciences' and this is reflected in the more empiricist and positivist approach that is employed here (Creswell, 2003).

Some researchers contrast quantitative research with qualitative research methods, which have been described as more subjective and flexible and with less structure when compared to quantitative research methods. It has also been suggested that qualitative data may be more suited to exploratory objectives and are more likely to lead to the generation, rather than testing of a hypothesis (Blaikie, 2001). Generally speaking, qualitative research refers to methods which allow for the use of relatively deeper exploration, to enable a richer description, clearer explanation, or better understanding of a circumstance, people, or phenomenon. Kuper and colleagues (2008) suggest that they are a collection of methods that tend to answer the questions why and how within real life contexts and which also ensures that the research participant's voice is significantly reflected.

On the one hand, quantitative research is associated with the more positivist approach where one can objectively study a phenomenon from a neutral standpoint and reach 'an absolute truth'. On the other hand, qualitative research is associated with a more subjective approach, where individuals interpret actions and construct meanings of the realities that they interact with (Lincoln and Guba, 1985).

3.2.2 Mixed methods

Although, qualitative and quantitative research seem to be divergent in many ways, as far back as half a century ago, researchers already demonstrated an awareness of how these two approaches could be used complementarily in answering research questions (Kuhn, 1961). Mixed methods research is a term generally used when a strategy is adopted which includes using different research methods or approaches in a synergistic manner, with the aim of reaching a common goal (Bryman, 2001). This research goal can be to answer one specific research question, or different aspects of the same question, or even different questions within a project. Mixing methods has been suggested to have the potential to reduce individual limitations associated with using each individual method alone, as well as to enable a more comprehensive and rigorous interrogation of the different aspects of a specified area (Gorman and Clayton, 2005; Mahoney and Goertz 2006). Some other advantages associated with using mixed methods include a means of rapid and more comprehensive skills acquisition, as this usually means that users would need to be trained in more than one approach. Also, this strategy has been known to help researchers move out of their comfort zones regarding being able to now consider research they were not previously used to. On the converse side, adopting this approach could turn out to be more expensive and time consuming compared than just using one approach or method. (Bazeley, 2004)

3.2.3 Qualitative research

Qualitative methodology in this context refers to the theory upon which the design of a particular study is based on and this is distinguished from methods, which focuses more on the processes involved in carrying out research, for instance, technical tools that are used in the data collection and analysis (Kelly, 2010).

Because qualitative research focuses on exploring and understanding participants' experiences, as well as on explaining the concepts 'emerging' from the data they provide, the concept of subjectivity is central to this form of research.

As such the way that people interpret their 'world' and how these interpretations depend and interact within various contexts (such as the social context) are integral to this form of research. The theory of constructivism assumes that an individual's reality is constructed from their interaction with the social and other aspects of their worlds. The concept that realities are constructed by individuals, is common within the qualitative paradigm, however, other theories that explain how 'realities' are perceived exist. For instance interactionism which assumes a shared reality exists for a collection of people with certain similar characteristics and postmodernism which assumes that multiple realities exist in parallel as a result of the differences between individuals (Kuper et al., 2008).

At least forty different approaches to qualitative methods had been identified as far back as the 1990s (Tesch, 1990), but close inspection reveals that many are slight variations of already existing approaches. Some of the better known approaches include: phenomenology (Patton, 2002); ethnography (Pope and Mays, 2006); grounded theory (Glaser and Strauss, 1967); action research (Gibson, 2004); narrative analysis (Edwards, 2006) and discourse analysis (Hodges et al., 2008). Providing a comprehensive overview of qualitative research methodologies and approaches is beyond the scope of this work, however the three most commonly used qualitative methodologies, namely phenomenology, ethnography and grounded theory are discussed below, highlighting some distinguishing characteristics.

Phenomenology is a qualitative methodology used to study what everyday actions or experiences mean to individuals. Data are often collected from a 'criterion' sample, which is made up of individuals who have experienced the phenomenon under investigation. Data analysis is aimed at finding 'statements of meaning' and is usually carried out by coding, categorising and thematizing. The overarching goal in phenomenology is to provide a rich and deep description of what the phenomenon under study means to the participants (Patton, 2002; Crabtree and Miller, 1999).

Ethnography is used mainly to describe cultural groups, social groups or systems of interest. Here, permission is usually gained by the researcher to enter the study group, or sample

and observe and/or interview members of the group 'in situ'. In ethnography, analysis of the data is carried out by using themes and perspectives to unpick the meanings of social interactions, within the culture sharing group. The ultimate goal of the ethnographer is to present a holistic portrait of a study group which incorporates the views of the actors and the researcher's interpretation of these views (Pope and Mays, 2006; Savage, 2000).

Grounded theory, as the name implies is a methodology that uses data collected about a particular phenomenon to systematically generate a theory (Glaser and Strauss, 1967). Some aspects of grounded theory bear some similarity to processes used in phenomenology. For instance, data collection here is usually done using interviews. Also, data analysis in the grounded theory approach involves coding and categorizing

However differences exist, for instance while 'criterion sampling' is often used in phenomenology, 'theoretical sampling' is more often associated with grounded theory. Another perhaps more significant difference is in the application of these methodologies. Phenomenology is better suited for understanding 'routine' actions and experiences and can help clarify issues and give further insight in an area. It does this by providing a richer description than was previously available. Grounded theory on the other hand is better suited to generating concepts and theories and is usually used for research areas in need of new insight, or where there is a perceived need for alternative theories.

In the last chapter, the literature review revealed a paucity of research regarding how the perception of relevant barriers and facilitators influenced nurses and pharmacist prescribing in the area of chronic pain combined with how the service they provided was perceived by patients with this condition. It was decided that a qualitative methodology was best suited to answer the research questions. Furthermore, to address the lack of a theoretical framework in the area, the qualitative approach most appropriate for generating explanatory theory - the grounded theory approach was chosen to underpin the study.

3.2.4 Grounded theory

The Grounded theory approach has its origins in medical sociology more than half a century ago in America, when two researchers Barney Glaser and Anselm Strauss published their 'The discovery of grounded theory: Strategies for qualitative research' (Glaser and Strauss, 1967). However, soon after these two theorists parted ways and fathered the first two distinct schools which evolved within this methodological genre (Glaser, 1992; Strauss and Corbin, 1990). Strauss initially developed his genre alone as presented in his book 'Qualitative Analysis for Social Scientists' (Strauss, 1987) and then with another worker Juliet Corbin in their publications 'Basics of Qualitative analysis, Grounded theory procedures and techniques' and 'Basics of Qualitative analysis' (Strauss and Corbin, 1990; 1998). Glaser would also go on to present his approach in books such as 'Theoretical Sensitivity' (1978), 'Jargonizing: Using the

grounded theory vocabulary' (2009) and 'Emerging vs. Forcing: Basics of Qualitative Research' (1992), where he systematically attacks the approach to grounded theory prescribed by Strauss and Corbin in their work 'Basics of Qualitative analysis, Grounded theory procedures and techniques' (Strauss and Corbin, 1990).

In many areas, the Glaserian and Straussian schools of grounded theory as they later became known (Stern, 1994), seem to have diverged, but only those aspects considered most pertinent to this work will be considered here. Firstly Glaser and Strauss differed in their approach to the level of awareness, or knowledge a researcher should have prior to using grounded theory in a specific area. Since the original publication of the grounded theory approach, Glaser has suggested minimal engagement with knowledge in the subject area. He uses phrases like 'abstract wonderment' to emphasise the importance of **not** reviewing the literature beforehand (Glaser, 1992). The Straussian school is not as rigid. Here there is a more flexible approach to *a priori* knowledge and a more contemporary understanding of its place in research today (Strauss and Corbin, 1998). A second area where these two schools diverge is the area of data analysis. In several ways, the Glaserian and the Straussian approaches differ in the way they prescribe data to be analysed. For instance, while Strauss and Corbin specify a more structured approach to coding, involving open, axial and selective coding (Strauss and Corbin, 1998), the Glaserian approach, though introducing the concept of 'theoretical coding' remains more closely related to the two levels proposed in the original model. Another important area within data analysis where these two schools differ is the use and significance of memoing. Memoing or memo writing involves the note taking either electronically or paper based, of ideas, reflections, assumptions and relationships identified during the entire analysis process (Charmaz, 2006). While Glaser sees memoing as a tool for generating theory and is less prescriptive as to what constitutes a memo (Glaser, 1978), the Straussian approach is more structured, suggesting that results from the analysis and directions for further work could also be classed as memos (Strauss and Corbin, 1998). The third and perhaps most important difference in the two approaches is regarding how they conceptualise the application of grounded theory. Strauss and Corbin suggest that grounded theory applies a more systematic approach to the inductiveness associated with qualitative research, but despite this, still define grounded theory as a methodology situated within qualitative divide of research approaches (Strauss and Corbin, 1990), Glaser disagrees. The Glaserian view of grounded theory is more as a general method which can be used for any type of data, or even a combination of different data types, as far as the aim is to inductively generate a theory from the data (Glaser, 1992; 2010).

There is no doubt that Glaser and Strauss are regarded by many as the fathers of grounded theory. However the debate in grounded theory has since shifted to a wider arena. More recently, more variants of the grounded theory method have been developed by other workers. Clarke, a student of the Straussian school, champions the use of a cartographic approach for

grounded theory analysis, which takes the postmodern turn into consideration. In her book 'Situational Analysis', she builds on aspects of Strauss's theory to present the use of maps such as positional, situational and social worlds/arenas, to guide researchers in data collection, analysis and interpretation (Clarke, 2005).

Another new variant of grounded theory is the Multi grounded theory introduced by Goldkuhl and Cronholm as an extension to traditional grounded theory. They acknowledge the traditional grounding processes such as empirical and theoretical grounding but introduce the explicit use of already existing theories, which could, for instance, emerge from a literature review and suggest that this be included in the grounding process (Goldkuhl and Cronholm, 2003; Cronholm, 2005).

A third variant to have developed from the original grounded theory is the constructivist grounded theory as presented by Kathy Charmaz (also called Charmazian grounded theory). The Charmazian variant assumes a more relativist approach which acknowledges multiple realities of the researcher and the participants. She argues that these multiple realities as constructed by all the parties involved be reflected in the analysis of the data (Charmaz, 2006).

Compared to the other variants, the constructivist grounded theory approach was most suitable to underpin this study for several reasons. Firstly, it provided a framework which allowed an honest and rigorous engagement of my place within the study, as well as the possible influences these may have on the data. Secondly, being a foreign trained pharmacist, this approach provided a structure that facilitated appropriate reflection on the potential influence of past professional experiences to related aspects of the study. In line with these reasons, the reflective account given in the first chapter addresses the relevant aspects in personal and professional background that had the potential to influence parts of the study. Thirdly, in the UK, demonstration of good knowledge in the proposed research area is necessary to progress to the second year of study, as well as gain ethics and governance approvals necessary for fieldwork. The Charmazian variant sufficiently addresses this engagement with the relevant knowledge prior to commencing collection of the data (Charmaz, 2006).

3.2.5 Constructivist grounded theory

The origins of constructivism lay in the challenge of the previously more dominant ontological and epistemological models with positivist leanings. Constructivism and other related approaches assume the epistemological premise that meanings are created on a more individualistic basis as a result of engaging with personal 'worlds' rather than in reference to an 'objective truth' (Crotty 1998). Constructivists do not believe that an objective reality exists, but that personal meaning and realities are social constructions of the mind created as a result of the interaction between the inquirer and the inquired (Guba and Lincoln, 1989; Candy, 1991). Guba and Lincoln (1994), again in reference to the earlier mentioned challenge of the positivist

paradigm, inferred that a denial of the existence of an 'objective truth' suggests an assumption of an ontological relativist position. Constructivists also believe that for individuals, their constructed realities as well as being time sensitive are dependent on specific contexts such as social cultural and historical aspects of their interactions (Schwandt, 1994; Merriam et al., 2002). Constructivist grounded theory can be described as a more recent revision of the original grounded theory method, but with a more constructivist approach. This grounded theory approach follows Crotty's (1998) assumption that the constructivist approach to understanding a phenomenon, is from an insider's perspective. As such, in the constructivist grounded theory, there is not only an acknowledgement that research participants' meanings are constructions of their realities, but also that the understanding and interpretation of these stories by the grounded theorist, is in itself a construction (Charmaz, 2006).

Charmaz has contributed significantly to and is easily identified as the leading proponent of constructivist grounded theory (Mills et al., 2006; Babchuk, 2009) However there is some indication that some of her early work was influenced by the original grounded theory as well as the Glaserian school of grounded theory (Charmaz, 1983;1990). Unsurprisingly, Charmaz (2006) still agrees with some aspects of the other forms of grounded theory, for instance, that grounded theory be considered more of a methodological approach, than a qualitative method (Glaser and Strauss, 1967; Glaser, 1992; 2010), though she suggests more flexibility in its application. Her assertion that the other forms of grounded theory were also useful in data collection and analysis suggests her agreement to their unified application in systematically generating theory from data collected (Charmaz, 2009).

In expounding her core principle, Charmaz disagrees with these other variants of grounded theory. Charmaz makes a case for the emergence of a constructivist form of grounded theory which accounts for the participation of the researcher and an acknowledgement that their interaction with the study participants is reflected in the study (Charmaz, 2000; 2006; 2009). In doing this, she criticizes both the Glaserian and the Straussian schools for presenting the grounded theorist from a more objectivist perspective which assumes that the researcher interacts with 'an external social reality'. Charmaz (2006) identified aspects of their approach that illustrated her assertion of their objectivist approaches. She suggested that Strauss's use of complex rules to guide grounded theory analysis represents an over systematisation which could force the data into predetermined divisions. She also noted that Glaser insisted that grounded theorists remain objective and reject all possible influences while 'discovering' their theoretical categories. Her view that the Glaserian and Straussian variants of grounded theory could be viewed as having some positivist underpinnings has been shared by others (Babchuk, 2009). Charmaz further confirms her assertion of their objectivist leanings by pointing out that in Glaser and Strauss' approach to writing about their work they refer to themselves as 'distanced experts' (Charmaz, 2000). In fact, she argues that the contrary is more appropriate,

constructivist grounded theory assumes that multiple realities are explored, in which the researcher actively participates in their construction and knowledge is produced within the appropriate contextual specifications (Charmaz, 2009).

Although the constructivist grounded theory variant was adopted as the primary approach underpinning this work, on reflection, I must admit that having studied the others, I may have also been influenced them, albeit subliminally. This may have been as a result of the extensive reading carried out in this area during the design phase, compounded with having had limited experience in this research area, prior to this study.

3.3 The bigger picture

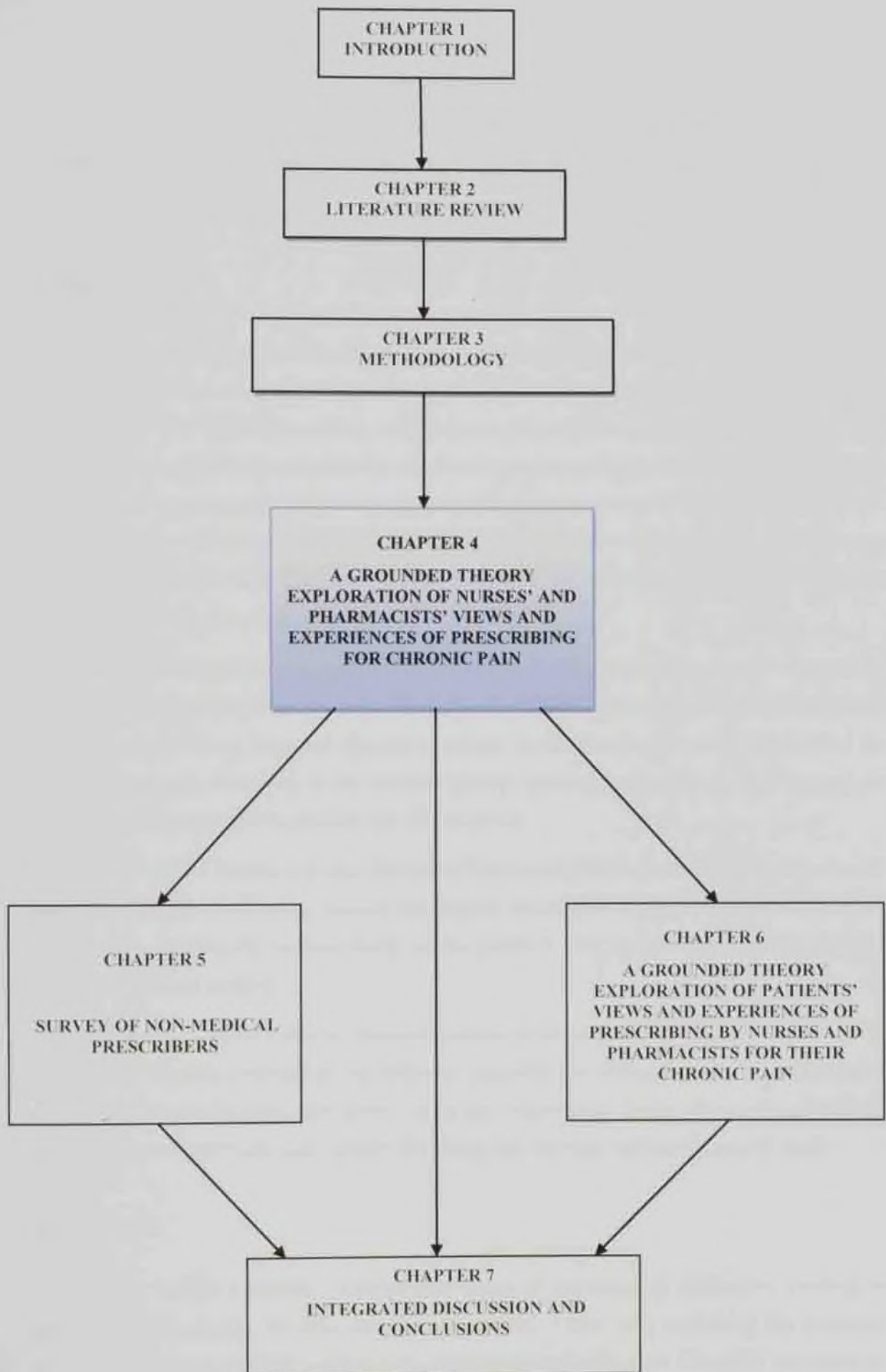
In this study, a mixed methods strategy was employed, whereby the first two projects used a qualitative design to generate a theory. This theory was subsequently tested by a quantitative survey in another project. Below an explanation is provided to justify the employment of this strategy.

From the literature review, it was clear that there was a lack of theories to explain nurses' and pharmacists' perception of facilitators and barriers to their prescribing and how this influenced how they prescribed for chronic pain. This was the primary motivation for the study. The views and experiences of members of this group were viewed as the starting point to generating this theory. Because prescribing is seen as a partnership between the prescriber and the 'prescribee', it made sense that for the theory being generated to be as complete as possible, a complementary view of the same picture from the patients' perspective had to be acquired. As such the next project after generating the theory from the prescribers' perspective was to explore how patients with chronic pain perceived the prescribing they got from nurses and pharmacists. Here again, the lack of any theory to explain the issues at play and how they interacted suggested that the adoption of a grounded theory approach for this part of the work would be most appropriate.

After a theory is generated, the next logical step is to test that theory. As discussed earlier on in this chapter, qualitative research is more concerned with exploration and as such samples are kept relatively small to facilitate deeper probing. Being able to test a newly developed theory on a bigger sample provides a means of verifying or disproving aspects of that theory. As such, the other project included in the study surveyed attitudes of non-medical prescribers, to aspects of the developing theory. Furthermore, carrying out the quantitative survey on another population of non-medical prescribers ensured that the findings were triangulated by corroborating results from two methodologies as well as two data sources (Sandelowski, 1995; Lincoln and Guba, 1985).

3.4 Chapter summary

In this chapter, I looked at the various approaches used in healthcare research and some strategies commonly employed in their application. I compared the qualitative and quantitative approaches and explored how they could be employed together in one study. I also looked at various qualitative approaches and associated theoretical viewpoints. In each section I gave a brief overview of the relevant debate, focusing on the strengths and weaknesses of these approaches. As well as providing an overview of the various approaches considered, I explained the processes undertaken in choosing a methodology for this work. The constructivist grounded theory approach chosen was then justified, discussed in more detail and situated within the context of the whole study.



CHAPTER 4

A GROUNDED THEORY EXPLORATION OF NURSES' AND PHARMACISTS' VIEWS AND EXPERIENCES OF PRESCRIBING FOR CHRONIC PAIN

4.1 Introduction

Based on the review of the literature research carried out, two of the research questions that were proposed related to how non-medical prescribers perceived their prescribing for chronic pain. The first project of this study answers the first research question by employing a grounded theory approach to explore the views and experiences of nurses and pharmacists in the treatment and management of chronic pain. In addition to answering the first research question, this project also contributes significantly to answering the third research question by starting to uncover barriers and facilitators non-medical prescribers perceived to their practice regarding how they treated and managed chronic pain.

I present this chapter in three main sections. In the first section, I present the methods employed in carrying out this phase of the study. The methods presented here are underpinned by the grounded theory approach that was discussed in the last chapter and is reflected in the way this section is discussed. In the methods section alternatives considered at each stage are discussed and rationales are given for the choices made.

In the second section, I present the results from the data that were collected and analysed. Here, I include quotes from the research participants extracted from the interviews to enrich the descriptions. Additionally, to help clarify certain points, I draw on reflections made during the data collection and analysis.

In the third section, I discuss the results of this phase of the study. In this section, I bring together the findings presented in the different categories that emerged in the grounded theory exploration of non-medical prescribers' views and experiences. I also discuss these findings within the context of the broader picture of existing and relevant work in the area of study.

4.2 Methods

In this section I provide a detailed description of the steps and procedures involved in gathering and analysing the data central to this work. I start with explaining the processes involved in obtaining ethical and research governance approvals, then I describe the sampling strategy employed in this phase of the study and give details of the tools used in data collection

and analysis, I conclude this section by discussing the strategies employed in ensuring quality during these processes.

4.2.1 Ethics and research governance

Research involving human beings is usually sensitive, as such ethical principles of doing good, eschewing harm, acting justly and respecting autonomy must be adhered to. Because this project specifically concerned personal experiences relating to how prescribing practices were carried out (for prescribers) and issues relating to pain and medication (for patients), these ethical considerations were even more important here. Following sponsorship from the University via the School of Healthcare's Faculty Office, ethical approval was sought from the Leeds West Research Ethics Committee (REC), using the Integrated Research Application System (IRAS). The research team was invited to present the details of the study to the REC and after addressing some concerns raised by the REC (see appendix 2), the study was given a favourable ethical consideration (see appendix 3).

Based on the ethics approval, research governance approval was then sought from the Leeds Teaching Hospitals Trust. The main reason for seeking this approval from the Trust was because despite the fact that recruitment was done from a list generated from the university, since most non-medical prescribers and their patients interacted through the NHS, this approval was essential. The first application was put in at the same time that ethics approval was being sought from the REC, in a bid to significantly quicken the approvals phase of the whole project. This first application was not successful because at that time an approval had not yet been received from the REC. A subsequent application including the approval granted from the REC was put in and this second approval was successful (see appendix 4). Other related ethics and governance approvals and permissions such as amendments to the study, letters of access and the research passport were applied for and approved as the research progressed and they became necessary to facilitate various phases of the work (see appendices 5, 6, 7).

Throughout the study, the legal framework provided by the Data Protection Act of 1998 (OPSI, 2009) played a key role in the ethical considerations underpinning the data management phase of the study. As such pertinent issues such as provision of relevant information to participants, assurance of confidentiality and anonymity and data encryption were given particular attention.

4.2.1.1 Providing information

In line with the above principles, care was taken to provide participants with information about the study, as well as their role in it. This was done prior to their participation and was achieved by sending their information sheets by email or by post, a few days before their scheduled interview. The participants were followed up to ensure that they had actually received, read and had the opportunity to discuss the information sheets, prior to the interviews.

4.2.1.2 Consent

Consent for participation in the study was ensured before the interviews were scheduled. Prior to the interviews, a copy of the consent form (see appendix 8), was sent to inform the participants of what they were consenting to on the day. Finally, in addition to the consent already achieved on the consent form, just before the interview started, participants were again required to reiterate their consent verbally, first to participating and second to being recorded. At the end of the interview, their consent to use the recording was confirmed.

4.2.1.3 Confidentiality and anonymity

Information sheets providing concise details about the research also informed them of the levels of confidentiality and anonymity to be expected by participating in the study (see appendix 9). Here, they were assured that their personal details and other related information provided would be kept confidential, stored securely and only accessed by authorised persons such as the lead researcher and the PhD supervisors. They were also informed that their views and experiences, if included in published reports, would not be done in such a way that they would be identified, or have these views and experiences traced back to them. These assurances were verbally reiterated during the pre and post interview chats that were carried out as routine.

4.2.1.4 Data protection

Interviews were taped with two digital recorders and these were then downloaded to the university allocated computer and the memories of the recorders deleted prior to the next interview. During the analysis, only the study identification numbers (such as prescriber 1) were used. Transcription and analyses were carried out using the secure University of Leeds systems. Original recordings of the interviews were saved only on the password protected University of Leeds 'M' drive and all communication that could potentially identify the participants such as consent forms, were kept under lock and key in a dedicated office at the university.

4.2.2 Sampling

Here, I discuss the processes as well as the rationales behind the selection of the nurses and pharmacists that were recruited to participate in the qualitative phase of this work.

4.2.2.1 Strategy

The association of certain sampling techniques with specific methodologies described in the last chapter contributed to development of the sampling strategy. The two sampling methods relevant to this study are theoretical sampling and purposive sampling. In setting out the principles guiding grounded theory, Glaser and Strauss (1967) developed the concept of theoretical sampling as a process whereby data is collected, coded and analysed right from the onset and guides subsequent data collection, from which further sampling selection decisions are then made. The whole cycle is then repeated continuously until saturation is achieved.

purposive sampling refers to the strategy whereby 'information rich' cases are selected in order to provide better information about issues central to the research questions, as well as allow a more in-depth exploration of the study area (Patton, 1990).

Although proponents of grounded theory suggest the employment of theoretical sampling, in this study, a combination of purposive and theoretical sampling were used. The combination of these two strategies was adjudged the best fit. As a literature review had already been carried out, there was some indication of where best to begin the data collection. As such it seemed more efficient to utilise purposive sampling to select the first few participants. Additionally, theoretical sampling depends on constant comparison to generate themes which then suggest areas for further exploration. Adopting purposive sampling for the first three interviews allowed the generation of a much wider pool of themes which then led to a more robust analysis on which the subsequent theoretical sampling continued iteratively.

4.2.2.2 Selection of participants

The initial sampling frame was constituted from past students of the prescribing course at the University of Leeds who, on the successful conclusion of their course, consented to being contacted for research from the University. From this list, an introductory email providing details of the study, soliciting their participation and asking for more information regarding their current prescribing status was sent to 58 prescribers. The first three participants were selected purposively and when a list of codes and developing themes had been identified, theoretical sampling began. Subsequently, the list of participants was divided to aid the selection of participants who were most likely to facilitate the investigation of the relevant themes. For instance, a division into 'prescribing for chronic pain'; 'prescribing, but not for chronic pain'; and 'not yet prescribing' allowed the identification of non-medical prescribers who had qualified but had not started using their qualification. This facilitated the probing of relevant themes from these groups.

Although theoretical sampling meant that in certain cases there were some specific characteristics that were seen as particularly important to aid the exploration of a particular theme, certain characteristics were common to all the non-medical prescribers that were recruited.

4.2.2.2.1 Inclusion criteria for prescribers

1. Must have qualified as a nurse or a pharmacist
2. Must be registered with their relevant regulatory body
3. Must have passed the prescribing course
4. Must be working within Yorkshire and the Humber

4.2.2.2 Exclusion criteria for prescribers

1. Candidates with only extended independent nurse prescribers' qualification
2. Practising outside Yorkshire and the Humber

4.2.3 Data collection

Although they are reported separately here, the data collection and analysis were undertaken in the tradition of theoretical sampling and fed into each other iteratively.

4.2.3.1 Topic guide

Having reviewed the relevant literature prior to commencing the data collection in this study I was aware of what other workers reported as the important themes from earlier research. The initial instinct in developing a topic guide against this backdrop was to find out if these themes also existed when nurses and pharmacists prescribed for chronic pain. However, this study had a different goal, which was the development of an explanatory theory rather than describing existing practice. As such the strategy employed was to combine the knowledge of the gaps revealed by the literature review, with informal interviews carried out with nurses and pharmacists, to develop comprehensive topic guides, whose components could be easily amended or focused to enable deeper exploration of specific themes.

During the interviews, the topic guide developed to facilitate the data collection from prescribers (see appendix 10), turned out to serve both purposes. For instance, when the need arose to sample (theoretically) and interview participants who had qualified but not yet prescribed, the original topic guide needed little amendment to suit this purpose (see appendix 11).

4.2.3.2 Interviews

In this study data were collected using semi-structured open ended questions in individual interviews. Other data collection methods were considered, for instance, focus groups, where selected individuals discuss and comment on areas in which they have experience (Powell et al., 1996). However, such groups are more relevant when the phenomena under investigation are more likely to be thoroughly explored through interaction with other members of the group. Interviews as a data collection tool are commonly used with the grounded theory technique. In line with the constructivist approach, Charmaz (2006) suggests that interviews acknowledge the participation of both the interviewer and the interviewed. She advises interviewers to listen actively and use various techniques to encourage the participation of the interviewee in the conversation. Interviews also allow for deeper immersion in the data and during analysis and reporting, ensure that the richness of the data and the participants' voices are not lost (Breakwell et al., 1995). This again is in line with the constructivist approach which ensures that the theory is grounded in the data. There have however, been some disadvantages associated with using interviews as a data collection tool; for instance, interviewing may involve significantly more

expenditure in terms of time and effort needed to collect and analyse the data (Wimmer and Dominick, 1997), compared to other data collection tools.

In this study, participants were all given a choice regarding what time and place they preferred to have their interviews conducted. Three of the non-medical prescribers preferred to come to the University for their interviews, one preferred to be interviewed at home and the rest were interviewed at their offices. All the interviews were conducted by me. However another experienced researcher (nurse chronic pain specialist as well as PhD supervisor) observed the initial interview. This action was taken for several reasons. Firstly, it was done to provide support during the interview if it was needed. Secondly, as a means of ensuring quality, as it had been agreed *a priori* that the first transcripts would be also be independently coded by the PhD supervisor. Observing the first interview allowed the second coder to get a better feel for the 'context' before the analysis. Thirdly, the PhD supervisor having achieved a first hand experience of the data collection in this study subsequently met regularly with the researcher to help with his reflections of the field work (debriefing).

Interviews were taped with two digital recorders and recordings were then downloaded to the university allocated computer and the memories of the recorders deleted. Interviews lasted an average of 45 minutes, with the earlier interviews slightly longer and the later interviews slightly shorter. With progressive interviews, the process became smoother and seemed easier, perhaps as a result of being able to better influence both the environment and the pace of the interviews. As suggested by King (1994), care was always taken before each interview to ensure that they were well designed, planned and conducted. For instance by the fourth interview, I noticed that pre and post interview chats where conversation centred on issues other than the study itself went a long way in putting participants at ease. Subsequently, I made sure that I used this strategy to make the participants more relaxed and comfortable with the idea of being interviewed. Measures such as this have been identified as important to ensure participants are not exposed to the potential negatives associated with interviews, such as psychological distress (Newman et al., 2002).

4.2.3.3 Saturation

During qualitative data collection, saturation is said to occur when no new ideas or concepts are being generated or when the researcher considers sufficient data needed to develop a theoretical framework has been collected (Glaser and Strauss, 1967; Strauss and Corbin, 1998). It could however be argued that this limit is arbitrary (Charmaz, 2000) as one could easily decide to continue coming up with new concepts with every new interview, or perhaps go even deeper within already developed concepts. Additionally, the irrelevance of numeracy in qualitative research (Pope and Mays, 2000) renders tools such as power calculations unimportant in this context.

Although data collection started using purposive sampling, theoretical sampling began when the themes started emerging to help tighten the focus of the process and to facilitate grounding of the theory. This was useful in determining when saturation was reached. For instance, once the core category emerged from the data, further interviews paid more attention to specifying its characteristics and dimensions and less attention to exploring other less relevant areas. In addition to the views expressed by other experienced grounded theorists, I found that constant reflection on the data collected, against the backdrop of the research aim and objectives was a significant aid in deciding when saturation was achieved. Here, themes in the core category started reoccurring frequently from the 16th interview. It was decided that saturation had been reached by the 20th interview. Two more interviews were then carried out to confirm that the right decision had been made (making a total of 22 interviews), but yielded no further relevant themes.

4.2.4 Data analysis

As mentioned earlier, analysis began during the data collection. The grounded theory approach employed meant that once theoretical sampling started, the data had to be analysed in order to provide the basis for subsequent recruitment. Although many forms of analysis are employed with qualitative research, originally the constant comparative technique was developed to be used with the grounded theory approach (Glaser and Strauss, 1967). However, various workers have analysed their data using other methods despite using a grounded theory approach (Clarke, 2005; Morse et al., 2009).

In the qualitative phase of this work, the constant comparative method was used to analyse the data gathered from participants. The constant comparative method refers to analytical units such as codes and themes being constantly compared to each other within various contexts, such as either within or between interviews, categories, or participants (Glaser and Strauss, 1967; Charmaz, 2006). The constant comparative method in effect provides a mechanism whereby within the analytical framework every item of data is considered and tested against the emerging theory, to ensure that if suitable, the new data fit into the most appropriate position within this developing theoretical framework.

In consideration of the various possible methods of analysis to be used in this work, constant comparative method seemed the best fit for several reasons. Generating a theory was the main aim of this research and this influenced the choice of the grounded theory approach. The constant comparative method provided the best fit to the various processes key to the grounded theory approach. For instance, coding in the constant comparative method was more consistent with the emerging theory developing from and being grounded in the data as it was being collected, compared to the *a priori* coding associated with other analytical methods such as framework analysis (Ritchie and Spencer, 1994). Also the constant comparative method

lends itself well to the theoretical sampling used in grounded theory, because it better facilitates the flexibility and modifiability associated with this sampling technique.

4.2.4.1 Coding

Although a constructivist grounded theory approach underpinned this study, a slightly different approach was employed in the analysis. Here, a multi level yet iterative approach was synthesized based mainly on the works of Charmaz (2006), Glaser (1978; 1992) and Glaser and Strauss (1967) and to a lesser extent on Strauss and Corbin's (1990) version of grounded theory analysis. Admittedly it may seem strange that although I follow the constructivist school, here I agree with aspects of seemingly contrasting arguments for two reasons. Firstly, although many analysts may report strictly adhering to one approach, just as in other areas of research my (constructivist) opinion is that researchers, in analysing data, also bring 'influential reading' to the meaning that they make of their data. As such it follows that awareness and familiarity with differing, sometimes opposing arguments will inadvertently influence choices made during analysis. This brings us to the next point. Although some of these grounded theory schools differ significantly, an integration of aspects of their approaches results in a more robust, comprehensive and rigorous grounded theory analysis. Here, I describe the analytical journey and provide details about which grounded theorist influenced what decision and why I felt employing such an approach was justified.

Coding in general refers to the unit of analysis in grounded theory which categorises sections of the original data collected. It therefore represents a summary of that part of the interview and can be manipulated to make more sense of the data. In this work, coding was performed manually and with the help of a software programme. For the first three interviews, manual coding was performed. Subsequently as more interviews were carried out and the incoming data increased, NVivo, a qualitative data analysis package was used to organise the data. As the data analysis continued, a combination of data processing by NVivo and manual coding, memoing, sorting and diagramming was employed. The manual aspect of the analysis was carried out using coloured pens, highlighters, post it notes, cards and various sizes of paper.

4.2.4.1.1 First level coding

During first level coding the transcripts were read and a combination of 'line by line coding' and 'in vivo coding' were applied to the data. 'Line by line coding' refers to the process whereby each line was scanned for significant messages, whereas 'in vivo coding' refers to the process whereby small sections were scrutinised for words, phrases or statements unique to the study area to hint at deeper meanings. This level of coding is referred to as initial coding by Charmaz (2006) and she advises always staying close to the data and keeping things simple.

Figure 1: First Level Coding

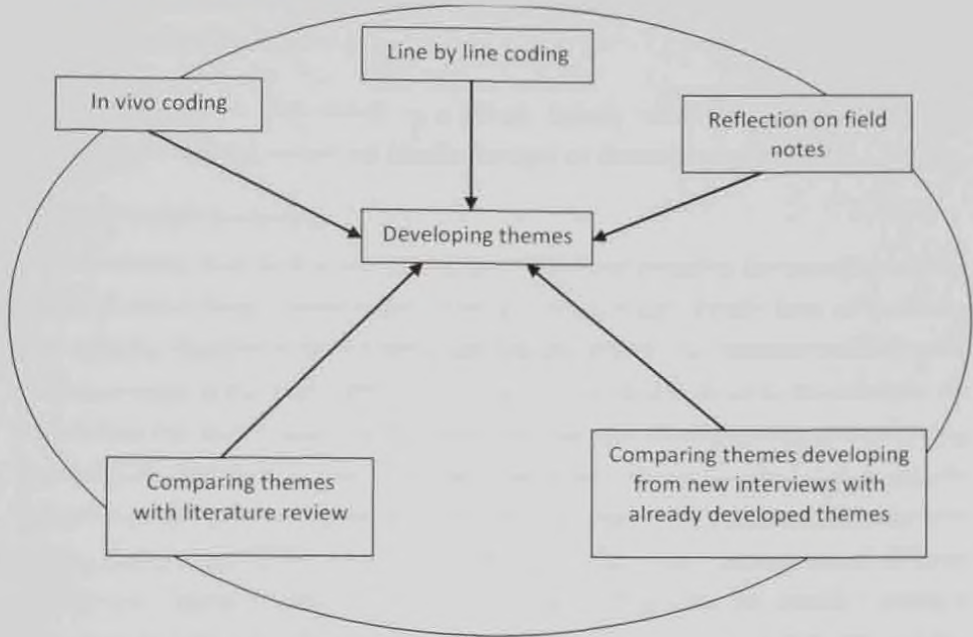


Figure 1 summarises the interactions involved in the first level of coding in this work. In addition to line by line coding and in vivo coding that are consistent with classic (Glaser and Strauss, 1967) and Charmazian (2006) grounded theory, I have also indicated that my thought processes during the first level of coding were influenced by the review of the literature in the substantive area. This was revealed during reflection carried out as part of the analysis. Initially, the codes yielded by the line by line scan were compared to other similar codes yielded by other lines within the same interviews. As interviews progressed and more data became available, the first level coding evolved from constantly comparing lines and codes to comparing the codes between transcripts from different interviews.

The ultimate stage of the first level coding was when themes started to emerge from the data. The constant comparison of the codes suggested that some of the themes 'clustered together' to make more meaning compared to when they were considered alone, or with other unrelated codes. In addition to the grouping of these codes, regular reference was made to the field notes made during the interviews, to ensure that the development of the themes was made in the right context.

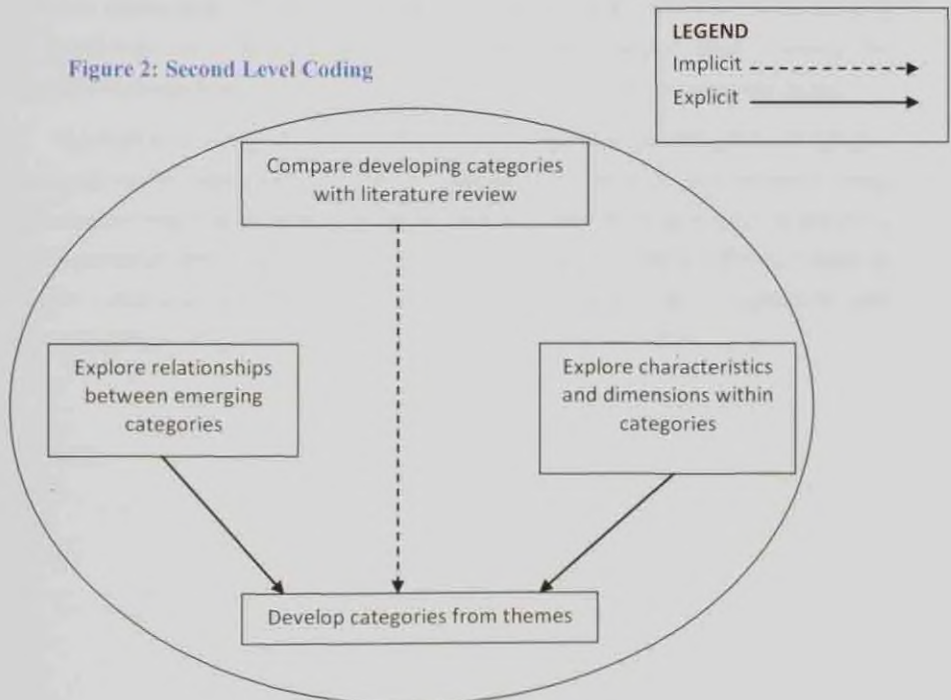
Another useful tool in the development of themes from the initial coding was the use of memos (Charmaz, 2006). In this work although memoing commenced during first level coding, it remained invaluable throughout the entire analysis. Memoing or memo writing involves the note taking either electronically or paper based, of ideas, reflections, assumptions and

relationships identified during the entire analysis process. An example of a memo used is presented in appendix 12.

Memos in this work served as a vehicle through which the emerging theory was continually formulated, revised and modified through out the evolutionary process.

4.2.4.1.2 Second level coding

Following from the first level coding, as themes started emerging, the second level coding of the grounded theory analysis began. Here, the coding process focused more on developing the emerging categories from the existing and emerging themes. The theoretical sampling which had commenced at this stage enabled the interviews to shed more light on the characteristics and dimensions that were emerging within these new categories. During the second level coding, incoming data through the process of constant comparison with already collected data were also used to explore the relationships between the emerging categories. The synthesis of second level coding methods used in this project was influenced by the focused coding strategy of Glaser (1978) and Charmaz's interpretation of this strategy (2006). Here, the identified analytical directions are used to iteratively examine incoming data as well as review already analysed data.



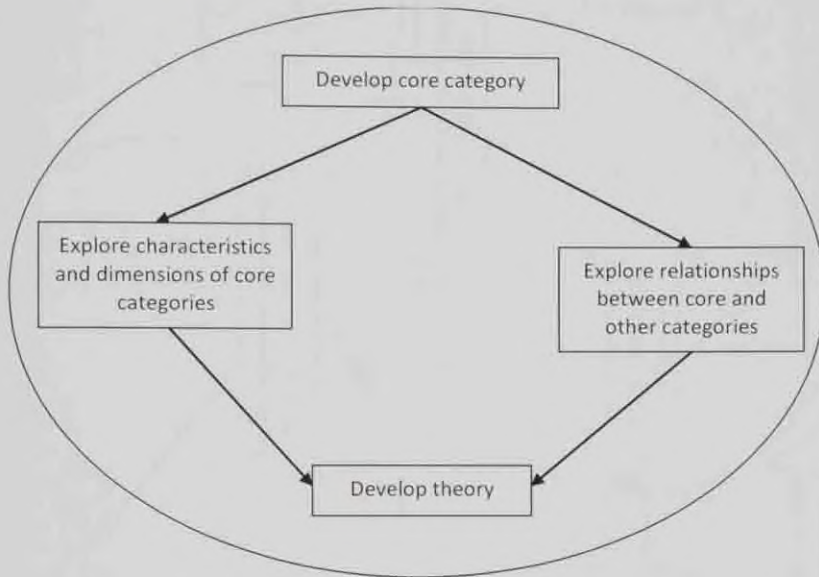
The diagram above summarizes the processes and interactions that were carried out in the second level of coding. During the second level coding, the constant comparison method was used to identify and synthesise emerging categories from related themes. The themes that interacted with each other to make up categories, were those which when viewed together made more meaning compared to when they were considered alone, or with other unrelated themes. As in the first level coding, regular reference was made to the field notes to ensure that the categories were developing within the contexts perceived in the interviews. Also, the sometimes non-sequential relationship between the first and second coding levels meant that incoming data still had to undergo the first level coding, even though the second coding phase had commenced. The iterative interactions between the second and first coding levels were facilitated using memos.

4.2.4.1.3 Third level coding

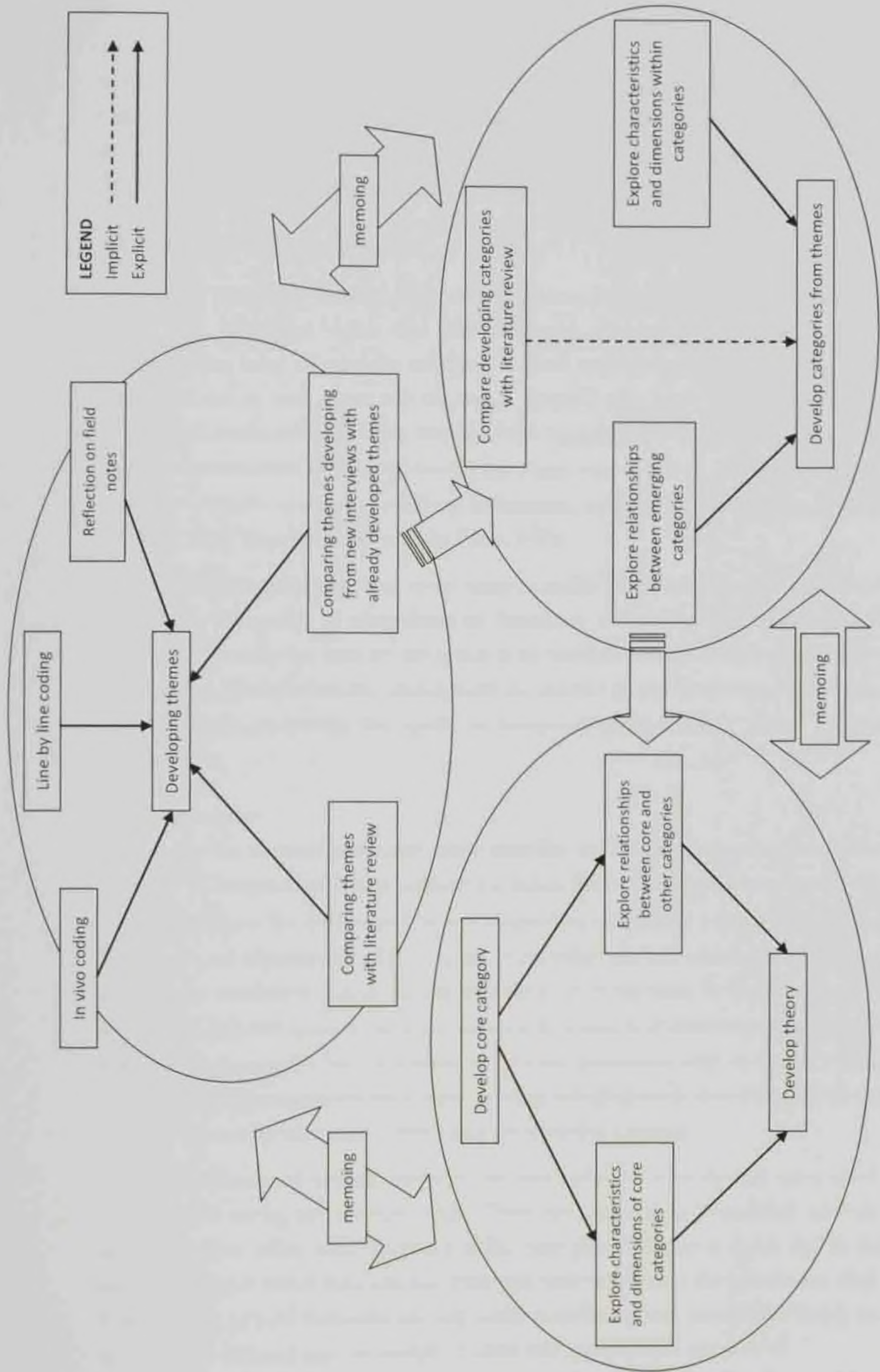
The third level coding commenced once the core category had been identified. The identification of the core category was based on the following premises suggested by Glaser (1978). Firstly, during the interviews, this category emerged as the dominant area of interest for the participants. Secondly the themes related to this category occurred frequently and had significant relationships with the other emerging categories. Thirdly, the themes in the category had considerable 'carry through' and clearly explained the emerging theory. Fourthly, the themes in this category resonated with participants throughout the data management phase.

The third level coding which focused on specifying and conceptualising the core category was carried out by continuing the constant comparison explained in the previous levels. Here, more attention was focused on the conceptual elements of the emerging theory. In specifying the characteristics and dimensions of the core category, a considerable effort was made to maintain a contextual description of the settings from which these views and experiences were made. The ultimate objective of this coding level was to develop the theory.

Figure 3: Third Level Coding



At this level, gaps in the emerging theory were addressed by further data collection from theoretically sampled participants. Some of these new data had to undergo first and second level coding, before feeding into the emerging theory. Due to the fact that the latter interviews were more focused, this cyclical feedback relationship progressively got smaller as the interviews neared saturation point.



In figure 4, the relationship between the first, second and third levels of coding are now brought together to present a clear picture of the entire data analysis processes. In the diagram, although it is clear that the process flowed from the first through the second to the third level of coding, there is also evidence that constant iteration was carried out, mainly by memoing.

4.2.5 Quality in data management

In this subsection, I present details of the various strategies employed to ensure that quality was maintained when data were collected from prescribers and analysed. Trustworthiness refers to measures employed to make qualitative research processes more dependable and as such ensure that the results achieved from them are more worthy of confidence (Lincoln and Guba, 1985; Krefting, 1991; Sandelowski 1993). Some of the specific strategies recommended to attain trustworthiness which were employed in this work include seeking out negative cases, peer reviewing, triangulation, audit trails and reflectivity (Lincoln and Guba, 1985; Strauss and Corbin, 1998; Patton, 2002).

Even before considering these issues regarding quality in the data management phase of the study, it is necessary to acknowledge the importance of choosing the methodology and methods and ensuring that these are appropriate to the research questions and phenomena under investigation. Although these have already been discussed in the earlier sections of this thesis, their importance in ensuring that quality is maintained during research, cannot be over emphasized.

4.2.5.1 Reflectivity

Unlike the positivist perspective where accepting and acknowledging the place of the researcher is interpreted as bias, in qualitative research, there is a place for ensuring that the researchers place in the study as well as their perspectives are properly engaged with (Finlay, 2002; Eakin and Mykhalovskiy, 2003). In this study, reflectivity was achieved in three major ways. Firstly, a reflective journal was kept from the onset of this study. In the first chapter of this thesis a reflective account was given regarding how aspects of professional and personal experience and perception had the potential to influence interactions made during the project. Similarly, during data collection and analysis, personal reflections made were also recorded and these were constantly referred to, to help clarify the researcher's position.

Another means of ensuring that reflectivity was carried out were the field notes, which were recorded during the interview phase. These notes were done immediately after the interviews ended, before transcription and coding were done. This was to ensure that all the relevant contextual details were captured when they were still fresh in the interviewers mind. Referring back to these field notes was very useful in providing 'rich descriptions' during the analysis of the collected data. An example of a field note is presented in appendix 13.

The third tool which employed the concept of reflectivity, albeit to a much lesser extent was the memo. Memos have already been discussed under the section that dealt with coding. Memos were used during the study to articulate reflections on which aspects of the emerging theory were explicit from the interview transcripts and those which developed as a result of my interpretation of the more implicit aspects of their stories.

4.2.5.2 Peer review

This form of trustworthiness was achieved in various ways within this study. Firstly during the interviews, weekly meetings were held with at least two out of the three experienced researchers (supervisors) to discuss and review data collection and analysis. Among these supervisors, one had participated in the first interview and had acted as a second coder during the analysis. As such on the one hand the peer review was done with a colleague with some insight to the study (interviews and coding) and on the other hand the review was with a more detached colleague. A copy of a meeting note is presented in appendix 14.

Other forums in which aspects of this work have been reviewed were: intra university conferences (see appendix 15), one international conference (see appendix 16) and the peer review process carried out prior to being published in an international journal (Adigwe et al., 2011).

4.2.5.3 Triangulation

Triangulation as a means of verification in qualitative research refers to the process where multiple data sources, methods or researchers are used for corroboration in an investigation in order to establish credibility and achieve better understanding (Lincoln and Guba, 1985; Sandelowski, 1995). In this study two main strategies were employed to achieve triangulation. Firstly, triangulation of data sources was achieved by collecting data from both prescribers and patients. Secondly, triangulation of methods was achieved by first exploring prescribers' views and experiences using qualitative methods and then subsequently surveying the attitudes of prescribers to the emergent theory, using quantitative methods. I provide further details regarding how triangulation of methods was achieved in chapter 5 where the quantitative project is presented. I also explain further how triangulation of data sources was achieved in chapter 6 where the data collection and analysis from patients is dealt with.

4.2.5.4 Audit trail

In qualitative research, keeping an audit trail refers to the actions taken by the investigator to ensure that an independent reviewer can confirm the processes employed in the study and that the interpretations and results achieved are supported by the processes (Shenton, 2004). In this study, the audit trail was maintained using various strategies. Digital copies of the participants' interviews downloaded from the main and back up recorders have been saved on the University's 'M' drive. Also verbatim transcripts of these interviews have also been saved in

two different locations of the University's information technology systems. Documentary evidence such as memos, field notes and meeting records maintained throughout the data collection and analyses have been kept. Other records of the various developmental stages of the theory such as discussion notes and mind maps have also been retained.

4.2.5.5 Seeking out negative cases

Another valuable tool used in ensuring trustworthiness in the study was the search for negative evidence. In qualitative research, these are themes, whose emergence may provide rival or conflicting explanations to that emerging from the theory being developed (Miles and Huberman, 1994). Throughout the study, significant effort was made to seek out and include these cases in the emerging theory to ensure that all possible processes and dimensions were covered. Seeking out negative cases and outliers was a means of making certain that the emerging theory was not only comprehensive, but also robust.

Although this method of increasing trustworthiness in qualitative research has not been traditionally associated with grounded theory (Glaser and Strauss, 1967), the cyclical and iterative relationship between data collection and analysis, as well as the theoretical sampling used here facilitates seeking out these cases. Furthermore, seeking out negative cases as a form of rigor contributes to strengthening the 'carry through' of the emerging theory.

4.3 Results

This section presents the results of the grounded theory exploration of nurses and pharmacists' views and experiences with respect to their prescribing for chronic pain. In the first part of this section details of the non-medical prescribers that participated in this project of the study are provided (see table 1). Following this, the categories that emerged from this project of the study are then explored. Figure 5 presents a diagrammatic representation of these categories that emerged from the third level of coding in this project alongside the second level codes that generated them. Also, a detailed map which includes the first level codes for each category is available in appendix 17.

'Motivation' explores the different factors which emerged in the interviews that were considered by nurses and pharmacists as influential to their decision to qualify as prescribers. The next category 'Approaches' addresses the two distinct approaches that emerged explaining how nurses and pharmacists carried out their prescribing practices within certain circumstances. In 'Nature of the prescribing environment', the various individuals and factors that nurses and pharmacists perceived interacted in their prescribing environment and how these interactions influence their decision to prescribe for chronic pain are explored. 'Acquiring knowledge' deals with how non-medical prescribers engaged with their knowledge acquisition resources and processes and 'reflecting on practice' explores attitudes to reflection, its practice and the

influence it was perceived to have on their prescribing for chronic pain. 'Gaining experience' explores the activities non-medical prescribers engaged in to gain experience necessary for prescribing for chronic pain and how this influenced their practice and their willingness to prescribe. The last category explores the access that nurses and pharmacists had to aspects of health information technology such as electronic prescribing software and electronic health records and how these were perceived to influence prescribing for chronic pain.

4.3.1 Demographics

The table below summarises the characteristics of the non-medical prescribers that were interviewed in this project of the study. A total of 22 non-medical prescribers were selected from the sampling frame and their selection was based on certain characteristics identified as important at the data collection/analysis stage that they were interviewed.

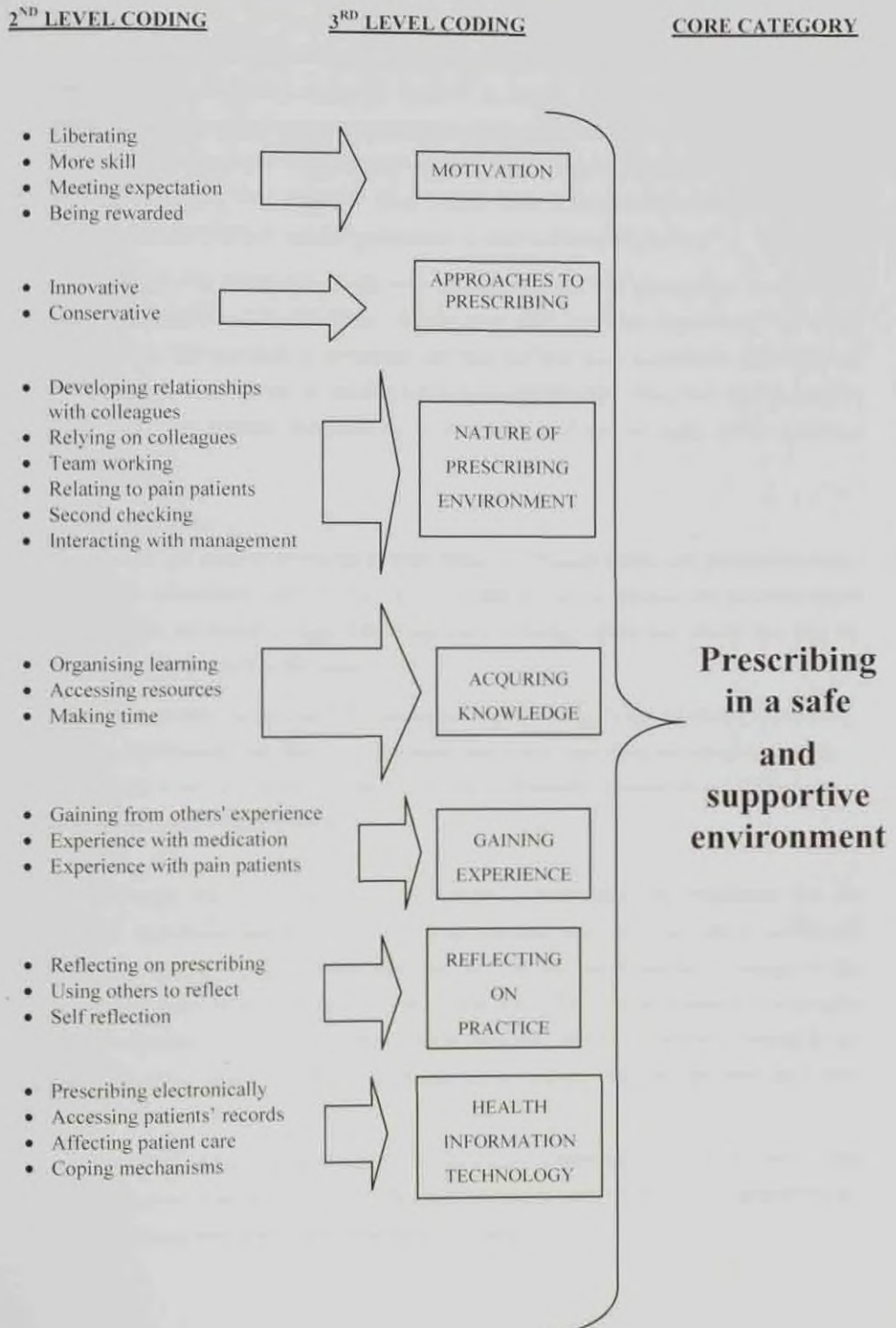
Table 1: Characteristics of non-medical prescribers

Participant Number	Professional Background	Gender	Age Range	Practice Setting	Prescribing Experience	Experience In Chronic Pain
Prescriber 1	Pharmacist	Male	40-50	Secondary	3 Years	Yes
Prescriber 2	Nurse	Male	30-40	Secondary	2 Years	No
Prescriber 3	Nurse	Female	30-40	Secondary	2 Years	Yes
Prescriber 4	Pharmacist	Male	40-50	Primary	5 Years	No
Prescriber 5	Pharmacist	Male	50-60	Community	3 Years	No
Prescriber 6	Pharmacist	Male	40-50	Primary	5 Years	Yes
Prescriber 7	Nurse	Female	40-50	Primary	2 Years	Yes

Prescriber 8	Nurse	Female	50-60	Primary	1 Year	Yes
Prescriber 9	Pharmacist	Female	40-50	Community	5 Years	Yes
Prescriber 10	Nurse	Female	40-50	Primary	6 Years	Yes
Prescriber 11	Pharmacist	Male	30-40	Primary	1 Year	No
Prescriber 12	Pharmacist	Female	40-50	Primary	2 Years	Yes
Prescriber 13	Nurse	Female	50-60	Secondary	None	-
Prescriber 14	Pharmacist	Female	30-40	Secondary	5 Years	No
Prescriber 15	Pharmacist	Female	40-50	Secondary	3 Years	Yes
Prescriber 16	Nurse	Female	30-40	Primary	5 Years	Yes
Prescriber 17	Pharmacist	Male	40-50	Secondary	2 Years	Yes
Prescriber 18	Pharmacist	Male	40-50	Primary	4 Years	Yes
Prescriber 19	Pharmacist	Male	30-40	Secondary	None	-
Prescriber 20	Pharmacist	Male	40-50	Secondary	5 Years	Yes
Prescriber 21	Nurse	Female	30-40	Primary	5 Years	Yes
Prescriber 22	Nurse	Female	40-50	Primary	3 Years	Yes

Thirteen pharmacists, eight nurses and one midwife who also had a nursing qualification agreed to participate in this project of the study. Twenty participants had used their qualification in practice and two had not yet prescribed. The nurses and pharmacists that were recruited practised in diverse settings and had varying lengths of prescribing experience since qualification. This facilitated the manner in which different themes and categories were explored.

Figure 5: Diagram of coding – non-medical prescribers



4.3.2 Motivation

From the first few interviews, it became clear that for non-medical prescribers, a range of factors motivated them to make the decision to qualify as and practise as non-medical prescribers. This category explores whether non-medical prescribers felt that incentives they had been exposed to prior to becoming non-medical prescribers were important and whether it influenced the way they practised. Also, it helps better understand what instigated qualified non-medical prescribers to use this qualification in their professional practice.

Themes that emerged from the interviews with nurses and pharmacists were grouped under sub-categories titled 'liberating', 'having more skill', 'meeting expectations' and 'being rewarded'. A few non-medical prescribers admitted that they were incentivised by at least one of the above sub-categories. In practice however, it seemed more likely that the non-medical prescribers were actually motivated by a combination of two or more of the identified motivators.

4.3.2.1 Liberating

Before the onset of non-medical prescribing, experienced nurses and pharmacists would sometimes see patients, carry out the entire consultative process, produce the prescription and then wait for the doctor to append their signature following which they would then take the signed prescription back to the patient.

"I was one of those nurses that before non-medical prescribing, I would walk into doctor with a script and say write that, that dose, that many times a day, sign there and take it back to the patient, that is not safe, this way is much more safe." (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

Although this represented a system whereby responsibility for prescribing was not correctly apportioned and which they perceived as unsafe, until they were able to qualify and practise as non-medical prescribers, they felt that they had no choice but to engage in this practice. To them, in order to provide an acceptable level of care for their patients, this practice was unavoidable. Their seeming lack of choice about this practice, is clearly illustrated by the use of the word 'liberating' which they employed to describe how they felt when they could eventually legally prescribe.

"...it was going to liberate my role really, I wasn't depending on... I don't have to speak to GPs anymore, I am not hanging on the phone waiting for them, you know..." (Prescriber 8 - nurse in primary care with 1 year prescribing experience)

"...once I had qualified, it didn't feel an awful lot different because that's how I had coped for years and years so it wasn't much of a strain, but it was liberating the minute I could just do it." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

For nurses and pharmacists who had engaged in this unofficial prescribing role, having already gained some prescribing experience over the years, albeit unofficially, to finally be able to prescribe in their own right was a considerable stimulus to obtain the qualification and legalize their prescribing.

Not all nurses and pharmacists had previously practised this unofficial form of prescribing. Some others identified that becoming a prescriber would enable them to provide better care for their patients and they saw qualifying as a non-medical prescriber as a means through which they could 'add value' to the services that they already provided as health care practitioners.

"I have been qualified for a long time and doing the prescribing course sort of renewed my enthusiasm for community pharmacy, for pharmacy practice...I don't want to move up the ladder and shuffle papers about, I want to deal with the problem." (Prescriber 5 - community pharmacist with 3 years prescribing experience)

For the above pharmacist, non-medical prescribing provided a means for him to extend his role and for him this was enough stimulus to gain the qualification and go on to prescribe. This prescriber struck me as someone who due to the fact that he had been qualified for what he felt was a long time and was in need of a programme of study which not only would provide some professional advancement, but also be relevant to how he provided services to his patients. Non-medical prescribing ticked both boxes for him.

'Feeling liberated' and 'having renewed enthusiasm' described the initial emotions that non-medical prescribers felt when they qualified. This suggested that the non-medical prescribers perceived that a new and exciting experience lay ahead in their professional careers. However, I got the feeling that as existing non-medical prescribers became more experienced and nurses and pharmacists, in general became more aware of how non-medical prescribing was practised, they realised that in addition to facilitators, there were also barriers to non-medical prescribing they were no longer as enthusiastic.

With more experience and better knowledge of how non-medical prescribing was carried out in practice, nurses and pharmacists began to identify with some other motives for engaging in non-medical prescribing. For instance, they revealed that their ability to prescribe meant that they could provide their services in a more timely fashion.

"...obviously the merry go round for the patient went round quicker and of course for myself, I was able to deal with patients more quickly and efficiently and get my next one in

quicker.... so throughput of patients was increased because of it." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

This in turn impacted on their organisational capacity, in the above case the non-medical prescriber felt prescribing resulted in better efficiency in the way that she organised her practice.

Furthermore, because they were now able to prescribe, non-medical prescribers reported that this ability improved the enjoyment and contentment that they derived from the work they did as healthcare professionals

"...I don't feel that way and I feel that my job satisfaction is much better, I feel like I've got a much more important role if I can prescribe." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

For some, the qualification and the ability to prescribe had become somewhat essential to how they planned their career progression.

"...you know, at the end of the day, I am doing it not for the money and not for the banding, it is for my practice and having a qualification that allows me to develop my practice but also to manage my career plan for the future, if you like..." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

This prescriber deemed the new skill so integral to his long term career plans that he was prepared to forgo financial reward for the time being, in order to ensure that he carved a niche for himself, using his prescribing skill.

4.3.2.2 Having more skill

Both nursing and pharmacy are regarded as skilled healthcare professions. For individuals that go in to these professions, the ability to utilise their knowledge, experience and aptitude to accomplish complex tasks in a timely and efficient manner is important. Undergoing the training and qualifying as a non-medical prescriber confers on these already skilled healthcare professionals, an additional set of skills.

During my interviews, I found that the nurses and pharmacists that participated in the research regarded their acquisition of more skills as a significant motive for wanting to become non-medical prescribers. For them, despite already being skilled, being a non-medical prescriber provided additional ability that distinguished them from other nurses and pharmacists.

"...obviously it is some extra qualification, you know, compared to other pharmacists, I am not saying that they are not doing a good job, but it is just because they still cannot do the job that we do." (Prescriber 11 - pharmacist in primary care with 1 year prescribing experience)

Interestingly, training as a prescriber and gaining the qualification did not seem to be enough to be seen a 'bona fide' non-medical prescriber. For some of the prescribers that I spoke

to, it was not enough to have just studied for and passed the course, it was also important to have used this skill in practice.

"...because I have not used it, I do not tend to mention that I am a prescriber, because I suppose... I almost feel a bit fraudulent, having done the qualification... I wouldn't call myself a prescriber until I start prescribing, I might be a prescriber by name, but I am not a prescriber by action." (Prescriber 19 - pharmacist in secondary care with no prescribing experience)

Personally, coming from a background that places significant emphasis on qualifications and certificates, it was quite interesting to find out that someone who had successfully passed a course was reluctant to 'bear the title' just because they had not used the skills in practice. This suggested that for nurses and pharmacists the knowledge of prescribing skills alone was not sufficient to be non-medical prescribers, experience was regarded as equally important.

