

Some pages of this thesis may have been removed for copyright restrictions.

If you have discovered material in Aston Research Explorer which is unlawful e.g. breaches copyright, (either yours or that of a third party) or any other law, including but not limited to those relating to patent, trademark, confidentiality, data protection, obscenity, defamation, libel, then please read our [Takedown policy](#) and contact the service immediately (openaccess@aston.ac.uk)

**THE PROFESSIONAL STATUS OF COMMUNITY PHARMACISTS: AN EXPLORATION OF THE
PERCEPTIONS OF COMMUNITY PHARMACISTS AND THE GENERAL PUBLIC**

ADAM JAMES TURNER

Doctor of Philosophy

ASTON UNIVERSITY

December 2016

© Adam Turner 2016

Adam Turner asserts his moral right to be identified as the author of this thesis. This copy of the thesis has been supplied on condition that anyone who consults it is understood to recognise that its copyright rests with its author and that no quotation from the thesis and no information derived from it may be published without appropriate permission or acknowledgement

ASTON UNIVERSITY

Thesis summary

The professional status of community pharmacists: an exploration of the perceptions of community pharmacists and the general public

Adam James Turner

Doctor of Philosophy

2016

Professionalism has often been a difficult concept to define or describe but researchers agree that it is an important trait to maintain professional status within society. Professional status is attained through a process of professionalisation, it can be lost through a process of deprofessionalisation and can be re-attained through reprofessionalisation. Despite being considered a profession by some researchers, others have argued that pharmacy has failed to fully professionalise with some labelling it a 'quasi-profession'. Some scholars believe that the future of community pharmacy may rely on service provision and that this is essential to reprofessionalise pharmacy. Given the uncertainty of current professional status, a mixed methods approach was used to explore the views and opinions of the general public, pharmacists and pharmacy leaders on matters relating to professional status. The thesis presents three studies: a qualitative study with pharmacy leaders; a mixed methods study comprising a questionnaire with members of the general public in England and a further mixed methods study comprising a questionnaire with pharmacists. The qualitative study with pharmacy leaders gave an insight into pharmacy leaders' views and opinions relating to public understanding of pharmacy, professionalism and professional status. This informed the development of the questionnaires used for the subsequent two studies. The questionnaires identified differing public understanding and opinions on pharmacists and matters relating to professional status. Differences were also identified between the general public and pharmacists on these matters. Finally, the qualitative stage offered further exploration and clarification of findings discovered from the questionnaire data. Recommendations about understanding current public opinion of pharmacists may help further clarify the current professional status of community pharmacy.

Keywords (5):

Professionalism
Pharmacists
General public
Survey methodology
United Kingdom

Acknowledgments

Thanks to Aston University, Joe, Chris, Keith, Alpa, Alice and Kirsty. Thanks to Mum, Dad, Joanne and Mark. Special thanks to Michelle who probably put up with the most!

List of Contents

Chapter 1:	Background and Theory	15
1.1	Introduction	15
1.2	Sociological theory	16
1.3	Professionalisation Theory.....	17
1.3.1	Trait-Functionalist model.....	18
1.3.2	Power model.....	20
1.3.3	Deprofessionalisation and Reprofessionalisation.....	21
1.4	Professionalism	22
1.4.1	Professionalism as the Third Logic.....	22
1.4.2	Organisational professionalism.....	24
1.4.3	Medical Professionalism	26
1.4.4	Socialisation of Professionalism.....	28
1.4.5	Measuring Professionalism	29
1.5	Summary	31
Chapter 2:	Application to Pharmacy.....	33
2.1	History of Pharmacy.....	34
2.1.1	Pre 20th Century	34
2.1.2	Towards a Health Service.....	36
2.1.3	The Rise of the Multiples	37
2.1.4	New Labour and 20 th Century	39
2.1.5	New Pharmacy Contract	41
2.1.6	Pharmacy in the New NHS	44
2.2	Pharmacy, the Pharmacy and the Pharmacist.....	45
2.2.1	Pharmacy	45
2.2.2	The Pharmacy.....	51
2.2.3	The Pharmacist.....	56
2.3	Pharmacy as a Profession	59
2.3.1	Professionalisation	59
2.3.2	Deprofessionalisation	61
2.3.3	Reprofessionalisation.....	62
2.3.4	Professionalism	63
2.4	Socialisation of Professionalism within pharmacy.....	67

2.5	Measuring Pharmacy Professionalism	69
2.6	Professional status	73
2.7	Community pharmacist perceptions of professionalism	76
2.8	Public perceptions of community pharmacist professionalism.....	80
2.9	Contribution to research.....	82
2.10	Summary: moving towards a programme of work	82
2.11	Aims and objectives	84
Chapter 3: Methods		86
3.1	Scientific Methods	86
3.2	Overall aim of the programme of work	89
3.2.1	Triangulation	89
3.3	Literature Review	91
3.3.1	Inclusion and exclusion criteria.....	92
3.4	Interviews with professional leaders	92
3.4.1	Methodology.....	92
3.4.2	Methods.....	92
3.4.3	Sampling.....	94
3.4.4	Ethics	96
3.4.5	Administration	96
3.4.6	Analysis	96
3.5	Public Questionnaire.....	97
3.5.1	Sampling strategy.....	98
3.5.2	Questionnaire Design.....	107
3.5.3	Covering Letter and Information Sheet	111
3.5.4	Ethics	111
3.5.5	Pilot Study	112
3.5.6	Survey administration procedure	113
3.5.7	Data Analysis	114
3.6	Pharmacist questionnaire	116
3.6.1	Sampling Strategy	117
3.6.2	Questionnaire design	118
3.6.3	Covering email and Information sheet	122
3.6.4	Ethics	122
3.6.5	Pilot Study	123