For some other participants in the study, they had trained for, gained the qualification and even had some 'de facto' experience of prescribing. However, because they were not actually writing prescriptions, they felt that they were not practising non-medical prescribing in the true sense of the term.

"I did the supplementary prescribing course in the knowledge that I wouldn't be able to do much with the actual prescribing at the end of it. But because I was effectively practicing in the way that a clinical management plan will work with supplementary prescribing ideas behind it, I felt it was appropriate for me to do the training to support how I was already practicing. So I had a kind of a qualification to support most of the time, if I'm speaking to a GP, they don't have any problem taking a recommendation from me, kind of representing a specialist service. I think particularly because probably their chronic pain patients are their quite difficult patients, so they are welcoming any help, but I think it just shows a bit more... it gives me more justification for what I am saying, I think." (Prescriber 14 - pharmacist in secondary care with 5 years prescribing experience)

This pharmacist knew from the outset that she may not actually write prescriptions in her practice, even before training for the qualification. For her, having some certificated training that supported the specialist role that she was performing by giving advice on chronic pain to other healthcare professionals, as well as being recognised by her peers and colleagues as an expert in this field contributed to her motivation to qualify as a non-medical prescriber.

For those non-medical prescribers who had qualified and were prescribing, the non-medical prescribing qualification signified not just to themselves, but perhaps more importantly to their peers, that they had acquired considerable expertise in their respective fields of practice.

"...you know as a pharmacist you want to continue to develop and get the ... you know as you say the recognition, you know, that you at the top of your game, really, that you have

gotten as far you can get to." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

The above non-medical prescriber was well renowned in his field of practice and this was evidenced by the fact that he frequently had patients referred to him from other prescribers. I got the feeling that for him, the non-medical prescribing qualification represented a kind of 'badge of recognition' for his expertise in his specialty area.

Apart from the recognition of additional skills that non-medical prescribers got from other nurses and pharmacists, I also found that increasingly, other healthcare professionals that came in frequent contact with non-medical prescribers had also started recognising the skills level possessed by non-medical prescribers. For nurses and pharmacists interviewed, this was also a strong motive to gain the qualification and use it.

"...but I think now that I have done it and I am 18 months, prescribing now, you know, I've got GPs ringing me up and asking me what to do..." (Prescriber 8 - nurse in primary care with 2 years prescribing experience)

The above prescriber worked in a team where although she felt supported by most of her medical colleagues, there still remained some pockets of resistance to her prescribing. For her the fact that GPs from outside her immediate team would ring up to ask her advice was a strong and constant inspiration to continue prescribing.

There were also non-medical prescribers who felt that having trained as a prescriber and gone on to use this new set of skills, their perceived standing would increase within their professional group

"...community pharmacy seems to be in the down (sic) on our hospital colleagues, sometimes, in that all we do is stick labels on boxes and I didn't want to be regarded as that." (Prescriber 5 - community pharmacist with 3 years prescribing experience)

He felt that among pharmacists, working in the community pharmacy part of the industry was not regarded as challenging and exciting as hospital practice. Hence non-medical prescribing was seen as a sort of 'add on' that made his work more stimulating. He perceived that non-medical prescribing was a way of making him a more 'skilled' community pharmacist.

4.3.2.3 Meeting expectations

Initially, there seemed a strong overlap between this subsection and the first subsection 'liberating'. However, as the data collection and analysis continued, the major difference became clear, that is, while the subsection 'liberating' addressed the motivation to prescribe, as an answer to the nurses' and pharmacists' own personal expectations, this subsection addressed others' expectations.

Prior to taking up non-medical prescribing some nurses and pharmacists had been identified as having the ability to add more value to the way that they cared for their patients. The first group, we saw in the subsection 'liberating' where some healthcare professionals engaged in this unofficial prescribing role, before they were able to prescribe in their own right. There also existed another group of nurses and pharmacists whom others such as their patients, their medical colleagues, or their managers, identified as having the capability to provide better care for their patients, if they had additional training.

There was no clear distinction between these two groups of non-medical prescribers, as some of these nurses and pharmacists who had been identified by others as having the potential to be doing more for their patients, also engaged in this unofficial prescribing. Where however there was a clear distinction was in the motivation to qualify and practise as a prescriber to meet personal expectations (as was the case in 'liberating'), as opposed to qualifying and practising, because 'it was expected of them' (as is the case in this sub-category).

Non-medical prescribing is a new policy direction being explored by the government and from the interviews, there was an indication that some of the non-medical prescribers had the perception that their organisations wanted to be identified as being progressive in the uptake of this policy.

"I think they sort of see it as a feather in the cap of the unit really, that they have got somebody... that they have got this going on in their unit, because it makes them look like they are quite a progressive unit... that they have nonmedical prescribing". (Prescriber 17 - pharmacist in secondary care with 2 years prescribing experience)

This feeling was not uncommon with the non-medical prescribers interviewed and they perceived this as a good thing. However a few of them questioned how prepared their organisations were before actually getting their nurses and pharmacists to undergo the course that would enable them get the prescribing qualification. This suggested a lack of efficiency in the selection of healthcare professional for prescribing training and inadequacy in the infrastructure to manage them, after qualification.

"The feeling is that you cannot fulfil all your responsibilities at that band unless you can prescribe as well. That's the theory, in practice, obviously it is not that at all, because we do not prescribe in hospital and people were going through the course are only going through it if they have a particular specialty that they can actually prescribe in" (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience).

Additionally, some of the non-medical prescribers that I spoke with felt that by the time they reached a certain stage in their professional careers they were obligated, or expected by people around them to train as and qualify as non-medical prescribers. This suggested that these

nurses and pharmacists may have been under some form of pressure from their organisations to become prescribers.

In some circumstances, it was a recommendation from a superior that was the motivation for some participants to become non-medical prescribers. Usually, it was associated with making the healthcare professional more eligible for promotion.

"I wanted to head up the maternity assessment centre and it was my team leader who suggested that it would be a good idea to go on the prescribing course" (Prescriber 13 - nurse in secondary care with no prescribing experience)

This prescriber would not go on to use the qualification due to the fact that after she qualified, she felt that despite being nominated to go on the course, she was not adequately supported to practice after she had gained the qualification.

"... and it wasn't just that, it was all the hoops I had to jump through, ... I wrote to all the consultants and asked if I could prescribe for their patients, get their permission and then it was the clinical management plans and the vicarious liability, there were just so many things I had to do to prescribe two paracetamol and it just did not seem worth it, to be honest." (Prescriber 13 - nurse in secondary care with no prescribing experience)

She expressed disappointment at having trained and qualified as a prescriber, but not being able to use the new skills, due to the additional bureaucratic processes that she considered excessive.

"The only thing... I was disappointed, but it was my choice not to jump through all those hoops...it wasn't worth all the carry-on" (Prescriber 13 - nurse in secondary care with no prescribing experience)

This raised the question of exactly how motivated she was to become a prescriber, in this instance, would she have considered becoming a prescriber at all, if she had not been recommended by her team leader?

In certain other cases, it was experienced non-medical prescribers that were making the recommendation. In these cases, these healthcare professionals, had both the relevant non-medical prescribing qualification and experience.

"... our service manager supports us, I mean I've tried to get somebody down the road, somebody in the course every six months to increase our numbers..." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

During the interview, the above non-medical prescriber (who was also in management) was very passionate about non-medical prescribing and during the interview, he described his prescribing environment as well supported. It was based on this that he felt confident to

encourage other nurses (mostly his junior colleagues) to benefit from the structure that was in place in his organisation.

Motivation to become prescribers did not always come from peers and healthcare professionals. For the participants interviewed, even before they were legally able to prescribe, there was a perception that their patients held them in high regard with respect to being able to manage their care. In line with this idealisation by their patients, they were also expected to prescribe for the patients that they saw, as part of the services provided. It has been suggested that this idealisation may have contributed to the unorthodox prescribing that was described in the first subsection.

"...and it gives the patient so much more confidence in you. If you're managing their care at such a high level, to have to run out and get a script, for paracetamol, to run back in again, I think it devalues you, whereas to just write it out yourself, sign it and handing them that prescription, I think that they think, wow I am with nurse practitioner now, not just a nurse." (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

"When we started, I did a leaflet on what the supplementary prescribing was and I think they thought it was a bit of a joke, because they thought that I did that anyway, because quite often, I would go away and sort out their prescription and to them, it did not really matter who wrote it, while I was running around the hospital trying to find a doctor to write the prescription, so they just assumed that I was doing it all along." (Prescriber 15 - pharmacist in secondary care with 3 years prescribing experience)

"I was able to provide full packages of care, for patients and actually take responsibility for that and for patients to see that I did not have to go and ask a Doctor because they didn't know that often all I was doing was saying please can you just put your signature on there please." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

This suggested that these nurses and pharmacists attributed some importance to their patients' views and perception of how services were provided.

4.3.2.4 Being rewarded

Nurses and pharmacists who qualify as non-medical prescribers not only have more skill than their peers who cannot prescribe, but they also have more responsibility. Qualified non-medical prescribers are accountable for the assessment of patients with undiagnosed or diagnosed conditions and in addition, they can also make clinical management decisions for these patients. In fact, in many cases, they are able to diagnose and prescribe without the involvement of a medical practitioner.

It was against this backdrop that I explored 'being rewarded' as a motivation for nurses and pharmacists to become engaged in prescribing. Some of the nurses and pharmacists that I

interviewed had strong opinions and were emotional about 'being rewarded' for becoming and/or engaging in prescribing. Non-medical prescribers that participated in the interview were quick to identify that prescribing enhanced their skills base and as a result of this, they were not only able to improve services for the patients that they saw, but also had the potential to make a positive impact on the healthcare systems that they prescribed from. They were also aware that presently, qualifying and prescribing were not being rewarded, either monetarily, for instance by an increase in salary, or by being automatically promoted. Some felt that not being remunerated or having their banding increased meant that their skills were being taken for granted.

"It makes no difference in terms of your salary meaning that your skills, the things that you can offer extra, they are assumed to be made readily available to the patients and services without being remunerated for that. I think it has got up to a point where it can be a demotivating factor, maybe at the beginning because you are more focused on trying to improve patients' access you mightn't worry about it, but after a while when you provide the service and you come across how things..., what impact that you are making, I think that that will bring to mind that I'm making all this impact, am I being used here as a cheap prescriber?" (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

This suggested that despite the fact that improving patient care may have been the primary motive for becoming prescribers, there was also an expectation that becoming prescribers would either have led to an advancement in their careers, enabled them earn a better salary, or both.

Some of the non-medical prescribers felt that despite being more progressive than their colleagues in embracing this government policy, they did not seem to be better for it.

"...when agenda for change was sold to nurses, we got told that we would be rewarded for our qualifications and our experience and that has not been the case at all. We have just been crossed on edge (sic), from whatever grade you were on previously, to a new equivalent grade and we have not had the opportunity to expand that whatever." (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

These prescribers seemed to have been under the impression that qualifying as prescribers would mean that they would be banded higher than their colleagues who were not prescribers. Others that I spoke to were even more expressive and I gathered that they felt that it was unfair not to be rewarded for achieving their qualification as prescribers.

"I was working with the people who have done no extra training and were paid the same as myself..." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

They felt especially so, because even though their healthcare professional colleagues also had the opportunity to study and qualify as prescribers, it was them that had made significant personal sacrifices to enrol in, study for and achieve the qualifications to become prescribers.

"...there were people with families and they felt that the studying would be hard and a lot of work and they did not do it. And then I obviously did it and then did not get any financial remuneration at the end." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

While for some nurses and pharmacists, qualifying as non-medical prescribers entitled them to being rewarded, for others, they felt that they not only had to study and qualify as prescribers, they also had to have used the qualifications in practice to the benefit of their patients.

"I think if you are managing your own caseload, diagnosing your own patients and sorting out their own treatment plan, then yes, you should be banded appropriately" (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

"...it depends on what you do with your nonmedical prescribing and I think that as you get more experienced and as you get into the role, there should definitely be an increase (in salary), because there is a large amount of extra responsibility and as you start prescribing, the other practitioners see how you can start to fit in and you can take quite a lot of the GP load away from them and it means that they will see more acute patients, where you are seeing some of the chronic term patients. That is how I would... I think if you have had a year or so, using your nonmedical prescribing, then that is when your salary should increase." (Prescriber 12 - pharmacist in primary care with 2 years prescribing experience)

For nurses and pharmacists who had started using their qualification, practising as a prescriber introduced a level of responsibility (in terms of patient care) that other nurses and pharmacists did not have. This category of prescribers felt that a combination of qualifying as a non-medical prescriber and demonstrating that you were able to be responsible for your own patients should qualify a non-medical prescriber for reward.

Even though all the nurses and pharmacists that participated in the research had qualified as prescribers prior to the interviews, they had strong feelings about how 'being rewarded' (or the lack of it) for qualifying and prescribing would influence nurses and pharmacists that may be thinking of becoming prescribers. There was the feeling that initially, improvement of patient services may be a strong motivator, but that this may not be enough on its own.

"I think mostly in the beginning the idea that you can help your patient better, better access to medicines etc. it does make you at times wonder whether you are...if you are lacking that motivation, it can sometimes de-motivate you." (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

It was suggested that in addition to improving patient services, financial incentives could be an additional motivator for prospective non-medical prescribers.

For others, they felt that it was the prospect of advancement in position would act as a strong motivator for prospective non-medical prescribers.

"I think that's something we are really missing because there isn't a lot of incentive for people to continue to develop their clinical expertise and become a specialist prescriber, when really, the level that you're going to get to is the same level you would have got to before you were prescribing, it doesn't take you any further." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

In fact, a non-medical prescriber who, as a result of his position as a manager, was also involved in the recruitment for the non-medical prescribing programme in his establishment spoke of his experience with his colleagues with respect to how 'being rewarded' influenced prospective non-medical prescribers.

"I've had this debate with colleagues... you know, I have approached colleagues within the team said, you know, who wants to do the prescribing course next and some have said, do we get that extra handing, do we get an extra ... and I said no and they have said, well no, I'm not doing it." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

In the same vein, a non-medical prescriber who had qualified for more than a year, but had not started prescribing expressed that he may be more motivated to engage in prescribing if he was going to be paid for it

"So say next month, there suddenly was an increment for prescribers, I am sure I probably would try to... maybe, in a mercenary way, to do my prescribing, to actually put my prescribing into practice." (Prescriber 19 - pharmacist in secondary care with no prescribing experience)

These two cases seemed to confirm the feelings expressed by the other non-medical prescribers, that improving patient care may not in itself be a sufficient motivation for nurses and pharmacists to take up prescribing. Increasingly, healthcare professionals seemed to be asking the question 'what is in it for me'?

Not all the participants that were interviewed seemed to be motivated by the prospect of being rewarded for becoming prescribers. One non-medical prescriber expressed why she had no expectation of reward.

"...well that's why it's called an extended role, they do not call it advanced, they just want to call it extended, so that they do not have to have the money to follow it. But you know this... the economy is... in every walk of life...it isn't there, so I am resigned to it because I understand it." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

Her views suggested that while she was not against being rewarded, she felt that the policy had been deliberately drafted by the Department of Health in a manner that meant that they were not obligated to reward healthcare professionals who took up prescribing.

Even further away from the norm, another non-medical prescriber felt that non-medical prescribers should not be paid more, or get better banding for qualifying and prescribing. She argued that being a health care professional, increased responsibility should be expected, as part of the role.

"I do not actually work any extra hours and I actually think that being a pharmacist is a really responsible job. So, I am probably going to say that I do not think that we should have any extra money." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

Her views seemed to support the argument that being able to prescribe should be seen as an extension of the already 'skilled and responsible' role of the healthcare professional. In essence, it helps them do their present jobs better and as such, no further reward should be gained.

4.3.2.5 Category Summary

This category explored how non-medical prescribers interacted with the various factors that motivated them to qualify as prescribers and to use this qualification in practice. Four sub-categories emerged which explored the factors nurses and pharmacists identified that motivated them to qualify and prescribe. It was shown that some non-medical prescribers qualified as a result of their desire to fulfil their own expectations and the expectations of others such as their colleagues and their patients. Being able to legally prescribe for patients in areas they were experienced and skilled in, was also regarded as a significant motivator. Additionally, prospect of acquiring more skill and being rewarded influenced the decision to gain and use their qualification.

4.3.3 Approaches

As the interviews were being carried out and the data were being analysed, it became clear that different approaches existed amongst the non-medical prescribers. I noticed that the various nurses and pharmacists that participated in the research carried out their practice in a manner that was unique to them. For these non-medical prescribers, these differing approaches may have been as a result of their personalities, or they may have adopted this particular approach as they went through the process of developing the skills that enabled them become prescribers. In order to better understand the attitudes non-medical prescribers had to their prescribing and how these influenced their practice, it became important to isolate and describe these prescribers' approaches. The approaches that emerged from the data analysis were the innovative and the conservative. These two approaches that emerged from the interviews are described based on the observations that I made, as well as the statements and comments which these non-medical prescribers made, which I saw as a reflection of their beliefs and perceptions in how they and others carried out prescribing.

An important detail that emerged while the concept of prescribers' approaches were being explored, was that they seemed to explain the non-medical prescribers' attitude to prescribing, rather than describing the non-medical prescriber themselves. In some cases, non-medical prescribers assumed an approach as a reaction to a factor or factors within their prescribing environment that they had little or no control over. As such it was possible to find that when a factor that a non-medical prescriber perceived as important to their prescribing changed, the prescriber themselves would also change to become either more innovative or more conservative in those aspects of their prescribing. It could be said that they gravitated towards one extreme or the other or remained somewhere along the continuum between the two extremes depending on the external influences they perceived, that existed around them.

In the following subsections, I provide a description by contrasting the two approaches then give illustrations of how they were used in practice, first in carrying out processes fundamental to their prescribing, then in networking with other non-medical prescribers.

4.3.3.1 Describing the innovative and conservative approaches

The Innovative non-medical prescriber that emerged in the interview was characterised as a healthcare professional that was eager or inspired to pioneer changes within the environment that they worked in as a healthcare professional. In many cases, they may have been the nurse or pharmacist within their establishment that spear-headed the introduction of non-medical prescribing, because they saw it as a tool that would enable them to improve patient services, or make them do their job better

"...it is something that I wanted to get involved in, the company that I work for initially were not very keen, because of the cost implications... I wanted to deal with the problem."
(Prescriber 5 - community pharmacist with 3 years prescribing experience)

In many cases, the changes that were inspired by the innovative non-medical prescriber had the potential to go on to influence the practice of other healthcare professionals, in some cases, even inspire other nurses and pharmacists to be more interested in becoming non-medical prescribers

"... although I will say now that I am doing it and I am earning the company money, some of the people that I work with are now being more willing... to get more pharmacists involved, so now pharmacists are coming to me saying... how did you get qualified..., how did you convince (name of organisation) So I am doing quite a bit of coaching people to get them on the course sort of thing and telling them the best is to fill the form, you know, all sorts of that things like. So lots of people in (name of organisation) now are seeing my role and thinking wow, that's something different and they are getting more and more interested. I think a few years ago, nothing was happening, everybody was despondent about it, but now that they have actually seen me do it they're thinking oh, maybe we can have a go at it...." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

Many of the non-medical prescribers that had adopted the more innovative approach to non-medical prescribing did not actually set out to be recognised as 'being innovative' in their respective practices. In the above example, the non-medical prescriber, though with little encouragement from her employers set out to qualify and use her prescribing in order to better her own practice. She was not aware that while she was doing this, other colleagues who had been equally interested, but less innovative were watching her progress. These less innovative colleagues would later, when she had qualified and started prescribing, approach her to learn more about her experience. For them, she was a sort of 'trailblazer' in this aspect of their practice.

The other approach that emerged in the research was that of the conservative non-medical prescriber. This approach was characterised by, amongst others, a tendency to adopt a cautious attitude to prescribing. The conservative non-medical prescribers were more likely to assume a deliberate approach towards the way that they practised non-medical prescribing, or how they perceived that it was practised around them. They were less likely, in comparison to the innovative non-medical prescriber, to be the leaders of innovation in their practice. Regarding their attitude towards utilising aspects of non-medical prescribing within their environment, they were more reactive than proactive.

"...I do admit that I am probably over cautious...I would say to either one of the nurse practitioners who would have a lot of clinical skills, or one of the GP's, I have seen this patient

and I was wondering about this...., what do you think and to be honest, I would probably let them prescribe because you know.... I hate just to get it very wrong. I am very conscious, very over cautious. I think.” (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

In this case, the above non-medical prescriber routinely backed away from prescribing when she perceived any risk, or challenge. Even in her own admission, the level of caution that she adopted towards her prescribing was more than was necessary.

For conservative non-medical prescribers their approach and the level of caution that they exhibited in their practice seemed to be a sort of ‘system’ that they developed to protect their prescribing practice. For instance, conservative non-medical prescribers who perceived that their prescribing may be scrutinised as a result of their non medical background, made significant efforts to have these prescribing decisions ratified by their senior colleagues who were medical doctors.

“I access my supervisor, who consults within my team, I access him regularly and I discuss every sort of prescribing contact that I make, anyway, so just because of the nature of our work, the controversies if you like, surrounding non medical prescribing when it all started...” (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

Though at first, it seemed that the conservative non-medical prescriber adopted this approach in order to ensure their professional survival, more in depth analysis revealed that this was not the case. For all healthcare professionals, prescribing medication for patients, involves weighing the perceived benefits which the patient will derive from the medication against the risks of untoward effect. For conservative non-medical prescribers, their focus seemed to be on ensuring that patient safety was maintained.

“I think that is why I always stay on the side of caution because I think of the patient’s safety aspect...” (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

In actual fact, it was more likely to have been the risk of making prescribing mistakes that compromised patient safety, as well as being penalised for it, which seemed to be the reason why the conservative non-medical prescribers adopted their cautious attitude.

4.3.3.2 Carrying out prescribing processes using innovative and conservative approaches

One important aspect where innovative and conservative non-medical prescribers differed in their approaches to prescribing was their attitude towards carrying out the various processes involved in their prescribing. These prescribing processes refer to the series of actions and procedures which when added up together, contribute to enable a qualified non-medical prescriber to produce a legitimate prescription. Many of these processes which non-medical prescribers engage in exist to guide and support their practice. Some of these processes may be

mandatory to the prescriber's practice, such as adhering to standard operating procedures of their respective establishments and ensuring that they complete their CPD. Others are recommended, such as ensuring good record keeping and maintaining professional indemnity insurance. In many cases, the approach adopted towards carrying out these prescribing processes had a significant influence on their outcome.

The innovative non-medical prescriber saw non-medical prescribing as a tool which should be manipulated until the best fit for their practice and their patient were achieved. This manipulation however had to be done within statutory requirements.

"...we are quite cautious group, don't you think and I am not saying that I am not cautious, but I want to...this is new so I want to push it as far as I can without breaking any laws, but a lot of pharmacists say you cannot do that and I say, why can't I do it, where does it say that I can't do it and if I can do it, if I can find a way to do it, legally and safely, then I will do it" (Prescriber 9 - community pharmacist with 5 years prescribing experience)

For the above non-medical prescriber, her position was that unless non-medical prescribing as a policy was adopted enthusiastically, its full potential would not be realised.

A good example of how innovative non-medical prescribers achieved this in practice was how they ensured that they got access to patient records which they needed for their prescribing. This non-medical prescriber practiced as a pharmacist in the hospital and as a prescriber in primary care. In his role as a prescriber, he did not have access to information that he perceived as necessary for his prescribing however as a hospital pharmacist he could readily access these records.

"...well the main thing that we haven't got, that would make things better is access to patient notes and also access to patient blood results, which I can access the blood result from the hospital for the patients that I see in primary care, but that is a bit of a back door route, if I was working in primary care, I wouldn't have that access. That will make my job much more difficult." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

By using the phrase 'backdoor' he admits that this approach to accessing patient records was less than optimal, however in order to provide what he perceived as the best care for his patients, he has had to manipulate the system to access needed resources.

On the other hand with respect to processes, the conservative non-medical prescriber was less likely to manipulate the system in order to facilitate their prescribing. For them, it was very important to ensure that the procedures which among others ensured patient safety and protection of the prescribers' practice were instituted, properly defined and kept intact.

"...we were concerned that there would not be the necessary safeguards in place, to make sure that if anything did happen that the Trust would support us, so that took a number of

months before that sorted out." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

In some cases, even when the processes that they had to access to carry out their prescribing were less than optimal, the conservative approach was to be less proactive about changing or manipulating the system to achieve their prescribing goals.

"...it will be nice if I could access the same system as the GPs, but that's an ongoing thing. But we just get used to the way of working..." (Prescriber 8 - nurse in primary care with 1 year prescribing experience)

Similarly, when presented with an opportunity to extend their prescribing practice, the conservative non-medical prescriber was less likely to go beyond what they regarded as their 'comfort zone'.

"...I said I was not interested in doing anything else and he said well yes, fine, but if you want to move on to that, then we can't think about that and I said no, I'm happy not to do that...." (Prescriber 17 - pharmacist in secondary care with 2 years prescribing experience)

In the above example, the non-medical prescriber was reluctant to undertake prescribing in areas that he felt that he was not confident or comfortable with, despite the fact that the consultant in his team felt that with his skills, he was competent to undertake those tasks.

Another area where there was a clear distinction in the conservative and innovative approaches to processes was the non-medical prescriber's attitude to completion of CPD. In this area also, the adoption of a particular approach, as a reaction to a factor that these non-medical prescribers had little or no control over, is clearly illustrated.

Although CPD is a legal requirement for both nurses and pharmacists who qualify and practice as prescribers, in practice, different arrangements exist regarding how these professionals access their CPD. All the nurses that participated in the research had as part of their contract with their employers, a stipulated time during which their employers paid for them to complete their CPD annually. In contrast, only one pharmacist had a similar arrangement. The other pharmacists that were interviewed had to complete their CPD in their own time. Further investigation revealed that while the Nursing and Midwifery Council (NMC) clearly stipulate that employers make time for nurses to complete CPD as part of their job, The General Pharmaceutical Council (GPhC) did not.

This situation reflected the different approaches that nurses and pharmacists adopted regarding scheduling time for, making arrangements and attending CPD they regarded as mandatory for their practice.

Regarding CPD, a nurse prescriber had this to say about the regular updates that were organised in her establishment and which constituted a major part of her annual CPD.

"...there is the generalist update that costs a lot of money and actually, it is well worth it, really. It is nice to be spoon-fed and just have somebody look through all the evidence, present it to you so that you are not having to do that (sic)." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

Pharmacist prescribers, who on the other had that did not have access to these updates in their work places and were usually not permitted to seek out and attend CPD as part of their paid work time, did not have it as easy as the nurse prescriber above.

For most of the pharmacist prescribers that I interviewed, in order to fulfil the statutory requirements regarding CPD, they had no choice but to adopt a more innovative approach. For instance, they first had to carry out a personal analysis of the skill that they perceived to presently be lacking, but which they needed for their practice.

"...but if there's a specific skill that you need to develop with CPD, you may have to go and find that, sometimes, so it depends. Not everything is readily available but there are some things that are readily available, there are some things that you have to go hunt for" (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

Then they had to identify where to get the resources to develop these needed skills.

"...when you finish work, at home, you just need to be very focused to actually drag yourself to do more CPD. I mean, I try to keep up-to-date with all the newsletters and things like that, do more reading and all those other things...but it is difficult, because you need to do research to find out where it is that you can get more training on certain things..." (Prescriber 11 - pharmacist in primary care with 1 year prescribing experience)

Then finally, apart from the time invested in finding the right resources, they also had to find the time to attend, or carry out their CPD.

"... training is always useful, the more you do it the better I think. I can only access it out of working hours, because they will not pay for me to have any more time off ..." (Prescriber 5 - community pharmacist with 3 years prescribing experience)

As such, over time, pharmacist prescribers have had to first assess personal requirements in order to identify needed skills, then research where to get the adequate resources to build up these skills and finally, they had to be more efficient, time wise, in order to attend, or complete their CPD. It was inevitable that gaining and using these skills made them assume the more innovative approach with respect to researching and completing their CPD.

In contrast, in response to perhaps researching and completing CPD in her own time, this nurse prescriber responded.

"I do it in work time, because I am quite a firm believer.... I don't say I don't do anything out of work hours, but I am a firm believer that I come to work, I work very hard and if I did

something in the evening, that will be fine, but then I will take the time back...." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

The fact that she was reluctant to research and complete the CPD in her own time was not as a result of her professional background, but rather, as a result of being used to having this done for her, because that was the standard for nurses.

4.3.3.3 Adopting the innovative and conservative approaches to using networks

Non-medical prescribers like most other professionals, belong to networks where they develop and maintain relationships with other non-medical prescribers. Professional networks are structures within which people from different establishments interact to share knowledge and experience. The contributions that non-medical prescribers make to, or gain from networks, have a considerable influence on how they and other non-medical prescribers learn skills and solve problems within their respective practices.

For non-medical prescribers, using networks to achieve mutual encouragement and development of personal and professional capabilities means a fast, effective and relatively informal way of achieving their prescribing goals. There were no hard and fast rules as to how the non-medical prescribers developed and used their networks. For both innovative and conservative non-medical prescribers, this happened both formally and informally. Where there was a distinction was how non-medical prescribers employed approaches to network with fellow non-medical prescribers.

In their practice, one of the more conservative ways that non-medical prescribers made use of the networks that they had developed, was to reassure themselves that their prescribing practices were being carried out in the right way.

"... somebody is doing something in certain ways then you are kind of reassured, ah, I am doing something the same with other people, which is correct, it is just reassuring." (Prescriber 11 - pharmacist in primary care with 1 year prescribing experience)

In this case, although the non-medical prescriber was already carrying out their practice in line with recommended procedures, the fact that other members of their network had a similar interpretation of the procedures in their own establishment was reassuring to the non-medical prescriber.

For conservative non-medical prescribers, the reassurance that they are able to achieve through their networking with other non-medical prescribers not only served as a self confirmation of good practice, it also helped them in building their confidence.

"...it just gives you the confidence to go and prescribe and reassures you that you are conducting your practice quite well. And that influences your decision making in terms of

making you confident to do that.” (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

This role of networking in helping to reassure non-medical prescribers and to aid in boosting their confidence was especially important to conservative non-medical prescribers practising alone. It could however be argued that this approach of reassurance by networking may not necessarily guarantee that the practice in question, which other members of the network agreed with, was correct.

Conservative non-medical prescribers did not just use their networks to ensure that their practice was correct and in tandem with that of their peers, they also used networks to ensure that they were practicing non-medical prescribing inline with the most current legal positions.

“...especially the changes of law lately, so far we have discussed things like that before, to say that... how are we covered now, what should we be doing, how things have changed...” (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

This use of their networks was especially important for the conservative non-medical prescriber, because the relatively frequent policy changes in non-medical prescribing would have meant that irregular updates might lead to uncertainty and risk in their normally cautious practice.

Another way that non-medical prescribers used their network in what could be regarded as a more conservative approach, was to identify what they perceived as unethical practices.

“I know for a fact from talking to other prescribers nationally, that some people are just, you know, prescribing and checking their own work ... the national code of ethics is pretty clear that you do not check your work, unless it was in exceptional circumstances, so...” (Prescriber 19 - pharmacist in secondary care with no prescribing experience)

In this case, a certain practice had been identified though networking and this was not a practice engaged in by this conservative non-medical prescriber. Rather, having matched it with the set out and defined procedure governing that aspect of prescribing, he considered it an unsound practice.

Non-medical prescribers have also used their networks in innovative ways. In the first subsection we saw some non-medical prescribers exhibiting innovative attributes when they spearheaded non-medical prescribing in their establishment. In line with this, it seemed natural that these non-medical prescribers would have wanted to share their experiences with other ‘upcoming’ non-medical prescribers. One of the forums through which they achieved this was by networking.

“I support people undergoing the training within my team as well, so we share ideas...” (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

"I am really quite pleased to be helping the others out, so they don't have to go through that work again, you know the work that I had to do...I mean, I am not going to do it for them, but I do know the research well and I'll be saying you need to read this paper, you need to read that, or I have down loaded this, here you are, have a look at it..." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

These two non-medical prescribers had expressed a great passion and enthusiasm for non-medical prescribing during their interviews and for them, mentoring their peers meant that they could use the knowledge and experience that they had accrued to help colleagues learn needed skills quickly and efficiently. However, it is important to note that although some of the innovative non-medical prescribers mentored their colleagues successfully, being an innovative non-medical prescriber and being a mentor require a different skill set. For instance, being a good listener is seen as an essential characteristic of a good mentor, but not necessarily true for an innovative non-medical prescriber.

For other non-medical prescribers who did not quite go as far as mentoring, their networks served as a means of disseminating some of their knowledge and experiences which they perceived would be interesting to other non-medical prescribers.

"We had a monthly non-medical prescribing meeting where nurses and pharmacists met and discussed current topics and that was very useful. And the nurses who would often have different problems to pharmacists, so it was interesting meeting... both meeting in the same meeting together to discuss things" (Prescriber 12 - pharmacist in primary care with 2 years prescribing experience)

The monthly meetings mentioned above were one of the very few revealed in the interviews that had nurse and pharmacist prescribers in the same formal network. What I found however was that informal networks developed by individual non-medical prescribers regularly included members of professions other than theirs.

Other non-medical prescribers who did not have the knowledge or experience to share with others also exhibited some level of innovation by seeking out other non-medical prescribers that they identified as both having the attributes of a good mentor, as well as having the relevant knowledge and experience to help them develop their practice.

" I think what I am doing at the moment is that I'm spending some time with one of the nurse practitioners, because what I find is that the nurse practitioners, as nurses are far more approachable and they will make time to help me..." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

She prescribed in a practice where although other colleagues within the practice were GPs, she preferred to seek out a member of her informal network to mentor her in her skills acquisition process.

An even more assertive use of the networks was revealed during the interviews. Some of the innovative non-medical prescribers not only shared information, but also went ahead to make particular skill sets known to their peers. This led to them getting referrals from their peers for patients for whom it was perceived would receive better care by these referrals.

"...everybody is fairly new to prescribing and following the meetings. I've got a lot of referrals from these nurses who knew what we could offer in terms of prescribing and advice, so yes it was good" (Prescriber 12 - pharmacist in primary care with 2 years prescribing experience)

4.3.3.4 Category summary

This category explored the innovative and the conservative approaches that emerged in this project. While the innovative approach was associated with driving change within their professional environment, the conservative approach was associated with being cautious and focusing on processes that would ensure patient safety and protect practice. Examples of how non-medical prescribers adopted these approaches were illustrated by showing how they carried out processes essential to their prescribing and utilised their prescribing networks.

4.3.4 Nature of the prescribing environment

In this category, I explore interactions that nurses and pharmacists had with individuals and processes within their prescribing environment that were perceived as influential to their practice. In the first two sub-categories 'developing relationships with colleagues' and 'relying on colleagues', I will explore how non-medical prescribers engaged in relationships building within their practice settings. In the next sub-category 'team-working', I explore how non-medical prescribers perceived working in a team and interacting with colleagues within that team. The fourth sub-category 'relating with patients with chronic pain' deals with the relationship building process that non-medical prescribers had with their chronic pain patients, while the fifth, 'second checking' focuses on how the processes involved in having their prescriptions checked, influenced their prescribing. In the last sub-category 'interacting with management', I look at how non-medical prescribers felt that their prescribing was influenced by interacting with people seen as having some control over aspects of their prescribing practice.

4.3.4.1 Developing relationships with colleagues

Most qualified nurses and pharmacists, who considered prescribing, did so as part of a team of other healthcare professionals. For non-medical prescribers, these relationships with team members and other healthcare professionals that they relied upon while prescribing, was a key part of what they considered ideal for their prescribing. There was a keen awareness among nurses and pharmacists who considered prescribing, about the necessity of developing these relationships. This was because the level of trustworthiness, reliability and dependability of these relationships were seen as the spine upon which they would base the other characteristics that were considered essential for them to practice and develop their prescribing.

Good teamwork was seen as essential to providing better services for patients and non-medical prescribers realised that proper integration within the team that they prescribed from, was necessary to ensure this. For instance, non-medical prescribers considered that because each discipline within a team approached a patient's treatment from a differing viewpoint, a decision that took all these various viewpoints into consideration, before proposing a treatment for a patient would be more comprehensive than one that had not.

"...when everybody comes from a different perspective, as I said, we are predominantly social workers, nurses and Doctor and each discipline will have a different standpoint, but when you put them all together and thrash it out, its quite a robust plan that we put together."
(Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

Non-medical prescribers felt that building a relationship with colleagues within their team was dependent on their colleagues understanding of the skills possessed by non-medical

prescribers. In the category 'motivators' non-medical prescribers saw themselves as being more skilled than their colleagues who could not prescribe and how important it was to them that their colleagues recognised these additional skills set that they had. As such, within the team, it was crucial for these non-medical prescribers to demonstrate that they had and could use these skills. They felt that this would ensure that they were perceived by others to be a trustworthy member of the team who was able to deliver for the patient, on behalf of the team.

"So it's good that the nurses do understand what the relationship with pharmacists can be and they understand my background. They understand the strength of the pharmacist knowledge is and that is... because when I see the patient, they have already been seen by a nurse and they are very involved in the education and disease management side of things. So we work very closely and they...I rely on them, because I don't get patients unless they refer to me, so it's important that they trust me and they know what their patient is going to receive." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

However, the feeling among some non-medical prescribers was that, in their experience, not all healthcare professionals that interacted with non-medical prescribers, had an adequate understanding of who the non-medical prescriber was and what they did.

"I gave a prescription to a patient, they took it to the chemist...., chemist rang me up and said "we do not issue nurse's prescriptions" ooh... so I rang..... my friend and I said, you know... and she said that is rubbish, she said... but because I was so new to it, you start to wonder if things had changed, don't you, or what have you. Rang the chemist back, explained and she said, oh right and you know, she dispensed it." (Prescriber 8 - nurse in primary care with 1 year prescribing experience)

Even among members of the same profession, there seemed to be a less than optimum awareness of what powers their professional colleagues who were qualified to prescribe had and through what mechanisms they were allowed to carry out their prescribing.

"...I have had to explain to them, what a supplementary prescriber is and a clinical management plan is and then they have said well, how do i know that you have a clinical management plan, I said, because I am a pharmacist and I am telling you that I have put the clinical management plan....and sometimes you want to give them a slap don't you (laughs)...and I said do you think that as a pharmacist I would issue an illegal prescription, you know and then...., I have made some friends that way, actually, because of the way that i talk to them, because they do not understand about non medical prescribing..... pharmacists don't." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

Sometimes, being qualified, having all the necessary skill needed prescribe and being able to use them when the need arose, was not perceived by non medical prescriber, as enough to

ensure their integration within their team. It was sometimes necessary for non-medical prescribers be more proactive, for instance, demonstrating their capabilities more overtly, or consciously spend time interacting with team members, in order to facilitate the development of these relationships.

"...it's just to mingle with the GPs more and have more dialogue with them by showing that you actually know your stuff and gaining respect from the GPs, you know, you just have to spend time to build up trust in that respect from the GPs." (Prescriber 11 - pharmacist in primary care with 1 year prescribing experience)

"...I work closely with the GPs and they are very respectful of what pharmacists can do and I think it is a question of getting to know the other members of the medical team and as you say, interacting, perhaps giving good advice. It is a slow process but it is very effective in the end." (Prescriber 12 - pharmacist in primary care with 2 years prescribing experience)

Overt demonstration of relevant skills and conscious interaction with colleagues, in a bid to facilitate an environment conducive for their prescribing, signified a more innovative approach to relationship building by these non-medical prescribers.

Non-medical prescribers felt that other measures may be needed to enhance other healthcare professionals' understanding of their role. For instance, it was felt that the routine use of a title depicting their status as nurse and pharmacist prescribers would improve the understanding of their role when they interacted with other healthcare professionals.

"...my title? I don't know if I even have an official one, it tends to vary, but I think what that does is maybe, when talking to people, helps them recognize what skills you might have, because I have rang up the GPs.... I have rang them all up and said I'm a pharmacist, the term doesn't necessarily mean a lot to them...it might be less of a battle, me asking them to change things, or collaborating with them, or having my views maybe taken more seriously, because I work with a lot of consultants, some of them who know me, that's easier, some of them who do not and then it may be that that title so will help pave the way." (Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

"I think your qualification needs to be recognized not only by the official bodies, but by the colleagues that you work with, so it will be useful to actually inform the department that you work in, your specialty, that you have got the special skill that you can use and that you are using it, it really helps a lot that you are providing some extra special services and that everybody recognizes the extra special services." (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

They felt that this may even have a beneficial impact on the way that non-medical prescribers manage their patients.

"...but I don't think that (the title) will help directly with prescribing, it's more about patient management again, having more roles will make more differences and working at the more strategic level to make the differences with who is admitted, when they're admitted, who is discharged " (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

In the relationship building process, though non-medical prescribers placed more emphasis on ensuring that their reliability and trustworthiness is established with their colleagues, there was some reciprocity in the process and colleagues of these non-medical prescribers were also expected to be adequately skilled and trustworthy.

"A safe environment is likeminded people who want to help people grow ...and facilitate the growth and if unsafe practices are identified, can act upon that, but in the best way possible...so a safe environment is a trusted person who has the knowledge base and is trustworthy really." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

During the interviews, many more non-medical prescribers seemed to concentrate more on proving themselves to their colleagues, suggesting that they saw themselves as 'the new comers' coming into the relationship . This explains why, though they expected their colleagues to be equally skilful and trustworthy, they did not seem to question how equitable the contributions of their colleagues were, to the relationship development process.

"...for everything new, there are hurdles and it is a question of people understanding what you can do and how you fit into the existing team, so they were hurdles, but they were not insurmountable and people were very encouraging." (Prescriber 12 - pharmacist in primary care with 2 years prescribing experience)

It also suggests that for some of these prescribers, they were left with little choice than to adopt a more innovative approach in building these relationships that were seen as crucial to their prescribing. As such, non-medical prescribers may have had to work harder at building these relationships, at least up till the point where continuous interaction led to the attainment of an environment safe and supportive enough for their prescribing. Thereafter, equitable effort from both parties then went on to ensure the maintenance of this environment.

"I have always enjoyed working in a team and I mean, when I first started, it was Doctors are gods, do you know what I mean, they really ...but actually once you get to know them, they don't... they know you're a pharmacist, once you have been working with them, didn't actually treat you any differently. So it is quite good." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

4.3.4.2 Relying on colleagues

After pharmacists and nurses qualified as prescribers, there was a transformation from a healthcare professional to a prescribing healthcare professional. While this process was happening, non-medical prescribers carried out a conscious determination of healthcare professionals whom they felt that they could trust and depend upon to facilitate this process of developing as a prescriber. Weidman and his colleagues call this development process, professional socialization. They defined it as the acquisition of values such as knowledge, skills and norms through subconscious processes resulting in the formation of an identity that is unique to a particular profession (Weidman et al., 2001).

Non-medical prescribers realised that although they may now prescribe just like their medical colleagues, the manner in which non-medical prescribers developed their prescribing skills differed from how doctors developed theirs.

"...their professional socialization and preceptor-ship for other Doctors is that you are a deity, you know, so they have Some have...are very cautious, but they have a much more blasé attitude to prescribing and the magnitude of it because it is just seems as an added thing really to that whole diagnostic process that they are king of." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

"...I think that is very different to the medical... it will be very easy for me to take a medical... or potentially be very easy for me to take a medical model, but I am not doctor, and I don't want to be a doctor, so as a nurse I think it's important that I come from and share my experiences with my colleagues and have them share their experiences with me." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

As such, most non-medical prescribers, in building up their knowledge, experience and confidence, preferred to rely on their fellow non-medical prescribers either within their immediate team, or through accessing a network of other non-medical prescribers who practised in their areas of interest.

"...it's just I know it is being silly, but now that I am spending some time with her, I think she will help me to say....well actually, it's fine, you can do it.... you are safe." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

However, the reality for many non-medical prescribers is that they would access colleagues who were in close proximity to them and used them as resources in developing their practice. Since non-medical prescribers admittedly had different professional socialization from these colleagues that they ended up relying on, it seemed quite a strange choice to make. The fact however is that this choice was often made as a pragmatic response to circumstances that the non-medical prescriber perceived as being beyond their control. For instance, unavailability

of another non-medical prescriber within the same team, or a lack of quick access to networks of non-medical prescribers practicing within the same specialty.

"...[I got the support from] GPs, which I suppose is not ideal, it would be ideal to get support from other experienced independent prescribers, because the issues are different, but there are not enough of course. I was the only one in (name of a bigger practice) and I am the only one here and you can get a little bit isolated." (Prescriber 22 - nurse in primary care with 3 years prescribing experience)

"...a lot of times when we are actually in the practice, rather than discussing with the other independent prescribers from elsewhere, we actually discuss things internally with GPs." (Prescriber 11 - pharmacist in primary care with 1 year prescribing experience)

These two scenarios represented a more innovative approach to accessing resources to aid learning in their respective prescribing areas. By learning from colleagues who were not non-medical prescribers, these prescribers chose to move out of their comfort zone to improve their practice. The healthcare professionals that non-medical prescribers went to rely on, to support their developing prescribing practice were mainly doctors, such as GPs or consultants, as well as nurses and pharmacists, who were not necessarily prescribers, or from the same professional background.

As the relationship developed, two factors seemed important in determining if a non-medical prescriber went on to rely on a particular healthcare professional that they had identified as a resource. Firstly, they had to be perceived to have the relevant skill that the non-medical prescriber wished to access

"...I am quite happy. As I say, I have got access to support from some GPs if I need it and we have got the pharmacy..., if we have got queries, the pharmacy leads from the PCT..., so I know where I can get information if I need it. But no, there is nothing I would change, really, I am quite happy at work, it works well for me." (Prescriber 16 - nurse in primary care with 5 years prescribing experience)

and secondly, that they are perceived as being trustworthy and reliable.

"...all the members of the practice here were encouraging, it is a training practice, they are very keen for people to develop their individual skills, so there is no barrier here. But in other practices, perhaps with different perspectives on pharmacists, there may be some resistance." (Prescriber 12 - pharmacist in primary care with 2 years prescribing experience)

The decision to rely on a colleague was made consciously by the non medical prescriber. In this case, the non-medical prescriber would have carried out a self assessment and identified an area within their prescribing practice where they perceived a deficiency, such as knowledge

or experience. This was then matched with a trusted colleague who was judged to possess that relevant skill and was part of a developed or developing relationship structure.

"If I am not sure of... or new situations, because in this job... I am getting people through the door and you do not know what they are coming for, it could be something that I have not really had much experience in, so if I need to, I can..., I can still access GPs advice, or see what they would normally prescribe in certain situations if it is something I am not quite sure about. But I suppose, they are less and less as you get more experience in prescribing, so it doesn't happen as often." (Prescriber 16 - nurse in primary care with 5 years prescribing experience)

As the relationship continued and the non-medical prescriber became more proficient in this particular skill that they had previously relied on a colleague for, the need for continued reliance to develop that aspect of their prescribing reduced. Alternatively, the non-medical prescriber would have made a conscious decision not to use a colleague that they perceive as more experienced, more knowledgeable or more confident as a resource. Despite the fact that they are qualified to prescribe, they 'copped out' of prescribing even when they had the basic skills and had access to healthcare professionals that could help them develop their prescribing.

"...I sort of cop-out is the right word, I would say to either one of the nurse practitioners who would have a lot of clinical skills, or one of the GP's. I have seen this patient and I was wondering about this.... what do you think and to be honest, I would probably let them prescribe because you know..." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

As the non-medical prescriber became more confident in their prescribing abilities their role in these relationships evolved. Where previously they sought out colleagues to develop relationships with and rely upon, they in turn become resources that could be trusted to be relied upon for knowledge and experience.

"I do supervise some of the colleagues that are undertaking training and I think it is coming from the same standpoint, you see, you have got the same perspective on how to prescribe, what to prescribe and decision-making around that. So you are thinking along the same lines, you understand each other's practice." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

In a way, non-medical prescribers were already used to managing and sometimes meeting expectations. Earlier we saw how some nurses and pharmacists were able to be motivated to qualify, as a result of what others expected from them. Here, similarly, as non-medical prescribers gain more experience, they were 'expected' to also be a resource for others to use. These expectations seemed implicit and applied more to those areas where adopting an

innovative approach meant that the non-medical prescribers had 'broken new ground' that others would be interested in.

Also, just as the budding non-medical prescriber had sought out either another non-medical prescriber or a colleague who was not a non-medical prescriber, but was in close proximity to them, so also did the experienced non-medical prescriber fulfil their role as a resource for both groups.

"I have a GP colleague who has also become a good friend over time and have a nice situation that he will often bob to me and say what you think about this, or what would you do in this situation, it is a very open two way communication." (Prescriber 22 - nurse in primary care with 3 years prescribing experience)

For non-medical prescribers developing a relationship with their colleagues was not in itself, enough to constitute a safe environment.

"I think that maybe down to trust and confidence, also maybe down to the prescribing supervisors, consultants, doctors, etc. confident that it is robust enough to avoid errors and until that confidence gets better, I think they are still going to have problems." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

It was very important to them that the relationship be perceived to be trustworthy and reliable and that the colleague be recognised as having the skills base to provide prescribing support when this was needed. Ideally, the non-medical prescriber was also expected to reciprocate these values.

4.3.4.3 Team-working

Non-medical prescribers often practiced their prescribing within a multidisciplinary team of healthcare professionals. As mentioned earlier, these healthcare professionals with diverse training worked towards a common goal in order to produce a robust treatment plan for the patient. Irrespective of their prescribing setting, all the non-medical prescribers that I spoke to saw themselves as prescribing from within a structure of a team. It did not matter whether they were community pharmacists, practice nurses, health visitors, or hospital pharmacists.

"I would certainly say that it is teamwork, because the key worker comes to me, she's based in an office, all referrals have gone through to the office and I talk to the girls... the key workers about drug treatment centre regularly, they talk to me, I think it has increased my involvement in their team. For pharmacy issues, they ring me for advice." (Prescriber 5 - community pharmacist with 3 years prescribing experience)

"...it is multidisciplinary, but maybe not as broad, not as many different professions in the team as you would get in the hospital, but they do have GPs and practice nurses and

healthcare assistants and myself, so you know, it is multidisciplinary in that sense, but we see ourselves as one team. I suppose, working altogether for the patients." (Prescriber 16 - nurse in primary care with 5 years prescribing experience)

"...because they really taken into the whole team building, because as a pharmacist, you actually give a completely different angle, because I work with consultants and GPs and nurses and we all have a completely different way of looking at things." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

Additionally and perhaps for a more pragmatic reason, non-medical prescribers noted that due to the way that non-medical prescribing was set up, team working was not just seen as optimal, it was perceived to be an essential tool for non-medical prescribing.

"...you can only really be a prescriber if you are part of a team, because whether you are in the hospital or in primary care, you have to be part of the team, probably because you need access usually to the whole clinical record this so that you can check that drugs aren't interacting... check what people have used before." (Prescriber 18 - pharmacist in primary care with 4 years prescribing experience)

Non-medical prescribers felt that being part of a team enhanced the relationships that they considered crucial to enabling their prescribing from a safe environment. For instance, working in a team provided a forum where all team members including the non-medical prescribers could work within set parameters and focus on a common objective.

"...you work with other people, to the same goals, don't you? I work within a very good team, a very structured team, we have very clear objectives, so from that point of view, it makes it very easy to function within the team and within your professional capacity. And I think we all feel that." (Prescriber 15 - pharmacist in secondary care with 3 years prescribing experience)

While this was happening, there was an opportunity for communication skills to be improved and for 'people skills' to be further developed.

"I think it depends on the communication and the context and the willingness of each member of the team to include everyone else. Sometimes certain team members might welcome and review the patient, or they just want to review it on their own, they don't want to involve any one else. You do learn about options when you work with others." (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

Team working also presented a platform that allowed the skills base of the non-medical prescribers to be viewed as strengths. As a result of this, non-medical prescribers were better recognised and appreciated for their skills and their contribution to the team was better valued.

"...so it is a team that comprises of nurses, probation workers, social workers, the interesting

thing is that there isn't a medic in the team, which is why I am in it. Because I am the person that knows about drugs. So, it involves me liaising with other teams. So I do quite a lot of liaising with psychiatrists, em and GPs, although they are not strictly part of the team, they become the team for that patient." (Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

Within the team, when it was realised that the non-medical prescriber had 'proven their professional worth', the non-medical prescriber was then seen to 'earn the respect' of their colleagues.

"...because they see us as a resource and they want to use us and use my knowledge, so absolutely. I would not work in the practice where I was not welcomed and kind of respected for what I do, I would go to another one that did." (Prescriber 18 - pharmacist in primary care with 4 years prescribing experience)

"I work closely with the GPs and they are very respectful of what pharmacists can do and I think it is a question of getting to know the other members of the medical team." (Prescriber 12 - pharmacist in primary care with 2 years prescribing experience)

Non-medical prescribers identified that the way the team was set up as a key facilitator to the smooth working of that team. They felt that if the team is set up in a manner whereby there is an apparent power structure within the team, this may hinder a free flow of ideas. To them, it was important that the team be set up in a non-hierarchical manner. The fact that all team members were seen as equals was thought to encourage a rigorous exchange of ideas without fear of antagonising colleagues who were seen as higher-up in the pecking order.

"...we try to set it up very much as if it doesn't have a hierarchy, although we still have consultants and whoever leads or consults, along with the managers, who takes overall responsibility for the team, but just because of the way we work it actually allows the medics to share ideas with the nurses. And we have social workers and psychotherapists and there's a lot of sharing of ideas." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

"...we all work as equals, very much so... some of the members of the team... in exactly the same way, so there is no hierarchical structure within the team." (Prescriber 15 - pharmacist in secondary care with 3 years prescribing experience)

"...but I am working with peers, who I do know have a degree of respect for my knowledge and also I consider to be peers rather than superiors, that's actually important, I think." (Prescriber 20 - pharmacist in secondary care with 5 years prescribing experience)

However, not all of the interactions that non-medical prescribers have had while working in teams had been positive. Non-medical prescribers also experienced some negative attitudes,

which they perceived as a hindrance to their prescribing practice. Though it is perceived that other healthcare professional, mainly doctors, were becoming better informed about the non-medical prescribing policy, there still remained a few medical personnel that are not particularly supportive of the concept of nurses and pharmacists prescribing

"...really because they are a practice that you know..., are very much firm believers that doctors do doctors things, nurses do nurses things and then not very comfortable with the idea of advanced nurses role and prescribing." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

"...even now in the pockets I work with, you know that somebody is not particularly ...does not particularly like non-medical prescribers, so it's questioning everything that you say, but you get other doctors who will just say..., that will actually come to me and ask for advice." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

"They are so friendly, they are so supportive and it pushed me to do all of this. There is only ever been one skitty comment of ahh you're going to get prescriber then, mmmm let's just do another 20 junior doctors out of a job then, which was interesting..." (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

It became clear that non-medical prescribers perceived the team as more than a structure put in place to aid further development of individual relationships with colleagues. For them, it was a structure that also enabled them to assess how trustworthy their colleagues were and how safe and supported they perceived their prescribing environment to be.

A good example of how this happened in practice was illustrated by the processes that were involved in arriving at a final treatment plan for a particular patient. Within a team, healthcare professionals from different disciplines within the team often had differing viewpoints and these had to be debated in order to reach an agreement. While exchanging ideas, challenging of one another's viewpoints was expected to occur.

"...we challenge each other, there are times when somebody might think one thing and somebody might think something else and we might not come to any conclusions. Then a few people might look at this person's... and then go see them and see what's going on and come back and then go and talk some more and then work around that really." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

Depending on how this process occurred, non-medical prescribers felt that the process of critiquing the viewpoints of other team members, as well as having their own viewpoints challenged had the potential to enhance the development of the non-medical prescriber. It has

been suggested, that by engaging in this process, the non-medical prescriber could become more experienced, knowledgeable and confident.

"...so we share ideas, we challenge each other's prescribing practices, it just gives you the confidence to go and prescribe and reassures you that you are conducting your practice quite well and that influences your decision making in terms of making you confident to do that and the challenging also makes you think, what else could I have done so it makes you think differently." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

With increased capacity in these areas, it was expected that the non-medical prescriber's ability to give and receive critiques would have also been improved, in what might be referred to as a virtuous cycle. However in certain other cases, it was felt that non-medical prescribers had been exposed to circumstances where the exchange of ideas was done negatively. In these cases, the criticising team member may have been perceived as being overly aggressive, or that their critique was delivered in a condescending manner because the critique was aimed at a non-medical prescriber.

"...but the GP made a point of telling her how wrong she was in the middle of the reception, the interesting thing was. The GPs colleague had done the same thing, so in other words, she was following on probably what somebody else had already done and I am assuming that the GP did not have to go at his colleague in the middle of reception." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

Another example is an illustration of what followed when a non-medical prescriber made an error while prescribing. In the first two cases, these non-medical prescribers trusted their team members and felt adequately supported by them. They knew that if they made an error, it will be dealt with in a non punitive manner and this will ultimately improve their prescribing practice.

"...there is never any suggestion of criticism because of the... certainly in my environment, you know, if something goes wrong, someone will ask you if you might want to file a critical incident form, or take it to the team meeting to discuss it to see... you know, because if I've made a mistake, which I have done and it is quite likely, it is a system error, or it is something that other people are quite likely to get wrong as well. So I've made mistakes and we have kind of discussed it in critical incident meetings and they have made mistakes, which we have raised in critical incidents as well, but that's not to blame kind of culture thing, it works very well for us really." (Prescriber 18 - pharmacist in primary care with 4 years prescribing experience)

"I just think it's important not to be complacent about it, I mean I can do probably what I do stood on my head, but I think there's always new challenges and I think we have always got to recognize the fact that you might miss something, so working as a team, picking up different issues, having questions from the consultants around, having questions from the consultants

around prescribing issues, it is just fantastic. And I really probably wouldn't want to work as an independent prescriber in isolation." (Prescriber 15 - pharmacist in secondary care with 3 years prescribing experience)

On the other hand, some other non-medical prescribers did not feel supported enough in their own teams. These prescribers were much more worried about what implications they would face if they made an error in the process of carrying out their prescribing duties. This in turn influenced their decision to prescribe.

"In the NHS, I do believe that there is an approach of ...just hang them and I see it all the time, all the time, one error and the next thing, they are suspended and then the investigation goes on and that destroys that person." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

"...but I'm just worried that if I get it wrong then yes I could be struck off, which obviously, I do not want to be struck off..." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

For non-medical prescribers, the environment, within which ideas were exchanged and the manner that the criticism was delivered was important in determining how supported they felt their prescribing was and how safe it was for them to practise in that environment.

"...in the main, nurses are more cautious, em...and so they have not been exposed to ...oh what did you do that for..., what did you prescribe that ...if it's in an aggressive way like that, that would make people close...close down in their thinking, ...and perhaps, not even prescribe." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

Although, the prescriber above prescribed in what she described as a very supportive environment, she was very vocal about some 'unsafe environments' that she knew that others practised in. This suggested though a few non-medical prescribers admitted to feeling unsafe within their teams, it was possible that more felt the same way, but may not have admitted it during the interviews.

4.3.4.4 Relating to patients with chronic pain

The emergence of this sub-category was probably the most surprising discovery for me during the non-medical prescribers' qualitative data collection phase. I say this because as the theory was evolving and 'nature of the prescribing environment' began emerging as a category, interviews started focusing on exploring its dimensions in terms of what the non-medical prescribers regarded as important to their prescribing. Naturally, I tended to focus on the prescriber and their needs, however during the interviews the prescribers persistently steered the interviews back to their patients. It became clear that for non-medical prescribers, while

considering their environment in terms of how safe it is to commence, or carry on prescribing, the nature of their present relationship, or future relationship with patients was also crucial.

As a starting point, I tried to find out what non-medical prescribers felt about how well patients with chronic pain were treated and there was a general notion that patients with chronic pain may not be receiving the best care available that they could.

"I think that people with arthritis are fobbed off, especially the elderly and I think sometimes there are things that can be done that may be aren't and I think they will get a box of paracetamol prescribed, maybe some co-codamol and that is it." (Prescriber 8 - nurse in primary care with 1 year prescribing experience)

"...if somebody comes in with back ache. You don't just write them ibuprofen and off they go, it is all about finding out all the other things." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

"Because often, with someone with a chronic disease, it's not just the pain that they have come to talk to you about, it can be a whole host of issues and we probably do not do as well as we could do." (Prescriber 22 - nurse in primary care with 3 years prescribing experience)

However it was generally agreed that with the policy goals behind the non-medical prescribing policy and the manner in which it is set up, patients with chronic pain were positioned to access the best care available.

"I think it allows you to sort of put robust plans together for that service user, it allows you to review it regularly to make sure that your practice is in the best interest of the service user and that it is safe really." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

For non-medical prescribers the starting point in prescribing for patients with chronic pain was to develop a relationship with them. It was recognised that patients had some knowledge about their conditions and also some power over their decision to actually take their medication. It was therefore important to have the patient on board as a prescribing partner.

"...they have to be all on board with it and you have to inform them and educate them on why they are doing it, because you need a relationship with them. And we have gone way past the world where the doctor says, so I must do, patients are asking too many questions these days, so the way to improve concordance is to educate them. Educate them the reasons why... and all of a sudden, their concordance and compliance to medication improve." (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

As an acknowledgement to the level of power and knowledge that the non-medical prescriber perceived that the patient had, the developing relationship with the patient was expected to be built on frankness and sincerity.

"It's just about being honest and open with the service user. I think it is a safe thing to do particularly when you get to more complex areas of prescribing." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

As such, for a non-medical prescriber, the ideal environment for them to prescribe in would be one where they knew the patients well and had developed a relationship with them.

"...so for me a safe environment would be prescribing with a cohort of patients that I am familiar with, that I understand the disease processes that they are presenting with." (Prescriber 20 - pharmacist in secondary care with 5 years prescribing experience)

However, this was not always the case. Non-medical prescribers sometimes found it difficult to build these relationships in practice for various reasons. For instance, a non-medical prescriber in a surgery who saw a lot of patients that presented with various disease conditions, found it difficult to develop necessary relationships and be familiar with them all.

"...you could see one patient presenting with minor illness, another patient might have chronic back pain, another patient might come for contraceptive advice, so it is very varied. So we have got quite a lot of specialist interests, so I do see a lot of patients for dermatology problems, I've got quite a large role in working in sexual health, I do a lot of the family planning and sexual health screening and in the past I've worked as a respiratory specialist nurse, so I do see a lot of patients with chronic disease as well, chronic lung conditions, heart conditions etc. So a lot of the prescribing is around those needs of patients." (Prescriber 21 - nurse in primary care with 5 years prescribing experience)

Though there is an indication that as non-medical prescribing developed and more non-medical prescribers started prescribing, there was an increasing awareness amongst patients about who the non-medical prescriber is and what they do.

"...the first clinic that I worked in, there were 3 non medical prescribers anyway, so it didn't even really particularly have a great deal of asking other than just explaining that I wasn't a nurse, or a doctor, I was a pharmacist and actually that stimulated a lot of conversation, they then ask you lots of questions about the drugs." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

Nevertheless, making sure that the patient understood the role of the non-medical prescribers and how they added value to their treatment was still seen as an integral part of the relationship building exercise

"...because if I see a new patient, the first thing I do is to introduce myself and say who I am and what I am.... I am a pharmacist, but I am a prescribing pharmacist working for this GP doing what roles, so the patient knows that I am not a doctor. I am prescribing pharmacist..."

(Prescriber 11 - pharmacist in primary care with 1 year prescribing experience)

Building a relationship with the patient and ensuring that effective communication exists between both parties were probably the first steps towards ensuring that the patient was a partner in the prescribing process. For many non-medical prescribers, prescribing in a concordant manner was even more important when prescribing for patients with chronic pain. This was because, the subjective nature of the diagnostic process for pain meant that the non-medical prescriber had to rely on the patient to effectively communicate the nature and severity of their symptom

"I think pain itself, because it's not something that you can measure with a stethoscope, pain is very subjective, you are going to rely on what the patient tells you, without concordance within specific pain measurement. I think it might not be very helpful to the patient. You need to know what the patient feels, what they think will work better and I think the concordance model is really important to be honest, specifically in pain." (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

The non-medical prescriber also had to build up enough trust to encourage the patient to disclose other important aspects of their condition, such as the psychosocial manifestations of their pain.

"But pain relief is quite complex anyway isn't it, do you know what I think it is, because the individual is not just about.... if it was high blood pressure, you have got a little triage and you just give them that don't you, but if somebody is in pain, you've got to find out about what that pain means to them, can they live with that pain and are there any other ways of easing the pain." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

Following on from the diagnosis, developing a relationship with the patient also helped with a more objective approach to planning the treatment. So for instance, going through the treatment options with the patient in a manner that ensured that they understood why the chosen options were the best for them.

"I do come across patients who do not want to take drugs and they want you to give them some sort of instant short term treatment that will rectify everything and it is about managing

those expectations really?" (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

"...and some people's expectations... is that if you prescribe something that the pain would just go away, you have just got to tell them that that might not happen and a lot of people want a tablets rather than going to physiotherapist, which might be more appropriate."

(Prescriber 9 - community pharmacist with 5 years prescribing experience)

"... it is about planning with the patient, milestones of... if we see this we may add this in, if not this will wait until this point, you know and going through all the options with them."(Prescriber 10 - nurse in primary care with 6 years prescribing experience)

This approach was thought to ensure better adherence with the treatment especially when the patient took their medication home.

Despite the benefits associated with the concordance model, there were still some non-medical prescribers that felt that in certain situations, for instance when there was a risk that the patient might harm themselves, adopting a more paternalistic approach may have been more appropriate for their prescribing.

"I know that you are supposed to talk about concordance, aren't you, but when its something like a pain killer and they are taking too much of it and it can damage them, then sometimes you have to say ...you can only take..., I don't want you taking anymore... you know, if you need to take anymore for the pain.... you need to come back and we need to look for a different solution, so I am quite strict about the amount of pain killers that they take,"

(Prescriber 9 - community pharmacist with 5 years prescribing experience)

Non-medical prescribers also showed that they were aware of the implications of not taking the time and effort to develop a relationship with their patients. Non adherence and experimenting by the patients were some outcomes associated with not building a relationship and regarding the patient as a prescribing partner.

"I think it depends on whether the patients feel that the medicines are working or not working for them, if they feel that they are experimenting, whether or not they feel that the prescriber has actually listened to their concerns. Because sometimes if they feel that they have specific concerns about medicines that the prescriber does not seem to address, they might just do it themselves and that might lead to non-adherence." (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

Finally, In addition to medication prescribing for chronic pain patients non-medical prescribers agreed that it was valid to explore other routes to help the patient achieve pain relief.

"...but some of these people need a 'physio', they do not need a box of pills, you know what I mean, they need other things to find out what is causing the pain." (Prescriber 8 - nurse in primary care with 1 year prescribing experience)

"So there were a number of befriending schemes, Luckily and we had a long chat about how they felt about... their sort of fears and feelings, about how they felt about living alone and looked at trying to address some of those, which meant that because they were feeling happy in themselves and they had a different focus, the pain was sort of lessened, or they seem to manage the pain... I can't say that the pain was lessened, but they seem to manage the pain a lot better." (Prescriber 21 - nurse in primary care with 5 years prescribing experience)

"...if somebody comes in with back ache, you don't just write them ibuprofen and off they go, it is all about finding out all the other things." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

It was felt that a more broad minded approach was needed in treating chronic pain. For me this was a bit surprising. In my experience, many healthcare professionals who were able to prescribe, or dealt with medication, had a perception that drugs could sort all problems out. The fact that these non-medical prescribers considered these measures suggested that rather than a 'one size fits all' approach, they were actually tailoring their treatment to patients that they knew and perhaps had a relationship with.

4.3.4.5 Second-checking

This particular sub-category addressed the concerns raised by non-medical prescribers with regards to how prescriptions that they produced were checked or would have been checked if they had gone on to prescribe. Second checking is the process whereby pharmacists screen an already written prescription in order to ensure that the patient derives the most benefits and is protected from any harmful effects that may result from being exposed to the medication contained in them. For instance, they ensure that dosages prescribed are correct and that the interactions between the individual drugs are not adverse to the patient.

During the emergence of this sub-category, the data did not suggest that any of the nurse prescribers that I interviewed expressed any concerns with how their prescriptions would be checked after they had been written. On the other hand most of the pharmacists that I spoke to expressed a level of concern as to how the second checking of their prescriptions contributed to the safety of their prescribing environment

As a result of this, many pharmacist prescribers felt more vulnerable in their prescribing environment, due to the fact that they were not confident that existing policy guidelines were robust.