3.6.6	Survey administration procedure	123
3.6.7	Data Analysis	124
3.7	Limitations.....	124
3.8	Summary	126
Chapter 4:	Work Stream 1 - Interviews with professional leaders.....	127
4.1	Emerging Themes.....	128
4.1.1	Influence of the Pharmacy Landscape	128
4.1.2	Vocalising Pharmacy	132
4.1.3	The Impact of Commercialism	135
4.1.4	Responsibility for Professionalism	136
4.1.5	The Journey to Professionalism	139
4.2	Summary	141
Chapter 5:	Work Stream 2 - Public Questionnaires	144
5.1	Quantitative Results.....	145
5.1.1	Demographic Information.....	145
5.1.2	Investigating Pharmacy Use and Awareness	148
5.1.3	Pharmacy Service Provision	154
5.1.4	Health versus Business.....	164
5.1.5	Pharmacist Professionalism	166
5.2	Summary	181
Chapter 6:	Work Stream 3 - Pharmacist Questionnaires.....	184
6.1	Quantitative Results.....	185
6.1.1	Demographic Information.....	185
6.1.2	Pharmacist Roles and Roles of Other Pharmacy Staff	191
6.1.3	Pharmacist Awareness of Campaigns championed by Leadership Bodies	195
6.1.4	Pharmacy Service Provision	196
6.1.5	Health versus Business.....	207
6.1.6	Pharmacist Professionalism	209
6.2	Comparisons between the views of English Community Pharmacists and the General Public 219	
6.3	Summary	220
Chapter 7:	Discussion & Conclusions.....	224
7.1	Introduction	224
7.2	Research strengths and limitations	225

7.3	Reflexivity on the research journey	228
7.4	Lack of Public Role Knowledge, and Knowledge and Use of Services	230
7.4.1	Pharmacist Roles	230
7.4.2	Services	231
7.4.3	Communication	234
7.5	Promotion to Raise Public Awareness of Community Pharmacy	235
7.5.1	Public Knowledge	235
7.5.2	Promotion	236
7.6	Three Components of Professionalism	238
7.6.1	Elements of Professionalism	238
7.6.2	Development of a professional ethos	242
7.6.3	Professional Status	242
7.6.4	Commercialism	244
7.7	Conclusions	246
7.7.1	Implications for policy and practice	247
7.7.2	Implications for Research	250
References	252	
Appendix 1	– Work Stream 1 Interview schedule	268
Appendix 2	– Work Stream 1 Interview Invitation Letter	269
Appendix 3	– Work Stream 1 Interview Information Sheet	270
Appendix 4	– Work Stream 2 Questionnaire	273
Appendix 5	– Works Steam 2 Questionnaire Covering Letter	281
Appendix 6	– Work Stream 2 Questionnaire Information Sheet	282
Appendix 7	– Work Stream 2 Questionnaire Reminder Letter	284
Appendix 8	– Work Stream 3 Questionnaire	285
Appendix 9	– Works Stream 3 Questionnaire Covering Letter	301
Appendix 10	– Work Stream 3 Questionnaire Information Sheet	302
Appendix 11	– Analysis of Service Use by Demographic Factors	304
Appendix 12	– Public beliefs of reasons for pharmacists providing services by ease of identification 309	
Appendix 13	– Analysis of the general public's views towards business practices of pharmacy premises by demographic factor	311
Appendix 14	– Analysis of the general public's views towards business practices of Pharmacists by demographic factor	312

Appendix 15 – Pharmacist respondent belief of public awareness of pharmacy roles by demographic factor 313

Appendix 16 – The relationship between pharmacy roles and how aware English community pharmacists believed the general public were of those roles by demographic factor 315

Appendix 17 – Association between service provision and demographic factors 318

Appendix 18 – Pharmacist reason for service provision by demographic factor 321

List of Abbreviations

AACP-COD	American Association of Colleges of Pharmacy Council of Deans
ABIM	The American Board of Internal Medicine
AGM	Annual General Meeting
AIMp	The Association of Independent Multiple Pharmacies
APhA-ASP	American Pharmacists Association - Academy of Student Pharmacists
APPG	All Party Pharmacy Group
BBC	British Broadcasting Corporation
CCA	Company Chemists' Association
CCG	Clinical commissioning group
CI	Confidence interval
CPD	Continuing Professional Development
DH	Department of Health
EPS	Electronic Prescription Service
GAfREC	Governance Arrangements for Research Ethics Committees
GMC	General Medical Council
GP	General practitioner
GPhC	General Pharmaceutical Council
HSCIC	Health and Social Care Information Centre
IMD	Indices of deprivation
IPF	Independent Pharmacy Federation
KMO	Kaiser-Meyer-Olkin
LA	Local Authority
LPC	Local Pharmaceutical Committee
LPF	Local practice forum
LPN	Local Professional Networks
LPS	Local Pharmaceutical Services
MEP	Medicines, Ethics and Practice
MHRA	Medicines and Healthcare products Regulatory Agency
MPharm	Master of Sciences of Pharmacy
MUR	Medicines Use Review
NGW	Nominal group work
NHS	National Health Service
NMS	New Medicine Service
NPA	The National Pharmacy Association
OR	Odds Ratio
OTC	Over the counter
P	Pharmacy only medication
PCA	Principal component analysis
PCT	Primary care trust
PDA	The Pharmacists' Defence Association
PIANA	Pharmacy in a New Age
PLC	Public limited company
POM	Prescription only medicine
Pre-reg	Pre-registration

PSGB	Pharmaceutical Society of Great Britain
PSNC	Pharmaceutical Services Negotiating Committee
RCGP	Royal College of General Practitioners
RPS	Royal Pharmaceutical Society
RPSGB	Royal Pharmaceutical Society of Great Britain
SPSS	Statistical Package for the Social Science
TV	Television
UK	United Kingdom
USA	United States of America

List of Tables

Table 1-1 - ABIM Domains of professionalism	27
Table 1-2 - Categorisation of Professionalism Assessments by Sub-Category and Outcome type (adapted from Lynch <i>et al.</i> 2004).....	30
Table 2-1 - Pharmacy in a New Age aims ⁶⁴ and the corresponding Government agenda from Pharmacy in the Future (Adapted from Lewis & Jenkins 2002 ⁶⁵)	40
Table 2-2 - Pharmacy, the pharmacy and the pharmacist	45
Table 2-3 - The Principal Functions of the GPhC ⁸⁸	46
Table 2-4 - Pledges put forward in the Manifesto for Community Pharmacy ¹⁰¹	49
Table 2-5 - Pharmacist Daily Activities (Adapted from Davies 2014 ¹⁰⁹).....	52
Table 2-6 - Examples of the "McDonaldization" of pharmacy (adapted from Harding and Taylor 2000 ¹³⁵)	62
Table 2-7 - Traits that distinguish a professional by the APhA-ASP / AACP Task Force on Professionalism	65
Table 2-8 - Core features of 'patient-centred professionalism' identified from work carried out within the UK, USA, and Canada by the Picker Institute to examine what this concept mean (after Hutchings and Rapport 2012 ¹⁴²)	66
Table 2-9 - Example Questions Taken from an Instrument Used by Peeters and Stone (2009) ¹⁶⁹	72
Table 3-1 - Examples of Factor that can Influence Research Decisions (adapted from Crotty 1998) ..	88
Table 3-2 - Overall aim of the programme of work	90
Table 3-3 - Literature Review Search Terms	91
Table 3-4 - Logistics of Interview Administration	96
Table 3-5 - Phases of thematic analysis (after Braun and Clarke, 2006)	97
Table 3-6 – Number of Local Authorities per English region	100
Table 3-7 - Local Authorities by Geographical Circumstance	101
Table 3-8 - Indices of Multiple Deprivation Quintiles	101
Table 3-9 – Local Authorities in combined geographical circumstance and IMD quintile by region .	102
Table 3-10 - Local Authorities in combined geographical circumstance and IMD quintile by region using an integer sample size of 20.....	102
Table 3-11 - Local Authorities in combined geographical circumstance and IMD quintile by region including region populations using an integer sample size of 20	103
Table 3-12 - Final weighting for Local Authorities in combined geographical circumstance and IMD quintile by region	104
Table 3-13 - Initial Choice of Local Authorities based on Region, Rurality and IMD	105
Table 3-14 - Data type and number of entries per Local Authority.....	106
Table 3-15 - Registrants approached per Local Authority	114
Table 4-1 - Themes and Sub-themes Derived from Interview Data	128
Table 5-1 - Comparison of General Public representative sample and study responses by demographic factors.....	146
Table 5-2 - Frequency of responses for pharmacy visits, pharmacist Identification and Pharmacist communication	149
Table 5-3 – Annual daily visits per pharmacy	149
Table 5-4 - A Comparison of visit frequency and frequency of pharmacist contact	150
Table 5-5 - Frequency of pharmacy visits by demographic factor.....	151

Table 5-6 - Frequency of Respondents identifying roles as performed by Pharmacists or by Other Pharmacy Staff (Respondents were able to select either or both so total percentages may be larger than 100%)	153
Table 5-7 - Frequency of Pharmacy Service Use by the General Public	155
Table 5-8 - Analysis of Number of Services Used by Frequency of Visits	156
Table 5-9 - Analysis of Number of Services Used by Frequency of Communication with a Pharmacist	156
Table 5-10 - General public respondents' awareness of pharmacy services.....	159
Table 5-11 - General Public views of Pharmacist Reasons for Provision of Health Services	160
Table 5-12 - General public respondent's beliefs of reasons for pharmacists providing services by sex	163
Table 5-13 - General Public views of Pharmacy and Pharmacist Business Focus.....	165
Table 5-14 - Mean score given to different attributes of professionalism by the General Public	168
Table 5-15 - Sample adequacy and item suitability in the survey for a principal component	169
Table 5-16 - Total Variance explained by the three components.....	169
Table 5-17 - Varimax rotated component matrix generated by principal component analysis of the pharmacist responses to 30 items and subscales (latent variables) identified (Highest factor coefficient for each item is indicated in bold.)	170
Table 5-18 – Kruskal-Wallis test eligible general public respondent's and frequency of pharmacy visits	172
Table 5-19 - Kruskal-Wallis test eligible general public respondent's and age	172
Table 5-20 - Kruskal-Wallis test eligible general public respondent's and ease of pharmacist identification	173
Table 5-21 - Kruskal-Wallis test eligible general public respondent's and frequency of pharmacy visits	175
Table 5-22 - Kruskal-Wallis test eligible general public respondent's and age	175
Table 5-23 - Kruskal-Wallis test eligible general public respondent's and ease of pharmacist identification	176
Table 5-24 - Kruskal-Wallis test eligible general public respondent's and indices of multiple deprivation quintile.....	176
Table 5-25 - Kruskal-Wallis test eligible general public respondent's and pharmacist contact	178
Table 5-26 - Kruskal-Wallis test eligible general public respondent's and frequency of pharmacy visits	179
Table 5-27 - Kruskal-Wallis test eligible general public respondent's and respondent age	179
Table 5-28 - Kruskal-Wallis test eligible general public respondent's and ease of pharmacist identification	180
Table 5-29 - Kruskal-Wallis test eligible general public respondent's and indices of multiple deprivation quintile.....	181
Table 6-1 - Comparison of Pharmacist representative sample and study responses by demographic factors	186
Table 6-2 - Comparison of Pharmacists currently working in a paid pharmacy related job and study responses by demographic factors.....	186
Table 6-3 - Responses by Age	188
Table 6-4 - English community pharmacist responses by demographic factors	189
Table 6-5 - Analysis of Employment status by Sex.....	189