"...the main issue really is second check and we are finding that.... obviously as a pharmacist when we go up to the ward we obviously second check for the prescriber, when we as the pharmacist go up to the ward and prescribe, there will be no second check for us, to provide some safety net for our prescribing." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

In other cases, they decided not to prescribe at all, because they felt that the environment was not safe enough to support their prescribing

"...so the safest thing for me to do is actually to rely on the prescribers. And there are junior prescribers around most of the time, so the easiest thing is for me to educate them into prescribing properly anyway. So, that is what I choose to do." (Prescriber 20 - pharmacist in secondary care with 5 years prescribing experience)

Although nationally, there did not seem to be any ambiguity in the guidelines set out for pharmacist prescribers. At time of the interviews, it seemed that standard operating procedures for pharmacist prescribers varied from Trust to Trust. As a result of this, pharmacist prescribers perceived that there was a lack of consistency.

"I know for a fact from talking to other prescribers nationally, that some people are just you know, prescribing and checking their own work but if your Trust hasn't taken... hasn't specifically said that is the position, or what for ever, that we would support you, if something goes wrong you haven't got a leg to stand on, because nationally, the national code of ethics is pretty clear that you do not check your work, unless it was in exceptional circumstances, so.." (Prescriber 19 - pharmacist in secondary care with no prescribing experience)

Here, this prescriber felt that with regards to second checking, pharmacists should prescribe within not just the guidelines set out by their institutions, but also within the ones set out by the national code of ethics. Other less conservative non-medical prescribers may have adhered to one or the other but he decided to adhere to both. To him, this is what would ensure his safety, if he decided to prescribe.

Within some of the Trusts, these operating procedures that had been prepared seemed to have been developed to account for the many varying settings and scenarios that the pharmacist prescribers practiced in. This however increased the level of complexity with which these guidelines were viewed.

"...we sort of got our head around it with the idea that I would self check, but the problem with self checking is, it depends on the type of drug that you check and the type of drug you prescribe, because we are in the hospital and we sort of tend to split drugs into drugs that has stocked on the ward and drugs that are not stocked on the ward. So drugs that has stocked on the ward, by virtue of tend to be things that I used routinely, so because they are routine drugs, you sort of know them, so I am permitted to self check myself, but I should be prescribing... I

should be prescribing with some cooperation of the medical staff, or some input from them in some way, they're aware of what I am doing and they are reviewing, they are not actually meant to document that they have seen and they're probably checking me, but I'm supposed to do that."

(Prescriber 17 - pharmacist in secondary care with 2 years prescribing experience)

Expectedly, due to the inconsistencies in how these guidelines were interpreted, there was little agreement between Trusts, department and even among individual pharmacists, about who exactly was interpreting the guidelines correctly and it was not for lack of trying, because it was evident that pharmacists, at an individual, as well as Trust wide level were thinking of this situation and were attempting to resolve it by learning from each others' experiences.

"...because they cannot get their head around how to practice, I know some people have said to... some places have the attitude, that we are just going to run with it and just get on with it... I think it's a bit of worrying approach really." (Prescriber 17 - pharmacist in secondary care with 2 years prescribing experience)

"...sometimes meeting other prescribers who are in the same boat as you and finding out what they do may be of use definitely. And also it might just useful to have an insight of how they handle things and how the systems fall into place and work properly." (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

Pharmacist prescribers felt strongly that at this stage, there was a need for the development of a nationally consistent operating procedure.

"And I think the problem is that nobody has really worked out... no-one... at the national level, no one has really got their head around this. I think it has not been addressed at the national level, I think it needs some addressing somewhere. It needs leadership in such a way that it does not basically stop people who have done loads of development from actually practicing. Because at the moment, I think it concerns me that it's going to stop people practicing." (Prescriber 17 - pharmacist in secondary care with 2 years prescribing experience)

However, in the meantime, pharmacist prescribers remained worried that not only was their prescribing being hindered or being practiced in an unsafe manner, but that the process may have been undermining the efficiency of the NHS.

"We have lots of doctors around and it is much more convenient for me to act as a pharmacist the ward and check a doctor's prescription, albeit one that I have usually recommended, rather than me having to write the prescription and having another pharmacist coming to check my prescription. It is not a very efficient use of my time if I do that." (Prescriber 20 - pharmacist in secondary care with 5 years prescribing experience)

"Now, personally speaking, the whole point of the independent prescribing pharmacist is to improve the efficiency of delivery of care... and getting a pharmacist to visit the ward to check

my work does not strike me as being very efficient.” (Prescriber 17 - pharmacist in secondary care with 2 years prescribing experience)

Furthermore there were concerns that if the second checking situation for pharmacist prescribers was left unresolved, it may have a negative impact on the way that patients access their medication.

“...one is around the ethical issues of needing to have another pharmacist check your work, so the easiest way for me to apply it would be to... on the ward, originally I was going to... drugs that were missing on admission, basic stuff like missing from a prophylaxis, calcium supplements, writing TTO's, but then you realize that actually once you prescribed them, even if the patient has brought some of their own in, you're going to need to order some more, at that point and then you will then need to get another pharmacist to sign it and send down the chart, I do not particularly have another pharmacist, or junior pharmacist that I work with very closely, I would then have to go down to pharmacy and that will introduce delays, certainly with TTO's it would introduce delays.” (Prescriber 19 - pharmacist in secondary care with no prescribing experience)

When I asked the pharmacist prescribers to suggest various ways in which the situation could be resolved, an interesting point came up. Pharmacist prescribers felt that when the guidelines for second checking for pharmacists were drawn up, there might not have been an adequate consideration of the particular skill that sets the pharmacist prescriber apart from both the nurse prescribers and the medical prescriber. They felt that by the time a pharmacist qualifies as a prescriber, they must have amassed a considerable amount of experience with respect to checking prescriptions written by others.

“I have been involved in checking that work and advising on that work, for so long, that it's just... prescribing is just an extension of that process really. Now instead of just asking to do it, it's really not a case of me no longer asking people to do it and rather doing it myself. But you do slightly think about things differently when you're a prescriber.” (Prescriber 17 - pharmacist in secondary care with 2 years prescribing experience)

In addition to this, it was felt that the professional socialization of pharmacists may protect them from making certain prescribing errors whereas other healthcare professionals who prescribe may not be similarly protected.

“Whereas doctors see it possibly as the least important part of their role, they see it, as secondary, they see themselves as diagnostic and making clinical plans and they are likely writing the prescription, that's the end of that, but it is seen as least important part of it. So I think pharmacists' attitude to prescribing is far different to that, I don't think we are as likely to make prescribing errors.” (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

As such for pharmacist prescribers, in negotiating a nationally consistent operating procedure, it was suggested that overlooking second checking of prescriptions written by pharmacist prescribers should be considered, because without it, they could still prescribe in a manner safe enough for patients, provided they were prescribing within their specialty.

"I will like to have a policy that will acknowledge and accept it. So I can prescribe and not necessarily have to have that second check, which I accept could be criticized by introducing a level of risk, but I think pharmacists prescribe with a different outlook to doctors anyway. I do believe that pharmacists are less likely to make prescribing errors, because we see it for what it is, it's the most important part of our role." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

"I think there is a real difficulty here, because we fill a certain role as pharmacist with our second check of the prescription and it is a role that we sometimes underestimate, the mistakes that we find, whether they be simple errors and slips, all actual lack of knowledge errors, mistakes, are significant. And any pharmacist, who is prescribing is as liable to make a slip as any other prescriber be it nurse or doctor, I think we are less likely to make knowledge-based mistakes, as long as we are doing what we are currently doing, which is working within our specific areas." (Prescriber 20 - pharmacist in secondary care with 5 years prescribing experience)

4.3.4.6 Interacting with management

Interacting with management emerged as a sub-category to reflect the importance that the non-medical prescribers attached to the interaction between themselves and the people that they regarded as having a certain degree of control or power within their prescribing environment. For nurses and pharmacists, the level of support that they perceived from the management was seen as crucial to how they were able to practice as prescribers.

Mostly, the non-medical prescribers were able to specify or identify the individual that was responsible for controlling a bureaucratic step that was seen as a facilitator or a barrier to their practice. However, sometimes 'the Trust', 'the PCT' or 'they' were used to represent officials or individuals that they could not or would not identify.

For non-medical prescribers, the role that the non-medical prescribing lead played in facilitating a safe and supportive environment for their prescribing was a major one. The non-medical prescribing lead was the officer that was responsible for among other duties, developing non-medical prescribing within the organisation, maintaining a non-medical prescriber database and ensuring that non-medical prescribers were properly registered and practicing in a safe manner.

Non-medical prescribers saw them as a key facilitator in determining how non-medical prescribing was practiced in each organisation. Some non-medical prescribers were very

emphatic in attributing the favourable atmosphere that they prescribed from, to the work done by their non-medical prescribing leads.

"...I think the non-medical prescribing lead did a good job in setting it up initially...we are lucky in our Trust because the non-medical prescribing lead has driven it from the onset, he was one of the first supplementary prescribers and he has driven it right from the ward go really and he has fought long and hard to get it recognized and that's why we are in the position that we are in now." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

"...our initial non-medical prescribing lead was very good and I think he was a big part of our job and that was very helpful, but that's all seems to have been diluted and as I said, it's all going to people like maybe do not understand as much."(Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

Understanding the challenges that non-medical prescribers faced within their various differing contexts was seen as important to how non-medical prescribing leads did their job. It was important to note that non-medical prescribing leads did not have to be prescribers themselves and as such would not always have firsthand experience.

In some other cases, non-medical prescribing leads were seen as less progressive than the non-medical prescribers that they looked after and as such may not have appreciated the needs of these more progressive non-medical prescribers.

"...the problem that we have is that within our PCT, the Pharmacist who is our prescribing lead and with no disrespect to her, she has an interest in pharmacists, but obviously from a nursing point of view and when I did my course . At that point the pharmacists were still working with the management plans, so they were not allowed to be independent prescribers so they could only use clinical management plans, so they were in a different position to the nurses and to us..." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

In the above case, the non-medical prescriber felt that her practice was hindered because though she was qualified to practise independently, the protocols set up by the non-medical prescribing lead meant that she could only practise as a supplementary prescriber.

A few non-medical prescribers felt that the processes set up by their non-medical prescriber lead made them feel more vulnerable when prescribing. For instance one prescriber felt that the structures within her Trust was restrictive to her practice because the non-medical prescribing lead did not particularly appreciate the challenges that non-medical prescribers met on the field.

"I also believe that there are a lots of nonmedical prescribing leads, who are not prescribers and do not have a clue about what's it is like out there and they are the ones that...they would oftenare keen to have more and more restrictive, bureaucratic structures in place." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

She continued by giving the example of the 'passport' suggesting that though non-medical prescribers may be competent in an area that they did not previously specify in the passport, the way some non-medical prescribing leads reacted when non-medical prescribers attempted to prescribe in these areas, was perceived as overly aggressive.

"...so those few people, they are putting in this great big structure and a passport and if you prescribe outside of that which you say that you're going to start with and they will be pouncing...questioning why you are..., so then you would have to provide evidence for then extending into another area." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

She concluded by suggesting that these restrictions perceived to be instigated by the non-medical prescribing leads may even put off some qualified non-medical prescribers from actually going on to prescribe

"I don't think that there are enough safe environments to explore prescribing, I think that there are more people interested in stifling and putting in place... they will call it governance, clinical governance, I'll call it restrictions and risk managing before there is any risk. It is right to assess risk and reduce the potential for it, but when you go so far that you restrict people, thenit's like... I don't get paid enough for that and that's what I hear a lot." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

The next set of people that non-medical prescribers identified as being able to facilitate a safe prescribing environment for their prescribing were their clinical leads. The clinical lead was the clinician, usually a doctor in charge of other healthcare professionals and they were responsible for the delivery of clinical services and ensuring that acceptable standards are maintained, within that organisation, or their specialty.

Non-medical prescribers felt that right from the onset of their prescribing, their clinical leads' support was important in maintaining an environment perceived as conducive for them to prescribe in.

"...you got to have their support, because they can block you at any stage. You know, the guy that first said to me... you're doing nonmedical prescribing, it is good to put 20 junior doctors out of a job, if he was the clinical... we have four consultants, if at that point, he was the clinical lead, he might have stopped it, he might have said no way you are doing this, I think it

was said in jest and luckily, his colleague was clinical lead and he just went to him and... face up to reality, this is where we are and just sign the papers." (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

This prescriber then went on to illustrate how this relationship worked in practice, whereby after qualification and possibly at intervals, the clinical lead still had to approve certain aspects of the prescriber's practice.

"...after you've done your non-medical prescribing and it gives you a certificate and a qualification to say that you're allowed to prescribe from anywhere from the BNF, within this organization, you have to tell them exactly what you're going to prescribe. You need to list what drugs, what sections of the BNF, ration out how you've been updated, how do you are going to keep updated and that needs approval by a medical consultant. So without their support, you will not get anywhere again." (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

Finally, non-medical prescribers, though having been able to identify a phenomenon which hindered their prescribing, did not always specify exactly who was responsible for this hindrance. An example was when non-medical prescribers perceived limitations in access to records considered essential for their practice.

"...it was only last week that somebody had rung me from a ward, someone had been admitted and they didn't have access to the medical notes, they were not clear on what the current prescription was. We had a discharge summary form about two weeks before that detailed the gentleman's prescription, but again, it was unclear it was still current or not. So that's were in terms of the failings are in our Trust around up to date records and having access to that."(Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

"...well the main thing that we haven't got, that would make things better is access to patient notes and also access to patient blood results..." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

In the second example, though this prescriber overcame the barrier in prescribing with respect to his access to patients' records, had he had access to these records, he would have felt safer and better supported in his prescribing. Another area of their practice where non-medical prescribers identified similar limitations was in terms of their access to electronic prescribing software.

"I have to write that (the prescription) out every week, a prescription with five or six items and deliver it to the pharmacy because of the risks of harm. Whereas if I had access may be to the same electronic prescribing systems as the GPs had, it would make my life so much easier, because then I'll just do it on the computer, send it automatically to community pharmacies, which is how GPs work. So I think those systems should be available to community

teams working in secondary care.” (Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

These limitations to resources that would facilitate their prescribing were also seen as having the potential to negatively affect the level of care received by the patient within their prescribing environment. For some non-medical prescribers, these limitations existed, because the officers responsible for facilitating these aspects of their prescribing were failing in these aspects.

For instance, it was felt that organisational support received within their prescribing environment was not tailored to their needs. They felt that the support that they had was an amended version of already existing structures (for medical prescribers) rather than a structure developed specifically for non-medical prescribers.

“I don't think that the PCTs are interested in non medical prescribers, they are still more interested in medical prescribers and everything just sort of filters down to us, but ultimately it's all about the doctors...”(Prescriber 10 - nurse in primary care with 6 years prescribing experience)

There was an awareness among non-medical prescribers that even in organisations where their prescribing was supported by management, the motives behind the support may not be totally altruistic, however, as long as this support made them feel that they were prescribing in a safer environment, it did not seem to matter to them.

“...and again it might be that they want a prescriber, when there no doctors there, but the concept is supported, I think. And our service manager has come in, he is relatively new to the team, although he has worked in other areas, he has seen what we have done with it and he is supportive of the nature of the work if you like.” (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

“...I mean, because they are positive in wanting my help to kind of like manage more patients and therefore have more QOF points and therefore anything that I really need they are quite co-operative and we work quite well together.” (Prescriber 11 - pharmacist in primary care with 1 year prescribing experience)

Finally, it was suggested that a national standardisation of how the non-medical prescribing policy is implemented within various host organisations would result in an improvement in how supported non-medical prescribers felt in their practice and facilitate how they prescribed for their patients.

“I guess the only thing that I would change is by having standards across the country. I think each Trust is allowed to adopt non-medical prescribing within their own guidelines and within their remit and I think it's been good in some areas but it has hindered non-medical

prescribing in some others and it has not allowed them to develop their practice, as they would do." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

4.3.4.7 Category summary

In 'nature of the prescribing environment', the first three sub-categories described how non-medical prescribers related with colleagues within their teams and identified that these relationships were based on trust and were mutually beneficial. 'Relating to patients with chronic pain' addressed how interactions with their patients influenced how safe and effective nurses and pharmacists perceived their prescribing to be. 'Second checking' was pertinent only to pharmacist prescribers and it explored the dilemma that they faced regarding the procedures existing in their organisations to ensure that prescriptions that they wrote were properly screened. The final sub-category 'interacting with management' addressed how interactions with non-medical prescribing leads and clinical leads were perceived to influence how safe and supported nurses and pharmacists felt in their prescribing.

4.3.5 Acquiring knowledge

Nurses and pharmacists who participated in the research seemed to view the acquisition of knowledge as more than just fulfilling expected requirements of CPD in their practice. CPD refers to the various activities engaged in to enable maintenance and development of prescribing and other professional practices. The Nursing and Midwifery Council (NMC) and the General Pharmaceutical Council (GPhC) who regulate practice for these professionals mandate CPD as a legal requirement and set out guidelines for requirements in areas of practice including penalties exist for failing to comply (NMC, 2011a; GPhC, 2011). For the non-medical prescribers that I interviewed, there was a more active and voracious engagement with the resources that were available to them, that seemed to surpass the normal expectations of CPD. Additionally, in practice some knowledge acquisition processes non-medical prescribers engaged in were perceived as CPD and others were not. However, irrespective of whether these activities were considered CPD, they were all perceived to contribute to the knowledge considered relevant to their prescribing.

As such, despite the fact that many concepts within this category can be considered CPD, I named this category 'acquiring knowledge' because this phrase better captures how the data emerged from this phase of the research. In the grounded theory exploration of how non-medical prescribers engaged with their knowledge acquisition resources and processes, I first look at how non-medical prescribers planned and organised their learning, then I look at the levels of access they perceived they had to learning resources as well as how they made time for these activities. Finally, although reflective practice is also regarded as a form of CPD and is

admittedly a knowledge acquisition process, I have discussed it in another category and will not address it here.

4.3.5.1 Organising learning

During the interviews, it emerged that non-medical prescribers developed a concept of a 'personal or internal formulary'. The development of this 'personal formulary' was based primarily on the experiences that the non-medical prescribers gained while prescribing for patients with conditions that they came across regularly. Initially during their prescribing, they referred to the guidelines and evidence available to them while prescribing. They then reflected on their prescribing and in the process acquired more knowledge to improve past practices, which then fed back into subsequent prescribing episodes. With each case that the prescriber saw, they gained more experience and further developed their internal or personal formularies.

"...because I am aware that prescribers, they do have in your head, your own formulary and it has a roof in all areas. So asthma, diabetes... you know what I mean. I feel I have this level where I feel safe, I use those drugs frequently, I know the side effects inside out"
(Prescriber 22 - nurse in primary care with 3 years prescribing experience)

In the above case, this non-medical prescriber practised in a rural practice where she had to see a variety of conditions in many patients within a limited time frame. She felt she had no choice but to adopt a more innovative approach to building her 'personal formulary'.

"...and I am happy to go to that roof. To move beyond our roof, I need a little bit of support; I need a little bit of trying out stage, before my roof moves up permanently."
(Prescriber 22 - nurse in primary care with 3 years prescribing experience)

In addition to this, the same prescriber admitted relying on a trusted colleague to increase her knowledge base.

"I have a GP colleague who has also become a good friend over time and have a nice situation that he will often bob to me and say what you think about this, or what would you do in this situation, it is a very open two way communication." (Prescriber 22 - nurse in primary care with 3 years prescribing experience)

The fact that she could 'bob in' and discuss issues with a colleague she trusted and perceived to be knowledgeable seemed to encourage her to be more innovative in her 'trying out stage' until she felt confident that her 'personal formulary' was robust enough in areas in which she prescribed. She also now worked in a much smaller practice, than where she was when she qualified and now had a much bigger workload in terms of patients, but she felt that her

prescribing was more efficient and that her 'personal formulary' was developing at a much faster rate.

Even in bigger teams there was evidence that non-medical prescribers acquired some of the knowledge that they used in their prescribing by interacting with other healthcare professionals within their interdisciplinary team.

"... who will come from different backgrounds, some of them do not know much about medication at all and some of them have their own ideas about what helps people and what doesn't and obviously sometimes our ideas are a bit different. And if they are working with different consultants, we often have very different views about prescribing antidepressants and chronic pain to be honest...with the social worker and psychiatrists and another...quite another one with the GP." (Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

This form of learning was considered more informal, compared to the traditional CPD resources, but was found to be equally useful. The diverse backgrounds that the team members came from professionally was seen as a distinct strength by non-medical prescribers learning through this route because the different views were seen as synonymous with a more rigorous approach to patient care. Nurses and pharmacists were only likely to organise their prescribing learning through this way if they saw their teammates as knowledgeable and they perceived attributes such as trust and respect as being valued within the team. Additionally, learning through team working was seen as complementary to the more traditional forms of CPD.

Although non-medical prescribers learned informally from their colleagues and the teams they belonged to, engaging in CPD remained very significant in the way knowledge was acquired.

"...I guess there are new things coming out frequently and you need to be on top of what is happening out there. And if you want to manage a patient you need to be aware, as much as possible, what kind of formulations they use, what kind of drugs etc. and to be able to do that you need to be up to date soI guess it depends on how when you come across patients with that pain, how much you have to deal with those patients, if you deal with those patients regularly then definitely continue CPD. ...So it depends on how much you are using that skill..." (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

In addition to the resources utilised in learning during CPD, it emerged that considerable time and effort were also put into identifying knowledge needs and then organising which of the many CPD activities could be accessed to meet these needs. At first glance it may seem quite a

simple process for the prescribers to assess their prescribing needs, look for the resources needed to fulfil these needs, then utilise these resources until the acquired knowledge is adjudged sufficient. In practice, this was not so.

"...more CPD will be better, specific to prescribing. I do not know, I have never really had any training as such in making records, in record keeping, making notes and patient's records, recording consultations... you just get the feel for it and you just move on. Nobody said I'm doing it right, nobody said I'm doing wrong... am I putting too much information in, or not enough. I do not know" (Prescriber 5 - community pharmacist with 3 years prescribing experience)

"...I feel that my CPD needs are very well met, but maybe not by traditional pharmacy resources, because I feel in a way I know quite a lot about the drugs, but I don't know so much about the disorder and all the other treatments and other sort of approaches with people that are useful.. and you know... risk, understanding what risk means in the context of someone who might harm themselves rather than you know...straightforward risk about medication..."
(Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

Above, in the first case, the non-medical prescriber did not feel supported enough to make satisfactory decisions with respect to how he organised and processed his knowledge needs with respect to prescribing. In the second case, even though the prescriber was confident that her 'personal formulary' was adequate for the medication routinely used in her field, she still felt that there were other areas that were lacking and did not feel that the traditional CPD resources could help her meet these needs. In both cases, ticking the boxes to meet statutory requirements, were not enough.

A cautionary tale of a colleague's experience was used to illustrate some of the difficulties that non-medical prescribers could encounter when they were not adequately supported in assessing their needs and organising CPD to meet those needs.

"...and certainly one of our GPs recently failed a portfolio. She was training... she was a GP and trained in the days when you did not have to have MRCGP certificates. So she's doing it by portfolio and one of the things that she was criticized for was that she did too many in - house things and she had not attended enough... Now that is debatable, about what is considered CPD and when we discuss self - directed learning, what makes that more valuable, just because you have gone to a venue and you have sat there, you could have been sat at the back asleep and then have a certificate for it." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

In this quote, this prescriber poses an important question, as to which form of CPD is more valuable for a particular prescriber within their specific prescribing context. Reflecting on the bigger picture, similar questions arise, as to how learning from colleagues and team working (seen in the early part of this sub-category) could contribute to 'acquiring knowledge' and whether they can be considered and documented as CPD.

4.3.5.2 Accessing resources

In the preceding sub-category, when I explored how non-medical prescribers organised their learning, I mentioned that many forms of CPD existed. At least seven forms of learning have been identified as CPD for non-medical prescribers. These include individual study, e-learning, reading journals and attending organised courses (NMC, 2011a). In the same way, that the forms of learning that can be classed as CPD vary, the access that non-medical prescribers had to these forms of learning that they engaged in varied as well. For the prescribers in this study the main routes through which they carried out their CPD were going for relevant organised courses and carrying out self directed learning. As such, the focus of this sub category will be on organised courses and self directed learning which the research participants perceived as doing e-learning and reading relevant journals.

The guidelines from the two relevant regulatory bodies regarding CPD seemed to have some impact on some of the levels of access that these nurses and pharmacists had. The Nursing and Midwifery Council issues clear guidelines for the level of support regarding CPD, expected of employers of nurse prescribers (NMC, 2011a). On the other hand it seemed that for the prescribing pharmacists, neither the General Pharmaceutical Council nor the Royal Pharmaceutical Society addresses this issue to the same extent. This support was reflected in the level of satisfaction expressed by nurse prescribers with respect to access. For instance this nurse prescriber found it easy to book and attend CPD courses.

"...we did have sort of some education sessions, where somebody will actually come in and talk ... what I tend to do is, if I see something that I think will be appropriate, I just tend to get myself organized and get booked on.... just to keep myself up to date, so technically, I am meant to ask someone for permission, I think, but I just book and go." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

While many of the nurses that were interviewed had few problems with their level of access to CPD, most of the pharmacist prescribers did. However despite the fact that the nurse prescribers had relatively good access to their CPD, there were still problems perceived with the specificity. For the non-medical prescribers that had access to organised courses, or formal study days, there was a problem regarding how well these courses suited each individual prescriber.

"...but there is not much out there specifically for prescribers..., [the courses] for prescribing, [I have seen] are a long way away.... So there have not been many opportunities and the ones that have been...[suitable for my needs], have not always been easily accessible for me, so I would be keen to do them, but it is just... there are various barriers that stop you from getting to the ones that I have seen." (Prescriber 16 - nurse in primary care with 5 years prescribing experience)

The prescribers noted three barriers regarding their access to formal study days. Firstly, getting CPD specific to their areas of specialty; secondly, getting CPD for prescribers in that particular area and thirdly, factors such as timing and geographical location of the course.

For pharmacist prescribers, it seemed that a few of them had access to attending these organised courses

"...we get a lot of online CPD. I also attend study days when I can. I can keep fairly up - to - date and I have good access to training courses and things I need to access. So yes I am happy with that" (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

For most other pharmacists there was a significant lack of access to these organised courses. The major reasons cited for this limited access seemed mostly to be reluctance for employers to let them have time off work to attend and funding for the courses.

"I find it difficult...training is always useful, the more you do it the better I think. I can only access it out of working hours, because they will not pay for me to have any more time off. It is a commercial thing...in pharmacy. I think we need more CPD during the day. We give a block of time in the evening ... it's all done after work and it has always been done after work...." (Prescriber 5 - community pharmacist with 3 years prescribing experience)

The other main forms of learning, through which the non-medical prescribers carried out their CPD, were through e - learning and reading relevant journals, by self directed learning. Most of the non-medical prescribers that engaged in self directed learning were pharmacists. Initially, I thought that it was because there was limited support for attending organised courses from their employers with respect to time off work and funding, but as the data emerged, I found that this was not always the case, as some of the prescribers actually preferred self directed learning because it was the best fit for their needs

"...if I am prescribing something, I want to be a hundred percent sure why I am doing it and I will prefer to make sure, even if it is in my own time that I fully understand what I am doing, I think it will be easier... the paid time tends to the general courses and it might be not

quite specific to you.” (Prescriber 12 - pharmacist in primary care with 2 years prescribing experience)

Interestingly there were also nurses who, though used to attending formal study days during work time for their CPD, expressed a desire to engage more in self directed learning

“I mean if I was aware of an online update facility, I would be equally happy... because that might be more time amenable, taking time at work is not always easy, although they are... they do support CPD and obviously give us the time when it is needed. But obviously, if this is something I could do from home, from here, it should be equally useful.” (Prescriber 16 - nurse in primary care with 5 years prescribing experience)

Again for the prescribers that preferred to carry out the majority of their knowledge acquisition through self directed learning, or in combination with formal study days, the main point for them was the specificity of these courses to their needs.

Although the specificity issue could be addressed by self directed learning, this approach was not problem free. With self directed learning, the prescriber was able to tailor their learning to their needs and ensure that they learned as much as they felt was sufficient for their prescribing. However, this was usually done in their personal time and there were still problems of access for some prescribers. For instance accessing relevant articles in journals where the non-medical prescriber's institution or employer did not have a subscription.

“...you might get something and then it is in the BMJ or the Lancet, because I'm not a doctor, I have to pay for the articles” (Prescriber 9 - community pharmacist with 5 years prescribing experience)

In this case, in addition to the fact that this pharmacist prescriber had to carry out CPD in her own time, paying for articles to aid her self directed learning meant that she also had to use her resources as well.

4.3.5.3 Making time

While exploring the motivators for qualifying as non-medical prescribers, it was revealed that these professionals may still be performing other roles, in addition to their prescribing.

“I think it is a big undertaking with a lot of responsibility... you just get this huge amount of responsibility as part of your existing role ...” (Prescriber 8 - nurse in primary care with 1 year prescribing experience)

When this is considered against the backdrop of the guidelines suggesting that the full scope of professional practice be covered in their CPD (NMC, 2011a; GPhC, 2011), it means that for

nurses and pharmacists who prescribe, a considerable amount of time is spent carrying out CPD. Additionally, in the last sub-category, it emerged that for non-medical prescribers even before the learning process was carried out, a considerable amount of time had already been expended assessing needs and organising learning activities. This illustrates how important the concept of 'making time' was for the prescribers in the study.

Although the minimum suggested guidelines regarding the time spent on CPD is roughly an hour and a half every month (NMC, 2011a), many of the non-medical prescribers that participated in the research admitted to spending significantly more time, in knowledge acquisition processes.

"I have weekly sessions with a clinical colleague in the practice, while we talk through particular cases, which may be to do with chronic pain, or a number of other conditions and talk about the patients, how they presented, what kind of problems I felt we needed to address and use....use sort of case study as a way to learn from it. Sometimes that might involve us both going away and reading up on things and then the next time that we meet, talking through it."
(Prescriber 21 - nurse in primary care with 5 years prescribing experience)

Some of the reasons why non-medical prescribers invested a significant amount of time in acquiring knowledge are illustrated in the above case. For this non-medical prescriber to further develop her prescribing practice there was a need for her to demonstrate that as time went on, she was also becoming a resource that could be relied upon. This process would have been occurring at a time that she would also be acquiring knowledge to rapidly develop her own 'personal formulary'.

While discussing access in the last sub-category, we saw the limitations non-medical prescribers had to some forms of CPD. Those limitations had a knock on effect on how non-medical prescribers made time for the knowledge acquisition activities.

"...but it is difficult, because you need to do research to find out where it is that you can get more training on certain things...." (Prescriber 11 - pharmacist in primary care with 1 year prescribing experience)

"Not everything is readily available but there are some things that are readily available, there are some things that you have to go hunt for" (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

It meant that for these non-medical prescribers, the time spent searching for CPD to suit their needs was time they did not spend actually 'acquiring knowledge' relevant to their

prescribing for chronic pain. This was particularly important for those we saw in the last sub-category that could only learn by self directed learning.

Despite these challenges to their time management with respect to seeking out relevant resources and acquiring knowledge, many non-medical prescribers made a significant effort to allocate adequate time to ensure that their knowledge needs were met.

"...it is just so busy, when you finish work, at home, you just need to be very focused to actually drag yourself to do more CPD. I mean, I try to keep up - to - date with all the newsletters and things like that, do more reading and all those other things" (Prescriber 11 - pharmacist in primary care with 1 year prescribing experience)

Due to the level of importance accorded to CPD by these prescribers, even when they were not entitled to time off work to go for courses, they developed strategies to 'create' time for organised courses, when they judged that this form of CPD would best suit their knowledge needs.

"... I've only got interrupted, uninterrupted time if I do that in my own time. After I work, so there is an online package, I can work at my own speed, try and fit that in around my job is quite difficult, equally for some needs, if I am able, sometimes if I do it, it's a bit of wrangling, To wrangle a little bit of time here and there to go on things" (Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

The above prescriber, being a pharmacist was not supported by her employer with respect to time off and funding for CPD. In her case, the time she would 'wrangle' to go for formal study days that she may have paid for, was in addition to the personal time that she would have routinely dedicated to self directed learning. Not all the prescribers felt this way though. Some non-medical prescribers were more conservative in the way they made time for CPD.

"I do it in work time, because I am quite a firm believer..., I don't say I don't do anything out of work hours, but I am a firm believer that I come to work, I work very hard and if I did something in the evening, that will be fine, but then I will take the time back. And I am fortunate in that I can do that. But if you sort of said that there is a really interesting weekend, I would not go" (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

Initially, my feelings were that being a nurse, the above prescriber may have gotten used to being 'spoon-fed', but that was not a valid explanation. The same prescriber did little to develop relationships in her prescribing environment and she also frequently 'copped out of prescribing'. Within these contexts, a more valid explanation would be a lack of enthusiasm to

develop her 'personal formulary' coupled with a more conservative approach to engaging in less traditional forms of knowledge acquisition.

4.3.5.4 Category summary

Acquiring knowledge addressed how non-medical prescribers engaged with knowledge acquisition with respect to their prescribing practice. In the first sub-category, 'organising learning', it emerged that non-medical prescribers organised and structured their knowledge using a 'personal formulary'. In addition to formal CPD, they also learned informally from trusted colleagues and team working. In 'accessing resources' it emerged that access to CPD resources differed according to professional background. Pharmacist prescribers were limited in their access to formal CPD during paid work time. Nurses and pharmacists also associated certain benefits and limitations with organised courses and self directed learning, the main types of CPD they engaged in. In the third subcategory 'making time', it emerged that non-medical prescribers compared to their colleagues who do not prescribe, had more 'knowledge needs' and CPD commitments and had developed strategies to overcome challenges in this area.

4.3.6 Gaining experience

Generally speaking, experience refers to the process whereby skill is learned through the observation of a process, or as a result of being exposed to a relevant event. Experience implies that a person learns both from events that are mentally processed and those that are not immediately mentally processed but reflected upon at a later time. Experience is seen as being able to accumulate over time, as long as the individual has undergone sufficient exposure to a relevant event. In this category I discuss how non-medical prescribers interacted with the concept of experience and how this influenced the way they developed their prescribing skills and their willingness to prescribe. As they are all related to learning, admittedly there is a significant relationship between this category, 'acquiring knowledge' and 'reflecting on prescribing'. But each of these categories has a different focus.

In 'gaining experience' I focus on how nurses and pharmacists engaged in activities aimed at addressing their level of experience in various aspects of their prescribing. I will explore how they perceived experience contributed to their practice and how important they felt it was in prescribing for chronic pain. The first sub-category 'gaining from others' experience' explores interactions with colleagues who are seen as being more experienced. In the second sub-category 'experience with medication', the relevance and importance non-medical prescribers attributed to prior experience with the use of drugs, is explored and the third sub-category 'being familiar with patients with chronic pain' discusses the influence gaining experience with patients, had on their prescribing practice.

4.3.6.1 Gaining from others' experience

As non-medical prescribing is a relatively new activity there are not many nurses and pharmacists that have accumulated prescribing experience relevant to treating chronic pain. As such the data that emerged suggested that prescribing experience although considered important, was limited. Earlier we saw how some non-medical prescribers who, by the nature of their innovative approach, were more likely to push the boundaries of their prescribing practice. This suggested that in certain areas, some prescribers were always more likely to have more experience than their other non-medical prescribing colleagues. Additionally, not all non-medical prescribers had access to fellow non-medical prescribers from whom they could learn although ideally they would rather learn from experienced non-medical prescribers.

The nurses and pharmacists that were interviewed, in some instances acknowledged that there were other non-medical prescribers that may have the relevant experience in the certain areas that they were interest in.

"... we are able to ask questions and get a response from people who have got the experience, so it is actually very useful. And there is a national network, which publishes guidelines and policies and various other things that you would want to review and somebody else has already done the work, so you could potentially save yourself quite a big job." (Prescriber 15 - pharmacist in secondary care with 3 years prescribing experience)

"...I generally get the answers that I need and I know that I am not on my own, I know that there is somebody out there that I can link to..." (Prescriber 8 - nurse in primary care with 1 year prescribing experience)

Non-medical prescribers perceived that significant benefits could be derived with respect to savings in time and effort from learning from other non-medical prescribers who had already gained the relevant experience. However, not all non-medical prescribers used 'others' experience' to improve their time and efficiency, as was shown by their adoption of different approaches to networking.

Another way that non-medical prescribers felt that they gained from others' experience was through the mentoring relationships that some of them engaged in. This relationship has already been explored in 'approaches' however related themes are further explored here. One such theme was regarding which profession was more likely to engage in mentoring relationship and what emerged was that it was nurse prescribers that felt more comfortable being mentored and becoming mentors.

"I have talked to colleagues, they do not have anywhere near the level of supervision that we have in our Trust. And I think that can only be a good thing because at least you're ensuring that non-medical prescribers are supported in their decision, are supported in their practice." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

The mentoring relationships that were revealed were not formal or 'top down' type initiatives rather they were informal arrangements which were in most cases, set up by the prescribers themselves.

"I wouldn't have liked to have felt like I was completely on my own, didn't want that at all, even though this support I needed was quite minimal, it was nice to know that she was there. That was something I set up myself." (Prescriber 8 - nurse in primary care with 1 year prescribing experience)

While it could be argued that the informal arrangements may suit the prescribers better in developing mentoring relationships that would enable them to learn from their more

experienced colleagues, it may not be a suitable model for the more conservative prescriber.

"it is not formally, but I actually spoke to one of the nurse practitioner and said, look, can I spend some time with you... I know it is being silly, but now that I am spending some time with her, I think she will help me to say... well actually, it's fine, you can do it..." (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

For this prescriber, inasmuch as seeking out a mentor and spending time with her had the capacity to enhance her prescribing, the fact that there was no existing formal mechanism to support the development of a mentoring relationship meant that she had to do it herself. For her, doing this meant stepping a bit too far out of her comfort zone.

Earlier on, we saw that mentoring relationships were more common among nurse prescribers, however although none of the pharmacist prescribers interviewed admitted to having gained from others' experience by way of mentoring, there was an understanding of the concept and how it could be helpful to less experienced non-medical prescribers.

"...I did not have that, I am not familiar with... but I can see like... for someone who hasn't, doesn't feel he is 100% and then you refer them to someone to give them advice, I don't see a problem with that." (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

Also at least one pharmacist prescriber, whom I got the impression as being innovative and who also had considerable experience in community pharmacy indicated that she had engaged in relationships where she in effect mentored other non-medical prescribers.

4.3.6.2 Experience with medication

In this sub-category, I explore how non-medical prescribers perceived the importance of the level of experience that they had with respect to medication used in the management of chronic pain. In doing this, I will also determine how their perception of this expertise influenced their prescribing decisions for patients with chronic pain. A primary professional role for many pharmacists prior to qualifying as prescribers involved screening prescriptions. In this role, pharmacists routinely encountered many different drugs and as such it would be expected that they would have a significant familiarity with properties such as side effects and contra - indications of medication used for chronic pain.

This expectation was reflected in the data collected from the study. The pharmacist prescribers who were interviewed suggested that their prior knowledge on medicines, even before becoming prescribers was a significant strength.

"...I think the pharmacist prescriber is better positioned, knowing the side effects of the medicines. So for example, if a patient comes in with acute pain, within the organization you often get morphine, where oxycodone is probably more appropriate..." (Prescriber 15 - pharmacist in secondary care with 3 years prescribing experience)

Also as expected for this group of prescribers, the longer that they have been engaged in their professional duties, the more experienced that they were perceived to be, both by themselves and their colleagues.

"...but I think because I am 25 years qualified, they kind of acknowledge that I probably know an awful lot more about prescribing than they do and often because they are much younger than me..." (Prescriber 18 - pharmacist in primary care with 4 years prescribing experience)

Interestingly, the nurse prescribers also identified that pharmacists had considerable knowledge of medications for chronic pain and even saw them as a resource that they could access.

"I have got access to support from GPs if I need it and we have got the pharmacy... if we have got queries, the pharmacy leads from the PCT... so I know where I can get information if I need it..." (Prescriber 16 - nurse in primary care with 5 years prescribing experience)

Subsequently, as more data emerged, it became clear that while being a pharmacist suggested that a prescriber had prior experience with relevant medication and that their years of experience may give an indication of how experienced they were, it was not always the case. With further interviews and more reflection I realised that before qualifying as prescribers, pharmacists may have recently changed areas of specialty, even spent a significant proportion of their career in roles that did not require constant and robust contact with relevant medication information.

For the pharmacists that had the relevant amount of experience before qualifying as prescribers, it was evident that it was a significant advantage in their practice. For instance it gave them more confidence in their prescribing abilities and ensured that their internal formularies were robust enough to enable them to prescribe in an efficient manner. A good

example to illustrate this is to consider the effect on experience in medication use, on attitudes to prescribing controlled drugs.

In taking another look at this quote, we see that this pharmacist, based on her experience in medication use felt confident enough to criticise the practice, where morphine, rather than oxycodone was routinely prescribed by others in her establishment. Despite being the normal practice, because she had the relevant knowledge and experience, she felt confident to assess and comment on it.

"...I think the pharmacist prescriber is better positioned, knowing the side effects of the medicines. So for example, if a patient comes in with acute pain, within the organization you often get morphine, where oxycodone is probably more appropriate..."(Prescriber 15 - pharmacist in secondary care with 3 years prescribing experience)

The above reaction was typical of the kind of attitudes that other pharmacist prescribers had towards controlled drugs. Initially when I compared this to the typical attitudes that many of the nurse prescribers had towards prescribing controlled drugs, exemplified by the quote directly below, what seemed to emerge was that the nurse prescribers as a group, were likely to be more cautious about prescribing controlled drugs than the pharmacists.

"I do not think that I am, I mean if you take something like diazepam as an example, which is classed as a controlled drug, but it is very good for sort of spasms...for some chronic pain, I can't say that I am frightened of doing that, I think some of it is to do with your experience and building of competence" (Prescriber 21 - nurse in primary care with 5 years prescribing experience)

However, with further probing I found out that this was not the case. In actual fact, when it came to prescribing controlled drugs, it was experience with medication, rather than professional backgrounds, which determined the level of confidence with which prescribers approached prescribing controlled drugs.

"...I understand the legality, so I do not have any worries about that, and in terms of the safety aspect, you consider that all of the time, no matter what you prescribe, you look at the safety profile, you would always be trying to prescribe those with the best safety profile, if you're moving into an area where there are increased risks, then you proceed cautiously but you have got to weigh up the benefits for the patient, against the potential costs of ...or safety issues, that is the way that I would be balancing it, I wouldn't be saying no to a drug, just because it

has got a poorer safety profile." (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

This nurse prescriber's attitude towards prescribing controlled drugs was similar to that of the pharmacist prescribers. Further contextual investigation showed that she was perceived by her peers as very knowledgeable about drugs and this was reflected in her confidence which was also observed during the interview.

4.3.6.3 Experience with chronic pain patients

This category explores how non-medical prescribers perceived their experience particularly with patients with chronic pain, contributed to their prescribing. Nurses and pharmacists in this study agreed that having more experience with their chronic pain patients would contribute to the development and maintenance of the prescribing relationship.

"... It truly makes a huge amount of difference, once they have built the confidence in you, they see me more than they see the doctor, more frequently, they know who I am, they know I can sort out their medicines, they know they can ask questions" (Prescriber 15 - pharmacist in secondary care with 3 years prescribing experience)

There was a perception by the non-medical prescribers, that the more they saw their patients, the better their patients' confidence in their prescribing abilities became.

In many settings, especially in primary care, where the non-medical prescribers prescribed for their chronic pain patients on a more regular basis, these repeated visits, not only enhanced the patient relationship aspect of their practice, it also fed into the various knowledge acquisition mechanisms used in developing their 'internal formularies'.

For the hospital based non-medical prescriber, the patient relationship aspect of their practice was more limited, this was because the patients that they usually saw for chronic pain were not as regular as was the case in primary care. For the prescribers in secondary care more emphasis was placed on being familiar with and understanding the condition that their patients presented with, rather than on developing a relationship with the patient.

"...But clearly the most important thing is actually knowledge of what is causing chronic pain for the patient and how to treat that. So for example,... choosing different drugs for chronic pain caused by neuropathies, to chronic pain caused by mechanical reasons perhaps... so for me a safe environment would be prescribing with a cohort of patients that I am familiar with,

that I understand the disease processes that they are presenting with." (Prescriber 20 - pharmacist in secondary care with 5 years prescribing experience)

The implication was that for the prescriber that did not have regular sessions with the same patients, though the patient relationship aspect of their prescribing may not have been developed to their satisfaction, there was more scope for them to develop their internal formularies, because of the variety of conditions that they came across.

Continuous interaction with patients helped non-medical prescribers in many ways, such as in aiding the development of their personal formulary and in achieving a beneficial partnership with the patient which is a necessary component of what they considered a 'safe environment' for their practice. However, a significant weakness pertaining to how non-medical prescribers carried out their prescribing was revealed. When the category 'gaining experience' started emerging, I assumed that all aspects of the non-medical prescribers prescribing would be enhanced as they interacted more with patients. This assumption was wrong. As more data emerged, it became clear that some aspects of non-medical prescribing were not perceived to develop as rapidly as expected, even with their increasing interaction with patients.

"... I would broadly split the prescribing skills sort of into two broad areas. I suppose, one is actually knowledge about medicine and prescribing evidence - based medicines and all that and the other is communication, consultation skills... What I... and probably a lot of other people lack once they have done the course, is a reassessment of consultation skills, that is not something you can share with other people unless someone witnesses you giving it and I don't really know anybody outside the medical profession who has reassessments of their consultation skills. GPs, particularly for GP trainers do an awful lot... ongoing stuff around consultation, because a huge amount of what they teach to the registrars and people... but pharmacists, I do not think that any of them ever get any ongoing..." (Prescriber 18 - pharmacist in primary care with 4 years prescribing experience)

This feeling of uncertainty regarding best practices with respect to consultation skills was especially relevant for non-medical prescribers whose prescribing practice was carried out in an area, or setting where no other fellow non-medical prescribers were prescribing, as well as in scenarios that prescribers did not consider their environment safe enough to learn these skills from their more experienced medical colleagues.

I have never really had any training as such in making records, in record keeping, making notes and patient's records, recording consultations... you just get the feel for it and you just move on. Nobody said I'm doing it right, nobody said I'm doing wrong.... am I putting too much

information in, or not enough, I do not know" (Prescriber 5 - community pharmacist with 3 years prescribing experience)

In addition, the non-medical prescribers did not express any awareness of any mechanism to allow them to self assess their knowledge needs, with respect to consultation skill, as well as of clear signposts to CPD sessions to help them address these deficiencies.

4.3.6.4 Category summary

In the first sub-category 'gaining from other's experience' I explored how non-medical prescribers related to their more experienced colleagues, when they identified this group as a useful resource. These learning relationships were mostly informal and although nurse prescribers were more likely to have engaged in these relationships, pharmacist prescribers understood and agreed with the concept. In the second subcategory 'experience with medication', non-medical prescribers perceived that prior experience with drugs influenced their current attitudes to prescribing for patients with chronic pain. Here pharmacists were seen as advantaged due to their prior experience in scrutinizing prescriptions. Similarly the length of previous related professional experience in dealing with medication was seen as beneficial to practice. In the last sub-category 'experience with chronic pain patients', I looked at the importance that the nurses and pharmacists that participated in the study attached to the experience that they had with this group of patients and how this influenced their practice. In this sub-category, prescribers indicated that while certain aspects of their practice were significantly improved by their sustained interaction with patients, some others were not.

4.3.7 Reflecting on practice

Professionally, before even becoming prescribers, there is awareness, among nurses and pharmacists, of the role reflection should play in their practice. For healthcare professionals, reflection refers to the process where they engage in a conscious and purposive process aimed at retrospectively examining aspects of their practice. Healthcare professionals are generally encouraged to regard reflection as an integral tool for improving their practice. Additionally, for nurses and pharmacists that decide to qualify as non-medical prescribers, as part of their training they are taught how to use reflection to determine the positives and negatives of an episode of consultation and prescribing that they have carried out. While training as prescribers, they also learn how to think about the way that they carried out their prescribing, critique their approach and use their experiences to better future prescribing practice.

In this category, I will explore attitudes to reflection that the research participants had within the context of non-medical prescribing for chronic pain. In doing this, I will examine what they considered reflection in their prescribing, why they reflected on their practice and how they did it. I discuss 'reflecting' under three main subcategories. In the first sub-category, I explore the importance to prescribing that non-medical prescribers attached to reflecting and the benefits they associated with reflection. In the second 'using others for reflection', I look at how non-medical prescribers perceived interaction with their colleagues as a form of reflection and how their approach and perception of prescribing environment influenced this. In the third sub category 'self reflection', I discuss the advantages and disadvantages that non-medical prescribers associated with reflecting on their practice on their own. I also look at some predisposing factors for self reflection that emerged from the data.

4.3.7.1 Reflecting on prescribing

The nurses and pharmacists that participated in the research showed a keen understanding of the concept of reflection in practice and how it contributed to their prescribing practice. There was awareness that as they were relatively new to prescribing and had sometimes been faced with cases where they had limited knowledge and/or experience, reflecting on episodes of care that they had carried out had the potential to help remedy these deficiencies in a quick and efficient manner.

"I do not think that anybody can be an expert at what they do and I think it is important that you always reflect on things, so if there has been something that has come in..., that you have maybe not been 100% sure about..." (Prescriber 21 - nurse in primary care with 5 years prescribing experience)

In the above example, this non-medical prescriber saw reflection as a means of increasing confidence in her prescribing and ensuring competence in the various specialist areas that she prescribed in.

Nurses and pharmacists who had qualified and were prescribing, demonstrated that even though as healthcare professionals, they may have been aware of the role that reflecting can play in professional practice, they attributed the concept of using reflection to improve their practice to their training as non-medical prescribers.

"I like bouncing ideas off people and about the thing I learned in the course was how to reflect on your practice and sometimes when you reflect you need to talk to people about it as well" (Prescriber 9 - community pharmacist with 5 years prescribing experience)

This suggests that these non-medical prescribers retained some of the principles, methods and objectives of reflection in prescribing, as it was taught to them during their training programme. It is also possible that they had gone on to adapt them to conform with their respective practice settings, in order to suit their needs.

In 'acquiring knowledge', we saw how non-medical prescribers used their knowledge and experience to develop their own 'personal formulary'. For some of the non-medical prescribers, reflection on their prescribing was a useful tool in building this formulary.

"I think it informs your own formulary that you are building up in your head. And you create anecdotal evidence about what works for certain people, certain groups of people that will make you more confident in the future to try that again. And the converse is true as well, why you think... no, that was the wrong choice, that caused that side effect and had an impact on their day - to - day life, you know, that kind of thing, yes." (Prescriber 22 - nurse in primary care with 3 years prescribing experience)

The 'personal or internal formulary' is a formulary that the non-medical prescriber developed through the knowledge that they acquired and the experience that they gained in the area of chronic pain. It is a dynamic formulary, because as new evidence regarding treatment became known to the prescriber, perhaps through CPD, the new evidence informed their 'personal formulary' and it was adapted to accommodate this new evidence. As such, the suggestion of the above prescriber, is not totally accurate, as we will see in the following subcategories, reflection involves challenging personal practice with the best evidence that the prescriber has access to.

4.3.7.2 Using Others for Reflection

This sub-category explores the practice where non-medical prescribers accessed other prescribers and engaged with them as a kind of 'sounding board' for reflection on their prescribing. The healthcare professionals that they approached may have been fellow non-medical prescribers, or other prescribers in their team. For non-medical prescribers who used their colleagues within their team for reflection, it was an indication that the non-medical prescriber considered their prescribing environment safe enough for this practice to take place.

This is illustrated in a quote from the first sub-category, where we saw a non-medical prescriber say that although she learnt how to reflect on her practice on the prescribing course, in practice she preferred to use 'bounce' her ideas off people.

"I like bouncing ideas off people and about the thing I learned in the course was how to reflect on your practice and sometimes when you reflect you need to talk to people about it as well" (Prescriber 9 - community pharmacist with 5 years prescribing experience).

As well as being an indication of how safe they felt in their prescribing environment, for a non-medical prescriber to 'use others for reflection', they would have been assuming the profile of the more innovative non-medical prescriber. In this instance, the more innovative non-medical prescriber was using this relationship to extend their practice. A more conservative approach would have been where the non-medical prescribers used this reflection relationship to reaffirm existing practice.

"... it just gives you the confidence to go and prescribe and reassures you that you are conducting your practice quite well and that influences your decision making in terms of making you confident to do that" (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

In some other cases, non-medical prescribers indicated that in 'using others to reflect', it was the unique viewpoint that prescribing colleagues from different professional backgrounds had, that was helpful to their practice.

"But I think as well within the organization, we have not had a lot of formal support, you know, it is like... we did have a prescribing group, which was very useful, it was with a pharmacist and we were able to ...discuss the situation, about things that have happened" (Prescriber 7 - nurse in primary care with 2 years prescribing experience)

For other non-medical prescribers, it was just the process of sharing with trusted colleagues, how they had carried out their prescribing and exploring other options that they may have used in that episode of care that was important to them.

"...even after your package of care for a patient and you are happy with it and the outcomes are good, it feels good to talk about cases and what you have done and what somebody else may have done differently, that's always beneficial" (Prescriber 10 - nurse in primary care with 6 years prescribing experience)

In general, it appeared that the non-medical prescribers that used others for their reflection were relatively 'open minded' about the approach to patient care. Using others for reflection also created a forum for prescribers to appreciate the strengths and value of the other members of their teams from a different professional background (as we saw earlier in 'team working'). In the above case, this forum was discontinued and this meant that the prescriber above could no longer derive the benefits that came from building these important relationships.

4.3.7.3 Self reflection

As well as using others to reflect, non-medical prescribers also engaged in self reflection. Self reflection in this context refers to the process where the non-medical prescriber carried out an introspective examination of their practice after they had completed the episode(s) of prescribing. In doing this, the main objective was to carry out an assessment of prescribing experiences retrospectively and use this to seek out new knowledge that would lead to a more efficient development in both their prescribing skill and their specialist areas.

"...or it sort of has raised some sort of fears of some concerns, but you actually make a note of it and then use it sort of reflect on it. And that again, whether it is reflecting on your own, or actually talking through the whole cycle with another colleague." (Prescriber 21 - nurse in primary care with 5 years prescribing experience)

However, for these prescribers, certain important factors are considered in determining whether they would self reflect, or use others for reflection. For instance some of the non-medical prescribers that participated in the research carried out their reflection quite often. In some cases, the frequency of their reflection meant that there were no other healthcare professional with relevant knowledge and experience in prescribing, in close proximity, to carry out this reflection with. In such cases, the non-medical prescribers engaged in self reflection.

"I think I reflect on a daily basis, perhaps a bit too much in some ways, I take it home with me and think about what I could do... what I have done and what I could do better." (Prescriber 22 - nurse in primary care with 3 years prescribing experience)

Apart from having access to knowledgeable and experienced colleagues with whom to share their prescribing experiences and practicing in close proximity to them, other factors are considered when deciding what type of reflection to carry out. Trust is another important factor that was considered, for instance, though a colleague may be knowledgeable and experienced in the relevant area of prescribing, they may not have been used because they were not considered trustworthy enough.

One of the benefits of self-reflection has been illustrated in the above example where the non-medical prescribers said that she reflected on a daily basis. For her, it meant frequent contact with new evidence in her areas of practice and as such, she was often in a position to acquire new knowledge and perhaps, even more importantly, by taking it home with her, she did it at her own time, at a pace that she dictated.

Sometimes, non-medical prescribers felt that due to the fact that they wanted to go deeper in their reflection, the more appropriate choice would be to self-reflect.

"...but I guess it's good in a way, because it gives you a chance to think about things, think about what kind of scenarios you are going to be in and how you can do it." (Prescriber 1 - pharmacist in secondary care with 3 years prescribing experience)

In the above case, the prescriber suggested that in his reflection, after carrying out a retrospective assessment of his prescribing and acquiring relevant knowledge, he would also want to visualize how he could use the new knowledge that he had gained in various hypothetical scenarios that he may have been likely to come across. This suggested a more thorough and time-consuming process, as such the likely model of reflection would be the self-reflection model.

Other non-medical prescribers that were more likely to carry out self-reflection were non-medical prescribers who were generally more conservative in their approach. By only engaging in self-reflection, they would no doubt gain associated benefits such as reflecting on their practice at a time and place of their choosing and the liberty to be as thorough as they wish. However, by deciding not to use others as a 'resource' to reflect, they also miss out on some important aspects of reflection such as being able to learn from others' experience (except when these accounts are published and they have access to the relevant journals).

4.3.7.4 Category summary

This category dealt with how non-medical prescribers perceived and approached reflection in their prescribing. The first 'reflecting on prescribing' explored how non-medical prescribers perceived reflection as a concept and what they used it for. Reflection was seen as a tool which could be used to improve competency and confidence, as well as aid in the development of their 'personal formulary'. In the second subcategory 'using others to reflect', a more innovative form of reflection emerged, where non-medical prescribers used relationships with colleagues seen as trustworthy and knowledgeable, to reflect on their practice. The last subcategory, 'self reflection', represented the form of reflection carried out internally by non-medical prescribers. Here their reflections were deeper, more frequent and could be carried out anywhere and at any time. This form of reflection was also used when prescribers were not confident enough to approach other colleagues, or in scenarios where they were not sure their prescribing environment was safe enough.

4.3.8 Health information technology

In this part of the study, two types of health information technology emerged as important to how nurses and pharmacists carried out their prescribing - electronic prescribing and accessing electronic health records.

Electronic prescribing can be defined as any system that enables prescribers to access 'knowledge-support' electronically, interact with decision-support regarding choice of treatment and medication, as well as facilitate communication with other relevant parties such as a community pharmacy within a network. Electronic prescribing systems also allow prescribers to carry out medication checks more efficiently and reduce errors due to illegibility of prescriptions.

Electronic health records in this context cover all systems that allow the health information of a patient to be retained in a form that can be processed by a computer. They allow healthcare professionals access to relevant medical histories, request, monitor and view laboratory test results and aid the maintenance of complete and up to date information pertaining to all aspects of a patient's health needs. They also allow healthcare professionals to access decision support software, local treatment guidelines and enable the detection of unwanted drug interactions.

In this category I explore the access that non-medical prescribers perceived they had to health information technology in the various settings in which they worked and how it affected both their decision to prescribe and how they actually carried out their prescribing. Here, I also explore the various measures taken by non-medical prescribers, who felt that their access to health information technology was inadequate.

The following subcategories 'prescribing electronically', 'accessing patients' records', 'affecting patient care' and 'coping mechanisms', emerged from the exploration of the non-medical prescribers perception of the aspects of their prescribing that were related to health information technology.

4.3.8.1 Prescribing electronically

Among the non-medical prescribers interviewed, there was a general agreement, that having access to electronic prescribing systems enabled them to carry out their prescribing practices for instance facilitate medication checks and generate prescriptions. Among non-medical prescribers in primary care, one of the groups that perceived they had less access to what they considered an optimum level of electronic prescribing systems were nurse prescribers in the community.

"Unfortunately no, we are supposed to be going onto SystmOne, which is the GPs use but at the moment, our services are a bit of a dinosaur really. It is all by phone and fax."

(Prescriber 8 - nurse in primary care with 1 year prescribing experience)

In addition to the lack of access that they felt hindered their prescribing, they also had to make additional effort to ensure that the record keeping aspect of their prescribing met the standards for good prescribing practices. This suggests that the efficiency of their prescribing practice may also be affected by this.

Although some of the non medical prescribers that prescribed in secondary care had the same level of access to electronic prescribing systems as their medical colleagues, in some cases, the facilities that they had access to, were also regarded as inadequate.

"I suppose what will make life easier, would be having software to prescribe, push a button and the script will come out just like you do when you're in a GP's surgery, so yes, I suppose that would make life easier. But that's the only thing really" (Prescriber 3 - nurse in secondary care with 2 years prescribing experience)

For these non-medical prescribers in secondary care, there was also an indication that they were aware of the limitations of their current system and that they felt an improvement of these systems would facilitate their practice.

Among the non-medical prescribers that were interviewed, those in primary care that prescribed from GP's surgeries not only had access to the same prescribing systems that their GP colleagues did, they also expressed satisfaction with how current their systems were and how this contributed to their prescribing practice.

"I can print them off, the other practice where I work in, they have a different system in there... EMIS, we also use... we now use SystemOne here and for both of them has always been able to print off prescriptions, it has not been a problem for me" (Prescriber 16 - nurse in primary care with 5 years prescribing experience)

In a few cases however, where they have had to prescribe outside the surgery, for instance, during a home visit, their access to these systems became limited and they have had to resort to hand writing prescriptions.

"...that is fine as well, there is nothing... as I say, that is all setup. I can print them off, so I don't have to worry about handwritten prescriptions, unless maybe I am on a home visit, sometimes. I do a handwritten prescription..." (Prescriber 16 - nurse in primary care with 5 years prescribing experience)

For the non medical prescribers interviewed, the best access to electronic prescribing systems for non-medical prescribers seemed to be in primary care, GP surgeries to be more specific. They not only had access to the most sophisticated systems, but they also considered their access equitable to that of their medical colleagues. This level of access that non-medical prescribers had in this setting contributed to how supported they felt that their prescribing environment was. This is illustrated by the following quote from a pharmacist who had experience of prescribing in the community for the PCT and also in a GP surgery.

"The biggest problem I had, which was reallydid stop me doing one of the services that I wanted to set up straight away, was that the PCT didn't know how to order my prescriptions, so when I was working in the GP practice, they could set the computer up so that my prescriptions were generated and they did that straight away." (Prescriber 9 - community pharmacist with 5 years prescribing experience)

For her, the fact that the PCT could not set her up to access their electronic prescribing system while she was working in that environment was a significant barrier to her practice. For her, the GP's surgery where she was set up straight away to have equitable access to electronic prescribing represented a safer environment for her to prescribe in because she could access relevant resources to support her prescribing.

4.3.8.2 Accessing patient records

Access to patient records, where information about a patient's care can be shared between the non-medical prescribers and other healthcare professionals responsible various aspects of a patient's care was a considered a key determinant to the way that patient's care was delivered. As such, it was felt that the speed and efficiency with which a patient received care could be influenced by the level of access that their non-medical prescriber had to relevant records and how communications were carried out with other healthcare professionals responsible for that patient.

For the non-medical prescribers who participated in the research, their perception was that within the NHS, access to patient records was varied and the manner in which information was shared was inadequate. These factors were seen as a significant barrier to their prescribing practice.

"I think that is my main challenge in the area I work in, to get the GP, inpatient consultant, outpatient consultant and me all singing from the same hymn sheet. As prescribing goes, it is very difficult especially with IT systems with the way they are at the moment." (Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

Non medical prescribers specified some areas which they felt may have contributed to these inadequacies. These areas of concern include the lack of standards regarding types of information technology systems used within the NHS and the varying levels of access that these non-medical prescribers had through their organisations. As a result, non-medical prescribers felt that they were sometimes kept out of their patient's information loop, despite being responsible for some crucial aspects of that patients care.

"We referred this person to the chronic pain team, now somewhere in some loop, it has been missed out that I have been involved in the prescribing and the fact that I prescribe in the community for this person, so I never got any information back from the pain team at all about what they were doing..., I have written to them and I am waiting to hear." (Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

Even in cases where they felt they were always kept in the loop with respect to the treatment their patients were receiving, there were still problems with access to patient records. In this case, non-medical prescribers had access to some information to support their prescribing, but the information that they had access to, was not always considered adequate. For instance, this prescriber felt that although when patients were referred to him he also got a summary of their records, better access to their records, for instance to laboratory results would have enabled him to prescribe better for his patients.

"Well the main thing that we haven't got, that would make things better is access to patient notes and also access to patient blood results ... when people come to me, I have a referral which is usually written by the nurse, which is a summary of their background, again a snapshot, it's not a complete list of background medical history." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

As such, some non-medical prescribers felt that if they had better, more equitable access to patients' records, for instance, the same level of access as their medical colleagues, their prescribing would be improved. This was found to be the case in some scenarios. For instance these prescribers had equal access to patients' records, as their medical colleagues and expressed satisfaction with the way information was shared in their prescribing settings.

"We use proton, which is an old system and probably good... and the organization has recognized that and is working for that to be upgraded, all the other systems that are in the organization are excellent.....absolutely, yes, we have access to all patient records, clinic

notes..." (Prescriber 15 - pharmacist in secondary care with 3 years prescribing experience)

"...because we are on SystemOne, we converse by e-mail and we both have access to the records and the clinical management plan that is on there" (Prescriber 5 - community pharmacist with 3 years prescribing experience)

However, in some other establishments, even when non-medical prescribers and their medical colleagues had equitable access to patients' records and were able to share information electronically, there were still some concerns. For instance, there were still questions about how complete and up to date these records were.

"We do have a computer program that gives access to patient's records and we have been using that for about 18 months or so, however, service user records do not go...they are not entirely on the system, so there are still a lot of hand-written notes flying around the Trust and in clinics and in outpatient clinics and various sort of places. So we do not always have up to date records of the service user." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

Another area of concern that emerged in this area was the various measures that non-medical prescribers had to resort to, to update patients' records. Some non medical prescribers, who did not have access to electronic health records of patients, still have to resort to using the phone and fax to update changes in the patients' medical status.

"I would have to drive to the clinics and fax something off, or I ring the girls at admin here and say will you send a fax to Doctor. So-and-so, this is what I have altered."(Prescriber 8 - nurse in primary care with 1 year prescribing experience)

The nurse prescribers that had to utilise the above measures to update patient records felt that they were exposed to significant risk regarding this aspect of their prescribing. Also the additional effort involved in making sure that these records were updated in a timely manner influenced the efficiency of their prescribing.

4.3.8.3 Affecting patient care

In the preceding sub-category I briefly mentioned that the level of access to relevant records that non-medical prescribers had and the way they communicated with other healthcare professionals who shared responsibility for a patient could influence how that patient received services. In this sub-category, I further explore these consequences, with respect to patient care, which resulted from limitations perceived by non-medical prescribers, in their access to

prescribing systems and patients' records.

The level of access, non-medical prescribers had to prescribing systems and electronic health records within their organisations, was perceived to have an effect on the service that they provided for patients with chronic pain. This quote illustrated a good example of how this happened in practice, whereby due to the incomplete and outdated nature of the available patient records, there was a potential for delays in the patient's access to treatment.

"...we do not always have up to date records of the service user, so I think that that could be improved. There are times when...it was only last week that somebody had rung me from a ward, someone had been admitted and they didn't have access to the medical notes, they were not clear on what the current prescription was. We had a discharge summary from about two weeks before that detailed the gentleman's prescription, but again, it was unclear if it was still current or not." (Prescriber 2 - nurse in secondary care with 2 years prescribing experience)

In this example where the nurse prescribed in secondary care, he perceived that in addition to delays for patients, if at the point of prescribing, the medical notes still had not been located there was an increased chance of committing a prescribing error. Similarly, in those cases where non-medical prescribers have been left out of the information loop regarding a patient's care, it meant that that the patient was at risk of being prescribed for by a prescriber that may not have had a complete picture of their health status.

"It delays things massively and also when my patients are often admitted to hospital, for short admissions and they come back out, everything has changed and I am not always informed and also things that should actually not have been changed in the first place". (Prescriber 6 - pharmacist in primary care with 5 years prescribing experience)

In this example, the pharmacist prescribed in primary care. The limitations in communicating with other healthcare professionals equally had the potential to cause delays. In a few cases, the problems associated with being able to prescribe electronically and having adequate access to patient records, limited their ability to practice so much that these non-medical prescriber decided not to prescribe for chronic pain.

"Incidentally that is one of the reasons why I do not generally get involved in chronic pain prescribing, ..., so if they have respiratory problems, I don't have any information on that, if they are on rheumatology, I don't have anything on that at all and so I would feel uncomfortable because of my lack of information, I would feel that I don't have a background information to make any prescribing decision. (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

Although the pharmacist prescriber above admitted to having a considerable level of expertise with respect to the conditions and medications for chronic pain, he would not prescribe in that area due to the fact that his access to relevant records were perceived to be inadequate. He also admitted that in his practice, he had seen patients.

"So people do... I know people do have chronic pain, sometimes they will discuss it and sometimes other patients won't discuss it, I personally will try not to get too involved with chronic pain side of things, at the moment." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

These were patients who due to a relationship developed over time and the level of expertise that they perceived that the non-medical prescriber had, expected him to be able to prescribe for their chronic pain. This pharmacist did not meet these expectations by prescribing for their chronic pain. As such they had to expend further resources in terms of time, effort and money to go to other healthcare professionals to resolve their pain.