Table 6-6 - Analysis of Working Pattern by Sex	190
Table 6-7 - Frequency of responses by store type.....	190
Table 6-8 - Frequency of services provided by English Community Pharmacy Respondents	197
Table 6-9 - Number of services provided by demographic factors (Categorised into greater than median or, less than or equal to median).....	198
Table 6-10 - Comparison of Public Awareness of Pharmacy Services Rank and Perceived Public Awareness Rank by Community Pharmacists.....	202
Table 6-11 - Pharmacist Reasons for Provision of Health Services.....	204
Table 6-12 - Pharmacist business practice by demographic factor	208
Table 6-13 - Pharmacist business focus by sample group (%)	209
Table 6-14 - Importance of Pharmacist life stages on development of a professional ethos (%).....	210
Table 6-15 - Mean score given to different attributes of professionalism by English Community Pharmacists.....	212
Table 6-16 - Sample adequacy and item suitability in the survey for a principal component	213
Table 6-17 - Variance explained by the three components.....	213
Table 6-18 - Varimax rotated component matrix generated by principal component analysis of the pharmacist responses to 30 items and subscales (latent variables) identified (Highest factor coefficient for each item is indicated in bold.)	214
Table 6-19 - Professional attributes loaded onto differing components	215
Table 6-20 - Comparisons between the professional attribute mean scores for English community pharmacists and the general public.....	220

List of Figures

Figure 2-1- Setting of Main Job in Community Pharmacy (adapted from GPhC Registrant Survey 2013 ⁷)	54
Figure 2-2 - Type of Pharmacy Worked in (adapted from Pharmacy Workforce Census 2008 ¹¹⁶).....	54
Figure 2-3 - Employment status within Community Pharmacy (adapted from GPhC Registrant Survey 2013 ⁷).....	55
Figure 3-1 - Foundations of Social Research.....	87
Figure 3-2 - Overall aim of the programme of work.....	90
Figure 5-1 - The relationship between IMD and the proportions of general public respondents of varying age ranges	147
Figure 5-2 - The relationship between ethnicity and the proportions of the general public from different quintiles of IMD	148
Figure 5-3 - Percent reporting knowledge of the RPS as the professional leadership body for pharmacy in Great Britain.....	154
Figure 5-4 – Professionalism in Practice Histogram for the general public.....	171
Figure 5-5 – Professionalism in Work Histogram for the general public.....	174
Figure 5-6 – Professionalism in Society Histogram for the general public	177
Figure 6-1 - The relationship between store type worked in and employment status	191
Figure 6-2 - The proportion of English community pharmacist respondents reporting they felt the general public are aware of specific pharmacy roles	192
Figure 6-3 - The relationship between pharmacy roles and how aware English community pharmacists believed the general public were of those roles.....	194
Figure 6-4 - The proportion of English community pharmacists reporting awareness of campaigns championed by leadership bodies	196
Figure 6-5 - The proportion of English community pharmacists providing a specific number of pharmacy services.....	199
Figure 6-6 - The relationship between pharmacy services and how aware English community pharmacists believed the general public were of those services	203
Figure 6-7 – The relationship between the main practice focus of respondent English community pharmacist and their working patterns	208
Figure 6-8 - Mean score of importance placed on development stage by English community pharmacists by pharmacist development stage	211
Figure 6-9 - Professionalism in Practice Histogram for English community pharmacists.....	216
Figure 6-10 - Professionalism in Work Histogram for English community pharmacists.....	217
Figure 6-11 - Professionalism in Society Histogram for English community pharmacists.....	219
Figure 7-1 - Three Components of Professionalism.....	239

Chapter 1: Background and Theory

“Unskilful pharmacists! pleasure and study are not elements to be thus mixed together”

Taken from the novel ‘The Last Days of Pompeii’ written by E.B. Lytton¹. Reportedly the first published use of the word pharmacist in England (1834).

1.1 Introduction

In the last decade, there has been an increasing interest in the topic of professionalism in healthcare. Researchers in the United Kingdom (UK) associated with medicine, nursing, dentistry and pharmacy have all investigated varying aspects of the concept²⁻⁵. Professionalism has often been a difficult concept to define or describe but researchers agree that it is an important trait to maintain professional status within society^{5,6}. Changes within community pharmacy have positioned most pharmacists^a practising in the sector in an employee position⁷. By being placed within this position pharmacists are subject to certain pressures which may affect public perceptions of pharmacy and pharmacists and may also impact on professional status⁸.

Recent media revelations including a BBC expose into pharmacists selling controlled drugs and a Which? report on poor advice given by pharmacy staff may also affect the public perception of pharmacists^{9,10}. Events such as these can call into question^{9,10} the professionalism of the pharmacists and pharmacies involved. With questions such as these being asked a research focus into professionalism, especially within community pharmacy and its relationship with the public could be deemed pertinent and timely.

This chapter examines professionalism as well as focusing on the history of professions and professionalisation theories. It was also deemed pertinent to consider the history of sociological

^a Where ‘pharmacist’ is used this means community pharmacist unless stated otherwise.

research. By considering these elements this chapter provides a framework within which pharmacy can then be considered. A literature review was carried out (see chapter 3 for methods) and key texts were considered.

1.2 Sociological theory

First and foremost when carrying out sociological research it is important to acknowledge the theory and key theorists that underpin the discipline¹¹. The use of sociology within pharmacy has been gaining greater interest over the past few decades¹². A series of articles coming under the heading of "Sociological Theory and Pharmacy Practice Research" have been published since 2001 and in the first article the authors acknowledge that a previous call for more sociological research in pharmacy practice has only been "partially realised"¹².

Sociology as a discipline encompasses the study of society and social behaviours¹². Sociological research helps scholars understand complex social issues and the behaviours associated with them. Sociologists can draw on a large body of knowledge and a large range of methodologies to aid their research. Much of contemporary sociological theory can be traced back to three crucial founders: Karl Marx, Max Weber and Emile Durkheim¹³.

The French revolution and the industrial revolution played a large part in forming the theories of these key figures. The changes that these events instigated and the rate at which society was changing was unprecedented, goods and services were becoming more of a commodity leading to significant changes to the way people lived their lives¹¹.

Durkheim (1858 – 1917) published his key sociological theory in his work "Divisions of Labour in Society (1883)", he proposed that members of society were allocated a place within that society based on merit. He focussed on "social facts" that were measurable and acted as a changing force within a society. These social facts were made up of shared values of a society as he felt that focussing on individuals within a society was insufficient. As social facts changed so too did social

action. His most celebrated work was entitled "Suicide (1897)", here he demonstrated how changing social facts affected suicide rates, for example during war time there would be an increase in altruistic suicide (soldiers dying for a perceived greater good).

Karl Marx (1818-1883) is responsible for the Marxist perspective. He proposed that throughout history there have been inherent class systems based on conflicts over food, land and money, which have caused huge inequalities within society. He argues that a ruling class have always taken advantage of the working class (through slavery, land ownership, capitalism etc.) leading to the idea of control within society. In addition, Marx believed that as the gap between the classes widened it would lead to the working-class revolting signalling an end of capitalism. Marx believed a communist society where everything was owned by a community was the basis of the ideal social order.

The last of the three key theorists within sociology is Max Weber (1864-1920). He disagreed with Marx that a communist society would eventually be established and took a more rational view that the current state of social order was fixed. He theorised that a society relies on efficiency, calculability and predictability to thrive and that this was offered by increased bureaucracy. He referred to this increase in bureaucracy as an "iron cage" from which one cannot escape.

1.3 Professionalisation Theory

A profession was historically defined by Carr-Saunders as an *"occupation which is based upon specialised intellectual study and training, the purpose of which is to supply skilled service or advice to others for a definite fee or salary"*¹⁴. The first professions were thought to have been divinity, law and medicine¹⁵. They were formed because members of the disciplines possessed a higher level of specialist knowledge than that of the laity of the time.

Over time, more occupations made the transition from occupation to profession. A number of occupations, including engineers and accountants, made this transition during the industrial revolution of the 19th century¹⁵. The increase in the number of professions during this time gave

researchers more information on which to base observations. Carr-Saunders observed that occupations transforming themselves into professional groupings tended to¹⁴:

- Develop special codes of ethics;
- Establish formal institutions to transmit the knowledge of the occupation;
- Develop social organisations to insure the perpetuation of the profession through time; and,
- Take on the characteristics of self-governing, autonomous institutions.

Over the next 100 years many more professions would emerge each being broadly defined by certain socio-economic changes¹⁵:

- Social reforms (1900-1948): teachers, social workers;
- Enterprise (1980s): business and management specialists;
- Knowledge workers (1990s): information, communications and media specialists.

The Oxford English Dictionary defines a profession as *“an occupation in which a professed knowledge of some subject, field, or science is applied; a vocation or career, especially one that involves prolonged training and a formal qualification”*¹⁶. Despite this in some modern usage the term professional has become synonymous with being paid a fee to carry out work (e.g. the professional footballer)¹⁷.

As more occupations claimed professional status (a process known as professionalisation), the subject became a focus for academic research. Different models were proposed to explain the transformation; the earliest of these was the trait-functionalist model.

1.3.1 Trait-Functionalist model

One of the earliest theorists of professions was Talcott Parsons¹⁸. Parsons asserted that professions helped maintain social order by fulfilling social functions. He was less interested in a profession’s technical function and instead focussed on how professional interactions impact on society. This

paved the way for other theorists to consider more than just professional competence when considering professionalisation.

One such theorist was Ernest Greenwood, in his 1957 work, *Attributes of a Profession*, he noted that the following attributes differentiated a profession from an occupation: systematic theory, authority, community sanction, ethical codes, and a culture¹⁹.

Taking a slightly different approach was Harold Wilensky he focussed on the transition from occupation to profession, and through close examination he was able to identify key checkpoints in the history of established professions that could be used to construct a model of professionalisation.

These were²⁰:

- Becoming a full-time occupation,
- Establishing a training school (followed by a University training school),
- Setting up a professional association (local then national),
- Obtaining a state licence,
- Producing a formal code of ethics.

Goode felt that many of the trait theorists and even some professionals had begun using a wide variety of characteristics to describe professions²¹. He asserted that amongst these traits lay two central qualities of a profession: a basic body of abstract knowledge and the ideal of service. Goode also felt these qualities (and any sub-dimensions) were a continuum and that professions and occupations would fall at different points along them, even if an occupation was not currently considered a profession.

There were however researchers who felt that the trait model did not offer a satisfactory approach to define a profession. Terence Johnson said²²:

“... ‘Trait’ theory...too easily falls into the error of accepting the professionals’ own definitions of themselves”

He also noted that:

“A profession is not, then, an occupation, but a means of controlling an occupation.”

It is the idea of control within a profession that led researchers to look at different models on which to define professions.

1.3.2 Power model

During the 1970s there was a growth in Marxist analysis of professions and many theorists started to investigate the apparent elitism of professions (particularly medicine) within society. They identified that the primary characteristic of a profession is the degree of power or control that the profession has over society. This is known as the power model, it is concerned with how a profession exerts its control to maintain its standing as a profession.

Freidson (1970) used the term ‘organised autonomy’ as an alternative to power, he focussed his research on the medical profession and identified two associated domains: autonomy (the ability to control one's work activities) and dominance (the formal control over the work of others in the health-care division of labour)²³. These two domains ensured that doctors had a monopoly over their work practices enabling them to control the market place.

In 1972 Johnson developed this further and introduced ‘market shelters’ into the power model²². He believed that professions needed to negotiate their position in the market to form protected shelters. Freidson added to this thinking by stating that by developing market shelters, through training and shared identity, professions set themselves apart from other occupations. A professional's training provides them with specialist knowledge and creates a ‘mystification’ over their area of work. This allows a profession to maintain its closed market shelter. MacDonald (1995) expands on this stating that: *“members of such groups carry the means of production for their line of work in their heads”*.

Rather than build upon the arguments of other theorists, Larson (1977) compares the historic development of many English and American professions²⁴. Her ultimate argument is, however, similar to that of the theorists that came before her. She regards the protection of a profession's monopoly of expertise vital to the professionalisation process. Further to this both Larkin (1983) and Abbott (1988) propose similar theories relating to a profession's control of power (referred to as dominance and professional jurisdiction respectively)^{25,26}.