In the way the perceived lack of access discouraged non-medical prescribers for prescribing for chronic pain patients, when their access to prescribing systems and patient records were facilitated, there was evidence that this improved the way that they were able to provide services for their patients.

Earlier on, we saw how being facilitated to prescribe electronically in a GP's surgery, contributed to how safe this prescriber felt in her prescribing practice. For her, electronic prescribing not only aided her development as a prescriber, it also enabled her to prescribe for her patients in a more efficient manner.

"The biggest problem that I had, which was really ...did stop me doing one of the services that I wanted to set up straight away, was that the PCT didn't know how to order my prescriptions, so when I was working in the GP practice, they could set the computer up so that my prescriptions were generated and they did that straight away" (Prescriber 9 - community pharmacist with 5 years prescribing experience)

In the category 'motivation' we saw patients' expectations emerge as a significant motivation to nurses and pharmacists, qualifying and practising as prescribers. We also saw in 'nature of the prescribing environment', the importance attributed by non-medical prescribers to the development of a frank and trustworthy relationship with their patients. These two issues further complicated the way patient services could have been affected as a result to the non-medical prescribers' limited access to prescribing systems and patient records. On the one hand,

despite being able to, the prescriber may have adopted a more conservative approach and declined prescribing for chronic pain, preferring to refer their patients to other prescribers with better access to the medical records. On the other hand, they could have been more innovative and engaged in 'coping mechanisms' to ensure that their patients' chronic pain was resolved.

4.3.8.4 Coping mechanisms

In this sub-category, I will explore the coping mechanisms that non-medical prescribers engaged in, in order to be able to prescribe for their patients. In the context of this study, coping mechanisms refer to the various measures that non-medical prescribers used in overcoming the barriers that they were faced with in their prescribing practice due to limited access to prescribing systems and patient records. Coping mechanisms were mostly used by the more innovative prescribers. The more innovative approach was to manipulate aspects of their access to prescribing systems and patient records to ensure that they were able to prescribe for their patients. Their exploration of these available options was always perceived to be within the boundaries of legitimate prescribing practices.

In the category 'approaches', I showed how a pharmacist prescriber used the 'back door' to 'manipulate' the access to patient records that he needed to ensure that his environment was safe enough for his prescribing.

"...well the main thing that we haven't got, that would make things better is access to patient notes and also access to patient blood results, which I can access the blood result from the hospital for the patients that I see in primary care, but that is a bit of a back door route, if I was working in primary care, I wouldn't have that access. That will make my job much more difficult." (Prescriber 4 - pharmacist in primary care with 5 years prescribing experience)

This prescriber was already entitled to this access, but not within the setting from which he was prescribing. Making sure that he had the relevant information to enable him to prescribe for his patients meant that he had to frequently go back and forth, at his own expense, to this 'back door access' each time the need arose.

In certain cases, even performing the more mundane, yet important aspects of prescribing proves to be somewhat challenging for non-medical prescribers, due to the limitations in access that they have. Earlier on, while exploring the level of access that non-medical prescribers had to patients' records, we saw that this prescriber had to resort to what most would have considered cumbersome and outdated measures, in updating records after she prescribed.

"I would have to drive to the clinics and fax something off, or I ring the girls at admin here and say will you send a fax to Doctor So - and - so, this is what I have altered."(Prescriber 8 - nurse in primary care with 1 year prescribing experience)

She went on to admit that she was aware of the personal sacrifices that this entailed and the limitations that engaging in these cumbersome and outdated measures had on her practice.

"....it doesn't stop me doing it, but it is a bit of a nuisance, in this day and age isn't it, you know, but I have to have some evidence of what I have done and the GPs to have it."
(Prescriber 8 - nurse in primary care with 1 year prescribing experience)

However, she also considered making sure that her colleagues knew what she was doing, were updated with respect to the patient's health status and this meant that she would be seen as a trustworthy prescribing professional. In her case, we can see that both the desire to ensure that her patients were taken care of, as well as maintain the safety of her prescribing environment, have come into play.

In the two cases, we have seen these two prescribers move out of what could be considered their 'comfort zone' with respect to accessing prescribing systems and patient records. They were still within what they considered legitimate and safe prescribing. Had they decided to adopt a more conservative approach, they may have 'copped out' until they perceived appropriate access to relevant systems.

4.3.8.5 Category summary

Non-medical prescribers' access to electronic prescribing systems varied depending on where they prescribed from and it was perceived that better access to these systems would facilitate their prescribing practice. Regarding patients' records, non-medical prescribers were excluded from communication and perceived inadequate access to relevant information. Even when there was equitable access to records, there were concerns regarding how recent and complete these records were. Nurses and pharmacists felt that the level of access that they (the prescriber) had to prescribing systems and patient records affected the level of care that their chronic pain patients received. Delays to when patients got treated for their chronic pain were identified as an example as to how patient care could be affected. In this category, it emerged that in certain cases non-medical prescribers overcame limitations in access by going beyond their 'job descriptions' to ensure that they could prescribe for their patients. Although this (innovative) group of prescribers went outside their normal scope of practice to facilitate their prescribing, they still remained within legal boundaries

4.4 Discussion

This section discusses the findings of the project that explored nurses' and pharmacists' views and experiences regarding how prescribing for chronic pain is carried out. This project aimed at answering two of the three research questions proposed to address the knowledge gap revealed by literature review in the second chapter. These were:

1. What are the views and experiences of non-medical prescribers (nurses and pharmacists) in the treatment and management of chronic pain?
2. In the treatment and management of chronic pain, what are barriers and facilitators influencing the implementation of non-medical prescribing?

Following the grounded theory exploration, seven categories emerged which explained how nurses and pharmacists prescribed for chronic pain and the barriers and facilitators perceived in their practice. Together they indicated the core category of this work 'safety and support within the prescribing environment'. The categories that emerged in this chapter are discussed within the context of the available literature in the study area.

The theory 'safety and support within the prescribing environment' that emerged from this project together with the integrated discussion that links these findings to those of the other two projects (chapter 5 and chapter 6) is presented in chapter 7.

4.4.1 Approaches

Non-medical prescribers employed two main approaches in the way they engaged with various aspects of their prescribing practice - the innovative and the conservative approach. For a prescriber who adopted the innovative approach, there was usually a desire for a more 'adventurous' exploration of processes and protocols guiding their practice. These prescribers were more likely to 'push boundaries' and engage in relatively new processes or practices to achieve their prescribing goals. On the other hand, the prescriber who adopted the conservative approach, usually placed more emphasis on ensuring that they practised within recommended guidelines with respect to patient safety and competencies required to practice in a specific area. Prescribers adopting the conservative approach were also more likely to be stricter and more formal in interpreting relevant guidelines with respect to how they related to their peers and how they carried out their prescribing for their patients. Although non-medical prescribers that adopt these differing approaches may have similar goals (usually providing adequate care for their patients and enhancing their skills), these two approaches do not often involve using the same

steps to achieving these objectives and may actually be seen by some as being diametrically opposed in their mechanisms of action.

The notion that non-medical prescribers could differ in their approaches to prescribing within a particular setting is novel. Until now, no other study on non-medical prescribing for chronic pain has theorised that nurses and pharmacists varied in how they approached their practice. The closest existing theory to this is the dissemination of innovation theory (Rogers, 2003). This theory describes the processes involved when an individual encounters a new idea. It expounds the decision making processes and attitudes involved and suggests how these influence the level of acceptance/adoption or rejection made by that individual regarding the new idea. There is evidence however that this concept is not new. Almost half a century ago, Coleman Katz and Menzel (1966) looked at the processes involved in doctors' adoption of a new drug and were able to determine which doctors were patient, research or professionally oriented. Using this categorisation, they were able to describe attributes of those more likely to prescribe tetracycline. Roger's (2003) categorisation of individuals ranges from innovators at one end of the continuum, to laggards at the other end. His description of innovators as individuals, who were more willing to challenge the system, is similar to the innovative approach adopted by non-medical prescribers in this study. None of Roger's (2003) other categories quite captures the non-medical prescribers who adopted conservative approach in this study. Furthermore his theory focused on individuals with respect to how they adopted new innovations, whereas the findings of this work suggest that the approach adopted determined how nurses and pharmacists prescribed under certain conditions, rather than describing the profile of an individual prescriber.

This new way of looking at how non-medical prescribers approach their prescribing practice begins to give an insight to why some nurses and pharmacists would prescribe in certain scenarios and others would not. It also starts to explain why some non medical prescribers interacted with the various factors within their prescribing environments to ensure they could prescribe, while others let the extant circumstances and conditions determine whether to prescribe or not.

4.4.2 Motivation

Even before nurses and pharmacists become non medical prescribers, various factors within their professional environment exist which motivated them to gain this qualification and perhaps go on to prescribe in their areas of practice. The findings from this work showed that motivation played a significant role in the qualification as prescribers and subsequent use of these prescribing rights. The way a healthcare professional was motivated also played a role in determining to a certain extent, how non-medical prescribers would eventually approach their

prescribing responsibilities. 'Liberating prescribing practice' and 'Having more skill' emerged as the more dominant motivators probably because they enabled them take responsibility for their prescribing, be recognised for their contribution for their patients' treatment and plan their career progression. 'Liberating prescribing practice' as a motivator however seemed more significant in the initial implementation period of the non-medical prescribing policy. 'Meeting expectations', as a motivator was not as dominant as the earlier two, but it was important nonetheless. In addition to motivating nurses and pharmacists, it gave an early indication of the level of importance these professionals attributed to relating with relationships with their peers, patients and senior colleagues. Although these motivators emerged and have been discussed as separate factors, there was some indication that nurses and pharmacists, in practice, could be motivated to become non-medical prescribers by more than one of these factors at the same time.

The evidence from this project of the study suggests that there is some connection between the factors that motivate non-medical prescribers and certain aspects of their prescribing practice after they qualify. For instance, the approach that they may choose to adopt when they encounter certain barriers in their prescribing practice, may depend on some of the more dominant motivators they were influenced by. Non-medical prescribers who expected to be rewarded after qualifying may be predisposed to adopting a more conservative approach in their prescribing environment unless financial incentives were introduced. Also nurses and pharmacists who were primarily motivated to become non-medical prescribers as a means of gaining more skills were more likely to be innovative in the way they learned from and mentored other through networks they belonged to.

In the existing non-medical prescribing literature, other studies have also found that nurses and pharmacists found that prescribing allowed them use their skills better for their patients, be more responsible for the role they played in the providing healthcare services and be adequately recognised for their contribution. The pharmacists in Weiss, Sutton and Adam's study (2006) described supplementary prescribing as 'rewarding'. Nurses in Scotland described prescribing as a means of improving their professional development and achieving job satisfaction. They also associated prescribing with being better recognised and respected (Watterson et al., 2009). Similarly, the nurses in Fisher's study (2009) reported that they felt that they were better respected by pharmacists because they could now prescribe.

Although not as dominant as 'liberating' and 'meeting expectation', 'being rewarded' has also been identified as important in how non-medical prescribers were motivated. More than half of the pharmacists in one study reported that not being remunerated for their prescribing was a barrier to their practice (Dapar et al., 2010). Although the findings from this study suggest that 'being rewarded' is important, it does not support the level of significance that Dapar and

his associates suggest. Another perspective in the literature was that although financial reward was a motivator, it was not important (Warchal et al., 2006).

An important finding in this part of the study is the discovery of a factor that up until now was not considered important to how nurses and pharmacists were motivated to qualify as prescribers. It has not emerged in any of the existing non-medical prescribing literature that nurses and pharmacists found the expectations of their patients, their peers and their senior colleagues important in their consideration to become prescribers. The emergence of this new motivator buttresses the importance of relationships developed by non-medical prescribers in their prescribing environments. It also gives an important insight into characteristics of nurses and pharmacists who decide to become prescribers. In addition to motivating nurses and pharmacists, the factors identified gave an insight to approaches non-medical prescribers adopted and as well as how important they considered relationships to their practice.

4.4.3 Acquiring knowledge and reflecting on prescribing

Non-medical prescribers in this study demonstrated that although engaging in CPD remained important to the way they acquired knowledge for their practice in chronic pain, they also learnt informally from their colleagues and through team-working. Also, it emerged that non-medical prescribers were increasingly constrained for time needed to both organise and engage in knowledge acquisition processes. This seemed to be due to the fact that these nurses and pharmacists in addition to prescribing were expected to continue other professional duties they had prior to prescribing. Additionally, they were expected to keep acquiring the knowledge required to maintain competence in prescribing and these other professional areas.

This study also gave an insight to how non-medical prescribers in the area of chronic pain built up the knowledge component of their competence. Non-medical prescribers created personal or internal knowledge armamentariums which they built up incrementally, using various learning processes. There was an indication that non-medical prescribers engaged in formal (for instance, organised courses) or informal (for instance, learning from colleagues) knowledge acquisition processes as a means of developing and maintaining competence. An important tool employed by non-medical prescribers in building up their internal knowledge armamentariums was reflecting. Non-medical prescribers demonstrated that the practice of reflection learnt during their training as prescribers was used in their prescribing to among others, acquire knowledge, gain competence and plan CPD. In practice, depending on the peculiarities of their needs and environment, prescribers either self reflected, or used others to reflect.

Non-medical prescribers also showed that they varied in their approach, regarding how they acquired knowledge. Although pharmacists appeared more innovative in researching and

organising their CPD, it may have been as a result of their limitations to accessing courses during paid work time. Findings suggest that depending on their prescribing environment, informal learning using knowledgeable colleagues was useful to non-medical prescribers' practice. The perception that their prescribing environments were safe and that their colleagues could be trusted was a determinant of whether non-medical prescribers would consider using others to reflect.

Other researchers have also identified a number of the issues discussed here. In two recent studies, time constraints have also been identified as a barrier to non-medical prescribing (Shrestha et al., 2011; MacLure et al., 2011). Although one of the studies explored both nurse and pharmacist prescribers' views (Shrestha et al., 2011), this study's focus on chronic pain even goes further to identify that this problem exists within this specialty. Furthermore, by comparing nurse and pharmacist prescribing, this project identifies limitations pharmacists had to CPD. Regarding access to formal CPD, the only studies found with similar themes, had explored only nurse prescribers' views. Even then, there were indications that comparability across specialties was not feasible. Although a national survey of nurse prescribers' CPD needs found significant limitations in access to formal CPD (Latter et al., 2007), another which focused on nurse prescribers' CPD needs in diabetes, suggested that almost all prescribers in this area could access relevant courses (Carey and Courtney, 2009). One study in a related area had some similar findings to that of this study. Otway's (2001) findings about the benefits of informal reflection and sharing experience, on nurse prescribing, reflect the views expressed by non-medical prescribers in this study.

In this area, this project gives an insight to how nurses and pharmacists who prescribe or intend to prescribe for chronic pain build up the knowledge necessary to gain and maintain competence in this area. In addition to uncovering the importance that nurses and pharmacists who prescribe for chronic pain attribute to CPD activities and informal learning, it also identifies facilitators and barriers that these professionals found in their practice. Furthermore, exploring both nurses' and pharmacists' views and experiences regarding prescribing for chronic pain, enabled an unforced emergence of relevant themes from the grounded theory phase. This enabled the articulation of the similarities and differences of the knowledge acquisition needs of these two professional groups.

4.4.4 The role of gaining experience

'Gaining experience' emerged as important for non-medical prescribers, perhaps probably because prescribing is a relatively new professional direction for nurses and pharmacists. The findings in this category revealed further differences between nurse and pharmacist prescribers.

Although both agreed that in their prescribing for chronic pain, gaining from others' experience, such as mentoring was valid, it was nurse prescribers who were more likely to do so in practice. Also there was little evidence of structured mentoring relationships among non-medical prescribers that practised for chronic pain. The types of experience considered most important by non-medical prescribers for chronic pain were experience in drugs and experience with patients. Pharmacist prescribers who had accumulated significantly more medication experience due to previous professional background were advantaged compared to nurse prescribers. Although some nurse prescribers seemed apprehensive with respect to medication, with more experience, they seemed to become more confident. In prescribing for chronic pain, the second type of experience was considered just as important. 'Experience with patients' revealed the importance prescribers attributed to relating with their chronic pain patients. Evidence suggests pharmacists considered inexperience with patients more of a barrier to their prescribing for chronic pain, compared to lack of medication experience.

Turner's (2011) description of the impact of a peer group set up to supervise non-medical prescribers in one NHS Trust is similar to some of the important themes that emerged in this area of the research. The support system put in place in that Trust by the peer supervision group is similar to the mentoring model through which non-medical prescribers learnt from others' experience, in their prescribing for chronic pain. In other areas related to experience, Bradley and her colleagues (2007) found that about a quarter of qualified nurse prescribers had not yet started prescribing in part because, they may have been overly cautious and aware of the safety implications of their prescribing. The findings of this study help to explain why this is the case. Among our research participants, those nurses with little medication experience were also very cautious, whereas nurses who had considerably more experience with medication exhibited no such traits.

Regarding how pharmacists and nurses differed in their prescribing for chronic pain, some key findings of this study are similar to those of an earlier study. Buckley and associates (2006), while comparing professional perspectives in non-medical prescriber within an NHS Trust, found that while nurses' experience with patients was perceived to be an advantage to their prescribing, they were seen as being limited in their knowledge of the pharmacological aspects of prescribing. On the other hand, pharmacists, who were acknowledged as medication experts, were perceived to be limited by their lack of patient experience and diagnostic skills.

This work suggests that these issues are also important in nurse and pharmacist prescribing for chronic pain. Although the findings in this area are not new, the grounded theory approach used in this project of the study confirms the relevance of these findings by adopting a methodology previously unemployed in this area and for this population.

4.4.5 Health information technology

In this area, the two important themes that non-medical prescribers identified as important to their practice were being able to prescribe electronically and having access to patient records. The evidence from this study suggested that regarding being able to prescribe electronically, non-medical prescribers in the community were most likely to have the least access, while those practising in GP surgeries were likely to have the most. An interesting finding in the way non-medical prescribers approached health information technology, was the influence of the perception of access and equity. For nurses and pharmacists, it was not just access that was important to them. These professionals felt safe and supported in their prescribing if they perceived that they had the same level of access as their medical colleagues. However, nurses and pharmacists had further concerns regarding how recent and complete patients' records were. Non-medical prescribers also perceived that the kind of access that they had, both to patient records and prescribing systems had the potential to influence the kind of care that they were able to provide for their chronic pain patients. As such, there was some evidence that depending on the approach adopted, some non-medical prescribers routinely made personal sacrifices and developed strategies to cope with perceived barriers in this area.

Other researchers in non-medical prescribing have also considered a few of the issues discussed here. Warchal and colleagues (2006) also found that access to patient records was considered a barrier by supplementary prescribers in community pharmacy. For nurse prescribers, Bradley and colleagues (2007) found that although they regarded IT systems as helpful to their prescribing, there were limitations in access to these systems, particularly for prescribers within the community. This also mirrors findings from Scotland where an evaluation revealed similar limitations in access to systems required to computerise prescriptions (Watterson et al., 2009). More relevant to this study, Stenner and Courtenay (2007) found that among nurse supplementary prescribers in pain, there was inequitable access to patient history and records. They also found that the research participants felt that this had an influence on the overall picture they had of their patients care.

Non-medical prescribers in this project of the study indicated that access to prescribing software and patients' records was important to their practice. Adequate and equitable access to prescribing software and patients' records were regarded as facilitators to prescribing for chronic pain. The findings also suggest that non-medical prescribers may have developed strategies to overcome barriers created by lack of access.

4.4.6 Nature of the prescribing environment

The emergence of this category represents a novel way of understanding the theoretical basis of non-medical prescriber's relationships and related aspects which influence how they perceive their prescribing environment.

4.4.6.1 Relationships and teamwork

The first three 'developing relationships with colleagues', 'relying on colleagues' and 'team-working', are strongly related to each other and are indicative of the role non-medical prescribers perceive that these play in the development of their prescribing practice. These first three components embody the relationship building processes that non-medical prescribers undertake, the tools they use in building them and the kind of qualities expected within these relationships. After qualifying, non-medical prescribers begin to develop new relationships, to support their prescribing practice. Even when nurses and pharmacists begin to prescribe in settings they worked in prior to prescribing, the evidence suggests that they still have to build these relationships. An important relationship building tool that emerged in this study was the multi disciplinary team. Non-medical prescribers in the study saw multi disciplinary teams as supportive to their relationship building processes. Teams helped non-medical prescribers assess developing relationships and ensured that their skills were useful to achieving team goals. This was especially important in the light that some non-medical prescribers still felt that their colleagues' awareness of their skills and capabilities were inadequate. Although multi disciplinary teams were seen as useful, the characteristics of the team were also important, as depending on the structure and functioning of the team, the non-medical prescriber's development could either be facilitated or hindered. Non-hierarchical teams within which duties were clearly delegated and debate not perceived as 'overly aggressive' were seen as important facilitators for non-medical prescribing.

Another important finding of this study relates to the manner in which the non-medical prescribers related to their colleagues within their teams and prescribing environments. Non-medical prescribers in the study wanted to be sure that they could trust and rely on their colleagues for support in their practice especially for knowledge and experience. The trust bestowed on their colleagues was also expected to be reciprocated by the non-medical prescribers. They perceived that their colleagues in turn expected them to have the relevant skills to carry out their prescribing duties and to develop their practice to such a level that they could provide knowledge and experience support for other colleagues.

Other researchers have considered a few of the components discussed here. Warchal and associates (2006) identified that the lack of support expressed by primary care supplementary prescribing pharmacists had the potential to influence their prescribing practice. Similarly, Weiss and colleagues (2006) found that good working relationships with colleagues facilitated

prescribing and that the supplementary prescribing pharmacists in the community who had less team working experience felt isolated compared to their colleagues in hospital practice. Similar findings had also been reported with nurse prescribers. A survey of extended formulary nurse prescribers suggested that up to a third reported not having enough support and supervision for their prescribing (Latter et al., 2007). These three studies were however carried out with extended formulary and supplementary prescribers. Due to the less collaborative nature of independent prescribing compared to supplementary prescribing, it could be argued that this group would require less support. Findings from this work suggest otherwise. The majority of the participants in this study were qualified as and used independent prescribing, but still expressed the need to interact with supportive colleagues within a team structure.

Until recently, the role of trust among colleagues has remained a little researched area within non-medical prescribing. In Fishers' (2009) exploration of relationships in nurse prescribing, there was some evidence that trust among colleagues contributed to the feeling of being supported. The team pharmacist reported trusting that the nurse prescribers had the appropriate skill for their prescribing responsibilities and the nurse prescribers felt adequately supported by the pharmacist. He however also found that issues concerning power, control and bureaucracy within teams may lead to problems in relationships. In another study that investigated pharmacy led management of chronic pain in primary care, GPs interviewed expressed some level of trust and respect for their pharmacy colleagues (Bond et al., 2011). This project however goes further in establishing the role that trustworthiness plays in the prescribing environment, in terms of ensuring that their environment was supportive and that skills within their teams were used efficiently. The findings from this project indicate that for both nurses and pharmacists prescribing for chronic pain across various care settings, working with colleagues regarded as trustworthy and supportive influenced how they perceived their practice.

4.4.6.2 Interacting with management

This component of the non-medical prescriber's prescribing environment reflects how their interaction with management was seen to influence their prescribing practice. The relationship that non-medical prescribers had with two main management figures, the non-medical prescribing lead and the clinical leads were seen as pivotal to how supported nurses and pharmacists felt in their prescribing environment. In this study, there was an indication that non-medical prescribing leads were perceived as limited in their awareness of the barriers that nurses and pharmacists may come across in specific practice settings. It was felt that a non-medical prescribing lead with first hand experience of the two existing models of non-medical prescribing would better understand their problems and be easier to relate with.

For non-medical prescribers that worked in teams where there was a clinical lead, there was also a perception the clinical lead's level of awareness, of both the non-medical prescribing policy and roles of the non-medical prescriber, could either facilitate or hinder their practice. In

addition to this awareness, belonging to teams where the clinical leads were supportive of non-medical prescribing was seen as a significant facilitator to their prescribing practice. Non-medical prescribers felt that their prescribing practice would be facilitated if the support provided by management was more specific to their needs rather than amended from support provided for medical prescribers that these managers were more used to providing.

Some of the existing literature has explored the views of doctors and managers and how these relationships may influence non-medical prescribing. Thrutle (2009) focused on health visitors in an NHS Trust and found that nurses felt let down by inconsistencies in non-medical prescribing policy adopted by management and this meant they felt unsupported in their prescribing. More recent findings in another Trust found that almost half of the doctors who participated in their evaluation of non-medical prescribing had concerns about boundary encroachment (Sreetha et al., 2011), suggesting that doctors still viewed non-medical prescribing with some suspicion. On a much wider scale, Watterson and associates (2009) in the evaluation of nurse prescribing in Scotland, found that while some doctors and GPs had been identified as supportive of non-medical prescribing, a significant number of Trusts as well as specialties did not have non-medical prescribing leads. Similarly, in an even more comprehensive evaluation of non-medical prescribing in England, it was found that the level of awareness of non-medical prescribing among doctors was suboptimal. Also, it emerged that some doctors were still unclear about aspects of nurse and pharmacist prescribing (Latter et al., 2010). Although the findings of this study reflect some of the findings in existing literature within the specialty of chronic pain, it drills down to identify the key management figures that were seen by nurses and pharmacists as most influential. It also establishes that maintaining a relationship with these figures was crucial to how safe they felt in their prescribing. Furthermore, it identifies important attributes that non-medical prescribers considered desirable for individuals holding these positions.

4.4.6.3 Relating with patients with chronic pain

In the first chapter of this thesis where chronic pain was introduced, the literature showed that the standard of care regarding treatment and management of chronic pain was less than optimum. The non-medical prescribers in this study agreed with this evidence and admitted that within the environments that they practiced in, similar problems existed in the way that chronic pain was managed. They however felt that non-medical prescribing had the potential to improve the way that care was provided in this area.

An important area that nurses and pharmacists identified as a facilitator to how efficiency and quality of care could be improved in this area was the development and maintenance of a relationship between the prescriber and the patient. Being open and trustworthy was seen as being integral to the development and maintenance of these prescribing relationships.

From the non-medical prescribers' perspective, achieving successful prescribing relationships with patients with chronic pain was beneficial to their practice because they depended on their patients for certain important aspects of their treatment plan, for instance diagnosing the nature, duration and intensity of the pain. The non-medical prescribers in this study also identified the implications of failing to develop and maintain prescribing relationships with their chronic pain patients. Non adherence and experimenting by the patients were some negative outcomes associated with not building a relationship and disregarding the patient as a prescribing partner. Despite being aware of the advantages and disadvantages associated with partnering with their chronic pain patients, developing prescribing relationships was not always possible for non-medical prescribers. Time constraints, work load commitments and perceived harm to the patients were some factors perceived to influence the nature of the relationship developed between the prescriber and the patient.

Understanding the specific needs of an individual patient and relating with that patient based on the understanding of their needs is not a new concept in health care. 'Knowing the patient' is a well known concept in nursing whereby the nurse is encouraged to acquire an understanding of their specific patient as a unique individual. This approach has been associated with an increase in the efficiency with which nursing care is provided for that patient and consequently an improvement in clinical outcomes (Radwin, 1996). Buckley and associates first linked this concept with non-medical prescribing when they explored stakeholders' views on non-medical prescribing in one NHS Trust. Their study found that there were fears regarding how well pharmacists would engage with this concept in their prescribing (Buckley et al., 2006). Some aspects of their findings regarding pharmacists' lack of experience with patients were also applicable to how pharmacists in this study regarded their experience with chronic pain patients (this has already been discussed in 'gaining experience'). However, despite the lack of patient experience that limited pharmacists, this project demonstrated that they (as well as the nurses) nevertheless had a keen understanding of the mechanisms involved in developing these partnerships, as well as the associated benefits (or pitfalls-if they failed to achieve a relationship).

Some of the other benefits associated with developing prescribing relationships with patients have also been identified by others. Although Stenner and Courtney (2008a) explored only nurse prescribers' views, they also found that good relationship and communication between nurses and the patients facilitated the way that acute and chronic pain were managed. The factors non-medical prescribers in this study identified as barriers to their ability to develop these relationships have also been identified in other studies. Though not specific to time needed to develop prescribing partnerships, pharmacists in Shrestha et al (2011)'s and Warchal et al (2006)'s studies reported limitations in their prescribing due to the time they were able to spend with patients.

The findings from this project show that the prescribing relationship between the patient and the non-medical prescriber is considered an essential component in prescribing for chronic pain. It also shows that both nurses and pharmacists regarded this partnership as important and knew the consequences to their practice of either developing these relationships, or disregarding the patient as a prescribing partner.

4.4.6.4 Second checking

'Second checking' relates to how pharmacists perceived that their practice was affected by the measures in place for their prescriptions to be screened, if and when they decided to produce them. For the pharmacist prescribers that participated in the study, the uncertainty about the protocols in place for how prescriptions would be checked after they had been generated by themselves or by other pharmacists emerged as a cause for concern. While some pharmacists identified the source for this as their own particular establishment, others felt that the national guidelines in place were either not clear enough, or did not cover all the settings from which pharmacists prescribed. In many cases, particularly with hospital pharmacists, this was seen as a threat to how they perceived their prescribing environment and in some cases even prevented them from using their prescribing qualification within the specific setting they practised from. In the cases where they did not prescribe, there were either no protocols set up to address 'second checking' issues, or pharmacists conscientiously declined to prescribe because they felt that these protocols were not robust enough. These issues were seen as having a negative influence on how pharmacists perceived their prescribing environment, their ability to provide services for patients and the efficiency of the NHS.

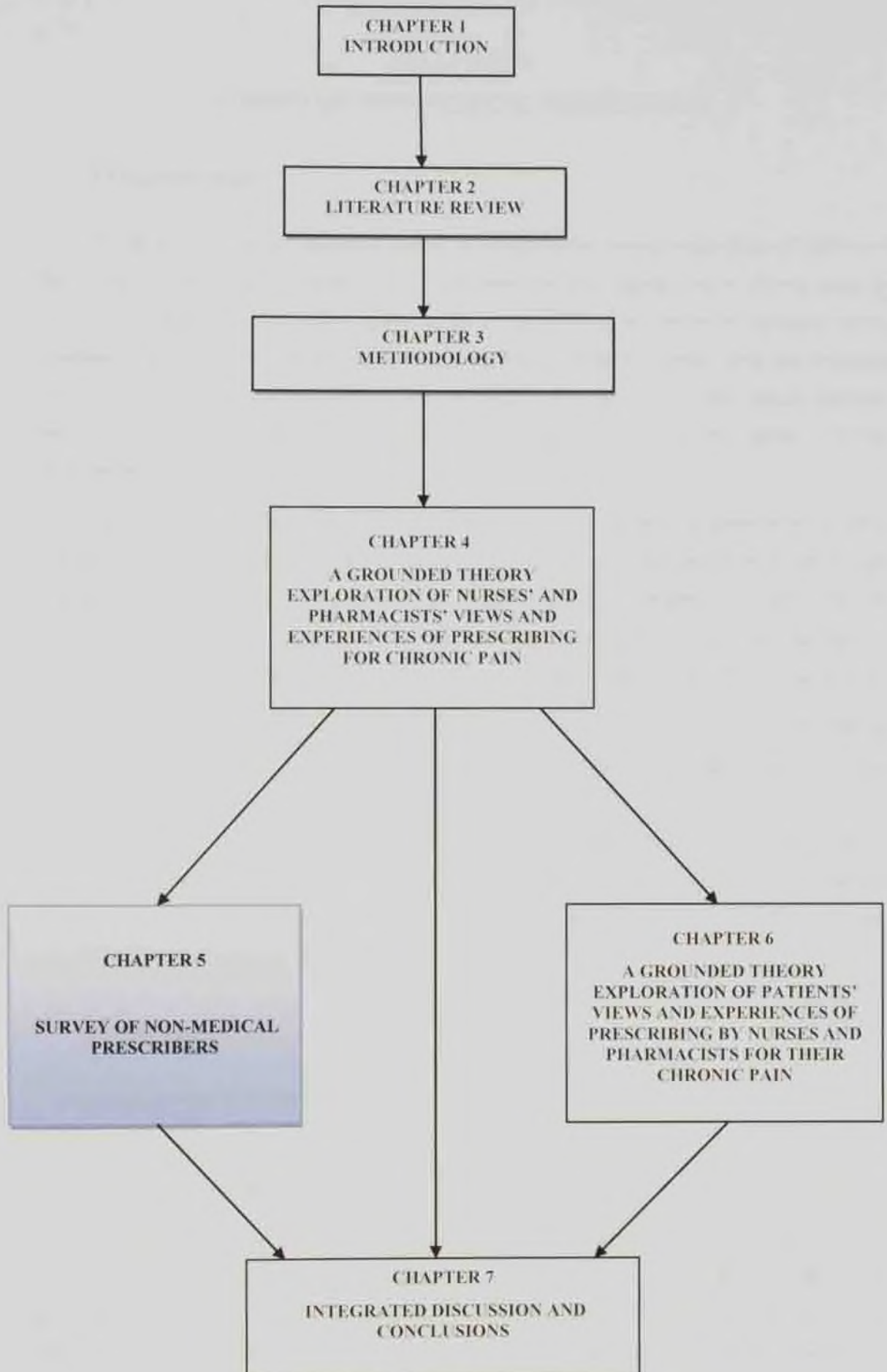
So far very little has appeared in the evidence regarding how pharmacist prescribing is influenced by guidelines and arrangements in place for checking their prescriptions. Although some inconsistencies across Trusts regarding various aspects of non-medical prescriber has come up in the literature (Latter et al., 2010) this was not focused on how guidelines related to 'second checking' influenced pharmacist prescribers' decision to prescribe. Shortly after the introduction of prescribing for pharmacists in the UK, a study exploring the views of pharmacists and their mentors on the introduction of supplementary prescribing revealed concerns about protocols in place to ensure that pharmacists' prescriptions were properly checked (Lloyd and Hughes, 2006).

This study is the first to identify that pharmacists considered measures in place regarding how their prescriptions would be checked and that this consideration had the potential to influence whether they would go ahead and prescribe. There is no evidence that other professional disciplines involved in prescribing have this consideration. The findings from this study also suggest that this issue constitutes a barrier to how pharmacist prescribers viewed their prescribing environment when they considered prescribing for chronic pain.

4.5 Chapter summary

This chapter presented the qualitative exploration of nurse and pharmacist prescribers' views and experiences regarding prescribing for chronic pain. Details of the methods used in the grounded theory exploration were provided. Here, details of ethical and research governance approvals that were applied for and granted were given. An account of the how the data were collected and analysed as well as measures undertaken to ensure quality were provided. The results were presented under the seven categories that emerged from this project of the study. Together, these categories indicated an emerging theory 'safety and support within the prescribing environment'. The findings were then discussed within the context of the wider literature in the relevant areas.

Factors were identified that motivated nurses and pharmacists to qualify and prescribe. It also emerged that they considered the nature of their environment in relation to how safe and supported they felt to prescribe for chronic pain. Learning was also important to how non-medical prescribers developed their practice. The main themes that emerged here were how they acquired knowledge, gained experience and reflected on their practice. Access to health information technology was seen as crucial to their practice. The type and level of access to prescribing software and patients' access were perceived to influence the effectiveness of their prescribing. It also emerged that nurses and pharmacists could be innovative or conservative in the approach they adopted in their prescribing.



CHAPTER 5

SURVEY OF NON-MEDICAL PRESCRIBERS

5.1 Introduction

The preceding chapter presented details of the grounded theory exploration of the views and experiences of nurses and pharmacists in the treatment and management of chronic pain. In that project, a theory 'safety and support within the prescribing environment' emerged which explained how nurses and pharmacists perceived their prescribing for chronic pain and indicated what they perceived as barriers and facilitators to their practice. The overall mixed methods design thus included a second project designed to quantitatively test the validity of this emerging theory.

The project presented in this chapter aimed at surveying non-medical prescribers in order to determine their level of agreement to themes emerging from the grounded theory in the last project. Additionally, the survey aimed at establishing which factors were perceived as facilitators or barriers by nurses and pharmacists who prescribe for chronic pain as well as determine the level of importance and relevance to their practice they attributed to these factors.

I present this chapter in three main sections. In the first section, methods, I present the series of steps employed in the design and execution of this phase of the study. I also justify the choice of the techniques used in each step. In the next section I present the results from this phase of the study. Here, I use tables and figures to present the results. In the final section, I conclude the chapter, by discussing the results from this phase. The results from this phase are discussed against the backdrop of the findings from the grounded theory exploration of nurses and pharmacists presented in the last chapter.

5.2 Methods

The processes undertaken in the data collection and analysis of the phase are presented below.

5.2.1 Questionnaire design

An online questionnaire was developed based on the themes that emerged from the grounded theory project which explored nurses' and pharmacists' views and experiences in prescribing for chronic pain. At the planning stages, a postal questionnaire had been proposed, however challenges associated with recruitment (this is discussed further in the next subsection) resulted in a change from a postal to a web based survey. As such before the recruitment for this

project commenced, further ethics approval for a substantial amendment, was applied for and received (see appendix 5).

The online questionnaire contained five items on demographics and professional background and nine items on non-medical prescribers' current prescribing status in the area of chronic pain, at the time of the survey. Levels of agreement associated with competence in prescribing for chronic pain and with information relating to CPD needs were measured on five point Likert scales (strongly agree to strongly disagree) (Oppenheim, 1992). Levels of importance attributed to aspects of their prescribing environment and information technology needs were also measured by five point Likert scales (very important to very unimportant). Three other items were included to determine resources used in prescribing for chronic pain, resources used in CPD and factors perceived as facilitators to prescribing for chronic pain. Sections were included to capture respondents' comments on relevant issues that had not been included in the design and the penultimate item invited any other comment on non-medical prescribing for chronic pain. The final item measured the approximate amount of time used to complete the questionnaire. A copy of the questionnaire is available in appendix 18.

5.2.2 Quality

Here I focus the measures taken to ensure quality in this project. The two relevant concepts discussed here are validity and reliability, due to their applicability to the quantitative approach employed in this project. The triangulation that results from using two distinct methods within the same research project is also discussed here.

5.2.2.1 Reliability

The questionnaire that was used to collect data in this survey had not been used prior to this study. As such it was important to ensure that the psychometric properties of this tool be subjected to relevant tests. Reliability refers to the extent to which the views, opinions and attitudes which the measurement tool measured remains consistent when repeatedly subjected to the same or similar conditions (Carmine and Zeller, 1979; Kirk and Miller, 1986). Internal consistency reliability assesses the consistency of the components that make up the items in the data collection tool. Since the data collection tool used in this survey was a questionnaire and was made up of several sections which are informed by different themes and aimed at extracting different forms of data, applying the Cronbach's alpha will enable the determination of the internal consistency of the instrument (Gliem and Gliem, 2003). In this phase of the study, the Cronbach's alpha was applied to the survey tool using the SPSS (version 17). The Cronbach's alpha calculated for the related items yielded scores between 0.71 and 0.88, suggesting strong internal consistency (De Vaus, 2004).

Although other reliability tests exist, not all were applicable to this study. *Inter rater* reliability or *inter rater* agreement, which focuses on homogeneity amongst two or more data

collecting units (Le Breton and Senter, 2008; Landis and Koch, 1977) was not applicable to this particular combination of data collection tool and scenario and so was not carried out in this study. Similarly, test – retest reliability that assesses the correlation between results of tests administered at two separate times (Otter et al., 1995) was also not carried out for the same reason.

5.2.2.2 Validity

Validity is a concept that focuses on testing the correctness, or precision of a data collection tool. It is mainly concerned with determining the degree with which a data collection tool actually measures the phenomena that it intends, or claims to measure (Carmines and Zeller, 1979; Lewis and Ritchie, 2003). In this phase of the study, two types of validity testing were carried out. The first, face validity, is concerned with the design of the data collection tool and its ability to reliably and accurately measure the phenomenon which it was designed to measure (Fink, 1995). The second, content validity refers to the degree, or extent to which the data collection tool represents all the components of an intended domain of content (Carmines and Zeller, 1991).

In quantitative research carried out in the healthcare sector, expert panels have been identified as an efficient and acceptable resource (Davies, 1992). It has also been demonstrated in other studies, that expert panels are reliable in determining face and content validity (Hyrkas et al., 2003). After the questionnaire had been designed, it was tested for face and content validity by an expert panel of three researcher academics.

The first member, a Fellow of the Royal Pharmaceutical Society and the Higher Education Authority, is an expert in non-medical prescribing and has experience in designing and analysing quantitative surveys. The second member has held a Professorial chair for 12 years and been in full time research for over 25 years with expertise in methodology, research design and long-term conditions. The third member of the panel has expertise in symptom management and long-term conditions as well as in the use of the Grounded Theory and other qualitative approaches within studies of mixed method design. Based on the comments from the panel, corrections were made on the initial questionnaire (see appendix 19), resulting in the final copy which met the approval of the expert panel and was used for the survey (see appendix 18).

Other tests for validation in quantitative research exist. Forms of validity testing such as criterion and convergent validity (Trochim, 2006) were not carried out. This was because due to the attitudinal nature of many of the variables to be measured, fulfilling the requisite parameters for their measurement would not have been possible.

5.2.2.3 Triangulation (method)

In the methodology chapter (chapter 3), the mixing of research methodologies was introduced. There also, it was revealed that a major advantage of employing mixed methods was that triangulation enhanced the validity of the study. In chapter 4 I introduced the two methods of triangulation employed in this study. Here I further discuss triangulation that results from using two methods within the same study. In this case, the grounded theory approach (qualitative) used in the last project and the cross sectional survey (quantitative) used in this project.

In the qualitative phase, the grounded theory approach and the context in which it was used in this study, is situated firmly within qualitative paradigm of scientific research. Some of the major criticisms of this approach have included lack of numbers, structure and the subjectivity within data collection and analysis (Paley and Lilford, 2011). Employing the cross sectional survey (a quantitative method), in this phase, introduces more objectivity and structure in the data management. It also means that a larger sample is used in answering the research questions. The 'mixing' of these two methods within a study with a common goal suggests more comprehensive and robust exploration of the research questions. It also ensures that the inherent weaknesses associated with using either method alone, are compensated for (Gorman and Clayton, 2005). Additionally, although reliability is traditionally a better measure for consistency, Lincoln and Guba (2005) suggest that triangulating methods achieves a similar purpose within the bigger picture of the entire study.

5.2.3 Piloting

Following the validation of the questionnaire, a pilot of the survey was carried out in February 2011 on a convenience sample of 20 non-medical prescribers, using suggested guidelines (Sudman and Bradburn, 1982; Czaja and Blair, 2005). A request for feedback relating to any difficulties in completing the questionnaire was also sent to the non-medical prescriber alongside the questionnaire. Piloting resulted in no major changes to the questionnaire and the data collected were included in the overall results.

5.2.4 Sample

The study participants were nurses, pharmacists and other healthcare professionals that had qualified as non-medical prescribers and were registered to prescribe in their various Trusts. The initial sampling strategy proposed, was to select a random sample of all nurses and pharmacists qualified and registered as non-medical prescribers in the United Kingdom from their respective registers held by The Nursing and Midwifery Council (NMC) and the General Pharmaceutical Council (GPhC) (Formerly the Royal Pharmaceutical Society of Great Britain). At the time that this phase of the study was being planned, both institutions declined to

collaborate, perhaps due to ongoing changes with respect to data protection in their research collaboration policies and restructuring of the RPSGB to form the GPhC. In the mean time, while designing the study, an alternative strategy had already been proposed and was being explored at the same time as the above strategy. As part of this, the non-medical prescribing lead for Yorkshire and the Humber was approached and a list of all the non-medical prescribing leads in the constituent Trusts was obtained. Emails and reminders (see appendix 20) were sent to all 35 Trusts inviting the non-medical prescriber leads to assist in the study by forwarding the online survey to all non-medical prescribers registered in their respective Trusts.

Of all 35 Trusts invited, only ten non-medical prescribing leads agreed to forward the survey to their non-medical prescribers. For the rest, thirteen did not reply after the reminders; seven resulted in mail delivery failure; two non-medical prescribing leads were in Trusts that were undergoing structural changes such as merging; one was on holiday; and two Trusts were still processing governance approval, at the time that the survey was carried out. The ten non-medical prescribing leads that agreed to assist in the study sent the online survey out to 545 non-medical prescribers in total and sent an e-mail reminder to the same non-medical prescribers.

5.2.5 Inclusion and exclusion criteria

The following criteria were employed in determining the sample to which the online questionnaire was sent:

Inclusion criteria:

- Qualified as a health care practitioner (for instance nurses, pharmacists and physiotherapists)
- Practising within the Yorkshire and Humber region
- Have registered with relevant bodies as a non-medical prescriber.

Exclusion criteria:

- Medical prescribers (doctors and dentists)
- Student pharmacist and nurses
- Prescribing students (not yet qualified)
- Recently qualified prescribers without Trust and regulatory body registrations.

5.2.6 Data collection

The survey commenced in March 2011 and the online questionnaire was sent to the non-medical prescribing leads for forwarding to their respective non-medical prescribers. After two weeks, reminders were sent to the non-medical prescribing leads for forwarding. Since the emails were untracked, the reminders were sent to all 545 non-medical prescribers, thanking those that had already completed the questionnaire and urging those who had not to participate

in the survey. A further three weeks was allowed for completion, before the survey was closed. The total data collection period lasted 10 weeks, this was due to the fact that two non-medical prescribing leads became available for the survey later than others and one non-medical prescribing lead was on holiday at the time the reminder was meant to go out. The data collection stage of the survey was concluded in May 2011

The online survey tool that was used to distribute this questionnaire was Kwik survey. Other online survey tools such as Bristol Surveys and Survey Monkey were considered, however Kwik survey was chosen because it was cost efficient and had certain other unique features. One of such features was question and page skipping which meant that participants were automatically directed to appropriate questions, based on their previous answers, rather than being signposted. Although Kwik survey offered a free service, the paid option was chosen to eliminate adverts which were considered distracting during the validation, as well as to access enhanced support during the study.

5.2.7 Data analysis

The data that were collected were imported into SPSS (version 17) from the Kwik survey account. The data were prepared for analysis by ensuring that all the variables were defined and converted to the nominal form. Univariate analysis was carried out on the collected data to yield descriptive statistics. Associations between variables were tested for using cross tabulations, all results were subjected to statistical tests such as Chi-square tests and Fisher's exact tests. The choice of the relevant tests applied depended on the analysis being carried out. For instance, Fisher's exact test was used whenever one or more of the numbers in the contingency table being considered were very small (any number less than about six). A stepwise multivariate logistic regression analysis was also carried out to investigate the relationship between relevant variables and prescribing for chronic pain. This was done both individually and in adjustment with other relevant variables. Before the analysis commenced it was decided that a p value of 0.05 or less represented the threshold for statistical significance. Finally, missing data were compiled for each item. Missingness analysis was then carried out by cross referencing with relevant variables to identify any possible trends.

5.3 Results

The results in this section are presented to fit with the categories developed in chapter 4, rather than in the chronological progression that exists on the questionnaire. This has been done for two reasons. First, the objective of this phase of the study was to test aspects of the developing theory. Presenting and discussing the results in line with the findings from chapter 4 ensures that the focus is on the theory. Secondly, this manner of presentation enhanced the readability and improves the flow of the entire thesis.

Demographics

The response rate in the survey carried out was 180/545 (33%). In table 2, the participants' demographics and information related to their prescribing status are summarised. More than three quarters of the survey respondents were nurse prescribers (141) and women (136). 109 of the respondents had qualified as non-medical prescribers over two years ago and there seemed to be a trend in the qualification of non medical prescribers indicating a slight rise in the uptake four years ago and then a decline since then. 150/180 of the survey participants had practiced prescribing since they qualified. Of the 150 non-medical prescribers who were prescribing, 67 reported that they were prescribing for chronic pain (45%). It was not possible to compare the characteristics of the responders to that of the participants that did not respond to the survey. This was because data protection guidelines prevented non-medical prescribing leads from providing this information.

Table 2: Respondent demographics and prescribing status

Demographic	
Primary Profession	N (%)
Nurse	141 (79%)
Pharmacist	27 (15%)
Other	11 (6%)
Sex	
	N (%)
Female	136 (89%)
Male	17 (11%)
Duration of prescribing qualification	
	N (%)
Less than 1 year	19 (13%)
1 year to 2 years	24 (16%)
25 months to 4 years	63 (41%)
More than 4 years	46 (30%)
Prescribing status	
	N (%)
Prescribed since qualified	150 (97%)
Not prescribed since qualified	5 (3%)

Experience in chronic pain prescribing		N (%)
Prescribed for chronic pain		67 (45%)
Did not prescribe for chronic pain		81 (55%)
* N = 180 (some respondents did not complete all sections)		

5.3.2 Nature of the prescribing environment

Table 3 shows the level of importance non-medical prescribers attributed to what they considered an environment safe enough for their prescribing. The majority of the non-medical prescribers who had prescribed felt that mutual respect with their colleagues (113/150) and being able to count on their colleagues for knowledge (114/150) relevant to their prescribing was important or very important to their perception of a safe and supportive environment. On the other hand, 11/150 (7.4%) reported that being in an environment where they would be respected more than their colleagues who do not prescribe was important or very important to them.

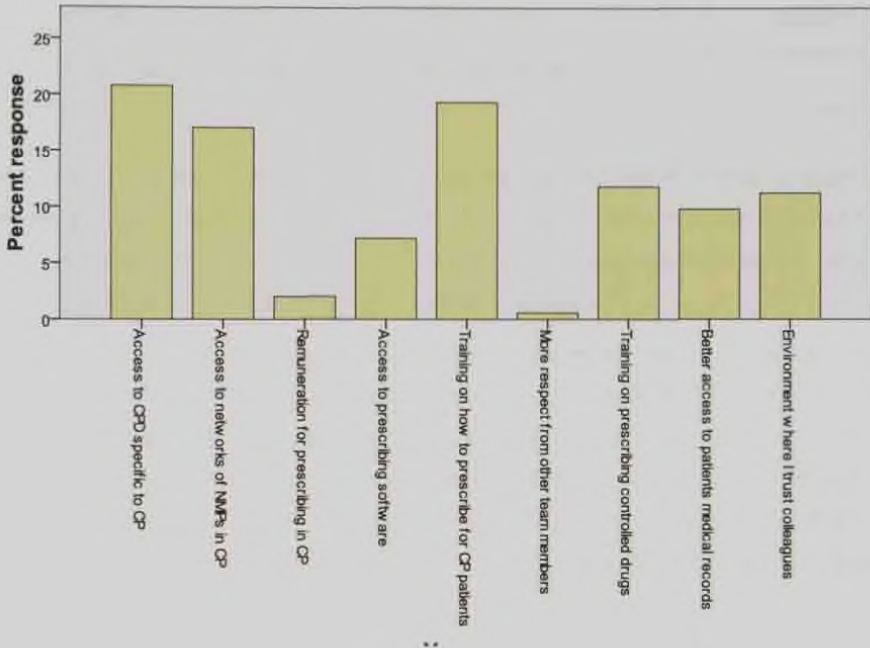
Ninety-nine out of a hundred and fifty of these prescribers (66%) identified working in a 'no blame culture' as important or very important to the consideration of how safe their prescribing environment was and 69/150 (46%) felt that being told off for mistakes was unsafe for their prescribing.

Table 3: Components of a 'safe environment' with respect to prescribing

Statement	Response, n (%)					
	Very Important.	Important.	Neutral	Un important	Very unimportant	Missing
Mutual respect with colleagues	59 (39.3)	54 (36.0)	6 (4.0)	1 (0.7)	0 (0.0)	30 (20.0)
Support from colleagues	63 (42.0)	51 (34.0)	4 (2.7)	0 (0.0)	0 (0.0)	32 (21.3)
Working in no blame culture	59 (39.3)	40 (26.7)	15 (10.0)	5 (3.3)	0 (0.0)	31 (20.7)
Not being told-off for mistakes	30 (20.0)	39 (26.0)	34 (22.7)	12 (8.0)	2 (1.3)	33 (22.0)
Respected more than others who don't prescribe	1 (0.7)	10 (6.7)	41 (27.3)	40 (26.7)	26 (17.3)	32 (21.3)

In exploring which factors non-medical prescribers regarded as facilitators to prescribing for chronic pain, nine statements relating to the nature of the prescribing environment, knowledge, experience, access to health information technology, remuneration and status were put to the respondents. The results presented in the figure below are the responses made by non-medical prescribers regarding various factors which they regarded as facilitators to prescribing for chronic pain.

Figure 6: Facilitators to prescribing for chronic pain



Training, access to knowledge sources and relevant networks were more relevant as facilitators to prescribing for chronic pain compared to factors such as remuneration for and being respected as a result of qualifying as prescribers. Furthermore just 9/81(11%) of non-medical prescribers who had not yet prescribed for chronic pain agreed that only chronic pain specialists should prescribe for patients with chronic pain. This suggests that non-medical prescribers considered other factors in addition to knowledge and experience when they considered whether to practise in this area.

Of the facilitators to prescribing for chronic pain shown in figure 6 the opinions of prescribers for chronic pain were compared to the opinions of prescribers who had an interest, but had not started prescribing for chronic pain. It was found that 'prescribing in an environment where they could trust their colleagues' distinguished these two groups.

Prescribers for chronic pain (51%) were more likely to attribute 'trusting colleagues' as a facilitator for their prescribing, compared to their colleagues who had no experience in chronic pain prescribing (10%). This result was statistically significant (Chi-Square test, $p < 0.05$) (see table 4).

Table 4: Trust as a facilitator to prescribing for chronic pain

'Trusting Colleagues' As A Facilitator For Prescribing	n*(%)
Respondents with experience in prescribing for chronic pain	34/67 (51%)
Respondents without experience in prescribing for chronic pain	5/51 (10%)
Chi-Square test	0.000
n * - some respondents may not have completed relevant item(s)	

After cross tabulation, the individual Chi-Square test indicated that five other variables were statistically significant, but because these were nine variables that were being subjected to the same tests, further analysis in the form of Bonferroni's correction had to be applied. After the correction, only three variables remained statistically significant.

For 'access to CPD specific to chronic pain', 49/67 (73%) of the prescribers for chronic pain saw this as a facilitator, compared to 23/51 (45%) of those not currently prescribing for chronic pain (Chi-Square test, $p < 0.05$). Whereas 27/67 (40%) of those prescribing for chronic pain saw 'better access to patients medical records' as a facilitator to their practice, compared to 7/51 (14%) of those not currently prescribing for chronic pain (Chi-Square test, $p < 0.05$). 'An environment where colleagues could be trusted', also remained significant after Bonferroni's correction.

5.3.3 Acquiring knowledge

In the investigation of factors that made non-medical prescribers feel safe and supported, all those that prescribed for chronic pain felt that being able to rely on their colleagues who were perceived as knowledgeable, for support in their prescribing was important. However, on further exploration of the support that they perceived that they had in their prescribing, 29/56 (52%) agreed that they actually relied on these colleagues for support.

CPD is a major part of how non-medical prescribers acquired knowledge for their prescribing. Table 5 presents the level of agreement that non-medical prescribers had regarding various aspects of their CPD.

Table 5: Level of agreement to statement relating to CPD needs in prescribing

Statement	Response, n (%)					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Missing
Can attend CPD in work time	20 (13.3)	43 (28.7)	22 (14.7)	23 (15.3)	11 (7.3)	31 (20.7)
Feel they should be allowed work time for CPD	58 (38.7)	52 (34.7)	5 (3.3)	1 (0.7)	1 (0.7)	33 (22)
Prefer to do CPD in own time	5 (3.3)	20 (13.3)	40 (26.7)	47 (31.3)	4 (2.7)	34 (22.7)
Do not think CPD is necessary	0 (0.0)	0 (0.0)	3 (2.0)	21 (14.0)	92 (61.3)	34 (22.7)

Further analysis revealed that while 6/9 (67%) of pharmacist prescribers were pharmacists who were not allowed to access CPD during paid work time, 16/80 nurse prescribers reported that this applied to them (20%) (See figure 7). However, a significant number of both nurse (95%) and pharmacist prescribers (100%) agreed that they should be allowed paid work time for CPD (see figure 8).

Figure 7: Access to CPD during paid work time

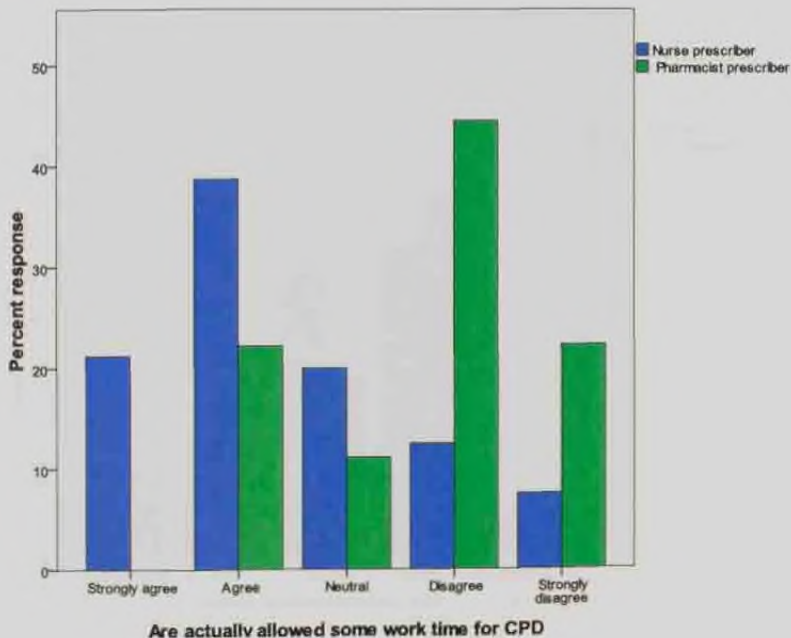
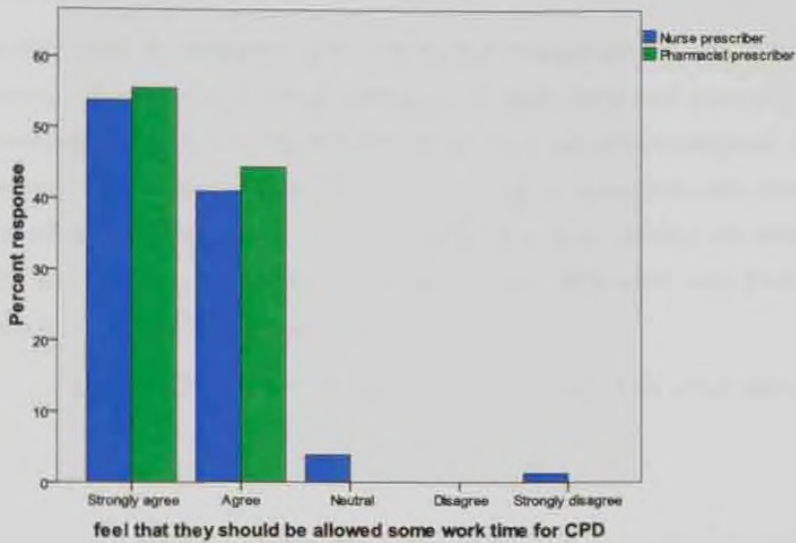
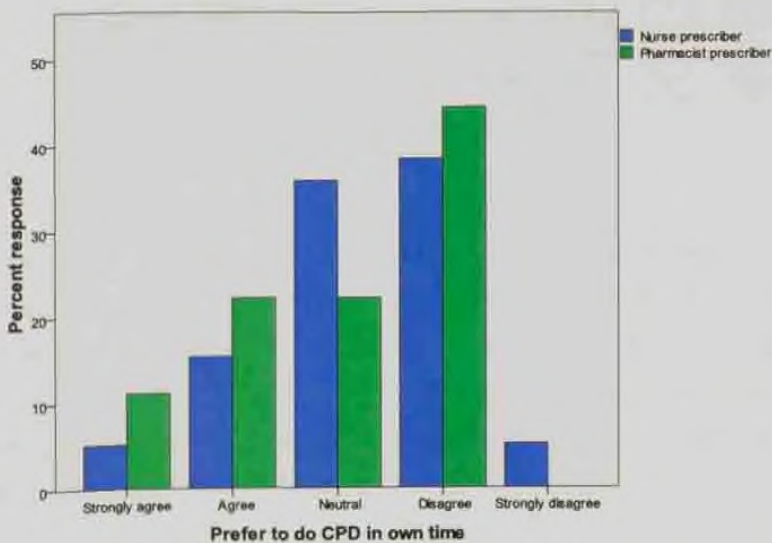


Figure 8: Preference regarding access to CPD during paid work time



However, with respect to making time for CPD, nurses and pharmacists were very similar in their views with respect to doing CPD in their own time. Similar proportions of nurses and pharmacists disagreed that they preferred completing CPD in their own time (44%), whereas, 16/78 (21%) nurse prescribers and 3/9 (33%) pharmacist prescribers reported that they preferred to do CPD in their own time (see figure 9)

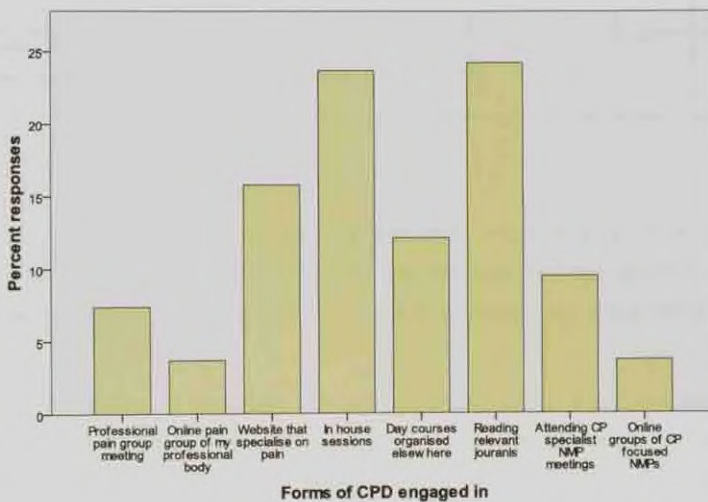
Figure 9: Preference regarding carrying out CPD in own time



The various ways through which the non-medical prescribers carried out their CPD were also surveyed and the results are presented in figure 10. Attending in house sessions organised in their establishments and reading the journals that they found relevant to their prescribing in pain were the most common forms of CPD that non-medical prescribers engaged in.

Further analysis considered how non-medical prescribers carried out their CPD, the results showed that there were some differences in how nurse and pharmacist prescribers gained knowledge through CPD. Seventy percent of nurse prescribers compared to 33% of pharmacist prescribers carried out their CPD by attending in house sessions, whereas 44% of nurse prescribers compared to 50% of pharmacist prescribers carried out their CPD by accessing websites that specialised on chronic pain. These differences were however not statistically significant (Fisher's exact test >0.05).

Figure 10: Forms of CPD carried out by non-medical prescribers.



Other items relating to how non-medical prescribers gained knowledge used in their prescribing for chronic pain included the guidelines they used as resources for their prescribing. All non-medical prescribers who prescribed for chronic pain reported using some form of guidance. Specifically, all reported using the BNF for their prescribing for chronic pain, more than three-quarters used NICE guidelines (84%) and two thirds used formularies or guidelines produced by their establishment (66%).

5.3.3 Gaining experience

Forty-two out of sixty-seven (63%) of non-medical prescribers reported that they had access to networks of prescribers for chronic pain. 34/68 of non-medical prescribers that prescribed for chronic pain (50%) felt they could learn from others with relevant experience who they could access through their networks. However, not all of these prescribers had access to such networks.

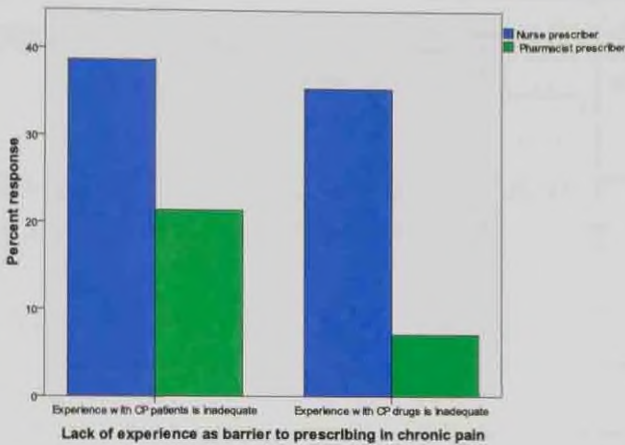
Table 6: Level of agreement to statement regarding gaining experience

Statement	Strongly agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)	Missing n (%)
Feel they can learn from others' experience through networks	4 (4.5)	30 (44.8)	11 (16.4)	10 (14.9)	1 (1.5)	12 (17.9)
Can access networks of other prescribers for chronic pain	13 (19.4)	29 (43.3)	12 (17.9)	2 (3)	0 (0)	11 (16.4)

Non-medical prescribers who were not prescribing for chronic pain were surveyed to identify factors that they perceived as barriers. The results showed that lack of experience in various aspects of their prescribing was seen as limiting factors to their prescribing for chronic pain.

Among non-medical prescribers who had an interest, but had not started prescribing for chronic pain a third (33%) indicated that lack of experience with patients with chronic pain and a quarter (28%) indicated that lack of experience with the medication used for chronic pain, were among the reasons they had not prescribed in this area.

Figure 11: Lack of relevant experience as a barrier to prescribing for chronic pain



In this same group, a comparison of pharmacist prescribers and nurse prescribers revealed a difference in the way they perceived these limited their prescribing. The proportion of nurse prescribers that indicated lack of experience with chronic pain patients as a barrier to their practice in the area of chronic pain (39%) was similar to the proportion that indicated that lack of experience with chronic pain drugs as a barrier to their practice in chronic pain (36%). However for pharmacist prescribers, while 21% indicated that a lack of experience with chronic pain patients was a limitation to their practice in chronic pain, a considerably smaller proportion (7%) indicated that inadequate experience with chronic pain drugs was a limitation for them (see figure 11).

Further analysis revealed that the differences between nurse prescribers and pharmacist prescribers seen in the perception that inadequate experience with chronic pain drugs was a barrier, was statistically significant according to Fisher's exact test ($p < 0.05$). The differences seen in the perception that inadequate experience with chronic pain patients limited their practice in chronic pain was not statistically significant, according to the Fisher's exact test applied ($p > 0.05$).

5.3.4 Health information technology

The survey also included the views that nurse and pharmacist prescribers had with respect to how essential they felt various aspects of health information technology were to their

prescribing. Table 7 presents a summary of their prescribing needs and the levels of importance attributed to various aspects of health information technology.

Table 7: Level of importance attributed to aspects of health information technology

Statement	Very Important. n (%)	Important. n (%)	Neutral n (%)	Un Important n (%)	Very unimportant n (%)	Missing n (%)
Access to prescribing software	14 (9.3)	22 (14.7)	28 (18.7)	42 (28.0)	12 (8.0)	32 (21.3)
Authority to perform further tests	23 (15.3)	52 (34.7)	31 (20.7)	8 (5.3)	3 (2.0)	33 (22.0)
Full access to patients' records	90 (60.0)	24 (16.0)	5 (3.3)	0 (0.0)	1 (0.7)	30 (20.0)

In relation to health information technology needs, analysis showed a difference in the attitudes of nurses and pharmacists with experience of prescribing for chronic pain compared to those of non-medical prescribers who had no experience in chronic pain prescribing.

Regarding access to prescribing software, 18/67 (26.9%) non-medical prescribers with chronic pain experience reported that this was a facilitator to their prescribing, compared to 7/51 (13.7%) of those who did not have the experience, but were interested in prescribing for chronic pain. This difference was however not statistically significant (Chi-Square test, $p > 0.05$) (see table 8). On the other hand 27/67 (40.3%) prescribers with chronic pain experience reported access to patient records as facilitators to their practice, compared to 7/51 (13.7%) of those who were interested in prescribing for chronic pain, but had no experience. In this case, the difference in attitudes to access to patients' records as a facilitator to prescribing for chronic pain was statistically significant (Chi-Square test, $p < 0.05$) (see table 9).