The different models approach the definition of professionalisation from different viewpoints and, although the trait model has been widely considered redundant, Freidson wrote²⁷:

“To speak about the process of professionalisation requires one to define the direction of the process, and the end-state of professionalism towards which an occupation may be moving. Without some definition of profession the concept of professionalisation is virtually meaningless...”

The use of sociological theories of professionalism can help determine the professional status of an occupation, the application of these principals to pharmacy are outlined in chapter 2, as well as discussion surrounding deprofessionalisation and reprofessionalisation.

1.3.3 Deprofessionalisation and Reprofessionalisation

Deprofessionalisation was described by Haug (1973) as:

“...a loss to professional occupations of their unique qualities, particularly their monopoly over knowledge, public belief in their service ethos and expectations of work autonomy and authority over clients.”

Rationalisation of professional work in an effort to reduce costs and improve efficiency was noted by Oppenheimer (1973) in the period after the industrial revolution²⁸. He noted that professionals were now working in large organisations and that their autonomy was being undermined by authority, rules and procedures. McKinlay(1977) also focussed on autonomy and the organisational structure of professional work within medicine in the USA²⁹. He claimed that the technical tasks of the professionals were increasingly being divided up and undertaken by less qualified staff.

The argument made by McKinlay was that professionals within medicine had become proletarianised. Proletarianisation is borne out of Marxist class theory; the two classes involved are the bourgeoisie (the owners of the means of production) and the proletariat (wage-earners who produced goods for sale)³⁰. A member of society can move from a position of unemployment or self-employment to become an employee for the bourgeoisie and thus becoming proletarianised. It was the movement from altruistic professional to employee of large organisations that led McKinlay to this conclusion.

Reprofessionalisation is the attempt of an occupation that has undergone deprofessionalisation to undergo transformation back into a profession. This process is dynamic, occupations can transit from occupation to profession and back again (and vice versa). Some theorists question the validity of some occupations claims to professional status. These occupations are often referred to as semi-professions or paraprofessions^{20,31}.

1.4 Professionalism

Hafferty discussed how different authors view professionalism through different lenses, and stated how the concept should no longer be looked at by focussing on a particular profession but rather concentrating on the sociological perspectives of the concept³².

1.4.1 Professionalism as the Third Logic

Eliot Freidson²³ was a theorist who focussed on professional power and autonomy as the driver of professionalisation, but as he further investigated professions his views on professionalisation evolved⁶. He believed that the autonomy of professions was being eroded and that other forms of labour control were beginning to dictate professional roles. He attributed this change to attacks on a professions economic privileges, on their exclusionary credentialing and their apparent elitism. He viewed market competition and increased bureaucratic regulation as a significant threat to professional autonomy.

For Freidson (2001) the role of a profession was to ensure that the service that it provided was of a higher quality and provided with more integrity than if its market shelter did not exist. He argued that those using the services of a profession must themselves acknowledge the necessity of the profession to increase benefits and reduce the risks of harm. He stated:

“...the most important problem for the future of professionalism is neither economic nor structural but cultural and ideological. The most important problem is its soul.”

Freidson deemed maintenance of professional autonomy vital to maintaining the ‘soul of professionalism’. He recognised the role of professionalism in minimising alienation among groups of workers, he saw commitments to occupation and work as central life concerns for members of professions; as well as this he felt that it would lead to better work practices as those committed members would be driven to perform well in what they do. Finally, he believed that professionalism created communities of workers with similar interests and commitments to their work and that this was good not only for the profession but also for society at large.

Professionalism as an occupational value is based on the principle that work is of special value either to the public or to the interests of the state⁶. Freidson put forward three logics for organising the division of labour.

The first of these logics can be described as market competition, Freidson describes an open market where anyone can offer services and their value would be decided by consumers. It would follow that the best services would eventually emerge at a lower cost to the consumer. The second logic is an increase in bureaucratic regulation, this follows the path of Max Weber’s “rational-legal bureaucracy” and is formed when service become complex. The necessity of technology and coordination of specialists would be arranged by organisations who would manage with efficiency. These organisations would then compete with one another for consumer choice. The third logic is professionalism and each of the three logics is acknowledged to have advantages and disadvantages but Freidson attests to professionalism being the ideal logic for organising the division of labour.

For Freidson, the logic of professionalism would be the ideal type of control for professional work; his vision consists of five aspects (described in Brint 2006³³):

1. A body of knowledge and skill officially recognised as based on abstract concepts and theory and requiring exercise of considerable discretion.
2. An occupationally controlled division of labour involving functional specialisations and occupational assistants.
3. An occupationally controlled labour market requiring training credentials for entry and career mobility.
4. Occupationally controlled training programs segregated from the labour market, which produce the credentials and are organised by academics who also contribute to the production of new knowledge relevant to the profession.
5. An ideology serving a transcendent value and asserting greater devotion to doing good work than to economic reward.

Brint (2006) disagrees with some aspects of Freidson's work but reiterates the importance of maintaining the soul of professionalism. He argues that in order for professions to resist effects from the free market and bureaucratic regulation they must demonstrate good results based on professional organisation throughout an entire profession. He surmises:

“Mobilization around transcendent values will continue to be important as a defence against market and state, but these mobilizations cannot be effective in the absence of demonstrated results and institutional mechanisms for maintaining and extending expert skills and commitments to the occupational community.”

1.4.2 Organisational professionalism

Sociologists have identified a trend in which service-based professions have moved into increasingly regulated work environments and, as such, the definitions and internal and external expectations of professionalism have been affected. A shift from occupational professionalism to organisational professionalism needs to be considered as this trend continues. This shift encompasses changes

from the notions of partnership, collegiality, discretion and trust to increasing levels of managerialism, bureaucracy, standardisation, assessment and performance review.

Evetts views professionalism as being neither a set of normative values nor an ideology but something between the two³⁴. When theorists put forward the normative values found in trait-functional theory of professionalisation the interpretation of professionalism was as a value system. There was a focus on the importance of trust within society and within the division of labour. This meant that members of society must put their trust in professionals, and the concept of professionalism required the professional to be worthy of that trust. Professionals are rewarded with authority, privileged rewards and higher status for exercising professionalism.

The concept of professionalism as an ideology was borne out of the power professionalisation theories. For theorists the concept had become a term used by professions in their claims for status²². This has led to the appeal and attraction of the concept of professionalism to occupations looking to enhance their authority, rewards and social standing.

The balance between professionalism as a set of normative values and as an ideology recognises the two schools of thought; professionals preferring a normative value system are optimistic about contributions of professionalism to maintaining social order. Whereas the ideological stance is more negative, focussing on professionalism as a belief system, and something to be achieved. Further analysis around professionalisation has seen a reinterpretation of the normative value systems. Durkheim described professionalism as a form of decentralised occupational control and theories such as this lead to Freidson's definition of professionalism as the ideal logic for control of work (see section above)^{6,35}.

An increase in hierarchal structures and increased employee status (see chapter two for examples within pharmacy) have moved professions into an organisational setting³⁶. In addition to these changes, attempts to control public spending have caused cut-backs, increased rationalisation as

well as the promotion of managerialism within professional public service. Because of this the concept of professionalism needed to become more commercially aware³⁷. Evetts observes³⁴:

“Accountability and performance indicators have now become a fundamental aspect of professionalism. Professionals of all kinds and the institutions in which they work are subject to achievement targets to justify their receipt of public expenditure and which enable the performance of particular organizations (such as schools, universities and hospitals), and the professionals who work in them, to be measured and compared.”

Thus, as professionals practise in increasingly bureaucratic settings, external pressure and financial constraints have meant that demonstrating worth through meeting targets has become more common place.

In addition to the balance between values and ideology, Evetts puts forward a concept to understand further how professionalism varies between different groups. Based on the work of McClelland (1990) professionalism is categorised ‘from within’ (through successful manipulation of the market by the group) or ‘from above’ (domination of forces external to the group)³⁸.

“Where the appeal to professionalism is made and used by the occupational group itself, ‘from within’, then the returns to the group can be substantial. In these cases, historically the group has been able to use the normative aspects... in constructing its occupational identity, promoting its image with clients and customers, and in bargaining with states to secure and maintain its (sometimes self) regulatory responsibilities.”

Where professionalism is being used as an ideology ‘from above’ to aspiring professions Evetts concludes that it is:

“...being used to convince, cajole and persuade employees, practitioners and other workers to perform and behave in ways which the organization or the institution deem to be appropriate, effective and efficient.”

1.4.3 Medical Professionalism

There has been historic interest in the concept of professionalism and its place within established professions. Much of the research on the topic has been carried out within the field of medicine. In 1990 the American Board of Internal Medicine (ABIM) launched a project with one of its aims focussing on defining professionalism. They formed a subcommittee tasked with carrying out a literature review and discussing relevant issues through workshops and symposia. They published

Project Professionalism in 1995 and amongst numerous findings they succeeded in their goal and defined:

“...the core of professionalism as constituting those attitudes and behaviour that serves to maintain patient interest above physician self-interest.”

The report also outlined domains of professionalism so that the concept could be better understood; these can be seen in

Table 1-1.

Table 1-1 - ABIM Domains of professionalism

Altruism
Accountability
Excellence
Duty
Honour and integrity
Respect for others

Later in the UK Donald Irvine (2001) reflected on the recently published *Good Medical Practice* by the General Medical Council (GMC) which was produced in response to events such as the incident at Bristol Royal Infirmary where two paediatric doctors were found guilty of serious professional misconduct³⁹. Irvine used the term ‘new professionalism’ to describe how previous definitions were inadequate and the new definitions must reflect the decisions of the public and the profession on professional duties, responsibilities, values and standards. In 2006 after the Shipman Inquiry, Irvine once again focussed on professionalism within medicine⁴⁰. The failings of the GMC as a regulator to protect public interest lead Irvine to discuss *Patient-Centred Professionalism* which acknowledged patient autonomy and the involvement of patients in decision making around their health.

Hafferty (2006) focussed on how definitions of professionalism were being considered in the literature and found that the concept was often being looked at through different lenses³². He identified these distinct lenses: sociological, medical and educational. The previous examples of the ABIM and the work of Irvine can be interpreted as viewing professionalism through a medical lens,

he then expands on this warning that the "nostalgic professionalism" that form this thinking, should not be solely focussed upon, rather they should be seen alongside novel aspects of such as entrepreneurial, empirical, lifestyle, unreflective, academic, and activist professionalism⁴¹.

As more research was published a universally accepted definition remains elusive. In relation to medical education, a literature review (Birden 2014) was conducted looking at publications between 1999 and 2009; the authors conclude that a conceptualisation has not been agreed upon because of the continually shifting nature of medical practice.

A newer term relating to professionalism within health care is that of 'patient-centred professionalism', put forward by the Picker institute. This is defined as (Askham 2006):

"Putting the patient at the heart of care delivery and working in partnership with the patient to ensure patients are well informed and their care choices are respected."

1.4.4 Socialisation of Professionalism

Socialisation is a sociological concept used to describe an individual's acquisition of a personal identity. Starting during infancy and early childhood the foundations are put down for lifelong socialisation⁴².

The process by which a person becomes a professional is called professional socialisation. Merton provides a definition of this development as⁴³:

"the processes by which people selectively acquire the values and attitudes, the interests, skills, and knowledge – in short, the culture – current in the groups of which they are, or seek to become, a member."

The concept has also been considered by theorists interested in the professionalisation theories such as Eliot Freidson(1973)⁴⁴. Despite this Clouder (2003) has acknowledged that recent research into healthcare professions has been limited⁴⁵.