Table 8: Access to prescribing software as facilitator for prescribing for chronic pain

Access to prescribing software as facilitator for prescribing for chronic pain	n*(%)
Respondents with experience in prescribing for chronic pain	18/67 (26.9%)
Respondents without experience in prescribing for chronic pain	7/51 (13.7%)
Chi-Square test	0.084
n * - some respondents may not have completed relevant item(s)	

Table 9: Access to patients' records as facilitator for prescribing for chronic pain

Access to patients records as facilitator for prescribing for chronic pain	n*(%)
Respondents with experience in prescribing for chronic pain	27/67 (40.3%)
Respondents without experience in prescribing for chronic pain	7/51 (13.7%)
Chi-Square test	0.002
n * - some respondents may not have completed relevant item(s)	

5.3.5 Logistic regression

Further analysis carried out on the data collected attempted to explore the development of a tentative model. In line with this, logistic regression was undertaken using all relevant variables to determine their relationship with taking up prescribing for chronic pain after qualification. The variables were first regressed individually whereby the significance of each item was considered on its own (considering the variables 'not in equation'). Since the questionnaire design meant that items were presented in sections where they were grouped with other related items, they then had to be regressed 'in the equation' with these related items to compensate for the effects of these relationships.

These two steps were carried out for each relevant item and this yielded three significant variables – 'previous professional background', 'authorisation to prescribe controlled drugs' and 'working in an environment where colleagues can be trusted'. To further ensure that their significance was not due to any relationship arising from being presented together, they were then regressed in equation with each other. The result was that only 'working in an environment where colleagues can be trusted' remained significant. (See table 10)

Table 10: Logistic regression showing significant variables (in the equation)

Variable	Significance p values
Previous professional background	0.88
Authorisation to prescribe controlled drugs	0.22
Working in an environment where colleagues can be trusted	0.00

5.3.6 Missingness

In quantitative data collection and analysis, whenever the value of any of the variables is missing or incomplete, missingness, or missing data is said to occur within that data management scenario (Madow et al., 1983). Of the various types of missingness that occur in quantitative research, two types apply to this work. First is the planned missingness as a result of the questionnaire design (Mitofsky, 2000) and the second, missing completely at random (Little and Rubin, 1987). The first, planned missingness refers missing data due to data collection design, whereby various versions of the same questionnaires are presented to the respondents (Mitofsky, 2000). In this questionnaire, some items were common to all respondents (for instance, items 1, 22 and 23) and were used to collect information relevant to all respondents whereas the other items were structured to collect data common to subsets of respondents. The diagram (flow chart) presenting a breakdown of the progressive categorisation that gave rise to the various subsets of respondents in the survey, is available in appendix 21.

After accounting for the planned missingness during the data analysis, some data remained missing. Here, a missingness analysis had to be conducted to identify the specific type of missingness that occurred and determine the implications of this to the analysis of the survey phase. Firstly, the missing cases for each relevant questionnaire item were extracted from the data set. Following this, baseline distributions and attitudes of the missing cases were compared to those of the respondent to the relevant items. The result was that no significant differences were revealed and this led to the conclusion that the second type of missingness was missingness completely at random. As such, although some of the above results have been presented with the missing cases, primarily to reflect transparency in result presentation, in other cases where including a missing section may complicate the presentation, case analysis has been employed.

5.4 Discussion

The theory 'safety and support within the prescribing environment' emerged in the last chapter to explain how nurses and pharmacists perceived prescribing for chronic pain and to identify factors considered barriers and facilitators to their practice. This began to answer the following research questions aimed at addressing the knowledge gap revealed in the literature review:

1. What are the views and experiences of non-medical prescribers (nurses and pharmacists) in the treatment and management of chronic pain?
2. In the treatment and management of chronic pain, what are the barriers and facilitators influencing the implementation of non-medical prescribing?

The findings of this project build on the emerging theory by testing nurses' and pharmacists' level of agreement to aspects of the theory. Furthermore, the survey in this project measured the level of importance nurses and pharmacists attributed to factors perceived as hindering or facilitating their practice.

The findings from the quantitative survey, although independent are discussed in line with the theory emerging from the grounded theory exploration in chapter 4 to clearly indicate how the attitudes in the survey related to the original themes that emerged in the grounded theory exploration.

In the last chapter, the discussion of the thesis integrates the findings of this chapter with those of the two that qualitatively explored non-medical prescribers' and patients' views and experiences (chapter 4 and chapter 6). This survey's findings also contribute to the theoretical model presented in that chapter.

5.4.1 Demographics

Nurses, pharmacists and other professionals who were registered to prescribe were invited to participate in the survey. These other professionals (such as physiotherapists) were included initially to limit the access of the research team to personal data of the participants, while facilitating the dissemination of the questionnaire. Since nurses and pharmacists have had prescribing rights for longer, only 6% of the non medical prescribers surveyed were not within these professions. As prescribers who were neither nurses nor pharmacists were not of interest to this study, no relevant questions were put to this group. In essence once they indicated that they were not nurses or pharmacists, they were guided to the end of the questionnaire.

Only about 10% of the respondents to this survey were male, but this does not mirror the data collected in the qualitative phase. In that phase almost half of the sample interviewed was male. However, the sampling in the qualitative phase was done purposively/theoretically and the aim was not to present a representative picture. While the sampling in this phase was not random, it was more representative than the sampling in the qualitative phase. Similarly, in considering the prescribing experience of the survey respondents, this phase also portrays a more representative picture of the non-medical prescribers than that of the qualitative phase. The trend in the survey suggests that there was an increase in the number of nurses and pharmacists qualifying as non-medical prescribers between 2005 and 2007. The uptake of non-medical prescribing for this region seems to have declined since 2007.

Nearly all the respondents reported having prescribed since they qualified. Although this is similar to the percentage of participants who also had started prescribing prior to being interviewed in the qualitative phase, in that phase, those participants were recruited purposively to explore emerging themes. In the survey significant effort was made to capture all qualified non-medical prescribers, including those who had not commenced prescribing. The two regulatory bodies (The Nursing and Midwifery Council (NMC) and the General Pharmaceutical Council (GPhC) (Formerly the Royal Pharmaceutical Society of Great Britain) contacted for collaboration declined. The second strategy was to survey the non-medical prescribers through their non medical prescribing leads in this region. Although these leads are expected to maintain a comprehensive list of nurses and pharmacists qualified in their various Trusts, it is possible that some qualified non-medical prescribers who have not started prescribing may not have registered.

Of the non-medical prescribers that had started prescribing, 55% had not prescribed for chronic pain, but this did not seem to be solely as a result of their lack of expertise in the area, as just 11% believed only experts in chronic pain should be allowed to prescribe in this area. 45% of the surveyed prescribers reported that they had prescribed for chronic pain. This proportion is significantly less than the proportion of interviewed non medical prescribers in the qualitative project. Again, in the qualitative project, many of the themes explored were more pertinent to prescribing for chronic pain and as such the purposive/theoretical sampling expectedly produced more prescribers with experience in chronic pain. In this survey, the percentage who reported having experience in chronic pain is a more realistic reflection of the proportion of non-medical prescribers who prescribe for chronic pain.

5.4.2 Nature of the prescribing environment

Many of the themes that emerged in the grounded theory exploration were confirmed by this quantitative project. In the qualitative project, it emerged that non-medical prescribers considered a mutually beneficial relationships with their colleagues as important to their prescribing practice, even to the point of adopting various strategies to ensure that these

relationships were developed and maintained. A majority of the non-medical prescribers in the survey seemed to agree with the concept of having an environment safe enough for their prescribing. In their responses, they acknowledged that mutual respect, trustworthiness and support, were some of the values important to their prescribing environment. They also agreed with some of the barriers that emerged during the qualitative exploration. A significant proportion indicated that their idea of an environment safe enough to prescribe would be one that did not foster a 'blame' culture, or where criticisms were harsh and unconstructive.

The qualitative project revealed that non-medical prescribers, while interacting with colleagues, used strategies such as 'overt skills demonstration' and 'playing up specific strengths'. This survey clarified the motives behind these actions. For non-medical prescribers, maintaining a safe enough environment to prescribe from was more important than achieving a higher status. In the same vein, although remuneration for prescribing emerged as a motivator during the grounded theory project, this survey revealed that when compared to other factors, non-medical prescribers did not consider it as important.

Trustworthiness played a dominant theme in how non-medical prescribers considered safety and support for their prescribing. In the grounded theory exploration, relationship building, relying on others and their interaction with others all highlighted the importance of trust to the non-medical prescriber. It is interesting that the survey also produced a similar result. To ensure independence of both phases, during the questionnaire design care was taken not to allow the dominant themes in the emerging theory influence survey respondents. As the emerging theory was not a concept already known to these prescribers, reflecting the dominance of the core category 'safety and support within the prescribing environment' in the questionnaire would have introduced some bias in the way responses were made. Despite this, trustworthiness still emerged as the single most significant variable. In the survey, 'prescribing in an environment where colleagues are trusted' emerged as the sole explanatory variable for taking up prescribing for chronic pain, after qualifying. The use of these distinct methods for the investigation was included *a priori*, in the design to amongst other things, ensure quality (in terms of triangulation). The emergence of these identical outcomes from two independent phases increases the validity of the findings of the study.

5.4.3 Acquiring knowledge

Some of the main differences with respect to professional background emerged in the exploration of non-medical prescribers' attitudes to acquiring knowledge. The survey showed that whereas almost all the nurse and pharmacists agreed that they should be able to access CPD during paid work time, in reality, two thirds of the pharmacists (67%), compared to a small proportion of the nurses (20%) were not allowed this access. It was also clear that this affected the methods of CPD that they decided to engage in. While two thirds of the nurses reported doing in house courses (70%), only one third of the pharmacists reported this (33%). There were

indications however, that despite the differences in how they accessed and carried out their CPD, prescribers from the two professions were similar in some of their preferences regarding making time for CPD.

Apart from how nurses and pharmacists accessed and carried out their CPD, in other areas they were similar in how they acquired knowledge. During the qualitative phase, the three most common forms of CPD that emerged were attending courses, online CPD and reading relevant journals. The survey however specified: in house courses; reading journals; and accessing pain specific websites, as the most common means through which non-medical prescribers carried out their CPD. The type of resources non-medical prescribers use in the chronic pain prescribing came up in the interviews but was not a major theme in the qualitative phase. The survey however revealed that all prescribers with chronic pain experience prescribed with guidelines. While the British National Formulary (BNF) was the most commonly used resource for chronic pain prescribing, NICE guidelines and Organisation specific guidelines were also used.

The survey shed more light to how informal learning strategies contributed to the development and maintenance of safety in the prescribing environment. In the qualitative phase, we saw how the sub category 'organising learning' revealed the importance that non-medical prescribers attached to being able to learn from their colleagues. In the survey, this particular mode of learning was clearly confirmed by the proportion of non-medical prescribers who agreed that relying on supportive (and knowledgeable) colleagues was important to their practice. The evidence however suggests that not all prescribers for chronic pain perceived their prescribing environment safe enough for this practice to take place.

5.4.4 Gaining experience

It could be argued that the emergence of 'gaining experience' as a category in the qualitative phase should not have been particularly surprising. For nurses and pharmacists, prescribing is relatively new compared to medical prescribers. In the survey, a significant proportion of non-medical prescribers who had an interest, but had not started prescribing for chronic pain indicated that lack of experience contributed to why they did not prescribe in this area.

Just as we saw in 'acquiring knowledge', here as well, some differences with respect to professional background emerged in the exploration of non-medical prescribers' attitudes to gaining experience. The perception that the pharmacist prescriber was advantaged by their prior professional experience with drugs which emerged in the qualitative project, was corroborated by the survey. Here, a smaller proportion of pharmacist prescribers indicated their lack of medication experience as a barrier to their practice compared to nurse prescribers.

Another important theme that emerged from the qualitative phase was experience with patients with chronic pain. In the survey 21% of the pharmacist prescribers and 39% of the

nurse prescribers who were interested in prescribing for chronic pain, reported this inexperience as a barrier. Interestingly, while similar proportions of nurses reported lack of experience with chronic pain medication (36%) and with patients (39%) as a limitation to their prescribing, this was not so with the pharmacists. For the pharmacists, more felt limited by not having patient experience (21%), compared to those felt limited by inadequate medication experience (7%).

In the qualitative project, it also emerged that prescribers found learning from others' experience important to their prescribing practice. The percentage of non-medical prescribers in the survey who indicated interest in learning from other's experience (50%) suggested that this may be an important finding. However, 37% of the same population were limited in the access they had to networks of colleagues with the relevant experience, suggesting that despite the interest of the prescribers, limitations in access might be a hindrance to those interested in learning through this means.

5.4.5 Health information technology

Despite limitations in access to electronic prescribing systems and patient records, non-medical prescribers in the qualitative phase all agreed that these facilitated their prescribing. Here also, a significant proportion of the non-medical prescribers surveyed indicated that access to electronic systems and patient records facilitated their practice.

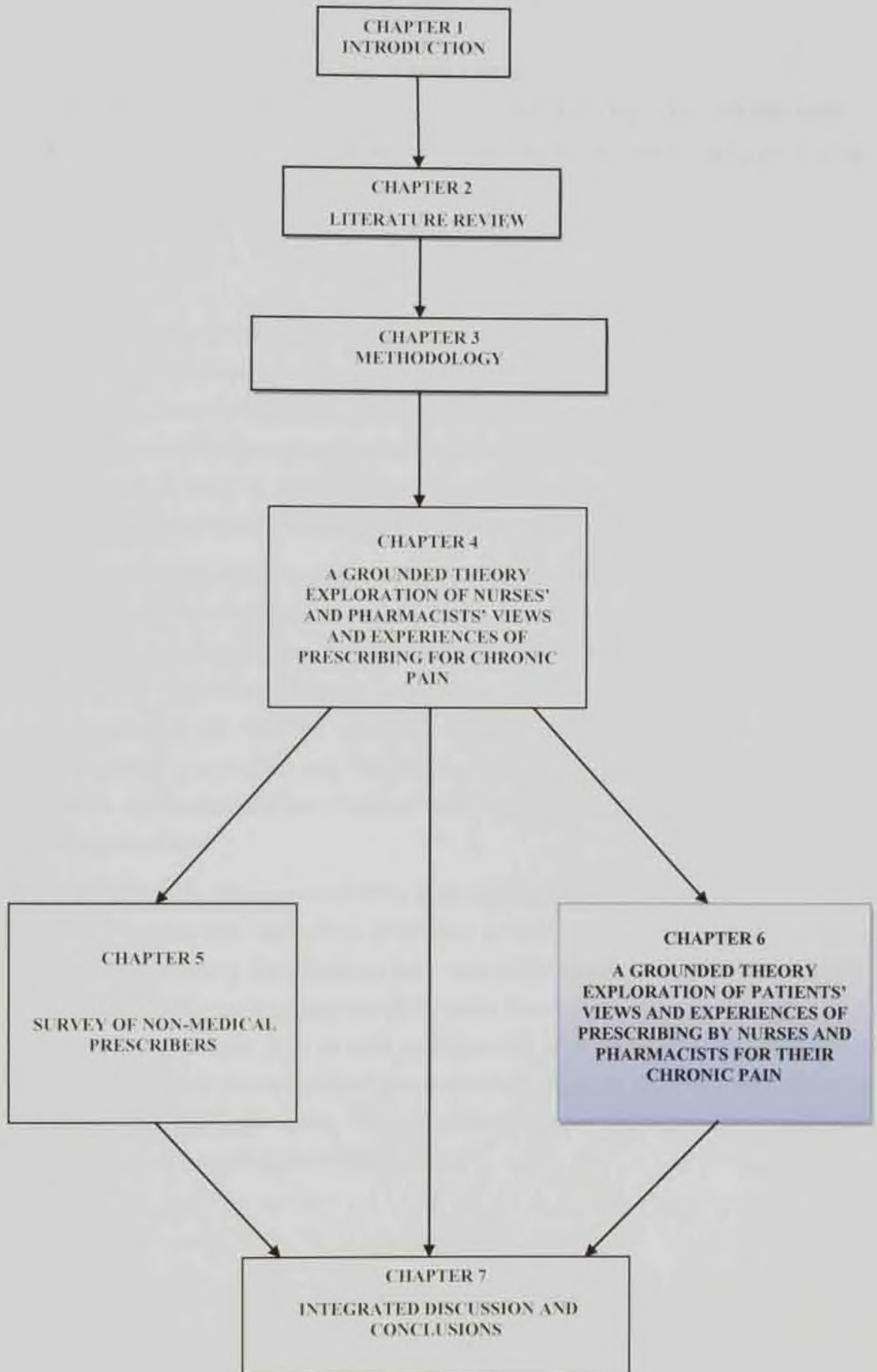
Although in the grounded theory project it was unclear which of these two barriers were more important to their practice, in the survey non-medical prescribers clearly indicated that lack of access to patient records was more of a barrier to their practice than access to prescribing software. Interestingly, this access to patient records seemed more important to prescribers with chronic pain experience than to their colleagues who had not yet started prescribing for chronic pain. Although it is not clear why this is, the related themes that emerged in the grounded theory project ('affecting patient care' and 'coping mechanisms') which centred on their patients, may give an indication as to why access to patient records was the more significant barrier.

5.5 Chapter summary

Non-medical prescribers were surveyed to determine their attitudes to themes that emerged in the grounded theory exploration in the first project. The chapter begins by describing the methods used in this project. Here, details of the questionnaire design, validation and piloting are given. Accounts of the sampling strategy employed as well as how the data were collected and analysed are provided. The results were presented and discussed in relation to the themes that emerged in the grounded theory exploration in chapter 4.

Non-medical prescribers agreed with the emerging theory regarding how the perception of safety and support within their environment influenced attitudes to prescribing. The survey revealed trustworthiness in the prescribing environment as important in determining whether to

prescribe for chronic pain. Although nurses and pharmacists were similar in their attitudes towards CPD, pharmacists were limited in their access to organised courses during paid work time. Non-medical prescribers also agreed that learning informally from colleagues supported their prescribing but were restricted by issues with trust and access. The survey also confirmed that in prescribing for chronic pain, pharmacists were limited by their lack of patient experience while nurses were limited by their lack of medication experience. For nurses and pharmacists prescribing for chronic pain having access to patients' records was more important to their practice than using prescribing software.



CHAPTER 6

A GROUNDED THEORY EXPLORATION OF PATIENTS' VIEWS AND EXPERIENCES OF PRESCRIBING BY NURSES AND PHARMACISTS FOR THEIR CHRONIC PAIN

6.1 Introduction

Following a literature review (chapter 2) it emerged that very few non-medical prescribing studies had considered the views and experiences of chronic pain patients. Furthermore, the work done in this area had mainly been presented from the perspective of the healthcare professionals indicating a neglect of the patient's perspective. To address these gaps, one research question of this thesis focused on exploring how patients with chronic pain perceived the prescribing service provided by nurses and pharmacists.

A key message from the project that interviewed non-medical prescribers (chapter 4) was that developing and maintaining a relationship with their chronic pain patients was important to how they prescribed in this area. This finding further confirmed the need for a project to explore the views and experiences of chronic pain patients. Firstly, this project would ensure that the chronic pain patient's voice was reflected in the study and would represent a more complete story compared to presenting only the prescribers' perspective. Secondly, it would determine where the views and experiences of patients with chronic pain agreed with, or mismatched those of their prescribers.

Although this phase was carried out independently, this project is reported in relation to the earlier project with non-medical prescribers. In telling the patients' stories this way, the methods and findings of this project are better contextualised and concisely presented. Firstly, I present the methods used in this project of the study. Due to the fact that similar methods to the prescribers' project were used, to avoid repetition only areas with significant differences are explored in detail. In the next section I present the results from the grounded theory exploration of patients' views and experiences. I then conclude this chapter by discussing the results within the context of existing and relevant literature.

6.2 Methods

This section presents the methods used to collect and analyse the data from patients with chronic pain. The same methods used in this project were used in the prescribers' project and were similarly underpinned by the constructivist grounded theory approach discussed in the

third chapter. As such, a brief overview is provided here but with more detail in areas where the steps and procedures differ significantly from the account provided in chapter 4.

6.2.1 Ethics and governance

Approvals for ethics and research governance for this project were sought for and given for the overall PhD study. As such, the details of the processes and approvals provided in the prescribers' project apply to this project as well. Related issues such as provision of relevant information to participants, assurance of confidentiality and anonymity and data encryption were also complied with in this project. Patients were sent the information sheets by email or by post, a few days before their scheduled interview and followed up to ensure that they had actually received, read and discuss them before the interviews (see appendix 22). A copy of the consent form was also sent ahead to the patients (see appendix 23). The same level of care described in chapter 4 was also applied to the protection of the data collected from patients at all stages of recording, transcription and analysis.

6.2.2 Sampling

In this project as well, a similar sampling strategy to the one described in chapter 4 was employed. Two sampling methods were also used in this project, theoretical sampling and purposive sampling. For the same reasons as outlined earlier in chapter 4, the strategy employed involved purposive sampling to select the first three participants and generate the initial themes, then the subsequent employment of the theoretical sampling method to further develop the emerging themes.

6.2.2.1 Selection of patients

During the recruitment of chronic pain some practical difficulties existed that were not encountered during the prescribers' project.

Firstly, in the design, the non-medical prescribers who had been recruited in the first project were expected to assist in recruiting patients that they had seen for chronic pain. This did not occur as planned. Although many of the prescribers were enthusiastic about assisting, due to other work commitments they made few referrals initially. Secondly, during the ethics review meeting, assurances were made that recruitment of patients would only be carried out through a healthcare professional responsible for their care. This approach through a gate-keeper was suggested to ensure that patients were not unduly pressured, or exposed to unethical practices but this affected recruitment. For instance, following a meeting with the coordinator of a pain patients group, she expressed enthusiasm in assisting with recruitment. This line of recruitment was not followed up because this coordinator was not a healthcare professional and did not meet the predetermined guideline.

Following constant canvassing, healthcare professionals (including one non-medical prescriber that had been interviewed) provided contact details of patients who after reading the information leaflet, indicated that they could be approached to discuss participating in the study. Eventually three recruitment sites were used to select participants, a pain clinic in West Yorkshire, a surgery in West Yorkshire and a surgery in East Yorkshire. Patients who had seen a non-medical prescriber for chronic pain, were approached by either their prescriber or their practice manager and asked if they were interested in participating in the study. All those who had given their consent to be approached by the research team were then included in the sampling frame from where they were selected during this phase of the project. Below are the criteria employed in the selection of the research participants.

6.2.2.1.1 Inclusion criteria for patients

1. Had suffered from moderate or severe pain in the past month
2. Had suffered chronic pain for more than six months
3. Was above 18 years
4. Resided in Yorkshire and the Humber region of the United Kingdom

6.2.2.1.2 Exclusion criteria for patients

1. Suffering from life shortening conditions
2. Suffering from a terminal illness
3. Cannot communicate in English

Although this was not embedded in the design, only about a third of the patients that were recruited had seen a non-medical prescriber who had previously participated in the study. The findings from this group were compared to the findings from patients that were recruited through other healthcare professionals with no connection to the study and there were no significant differences.

6.2.3 Data collection

The data collection and analysis during this project were carried out iteratively at the same time, as was done during the prescribers' project. Here also, a topic guide was developed to guide the interviews (see appendix 24) used to collect the data from patients. Although all the chronic pain patients were given a choice regarding what time and place they preferred to have their interviews conducted, all except one were interviewed in their homes. The one who was not interviewed at her home already had a meeting scheduled at her surgery as such her interview was carried out at the surgery. All the patients' interviews were conducted by me and a PhD supervisor observed the initial interview for the same reason she attended the first prescriber interview. During the interviews for this project, pre and post interview chats were

used to put the patients at ease. All the interviews here were also taped with two digital recorders and recordings downloaded to the university allocated computer after each interview following which the memory was then deleted.

For the patients, themes in the core category 'relating with non-medical prescribers' started reoccurring from the 8th interview and it was decided that saturation had been reached by the 12th interview. Unlike the prescriber's project, here I did not need to carry out any further interviews to confirm that the core category was saturated. On reflection I realised that was more conversant with the concept of saturation due to experience achieved at this stage.

6.2.4 Data analysis and ensuring quality

Coding started immediately after the data collection commenced and three levels of coding were also carried out here as well. Coding here was done using a combination of data processing (with NVivo software) and manual coding. Memos and other tools such as diagramming and sorting were used to formulate, modify and revise the emerging categories. Throughout the data collection and analysis similar measures to those employed in the prescribers' project were used here. Here as well tools such as the field journal and field notes were used for reflection. During this project, meetings with supervisors were also used to review the ongoing data management processes. An audit trail was maintained by saving the recordings and transcripts of the University's 'M' drive as well as maintaining documents such as field notes, meeting records, discussion notes and mind maps.

In chapters 4 and 5 triangulation of methods has been discussed. Another form of triangulation - triangulation of data sources was achieved by collecting data from both prescribers and patients. In this study, data were collected from both prescribers and patients as a means of verifying aspects of the theory relating to how prescribing for chronic pain was carried out and how this prescribing was perceived. For both the prescribers' and the patients' phases, all aspects of the study (from the development of the interview guides up to the generation of the grounded theory) were carried out independently. During the patients' interviews which commenced after the prescribers' project had been concluded, care was taken to allow themes to emerge from the data collected from their interviews. The results of the patients' project were only presented in relation to the results from prescribers' project, after data collection and analysis had been completed. As such, themes such as building relationships which emerged in both projects emerged independently.

6.3 Results

This section presents the results of the grounded theory exploration of patients with chronic pain regarding their views and experiences about how their condition was prescribed for. Details of the patients that participated in this project of the study are presented in table 11. This is followed by the categories that emerged from the data collected and analysed from patients with chronic pain. A summary of the categories and their component sub categories which emerged from this project of the study is shown in figure 12. Also a coding map detailing the emergence of the categories from the first and second coding levels is available in appendix 25.

In the first category, I explore how patients interacted with non-medical prescribers that prescribed for their chronic pain. I then go on, in the second category, to explore the feelings that patients had about the prescribing process and the medication that were prescribed for them. In the last category, I look at the other measures used in managing chronic pain, which emerged in this project and how the patients engaged with them. In presenting these results, I shall quote the patients, from transcripts of the recorded interviews, as well as refer to observations that I recorded in field journal. This is intended to provide contextual description and help illustrate important points.

6.3.1 Demographics

The table below summarises the characteristics of the patients that were interviewed in this project of the study. A total of 12 patients with chronic pain were selected from the sampling frame and their selection was based on certain characteristics regarded as important at the data collection/analysis stage that they were interviewed.

Table 11: Characteristics of patients

Participant Number	Gender	Age Range	Location	Educational Background	Work experience
Patient 1	Female	80-90	West Yorkshire	Secondary	-
Patient 2	Female	70-80	West Yorkshire	Secondary	Semi skilled- factory
Patient 3	Male	40-50	East Yorkshire	Diploma	Semi skilled/student

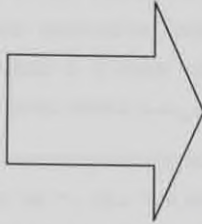
Patient 4	Female	70-80	West Yorkshire	Secondary	Managerial- Food shop
Patient 5	Female	70-80	West Yorkshire	Diploma	Healthcare - Nursing
Patient 6	Female	60-70	East Yorkshire	Secondary	Managerial
Patient 7	Female	60-70	East Yorkshire	Secondary	Carer
Patient 8	Female	30-40	West Yorkshire	Secondary	Skilled – white collar
Patient 9	Male	50-60	West Yorkshire	Secondary	Self employed
Patient 10	Male	60-70	West Yorkshire	Postgraduate	Managerial -Healthcare
Patient 11	Female	70-80	East Yorkshire	Secondary	-
Patient 12	Female	60-70	East Yorkshire	Secondary	Semi skilled - catering

The patients interviewed were predominantly female with just three men participating in the study. They were all drawn from either West or East Yorkshire and most had a secondary school qualification. They had a widely varied job history with at least three having managerial experience and two having worked in the healthcare sector.

Figure 12: Diagram of coding – chronic pain patients

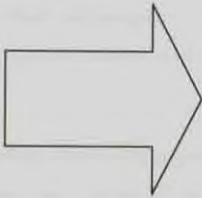
2ND LEVEL CODING3RD LEVEL CODING

- Understanding non-medical prescribing
- Valuing
- Evaluating service



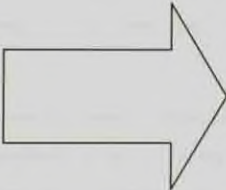
INTERACTING
WITH NON-
MEDICAL
PRESCRIBERS

- Dealing with side effects
- Using power



DEALING
WITH
MEDICATION

- Using other remedies
- Relying on other relationships



EXPLORING
OTHER
MEASURES

**Relating
with
non-medical
prescribers**

6.3.2 Interacting with non-medical prescribers

In many cases, for a healthcare professional to have carried out a consultation and subsequently prescribed for a patient with chronic pain, some form of association, involving both parties would have usually taken place. While exploring the views and experiences of non-medical prescribers, we saw 'relating with patients with chronic pain' emerge as an important sub-category. In it we saw non-medical prescribers believe that partnering with their patients resulted in a mutually beneficial relationship where their prescribing was more efficient and the patient's pain perceived to be better managed. We also saw how miscommunication had the potential to lead to pain relief not being achieved for the patient.

In this category I further explore how patients interacted with the non-medical prescribers who prescribed for them and the ways that they engaged with them while trying to achieve relief for their chronic pain. In the first sub-category I probe the level of understanding that patients had of the policy and practitioners. In the second sub-category I explore the perception that patients had of their non-medical prescriber and what they valued in the way they related with prescribers. In the third sub-category, I investigate patients' expectations with respect to how their pain was managed by nurses and pharmacists as well as how they evaluated the service provided.

6.3.2.1 Understanding non-medical prescribing

From the prescribers' phase of the study, I came away with the impression that patients automatically knew who a non-medical prescriber was and had a good understanding of their role. I had gotten this impression because during my interaction with the non-medical prescribers, I felt that a considerable amount of effort had been put into educating the patients about the policy.

"...as a prescriber, I always ensure that when I'm offering to prescribe for a service user, but they are comfortable with, a nurse prescribing for them, they all used to doctors' prescribing. I always ensure that they are confident and comfortable with me doing that. We also have published a little leaflet about non-medical prescribing. So I always have them at hand for service users if they want" (Nurse in secondary care with 2 years prescribing experience).

This assumption that I made was an incorrect one and I found this out due to the mixed reactions that I had during my early interviews with patients. For some of the patients, a non-medical prescriber was a practitioner that treated patients using alternative medicine.

"I would think it was one of these health things, that... like the health shops and things like that, I would have thought it was something like that, you know, not using the proper medical medicine, but the health sort of thing, so that will be what I would be thinking" (Patient 7 – female patient with secondary education with unskilled work background, in her sixties).

For other patients, non-medical prescribing referred to the use of substances and drugs other than pharmaceuticals to achieve pain relief.

"...people using other medication, or drugs, or alcohol, or whatever, to alleviate their distress, emotional and psychological and physical pain" (Patient 10 – male patient with postgraduate degree and managerial background and is in his sixties)

There were a few patients that had a significant understanding about what the policy was and how it related to the prescriber that was treating their chronic pain.

"...I work... the way I normally work things out, is literally a prescriber that is not medical, so therefore they have not gotten medical qualification, that is the way I will think of it, so not the Doctor,.... I wouldn't think a nurse practitioner would fall under that, but I would think someone like pharmacist would fall under that category, you know, yes" (Patient 8 – female patient with secondary education and a white collar job in her thirties)

This particular patient was relatively more informed but this may have been as a result of working within a research environment. It seemed that her work experience may have influenced her more systematic approach in understanding this mode of prescribing. However, her approach gave an insight as to how patients 'worked things out'. In her case and in many other interviews, I got the feeling that as well as being confused about the terminology, the 'non' in non-medical prescribing may have had negative connotations for patients.

For those that had an adequate understanding of what the non-medical prescribing policy was, who the non-medical prescriber was and how it was that they were able to prescribe for them, I probed further, as to how they had this understanding.

"...I was just, I was just curious, because at that point... because I knew the other nurses saw me, gave me flu jabs, took the blood tests, but they could not do anything and I was... about my medication, but she could. So I... and I also learned that she was a partner in the practice and I have never heard of this, so I asked her how do you get to this position and she told me." (Patient 10 – male patient with postgraduate degree and managerial background and is in his sixties)

This patient was also more educated than the other patients that I had seen and had carried out some research as part of his masters degree. It was clear that his understanding of non-medical prescribing was adequate, but what struck me was that despite having being a

prescribed for by a non-medical prescriber for a while, his awareness was due to the fact that he had made the effort to know more about it.

In many of the interviews, I had to make considerable effort to ensure that the patients understood the concept of nurses and pharmacists prescribing, even though they were already being prescribed for by them. Overall, I got the impression that patients were largely confused about the term and the policy. I felt that that patients had been left to 'work things out' for themselves and in some cases, they just received their pain relief from the healthcare professional they had been referred to without understanding the concept behind it.

This mirrored an opinion that had been made during the prescribers' phase of the study where it was suggested that patients did not really care who prescribed for them, as long as they got their prescriptions.

"when we started, I did a leaflet on what the supplementary prescribing was and I think they thought it was a bit of a joke, because they thought that I did that anyway, because quite often, I would go away and sort out their prescription and to them, it did not really matter who wrote it." (Pharmacist in secondary care with 3 years prescribing experience)

The impression I got was that though patients may have been perceived not to care 'who wrote it' when they seemed to be in desperate need of the service, it was clear that in the comfort of their homes, as I took the time to explain the policy, they were very interested and already had some opinions about it. The notions that they had about non-medical prescribing however were not always correct. For instance this patient had formed her impression of the scope of practice and powers that non-medical prescribers had, based on her observation of her prescriber.

"I do not think that they specialize, I think it is the other way around, if I wanted something more specific, then I would probably see the GP. I think they are good generally, so you know, day to day things really...I don't think they have been in the position where they have had to leave the room and get a prescription from the Doctor., so on that basis, it seems that they can prescribe for anything that they see you for really, yes...I would think that they can see you for pretty much many things, maybe not mental illness and that kind of thing, maybe there is a limit, but em... I would say the generalized things, the day-to-day things, then yes, I think that they would be able to see you for that." (Patient 8 – female patient with secondary education and a white collar job in her thirties)

The impression she had of non-medical prescribing was not an accurate one, because non-medical prescribers are only allowed to prescribe in areas where they were competent, suggesting a more specific, rather than a general practice.

6.3.2.2 Valuing

In the last sub-category we saw how patients with chronic pain may not have actually had a comprehensive understanding of the terminology, or the policy backing non-medical prescribing, as at the time they were being prescribed for, by these professionals. Nevertheless, during the interviews it emerged that this lack of understanding did not seem to affect their ability to assess the value of their interaction with their prescribers and maximise the benefits that they felt could be derived from these relationships.

Many of the patients, who reported having a relationship with the non-medical prescriber that dealt with their chronic pain, seemed to have developed these relationships over a period of time.

"...and he said, how long have you known me and I have known him a lot of years, he had the chemist shop around the corner for a lot of years, so I am comfortable, more comfortable with him" (Patient 11 – female patient with secondary education in her seventies)

For this group of patients, there were tangible benefits that they could identify, as having resulted from these relationships. One of these benefits was that the feeling that their prescriber had a significant understanding of not only their pain, but also its effects on their lives.

"...the empathy, the empathy and I think the understanding as well of what you're actually going through. She does not treat you as if you're going there for something minor, you know" (Patient 9 – male patient with secondary education, was self employed and is in his fifties)

"I think that is an element, definitely, yes, you do not feel as rushed, at all, or whether it is because the... to be honest I don't know where the personal side of it comes in, but they do seem to be more empathetic towards you and yes, they don't seem to be rushing you out, really." (Patient 8 – female patient with secondary education and a white collar job in her thirties)

That these non-medical prescribers whom they had a relationship with could empathise with their health and its associated problems seemed especially important for patients with chronic pain. I felt that the chronic nature of their condition and the subjectivity involved in the diagnosis had a part to play. As such a relationship in which their account would be trusted and believed and their problems regarded seriously was important to them.

In a similar vein, it seemed important to patients with chronic pain that their non-medical prescribers have the time to listen to their complaints and deal with their problems.

"I find that she listens more, I don't feel as rushed when I speak to her, as I would with the doctor, a GP, I feel that whenever I speak to her about the problem of mine, she actually listens to that problem and it's the same that I found with all of nurse practitioners, ... they have listened to what I have got to say, they've remember things that I have said in the past as well,

so I do find it is more personal with the nurse practitioner" (Patient 8 – female patient with secondary education and a white collar job in her thirties)

I got the feeling that patients were wary about trusting that their prescriber would be patient enough to deal with their chronic pain over a long period of time and at the same time keep an open mind and remain objective for each subsequent visit.

For the patients that had identified these characteristics in the non-medical prescribers that saw them for their pain, they were prepared to display considerable loyalty regarding who they preferred to prescribe for them.

"...then she went off to another area and she's moved to yet another area and I have to travel to that other area and I don't think that the nurses here appreciate that, or the receptionist down here appreciate that very much, what am I doing going down to see her there, but she is my practitioner and it is just difficult to do the coordinating" (Patient 10 – male patient with postgraduate degree and managerial background and is in his sixties)

"I wouldn't see anyone else, but her, because she has given me continuity of treatment, because I have known her for maybe 5, 6 years. She knows my case history, I have got the continuity of care with her and she's always well-versed on what she is going to suggest, even to the point that if she didn't particularly know, she has always read up on it before hand...I have got 100% confidence in her abilities and I would only go to a doctor if I was being referred to maybe a consultant or a specialist doctor, but for general purposes, no, I would not". (Patient 9 – male patient with secondary education, was self employed and is in his fifties)

The attachment that these individuals had to their prescriber was particularly surprising, because I had always regarded this form of loyalty with doctors, as in the case of 'personal physicians'. In effect the relationship that they had developed with their respective non-medical prescribers meant that they regarded them as their 'personal non-medical prescribers'.

Not all of the patients that I interviewed regarded these traits as beneficial though. For some, just listening and being patient was not sufficient to stimulate a relationship building process.

"I think the nurse has, I'm not sure about that... she seems to sit and listen, but she doesn't seem to have much come back. So she goes oh... I will get... I'll see the doctor... but the next time... but when she sees Doctor (name of the doctor)... I don't know what it is, because I never... you know what I mean, since I went for the last injections, which I think were in... about April or May, I haven't heard anything from anybody" (Patient 4 – female patient with secondary education and managerial work experience in her seventies)

The above patient complained that her chronic pain had not yet been resolved and did not display the loyalty that the other patients did. In fact she did not even remember the name of the non-medical prescriber and did not seem satisfied or happy with the service that she had been getting. As such I felt that for patients, the desire to build relationships with non-medical prescribers was also results oriented.

Not all of the relationships that patients felt they had with their prescribers had been developed by continuous interaction over a period of time. In some cases, patients have identified non-medical prescribers nurses and pharmacists that they perceived as being skilful and actively built up links to them.

"I mean, the lady pharmacist that retired from here, she was on the ball and when I first met her, we had a stand-up debate in the chemist shop, because I was on two different pain controls, it was way back before things got so bad... and she said you cannot have both and we had quite a debate, I said, I can, because I take that when the pain is not too bad and I take that when the pain is awful. But then, the upshot was that she got my measure and I got her measure and after that she was wonderful." (Patient 5 – female patient with diploma qualification and healthcare background in her seventies)

This patient however had a healthcare background and as such had some knowledge with which she could carry out a quick assessment of the pharmacists skills before deciding to link up with her. Apart from being proactive in initiating these relationships, there was evidence that patients sometimes had to be proactive in maintaining them.

"...unless you're just pushy, you've got to insist that you want to get in, that doesn't always work, they just say go to the... these new centres, the walk-in centre I am not too keen on, just walking into see a stranger, I you, you want to go where you I used to going, so..." (Patient 12 - female patient with secondary education and blue collar background, in her sixties)

Here the patient admits to being a bit assertive in ensuring that she continues to see a prescriber that she already knows and that knows her, rather than attending a walk in centre.

6.3.2.3 Evaluating service

One of the more difficult skills to acquire while interviewing patients is getting them to be critical about their non-medical prescriber shortly after they have been asked if they wanted their surgeries notified that they were participating in a study. It was helpful that I had acquired the relevant skills by going for courses and also carrying out the prescribers' interviews before I got to this stage. Taking time to chat with patients for a while before the interview commenced also helped to put them at ease and assure them that their views were going to be kept confidential. As a result, I discovered that patients were constantly evaluating the services that they got from non-medical prescribers. Though they may not have understood the policy as mentioned earlier on, many patients had strong opinions about who did what correctly and who

did not. These opinions that the patients had about how their service was delivered influenced who they felt comfortable relating with.

One interesting theme that emerged in this category was how patients evaluated the skills level of their prescribers with respect to knowledge and experience in chronic pain. Patients constantly wanted to be reassured that their prescribers had the relevant knowledge and experience, not just to deal with their pain, but also to answer any queries that they might have about their condition. Some of the patients demonstrated that they were aware that non-medical prescribers had to have an extra qualification before they could prescribe.

"I was aware, em., only by chance, I had a previous nurse practitioner that I used to see that worked in a different medical centre, in fact, I think it's the same one and I remember her telling me that she was taking this course that would enable her to prescribe, because at the time she was getting doctors, you know, to sign the prescriptions, so I did... I was aware that there was a course that she had to take, I didn't know what qualification it gave her, but I was aware that you have to take some sort of course in order to be able to prescribe medication." (Patient 8 – female patient with secondary education and a white collar job in her thirties)

There was also evidence that patients were aware that some non-medical prescribers such as pharmacists would as a result of their professional background be more knowledgeable with medication.

"...when I met him and I found out he was nearly as... well on the medication as a Doctor, was, I think more so, maybe better... he gets more into your medication and he asks you how you feel, if the medication is working well, so yes, I think he's quite good, yes..." (Patient 6 – female patient with secondary education and managerial work experience in her sixties)

But the most interesting aspect of how patients evaluated non-medical prescribers skills was that they were very comfortable relating with prescribers who were open enough to admit that there were certain aspects of chronic pain that they did not know.

"...and she's always well-versed on what she is going to suggest, even to the point that if she didn't particularly know, she has always read up on it before hand." (Patient 9 – male patient with secondary education, was self employed and is in his fifties)

"...and she looks things up in a book for me, you know, maybe it's..... I can't remember what for, but she has looked many a thing up for me in the book." (Patient 2 – female patient with secondary education and blue collar background in her seventies)

It seemed that regarding knowledge and experience, what was important was not just that their non-medical prescriber knew, but could be trusted to admit when they did not know and work towards gaining the relevant knowledge or experience. When patients felt that this was the

case, they were encouraged to engage with that prescriber. For instance, when non-medical prescribers seemed reluctant to answer questions, patients became suspicious.

"well the last one that came, I wouldn't have paid her used tram tickets, if you know what I mean... there was something else that I asked her, ...oh, I am in a hurry, I am in a hurry and then of course I wanted to ask a something else, she said oh I haven't time, I said well you are poor nurse, you are supposed to sit and answer questions, so I hope I don't see her again, or else ..." (Patient 1 – female patient with secondary education in her eighties)

In the above example the patient had just started seeing a new prescriber because her former prescriber with whom she had a good relationship, no longer worked in her area. In this case, she was not encouraged to develop a relationship with this new non-medical prescriber.

In other cases, patients had been critical of the way that the various healthcare professionals that were responsible for their care communicated with each other and how this affected the service they got.

"well, it is... they always seem to have to refer back to the GP and go through the GP and of course the GP ... on the prescription, but having said that, having at least increased the dosage, when the pain has been... so perhaps if they are in such a position and they know the patient better than the GP does, perhaps it would be better if they could sort of, not to have to have all this... there can be a time lag..." (Patient 5 – female patient with diploma qualification and healthcare background, in her seventies).

Here, though the patient may not have known what the model was, she was in effect describing the supplementary prescribing model. She also noted that communicating with the GP meant delays in the way that she received service from her prescriber. A similar point arose in the prescribers' phase where with respect to health information technology prescribers felt that communication problems caused delays for patients.

Other areas where patients had opinions about their service were provided by non-medical prescribers included the use of diagnostics aids and consultation tools.

"...she was a lovely girl and with knowing her, I could talk to her and she realized what I was like and she used to say, you know, I to 10 out of pain, what is your pain like and I used to say that getting out of bed was 1 to 14, (and laughs) and I said, as the day goes on, many a time, the back pain eases, you know, without movements, it eases, but me knees never eases" (Patient 1 – female patient with secondary education in her eighties)

"... but the pharmacist, he definitely takes his time, whereas you can go to the doctors and she doesn't bother as far as taking your blood pressure and seeing your pulse is okay and weighing you, he does all that, whereas the doctor does not. And I think he takes his time and

asks you if there any problems...and that's good". (Patient 7 – female patient with secondary education with unskilled work background, in her sixties)

Apart from the fact that using diagnostics aids and consultation tools suggested a better and more thorough consultation, I felt that patients were under the impression that prescribers who used them were more professional.

6.3.2.4 Category summary

A less than optimal level of understanding of non-medical prescribing exists among patients. This did not however affect patients' ability to identify characteristics that they considered desirable in nurse and pharmacist prescribing for their chronic pain. Patients demonstrated that when they perceive these attributes to exist in a prescribing relationship. They were ready to reciprocate by being loyal. It also emerged that during prescribing, there was an ongoing evaluation of aspects of the prescribers practice including their knowledge skills and professionalism.

6.3.3 Dealing with medication

Many of the participants in this phase of the study were elderly patients and this is reflected in their average age (about seventy). It was expected that a significant proportion of them had some co-morbidities alongside their chronic pain. This meant that they were also taking medication for these other illnesses, in addition to their medication for chronic pain. Additionally, some had been taking drugs for chronic pain for a considerable number of years and had experienced the many different classes of drugs available for their health problems.

I got the feeling that among other things, these two factors made the patients in the study feel that they had some level of expertise in interpreting the way that these chronic pain medications and other drugs interacted with their bodies. In this category, I explore how patients engaged with the medications that were prescribed for their chronic pain. I look at the effects that patients felt that these medications had on their quality of life and how they tailored the medication taking process to suit their needs. In the first sub category 'dealing with side effects' I focus on some of the side effects patients associated with these drugs and how they dealt with them. In the second sub category 'using power' I explore how patients saw themselves in the medication taking process and how they used this position to achieve their aims.

6.3.3.1 Dealing with side effects

The patients in this phase of the study reported a range of unpleasant side effects of the chronic pain medication and varied in the ways that they dealt with these adverse effects. One of the more prominent themes that emerged in this area was how patients felt that these adverse effects complicated their already compromised health profiles.

"I believe so, the actual painkillers that I am on are only paracetamol, but only because the [other] painkillers make me feel ill and I don't see the point, I am had enough with the pain, without feeling sick and dizzy and other problems as well. So I would rather stick with the paracetamol...and the diclofenac, for the anti-inflammatory, so that is what I stick with."
(Patient 11 – female patient with secondary education in her seventies)

This patient had tried a number of 'stronger' painkillers but the side effects associated with those able to completely relieve her pain were too much to bear. For her, she would rather take those painkillers that did not have such severe side effects, but also did not relieve all the pain.

Apart from the case above where adverse effects could make the patients feel worse, in some other instances, patients also complained that these side effects further compromised their the quality of life by affecting other areas, such as their relationships with their families.

"I used to get very drowsy and forgetful, as though I was drunk, I used to get like a drunk feeling and forget a lot of things, a lot of conversations that my partner and I have had, I could be talking to him one minute and then completely forget that we have had that conversation and then ask him the same again and again... the codeine, I was always reluctant to take that, because I knew what that would do to me and I would only ever take it when it was absolutely necessary, mainly because of that factor, you know, I did not like that feeling." (Patient 8 – female patient with secondary education and a white collar job in her thirties)

In her own case, she suffered the complications to her health by these side effects, as well as having the enjoyment of her family being severely diminished by them also. In our pre interview chat, she admitted that both her chronic pain and the complicating side effects limited her from playing with her kids. She said that missing this part of her life was the biggest regret she had about her illness.

Dealing with side effects was a very emotional subject for some of the patients. I felt that for those that had reacted to many drugs, they perceived that there was some sort of 'trial and error' approach to their management by their prescribers. The patient below complained bitterly throughout her interview about the lack of success that her prescriber had in her pain relief. She reported that she had tried many treatments but reacted to all, except paracetamol.

"...not particularly, no. I like to know a bit more, if there is... I just can't believe that everybody else in the British Isles can take them tablets (sic), apart from me. I cannot be that special ..." (Patient 4 – female patient with secondary education and managerial work experience in her seventies)

In her case, she was also on a lot of other medication which may have significantly affected the treatment choices available for her chronic pain. The result was that she felt frustrated about the treatment that she was undergoing.

For others, finding out more about their medication and the side effects seemed to be a useful way of approaching the issue.

"...and that's when I started feeling it, so I knew was the codeine. And then of course reading the information sheet, does tell you what the side effects are so you can kind of say... yes, yes, I have got that, you know" (Patient 8 – female patient with secondary education and a white collar job in her thirties)

Getting more knowledge in this case helped the patient isolate which of her medication was responsible for the adverse effects and she subsequently had her prescriber substitute this particular drug.

There was also some evidence that patients were systematic in making choices regarding what level of adverse effects to put up with when taking their chronic pain medication.

"one of them upsets me, my stomach really, but then again it's one of the major side effects of taking that, that drug, but I tried different ones and because of the nature of the drugs, they all have the same side effect. I can be a little bit drowsy at times, but again, that is part and parcel of it, but nothing too untoward ... but I put up with it, (laughs) cope with it, because the benefits that I get from the combination at the moment, far outweigh any of the... what I would call small side effects really." (Patient 9 – male patient with secondary education, was self employed and is in his fifties)

In the above case, this patient had carried out an analysis where he had compared the risks and benefits of continuing with his combination of drugs. He then made the decision to carry on with the combination, irrespective of the side effects.

Apart from the way that patients dealt with side effects, another important theme that emerged from in this area, was the kind of side effect that patients felt that they could put up with. Patients seemed to be particularly concerned when the medications that they took for chronic pain seemed to affect their mental state. For them, being alert seemed to be very important and many of the drugs that they regarded with suspicion were those affected their state of wakefulness, or their mental abilities.

"Now, I take paracetamol for the pain, they are not strong enough, but all the others that the doctor tried me on, they made me like a zombie, you know, I knew what I was doing, but I wasn't there, if you know what I mean. So they have been too strong." (Patient 1 – female patient with secondary education in her eighties)

"... I must admit that I am a bit reluctant, I have oramorph for breakthrough pain during the day, I ever reluctant to take it too often, because I..., it's only a personal opinion, I feel that I would be sitting, zonked out half the time and I don't want that, so I try not to take too much of the oramorph" (Patient 5 – female patient with diploma qualification and healthcare background in her seventies)

Being alert, maintaining a state of wakefulness and being in control of their mental abilities were regarded as being even more important as one became more elderly.

"...because I am getting... I am an old person and I don't want to be...em... I want to be aware and alert of everything that goes on, because I am 68 now and I do not want any tablets to interfere with my reasoning, I don't need it." (Patient 6 - female patient with secondary education and managerial work experience in her sixties)

6.3.3.2 Using power

In the last sub-category while discussing how patients dealt with their side effects, we saw some cases where patients due to adverse effects of the medications that they were on, either decided to reduce their intake of these drugs, or even stop them altogether and ask their prescriber for alternatives. In this sub-category, I further explore how patients interacted with decision making ability that they had over the medication taking process.

During the interviews, I perceived that patients were acutely aware of the control they had over the medication taking aspect of the treatment. Unlike the scenario in 'evaluating service' where they were initially reluctant to criticize their prescribers, here, when they reported engaging in behaviours contrary to agreed patterns with their prescribers, they did not show any apprehension.

"... I would want it seen to straightaway, because it is my health and I don't want anybody messing about with my... and I would make it clear about what I wanted and if they didn't, well then maybe I would find somebody else..." (Patient 7 – female patient with secondary education with unskilled work background, in her sixties)

The above case illustrates how strongly patients felt about exercising some level of control regarding their medication. This patient was ready to terminate the prescribing relationship and go elsewhere, if they felt that they were not being taken seriously. There was a feeling that since it was their health in question, they felt justified in taking and exercising some control.

One of the ways that patients asserted their control over medication taking was by taking drugs more frequently, or when they were not meant to. They engaged in this, in order to derive certain benefits, even though they were aware that it might be risky for their health.

"...and so as I say, diclofenac, they are the ones that ease it, but... then I used to take one a morning and I could feel the benefits of it. Anyway, they said I haven't taken any more, but I have a few and if I am going out anyway, I take it. I had one this morning, because it was shocking, was the pain and just hobbling about like this..." (Patient 1 – female patient with secondary education in her eighties)

This patient due to possible interactions with her other medication, had probably been advised to discontinue diclofenac. She admitted being aware of the risks, but still took it when she felt that the benefits that she would derive from it was worth the risk.

On the flip side, patients also used this power to stop or alter medication that they were uncomfortable with. In this patient's case, she admitted that she would amend or even discontinue her medication, without necessarily going back to the prescriber.

"I would probably avoid taking the tablets, the medication, unless it is absolutely necessary. So I will put down (sic), so if my nurse was saying take them three times a day, I would only take them as and when I need it to, which is a bit of a double-edged sword, because obviously you're supposed to load your medication up, which I know about, but you know and that's point of taking the medication, you think I can go without that, I don't need that feeling, so I do tend to skip, rather than go back." (Patient 8 – female patient with secondary education and a white collar job in her thirties)

In some other instances, this authority was exercised to adjust their regimen to suit aspects of their lifestyle. For instance amending the frequency of dosing to tally with how much activity they had during that day.

"...well, I would just take them when I am really in pain, I do not take them like every few hours throughout the day, I just take them, maybe in the morning when I get up, or say I have been on my legs a lot during the day, I take a couple before I go to bed so I can go to sleep and that's more or less it". (Patient 12 - female patient with secondary education and blue collar background, in her sixties)

The patients admitted that this sometimes happened without advice from their prescribers, or any scientific evidence.

Another interesting way that patients used this control over their medication taking, related specifically to when they had drugs with the potential for addiction prescribed for them.

"...in your nursing career, you have seen people will be utterly dependent on drugs and addicted and socially, you know that addiction is not a good thing and I think that you have got this in your mind, am I... what is happening, if it is 5mg every two hours now, is it going to be 10 mg every few hour and if it is going to progress... I do not want to go down that route." (Patient 5 – female patient with diploma qualification and healthcare background in her seventies)

This patient was very conscious of her oramorph and would regularly skip doses, even when she was in some pain. It seemed that the opiophobia she expressed may have been as a result of her healthcare background. There was no evidence that the other patients consciously decided to reduce their opiod based medication because they were afraid of being addicted to them.

6.3.3.2 Category summary

Patients modified prescribed medication without necessarily consulting with their non-medical prescriber. They felt that amending the way they took their medication allowed them limit their exposure to side effects, get more from their treatment, or forestall future implications

associated with taking such drugs. Although patients expected to get information about the side effects of their medication from their non-medical prescriber, they also made significant effort to work things out for themselves, either by reading up about them, or by experimenting. Some side effects were less acceptable than others and medication that had an effect on mental alertness seemed to be least tolerable, especially for the older patients

6.3.4 Exploring other measures

In the project that focused on prescribers' views and experiences, it was revealed that these professionals were open about exploring non drug measures when treating patients with chronic pain. Here, I explore a similar theme that emerged from the patients' phase of the study, but in this section, in addition to lifestyle changes 'other measures' also refers to complementary and alternative medicines, spiritual beliefs and social/familial support when these were seen by the patient as being able to help with their chronic pain.

The patients that participated in the study had a robust experience of these other measures and this emerged very early on in the interviews. In fact during some pre interview chats, on learning about my professional background, patients wanted my advice on some new product or intervention that they had recently come across. I was always careful to neither persuade nor dissuade them, but refer them back to their prescribers or relevant authorities for advice.

This however suggested to me that with respect to how they managed their chronic pain, patients were open to, among others: engage in activities, use unorthodox therapy and access social and familial support to achieve their objectives. In this category, I explore how patients engaged with these other measures that they believed may or may not have an effect on the way they managed their chronic pain. In the first sub-category 'using other remedies' I explore patients' beliefs with respect to herbal remedies and distraction therapy. In the second sub-category 'depending on others', I explore how patients interacted with support from family and social networks, including the place of their spiritual beliefs, when they perceived that these factors could help them manage their pain.

6.3.4.1 Using other remedies

Whereas in the prescribers' project, the openness in exploring non drug measures suggested to me a more open minded approach to prescribing for their patients, this was not the same impression that I got for patients that considered using other remedies. Especially pertaining herbal remedies, the impression that patients gave was that they were more prepared to explore when they felt that they were not achieving desired goals regarding their pain relief through the orthodox prescriber. The next two quotes from the same patient clearly illustrate this point.

Initially, when asked the place of other remedies in his management of chronic pain, he admitted using herbal products.

"I tried it years ago. I went to this Chinese herbalist shop, they seem to be springing up everywhere, I paid like 10 pounds for a little bottle of tablets for arthritis, it did nothing, absolutely nothing, they might as well have given me smarties (laughs). So I gave that one

up..." (Patient 3 – male patient with diploma with blue collar work experience and in his forties)

By comparing the herbal product to 'smarties' (a brand of sweet/chocolate), he clearly did not feel that the product helped his pain and further probing then revealed the reasons why, in the first instance, he sought pain relief from this source.

"...well, I wasn't on this sort of medication, I was only just been diagnosed with osteoarthritis and that was eight years ago and I thought I would try them, because originally, the doctor was just giving me paracetamols and all the usual co-codamolols, you know and they were not doing anything, so I sort of reached out and tried other alternatives, which didn't work and eventually I worked my way up to morphine and gabapentin, which I am quite happy with now..." (Patient 3 – male patient with diploma with blue collar work experience and in his forties)

As soon as realised that these product did not work for him, he felt less comfortable experimenting with them. Incidentally, he started achieving his objectives through pharmaceutical products prescribed for him. Other patients seemed to have an open mind regarding herbal products.

"...not long ago, these em... Asian people rang me up and they asked me, you know, what pain I have got, and I told them you know, in my sides and all that, I says, but I am with the doctor... on them, you know and the hospitals... and she said well... she gave me some good advice actually and she said to have you tried olive oil, so I says no, so she says well try it, get a bottle of olive oil and warm it, she says and rub it on areas where your pain is..." (Patient 2 – female patient with secondary education and blue collar background in her seventies)

There however were also patients who used herbal products as form of 'top-up' to their prescribed medication.

"...well, I would not take anything, you know, internally, I would always ask. This is where it is where matron was very good, I had seen this advert for this rubbing oil and it sounded... you know, it sounded sensible. But she went through the trouble of ringing them up and finding out what the ingredients were and funny enough, the man that ran the... I suppose he owned it, was very good and he looked it up and he says I cannot tell you what the basic oil is, because that is our secret, you know, but he said there's geraniums and all sorts of different things and of course she knew what medication I was on and between them, she said no, there is nothing that can do you any harm. So I feel quite confident using it then." (Patient 5 – female patient with diploma qualification and healthcare background in her seventies)

This patient was open to using herbal products, but made it clear that they would only use them if they agreed with the treatment that they were already getting for their chronic pain. She also always made sure that she got her non-medical prescriber's advice before using them.

The final group of patients had the attitude, that if it was not prescribed by their non-medical prescriber, or by a doctor, then they would not have any confidence in the product.

"I wouldn't take them, unless I were really sure about it. I wouldn't take anything other than what I've been prescribed and sticking to now. I wouldn't touch it with a barge pole." (Patient 7 – female patient with secondary education with unskilled work background, in her sixties)

"... I don't know, I think I take enough medication. I don't need anymore added on to my medication. I think sometimes I take... I think I am taking too many tablets, really, but you have just got to take them." (Patient 6 – female patient with secondary education and managerial work experience in her sixties)

The second patient struck me as some one who put considerable effort and time in finding out about her medication and keeping up to date with her health issues. I felt that she did not want to go through it all again in order to assess if the herbal medicines were good for her.

Apart from exploring with herbal remedies, patients also demonstrated that they were aware of the place of lifestyle modifications, in the treatment of their chronic pain. This patient had earlier described the herbal tablets he took as innocuous as 'smarties', but he went on to engage in physical exercise and found it beneficial.

"...but other complementaries that I have done, I used to go to the pain management clinic up the road here and it taught me ways of physically... for the arthritis, you know, like tai chi and stuff and I find that very helpful, you know, for the... relaxing the muscles, easing the aches and pains..." (Patient 3 – male patient with diploma with blue collar work experience and in his forties)

This suggested that patients evaluated these 'other measures' the same way they evaluated the service that they got from prescribers.

Lifestyle modifications, though seen as beneficial, were not suitable for every patient. This other patient was advised to take up walking to help with her chronic pain, but she also had severe breathing problems and felt that the suggestion was unsuitable for her.

"...it is supposed to get your circulation going, as they said while you're walking, well I had to laugh, I says, walking, I says you are joking aren't you, so he says no, we want you to walk a lot, so I says, I am going to walk with this chest complaints, I says it takes me a long time to walk to the kitchen and back..." (Patient 2 – female patient with secondary education and blue collar background in her seventies)

As a result she did not engage in these recommended exercises.

Patients also felt that their spiritual beliefs helped in the way they managed their pain. These two patients were Christians and they believed that their faith in God was beneficial in their approach to their health problems.

"I don't know, I just think it is... it's just that there is something there, you know, there's someone is there, there is someone you can talk to and he can talk to you somewhere, you know, so I think..." (Patient 4 – female patient with secondary education and managerial work experience in her seventies)

"I think that faith is a great support, but I wouldn't take the way of... sort of... one time, when things looked very bad and the doctor said to you think that you are depressed, perhaps we should put you on antidepressants and I resist that, because I do not want that, but I think that the faith helps a lot and you say, dear God, how much more... or shall we have merely to rest now, but I do not think... I think it helps, I think it helps..." (Patient 5 – female patient with diploma qualification and healthcare background in her seventies)

In this area, I got the impression that that these patients did not actually feel that their belief alleviated their pain rather it helped them cope better with living with their condition.

Other measures that patients either engaged in or had explored were mostly distraction therapies. The more common ones mentioned by patients was listening to music and engaging in mentally challenging activities.

"If I'm in bed, or if I am sitting here in the armchair reading, listening to music... I can manage without the pain. So sometimes I don't even need more than one or two... one or two sets of tablets, not four times anymore" (Patient 10 – male patient with postgraduate degree and managerial background and is in his sixties)

"...sometimes I do and when I do, I feel... but em..... no, I am...I don't really know how to say this... I think if I keep... I do look of crosswords and quizzes, that keeps me... that takes my mind off the pain, that's how I do it...I go to a quiz night on a Tuesday and my friend takes me and that... I do enjoy that and I listen to music a lot, which I find very therapeutic" (Patient 6 - female patient with secondary education and managerial work experience in her sixties)

It seemed that these other measures that patients engaged in enabled them adjust their medication without missing the tablets too much.

In a similar manner to the earlier example where we saw a patient evaluate the physical activity suggested to her by her prescriber and refused to engage in it, here also, some forms of distraction therapy suggested to patients have not been found useful.

"...it's was very shocking, well it's nine years ago on Saturday coming up, but I lost him, it was a terrible shock and obviously I was in a bit of the state and I went to the doctors and he

suggested retail therapy. And that's... I just felt like walking out, what is retail therapy going to do?... you know, that annoyed me at the time..." (Patient 11 – female patient with secondary education in her seventies)

6.3.4.2 Relying on other relationships

Earlier in this chapter, we saw how patients felt that having a relationship with their prescribers was important to them achieving their objectives with respect to their chronic pain. The emergence of values like empathy, trust and loyalty suggests how important these relationships were to patients with chronic pain. There were however other relationships that were also important to patients in the way that they managed their chronic pain. These were the relationships that they had with their families and within their social networks.

All the patients that I interviewed lived in their own homes and despite the fact that some were relatively unwell they all still had a considerable level of independence. For this group of patients, despite their independence, it was also important to have someone or some people, they interacted with, who they felt could be counted on to support them in various aspects of their lives. The impression I got was that this made them feel better about their health and more confident in the way they felt that their pain was managed. For these patients, this person they felt that they could rely on was probably a family member, close friend or social contacts with whom a personal relationship had been developed.

Though the support that they wanted to be reassured of was not needed at that immediate time, it seemed important to them that they be sure that they could count on it whenever the need arose. The fact that they had someone, who cared and was ready to support them, if necessary seemed to be just as important to them as actually being supported.

Although many patients, who had families, usually used them as their support system, this was not always the case. For those with no families, or who were not living in the same areas as their families, other relationships that they had, were seen in the same light as that of those with families.

"...and if any of the... things in the village, if they're having any bring and buys, or anything like that, they send for me, I always do their raffle. It's my way of helping, because I can't do much otherwise, I used to do. I am the eldest member of our church, I was three weeks old the first day I was sent to church and I still go, they come for me, you know, they always come to me in the car and take me in the wheelchair." (Patient 1 – female patient with secondary education in her eighties)

"...when I see a lot of people I get... friends and people, yes, I think it does, I think (it helps) your well being in itself, yes, I think it does". (Patient 6 - female patient with secondary education and managerial work experience in her sixties)

Sometimes, it was just very helpful to these patients, to have people around them. Even just being able to interact with people they had some connection to, seemed helpful. For these patients, in addition to knowing that they had these connections, they also felt that the interaction and the relationship building process helped improve their well being. In the last sub-category, we saw how patients used distraction therapies in their pain management. Here also, I felt that for patients who engaged in these relationships, these interactions may have been used to achieve the same objective. Interestingly, there were prescribers for chronic pain who seemed to have a similar view. As we saw in the prescribers phase, one nurse prescriber in primary care used befriending schemes to successfully help one of her patients manage their chronic pain.

"So there were a number of befriending schemes. Luckily and we had a long chat about how they felt about... their sort of fears and feelings, about how they felt about living alone and looked at trying to address some of those, which meant that because they were feeling happy in themselves and they had a different focus, the pain was sort of lessened, or they seem to manage the pain... I can't say that the pain was lessened, but they seem to manage the pain a lot better." (Nurse in primary care with 5 years prescribing experience)

In a few cases, relationships with healthcare professionals may have been seen by patients, as surrogate for relationship with family and friends.

"...and the nurses, both the male and female nurses, used to come in and... because you know, I didn't have any visitors, with the children living away and working and they used to come in and... haven't you sweets. They always knew that they will have a sweet before they went to out. And they used to love to hear me talk about the olden days, when I was younger and a treat me as a friend, I was not just a number, which you get in a lot of places now don't you, you are a number not a person." (Patient 1 - female patient with secondary education in her eighties)

In this case, the patient felt better when she felt that the nurses related to her in a personal capacity, especially when her own family and friends were not able to visit her.

Another important theme that emerged in this area was the desire these patients expressed about remaining independent for as long as possible. They tried to ensure that their lives carried on as normally as they could, in order to maintain this independence.

"I do try and keep on the go, because I do not want to give up, like someone said to me, that I could do with a stair lift, you know, you could do with this stair lift and I said well I was advised about one, but I don't want to give up yet, if I can walk up the stairs, I am getting the exercise, so I don't want to give up yet" (Patient 11 – female patient with secondary education in her seventies)

In trying to maintain this independence, there was a conscious effort not to complain, or be seen as suffering. In some cases, they had to endure some of the pain that they were going through in order to achieve this picture of independence.

"...So I quite have a lot of family and I don't want to be a nuisance, so unless I... I try to do things in the house, you know my daughter goes "mom leave it alone", but I do because I want to keep going, I don't want to be an invalid and I don't want every time they come in, I am moaning of my pains, I don't bother telling anybody, you know, I just get on with it. You know because I think well, they can tell, no matter how much I tell them, they're not going to be able to ease it, so I just don't, I don't bother telling them, I just carry on with all." (Patient 4 – female patient with secondary education and managerial work experience in her seventies)

Initially, it seemed paradoxical that patients to whom it was important to maintain these important relationships would not tap into the support at the earliest possible opportunity, but would rather keep trying to remain independent. However as the theme developed further it became clear why. For these patients having this support system and being reassured that it was robust and in place, but not using it, suggested that they were saving it for a time when they felt they had no choice but to tap into it.

"I cannot just say... oh this is how I'm feeling, can you, do this for me, I can't do it. So when he says you have got family, I am thinking yes, I have a beautiful family, but I don't want to... there will be a time, I mean, say I'm 73 now, there will be a time when I really... I may live till I am hundred, I might need them to drop everything and and see to me, but not yet." (Patient 11 – female patient with secondary education in her seventies)

This may explain why in some cases, these patients, in updating their family (and others they could count on for support), mainly did so after they felt that they had successfully managed a difficult episode.

"...you know when the children ring up, which they do regularly and they say how are you and I said well I am a lot better than what was the other day, why didn't you let us know, why didn't you ring us and let us know that you are not well, well, I can be better by the time you arrive here, so I don't bother them, I just go straight to the headquarters as you say..." (Patient 1 – female patient with secondary education in her eighties)

It seemed that telling her children about her crisis, 'after the fact' was proof that at that time, she was doing her best to take care of herself. This suggested that when she would ask for their help, it was because she had to, not because she wanted to.

Although having these close relationships that they could rely on were mostly perceived as a good thing by the patients, they could also lead to an exacerbation of the patient's condition, rather than helping them manage their pain.

"...when my father died two years ago, when I came back from the hospital, I was having migraine after migraine, because I was just sort of stressed out..." (Patient 7 – female patient with secondary education with unskilled work background, in her sixties)

The stress of losing someone close to her meant that this patient's management of her chronic pain was also affected negatively.

6.3.4.3 Category summary

This category explored patients' relationship with other measures. In addition to prescribed medication, patients resorted to complementary and alternative medicines and measures such as distraction therapy and spiritual belief to deal with their pain. Although some were prepared to experiment with herbal drugs when not achieving satisfactory pain relief, some would only take them if they felt that it would not interact badly with their prescribed medication or if their non-medical prescriber agreed with this addition. There were patients that would not take any medication not prescribed for them by a healthcare professional.

Patients also relied on support from family, friends and others in dealing with their chronic pain. For many being assured of this support was just as important as having the support. There was also some evidence that patients wanted to remain independent of others until they could no longer manage on their own. To have this support and not immediately access it seemed paradoxical, but could be explained by the fact that patients may be using this strategy to accumulate some form of 'credit' until they did not have a choice to use it.

6.4 Discussion

This section discusses the findings of the project that explored how chronic pain patients perceived prescribing for their condition by nurses and pharmacists. In the overall research design, this project was included to address the knowledge gap revealed in the review of the literature. This was (research question 2):

- How is prescribing by nurses and pharmacists in the treatment and management of chronic pain perceived by patients with chronic pain?

The grounded theory exploration led to the emergence of three categories which explained how chronic pain patients perceived non-medical prescribing and how this influenced the way they managed their chronic pain. Together they contribute to the overarching category of this project – relating with non-medical prescribers (see figure 12). This project found that patients regarded their relationships with their non-medical prescribers as important to their pain management strategy and this in turn influenced other measures they considered to manage their chronic pain.

Patients considered the medicines prescribed by nurses and pharmacists and the way the service was provided. Both were perceived to influence relief for their chronic pain, the overall strategy for managing it and other aspects of their lives. Patients additionally considered using other measures in the way they managed their pain and this was influenced by both their relationships with their non-medical prescribers and the perceived effects of the medicines prescribed. This discussion situates these findings within the context of the work that already exists in this study area.

In chapter 7, 'Relating to non-medical prescribers' that emerged as the overarching theme from this project is integrated with the findings of the two projects that explored and surveyed non-medical prescribers (chapters 4 and 5).

6.4.1 Non-medical prescribing and using medicines

In their interaction with non-medical prescribers, the chronic pain patients in this project demonstrated that they had a less than optimal level of understanding of non-medical prescribing. Furthermore, for those that had an opinion about non-medical prescribing, there was an incorrect perception of the policy and in certain cases the title had negative connotations for the patient. It appeared that many patients had been left to their own devices regarding how they understood the mechanism that allowed nurses and pharmacists to provide this service and

as such, curiosity and level of education had an influence to their level of understanding of the policy.

The findings of this study reflect reports from other studies. Hennel et al (2004) reported that 38% of their rheumatology patients with nurse supplementary prescribing experience had some awareness of new prescribing laws. Similarly, although Earle and associates (2011) focused on mental health they also found that more than half of their study participants were not aware of the non-medical prescribing policy and how it was used to provide services. There were however indications that in some populations there may be an appreciable understanding of the non-medical prescribing policy. A survey of the awareness of the non-medical prescribing in Scotland revealed that about 50% of the general public were aware that health professionals such as nurses and pharmacists with the relevant training could prescribe (Stewart et al., 2009).

Until now, little exploration has been carried out regarding the connotations patients with chronic pain had about non-medical prescribing and whether this influenced the way they interacted with nurse and pharmacist prescribers. Although the patients in this study had a poor understanding of non-medical prescribing, this did not seem to limit their ability to identify certain attributes they considered desirable in their relationships with the nurses and pharmacists who prescribed for their chronic pain. Patients demonstrated that when attributes such as empathy, patience, understanding and open-mindedness were identified, they reciprocated by showing the prescriber the same level of loyalty previously only associated with GPs (Family Doctors). It also emerged that during prescribing, patients evaluated aspects of the prescribers practice including their knowledge, experience, professionalism, communications skills and ability to properly follow through unresolved issues regarding treatment or information requested by the patient. In reporting their assessments of the nurses and pharmacists that prescribed for them, the evidence suggests that they inadvertently compared the service to that they had previously received from doctors such as their GPs or from other non-medical prescribers.

Patients in other studies have also been able to identify similar attributes to the ones identified in this study. In an exploration of non-medical prescribing, patients in one study identified empathy and trustworthiness as important to the way their pharmacist prescribed for them (Stewart et al., 2009). The diabetes patients in another study also identified trustworthiness as well as patience and approachability as integral in how they interacted with their prescribers (Stenner et al., 2011b). Patients in other studies also demonstrated that they performed some form of evaluation of the service they received from non-medical prescribers. In one study although patients admitted being confident in the abilities of the nurses who prescribed for them, they still compared aspects of non medical prescribers' knowledge and professionalism to that of GPs (Courtenay et al., 2011).

Poor adherence with prescribed medication has been associated with several consequences, for instance, the therapeutic effect of the medications may not be achieved and treatment of the condition may incur significant costs for the healthcare system (Cortet and Benichou, 2006; Broekmans et al., 2009). In this project patients rather than adhering to prescriptions sometimes modified their medication to suit their own requirements and lifestyles. Other objectives for modifying medication included avoiding side effects, maximising perceived benefits and preventing long term effects. These changes to their medication were not always communicated to their prescribers. The aspect of their medication that patients seemed most concerned about were side effects and particularly for the elderly, medication that caused drowsiness and reduced alertness. They however also demonstrated that they engaged in some form of risk benefit assessment to ascertain which medication they would take for their pain despite any adverse effects that may result. Also, although they expected to be informed about their medication by their prescriber, patients made significant efforts to work things out for themselves by either reading up about them or by experimenting. Although not related to non-medical prescribing, other studies in chronic pain have reported similar findings. Intentional non-adherence in the form of underuse and overuse of medication by patients was been identified as a measure employed by elderly patients to avoid side effects (Hughes, 2004; Broekmans et al., 2009). Another study associated patients' non-adherence with long term effects and the level of trust they had in the doctors who prescribed their medication (Rosser et al., 2011).

6.4.2 Using other measures

The findings of this project suggested that chronic pain patients did not perceive the medication prescribed by their nurses and pharmacists as the only way to relieve their pain. Rather, receiving the prescription and using the medication was one strand of their strategy for managing their chronic pain. Other strands of the patients' pain management strategy that emerged in the study included using herbal products, distraction therapy, spiritual beliefs and relying on social and familial support.

Existing evidence suggests that the use of complementary and alternative medicines is prevalent among patients with chronic pain (Rosenberg et al., 2008; Ndao-Brumblay and Green, 2010). The evidence regarding how effective and safe this is for patients is unclear. On the one hand, it has been suggested that people with chronic pain that use complementary and alternative medicine in addition to their prescribed medication managed their condition better (Foltz et al., 2005). On the other hand, concerns regarding how safe this is for patients with chronic pain, have been raised (Konvicka et al., 2008).

The literature also suggests that patients with chronic pain would usually seek relief from complementary and alternative medicines when they were not achieving pain relief from prescribed medication without their doctor being aware (Pappas and Perlman, 2002; Brunelli and Gorson, 2004). Some findings of this project reflect those from previous studies. Regarding using herbal remedies three approaches emerged in the study. The first group were prepared to experiment with herbal drugs when not achieving satisfactory pain relief. The second group would consider taking them if it would complement their prescribed medication and would sometimes do this in conjunction with their prescriber's awareness and input. The third group would not take any complementary and alternative medicines and may sometimes regard claims of efficacy with some scepticism.

This project has further revealed previously unknown factors which influenced whether and how chronic pain patients treated by nurses and pharmacists, resorted to these measures. The way that the patients related to their prescribers contributed to their decision making processes regarding using other measures. For instance patients that perceived their prescribers to be trustworthy, open minded and able to satisfy their information needs, were more likely to discuss complementary and alternative medicines. This suggests that in their overall pain management strategy the nature of the relationship between the patient and their prescriber influenced their consideration of complementary and alternative medicines.

Chronic pain patients in this project employed some measures which they reported were helpful in coping with their condition. The use of coping strategies by patients who suffer from chronic pain is a well researched area (Jensen et al., 1991; Boothby et al., 1999; Jensen, 2009) however little is known about how this is combined with prescribing by nurses and pharmacists. In this study, patients with chronic pain identified exercise, distraction therapy and engaging in spiritual activities as some important coping measures used in their strategy to maintain some level of control over how they lived with their condition. Evidence suggests that some coping measures are an effective means of self management in chronic pain, for instance distraction therapy has been associated with analgesic effects and has been considered as a useful tool in the way that patients self manage their pain (Campbell et al., 2010; Bradshaw et al., 2011).

In addition to these measures, patients also indicated that their access to social support was helpful in the way they managed their condition. In this area relationships identified were with family members, friends, members of social or religious circles and others perceived to be part of their support network. There was evidence that chronic pain patients adopted strategies to cultivate and maintain their support network. An example of this was by informing members of the network of health crises after they had been dealt with. This ensured they were accumulating 'credit' and also keeping members informed about their current health status.

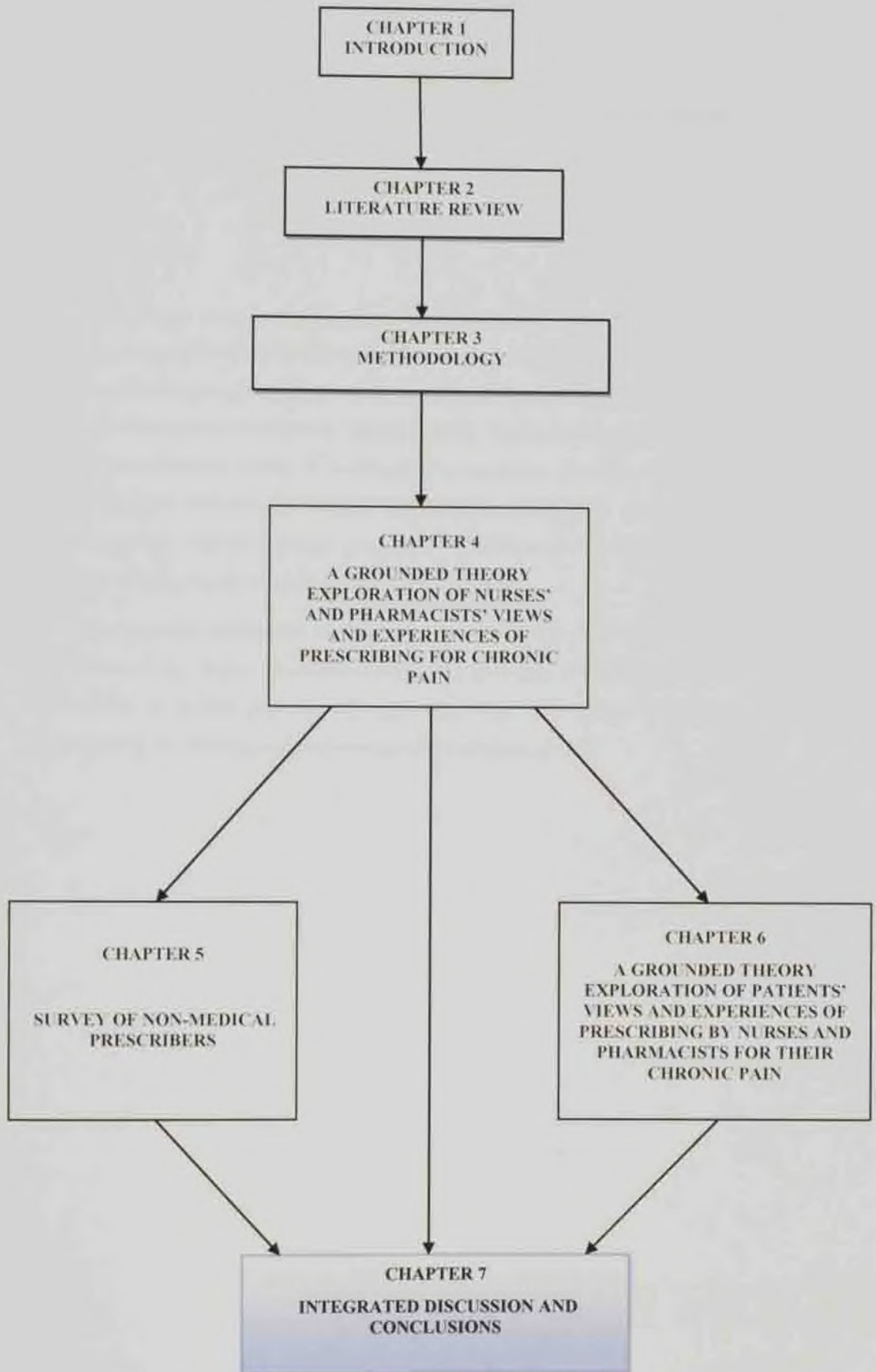
Although not directly related to non-medical prescribing, other studies have explored the use of coping strategies. Jamison and Virts (1990) found that patients with access to support from family members seemed better able to deal with chronic pain. Their study also revealed that patients with large support networks took steps to cultivate and maintain them. Similarly, another study found that associations with higher levels of social support and decreases in depression and pain intensity (Lopez-Martinez et al., 2008). In their study, Holtzman and associates (2004) found evidence that patients with access to social support felt encouraged to explore a greater variety of coping strategies and this seemed to enable them manage their pain better.

These findings mirror strategies that patients in this project used to manage their pain and begin to explain why some found these measures effective. Evidence from this study confirms that chronic pain patients seen by nurses and pharmacists found coping strategies and social support helpful. The findings also suggests that the way these were used in pain management strategies in relation to non-medical prescribing were similar to how they were used by patients seen by doctors.

6.5 Chapter summary

Patients' views and experiences regarding how nurses and pharmacists prescribed for their chronic pain were explored in this chapter. An overview of the methods used in the grounded theory exploration was provided including an account of the strategy employed in recruiting participants. The results were presented under the three categories that emerged from this project of the study. The findings of this project were then discussed in the context of the wider literature.

The main finding in this project was that patients regarded their relationships with their non-medical prescribers as important and this influenced their strategy for managing their pain. Patients lacked an optimal understanding of non-medical prescribing, but had developed strategies to develop and maintain relationships with non-medical prescribers. In their interaction with nurses and pharmacists patients identified attributes important to how they perceived the service was provided. They also showed that in addition to depending on prescribed medicines, herbal remedies, alternative medicines and other measures were considered and used in managing their pain. Social support from family, friends and others was also helpful in their overall pain management strategy.



CHAPTER 7

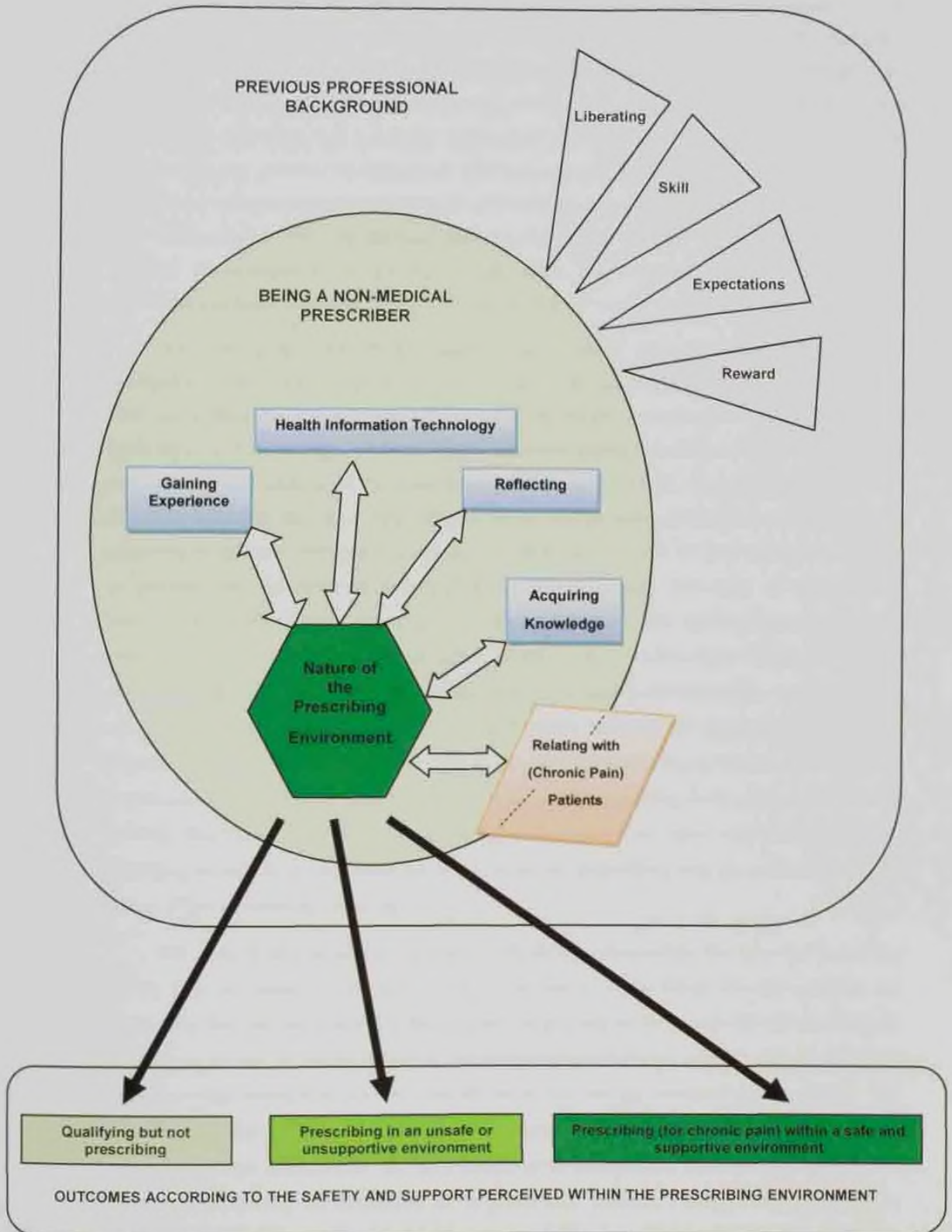
INTEGRATED DISCUSSION AND CONCLUSION

7.1 Introduction

This chapter presents the discussion and conclusion of this study. The chapter begins with the presentation of the theoretical model that emerged from the three projects discussed earlier. The theoretical model gives an overview of the findings of this study and forms the basis for the integrated discussion of this thesis. Findings from the three independent projects, the grounded theory exploration and survey of non-medical prescribers, as well as the project which focused on chronic pain patients are brought together to explain how non-medical prescribing for chronic pain is carried out and perceived. Facilitators and barriers to how nurses and pharmacists prescribe for chronic pain are also revealed.

The possible limitations of this work are then discussed and this is followed by the conclusion of the thesis. Recommendations are provided for further research, as well as to stakeholders in policy, practice and education. The final section presents the strategy for disseminating the findings reached and recommendations given.

Figure 13: The integrated model for 'safety and support within the prescribing environment'



7.2 Theoretical model

Figure 13 presents the findings of this study as an integrated theoretical model. At the centre of this model is the 'nature of the prescribing environment' depicted by the green hexagon. Three components of the prescribing environment 'developing relationships with colleagues', 'relying on colleagues' and 'team-working', explain how non-medical prescribers related with colleagues and interacted within their teams. Two further components deal with how nurses and pharmacists interacted with management and their patients and how these interactions influenced their prescribing practice. The final component 'second checking' relates only to pharmacists and explains how their prescribing was affected by the measures in place for their prescriptions to be screened, if and when they decided to produce them (these individual components are not shown in the model but are further explained in section 7.3).

Surrounding the 'nature of the prescribing environment' are four important themes which emerged as factors non-medical prescribers engaged with and perceived as necessary to support their prescribing for chronic pain. Three of these factors 'acquiring knowledge', 'gaining experience' and 'reflecting' related to aspects of their learning regarded as necessary to achieve and maintain competence in the specific areas they prescribed in. One factor related to the nature and level of access to prescribing software and patients' records and how these were perceived to influence their practice and the care they could provide for their patients. In practice, the way that the non-medical prescriber engaged with each of these factors individually influenced their interaction with the other factors. This indicated that these factors were related to each other. On the periphery of the circle, the relationship which non medical prescribers had with the chronic pain patients they considered prescribing for is depicted by the beige parallelogram. In considering whether and how to prescribe for chronic pain, nurses and pharmacists were not only influenced by their relationship with patients but also by how much experience and knowledge they had, with respect to the condition, medication and treatment options. The likelihood of the patient resorting to other measures, rather than adhering to these medicines as well as the effectiveness of the medicines prescribed, was also influenced by the nature of this prescribing partnership.

The white double headed block arrows indicate the relationships that exist between these factors and the nature of the prescribing environment. These block arrows represent the approaches that non-medical prescribers adopted depending on their personal and professional orientation, as well as on the nature of the environments that they prescribed from. The two approaches that emerged in this study are the innovative and the conservative approaches. The four triangles situated between the circle representing 'being a non-medical prescriber' and the rounded rectangle representing 'previous professional background' illustrate the motives that emerged in this study, as significant to the prescribing practices of nurses and pharmacists. 'Liberating prescribing practice', 'gaining more skill', 'meeting expectations' and 'being

rewarded' were identified as factors that motivated nurses and pharmacists to qualify as prescribers. They also had some influence on their practice after these professionals had qualified as prescribers. At the bottom of the model, three rectangles show the most common outcomes for non-medical prescribers who considered prescribing for chronic pain. In practice, the outcome achieved depended on the interaction between the various factors and on the nature of the prescribing environment. The approach that the nurse or pharmacist decided to adopt within this scenario also contributed to the final outcome. Based on these factors, their approach and the nature of their prescribing environment there were three possible outcomes for qualified non-medical prescribers who considered prescribing for chronic pain. At one extreme, nurses and pharmacists even though qualified, would not prescribe and at the other, the perception of practising in an environment considered safe and supportive enough enabled nurses and pharmacists to prescribe for chronic pain.

7.3 Integrated discussion

The work in this thesis began with a comprehensive review of the literature. There it was revealed little was known regarding how nurses and pharmacists prescribed in the area of chronic pain and how this was perceived by the patients who received this service. Three research questions were thus proposed to address this gap.

1. What are the views and experiences of non-medical prescribers (nurses and pharmacists) in the treatment and management of chronic pain?
2. How is prescribing by nurses and pharmacists in the treatment and management of chronic pain perceived by patients with chronic pain?
3. In the treatment and management of chronic pain, what are the barriers and facilitators influencing the implementation of non-medical prescribing?

The theory 'safety and support within the prescribing environment' which emerged addresses the research questions by showing that non-medical prescribers considered the safety of their prescribing environment as well as support in terms of learning and being informed. It was shown that the effectiveness of their prescribing for chronic pain is influenced by the nature of the relationship they had with patients. The prescribing partnership also impacted on patients' consideration to use other measures to manage their chronic pain. The theory also outlines factors perceived to promote or hinder non-medical prescribing for chronic pain and explains how they relate to each other to influence practice in this area.

7.3.1 Nature of the prescribing environment

The theory suggests that the development and maintenance of relationships with colleagues, management and patients played a significant role in how nurses and pharmacists perceived

their prescribing environments. Developing relationships with colleagues, being able to rely on these colleagues and interacting with others in their teams were all determining factors to how they perceived their environments. Key themes that emerged in these relationships were trustworthiness and respect for knowledge and ability.

Trustworthiness emerged as an important factor for relationship building during the grounded theory exploration and its significance was confirmed in the survey. Non-medical prescribers in the study wanted to be sure that they could trust and rely on their colleagues for support in their practice especially for knowledge and experience. In addition to possessing the skills necessary for their prescribing, non-medical prescribers were also expected to be trustworthy and to reciprocate the support received. For pharmacist prescribers, concerns around 'second checking' influenced their prescribing practice. Current guidelines and protocols were perceived as either unclear or not relevant to all the various settings that pharmacists prescribed from.

Team-working and interaction with management were also identified as important to the development of non-medical prescribers' practice. The structure and functioning of interdisciplinary teams could facilitate or hinder non-medical prescribers' development. Teams that were non-hierarchical and where duties were clearly delegated were seen as facilitators. Teams that were seen as barriers to practice were those that fostered a 'blame' culture or which encouraged unconstructive criticism and aggressive debate. Managers perceived as influential to their practice were non-medical prescribing and clinical leads. It was perceived that experience, awareness and attitudes with respect to non-medical prescribing could influence the practice of nurses and pharmacists they managed.

In light of the recent consultations to further develop the policy and extend prescribing powers to other professional groups (DoH, 2010), determining what constitutes safe and supportive environments for new prescribers, especially outside the medical profession becomes even more important. As this thesis has shown, there is a need for healthcare professionals that work in the same environment with non-medical prescribers to have sufficient awareness of their skills and potential contribution. Additionally, the support provided for non-medical prescribers needs to be assessed to ensure that these match their needs.

The United Kingdom has been identified as a forerunner in harnessing non-medical prescribers' skills to address healthcare needs (Bhanbhro et al., 2011). There is evidence that stakeholders in other healthcare systems may be monitoring the unfolding of this policy (Weeks et al., 2010; Hoti et al., 2011; Adigwe et al., 2011). In addition to ensuring the development of the policy in a safe and efficient manner, determining what constitutes a safe and supportive environment for UK non-medical prescribers can also provide a veritable road map for other healthcare systems considering this policy direction.

7.3.2 Approaches: innovative vs. conservative

Non-medical prescribers differed in the way that they approached various aspects of their prescribing. Nurses and pharmacists that adopted a conservative approach were more likely to be rigorous and prioritised protection of their practice and patient safety. Non-medical prescribers who adopted an innovative approach 'pushed the boundaries' in their prescribing and were more likely to prescribe despite perceiving threats to their practice.

Depending on the circumstances, the approach adopted by the non-medical prescriber could predict the outcome both for prescribers and their patients. Non-medical prescribers that adopted a conservative approach in unsupportive or unsafe environments may decline to prescribe and this may mean delays for the patient. On the other hand adopting an innovative approach may ensure treatment in a timely manner. Although the innovative approach is usually adopted within the limits of the law, compared to the conservative approach it was riskier in terms of protecting prescribers' practice and ensuring patient safety.

Although these approaches revealed in theory are new to non-medical prescribing, it may help to explain how nurses and pharmacists who qualify as prescribers react to their prescribing environments. There is evidence that not all nurses and pharmacists that qualify go on to prescribe. More than six months after they qualified, up to 50% of pharmacists and 25% of nurses in their respective cohorts had not yet prescribed (George et al., 2007; Bradley et al., 2007). Understanding the approaches non-medical prescribers have to prescribing may provide better insight to why under certain circumstances, some will prescribe but others will not.

7.3.3 Knowledge and experience

Factors related to learning processes and activities were identified as important to how prescribing for chronic pain was carried out. Compared to nurses, pharmacist prescribers were less likely to have access to CPD during paid work time and were more constrained regarding the time needed to research and access CPD. The Nursing and Midwifery Council provides clear guidance regarding nurses' access to continuing professional development at work (NMC, 2011a) and this supports the level of support nurse prescribers reported in this area. This is not so for pharmacists. Recent calls have been made for an improvement in the current guidance and for better support for pharmacists' access to continuing professional development in the workplace (Donyai et al., 2010). This study reinforces the need for better provision of time and access to enable pharmacists to gain and maintain competence to prescribe.

Non-medical prescribers demonstrated that they were able to acquire knowledge through both CPD and informal means. In the literature, CPD and other the formal means through which non-medical prescriber acquire knowledge and experience in their prescribing have been well

explored (Latter et al., 2007; Carey & Courtenay, 2009; Winstanley, 2009). Little is known pertaining to how informal learning is carried out in non-medical prescribing and whether it is practiced in an evidence based manner. This study showed that informal mentoring contributed to the way non-medical prescribers acquired knowledge. With the necessary evaluation, this mode of learning may be used as a resource to support non-medical prescribers.

Pharmacists were more likely to be limited by lack of patient experience, whereas nurses were more likely to be limited by their lack of medication experience. Although not specific to chronic pain, similar weaknesses have been identified (George et al., 2006; Buckley et al., 2006; Jones and Harborne, 2009). So far there is little evidence to suggest these issues are being addressed. Pharmacists and nurses considering prescribing for chronic pain might benefit from training that specifically addresses these deficiencies.

7.3.4 Health information technology

In relation to how their access to health information technology influenced their prescribing, non-medical prescribers identified inequity and limitations in access to patients' records and prescribing software as barriers to their practice. The results were that nurses and pharmacists who prescribed for chronic pain felt excluded from important communication and this threatened the level of care provided for their patients. In this area, these findings confirm those of other studies that identified lack of similar access as barrier to prescribing (Thrutle et al, 2007; Stenner and Courtney, 2007). This study identifies that in terms of non-medical prescribing for chronic pain, access to patients' records was considered more important than using prescribing software. This knowledge can help organisations with limited resources prioritise their planning and support in the development of non-medical prescribing.

7.3.5 Motivation

The study showed for the first time that nurses and pharmacists considered the expectations of their patients, peers and senior colleagues when contemplating whether to take up prescribing. Other factors were also revealed in this study which motivated nurses and pharmacists to qualify and prescribe. Gaining more skill and liberating their prescribing practice were two important motivators for nurses and pharmacists considering prescribing for chronic pain. These two motivators confirm the achievement of the policy objective which predicted that non-medical prescribing would enable a better use of the skills mix of healthcare professionals (DoH, 2008).

So far, the evidence regarding the place of financial remuneration and promotion as motivators is unclear. One study considered financial remuneration important to non-medical prescribing (Dapar et al., 2010). Another suggests that it was not significant as a motivator (Warchal et al.,

2006). This study contributes to the debate by showing that although non-medical prescribers expected to be rewarded for their qualification and the added responsibility it entailed, it was not as important as the other motivators. This revelation may be used in healthcare planning to further develop non-medical prescribing particularly in Trusts or specialties where the uptake of the policy is below target.

7.3.6 Relationships between chronic pain patients and non-medical prescribers

This thesis represents the first time non-medical prescribing for chronic pain has been explored from the perspectives of the patients as well as those of the prescribers. This approach enabled the revelation of a significant resonance in their views regarding the importance attributed to developing and maintaining a prescribing relationship. It emerged that mutual openness, good communication and trustworthiness were seen as key to achieving successful prescribing relationships. However, non-medical prescribers particularly pharmacists were limited in their ability to develop these relationships due to time constraints, heavy workload and inexperience. From the patients' perspective, other values such as empathy, patience and understanding were considered important in the prescribing partnership. Patients had also developed a system for evaluating the service received and were loyal to prescribers who they identified with these values. This was despite being under informed about and somewhat confused about certain aspects of non-medical prescribing policy.

The findings of this study regarding patients' knowledge of the policy reflects those of other studies (Weiss et al., 2006; Hobson et al., 2010; Earle et al., 2011) indicating a need to better inform patients about non-medical prescribing and how it enabled healthcare professionals prescribe for their condition. Communication between the prescriber and the patient was another important issue that impacted on how their service was perceived. This too has been identified in the literature (Breivik et al., 2006; Walsh et al., 2008). Training non-medical prescribers to better communicate with their chronic pain patients and ensuring time and workload issues are addressed can facilitate prescribing partnerships and may in turn improve treatment objectives.

7.3.7 Depending on other measures

Patients in this study demonstrated that they did not depend solely on prescribed medication to achieve pain relief. Rather, using medication prescribed by nurses and pharmacists represented part of a bigger strategy. However, the way chronic pain patients interacted with individual components of their overall pain management strategy was influenced by their relationship with the prescriber. Aspects of their pain management strategy that were influenced by the nature of the prescribing partnership included their adherence to prescribed

medication, their consideration of other measures and their openness (with their non-medical prescriber) about their pain management strategy.

In addition to their prescribed medicine, patients used complementary and alternative measures well as a range of coping measures. Those identified in this study include herbal medicines, physical exercise, spiritual activities, distraction therapy and social support. For patients who considered herbal remedies, the likelihood of using them increased when the patient was either not achieving satisfactory pain relief, or not happy with the service received from their prescriber. Depending on the nature of their relationship with their prescriber, the consideration of herbal remedies and other measures was made known to their nurse or pharmacist prescriber. Social support was another important component of the strategy revealed in this study. There was an indication that patients had developed strategies in their cultivation and accumulation of social support from family friends and others.

The findings of this study reflect existing evidence regarding chronic pain patients' use of prescribed medication alongside complementary and alternative medicines (Haetzman et al., 2003). Although these strategies developed by patients may seem innocuous, there are significant risks with this approach. So far, evidence regarding the therapeutic effects of complementary and alternative medicines is unclear (Gagnier et al., 2006; Khadilkar et al., 2008) and as such non adherence to prescribed medication may limit therapeutic benefits, prolong treatment and constitute a waste of resources for the patient and the healthcare system. This suggests a need for non-medical prescribers to be aware of patients' pain management strategies and consider them in the way they approach treatment for this group. Better relationships between prescribers and their patients might improve nurses' and pharmacists' awareness of these strategies.

7.4 Limitations of the thesis

The strategy employed in carrying out this study was a mixed methods approach. Although this method has been associated with enabling quality in the study and facilitating acquisition of research skills for users, limitations exist. Using mixed methods has been associated with significantly more resources, in terms of time, finance and manpower, compared with using one approach. These are all limited in a PhD and it is possible that this study may have been concluded in a more timely fashion if only one method had been used.

The constructivist grounded theory approach chosen as the underpinning methodology for this work has also been associated with some disadvantages. It has been suggested that the difficulties associated with using grounded theory renders it unsuitable for beginner researchers, especially in light of the significant time and resource limitations of a PhD. Additionally, criticisms levelled against the qualitative research paradigm include the subjectivity and

employment of inductive reasoning associated with this methodology. The constructivist approach employed in this work is perhaps even more associated with these criticisms. The choice of this approach as the underpinning methodology for this study may be seen by some as biased.

In this study, although both non-medical prescribers and patients who are the major partners in the prescribing relationship participated in the research, some of the themes that emerged were relevant to medical prescribers. For instance in their evaluation processes, patients sometimes compared the service they received from non-medical prescribers to that they had earlier received from medical prescribers. Also some of the support that non-medical prescribers accessed in their prescribing environment was from doctors. As such, exploring the views and experiences of doctors with respect to non-medical prescribing for chronic pain may have provided further insight as to how some of these processes were carried out.

Following the development of the theory from the first project, the questionnaire was designed and used to survey prescribing nurses and pharmacists. Due to the fact that many of the themes and concepts that emerged from the first phase were novel, the questionnaire that was developed could only test some of the themes that non-medical prescribers were familiar with. Furthermore non-medical prescribers in the UK are limited and the research exploring their views and experiences have increased significantly in recent years. In order to ensure that a significant proportion responded to the questionnaire, it had to be designed in a way that the items were presented clearly and concisely, as such some of the more complex themes and relationships may not have been adequately reflected.

Considerably fewer pharmacists have qualified as prescribers, compared to nurses. Although this proportion was expected to be reflected in the survey, the relatively small number of pharmacists in the study limited the sophistication of analysis that the data collected for the prescribers could be subjected to. Additionally, the sampling used for the survey was not the preferred option. Had the survey had been carried out on a randomly selected prescribers from a nationally held sampling frame of registered prescribers the results would have given better external validity. For instance, although the survey suggested that there were only a few qualified prescribers who had never prescribed, that finding should be regarded with caution. It is possible that this population was not adequately represented in the survey.

In the project that aimed at exploring patients' views and experiences, the sampling strategy was aimed at identifying characteristics that would facilitate a rigorous exploration of emerging themes. However, the participants that were selected in this project were mostly elderly females. It is possible that this may have led to the exploration and emergence of themes more relevant to this population. Also, patients were accessed through a gatekeeper to ensure protection from undue pressure and unethical practices. It is possible that using this approach may have excluded some chronic pain patients who had experienced non-medical prescribing.

Following the grounded theory exploration of nurses' and pharmacists' views and experiences, a survey was carried out with non-medical prescribers to measure their attitudes based on the themes that emerged from the theory. Designing and carrying out a similar survey with chronic pain patients would have tested the relevant issues that emerged from the grounded theory project that explored their views and experiences. It is possible that this may have shed more light on how they related to non-medical prescribers and other important aspects of how they managed their pain.

7.4 Conclusion

The evidence is clear that for nurses and pharmacists, the safety and support within the environments that they prescribed from was of great importance. Non-medical prescribers that had developed trustworthy, reliable and supportive relationships with colleagues, management and their patients were more likely to prescribe for chronic pain. The absence of certain components perceived as essential to safely prescribe meant that the non-medical prescriber declined to prescribe. Some nurses and pharmacists who adopted an innovative approach to their prescribing would however prescribe regardless. Being innovative meant pushing the boundaries and overcoming barriers. In contrast a conservative approach was synonymous with a strict adherence to recommended guidelines relating to professional practice and patient safety. Also, the potential that issues relating to 'second checking' introduced to the prescribing environment influenced pharmacists' decision to prescribe.

In relation to learning and information technology perceived as necessary to support their prescribing, the study showed that nurse prescribers were more likely to initiate and use informal mentoring relationships but were limited by their inexperience with medication. Pharmacists on the other hand were limited by their inexperience with patients. Although both professional groups were similar in their CPD needs, pharmacists were limited by their lack of access to organised courses during paid work time. Non-medical prescribers identified access to prescribing software and patients records as important to their practice. In addition, equity in access to these systems was identified as a problem in some settings.

A mutually beneficial relationship based on trust and other values was identified as crucial to meeting treatment objectives (from the prescriber's perspective) and achieving pain relief (from the patient's perspective). Prescribers were however limited in developing these relationships by time and work commitments. Patients with chronic pain on the other hand showed that they had developed strategies to maintain prescribing relationships in which desirable values had been identified. This was despite the fact that patients lacked information and misunderstood the non-medical prescribing policy. The nature of these relationships also had an influence on whether patients adhered to prescribed medication, resorted to complementary therapy and used coping

measures. It also influenced how open they were to their prescriber about considering these other strands of their pain management strategies. In addition to being pain free, other objectives of the patients' pain management strategies were to avoid adverse long term effects. Patients also found support from family, friends and others helpful and had developed strategies to cultivate and accumulate social support.

Recently, following a comprehensive evaluation of nurse and pharmacist independent prescribing in England (Latter et al., 2010), it was suggested that further development of the policy should consider non-medical prescribing across conditions for patients with co-morbidities. Although this policy direction has the potential to significantly impact on how chronic pain is managed, the readiness in this specialty for this and other policy changes has to be questioned. Unless the issues concerning the safety and support raised in this thesis are addressed, there is a danger of increasing inefficiency in the system, as a significant number who qualify may not prescribe. Furthermore, it is possible that unless barriers are addressed and motivators instituted, other healthcare professionals may be discouraged from becoming prescribers. Important issues have been raised by chronic pain patients regarding how they perceived non-medical prescribing. Neglecting these issues risks further widening the communication gap and missing out on a valuable resource that can help improve non-medical prescribing in this area. Also, a lack of understanding of patients' overall pain management strategies can undermine treatment objectives, waste resources and even threaten patient safety. By taking account of the barriers and facilitators identified in this thesis, care of patients with chronic pain can be better managed by improving access to professional help including prescribing of appropriate medication.

7.5 Recommendations

The following recommendations are made based on the findings of this study.

7.5.1 For research

1. More work is needed to determine the relevance and applicability of the theory to other specialties as well as other healthcare systems.
2. Views and experiences of doctors and clinical leads need to be explored to gain a better understanding of their perception of non-medical prescribing for chronic pain.
3. A quantitative survey is needed to measure chronic pain patients' attitudes to themes that emerged in this study regarding their pain management strategies and how this relates to the prescribing relationship with nurses and pharmacists.
4. Further exploration is needed of motivators to nurses and pharmacists considering qualifying as prescribers and how it may influence aspects of their practice after qualification.

5. More work is needed to determine the relevance and applicability of the identified approaches to non-medical prescribing areas.

7.5.2 For policy

1. Informal and informal mentoring relationships need to be facilitated to enable less experienced non-medical prescribers to learn from more experienced peers.
2. Identified motivators for prescribing for chronic pain need to be facilitated to provide better care for patients with chronic pain, in terms of availability and choice.
3. There is a need to address the lack of awareness of the non-medical prescribing policy among healthcare professionals and patients to improve understanding and facilitate how care is provided.
4. Patients should be involved in making the policies that affect their services. There is significant scope to involve them in evaluating the way that prescribing is carried out.
5. Existing guidelines for checking prescriptions written by pharmacists should be reviewed to ensure adequate robustness and clarity.
6. The General Pharmaceutical Council needs to provide better guidance to employers of pharmacist prescribers regarding accessing CPD during paid work time to adequately reflect their knowledge needs and time constraints due to their role.

7.5.3 For practice

1. An assessment tool based on the theory should be used to assist non-medical prescribers and their employers identify specific barriers within their prescribing environment and the possible ways to overcome them.
2. Non-medical prescribing leads need to be more aware of the variability in the needs of non-medical prescriber. Where possible, individuals with significant experience of non-medical prescribing should be appointed as leads.
3. Non-medical prescribers' roles need to be reviewed to ensure that their particular skills set are used efficiently. Selection and training of prospective non-medical prescribers needs to be reorganised to facilitate their prescribing once they are qualified.
4. Better and more equitable access to prescribing software and patients' records needs to be provided for non-medical prescribers.
5. Clinical leads and doctors that regularly interact with non-medical prescribers need to be better informed about non-medical prescribing and new developments in policy.

7.5.4 For education

1. Nurse and pharmacist prescribers' deficiencies in medication and patient-related experience should be addressed by designing appropriate workshops.
2. Relevant resources such as day courses and webinars specific to chronic pain and tailored for non medical prescribers should be developed. Better signposting to these resources should also be considered in their development.

3. More should be done to train non-medical prescribers on the skills needed to develop and maintain relationships with colleagues and patients.
4. There is scope for stakeholders to engage with the informal means that non-medical prescribers for chronic pain have demonstrated that they carry out some of their learning activities through.

7.6 Dissemination strategy

The strategy being adopted for the dissemination of the findings of this study is twofold. Firstly, during the period of study, extensive links to various relevant professional bodies here in the UK were established. Using these research networks, some findings of this study were disseminated through conferences and scientific meeting. Recently, an abstract presenting the findings from the grounded theory prescribers phase of this study was accepted for presentation following peer review at the Joint Annual Scientific Meeting of the British and Canadian Pain Societies in 2011 (see appendix 19).

Secondly, findings from this study have also been disseminated in international journals that target policymakers and healthcare professionals in health care systems situated in developing countries. The objective is that the debate in those systems regarding more efficient use of limited healthcare resources may benefit from research into the non-medical prescribing policy experience in England. Recently, an outline of the impact of pharmacists prescribing in the UK and the likely implications of such a policy in Nigeria was communicated with a publication in their peer reviewed national pharmacy journal (Adigwe et al., 2011)

Further planned articles based on this dissemination strategy are summarised in table 12

Table 12: Publication plan

Proposed Title	Target Journal/Media	Submission Date
'Playing safe' – exploring the environment of nurse and pharmacist prescribing for chronic pain	International Journal Of Pharmacy Practice	May 2012
The nurse prescribing policy in England: implications for Nigerian nurses	Nigerian Journal of Nursing	June 2012
What do patients really know about non-medical prescribing?	Patient UK	May 2012
Non-medical prescribing for chronic non-malignant pain: new insights	Pain/ Journal of pain and symptom management	July 2012

REFERENCES

- ADIGWE, O.P. et al. 2011. Prescribing By Pharmacists in the United Kingdom: What Can We Learn? *The Nigerian Journal of Pharmacy* 44:1.
- AGRESTI, A. 1992. A Survey of Exact Inference for Contingency Tables *Statistical Science* 7:1:131-153 [Online] Available at <http://www.jstor.org> (Accessed 12th October 2011).
- AVERY, A.J. AND M. PRINGLE. 2005. Extended prescribing by UK nurses and pharmacists. *British Medical Journal* 331:7526:154-1155.
- BABCHUK, W.A., 2009. *Grounded Theory for Practice-Based Application: "Closing the embarrassing gap between theory and empirical research.* In J. Trudy (ed), Proceedings of the 28th Annual Midwest Research Research-to-Practice Conference in Adult, Continuing, and Community Education North-eastern Illinois University, Chicago.
- BACKMAN, K. AND H. A. KYNGAS. 1999. Challenges of the grounded theory approach to a novice researcher. *Nursing and Health Sciences* 1:147-153 [Online] Available at: <http://onlinelibrary.wiley.com> (Accessed 13th September 2011).
- BAIRD, A. 2004. Supplementary prescribing: one general practice's experience of implementation. *Nurse Prescribing* 2:72-5.
- BARBER, N., M. RAWLINS. AND B. FRANKLIN. 2003. Reducing prescribing error: competence, control, and culture. *Quality and Safety in Health Care* 12:S1:i29-i32.
- BAZELEY, P. 2004. Issues in Mixing Qualitative and Quantitative Approaches to Research. In *Applying Qualitative Methods to Marketing Management Research*. R. Buber, J. Gadner, (eds) 141-156. Hampshire, United Kingdom: Palgrave Macmillan.
- BERRY, D., M. COURTENAY AND E. BERSELLINI. 2006. Attitudes towards, and information needs in relation to, supplementary nurse prescribing in the UK: an empirical study. *Journal of Clinical Nursing* 15:22-8.
- BHANBHRO, S. et al. 2011. Assessing the contribution of prescribing in primary care by nurses and professionals allied to medicine: a systematic review of literature. *BMC Health Services Research* 11:330.
- BLAIKIE, N. 2001. "Strategies for answering research questions". In *Designing Social Research: the logic of anticipation*. Cambridge: Polity.
- BLENKINSOPP, A. 2003. Community Pharmacy Minor Ailments Scheme. [Online] Available at: www.rpsgb.org.uk/nhsplan/pdfs/mjainmat.pdf (Accessed 21st June 2009).

- BOND, C.M. et al. 2011. Pharmacist-led management of chronic pain in primary care: the experiences of patients, pharmacists and GPs. *International Journal of Pharmacy Practice* 19;s:24-25.
- BOOTHBY, J.L. et al. 1999. *Coping with pain*. R.J Gatchel, D.C Turk (Eds.). Psychosocial factors in pain: critical perspectives, Guilford Press, New York, NY.
- BOWLING, A. 2009. *Research methods in health, investigating health and health services* (2nd edition). Buckingham; Open University Press.
- BRADLEY, E., B. HYMAN. AND P. NOLAN. 2007. Nurse prescribing: Reflections of safety in practice. *Social Science and Medicine* 65;3:599-609.
- BRADLEY, E. AND P. NOLAN. 2007. Impact of nurse prescribing, a qualitative study. *Journal of Advanced Nursing* 59;2:120-128.
- BRADSHAW, D H., et al. 2011. Individual Differences in the Effects of Music Engagement on Responses to Painful Stimulation. *The Journal of Pain* 12;12:1262-1273.
- BREAKWELL, G. et al. 1995. *Research Methods in Psychology*. London: Sage.
- BREIVIK, H. et al. 2006. Survey of chronic pain in Europe: Prevalence, impact on daily life, and treatment. *European Journal of Pain* 10;4:287-333.
- BRITISH PAIN SOCIETY (BPS), 2011, the definition of chronic/persistent pain [Online] Available at <http://www.britishpainsociety.org> (Accessed on 12th December 2011).
- BRITTEN, N. AND M.C. WEISS. 2006. What is concordance? In Bond C (eds) *a concordance reader*. London The Pharmaceutical Press.
- BRUHN, H. et al. 2010. Pharmacist-led management of chronic pain in primary care: patient expectations, attitudes and concerns *International Journal of Pharmacy Practice* 18;s:1:22-23.
- BRUNELLI, B. AND K. GORSON. 2004. The use of complementary and alternative medicines by patients with peripheral neuropathy. *Journal of the Neurological Sciences* 218:59-66.
- BRYANT, A. 2003. "A Constructivist Response to Glaser", Forum Qualitative Sozialforschung /Forum: Qualitative Social Research, 4(1) [Online] Available at <http://www.qualitative-research.net/fqs-texte/1-03/1-03bryant-e.htm> (Accessed 20th March 2011).
- BRYMAN, A. 2001. *Social Research Methods*. Oxford: Oxford University Press.
- BROEKMANS, S. et al. 2009. Medication adherence in patients with chronic non-malignant pain: is there a problem? *European Journal of Pain* 13;2:115-123.
- BROWN, J., M. STEWART AND S.TESSIER. 1995. *Assessing communication between patients and doctors: a manual for scoring patient-centred communication*. London, ON; Thames Valley Family Practice Research Unit.

- BUCKLEY, P., J. GRIME. AND A. BLENKINSOPP. 2006. Inter- and intra-professional perspectives on non-medical prescribing in an NHS Trust. *Pharmaceutical Journal* 277:7420:394-398.
- CAMPBELL, C.M. et al. 2010. Catastrophizing delays the analgesic effect of distraction. *Pain* 149:2:202–207.
- CANDY, P. 1991. *Self-direction for lifelong learning*. San Francisco: Jossey-Bass.
- CARMINES, E. G., AND R. A. ZELLER. 1979. *Reliability and validity assessment* (vol. 17). Newbury Park, CA: Sage.
- CAREY, N. AND M. COURTENAY. 2010. An exploration of the continuing professional development needs of nurse independent prescribers and nurse supplementary prescribers who prescribe medicines for patients with diabetes. *Journal of Clinical Nursing* 19:208-216.
- CHARMAZ, K. 1983. Loss of self; a fundamental form of suffering in the chronically ill. *Sociology of Health and Illness* 5:169–195.
- CHARMAZ, K. 2000. Grounded theory: objectivist and constructivist methods. In K. Norman, K. Denzin, S. Yvonna. Lincoln. *Handbook of Qualitative Research* (2nd edition). London: Sage Publications.
- CHARMAZ, K. 2006. *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage.
- CHARMAZ, K. 2008. Grounded theory as an emergent method. In J.A. Holstein, J.F. Gubrium (Eds.), *Handbook of constructionist research* (pp. 397-412). New York: The Guilford Press.
- CHARMAZ, K. 2009. *Shifting the grounds: constructivistic grounded theory methods*. In J. Morse, Ph.J. Stern, J. Corbin, B.K. Bowers, K. Charmaz, A. Clarke (2009). *Developing grounded theory. The second generation*. Walnut Creek, CA: Left Coast Press.
- CHUNG, J. W. Y. AND J. C. Z. LUI. 2003. Postoperative pain management: Study of patients' level of pain and satisfaction with health care providers' responsiveness to their reports of pain. *Nursing and Health Sciences* 5:13-21.
- CLARKE, A. 2005. *Situational Analysis: Grounded theory after the post modern turn* Thousand Oaks, CA: Sage.
- COLE, M. 2005. Reflection in healthcare practice: why is it useful and how might it be done? *Work Based Learning in Primary Care* 3:13-22.
- COLEMAN, J., E. KATZ. AND H. MENZEL. 1966. *Medical Innovation: A Diffusion Study*. Indianapolis: Bobbs-Merrill.
- COOPER, R. J., et al. 2008. Nurse and pharmacist supplementary prescribing in the UK - A thematic review of the literature. *Health Policy* 85:3:277-292.

- CORTET, B. AND O. BENICHOUL. 2006. Adherence, persistence, concordance: do we provide optimal management to our patients with osteoporosis? *Joint Bone Spine* 73:1–7.
- COURTENAY, M., N. CAREY. AND J. BURKE. 2007. Independent extended and supplementary nurse prescribing practice in the UK: a national questionnaire survey. *International Journal of Nursing Studies* 44:7:1093–101.
- COURTENAY, M., K. STENNER. AND N. CAREY. 2010. The views of patients with diabetes about nurse prescribing. *Diabetic Medicine* 27:1049–54.
- COURTENAY, M. et al. 2011. Patients' views of nurse prescribing: effects on care, concordance and medicine taking. *British Journal of Dermatology* 164:396–401.
- COX, K. et al. 2003. *A systematic review of communication between patients and health care professionals about medicine-taking and prescribing*. London: GKT Concordance Unit, King's College.
- CRABTREE, B.F. AND W.L. MILLER. 1999. *Doing qualitative research*. 2nd ed. Thousand Oaks California. Sage Publications.
- CRESWELL, J. W. 2003. *Research design, qualitative, quantitative and mixed methods approaches*. London. Sage.
- CRONHOLM, S. 2005. Multi-Grounded Theory in Practice = a Review of Experiences from Use. Presented at *QUALIT 2005*, 23-25 Nov. Brisbane, Australia.
- CROTTY, M. 1998. *The foundations of social research: Meaning and perspective in the research process*. Thousand Oaks, CA: Sage.
- CZAJA, R., AND J. BLAIR. 2005. *Designing surveys: A guide to decisions and procedures*. 2nd edition Pine Forge: Sage Publications.
- DAPAR, M.L.P. et al. 2010. Facilitators and barriers to pharmacist prescribing: Exploring the association of pharmacy practice setting. *International Journal of Pharmacy Practice* 18:S1:38.
- DAVIS, L.L. 1992. Instrument review: Getting the most from a panel of experts *Applied Nursing Research* 5:4:194–197.
- DE VAUS, D.A. 2004. *Surveys in Social Research*, Allen and Unwin, Australia; Routledge, Sydney and London.
- DEPARTMENT OF HEALTH (DoH). 1999. Review of Prescribing, Supply and Administration of Medicines (Crown Report). [online] Available at: http://www.dh.gov.uk/prod_consum_dh/ (Accessed 21st May 2011).
- DEPARTMENT OF HEALTH (DoH). 2002. Extension of independent nurse prescribing [online] Available at: <http://webarchive.nationalarchives.gov.uk/> (Accessed 25th September 2011).

DEPARTMENT OF HEALTH (DoH). 2003. Supplementary Prescribing by Nurses and Pharmacists within the NHS in England [online] Available at: http://www.dh.gov.uk/prod_consum_dh/ (Accessed 1st May 2011).

DEPARTMENT OF HEALTH (DoH). 2006a. Nurse Independent Prescribing [Online] Available at: <http://www.dh.gov.uk/en/Healthcare/Medicinespharmacyandindustry> (Accessed 1st May 2009).

DEPARTMENT OF HEALTH (DoH). 2006b. Improving patients' access to medicines: a guide to implementing nurse and pharmacist independent prescribing within the NHS in England [Online] Available at: http://www.dh.gov.uk/prod_consum_dh/ (Accessed 1st March 2012).

DEPARTMENT OF HEALTH (DoH). 2008. The non medical prescribing programme [Online] Available at: <http://www.dh.gov.uk/en/Healthcare/Medicinespharmacyandindustry> (Accessed 8th December 2008).

DEPARTMENT OF HEALTH (DoH). 2009. Patient Group Directions [Online] Available at: http://www.dh.gov.uk/en/Managingyourorganisation/Emergencyplanning/DH_4069610 (Accessed 18th June 2009).

DEPARTMENT OF HEALTH (DoH). 2010. Engagement exercises to seek views on possibilities for introducing independent prescribing responsibilities for physiotherapists and podiatrists. Available at: <http://www.dh.gov.uk/en/Publicationsandstatistics> (Accessed 18th February 2012).

DEPARTMENT OF SOCIAL SECURITY. 1970. *working party on the hospital pharmaceutical service* (Chairman: Noel Hall) London: H.M.S.O.

DONYAI, P. et al. 2010. *CPD records for revalidation: assessing fitness-to-practise using 'revalidation standards' and an Outcomes Framework*. Executive summary, Reading School of Pharmacy University of Reading.

EAKIN, J.M., AND E. MYKHALOVSKIY. 2003. Reframing the evaluation of qualitative health research: reflections on a review of appraisal guidelines in the health sciences. *Journal of Evaluation in Clinical Practice* 9;2:187-194.

EARLE, E.A. et al. 2011. Nurse prescribing in specialist mental health: the views and experiences of practising and non-practising nurse prescribers and service users. *Journal of Psychiatric and Mental Health Nursing* 18;3:189-97.

EDWARDS, D. 2006. *Narrative analysis*. In A. Jaworski and N. Coupland (Eds.), *The Discourse Reader*, Second edition. London, Routledge.

ELLIOTT, A. M. et al. 1999. The epidemiology of chronic pain in the community. *Lancet* 354:1248-52.

- ERIKSEN, J. et al. 2003. Epidemiology of chronic non-malignant pain in Denmark. *Pain*, 106:3:221-228.
- FINK, A. (ED) 1995. *The survey handbook*. Thousand Oaks, CA: Sage.
- FINLAY, L. 2002. "Outing" the researcher: The provenance, process, and practice of reflexivity. *Qualitative Health Research* 12:531-545.
- FERRELL, B., A.T. TORRY AND O.J. GLICK. 1993. The use of therapeutic massage as a nursing intervention to modify anxiety and the perception of cancer pain. *Cancer Nursing* 16:2:93-101.
- FOLTZ, V. et al. 2005. Use of complementary and alternative therapies by patients with self-reported chronic back pain: a nationwide survey in Canada. *Joint Bone Spine* 72:6:571-577.
- FISHER, R. 2009. Relationships in nurse prescribing: revealing the processes. *British Journal of Community Nursing* 14:12:518-522.
- FITZMAURICE, G. M., N. M. LAIRD. AND J. H. WARE. 2004. *Applied Longitudinal Analysis*. Wiley Series in Statistics. Wiley-IEEE New York.
- GAGNIER, J.J. et al. 2006. Herbal medicine for low back pain. *Cochrane Database of Systematic Reviews* Art. No.: CD004504. DOI: 10.1002/14651858.CD004504.pub3.
- GARFIELD, S. et al. 2007. Can patients' preferences for involvement in decision-making regarding the use of medicines be predicted? *Patient Education and Counseling* 66:361-367.
- GEORGE, J. et al. 2006. Supplementary prescribing: early experiences of pharmacists in the UK. *The Annals of Pharmacotherapy* 40:10:1843-50.
- GEORGE, J et al. 2007. Benefits and challenges of prescribing training and implementation: perceptions and early experiences of RPSGB prescribers. *International Journal of Pharmacy Practice* 15:23-30.
- GIBSON, N. 2004. *Action Research* in M. Lewis-Beck, A. Bryman, & T.F. Liao (Eds.), *Encyclopedia of Social Science Research Methods*. London and Thousand Oaks, CA: Sage.
- GLASER, B. G. AND A. STRAUSS. 1967. *The discovery of grounded theory: Strategies for qualitative research* New York: Aldine.
- GLASER, B.G. 1978. *Theoretical Sensitivity: Advances in the Methodology of Grounded Theory*. Mill Valley, CA: Sociology Press.
- GLASER, B.G. 1992. *Emergence vs. Forcing: Basis of grounded theory analysis*. Mill Valley, CA: Sociology Press.
- GLASER, B. 2009. *Jargonizing: The use of the grounded theory vocabulary*. California : The Sociology Press.

- GLASER, B. 2010. The Future of Grounded Theory. *The Grounded Theory review: an international journal*, 9;2:1-14.
- GLIEM, J. AND R. GLIEM. 2003. Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales. In 2003 Midwest Research to Practice Conference in Adult, Continuing and Community Education. Columbus, OH.
- GOLDKUHL, G. AND S. CRONHOLM. 2003. *Multi-Grounded Theory – adding theoretical grounding to grounded theory*. European Conference on Research Methodology for Business and Management Studies Reading University, Reading, UK.
- GORMAN, G.E. AND P. CLAYTON. 2005. *Qualitative Research for The Information Professional: A Practical Handbook*. London: facet.
- GREEN, C.R. et al. 2003. The effect of race in older adults presenting for chronic pain management: A comparative study of black and white Americans. *Journal of Pain* 4:82-90.
- GUBA, E. AND Y. LINCOLN. 1989. *Fourth generation evaluation*. Newbury Park, CA: Sage.
- GUBA, E. AND Y. LINCOLN. 1994. *Competing paradigms in qualitative research*. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research*. London: Sage.
- HAETZMAN, M. et al. 2003. Chronic pain and the use of conventional and alternative practitioners. *Family Practice* 20;2:147-154.
- HARRISON, A. 2003. mental health service users' views of nurse prescribing. *Nurse Prescribing* 1;2:78-85.
- HENNELL, L.S., B.B. WOOD AND E.W. SPARK. 2004. Competency and the use of clinical management plans in rheumatology practice *Nurse Prescribing* 2;1:26-30.
- HOBSON, R.J., J. SCOTT. AND J. SUTTON. 2010. Pharmacists and nurses as independent prescribers: exploring the patient's perspective. *Family Practice* 27;1:110-120.
- HODGES, B.D., A. KUPER AND S. REEVES. 2008. Discourse analysis. *British Medical Journal* 337;a879.
- HOLTZMAN, S., S. NEWTH. AND A. DELONGIS. 2004. The role of social support in coping with daily pain among patients with rheumatoid arthritis. *Journal of Health Psychology* 9:677-695
- HOTI K., J. HUGHES AND B. SUNDERLAND. 2011. An expanded prescribing role for pharmacists - an Australian perspective *Australasian Medical Journal*. 4;4:236-242.
- HUGHES, C.M. 2004. Medication non-adherence in the elderly. How big is the problem? *Drugs Aging* 21:793-811.
- HYRKAS, K. et al. 2003. "Validating an instrument for clinical supervision using an expert panel." *International Journal of Nursing Studies* 40;6:619-625.

- JAMISON, R.N. AND K.L. VIRTIS. 1990. The influence of family support on chronic pain *Behaviour Research and Therapy* 28:283–287.
- JENSEN, M.P. et al. 1991. Coping with chronic pain: a critical review of the literature *Pain* 47:249–283.
- JENSEN M.P. 2009. Research on coping with chronic pain: The importance of active avoidance of inappropriate conclusions. *Pain* 147: 3–4.
- JONES, A. AND G.C. HARBORNE. 2009. Independent mental health nurse prescribing. *Journal of Psychiatric and Mental Health Nursing* 16:6:508-15.
- KELLY M. 2010. The role of theory in qualitative health research. *Family Practice* 27:285-90.
- KHADILKAR A et al. 2008. Transcutaneous electrical nerve stimulation (TENS) versus placebo for chronic low-back pain. *Cochrane Database of Systematic Reviews* Issue 4, Art. No.: CD003008. DOI: 10.1002/14651858.CD003008.pub3.
- KING, N. 1994. *The qualitative research interview*. In C. Cassell & G. Symon (Eds.) *Qualitative methods in organisational research: A practical guide*. London: Sage.
- KIRK, J. AND M. L. MILLER. 1986. *Reliability and validity in qualitative research*. Beverly Hills Sage Publications.
- KONVICKA, J.J. et al. 2008. Complementary/alternative medicine use among chronic pain clinic patients *Journal of Perianesthesia Nursing* 23:1:17-23.
- KREFTING, L. 1991. Rigor in qualitative research: The assessment of trustworthiness. *American Journal of Occupational Therapy*, 45:214-222.
- KUHN T.S. 1961. The Function of Measurement in Modern Physical Science *Isis* 52:2:162.
- KUPER, A., S. REEVES AND W. LEVINSON. 2008. An introduction to reading and appraising qualitative research. *British Medical Journal* 337:404-7.
- LANDIS, J. R. AND G. G. KOCH, 1977. The measurement of observer agreement for categorical data. *Biometrics* 33:159-174.
- LATTER, S. et al. 2007. Perceptions and practice of concordance in nurses' prescribing consultations: findings from a national questionnaire survey and case studies of practice. *International Journal of Nursing Studies* 44:9–18.
- LATTER S. et al. 2010. Evaluation of nurse and pharmacist independent prescribing [Online] Available at: <http://www.dh.gov.uk> (Accessed 14th November 2011).
- LAW, S. AND N. BRITTEN. 1995. Factors that influence the patient-centredness of a consultation. *British Journal of General Practice* 45: 520-524.

- LEBRETON, J. M. AND J. L. SENTER. 2008. Answers to 20 questions about inter-rater reliability and inter-rater agreement. *Organizational Research Methods* 11, 815-852.
- LEWIS, J. AND J. RITCHIE. 2003. "Generalising from qualitative research". In: Ritchie, J. & Lewis, J. (eds.), *Qualitative Research Practice: A Guide for Social Science Students and Researchers* London: Sage.
- LINCOLN, Y.S. AND E.G. GUBA 1985. *Naturalistic inquiry*. California: Sage.
- LITTLE, P. et al. 2001. An observational study of the preferences of patients for the patient-centred approach to consultation in primary care. *British Medical Journal* 322: 468-472.
- LITTLE, R. J. A. AND D. B. RUBIN. 1987. *Statistical Analysis with Missing Data*. Wiley, New York.
- LLOYD, F. AND C. M. HUGHES. 2007. Pharmacists' and mentors' views on the introduction of pharmacist supplementary prescribing: A qualitative evaluation of views and context. *International Journal of Pharmacy Practice* 15;1:31-37.
- LOCKWOOD E. B. AND G.M. FEALY 2008. Nurse prescribing as an aspect of future role expansion: the views of Irish clinical nurse specialists *Journal of Nursing Management* 16:813-820.
- LOPEZ-MARTINEZ, A.E., R. ESTEVE-ZARAZAGA AND C. RAMIREZ-MAESTRE. 2008. Perceived social support and coping responses are independent variables explaining pain adjustment among chronic pain patients. *The Journal of Pain* 9;4:373-9.
- LUKER, K.A. et al. 1998. Nurse-patient relationships: The context of nurse prescribing. *Journal of Advanced Nursing* 28: 235-42.
- MacLURE, K. et al. 2010. What the Scottish general public think about non-medical prescribing? *International Journal of Pharmacy Practice* 18;s1:14.
- MADOW, W. G. et al. 1983. *Incomplete Data in Sample Surveys*. New York: Academic Press.
- MADDOX, C., M. TULLY AND J. HAL. 2010. Understanding the factors influencing the prescribing decisions of nurse and pharmacist prescribers. *International Journal of Pharmacy Practice* 18;s1:5.
- MADDOX, C., M. TULLY AND J. HAL. 2011. Are Non-medical Prescribers cautious about taking prescribing responsibility? *International Journal of Pharmacy Practice* 19;s1:51.
- MAHONEY, J. AND G. GOERTZ 2006. A tale of two cultures: Contrasting quantitative and qualitative research. *Political Analysis*, 14:227-249.
- MAYS, N. AND C. POPE. 2000. Qualitative research in health care: Assessing quality in qualitative research. *British Medical Journal* 320:50-52.

- MCCRACKEN, L.M. et al. 1997. Assessment of satisfaction with treatment for chronic pain. *Journal of Pain and Symptom Management* 14:292–299.
- MCCRACKEN, L.M., D. EVON AND E.T. KARAPAS 2002. Satisfaction with treatment for chronic pain in a specialty service: preliminary prospective results *European Journal of Pain* 6:387–393.
- MCNEILL, J.A. et al. 1998. Assessing clinical outcomes: Patient satisfaction with pain management. *Journal of Pain and Symptom Management* 16:1:2940.
- MERRIAM, S. B. et al. 2002. *Qualitative research in practice: Examples for discussion and analysis*. San Francisco: Jossey-Bass.
- MERSKEY, N. AND N. BOGDUK (eds) 1994. *Classification of Chronic Pain: Descriptions of Chronic Pain Syndromes and Definitions of Pain Terms*. 2nd edn. IASP Press, Seattle.
- MILES, M.B. AND A.M. HUBERMAN 1994. *Qualitative data analysis: an expanded sourcebook*, 2nd ed. California: Sage.
- MILLS, J., A. BONNER. AND K. FRANCIS 2006. The development of constructivist grounded theory. *International Journal of Qualitative Methods* 5:1-3[online] Available at http://www.ualberta.ca/~ijqm/backissues/5_1/pdf/mills.pdf (Accessed 5th August 2011).
- MITOFSKY, W.J 2000. At the polls: Mexican democracy turns the corner. *Public Perspective* 11;5:37-40.
- MORSE P et al. 2009. *Developing grounded theory. The second generation*. Walnut Creek, CA: Left Coast Press.
- MULA, C. AND S. WARE 2003. extended independent nurse prescribing in palliative care *Nursing Times* 99:18:30
- NATIONAL PRECSCIBING CENTRE (NPC) 2011, non medical prescribing [Online] Available at http://www.npc.nhs.uk/non_medical/ (Accessed 14th December 2011).
- NEWMAN, J.C. et al. 2002. "The differential effects of face-to-face and computer interview modes". *American Journal of Public Health* 92:2:294-297.
- NNOAHAM, K.E. AND J. KUMBANG 2008. Transcutaneous electrical nerve stimulation (TENS) for chronic pain. *Cochrane Database of Systematic Reviews* 2008, Issue 3, Art. No.: CD003222. DOI: 10.1002/14651858.CD003222.pub2.
- OFFICE OF PUBLIC SECTOR INFORMATION (OPSI) 2009. Data Protection Act 1998; 1998 CHAPTER 29 [Online] Available at <http://www.opsi.gov.uk> (Accessed 6th January 2009).

- OPPENHEIM, A.N. 1992. *Questionnaire design, interviewing and attitude measurement*. London: Pinte.
- OSTERBERG, L. AND T. BLASCHKE, 2005. Adherence to medication. *New England Journal of Medicine* 353:487-497.
- OTTER, M.E., G.J. MELLENBERGH AND K.D. GLOPPER 1995. The relation between information-processing variables and test-retest stability for questionnaire items. *Journal of Educational Measurement* 32:2:199-216.
- PALEY, J. AND R. LILFORD 2011. Analysis: Qualitative methods: an alternative view. *British Medical Journal* 342;10:1136.
- PAPPAS, S. AND A. PERLMAN. 2002. Complementary and alternative medicine: the importance of doctor-patient communication *Medical Clinics of North America* 1:1-10.
- PATTON, M.Q. 1990. *Qualitative Evaluation and Research Methods*. 2nd ed., London: Sage.
- PATTON M.Q. 2002. *Qualitative research and evaluation methods*. 3rd ed., Newbury Park, CA: Sage Publications.
- POPE, C. AND N. MAYS 2006. Observational methods. In: Pope C, Mays N, editors. *Qualitative research in health care*. 3rd ed. Malden (MA); Blackwell Publishing Ltd.
- POWELL, R.A., H.M. SINGLE AND K.R. LLOYD 1996. 'Focus groups in mental health research: enhancing the validity of user and provider questionnaires', *International Journal of Social Psychology* 42;3:193-206.
- RADWIN, L. 1996. "Knowing the patient": A review of research on an emerging concept. *Journal of Advanced Nursing*, 23:1142-1146.
- RICHARDSON J. (Ed) 1996. *Handbook of Qualitative Research Methods for Psychology and the Social Sciences*. BPS books, Leicester.
- RITCHIE, J. AND L. SPENCER, 1994. *Qualitative data analysis for applied policy research*" in A. Bryman and R. G. Burgess (eds.) *Analyzing qualitative data*. Routledge London.
- ROGERS, E.M. 2003. *Diffusion of Innovations*, 5th edn. Free Press, New York, NY.
- ROSENBERG, E. I. et al. 2008. Complementary and alternative medicine use by primary care patients with chronic pain *Pain Medicine* 9; 8:1065-1072.
- RUSSELL, C.K. AND D.M GREGORY 2003. Evaluation of qualitative research studies. *Evidence Based Nursing* 6:36-40.
- ROSSER, B.A. et al. 2011. Concerns about medication and medication adherence in patients with chronic pain recruited from general practice. *Pain* 152;5:1201-1205.

- SAVAGE, J. 2000. Participative observation: standing in the shoes of others? *Qualitative Health Research* 10:324-339.
- SABATE E. 2003. *Adherence to long-term therapies. Evidence for action*. Geneva: WHO.
- SANDELOWSKI, M. 1993. Rigor or rigor mortis: the problem of rigor in qualitative research revisited. *Advances in Nursing Science* 16:2:1-8.
- SANDELOWSKI, M. 1995. Triangles and crystals: on geometry of qualitative research. *Journal of Advanced Nursing* 18:6:569-574.
- SCHAFHEUTLE, E.I., J.A. CANTRILL AND P.R. NOYCE 2001. Why is pain management suboptimal on surgical wards? *Journal of Advanced Nursing* 33:6:728-737.
- SCHWANDT, T. A. 1994. Constructivist, interpretivist approaches to human inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage.
- SHENTON, A.K. 2004. Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information* 22:63-75.
- SHERWOOD, G. et al. 2000. Qualitative assessment of hospitalized patients' satisfaction with pain management. *Research in Nursing and Health* 23:486-495.
- SHI, Q. et al. 2007. People in Pain: How Do They Seek Relief? *The Journal of Pain* 8: 8: 624-636.
- SHRESTHA, N., E. OMISAKIN AND S. CLIFFORD. 2011. Evaluating the role of Non-medical Prescribers at whipps cross university hospital NHS Trust. *International Journal of Pharmacy Practice* 19:s1:21.
- SMALLEY L. 2006. Patient's experience of pharmacist-led supplementary prescribing in primary care. *Pharmaceutical Journal* 276:567-9.
- SMITH, B.H et al. 2001. The impact of chronic pain in the community. *Family Practice* 18:292-9.
- SMITH, S., C. MITCHELL AND S. BOWLER 2008. Standard versus patient-centred asthma education in the emergency department: a randomised study. *European Respiratory Journal* 31:990-997.
- STANNARD, C. AND M. JOHNSON. 2003. Chronic pain management--can we do better? An interview-based survey in primary care. *Current Medical Research & Opinion* 19:8:703-6.
- STENNER K. AND M. COURTENAY. 2007. A qualitative study on the impact of legislation on the prescribing of controlled drugs by nurses. *Nurse Prescribing* 5: 6:257-261.
- STENNER, K. AND M. COURTENAY. 2008a. Benefits of nurse prescribing for patients in pain: nurses' views. *Journal of Advanced Nursing* 63:1:27-35.

- STENNER K. AND M. COURTENAY 2008b. The role of inter-professional relationships and support for nurses prescribing in acute and chronic pain. *Journal of Advanced Nursing* 63:3:276-283.
- STENNER, K.L., M. COURTENAY. AND K. CANNONS. 2011a. Nurse prescribing for inpatient pain in the United Kingdom: a national questionnaire survey *International Journal of Nursing Studies* 48:847-855.
- STENNER, K.L., M. COURTENAY. AND N. CAREY 2011b. Consultations between nurse prescribers and patients with diabetes in primary care: A qualitative study of patient views. *International Journal Of Nursing Studies* 48;1:37-46.
- STERN. P. N. 1994. Eroding grounded theory. In J. M. Morse (Ed.), *Critical issues in qualitative research methods*. London: Sage.
- STEWART, D. et al. 2009. Cross sectional survey of the Scottish general public's awareness of, views on and attitudes toward nonmedical prescribing. *Annals of Pharmacotherapy* 43:1115-21.
- STEWART, D. et al. 2011. Pharmacovigilance and Non-medical Prescribers: exploring perceptions of training contributions and potential for enhancement. *International Journal of Pharmacy Practice* 19:s2:88-89.
- STRAUSS, A. AND J. CORBIN. 1990. *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.
- STRAUSS, A. AND J. CORBIN 1998. *Basics of qualitative research: techniques and procedures for developing grounded theory*. Thousand Oaks: Sage
- SUDMAN, S. AND N. M. BRADBURN. 1982. *Asking questions: A practical guide to questionnaire design*. San Francisco: Jossey-Bass.
- TESCH, R. 1990. *Qualitative research: analysis types and software tools*. Bristol, PA: Falmer Press.
- TROCHIM, W.M. 2006. The Research Methods Knowledge Base, 2nd edition [online] Available at: <http://www.socialresearchmethods.net/kb/> (Accessed 20th October 2011).
- TURNER, S. 2011. Developing a non-medical prescribers' peer supervision group *Nursing Standard* 25:29:55-6,58,60-1.
- UNITED KINGDOM BORDER AGENCY (UKBA). 2011. Tier 4 of the Points Based System – Policy Guidance [online] Available at: <http://www.ukba.homeoffice.gov.uk> (Accessed 12th December 2011).
- VON KORFF, M. et al. 1991. Chronic pain and use of ambulatory health care. *Psychosom med.*: 53:61-79.

- WALSH N.E. et al. 2008. Standards of Care for Acute and Chronic Musculoskeletal Pain: The Bone and Joint Decade (2000-2010). *Archives of Physical Medicine and Rehabilitation* 89:9:1830-1845.
- WARCHAL, S. et al. 2006. Attitudes of successful candidates of supplementary prescribing courses to their training and their extended roles. *Pharmaceutical Journal* 276:348-352.
- WATTERSON, A. et al. 2009. *An evaluation of the extension of nurse prescribing in Scotland*. Scottish Government Social Research. Edinburgh: University of Stirling.
- WEEKS, G.R., J. MARRIOTT AND J. GEORGE. 2010. Australian hospital pharmacists' experiences of a UK non-medical prescribing course. *Journal of Pharmacy Practice and Research* 40:3:187-193.
- WEIDMAN, J. C., D.J. TWALE. AND E. L. STEIN. 2001. *Socialization of graduate and professional students in higher education: A perilous passage?* ASHE-ERIC Higher Education Report, 28. Jossey-Bass, San Francisco.
- WEISS, M. AND BRITTEN N. 2003. What is concordance? *The Pharmaceutical Journal* 271:7270:493.
- WEISS, M., J. SUTTON AND C. ADAMS. 2006. Exploring innovations in pharmacy practice: A qualitative evaluation of supplementary prescribing by pharmacists. Department of Pharmacy and Pharmacology, University of Bath.
- WHILE, A.E., M. MUDALY. AND A. NATHAN. 2004. Views of community pharmacists regarding supplementary prescribing. *International Journal of Pharmacy Practice* 12:R43.
- WIMMER, R. AND J. DOMINICK. 1997. *Mass Media Research: An Introduction*. Belmont, MA: Wadsworth.
- WINSTANLEY, L. 2009. *Survey of the continuing professional development needs of pharmacist prescribers* Centre for Pharmacy Postgraduate Education.

APPENDICES

Appendix 1: Hits for literature search.....	258
Appendix 2: Letter from ethics meeting.....	263
Appendix 3: Favourable ethical opinion.....	268
Appendix 4: Research governance approval.....	275
Appendix 5: Ethics amendment letter.....	279
Appendix 6: Research passport.....	282
Appendix 7: Letter of access.....	286
Appendix 8: Prescribers' consent form.....	288
Appendix 9: Prescribers' information sheet.....	289
Appendix 10: Topic guide for non-medical prescribers.....	291
Appendix 11: Topic guide nurses and pharmacists not prescribing for chronic pain.....	294
Appendix 12: Memo.....	296
Appendix 13: Field note.....	297
Appendix 14: Meeting note.....	298
Appendix 15: Abstract from School of healthcare conference.....	299
Appendix 16: Abstract from British and Canadian Pain Society conference.....	300
Appendix 17: Coding diagrams for non-medical prescribers' project.....	301
Appendix 18: Non-medical prescribers' survey.....	308
Appendix 19: Draft of non-medical prescribers' survey.....	318
Appendix 20: Letter to non-medical prescribing leads.....	323
Appendix 21: Questionnaire flow chart.....	324
Appendix 22: Patients' information sheet.....	325
Appendix 23: Patients' consent form.....	327
Appendix 24: Topic guide for chronic pain patients.....	328
Appendix 25: Coding diagrams for chronic pain patients' project.....	330
Appendix 26: Journal publication.....	333

Embase search 1996 – 2011 week 50 – Nurse and pharmacist prescribing

Search no.	Search term	Hits	Kept
1	view*.mp.	216324	-
2	experienc*.mp.	508898	-
3	perce*.mp.	576084	-
4	1 or 2 or 3	1197387	-
5	nurse*.mp.	157919	-
6	prescrib*.mp.	76340	-
7	5 and 6	3083	-
8	4 and 7	952	-
9	limit 8 to english language	902	-
10	limit 9 to yr="2004 -Current"	676	89
11	pharmacist*.mp	40599	-
12	prescrib*.mp.	76340	-
13	11 and 12	3898	-
14	4 and 13	1018	-
15	limit 14 to english language	924	-
16	limit 15 to yr="2006 -Current"	633	47

Medline search 1996 – 2011 week 3 – Nurse and pharmacist prescribing

Search no.	Search term	Hits	Kept
1	view*.mp.	166239	-
2	experienc*.mp.	379350	-
3	perce*.mp.	489589	-
4	1 or 2 or 3	950785	-
5	nurse*.mp.	138584	-
6	prescrib*.mp.	52135	-
7	5 and 6	2146	-
8	4 and 7	632	-
9	limit 8 to english language	599	-
10	limit 9 to yr="2004 -Current"	413	71
11	pharmacist*.mp	12009	-
12	prescrib*.mp.	52135	-
13	11 and 12	1678	-
14	4 and 13	441	-
15	limit 14 to english language	399	-
16	limit 15 to yr="2006 -Current"	222	35

IPA search 1996 – 2011 week 3 – Nurse and pharmacist prescribing

Search no.	Search term	Hits	Kept
1	view*.mp.		
2	experienc*.mp.		
3	perce*.mp.		
4	1 or 2 or 3		
5	nurse*.mp.		
6	prescrib*.mp.		
7	5 and 6		
8	4 and 7		
9	limit 8 to english language		
10	limit 9 to yr="2004 -Current"		
11	pharmacist*.mp		
12	prescrib*.mp.		
13	11 and 12		
14	4 and 13		
15	limit 14 to english language		
16	limit 15 to yr="2006 -Current"		

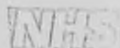
PsycINFO search 2002 to December Week 3 2011– Nurse and pharmacist prescribing

Search no.	Search term	Hits	Kept
1	view*.mp.	89133	-
2	experienc*.mp.	201678	-
3	perce*.mp.	204347	-
4	1 or 2 or 3	419473	-
5	nurse*.mp.	21940	-
6	prescrib*.mp.	10863	-
7	5 and 6	505	-
8	4 and 7	219	-
9	limit 8 to english language	217	-
10	limit 9 to yr="2004 -Current"	201	-
11	pharmacist*.mp	1033	-
12	prescrib*.mp.	10863	-
13	11 and 12	217	-
14	4 and 13	78	-
15	limit 14 to english language	77	-
16	limit 15 to yr="2006 -Current"	66	-

All relevant studies had already been identified by the searches on the Medline and Embase databases.

Index to Theses search 2004 to 2011– Nurse and pharmacist prescribing

Search no.	Search term	Hits	Kept
1	Prescribing	1718	-
2	limit 1 to yr="2004 - 2011"	529	10
3	prescrib* and nurse*	52	-
4	limit 3 to yr="2004 - 2011"	29	No further studies
5	prescrib* and pharmacist*	92	-
6	limit 5 to yr="2004 - 2011"	40	No further studies



National Research Ethics Service

Leeds (West) Research Ethics Committee

Room 22
 Floor CD, Block 40
 King Edward Home
 Leeds General Infirmary
 Leeds
 LS1 3EX

Telephone: 0113 3923181
 Facsimile: 0113 3926799

14 January 2010

Mr Obi P. Adigwe
 PhD Student
 Room 3.35
 School of Healthcare, Baines Wing
 University of Leeds.
 LS2 9UT

Dear Mr Adigwe

Study Title: NON MEDICAL PRESCRIBING IN CHRONIC NON
 MALIGNANT PAIN
REC reference number: 10/H1307/2
Protocol number: 1

The Research Ethics Committee reviewed the above application at the meeting held on 08 January 2010. Thank you for attending to discuss the study.

Discussion took place on the recruitment procedure; you explained that all the nurses and pharmacists had expressed an interest in taking part in research and they would approach potential participants on your behalf. The Committee was reassured that you do not intend to contact participants without their consent.

The Committee queried the amount and type of training you have received; you explained that as well as an external course and a module on your PhD course, you have received substantial in house training. Dr Briggs explained to the Committee that if any emotional distress is felt by any participants, the department has links to psychologists, who could offer support.

The Committee queried your procedure if detail of unprofessional conduct is revealed to you during interviews; you confirmed that you have not considered this issue.

The role of Action for Pain was raised; you explained that information sheets would be given out by your supervisor and the clinician involved in the study as a way of aiding recruitment; members suggested this may lead to a biased sample.

Documents reviewed

The documents reviewed at the meeting were:

Document	Version	Date

REC application	2.5	24 November 2009
Protocol	1	24 November 2009
Investigator CV	1	03 November 2009
Participant Information Sheet: Prescriber Information Sheet	1	24 November 2009
Participant Information Sheet: Patient Information Sheet	1.0	24 November 2009
Participant Consent Form: Prescribing for Chronic Pain by Nurses & Pharmacists		
Evidence of insurance or indemnity		
Referees or other scientific critique report		
Interview Schedules/Topic Guides		
Questionnaire		
Questionnaire		
Covering Letter	1	09 December 2009
REC application	2.5	24 November 2009
Protocol	1	24 November 2009
Investigator CV	1	03 November 2009
Participant Information Sheet: Prescriber Information Sheet	1	24 November 2009
Participant Information Sheet: Patient Information Sheet	1.0	24 November 2009
Participant Consent Form: Prescribing for Chronic Pain by Nurses & Pharmacists	1.0	24 November 2009
Evidence of insurance or indemnity	1	08 October 2009
Referees or other scientific critique report	1	24 September 2009
Interview Schedules/Topic Guides	1.0	24 November 2009
Questionnaire: On Prescribing for Chronic Pain by Nurses and Pharmacists	1.0	24 November 2009
Questionnaire: On Non Medical Prescribing in Chronic Non Malignant Pain	1.0	24 November 2009
Topic Guide for Interviews (Non Medical Prescribers)	1.0	24 November 2009
CV - Michelle Briggs	1	09 November 2009
CV - Jose Closs	1	03 November 2009
CV - Barry Strickland-Hodge	1	03 November 2009

Provisional opinion

The Committee would be content to give a favourable ethical opinion of the research, subject to receiving a complete response to the request for further information set out below.

The Committee delegated authority to confirm its final opinion on the application to a meeting of the sub-committee of the REC.

Further information or clarification required

- 1 A procedure should be identified should sensitive information be disclosed at interview.
- 2 Please confirm that patients with life shortening conditions will be excluded.
- 3 A GP letter should be provided, participants may seek advice from their GP, or mention the study to them.

- 10/H1307/2
- 4 Please confirm which medication can be prescribed by pharmacists and nurse prescribers, they should have a formulary.
 - 5 The data of those who withdraw from the study will be destroyed.
 - 6 Consent for the interview should be taken at the start, not the end.
 - 7 The participant information sheet should state that direct quotes may be used to develop the questionnaire, these should be anonymised.
 - 8 The participant information sheet for patients should state that their GP will be informed.
 - 9 The consent forms should be revised as follows:
 - They should include the mandatory section on regulatory authorities.
 - Provision should be made to consent to the recording of interviews.
 - They should be proof read.
 - Consent to notify the GP should be included on the patients' form.

When submitting your response to the Committee, please send revised documentation where appropriate underlining or otherwise highlighting the changes you have made and giving revised version numbers and dates.

If the committee has asked for clarification or changes to any answers given in the application form, please do not submit a revised copy of the application form; these can be addressed in a covering letter to the REC.

The Committee will confirm the final ethical opinion within a maximum of 60 days from the date of initial receipt of the application, excluding the time taken by you to respond fully to the above points. A response should be submitted by no later than 14 May 2010.

Membership of the Committee

The members of the Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

10/H1307/2

Please quote this number on all correspondence

Yours sincerely



Dr Rhona Bratt
Chair

Email: Elaine.hazell@leedsth.nhs.uk

Enclosures:

List of names and professions of members who were present at the meeting and those who submitted written comments.

Copy to:

Mrs Rachel De Souza

R&D Department, Leeds Teaching Hospitals NHS Trust

Leeds (West) Research Ethics Committee

Attendance at Committee meeting on 08 January 2010

Committee Members:

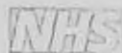
<i>Name</i>	<i>Profession</i>	<i>Present</i>	<i>Notes</i>
Miss Brygitta Atraszkiewicz	Information Analyst	Yes	
Professor Howard Bird	Consultant Rheumatologist	Yes	
Dr Rhona Bratt	Retired Multimedia Project Manager	Yes	
Mr Stephen Bush	Consultant in Emergency Medicine	Yes	
Dr Sheila E. Fisher	NCRI Associate Director for PPI	Yes	
Dr Stella Kwan	Senior Lecturer in Dental Public Health	No	
Mr Peter Margerison	Retired Solicitor	No	
Miss Eve Miles	Medical student	Yes	
Dr Wendy Neil	Consultant Psychiatrist	No	
Dr Vera Neumann	Consultant in Rehabilitation Medicine	Yes	
Dr Jane Orton	Consultant Oncologist	Yes	
Dr Michael Rivlin	Medical Ethics Lecturer Lay Member.	No	
Dr Ken Shenderey	General Practitioner	No	
Rev. Chris Swift	Hospital Chaplain	Yes	

Also in attendance:

<i>Name</i>	<i>Position (or reason for attending)</i>
Mrs Elaine Hazell	REC Co-ordinator
Ms Claire Kelly	Assistant Co-ordinator

Written comments received from:

<i>Name</i>	<i>Position</i>
Mr Peter Margerison	Retired Solicitor



National Research Ethics Service

Leeds (West) Research Ethics Committee

Room 22
Floor CD, Block 40
King Edward Home
Leeds General Infirmary
Leeds
LS1 3EX

Telephone: 0113 3923181
Facsimile: 0113 3926799

10 February 2010

Mr Obi P. Adigwe
PhD Student
Room 3.35
School of Healthcare, Baines Wing
University of Leeds.
LS2 9UT

Dear Mr Adigwe

Study Title: NON MEDICAL PRESCRIBING IN CHRONIC NON
MALIGNANT PAIN
REC reference number: 10/H1307/2
Protocol number: 1

Thank you for your letter of 29 January 2010, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information was considered in correspondence by a sub-committee of the REC. A list of the sub-committee members is attached.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should

governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>. *Where the only involvement of the NHS organisation is as a Participant Identification Centre, management permission for research is not required but the R&D office should be notified of the study. Guidance should be sought from the R&D office where necessary.*

Sponsors are not required to notify the Committee of approvals from host organisations.

The consent form for prescribers should also have been revised to comply with the Committee's comments. Please ensure that it is amended and a new version is sent to the REC office.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering Letter	1	09 December 2009
REC application	2.5	24 November 2009
Protocol	1	24 November 2009
Investigator CV	1	03 November 2009
Participant Information Sheet: Prescriber Information Sheet	1	24 November 2009
Participant Consent Form: Prescribing for Chronic Pain by Nurses & Pharmacists	1.0	24 November 2009
Evidence of insurance or indemnity	1	08 October 2009
Referees or other scientific critique report	1	24 September 2009
Interview Schedules/Topic Guides	1.0	24 November 2009
Questionnaire: On Non Medical Prescribing in Chronic Non Malignant Pain	1.0	24 November 2009
Topic Guide for Interviews (Non Medical Prescribers)	1.0	24 November 2009
CV - Michelle Briggs	1	09 November 2009
CV - Jose Closs	1	03 November 2009
CV - Barry Strickland-Hodge	1	03 November 2009
Participant Information Sheet	2	22 January 2010
Participant Consent Form	2	22 January 2010
GP/Consultant Information Sheets	1	22 January 2010
Response to Request for Further Information		29 January 2010

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document "*After ethical review – guidance for researchers*" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

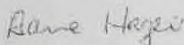
The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

10/H1307/2

Please quote this number on all correspondence

Yours sincerely



Dr Rhona Bratt
Chair

Email: Elaine.hazell@leedsth.nhs.uk

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments*

"After ethical review – guidance for researchers"

Copy to: *Mrs Rachel De Souza*

R&D, Leeds Teaching Hospitals NHS Trust

Leeds (West) Research Ethics Committee

Attendance at Sub-Committee of the REC meeting on 08 February 2010

Committee Members:

<i>Name</i>	<i>Profession</i>	<i>Present</i>	<i>Notes</i>
Miss Brygitta Atraszkiewicz	Information Analyst	Yes	
Dr Rhona Bratt	Retired Multimedia Project Manager	Yes	



National Patient Safety Agency

National Research Ethics Service

RESEARCH IN HUMAN SUBJECTS OTHER THAN CLINICAL TRIALS OF INVESTIGATIONAL MEDICINAL PRODUCTS

After ethical review – guidance for sponsors and investigators

This document sets out important guidance for sponsors and investigators on the conduct and management of research with a favourable opinion from a NHS Research Ethics Committee. Please read the guidance carefully. A failure to follow the guidance could lead to the committee reviewing its opinion on the research.

1. Further communications with the Research Ethics Committee
 - 1.1 Further communications during the research with the Research Ethics Committee that gave the favourable ethical opinion (hereafter referred to in this document as "the Committee") are the personal responsibility of the Chief Investigator.
2. Commencement of the research
 - 2.1 It is assumed that the research will commence within 12 months of the date of the favourable ethical opinion.
 - 2.2 The research must not commence at any site until the local Principal Investigator (PI) or research collaborator has obtained management permission or approval from the organisation with responsibility for the research participants at the site.
 - 2.3 Should the research not commence within 12 months, the Chief Investigator should give a written explanation for the delay
 - 2.4 Should the research not commence within 24 months, the Committee may review its opinion.
3. Duration of ethical approval
 - 3.1 The favourable opinion for the research generally applies for the duration of the research. If it is proposed to extend the duration of the study as specified in the application form, the Committee should be notified.

- 3.2 Where the research involves the use of "relevant material" for the purposes of the Human Tissue Act 2004, authority to hold the material under the terms of the ethical approval applies until the end of the period declared in the application and approved by the Committee.

4. Progress reports

- 4.1 Research Ethics Committees are expected to keep a favourable opinion under review in the light of progress reports and any developments in the study. The Chief Investigator should submit a progress report to the Committee 12 months after the date on which the favourable opinion was given. Annual progress reports should be submitted thereafter.
- 4.2 Progress reports should be in the format prescribed by NRES and published on the website (see www.nres.npsa.nhs.uk/applicants/after-ethical-review/).
- 4.3 The Chief Investigator may be requested to attend a meeting of the Committee or Sub-Committee to discuss the progress of the research.

5. Amendments

- 5.1 If it is proposed to make a substantial amendment to the research, the Chief Investigator should submit a notice of amendment to the Committee.
- 5.2 A substantial amendment is any amendment to the terms of the application for ethical review, or to the protocol or other supporting documentation approved by the Committee, that is likely to affect to a significant degree:
- (a) the safety or physical or mental integrity of the trial participants
 - (b) the scientific value of the trial
 - (c) the conduct or management of the trial.
- 5.3 Notices of amendment should be in the format prescribed by NRES and published on the website, and should be personally signed by the Chief Investigator. The agreement of the sponsor should be sought before submitting the notice of amendment.
- 5.4 A substantial amendment should not be implemented until a favourable ethical opinion has been given by the Committee, unless the changes to the research are urgent safety measures (see section 7). The Committee is required to give an opinion within 35 days of the date of receiving a valid notice of amendment.
- 5.5 Amendments that are not substantial amendments ("minor amendments") may be made at any time and do not need to be notified to the Committee.

6. Changes to sites

Management permission (all studies)

6.1 For all studies, management permission should be obtained from the host organisation where it is proposed to:

- include a new site in the research, not included in the list of proposed research sites in the original REC application
- appoint a new PI or Local Collaborator at a research site
- make any other significant change to the conduct or management of a research site.

In the case of any new NHS site, the Site-Specific Information (SSI) Form should be submitted to the R&D office for review as part of the R&D application.

Site-specific assessment (where required)

- 6.2 The following guidance applies only to studies requiring site-specific assessment (SSA) as part of ethical review.
- 6.3 In the case of NHS/HSC sites, SSA responsibilities are undertaken on behalf of the REC by the relevant R&D office as part of the research governance review. The Committee's favourable opinion for the study will apply to any new sites and other changes at sites provided that management permission is obtained. There is no need to notify the Committee (or any other REC) about new sites or other changes, or to provide a copy of the SSI Form.
- 6.4 Changes at non-NHS sites require review by the local REC responsible for site-specific assessment (SSA REC). Please submit the SSI Form (or revised SSI Form as appropriate) to the SSA REC together with relevant supporting documentation. The SSA REC will advise the main REC whether it has any objection to the new site/PI or other change. The main REC will notify the Chief Investigator and sponsor of its opinion within a maximum of 35 days from the date on which a valid SSA application has been received by the SSA REC.

Studies not requiring SSA

- 6.5 For studies designated by the Committee as not requiring SSA, there is no requirement to notify the Committee of the inclusion of new sites or other changes at sites, either for NHS or non-NHS sites. However, management permission should still be obtained from the responsible host organisation (see 6.1 above).

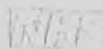
7. Urgent safety measures

- 7.1 The sponsor or the Chief Investigator, or the local Principal Investigator at a trial site, may take appropriate urgent safety measures in order to protect research participants against any immediate hazard to their health or safety.
- 7.2 The Committee must be notified within three days that such measures have been taken, the reasons why and the plan for further action.

8. Serious Adverse Events

Appendix 4: Research governance approval

The Leeds Teaching Hospitals



NHS Trust

08/03/2010

Mr Obi Adigwe
 University of Leeds
 Room 3.35
 School of Healthcare, Baines Wing
 University of Leeds
 Leeds
 LS2 9UT

Research & Development

Leeds Teaching Hospitals NHS Trust
 34 Hyde Terrace
 Leeds
 LS2 9LN

Tel 0113 392 2878

Fax 0113 392 6397

r&d@leedsth.nhs.uk

www.leedsteachinghospitals.nhs.uk

Dear Mr Obi Adigwe

Re: LTH R&D Approval of: Non medical prescribing in chronic non malignant pain
 LTH R&D Number: UI10/9218
 REC: 10/H1307/02

I confirm that this study has R&D approval and the study may proceed at The Leeds Teaching Hospitals NHS Trust (LTH). This organisational level approval is given based on the information provided in the documents listed below.

In undertaking this research you must comply with the requirements of the *Research Governance Framework for Health and Social Care* which is mandatory for all NHS employees. This document may be accessed on the R&D website http://www.leedsth.nhs.uk/sites/research_and_development/

R&D approval is given on the understanding that you comply with the requirements of the *Framework* as listed in the attached sheet "Conditions of Approval".

If you have any queries about this approval please do not hesitate to contact the R&D Department on telephone 0113 392 2878.

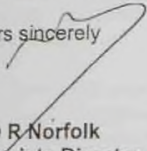
Indemnity Arrangements

The Leeds Teaching Hospitals NHS Trust participates in the NHS risk pooling scheme administered by the NHS Litigation Authority 'Clinical Negligence Scheme for NHS Trusts' for: (i) medical professional and/or medical malpractice liability; and

(ii) general liability. NHS Indemnity for negligent harm is extended to researchers with an employment contract (substantive or honorary) with the Trust. The Trust only accepts liability for research activity that has been managerially approved by the R&D Department.

The Trust therefore accepts liability for the above research project and extends indemnity for negligent harm to cover you as principal investigator and the researchers listed on the Site Specific Information form. Should there be any changes to the research team please ensure that you inform the R&D Department and that s/he obtains an employment contract with the Trust if required.

Yours sincerely


Dr D R Norfolk
 Associate Director of R&D

Approved documents

The documents reviewed and approved are listed as follows

<i>Document</i>	<i>Version</i>	<i>Date of document</i>
NHS R&D Form	2.5	03.03.2010
SSI Form	2.5	24.11.2009
Directorate Approval		23.11.2009
Protocol	1.0	24.11.2009
REC Letter confirming favourable opinion		10.02.2010
Evidence of Insurance		08.10.2009
Patient information sheet (REC Approved)	1.0	22.01.2010
Consent form (REC Approved)	2.0	22.01.2010
GP Letter (REC Approved)	1.0	22.01.2010
Questionnaire (REC Approved)	1.0	24.11.2009

Conditions of R&D Approval

- Approval from your Directorate must be obtained before starting the study.
- Approval of the appropriate Research Ethics Committee, where necessary, must be obtained before starting the study. Any changes made to the project during ethical review must be reviewed and approved by the R&D Department to maintain R&D Approval status.
- Arrangements must be made to ensure that all members of the research team, where applicable, have employment contracts with the Trust (either full or honorary).
- Agreements must be in place with appropriate support departments regarding the services required to undertake the project and arrangements must be in place to recompense them for the costs of their services.
- Arrangements must be in place for the management of financial and other resources provided for the study, including intellectual property arising from the work.
- Priority should be given at all times to the dignity, rights, safety and well being of participants in the study
- Healthcare staff should be suitably informed about the research their patients are taking part in and information specifically relevant to their care arising from the study should be communicated promptly.
- Each member of the research team must be qualified by education, training and experience to discharge his/her role in the study. Students and new researchers must have adequate supervision, support and training.
- The research must follow the protocol approved by the relevant research ethics committee. Any proposed amendments to or deviations from the protocol must be submitted for approval to the Research Ethics Committee, the research sponsor, regulatory authority and any other appropriate body. The R&D Department should be informed where the amendment has resource implications within the Directorate and the Directorate research lead/clinical director notified.
- Adverse Events in clinical trials of investigational medicinal products must be reported in accordance with the Medicines for Human Use (Clinical Trials) Regulations 2004.
- Complete and return 6 monthly Study Status Reports to the R&D Department within 28 days of receipt as requested. (NB Failure to comply to such request with the requirement will lead to suspension of R&D Approval.)

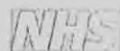
- Procedures should be in place to ensure collection of high quality, accurate data and the integrity and confidentiality of data during processing and storage.
- Arrangements must be made for the appropriate archiving of data when the research has finished. Records must normally be kept for 15 years.
- All data and documentation associated with the study must be available for audit at the request of the appropriate auditing authority. Projects are randomly selected for audit by the R&D Department. You will be informed by letter if your study is selected.
- Findings from the study should be disseminated promptly and fed back as agreed to research participants.
- Findings from the study should be exposed to critical review through accepted scientific and professional channels.
- All members of the research team must ensure that the process of informed consent adheres to the standards GCP outlined in the UK Clinical Trials Regulations. Investigators are directed to the R&D website for further information and training availability.
- Where applicable, this managerial approval includes aspects of the study previously covered by the NRES Site Specific Assessment (SSA) process.

Commercially Sponsored Trials

If the study is commercially sponsored approval is given subject to provision of the following documents.

- Clinical Trials Agreement - agreed and signed off by the R&D Department (on behalf of the Leeds Teaching Hospitals NHS Trust) and the Sponsor. Investigators do not have the authority to sign contract on behalf of the Trust.
- Indemnity agreement, if not included in the Clinical Trials Agreement- (standard ABPI no fault arrangements apply) signed by the R&D Department and the Sponsor

It is essential that all the responsibilities set out in the Research Governance Framework, including those outlined above are fulfilled. The Trust reserves the right to withdraw R&D approval where the above criteria are not being met. The Trust will not accept liability for any activity that has not been fully approved.



National Research Ethics Service

Leeds (West) Research Ethics Committee

First Floor
Millside
Mill Pond Lane
Leeds
LS6 4RA

Tel: 0113 3050122
Fax:

23 February 2011

Mr Obi P. Adigwe
PhD Student
Room 3.35
School of Healthcare, Baines Wing
University of Leeds.
LS2 9UT

Dear Mr Adigwe

Study title: NON MEDICAL PRESCRIBING IN CHRONIC NON
MALIGNANT PAIN
REC reference: 10/H1307/2
Protocol number: N/A
Amendment number: 1
Amendment date: 16 February 2011

The above amendment was reviewed by the Sub-Committee in correspondence.

Ethical opinion

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Hard copy of online survey	1	12 February 2011
Protocol	2	12 February 2011
Notice of Substantial Amendment (non-CTIMPs)	1	16 February 2011

Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

R&D approval

All investigators and research collaborators in the NHS should notify the R&D office for the relevant NHS care organisation of this amendment and check whether it affects R&D approval of the research.

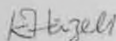
Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

10/H1307/2:

Please quote this number on all correspondence

Yours sincerely



Mrs Elaine Hazell
Committee Co-ordinator

E-mail: Elaine.hazell@leedsth.nhs.uk

Enclosures: *List of names and professions of members who took part in the review*

Copy to: *Mrs Rachel E de Souza*
R&D, Leeds Teaching Hospitals NHS Trust

Leeds (West) Research Ethics Committee

Attendance at Sub-Committee of the REC meeting on 22 February 2011

<i>Name</i>	<i>Profession</i>	<i>Capacity</i>
Dr Rhona Bratt	Retired Multimedia Project Manager	Lay Plus
Dr Sheila E. Fisher	NCRI Associate Director for PPI	Expert

Appendix 6: Research passport

UI10/1921P

Research Passport Application Form – Version 2 04/03/10

Please refer to the guidance notes before completing the form.

Section 1: Details of Researcher To be completed by Researcher			
1.	Surname:	ADIGWE	Prof <input type="checkbox"/> Dr <input type="checkbox"/> Mr <input checked="" type="checkbox"/> Mrs <input type="checkbox"/>
	Forename(s):	OBI PETER	Miss <input type="checkbox"/> Ms <input type="checkbox"/> Other <input type="checkbox"/>
	Home Address:	111 SCOTT HALL ROAD LEEDS LS7 2HH	
	Work Tel:	0113 343 7366	Mobile: 07838848928 Email: hcopa@leeds.ac.uk
2.	Date of birth:		Gender: Male <input checked="" type="checkbox"/> Female <input type="checkbox"/>
	Ethnicity:	BLACK AFRICAN	National Insurance number: S757602A
3.	Professional registration details (if applicable):	N/A <input checked="" type="checkbox"/>	
4.	Employer:	or place of study: UNIVERSITY OF LEEDS	
	Work Address/Place of Study:	ROOM 3.08 BAINES WING, UNIVERSITY OF LEEDS LS2 9UT	
	Post or status held:	PHD STUDENT.	
Section 2: Details of Research To be completed by Researcher			
5.	What type of Research Passport do you need?	Project-specific <input checked="" type="checkbox"/>	Multi-project <input type="checkbox"/>
	If you will be conducting one project only please complete the details below. If you anticipate that you will be undertaking more than one project at any one time, please give details in the Appendix.		
	Project Title:	NON MEDICAL PRESCRIBING IN CHRONIC NON MALIGNANT PAIN	
	Project Start Date:	01/11/2010	End Date: 30/10/2012
	Proposed start and end date of three-year Research Passport:	Start Date:	End Date:
	NHS organisation(s):	Dept(s):	Proposed research activities:
	Leeds Teaching Hospitals Trust	Non Medical Prescribing	Interviews
	Leeds Primary Care Trust	Non Medical Prescribing	Interviews
			Manager in NHS organisation:
			Chris Adams
			Kath McGovern
Section 3: Declaration by Researcher To be completed by Researcher			
6.	Have you ever been refused an honorary research contract?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Have you ever had an honorary research contract revoked?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	If yes to either question, please give details:		
	I consent to the information provided as part of this Research Passport and attached documents being used, recorded and stored by authorised staff of the NHS organisations where I will be conducting research. For researchers undertaking regulated activity as from July 2010, and mandatory as from November 2010, I understand that the information I have provided may be used by my employer and the NHS to access the ISA on-line service to receive updates on my ISA-registration status.		
	Signed:	Date: 11/11/2010	

When Sections 1-3 have been completed, the researcher should forward the form to the appropriate person to complete Section 4.

Section 4 - Suitability of Researcher

To be completed by researcher's substantive employer, e.g. line manager, or academic supervisor

7.a	Will this person's research activity mean that they may be undertaking regulated activity (please use the Research Passport algorithm to make this judgement)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
7.b	I am satisfied that the above named individual is suitably trained and experienced to undertake the duties associated with the research activities outlined in this Research Passport form.	
	Signed: <i>S. J. Cross</i>	Date: 11/11/2010
	Name: S. J. Cross	Job Title: Professor of Nursing
	Department and Organisation: School of Healthcare	Managerial responsibility for the applicant: PhD supervisor
	Address: Baines Wing, University of Leeds, Leeds LS2 9JT	
	Tel No: 0115 343 6773	
	Email: s.j.cross@leeds.ac.uk	

When Section 4 has been completed, the researcher should forward the form to the appropriate person to complete Section 5.

Section 5 - Pre-engagement checks

To be completed by the HR department of the researcher's substantive employer, or registry at place of study

8.	Does this individual's research involve Regulated Activity:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	For Regulated Activity: To be completed for RP applications supported by enhanced CRB disclosures certificates issued between 12 th October 2009 and 25 th July 2010 only If yes to the above, has the individual been checked against ISA barred lists for vulnerable adults and / or children, as appropriate and have you received confirmation via the CRB disclosure that the person is not barred from working with children or vulnerable adults? (NB individuals who are barred from working with children or vulnerable adults must not undertake a regulated activity within the NHS, and you must not submit a Research Passport form in such cases)	Checked against ISA Vulnerable Adults List? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Checked against ISA Children's List? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
	For Regulated Activity: To be completed for RP applications supported by enhanced CRB disclosures certificates issued after 26th July 2010 only If yes to the above, can you confirm that you have registered the individual with the ISA as their employer / place of study, and that you will continue to monitor the registration status of this individual and withdraw them immediately from any regulated activity should their registration status change. NB ISA registration is mandatory from November 2010 for researchers undertaking regulated activity	ISA Registered for Vulnerable Adults? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> ISA Registered for Children? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
	Can you confirm that a clear criminal record disclosure has been obtained for the above-named individual, with no subsequent reports from the individual of changes to this record? NB for Regulated Activity this must be an enhanced CRB. For non-regulated activity, ensure the CRB is at the mandated level	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

If yes, please provide details of the clear disclosure

Date of disclosure: 8 SEPTEMBER 2010

Type of disclosure: ENHANCED

Organisation that requested disclosure: TWENTY FOUR SEVEN NURSING

CRB Disclosure Reference No. 001294312612

Researcher's ISA Unique ID: N/A

9. Have the pre-engagement checks described below been carried out with regard to the above-named individual?

• Employment/student screening:

- ID with photograph
- two references
- verification of permission to work/study in the UK
- exploration of any gaps in employment

Yes No
 Yes No
 Yes No
 Yes No

• Evidence of current professional registration

Yes No N/A

• Evidence of qualifications

Yes No

• Occupational health screening / clearance

Yes No

Is the named individual on a fixed term contract or is the contract end imminent?

Yes No

Please indicate current contract end-date

Date:

Signed: *A.M. Knaggs*

Date: 15/11/10

Name: ANNE-MARIE KNAGGS

Job Title: FACULTY GRADUATE SCHOOL MANAGER

Organisation: UNIVERSITY OF LEEDS

Department: FACULTY OF MEDICINE AND HEALTH

Address: ROOM 10.110, LEVEL 10, WORSLEY BUILDING, LEEDS, LS2 9NL

Tel No: 0113 3436876

Email: a.m.knaggs@leeds.ac.uk

Please return the form to the researcher

Section 6 - Instructions to applicants

To be completed by Researcher

Please indicate which of the following documents are attached to this Research Passport:

Current curriculum vitae, including details of qualifications, training and professional registration (please use the template C.V. at http://www.rdforum.nhs.uk/docs/template_cv.doc)

Yes No

Researcher's copy of criminal record disclosure:

Yes No N/A

Disclosures issued before 26th July 2010 only: Criminal record disclosure includes confirmation of check against the appropriate Barred List(s)

Yes No N/A

Disclosures Issued after 26th July 2010 only: Criminal record disclosure confirms appropriate ISA registration. NB where appropriate, ISA registration is mandatory after November 2010.

Yes No N/A

Evidence of occupational health screening / clearance

Yes No N/A

Appendix

Appendix numbers:

N/A

Please send the completed form and original documents to the Lead R&D office. The completed form and original documents will be returned to you. This package of documents will be used to validate your completed Research Passport form. You may then, and where relevant, provide the Research Passport to other NHS organisations.

You must inform all NHS organisations that have received this Research Passport of any changes to the information supplied above. Failure to do so may result in withdrawal of your honorary research contract or letter of access. As part of the quality control procedures for the Research Passport, random checks on the accuracy of the information held on this Research Passport may be made.

Section 7

This section should be completed by HR in the Lead NHS organisation, only if additional checks are undertaken


The following additional checks have been completed:

Having confirmed that the necessary additional pre-engagement checks have been completed, I am satisfied that the above named researcher is suitable to carry out the duties associated with their research activity outlined in this Research Passport.

Signed:	Date:
Name:	Job Title:
Organisation:	Department:
Email:	

Section 8 - For Office Use Only

This section should be completed by the NHS R&D office that received the initial application. The NHS R&D office must countersign and date retained photocopies of the documents. The grey section must be completed before the form is returned to the applicant.

CV reviewed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Training?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Evidence of qualifications?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Appendix pages reviewed?	Numbers:
Professional registration details reviewed?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Occupational health clearance reviewed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Criminal record disclosure reviewed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Date of disclosure	CRB Disclosure Certificate No.
For Research Passport applications submitted after 26th July 2010 only: Confirmation that HEI have subscribed their interest in this individual via the ISA on-line monitoring service (where appropriate) and have agreed to withdraw the individual immediately should the individual's ISA registration status change. NB ISA registration, where appropriate, is mandatory from November 2010		08/08/2010	00129432612
Enter Electronic Staff Record Number (if issued):			
Confirmation of valid Research Passport: Project specific <input type="checkbox"/> Three-year <input type="checkbox"/> Other End date <input type="checkbox"/>			
Signed:			Date: 16/11/10
Name:	Josephine Dolovic		
NHS Organisation Name and contact details:	Leeds Teaching Hospitals NHS Trust		
Date Honorary Research Contract/letter of access issued (delete as appropriate)			

The Leeds Teaching Hospitals

NHS Trust

RECRUITMENT SERVICE

Ground Floor, Trust Headquarters, St James's Hospital, Beckett Street,
Leeds, LS9 7TF

Private and Confidential

Obi Peter Adigwe
111 Scott Hall Road
Leeds
LS7 2HH

Enquiries to: Jennifer Tate
Direct Line: (0113) 2066548
Our Ref: LOAJT
Date: 29th November 2010

Dear Obi,

Letter of access for research - Project Title: Non Medical Prescribing in Chronic Non Malignant Pain

This letter confirms your right of access to conduct research through The Leeds Teaching Hospitals NHS Trust for the purpose and on the terms and conditions set out below. This right of access commences on **1st November 2010** and ends on **30th October 2012** unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

The information supplied about your role in research at The Leeds Teaching Hospitals NHS Trust has been reviewed and you do not require an honorary research contract with this NHS organisation. We are satisfied that such pre-engagement checks as we consider necessary have been carried out.

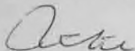
You are considered to be a legal visitor to The Leeds Teaching Hospitals NHS Trust premises. You are not entitled to any form of payment or access to other benefits provided by this NHS organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through The Leeds Teaching Hospitals NHS Trust, you will remain accountable to your place of study **University of Leeds** but you are required to follow the reasonable instructions of Chris Acomb in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any

Yours sincerely

287



Jennifer Tate
Recruitment Assistant

cc: R&D office at Leeds Teaching Hospitals NHS Trust
HR department of the substantive employer (and provider of honorary clinical
contract, where applicable)

Faculty of Medicine and Health,

School of Healthcare

Prescriber Consent Form

PRESCRIBING FOR CHRONIC PAIN BY NURSES AND PHARMACISTS

THIS FORM IS TO BE COMPLETED BY THE PRESCRIBER

S/No	Statement	Please initial below
1	I have read, understood and kept a copy of the information sheet.	
2	I have had the opportunity to ask questions and discuss the study and I have received satisfactory answers to my questions and sufficient information about the study.	
3	I understand that I am free to withdraw from the study at anytime and do not have to give a reason for withdrawing.	
4	I understand my personal details and other information I provide will be kept confidential, stored securely and only accessed by authorised persons.	
5	I understand that information I give may be included in published reports, but I will not be identified, or have such information traced back to me.	
6	I understand that relevant sections of data collected during the study may be looked at by individuals from the University of Leeds, from the regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	
7	I agree to have my interview audio recorded.	

I agree to take part in this study

Prescriber Signature.....

Date.....

Name of Prescriber

Researcher Signature.....

Date.....

Name of Researcher

Thank you for agreeing to take part in this study.

Appendix 9: Prescribers' information sheet**Faculty of Medicine and Health,****School of Healthcare****PRESCRIBER INFORMATION SHEET****Non Medical Prescribing in Chronic Non Malignant Pain**

I would like to invite you to take part in a research study. Before you decide whether to take part you need to understand why the research is being done and what it will involve. Please read the following information carefully and talk to others about the study if you wish.

What is the purpose of this study?

To explore the views and experiences of Non Medical Prescribers, in this instance, nurses and pharmacists, in the treatment of Chronic Non Malignant Pain, as well as determine barriers and facilitators influencing the implementation of Non Medical Prescribing in the treatment of Chronic Non Malignant Pain.

Who is carrying out the study?

The study is being carried out by Obi Adigwe, a PhD Student in the School of Healthcare at the University of Leeds. The study is supervised by a team of three experienced researchers led by Professor Jose Closs

Why have I been chosen?

You have been asked to participate because you are a nurse or pharmacist prescriber

Do I have to take part?

The decision to take part is entirely voluntary. You do not have to take part if you do not want to.

What will happen if I choose to take part?

If you do decide to take part, I will contact you to discuss the study and invite you to an informal interview during which I would talk to you about your views and experiences of prescribing with respect to chronic non malignant pain. The interview will last approximately one hour, and will be arranged at a time and place of your convenience. With your permission the interview will be tape recorded so that it can be transcribed.

What are the advantages and disadvantages of taking part?

Participating in the study will help us understand more about what barriers and facilitators nurses and pharmacists face when prescribing for people with chronic pain. The results of the research may lead to an improvement in how non medical prescribing is perceived and carried out in the management of chronic pain

The interview will involve you giving up approximately one hour of your time. I have undergone appropriate training specifically for this study and I appreciate that issues regarding how you prescribe may be sensitive.

Can I withdraw from the study at anytime?

You are free to withdraw from the study during or at the end of the interview and you do not have to give a reason. If you decide to withdraw from the study, any information that you have given with consent will be used. However, no further data collection will be carried out.

Will the information I give be kept confidential?

The information that you tell me in the interview will be treated in the strictest confidence. Only my supervisors and I will have access to your personal data such as your name and contact details. The interview will be stored securely and separately from your personal details. Only my supervisors and I will have access to the interview transcripts. These will be made anonymous and any identifying features will be removed. The tapes will be destroyed after they have been transcribed and the transcripts will be stored securely for 5 years.

All data will be stored in a secure and locked location in accordance with data protection requirements and all information collected about you during the study will be stored securely in a locked office and on a password protected computer.

What will happen to the results of the study?

The study is for my PhD and the results will form a part of this. The results may also be reported in scientific and academic journals and during conference proceedings. No individual will be able to be identified from details in any reports, papers or presentations that come out of the study.

Who has reviewed this study?

This study has been reviewed and approved by the appropriate regulatory bodies that have been set up by the government to protect the interests of patients and research participants. These include National Research Ethics Service (NRES) and National Health Service (NHS) Research Ethics Committees.

If you agree to take part, would like more information or have any questions or concerns about the study please contact me:

Obi Adigwe (PhD Student)

Room 3.08

School of Healthcare, Baines Wing

University of Leeds, LEEDS LS2 9UT

Tel: 0113 343 7366

email: hcopa@leeds.ac.uk

Thank you for taking the time to read this information sheet.

Appendix 10: Topic guide for non-medical prescribers

Introduction:

Introduction of the interviewer, the study and its objectives

Briefly mention their place in the study (The study will explore how nurses and pharmacists perceive non medical prescribing, their attitudes to analgesics and other medication (including controlled drugs) and what they perceive to be barriers and facilitators to NP in CP)

Assure anonymity and confidentiality in the course of the study

Ask for permission to use the tape recorder

Background information

Could we just start by asking you to say a bit about yourself and your prescribing experience?

Prompts

- *How long since qualification (as professional and as prescriber)*
- *What part of the healthcare service do you work in (primary care, secondary care, community pharmacy etc)*
- *Whether you have specialist training in any pain management (chronic/acute/palliative etc)*
- *Work history and experience in prescribing*

Factors affecting NP in the management of CP

In your experience, what factors have you found influence your prescribing practices in CP?

Prompts

- *Are you able to access CPD relevant to CP?*
- *How has continuing professional development affected your prescribing?*
- *What are your views on the preparation of the Clinical Management Plan in supplementary prescribing in CP (barrier or facilitator) to fulfilling your role as a prescriber?*
- *Do you feel that networking with other NPs will affect your prescribing?*

- *Do you feel that increased/reduced clinical supervision will affect your prescribing capability?*
- *How do you feel about interdisciplinary collaboration in CP treatment and management?*
- *What kind of infrastructural support is presently in place to support your prescribing (software, pads, remuneration, official recognition, CPD etc)?*
- *What kind of infrastructural support do you think will improve your prescribing in CP?*
- *What will improve your status as a NP in CP?*

Patients

How would you describe your experience in prescribing for patients suffering from CP?

Prompts

- *What are your views regarding patients with CP in terms of adherence/compliance?*
- *What do you feel about the concordance model in prescribing for patients with CP?*
- *Do you use any tools to aid your consultation, if so what are they?*
- *Do you feel that present prescribing practices in for you personally CP are adequate (time, space, tools, infrastructural support etc), if not what do you suggest could improve them*

Treatment and Medication

What are your feelings about the present management and treatment of CP?

Prompts

- *What are your opinions about patients' access to appropriate medicines in CP?*
- *What are your views about the various forms of NP for CP (for instance: Supplementary Prescribing and the Clinical Management Plan; no controlled drugs for Pharmacist IP, all prescribing within your 'competence' etc)?*
- *Can you tell us a bit more about your relationship with CP patients regarding controlled drugs and other medication with potential for addiction?*
- *What do you feel about non drug measures in the treatment and management of CP?*

- *Which if any non pharmacologic interventions do you recommend as part of pain management?*
- *Do you discuss side effects and their management with your patient, if so, how?*
- *What are the commonly encountered side effects to medicines prescribed for CP, and how have they affected your prescribing practices?*
- *Does the price of medication affect your decision to prescribe specific product? If so, how?*

Conclusion

If you could influence how prescribing practices for patients with CP were delivered, what messages would you like to provide policymakers regarding how NP could be made safer, more effective and easier for patients to access in the treatment and management of CP

Prompts

- *Training and/or infrastructural needs of NP's specific to management and treatment of CP that need to be scaled down/stopped, improved upon, or introduced.*
- *Any changes required in the current system to better meet the needs of people with CP*
- *Are there any factors that have not been mentioned already that would prevent, suppress or hinder your provision of these services?*

Thank you.

Please be assured that everything we've discussed will be treated confidentially and that nothing will be reported in such a way that will make the people that said them identifiable.

Appendix 11: Topic guide nurses and pharmacists not prescribing for chronic pain

Introduction:

Introduction of the interviewer, the study and its objectives

Briefly mention their place in the study (The study will explore how nurses and pharmacists perceive non medical prescribing, their attitudes medicines (including controlled drugs) and what they perceive to be barriers and facilitators to NP)

Assure anonymity and confidentiality in the course of the study

Ask for permission to use the tape recorder

Background information

- *How long since qualification (as professional and as prescriber)*
- *Are you both SP and IP*
- *What part of the healthcare service do you work in (primary care, secondary care, community pharmacy etc)*
- *What would you say is your specialty area,*
- *Do you ever come across chronic pain*
- *If so why don't you prescribe in CHRONIC PAIN*
- *What do you feel will enable you prescribe in chronic pain*
- *Work history and experience in prescribing*

Factors affecting NP in Practice

- *Are you able to access CPD relevant to your specialty?*
- *How has continuing professional development affected your prescribing?*
- *What are your views on the preparation of the Clinical Management Plan in supplementary prescribing with respect to fulfilling your role as a prescriber?*
- *Do you feel that networking with other NPs will affect your prescribing?*
- *If it is or was applicable to you, increased/reduced clinical supervision will affect your prescribing capability?*
- *How do you feel about interdisciplinary collaboration in practice (doctors, pharmacists, nurses)*
- *What kind of infrastructural support is presently in place to support your prescribing (software, pads, remuneration, official recognition, CPD etc)?*

- *What kind of infrastructural support do you think will improve your prescribing?*
- *What are your views about how qualifying as a prescriber should influence the remuneration of a nurse (cheap prescriber)*
- *What will improve your status as a NP?*

Patients

- *What do you feel about the concordance model in prescribing for your patients?*
- *Do you use any tools to aid your consultation, if so what are they?*
- *How adequate is the current prescribing setup in your establishment (time, space, tools, infrastructural support etc)*
- *if they are not, what do you suggest could improve them*

Treatment and Medication

- *What are your opinions about patients' access to appropriate medicines in your specialty?*
- *What do you feel about the use of non drug measures*
- *Do you discuss side effects and their management with your patient, if so, how?*
- *Does the price of medication affect your decision to prescribe specific products? If so, how?*

Conclusion

If you could influence how NP was carried out, what messages would you like to provide policymakers regarding how NP could be made safer, more effective and easier for patients.

Prompts

- *Are there any factors that have not been mentioned already that would prevent, suppress or hinder your provision of these services?*

Thank you.

Please be assured that everything we've discussed will be treated confidentially and that nothing will be reported in such a way that will make the people that said them identifiable.

- Informal permission - power of persuasion - benefit not
- Communication is always in English by pt. return it up to pt.
- no profit involved
- Shows + tells: developed copying machine - built - like sheet
- Information highly - very easy opportunity to fabricate
- ~~some~~ computer may want - pt not coming to bar or shop

Peri-bellows - yards
 - Evaluating - ^{Drugs imported} - ~~substance~~ life economic

- Information + pts in hospital left to modify
- bit slow - they're out when it's later to live with CP. - cost - don't up with NY social network
- compares with other CP pts

...
 - focus on Pan LTC

Power spectrum vs professional status
 - Difficulties in mixing for satisfaction
 - 1st - 1st - 1st / 1st in reflection
 - BYO PSYCHOTO SOCIAL -

- Passivity est CP - 1st - 1st - 1st
 - has not just looking down
 - just help me to
 - coming on his wife

Appendix 13: Field note

Field Notes Interview Nine.

The interview was held in one of the rooms at the University of Leeds. The room was quiet, and the seating arrangement was made in such a way that there was no potential distraction from either the window or the door. The Prescriber arrived on time and in a bid to make her comfortable, offered a cup of tea. She accepted the offer, and this increased the ambience of the interview. The seating arrangement had been done earlier in such a way that will give me the view of the clock. This seemed unnecessary, as the prescriber told me to take as much time as I needed.

We had a brief interruption during the interview by a security personnel, but it did not seem to affect the countenance of the either myself or the prescriber. The fact that I was a pharmacist seemed to encourage the prescriber to be more open when she was answering her questions. I noticed this because she confirmed that I was a pharmacist, before she confided in me certain observations about pharmacists, as well as other phenomena that she thought I would understand better, or perhaps see from the point of view of a pharmacist.

Handwritten notes:

where of the thing would get harder because the more being - take to process
 4 pts with CP?

where of the thing would get harder because the more being - take to process
 4 pts with CP?

- ~~lack of~~ inability to prescribe controlled drugs
 - lack of access to CP square CPD
 Pts records
 not part that I have to document (patient) when considering a new system of

where of the thing to you consider important in defining costs
 when you would prescribe for a particular patient.

- Knowledge
- Experience with the pts with sim. dx.
- exp with drugs used to tx real dx
- Certified training.
- Access to that pts records
- Ability to prescribe electronically for real pt
- Other important factors

MS meeting - 15/6/11

- reflective

-

Building a

- Parents - presenting Posters.

- Validity checking - MS meeting. → Ran date separately read but
 think some interpretation

- Tannis Turner Theoretical Model PISI

↳ Model # Jill's work see saw.
 transition

> What strategies & safe Env. - Can I trust you } PT
 Can you trust me } NP all
 HP will

↳ consistently asking these questions

mit mistake - vilified - trust

- Check literature on Trust. (BSP Conference, Psychology w/ hope, midlife women acceptance)

Trust { Psy. - do I trust myself
 Soc. - is there trustworthy society.

Does trust mean the same for Men + Girls?

- Theory or Theoretical model.

- Building a Theory of relationship building in ^{non} Fris. living

- link with MIKE BASLER @ the Conference. Paul Edmunds + Ravis in Nig
 ↳ Specialist Group Dev. Country - Grant? - NCS?
 can NCS. - Grant? - EDUCATION
 can NCS. 4 SCAPPA

Appendix 15: Abstract from School of healthcare conference

Obi Adigwe

Barriers and facilitators to analgesic prescribing by nurses and pharmacists in primary care

Background

Up to one in five adults in the UK may suffer from chronic pain which may negatively affect their quality of life. The management of chronic non malignant pain is inadequate, in order to improve various shortcomings in healthcare services such as availability of choice, access to care, and efficiency of services provided by healthcare professionals, recent policy changes in the UK have led to enhanced prescribing rights for nurses, pharmacists and others.

Aim

The study aims to explore how prescribing by nurses and pharmacists for chronic non malignant pain is perceived by nonmedical prescribers and patients with chronic non malignant pain, and what factors influence the use of non medical prescribing rights in the treatment and management of chronic non-malignant pain.

Research Questions

What are the views and experiences of non medical prescribers (nurses and pharmacists) in the treatment and management of chronic non malignant pain?


How is prescribing by nurses and pharmacists in the treatment and management of chronic non malignant pain perceived by patients with chronic non malignant pain?

In the treatment and management of chronic non malignant pain, what barriers and facilitators are perceived to influence the implementation of non-medical prescribing?

Method

As part of the multi methods approach being employed for this study, the first phase involves the exploration of the views and experiences of patients and non medical prescribers. These participants are being sampled purposively initially, then theoretically. Data will be collected using in-depth interviews.

The data collected during this first phase is being analysed using the constant comparative method of qualitative analysis following the principles of grounded theory.

 UNIVERSITY OF LEEDS

School of Healthcare
LEEDS COLLEGE OF DISTANCE EDUCATION

POSTGRADUATE
RESEARCH STUDENT CONFERENCE

PROGRAMME

WEDNESDAY 23RD JUNE 2010

BAINES WING, ROOM 4.12

POSITIVE
CONFERENCE
ONLINE

USING GROUNDED THEORY TO UNDERSTAND CHRONIC PAIN PRESCRIBING BY NURSES AND PHARMACISTS

Adigwe, OP,* Briggs, M, Strickland-Hodge, B., Closs, SJ.

School of Healthcare, Faculty of Medicine and Health, University of Leeds

INTRODUCTION

Although up to one in five adults in the UK may suffer from chronic pain, its management is still inadequate. The introduction of prescribing for nurses and pharmacists suggests that non-medical prescribing can help improve some important aspects of healthcare services, but some nurses and pharmacists had not started prescribing up to six months after they had qualified^{1,2}.

AIM

To provide new insights and theory regarding the experience of nurses and pharmacists who qualify as prescribers, and explain the barriers and facilitators they encounter when prescribing for chronic pain.

METHOD

A grounded theory approach was used to collect data from thirteen pharmacist prescribers and nine nurse prescribers in the Yorkshire and Humber region of the UK. Interviews were audio recorded and transcribed, and data analysis was carried out using a multi-level iterative approach based on the works of Charmaz (2006)³. Ethical approval was obtained from the Leeds West Research Ethics Committee, and R & D approval given from the relevant trusts.

FINDINGS

The emergent grounded theory explains how Non-medical Prescribers interacted with factors they felt facilitated or hindered their prescribing, and how these interactions influenced their decision about whether to prescribe for patients with chronic pain. The categories that emerged are illustrated below with some relevant quotes.

SAFE ENVIRONMENT**

"A safe environment is likeminded people who want to help people grow, and facilitate their growth... a safe environment is a trusted person who has the knowledge base and is trustworthy really"

Nurse in primary care with 6 to 6 years prescribing experience

ACQUIRING KNOWLEDGE

"...if there's a specific skill that you need to develop with CPD, you may have to go and find that, sometimes... so it depends. Not everything is readily available but there are some things that are readily available, there are some things that you have to go hunt for"

Pharmacist in secondary care with about 3 years prescribing experience

GAINING EXPERIENCE

"...it will be very easy for me to take a medical, or potentially be very easy for me to take a medical model, but I am not a doctor, and I don't want to be a doctor, so as a nurse I think it's important that I come from, and share my experiences with my colleagues, and have them share their experiences with me."

Nurse in secondary care with less than 3 years prescribing experience

ACCESSING HEALTH INFORMATION TECHNOLOGY

"I suppose that will make life easier, having a software to prescribe, push a button, and the script will come out just like you do when you're in a GP's surgery, so yes, I suppose that would make life easier."

Nurse in secondary care with about 3 years prescribing experience

REFLECTING ON PRESCRIBING

"...but I like bouncing ideas off people, and about the thing I learned in the course was how to reflect on your practice, and sometimes when you reflect you need to talk to people about it as well..."

Community Pharmacist with about 5 years prescribing experience

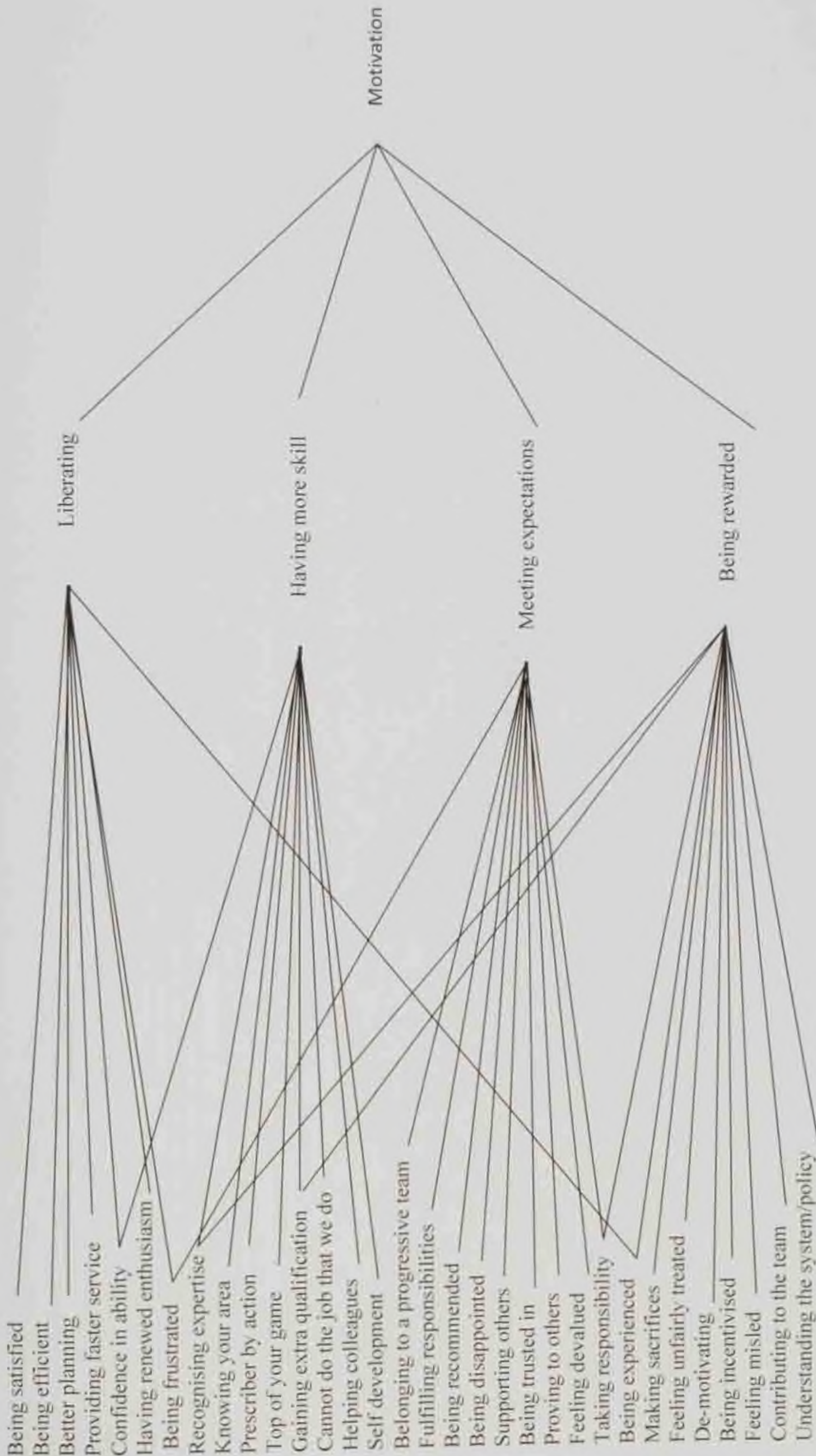
CONCLUSION

These findings have begun to explain why some nurses and pharmacists who qualify as prescribers do not go on to use this skill. The developing theory may inform the assessment of how supported Non-medical Prescribers feel within their environment, and also contribute to the development of resources which will encourage the development of their prescribing skills.

*OP is an acronym for Oral Pharmacist, a role that allows pharmacists to prescribe certain medicines in primary care settings. **This category was not identified in the original study but was added to the abstract for clarity.

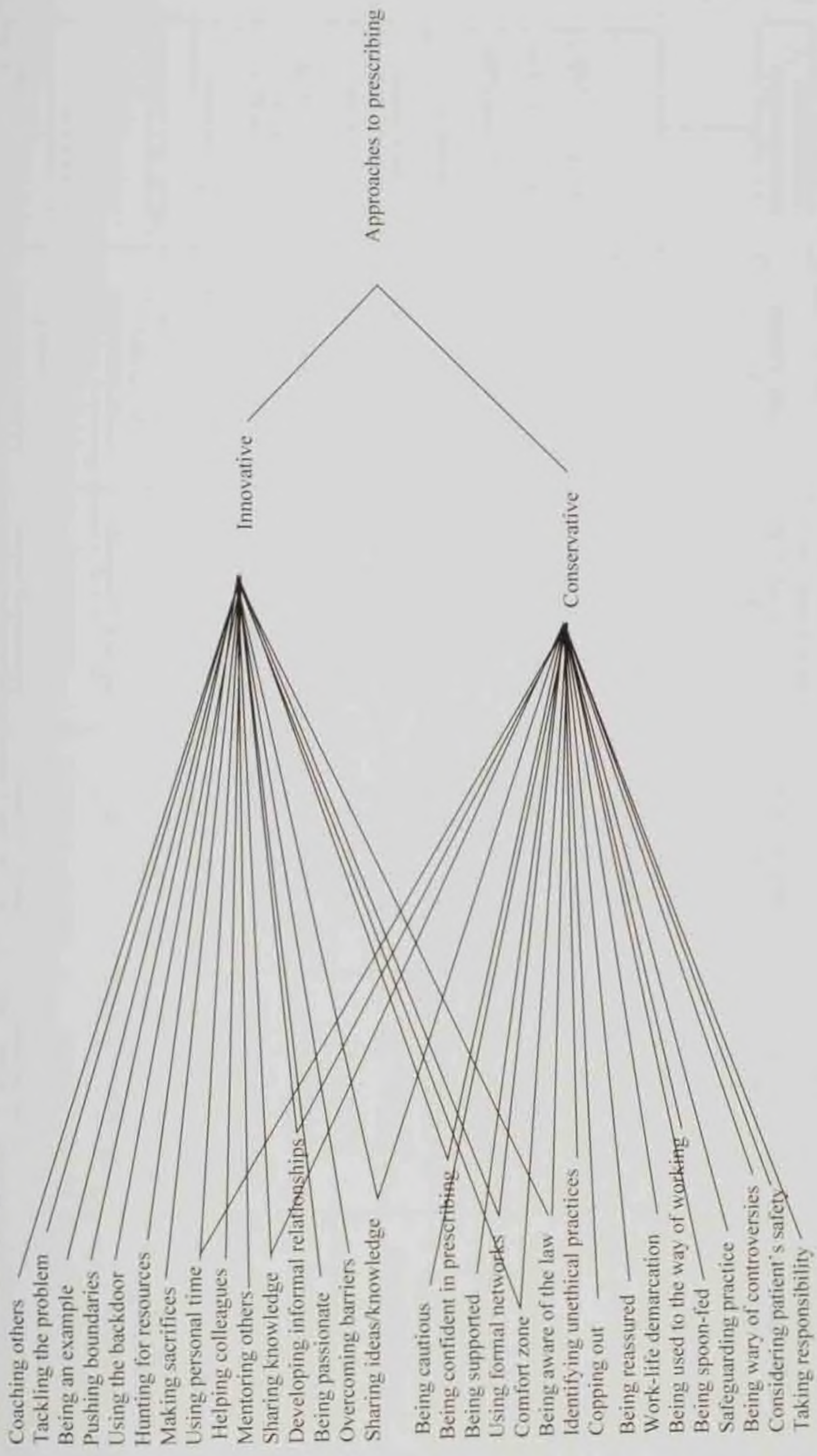


Motivation-Coding Diagram



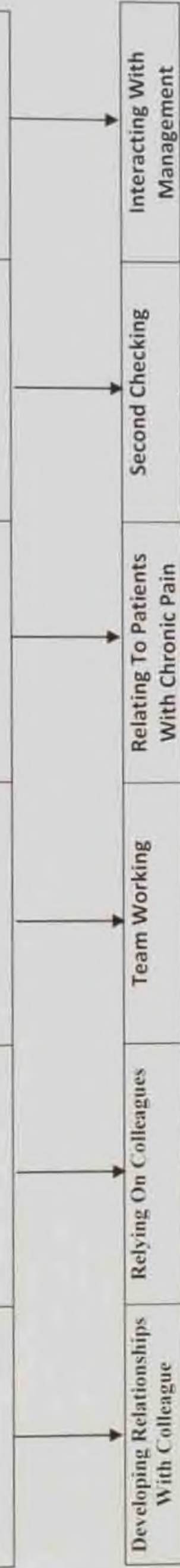
- Being satisfied
- Being efficient
- Better planning
- Providing faster service
- Confidence in ability
- Having renewed enthusiasm
- Being frustrated
- Recognising expertise
- Knowing your area
- Prescriber by action
- Top of your game
- Gaining extra qualification
- Cannot do the job that we do
- Helping colleagues
- Self development
- Belonging to a progressive team
- Fulfilling responsibilities
- Being recommended
- Being disappointed
- Supporting others
- Being trusted in
- Proving to others
- Feeling devalued
- Taking responsibility
- Being experienced
- Making sacrifices
- Feeling unfairly treated
- De-motivating
- Being incentivised
- Feeling misled
- Contributing to the team
- Understanding the system/policy

Approaches-Coding Diagram



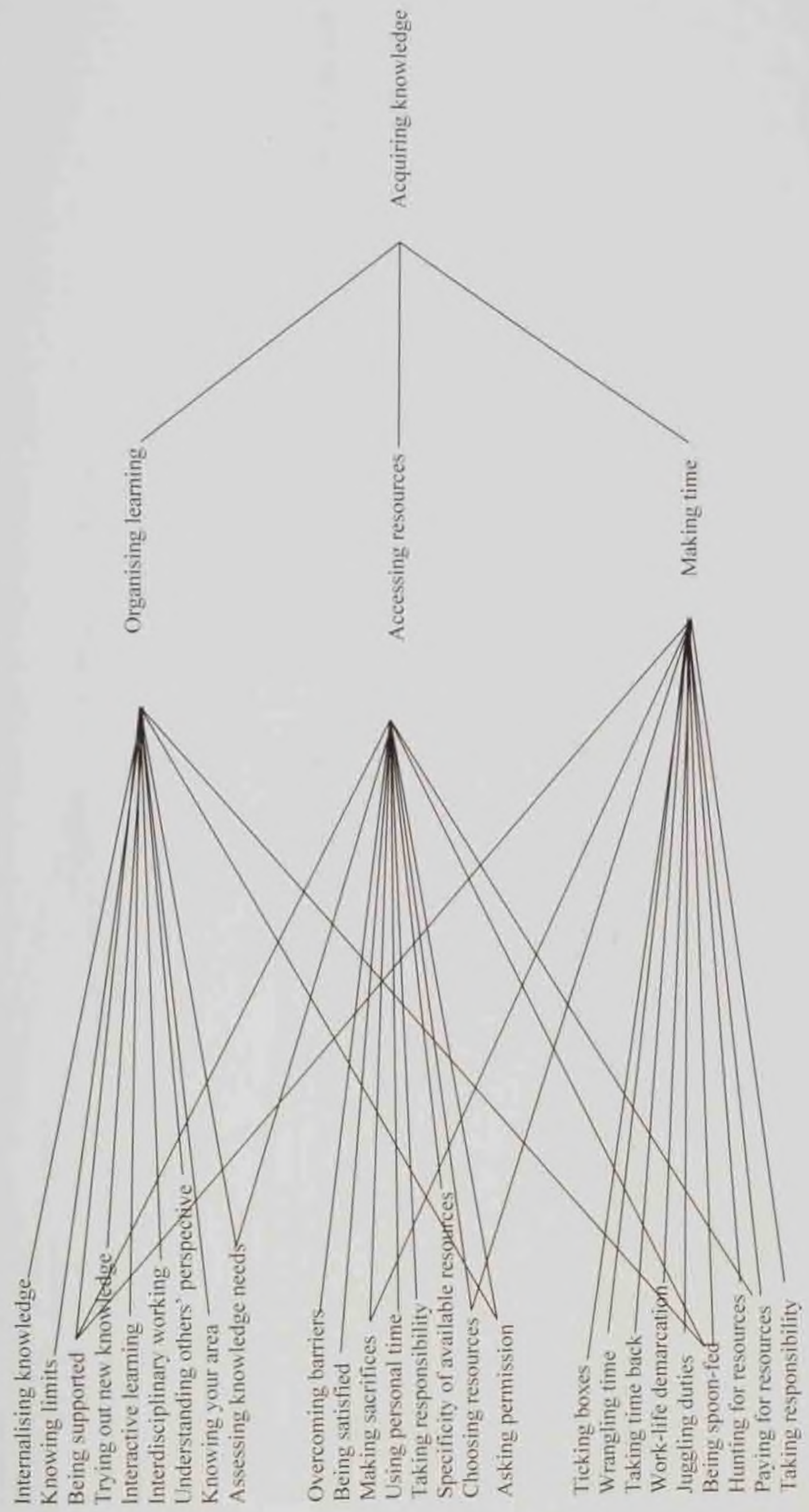
Nature of the prescribing environment-Coding Diagram

Knowing your area	Accessing colleagues	Understanding others' perspective	Understanding patients' needs	Previous professional background	Being supported
Recognising expertise	Being supported	Using formal networks	Communicating	Uniformity of systems	Belonging to a progressive team
Understanding the system/policy	Understanding others' perspective	Communicating	Developing informal relationships	Understanding the system/policy	Restricting practice
Proving to others	Identifying others with experience	Recognising expertise	Considering patients safety	Being cautious	Having prior experience
Trusting others	Communicating	Challenging	Continuous interaction	Identifying unethical practices	Ticking boxes
Being trusted in	Confidence in ability	Being seen as equals	Trusting others	Being efficient	Understanding the system/policy
Being supported	Choosing resources	Sharing ideas/knowledge	Partnering with the patient	Being frustrated	Confidence in ability
Communicating	Being efficient	Being supported	Educating the patient	Copping out	Proving to others
Developing informal relationships	Assessing others	Confidence in ability	Understanding the system	Recognising expertise	Being frustrated
Valuing others	Comfort zone	Feeling unfairly treated	Exploring alternatives	Considering patients safety	De-motivating
Wrangling time	Trusting others	Belonging to a progressive team	Being trusted in	Sharing ideas/knowledge	Having equitable access
Overcoming barriers	Copping out	Trusting others	Considering patients' safety	Being aware of the law	Contributing to the team
	Helping colleagues	Developing informal relationships	Being open minded	Providing faster service	Uniformity of systems
	Being trusted in	Helping colleagues			

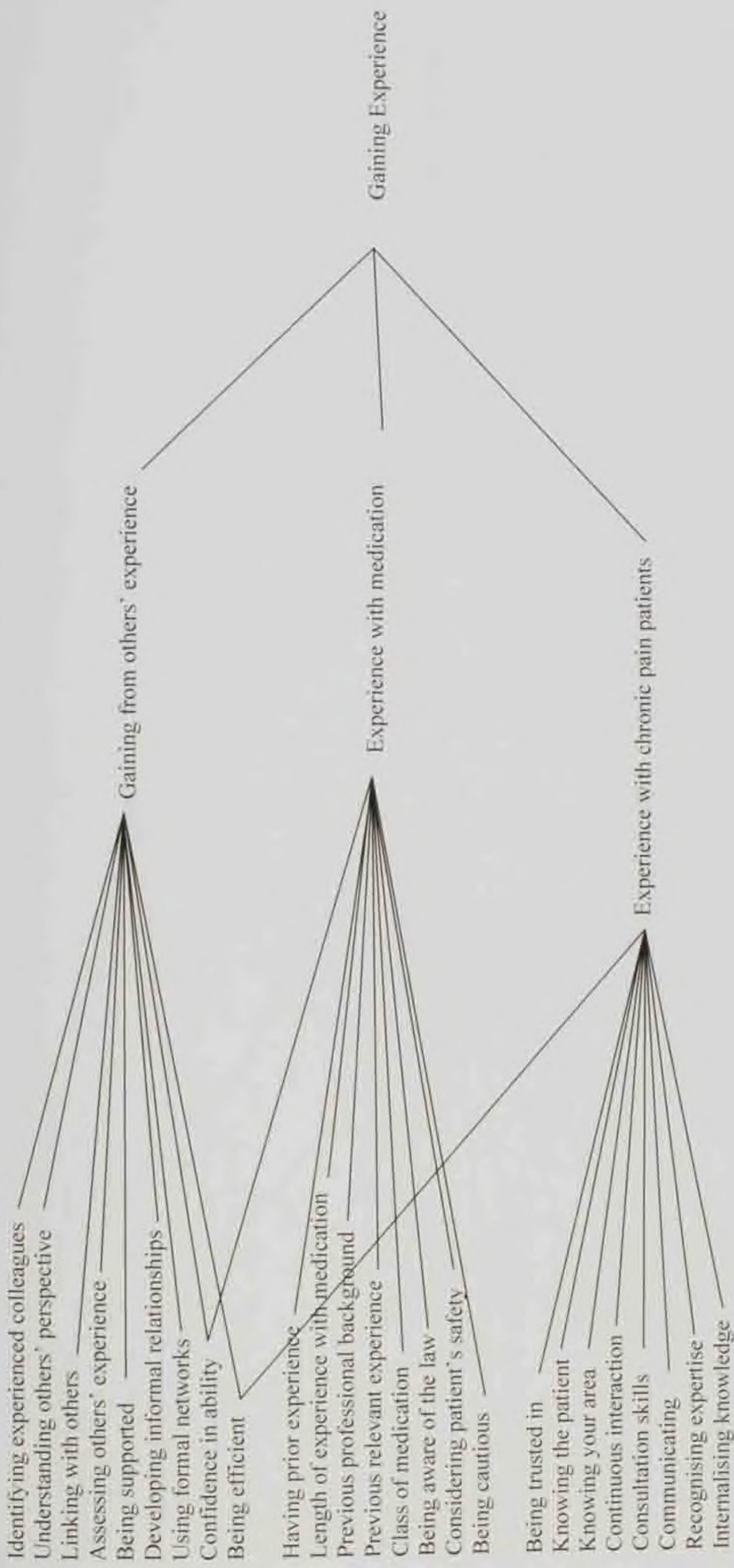


Nature Of The Prescribing Environment

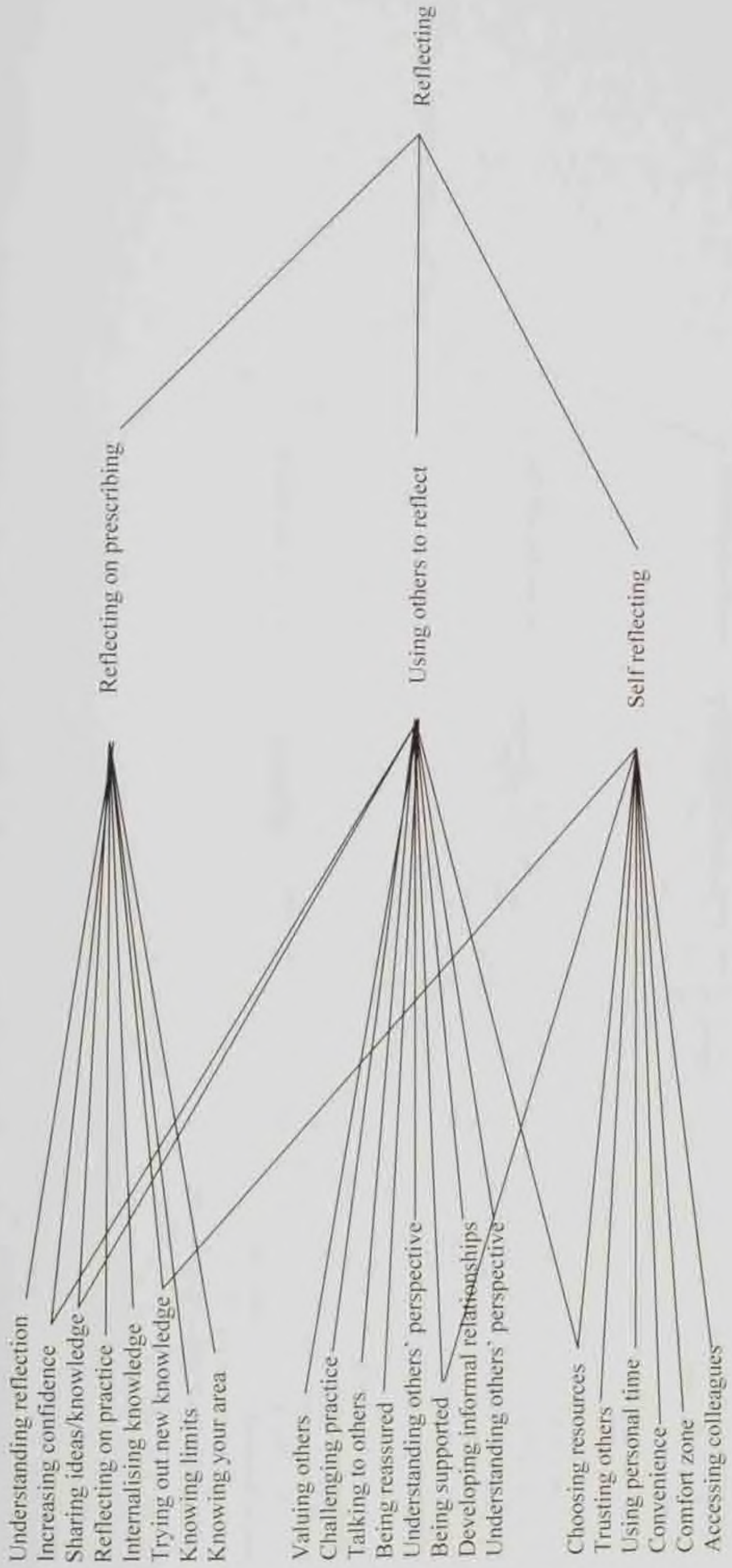
Acquiring knowledge-Coding Diagram



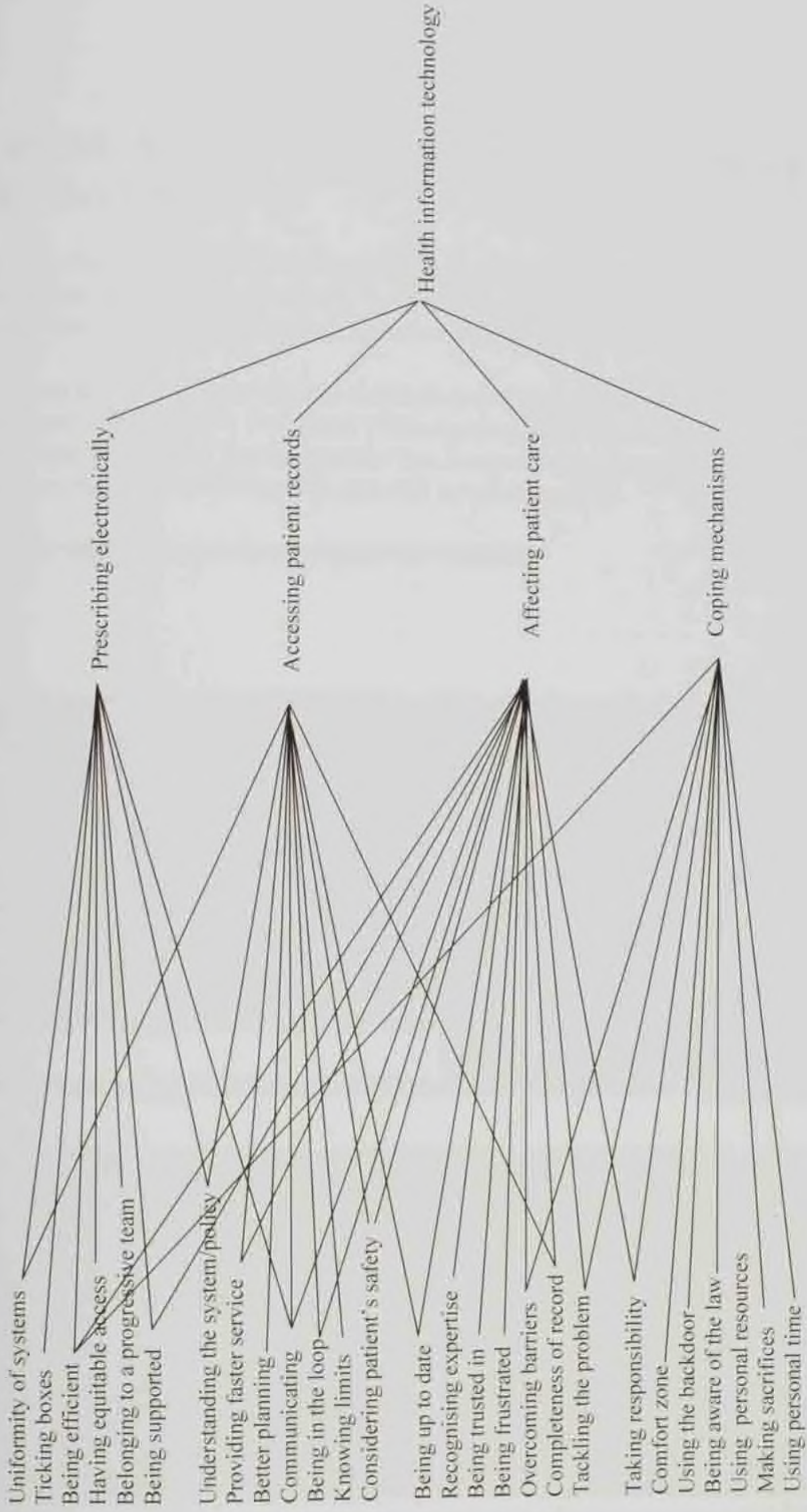
Gaining experience-Coding Diagram



Reflecting on practice-Coding Diagram



Health information technology-Coding Diagram



Uniformity of systems

Ticking boxes

Being efficient

Having equitable access

Belonging to a progressive team

Being supported

Understanding the system/policy

Providing faster service

Better planning

Communicating

Being in the loop

Knowing limits

Considering patient's safety

Being up to date

Recognising expertise

Being trusted in

Being frustrated

Overcoming barriers

Completeness of record

Tackling the problem

Taking responsibility

Comfort zone

Using the backdoor

Being aware of the law

Using personal resources

Making sacrifices

Using personal time

Prescribing electronically

Accessing patient records

Affecting patient care

Coping mechanisms

Health information technology

NON MEDICAL PRESCRIBING IN CHRONIC NON MALIGNANT PAIN

This survey is the second phase of a study being carried out in the School of Healthcare in the University of Leeds. The purpose is to further examine the views and experiences of Non Medical Prescribers (NMPs) which were revealed in the interview phase of the study.

We also aim to determine barriers and facilitators to the use of Non Medical Prescribing in the treatment of Chronic Non Malignant Pain (subsequently referred to as chronic pain). The questionnaire will take approximately 10 minutes to complete. Your responses will be treated in the strictest confidence. All data will be anonymised.

Thank you for taking the time to participate in this study

*1. What is your PRIMARY profession?

- Nurse
- Midwife
- Pharmacist
- Other

(please specify)

2. How many years ago did you qualify as a Nurse, Midwife or Pharmacist?

- less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

3. What is your primary specialty (or area of practice)?

4. How long ago did you qualify as a PRESCRIBER?

- less than 1 year
- 1 year – 2 years
- 25 months – 4 years
- more than 4 years

5. What is your age?

- below 25
- 25-34
- 35-44
- 45-54
- 55 or over

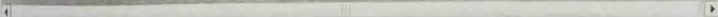
6. What is your gender?

- Female
- Male

7. Have you prescribed since qualifying as a Non Medical Prescriber?

- Yes
- No

8. Please give a brief suggestion as to what measures you feel would enable you use your prescribing qualification



* 9. The following factors have been a barrier to my ability to commence prescribing since I qualified as a prescriber (please mark as many as are applicable to you)

- There is no role within my organisation that involves prescribing
- I will not be paid for the extra responsibility attached to prescribing
- If I prescribe, there will no 'second check' to assess my prescriptions
- The budget from which my prescribing will be paid for has not yet been identified

Other factors that I have seen as a barrier are (Please specify)

* 10. Do you PRESCRIBE for patients with Chronic Pain

- Yes
- No

* 11. I do not prescribe in chronic pain because....
(please mark as many as are applicable to you)

- I do not feel confident prescribing in chronic pain
- I feel that only chronic pain specialists should prescribe in chronic pain
- I feel that my knowledge about chronic pain is inadequate
- It is not included in the list of diseases that I have included in my 'prescribing passport'
- I feel that my experience with patients that have chronic pain is inadequate
- I feel that my experience with drugs used for chronic pain is inadequate
- I do not have any certificated training in chronic pain
- I do not feel that I am competent to prescribe in chronic pain
- I do not feel comfortable prescribing controlled drugs
- I am afraid I would be struck off if I made a mistake
- I do not come across any patients with chronic pain

Others reasons why I do not prescribe are (Please specify)

*12. How often do you refer patients with chronic pain?

- More than five times a week
- Between once and five times a week
- Less than once a week but more than once a month
- At least once a month
- Less than once a month
- I never refer patients with chronic pain

*13. Who do you refer patients with chronic pain to?

- General Practitioners (GPs)
- Other Non Medical Prescribers
- A Pain Clinic
- Hospital Consultants

Other (Please specify)

*14. How often do you prescribe for patients with chronic pain?

- More than five times a week
- Between once and five times a week
- Less than once a week but more than once a month
- At least once a month
- Less than once a month

15. Below are some factors that affect how prescribers gain COMPETENCE to prescribe for patients with chronic pain.

ABOUT MY PRESCRIBING IN CHRONIC PAIN:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I can access networks of others who prescribe for chronic pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rely on more knowledgeable colleagues in my team/practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can access chronic pain specific courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would rather refer patients than undertake more study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prescribing controlled drugs is frightening for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learn from others' experience through networks of prescribers for chronic pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always use a guideline when prescribing in chronic pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to be trained on using controlled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

drugs before
prescribing

Other factors that help me gain competence are

16. The following are some of the resources that I have used in my prescribing for patients with chronic pain.

(please mark as many as are applicable to you)

- I do not feel that I need guidance to prescribe for chronic pain
- The British National Formulary
- Formulary/Guideline produced by my establishment
- National Institute for Health and Clinical Excellence's guideline

Other resources I use that not indicated here are (please specify)

17. My continuing professional development in CHRONIC PAIN has been through ...

(please mark as many as are applicable to you)

- attending meetings of the pain group of my professional body
- accessing online pain group of my professional body
- accessing websites that specialise on pain
- attending in house sessions in my organisation
- attending pertinent day courses organised elsewhere
- reading relevant journals
- attending meetings of non medical prescribers who specialise in pain
- accessing online groups of non medical prescribers who specialise in pain

other means (please specify)

18. In order to develop your **PRESCRIBING SKILLS**, it may be necessary to access continuing professional development **SPECIFIC TO PRESCRIBING**

ABOUT MY CONTINUING PROFESSIONAL DEVELOPMENT NEEDS IN PRESCRIBING:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am presently allowed a proportion of my normal working time for continuing professional development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I should be allowed a proportion of my normal working time for continuing professional development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my access to continuing professional development specific to prescribing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to fulfil my continuing professional development needs by self directed learning in my own time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not think that it is necessary to carry out any continuing professional development in prescribing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other important issues regarding my continuing professional development in prescribing are

19. A 'safe environment' has been described as an environment that encourages the development of non medical prescriber's skills. How important are following in determining how safe an environment is for your prescribing?

FOR ME, A SAFE ENVIRONMENT IS ONE WHERE:

	Very Important	Important	Neutral	Unimportant	Very Unimportant
I am sure that mutual respect exists among colleagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can rely on knowledgeable colleagues to support me in prescribing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can work in a 'no blame' culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will not be told off if I make a prescribing error	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will be more respected than my colleagues who are not prescribers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other factors that I think constitute a 'safe environment' are

20. After deciding that you are competent to prescribe for a particular patient, how important are the following in aiding your decision regarding whether you should actually go ahead and prescribe

I WILL PRESCRIBE FOR A PATIENT ONLY IF:

	Very Important	Important	Neutral	Unimportant	Very Unimportant
I have access to software to produce a prescription for the patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am given the authority to request further diagnostic tests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am authorized to prescribe controlled drugs for that patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have full access to the patient's medical records	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have fully accepted the legal liabilities for my prescribing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other factors that will aid my decision to prescribe are (please specify)

21. The following are factors that I feel WILL FACILITATE my prescribing for patients with chronic pain

(please mark as many as are applicable to you)

- I have no interest in prescribing for patients with chronic pain
- access to continuing professional development specific to chronic pain
- access to networks of other non medical prescribers who prescribe in chronic pain
- remuneration for my prescribing in chronic pain
- access to software that enables me to prescribe electronically
- training on how to prescribe for patients with chronic pain
- more respect from other team members
- training on how to prescribe controlled drugs
- better access to patients' medical records
- working in an environment where I trust my colleagues

Other factors that will facilitate my prescribing for patients with chronic pain are
(Please specify)

22. Please add any (other) comments that you have on Non Medical Prescribing in chronic pain

* 23. How many minutes did it take you to complete this questionnaire?

Appendix 19: Draft of non-medical prescribers' survey

CHRONIC PRESCRIBING IN CHRONIC NON MALIGNANT PAIN

This survey is the second phase of a study being carried out in the School of Healthcare in University of Leeds. The purpose of this survey is to carry out a quantitative examination of the views and experiences of Non Medical Prescribers in the treatment of Chronic Non Malignant Pain (CP) that were revealed in the first phase of the study. The study also aims to determine barriers and facilitators influencing the implementation of Non Medical Prescribing in the treatment of CP.

The first section is focused on getting demographic data of the study participants while the second section will ask for your views and experiences. The questionnaire will take approximately 10 minutes to complete and for each question, only one choice can be selected. Your participation in the study will help us better understand what barriers and facilitators nurses and pharmacists face when prescribing for people with chronic pain, and will be treated anonymously and confidentially.

Thank you for taking the time to participate in this study

SECTION ONE : ABOUT YOU

1. What is your primary profession?

- Nurse
- Midwife
- Pharmacist
- Other

2. How long ago did you qualify as a Nurse, Midwife or Pharmacist?

- less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

3. How long ago did you qualify as a PRESCRIBER?

- less than 1 year
- 1 year – 2 years
- 25 months – 4 years
- more than 4 years

4. Have you prescribed since qualifying as a non medical prescriber?

- Yes
- No

5. What is your age?

- below 25
- 25-34
- 35-44
- 45-54
- 55 or over

6. What is your gender?

- Female
- Male

7. Please indicate which of the following best describes your prescribing with respect to CP

- I prescribe for patients with CP
- I do not prescribe for patients with CP as it is in no way related to my primary area(s) of prescribing
- I ought to prescribe for CP but I do not feel I am competent to do so
- I would like to prescribe for CP and feel competent to do so, but do not because of some barriers to my prescribing
- Other -----

SECTION TWO : ABOUT YOUR PRESCRIBING

9. How often do you prescribe for patients with CP?

- more than five times a week
- between once and five times a week
- less than once a week but more than once a month
- at least once a month
- less than once a month

A 'safe environment' has been described as an environment that encourages the growth and development of the non medical prescriber's skills. How do you rate the following in determining whether an environment is safe for you to develop as a prescriber:

FOR ME TO DEVELOP AS A PRESCRIBER, I NEED TO:	Very important	Important	Neither Important nor unimportant	Not Important	Very Unimportant
be able to challenge and be challenged by team members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
be in a team with a structured hierarchy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
work in a 'no blame' service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have a mentor to turn to when necessary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Others (please specify) _____

In relation to your prescribing, do you have a proportion of your normal paid working time set aside by your employer to enable you to go for continuing professional development (CPD) specific to prescribing?

- Yes
- No

I would rather attend CPD during paid working hours than doing self directed learning in my own time

- | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree |
|--------------------------|--------------------------|----------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please rate your level of agreement on each of the following statements regarding which factors motivated you to qualify to become a Non Medical Prescriber

I BECAME A PRESCRIBER TO:	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
provide better care for patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
be better paid than my colleagues that are not prescribers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
give me a higher status than my colleagues that are not prescribers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
improve my career progression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

others (please specify) _____

As GPs and Hospital Doctors are paid more as prescribers, if I had a choice I would rather 'cop out' of prescribing and refer patients to them

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Non Medical Prescribers must only prescribe within their own level of competence, in your practice, how would you rate the following in your determination of your competence:

I MEASURE MY COMPETENCE BY:	Very important	Important	Neither important nor unimportant	Not important	Very Unimportant
the knowledge that I have about the drugs in that area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the number of conferences I have attended	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the amount of experience I have with patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
having documented evidence of experience in my prescribing area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

others (please specify) _____

After deciding that I am competent to prescribe for a particular patient, the following helps my decision making as to whether I should actually go ahead and prescribe:

Very Important Neither Not Very

	important		Important nor un- important	Important	Unimportant
my access to software to produce a prescription for the patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
having the authority to request further diagnostic tests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
consideration of legal liabilities for prescribing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the access that I have to the patient's medical records	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

others (please specify) _____

WE APPRECIATE THE TIME THAT YOU HAVE TAKEN TO COMPLETE THIS QUESTIONNAIRE AND
THANK YOU ONCE AGAIN FOR YOUR CONTRIBUTION.

Appendix 20: Letter to non-medical prescribing leads

Dear Colleague

We plan to conduct an online survey of how Non Medical Prescribing is carried out in chronic pain, the aim will be to explore barriers and facilitators Non Medical Prescribers encounter when dealing with this condition.

The study is part of a PhD being carried out by me, at the University of Leeds. I am a qualified pharmacist, with a Master's in Global Health and Public Policy and am now researching Non Medical Prescribing.

Currently, ethics approval has been given to approach prescribers through you (Non Medical Prescribing Leads). We believe that at this stage your input is invaluable.

We hope to have your support to

forward an online questionnaire to the Non Medical Prescribers on your mailing list

let us know the total number of prescribers on your list, to enable us calculate a sampling frame.

forward a reminder after two weeks

We look forward to your support, and hope that together we can make a significant contribution.

If you wish to contact any of my supervisors, their e-mails are shown below

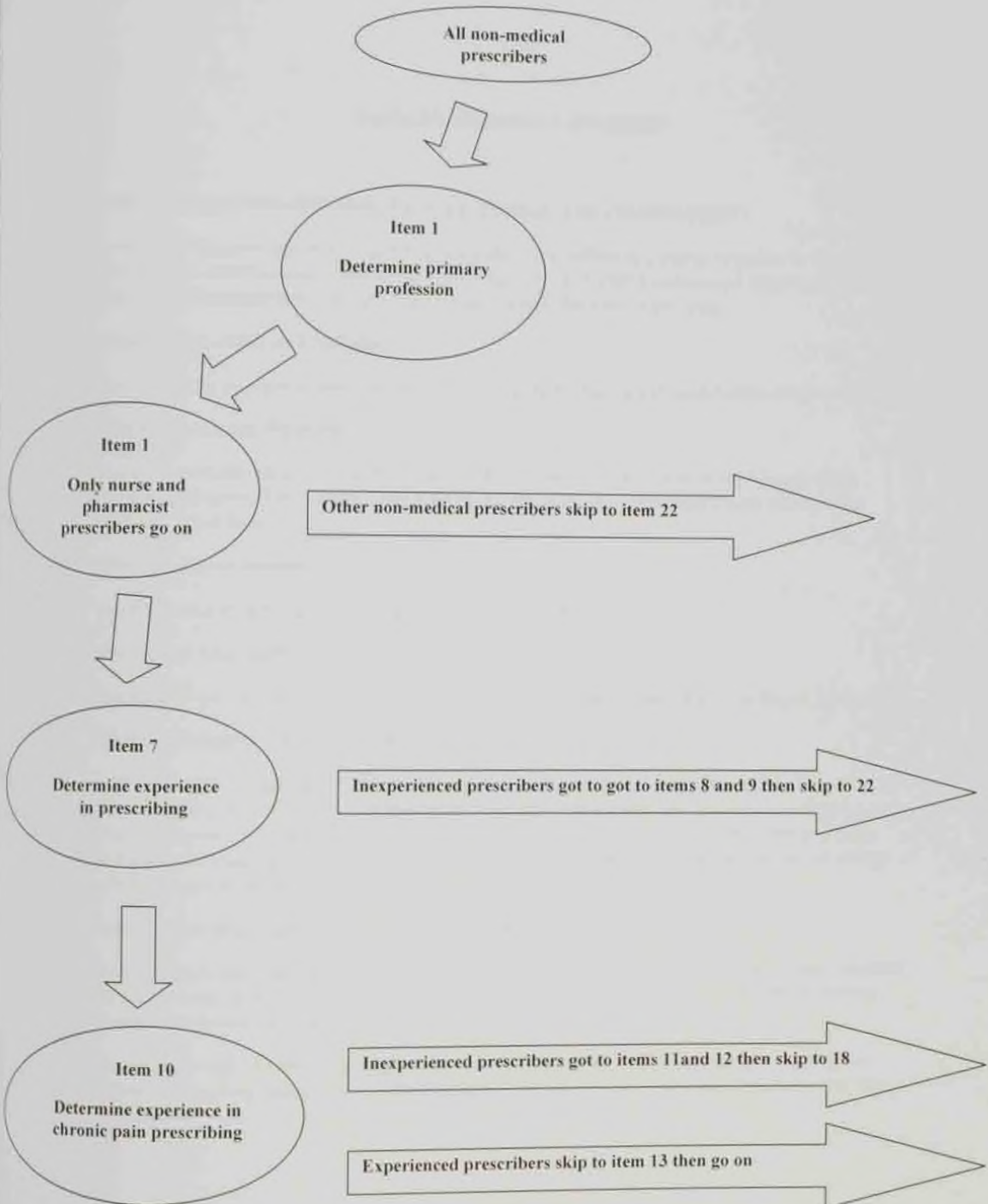
Thanks you for your assistance

Obi Peter Adigwe, BPharm, MSc

Principal Investigator, School of Healthcare, Baines Wing,

University of Leeds, hcopa@leeds.ac.uk

Questionnaire Flow Chart



Appendix 22: Patients' information sheet

PATIENT INFORMATION SHEET

PRESCRIBING FOR CHRONIC PAIN BY NURSES AND PHARMACISTS

I would like to invite you to take part in a research study. Before you decide whether to take part you need to understand why the research is being done and what it will involve. Please read the following information carefully and talk to others about the study if you wish.

What is the purpose of this study?

The study aims to explore what you think of prescribing by nurses and pharmacists for chronic pain.

Who is carrying out the study?

The study is being carried out by Obi Adigwe, a PhD Student in the School of Healthcare at the University of Leeds. The study is supervised by a team of three experienced researchers led by Professor Jose Closs.

Why have I been chosen?

You have been asked to participate because of your chronic pain.

Do I have to take part?

The decision to take part is entirely voluntary. You do not have to take part if you do not want to.

What will happen if I choose to take part?

If you do decide to take part, I will contact you to discuss the study and invite you to take part in an informal interview during which I would talk to you about your views and experiences of nurse and pharmacist prescribing with respect to your pain. The interview will last approximately one hour, and will be arranged at a time and place of your convenience. With your permission the interview will be tape recorded so that it can be transcribed.

What are the advantages and disadvantages of taking part?

Participating in the study will help us understand more about how nurses and pharmacists prescribe for people with chronic pain. The results of the research may lead to an improvement in the way nurses and pharmacists manage pain for patients like you.

The interview will involve you giving up approximately one hour of your time. I have undergone appropriate training specifically for this study and I appreciate that issues regarding your pain may be sensitive.

Can I withdraw from the study at anytime?

You are free to withdraw from the study during or at the end of the interview and you do not have to give a reason. If you decide to withdraw from the study, any information that you have already given will not be used, and will be destroyed.

Will the information I give be kept confidential?

The information you tell me in the interview will be treated in the strictest confidence. Only my supervisors and I will have access to your personal data such as your name and contact details. All data will be stored in a secure and locked location in accordance with data protection requirements and all information collected about you during the study will be stored securely in a locked office and on a password protected computer.

The interview will be stored securely and separately from your personal details. Only my supervisors and I will have access to the interview transcripts. These will be made anonymous and any identifying features will be removed. The tapes will be destroyed after they have been transcribed and the transcripts will be stored securely for 5 years.

Outputs including direct quotes from the interviews may be used to develop the questionnaire, but these will be anonymised and will not be traceable to specific individuals.

Will my General Practitioner/Family Doctor (GP) be involved?

If you agree, we will let your GP know that you are taking part in this study.

What will happen to the results of the study?

The study is for my PhD and the results will form a part of this. The results may also be reported in scientific and academic journals and during conference proceedings. No individual will be able to be identified from details in any reports, papers or presentations that come out of the study.

Who has reviewed this study?

This study has been reviewed and approved by the appropriate regulatory bodies that have been set up by the government to protect the interests of patients and research participants. These include National Research Ethics Service (NRES) and National Health Service (NHS) Research Ethics Committees.

If you agree to take part, would like more information or have any questions or concerns about the study please contact me:

Obi Adigwe (PhD Student)

Room 3.35
School of Healthcare, Baines Wing
University of Leeds, LEEDS LS2 9UT

Tel: 0113 3437366

Email: hcopa@leeds.ac.uk

Thank you for taking the time to read this information sheet.

Faculty of Medicine and Health,
School of Healthcare
Participant Consent Form

PRESCRIBING FOR CHRONIC PAIN BY NURSES AND PHARMACISTS

THIS FORM IS TO BE COMPLETED BY THE PARTICIPANT

S/No	Statement	Please initial below
1	I have read, understood and kept a copy of the information sheet.	
2	I have had the opportunity to ask questions and discuss the study and I have received satisfactory answers to my questions and sufficient information about the study.	
3	I understand that I am free to withdraw from the study at anytime and do not have to give a reason for withdrawing.	
4	I understand my personal details and other information I provide will be kept confidential, stored securely and only accessed by authorised persons.	
5	I understand that information I give may be included in published reports, but I will not be identified, or have such information traced back to me.	
6	I understand that relevant sections of my medical notes and data collected during the study may be looked at by individuals from the University of Leeds, from the regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	
7	I agree to have my interview audio recorded.	
8	I agree to my GP being informed about my participation in this study.	

I agree to take part in this study

Participant Signature.....

Date.....

Name of Participant

Researcher Signature.....

Date.....

Name of Researcher

Thank you for agreeing to take part in this study.

Appendix 24: Topic guide for chronic pain patients

Introduction:

Introduction of the interviewer, the study and its objectives

Briefly mention their place in the study (*The study will explore how patients with chronic pain perceive pain relief and prescribing from nurses and pharmacists, their experiences of available services and their views about how services might be improved in future.*)

Assure anonymity and confidentiality in the course of the study

Ask for permission to use the tape recorder

Background information

Could we just start by asking you to say a bit about yourself and your pain?

Prompts

- *How long since diagnosis*
- *Whether you have underlying or complicating illnesses*
- *What you need to do on a daily basis to manage your pain*
- *How well you would say your pain is managed now*

Prescriber Related Factors

Can you give me an idea of your experiences of using the services of NP's for the treatment of your chronic pain?

Prompts

- *What went well in your experience of the management of your pain*
- *What went less well*
- *Views about the continuity of care received (i.e. whether the services seem integrated or fragmented from the patient's perspective)*
- *Whether you have had any problems accessing services in the past and how this has been affected by NP (why/ examples)*
- *Level of consultation desired (in which circumstances); importance of being consulted/not being consulted*
- *Degree to which you felt involved/ consulted about your treatment while seeing the prescriber*
- *Your feelings about the manner in which the NP carried out your consultation and prescribing (perhaps in relation to previous experiences, for instance another NP, a GP or another Doctor).*
- *Your feelings about the time taken by the NP to consult/prescribe (perhaps in relation to previous experiences, for instance another NP, a GP or another Doctor)*

- *Adequacy of the circumstances surrounding the consultation/prescribing process (time, space, privacy)*
- *Your knowledge of the kind of skills the NP possessed that has really helped in the treatment of your CP*
- *Your feelings about the adequacy of skill of the NP (perhaps in relation to previous experiences, for instance another NP, a GP or another Doctor)*
- *Whether you feel that the NP prescribing for them provided clear and full information about your medication, and how this compared to your past experiences*
- *Whether you were given sufficient information about how to manage your CP when you returned home*

Perception of Medication

Can you give me an idea of what you feel about the medications that you have taken or currently take for your CP, and its effects on your life/health/wellbeing?

Prompts

- *Whether you felt that the medication given to you worked (what other benefits did you derive if any?)*
- *Whether any form of non drug measures were provided by your NP*
- *Your feelings and experiences of side effects and how this affects or has affected your medicine taking behaviour*
- *What other measures of pain relief have been used, and your perception of these measures' effectiveness, compared to medication*
- *Your feeling and experiences regarding medications with potential for addiction (name, duration of administration, fears etc)*

Conclusion

If you could influence how you received your pain relief, what messages would you like to provide policymakers regarding how NP could be made more effective in the treatment and management of CP

Prompts

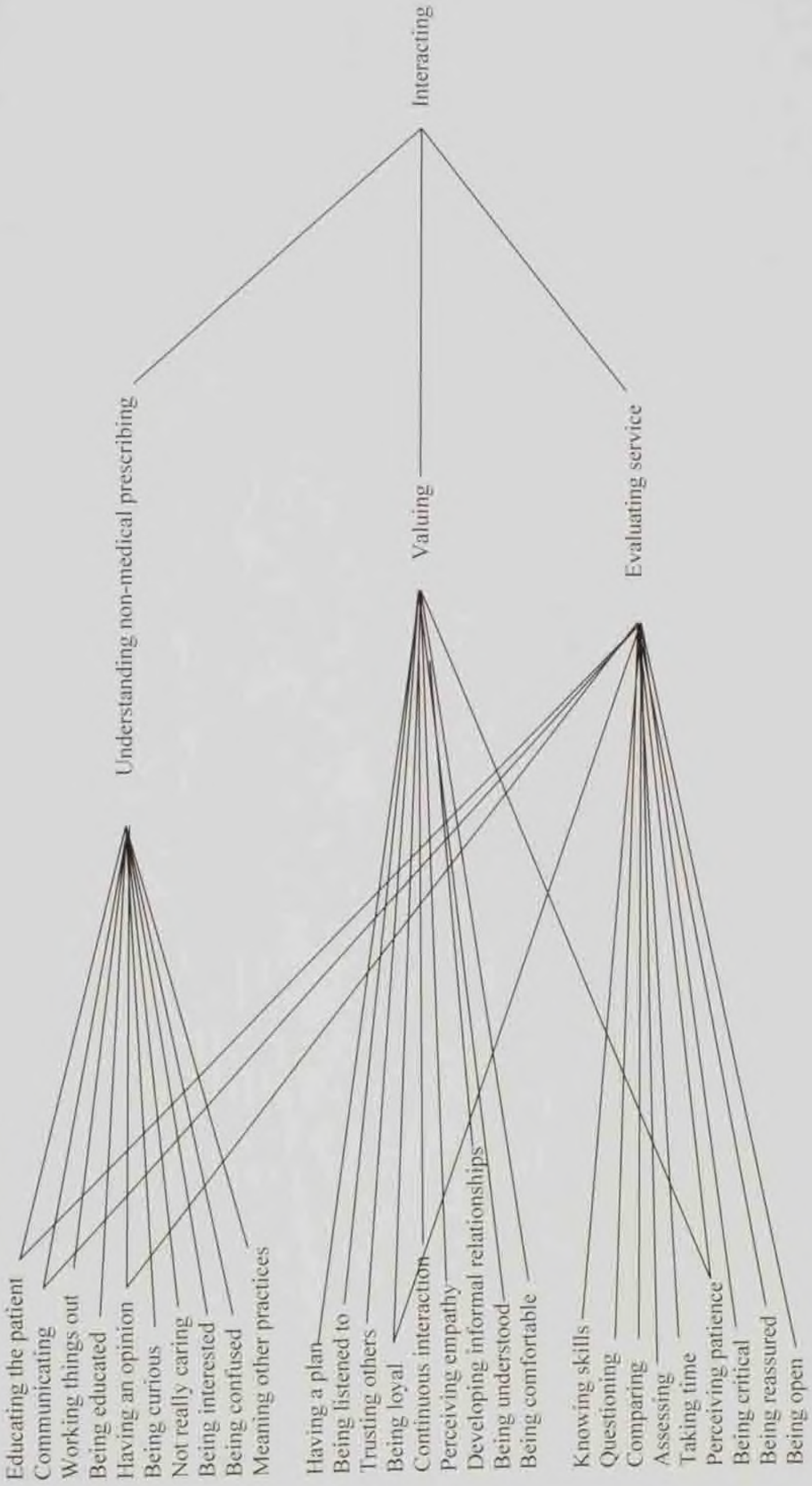
- *Key elements of the treatment and management of CP from your perspective*
- *Any changes required in the current system to better meet the needs of people with CP*

Thank you.

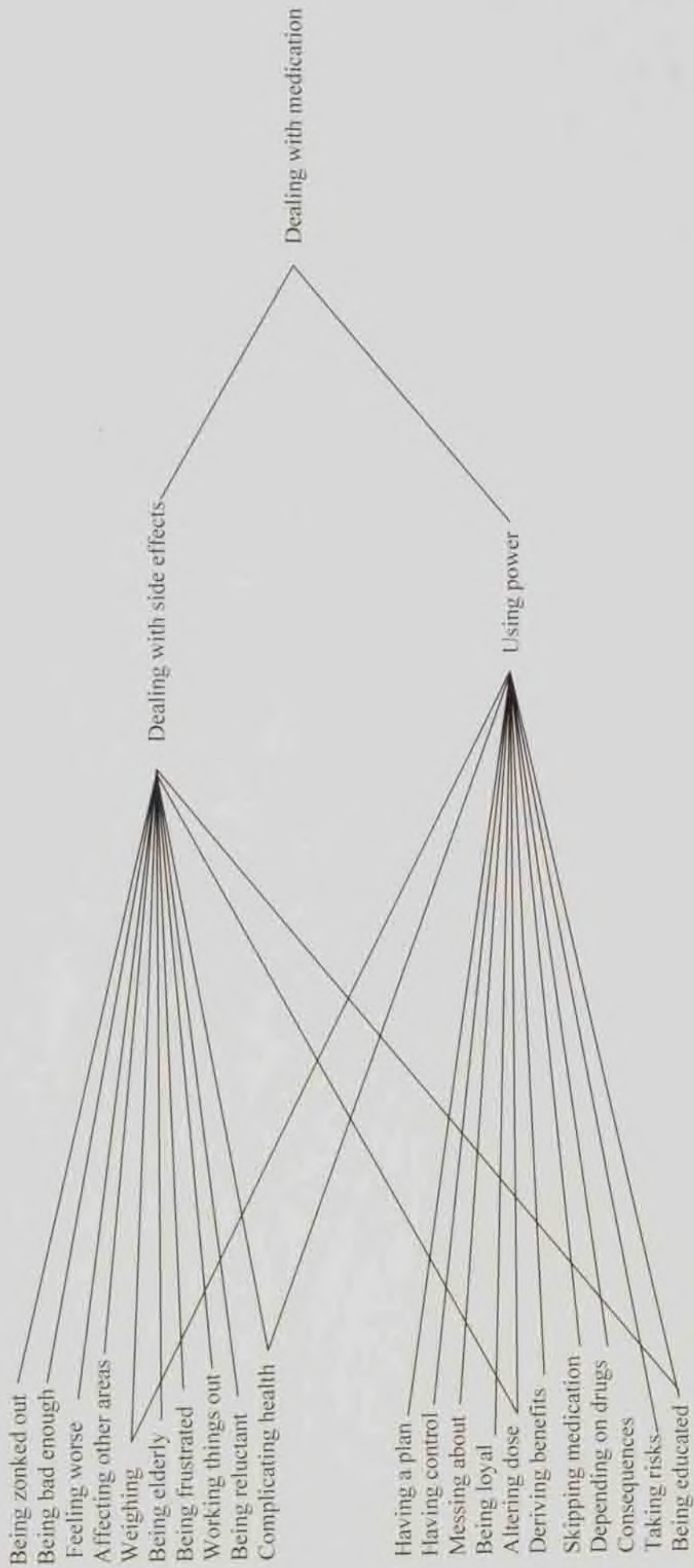
Please be assured that everything we have discussed will be treated confidentially and that nothing will be reported in such a way that will make the people that said them identifiable.

Appendix 25: Coding diagrams for chronic pain patients' project

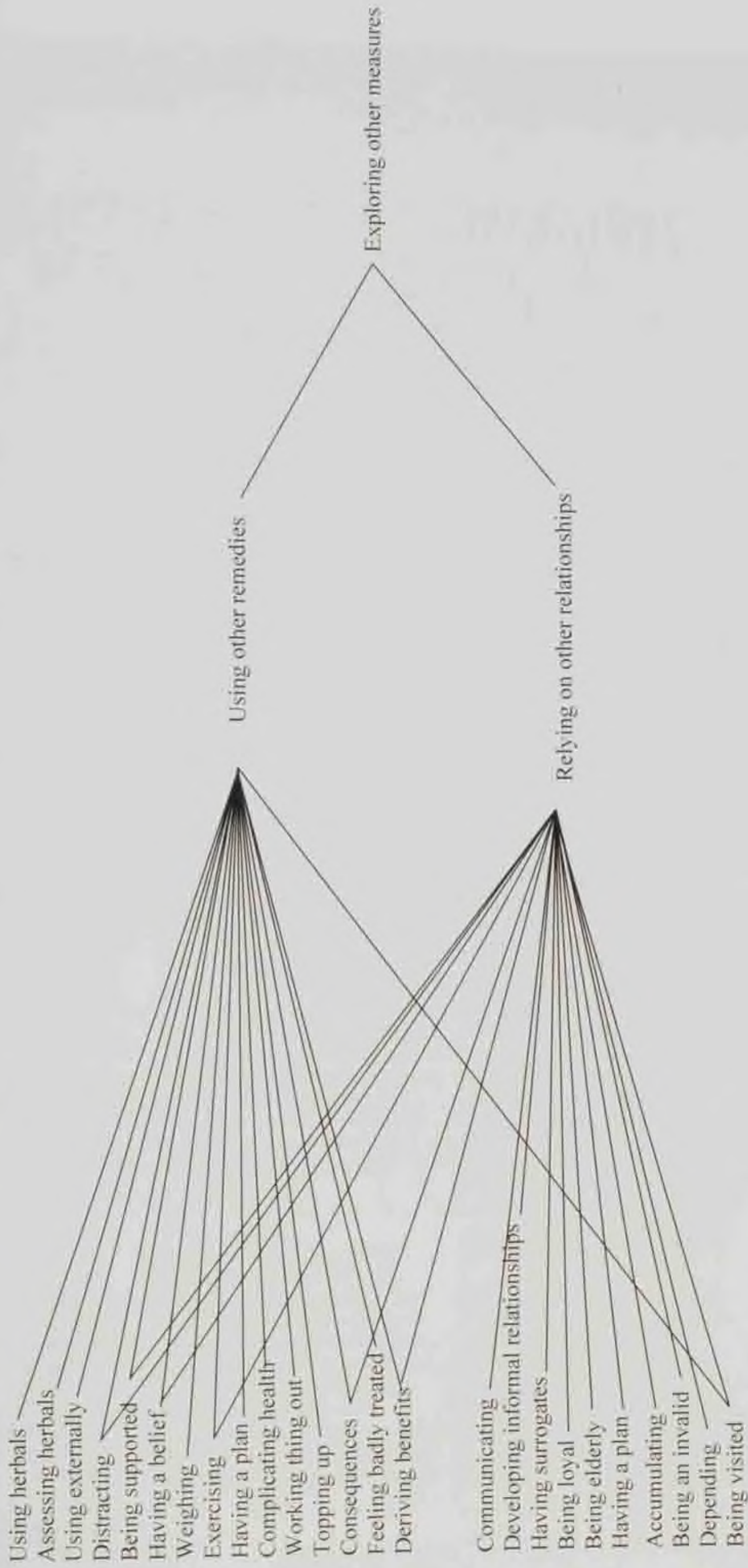
Interacting- Coding Diagram



Dealing with medication- Coding Diagram



Exploring other measures Coding Diagram



SHORT COMMUNICATION

PRESCRIBING BY PHARMACISTS IN THE UNITED KINGDOM: WHAT CAN WE LEARN?

Adigwe* O.P., Strickland-Hodge, B., Briggs, M. and Closs, S.J.

School of Healthcare, University of Leeds, Leeds LS2 9UT, UK.

Introduction

In recent years, advances in the healthcare sector of the United Kingdom (UK) have led to changes in legislation that now authorize pharmacists who have been additionally trained to prescribe. The aim of this article is briefly to describe pharmacist prescribing in the UK then outline the facilitators and barriers reported by British pharmacist prescribers, with the intention of gleaned insights into what possible implications exist for pharmacists and policymakers in the Nigerian healthcare sector.

Policy Goals behind Pharmacists Prescribing in the UK

In the UK, the Department of Health (DH) is the arm of government responsible for all health issues. Its stated objectives for this new policy direction on prescribing include: improvement of patient care without compromising safety; provision of quicker and easier access for patients to medication; increase in choice available to the patient in accessing medicines; more efficient use of the skills of health professionals; and to help improve flexibility in team working across the National Health Service (NHS) (DH, 2010). Presently the two models used by pharmacists to prescribe are supplementary and independent prescribing.

Supplementary Prescribing

This form of prescribing which was initiated in 2003 was the first that legally allowed pharmacists to prescribe. In supplementary prescribing, pharmacists can prescribe any medicine, with a few exceptions, including controlled drugs within the framework of a clinical management plan (CMP), following consultation and agreement with a medical practitioner (or dentist) (DH,

2003). In this form of prescribing, though there is a prescribing partnership with the pharmacist, the medical practitioner (or dentist) exercises some level of control over what and how the pharmacist prescribes (DH, 2005). In Supplementary Prescribing, the patient must be consulted and agree to be treated in this way.

Independent Prescribing

A further development in 2006 led to the introduction of independent prescribing. This was another model available to pharmacists in addition to supplementary prescribing. As independent prescribers, pharmacists are able to prescribe any medicine for any medical condition within their competence except controlled drugs and a few other exceptions (DH, 2006). Under the new legislation, pharmacists who are independent prescribers are responsible and accountable for the assessment of patients with undiagnosed or diagnosed conditions. In addition to prescribing, they can also make clinical management decisions for these patients. This means that independent pharmacist prescribers are able to prescribe and diagnose without the involvement of a medical practitioner (or dentist) or a CMP, as long as they practice within their competence.

Literature Review

A systematic search using relevant keywords was carried out on the following databases: Embase (1996 to 2010); MEDLINE (1996 to 2010); and PsycINFO (2002 to 2010). The libraries of the University of Leeds and reference lists of obtained papers were hand searched, and UK government publications and websites were consulted. The aim of the literature review was to offer greater insights into the barriers and

facilitators to non medical prescribing in preparation for the fieldwork currently being carried out. A range of relevant themes were revealed, but this article is focused on a concise and descriptive report of the facilitators and barriers to pharmacist prescribing.

Facilitators to Pharmacist Prescribing

Following the inception of pharmacist prescribing, a growing body of evidence suggests that the new policy direction can lead to an improvement in patients' access to healthcare (Smalley, 2006). Pharmacists have also benefitted from being involved with prescribing. Being able to prescribe enabled pharmacists to make better use of the skills that they acquired as a result of their training and experience (Warchal et al., 2006), suggesting more efficient use of health care resources and provision of greater benefits for patients. In addition to this, pharmacists reported that as a result of prescribing, they had more job satisfaction, and greater self confidence (George et al., 2006). Other advantages reported by pharmacist prescribers include a perception that their role became more important in interdisciplinary teams and they were better recognised for the expertise that they possessed (Warchal et al., 2006). Furthermore, having the legal right to prescribe meant that pharmacists were now more involved in setting up new services (Hobson & Sewell, 2006).

Barriers to Pharmacist Prescribing

As with any new policy, it is expected that difficulties should have been encountered when prescribing by pharmacists was being implemented in the UK. Two closely related barriers that were reported in the literature were organisational and infrastructural. In some organisations, hurdles identified to ▶



the development of pharmacist prescribing were lack of official recognition (of their prescribing status) within their specific Trusts as well as lack of funding for professional roles that involved prescribing (George et al., 2007). With respect to infrastructural support, pharmacist prescribers reported that in some cases, there was little or no support to enable pharmacists to generate electronic prescriptions (Warchal et al., 2006) and gain access to patients' medication records (While et al., 2004; George et al., 2007). Another barrier that was revealed in the review was related to the Clinical Management Plan. Preparing and administering the Clinical Management Plan is a legal requirement associated with supplementary prescribing, however, using the Clinical Management Plan has sometimes been described as being restrictive (George et al., 2006), and impractical (Warchal et al., 2006).

Implications for Pharmacists in Nigeria

Even though the latest WHO country report suggests a general improvement in the health care sector (WHO Country Office Nigeria, 2007), the average life expectancy of a typical Nigerian is still less than fifty years, and as a country, it continues to perform below regional averages in many other health indices (WHO, 2006). The main victim remains the Nigerian patient whose access to genuine medicines is severely limited. The British model presents an opportunity that may improve the speed, safety and quality of the average Nigerian's access to medicines.

Though the Nigerian healthcare system differs markedly from the NHS in the United Kingdom, there are many similarities in the manner that pharmacists in both countries perform professional duties. Traditionally, pharmacists have been involved in the management of prescriptions (Davies et al., 1994), in overseeing patients' medication and in monitoring therapy (Galindo et al., 2003). Nigerian pharmacists are engaged in these activities as well. In the United Kingdom, before the law authorised pharmacists to prescribe, pharmacists have been known to author prescriptions which were signed off by doctors (Bellingham 2004),

anecdotal evidence suggests that pharmacists in Nigeria may be doing the same, in a bid to improve desperately needed access to medicines. It could be argued that granting legal rights to prescribe to Nigerian pharmacists is a logical extension of roles that they already perform or that it formalises a process that may already be in existence

For both the pharmacist and the policy maker in the Nigerian health care sector, there is scope to reflect upon the evidence from the UK regarding how the pharmacist prescribing policy was implemented, and what British pharmacists identified as the barriers and facilitators to their practice. If Nigeria chooses to amend present legislation to allow pharmacists to prescribe, the opportunity exists to draw on the positive experiences and avoid the hurdles that were associated with the British reform

Conclusion

The training and experience associated with medicines that pharmacists have would suggest a good candidacy for becoming a prescriber. However, being a good candidate does not automatically translate into gaining the right to prescribe. There are other factors that are also at play, such as determining standards for pre-qualification, setting up training programmes to enable the acquisition of other relevant skills and instituting clinical governance structures.

With over 15,000 registered pharmacists (PCN, 2011) in Nigeria, granting prescribing rights is an option to be seriously contemplated if improved healthcare access for millions of Nigerians is to be achieved in safe and efficient manner. The willingness shown by Nigerian pharmacists to engage in professional practices that may improve patient outcomes (Oparah and Efrekaya, 2005) is a step in the right direction.

More work is however needed if this article is to do more than stimulate interest and generate debate. The reform which led to prescribing by British pharmacists should be carefully considered by policy makers and healthcare practitioners. International evidence on prescribing by pharmacists will need to be rigorously evaluated

(WHO, 2004), and a cautious approach adopted in determining suitability (Chinnock et al., 2005) of this model to the Nigerian context.

REFERENCES

Bellingham C. 2004 How supplementary prescribing helps in both acute and chronic hospital care. *Pharmaceutical Journal*, 272, 640-641

Chinnock P, Siegfried N, Clarke M. 2005 Is Evidence-Based Medicine Relevant to the Developing World? *PLoS Med* 2(5)

Davies J, Horne R, Bennett J, and Storr R. 1994 Doctors, pharmacists and the prescribing process. *Br J Hosp Med*, 52:167-170,

Department of Health (DH) 2003 Supplementary Prescribing [Online] Available at: http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Consultations/Responsestoconsultations/DH_4017050 (accessed 20th September 2010)

Department of Health (DH) 2005 Supplementary Prescribing by Nurses, Pharmacists, Chiropractors/Podiatrists, Physiotherapists and Radiographers within the NHS in England: a guide for implementation [Online] Available at: http://www.dh.gov.uk/en/publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4110032 (accessed 10th September 2010)

Department of Health (DH) 2006 Improving Patient's Access to Medicines: A Guide to Implementing Nurse and Pharmacist Independent Prescribing within the NHS in England [Online] Available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4133743 (accessed 20th September 2010)

Department of Health (DoH) 2010 The non medical prescribing programme [Online] Available at: <http://www.dh.gov.uk/en/Healthcare/Medicinespharmacyandindustry/Prescriptions/TheNon-MedicalPrescribingProgramme/Background/index.htm> (accessed 19th September 2010)

Galindo C, Olive M, Lacasa C, Martinez J, Roure C, Llado M, Romero I. and Vila A. 2003 Pharmaceutical care: pharmacy involvement in prescribing in an acute-care hospital. *Pharm World Sci*, 25:56-64



George J, McCaig D, Bond CM et al. 2006 Supplementary prescribing: early experiences of pharmacists in Great Britain. *Annals of Pharmacotherapy*, 40, 1843-1850.

George J, McCaig D, Bond C, Cunningham Is, Diack HI, Stewart D. 2007 Benefits and challenges of prescribing training and implementation: perceptions and early experiences of RPSGB prescribers. *International Journal of Pharmacy Practice*; 15:23-30.

Hobson RJ, Sewell GJ 2006. Supplementary prescribing by pharmacists in England. *American Journal of Health-System Pharmacy*, 63, 244-253).

Oparah A.C, Eferakeya A.E. 2005 Attitudes of Nigerian pharmacists towards pharmaceutical care. *Pharmacy World and Science*. 27:3: 208-214

Pharmacists Council of Nigeria 2011 List of Registered Pharmacists as At 4th June, 2011 [Online] Available from: <http://www.pcng.org/fullreg.htm> (accessed 15th June, 2011)

Smalley L. 2006 Patient's experience of pharmacist-led supplementary prescribing in primary care. *Pharmaceutical Journal*; 276:567-9.

Warchal, S., D. Brown, Et Al. 2006 Attitudes of successful candidates of supplementary prescribing courses to their training and their extended roles. *Pharmaceutical Journal* 276(7393): 348-352.

While A.E, Mudaly M, Nathan A. 2004. Views of community pharmacists regarding supplementary prescribing. *International Journal of Pharmacy Practice*; 12:R43.

World Health Organization 1994 World

Health Assembly. Resolution WHA47.12: Role Of The Pharmacist In Support Of The WHO Revised Drug Strategy. WHA47/1994/REC/1

World Health Organization. 2004. The Mexico statement on health research, [Online] Available from: http://www.who.int/rpc/summit/agenda/Mexico_Statement_English.pdf (accessed 10th September 2010)

World Health Organization 2006 Country Health profile of Nigeria [Online] Available from: <http://www.afro.who.int/en/nigeria/country-health-profile.html> (accessed 20th September 2010)

WHO Country Office Nigeria: 2007 Annual report, technical cooperation for sustainable development [Online] Available from: <http://www.who.int/countries/nga/en/> (accessed 22nd September 2010)