1.4.5 Measuring Professionalism

This section outlines and reviews attempts that have been made to measure professionalism. As with other aspects of professionalism some attention has been given to other healthcare disciplines (particularly medicine) to ensure a thorough review.

A review of medical literature was carried out by Arnold (2002) regarding the state of professionalism assessment⁴⁶. Her review led her to conclude that there was a definite need for solid assessment tools for professionalism. The review outlined steps that could be taken to strengthen assessment:

- *“The well-circumscribed concept of professionalism can serve as a foundation for future measurement initiatives, but it does require clarification.*
- *Assessment of professionalism should focus on professionalism, in and of itself.*
- *Instruments that measure the separate elements of professionalism should be developed.*
- *Rigorous qualitative approaches to assessment should be encouraged, along with more quantitative measures of the elements of professional behaviour*
- *The hypothesis should be explored that to improve assessment of professionalism, our tools should emphasize behaviours as expressions of value conflicts, explore the resolution of these conflicts, and take into account the contextual nature of professional behaviours.*
- *Of most immediate concern is whether measurement tools should be tailored to the stage of a medical career.*
- *How the environment can support or sabotage the assessment of professional behaviour is also a central issue.”*

In 1998 Arnold *et al.* published what they described as an encouraging first step towards the development of a reliable scale that measures professionalism⁴⁷. The research was conducted in the USA and assessed medical students as well as residents (medical school graduates undergoing on-the-job training). The authors produced a fourteen-item scale (although two items were dropped from analysis due to missing data) which had an internal reliability (Cronbach alpha) of 0.71. Factor analysis revealed three subscales: excellence, honour/integrity and altruism/respect.

An additional review into medical professionalism assessments building on the work of Arnold *et al.* (2002) was published by Lynch *et al.* in 2004^{46,48}. The review identified 88 assessments from the literature relating to students, residents and practising physicians. The authors state that the development of new tools for the assessment of professionalism is resource intensive and not always necessary. They were able to categorise the different assessments into sub-categories of professionalism and also by outcome type (Table 1-2).

Table 1-2 - Categorisation of Professionalism Assessments by Sub-Category and Outcome type (adapted from Lynch *et al.* 2004)

Sub-category	Outcome type
Ethics	Affective
Professional characteristics	Cognitive
Comprehensive Professionalism	Behavioural
Diversity	Environmental

Another review published in the following year also looked at the published measures and assessments of professionalism⁴⁹. The focus of this review was on the properties of the instruments reported. The authors identified more studies than the previous paper (134 included versus 88), although this may be attributable to differences in inclusion criteria rather than a genuine increase in the literature on medical professionalism. The authors concluded that it is important to look critically for evidence relating to content validity, reliability and practicality when evaluating tools designed to measure professionalism.

Of particular relevance from these review papers are the studies which focus on external perceptions of physician professionalism. Notably there are a lack of studies that focus specifically on the assessment of professionalism. The majority of studies focus on certain facets of professionalism such as humanism or trust. A study included in the review by Lynch *et al.* developed a measure known as the 'humanism scale'^{48,50}. Although this study was not explicitly interested in professionalism Lynch *et al.* felt that the 24-item scale was worthy of inclusion due to the humanistic nature of professionalism. The scale itself was distributed amongst randomly selected patients at

family practice sites and included items such as: 'my doctor respects my beliefs', 'I would talk to my doctor if something were troubling me', 'my doctor takes an interest in my home life' and 'my doctor is easy to talk to'. The scale was deemed valid and reliable⁴⁸.

Also of relevance is the Wake Forest Physician Trust Scale, again this was included in the review paper as it had links with professionalism despite the fact it does not refer to it explicitly⁵¹. The authors produced a 10-item scale for distribution to patients which was also described as valid and reliable⁴⁸. The scale included items such as: '[Your doctor] is extremely thorough and careful' and 'You completely trust [your doctor's] decisions about which medical treatments are best for you'.

A more recent study by Chandratilake *et al.* investigated the views of the general public on medical professionalism². The study used a 55-item scale and was distributed via an online survey. The internal consistency was reported as 0.95 (Cronbach alpha) indicating a high level of consistency which was aided by the inclusion of 'misconceptions' for example: 'having a good sense of humour' and 'being physically fit'. The scale itself was developed inductively through the consultation of literature and via discussion with medical educators. Unlike other studies reported in this section the items included do not refer specifically to the actions of a doctor (as the study is not aimed explicitly at patients), items include: 'respecting a patient's confidentiality and privacy', 'respecting a patient's autonomy' and 'treating patients fairly and without prejudice'. The study revealed three components of professionalism: Workmanship (relationships with colleagues and other healthcare professionals).

1.5 Summary

Due to questions being asked surrounding pharmacist professionalism within the media, it was considered apt to review the concept of professions and professionalism. Chapter one of this thesis has provided a background to orientate the research. It has discussed the place of sociological research in healthcare with focus also given to professionalisation, the professions and professionalism. Professionalisation has been defined differently by researchers, but can be considered a continuum, with deprofessionalisation and reprofessionalisation occurring over time.

Professionalism is equally difficult to define but is considered an important trait of professions. The concepts discussed in this chapter can be used as a framework within which pharmacy can be considered.

Chapter 2: Application to Pharmacy

This chapter focusses on the application of sociological and professional theory to pharmacists, pharmacies and the pharmacy profession. This involved consideration for the history of pharmacy and also a literature review (see chapter 3 for full methods) and critical analysis of previous publications relating to professionalism and professionalisation. This chapter presents the history of pharmacy and current pharmacy practice. Review of pharmacy as a profession, including professional development, professionalism and professional status are also included. Perceptions of professionalism of pharmacists was then discussed focussing on the views of pharmacists and then on the views of the general public. By considering these elements a better understanding of current pharmacist professionalism can be attained.

The content of this chapter follows on directly from chapter 1, where the place of sociological research in healthcare with focus on professionalisation, the professions and professionalism was discussed. The lack of consensus on a definition of professionalism was a key finding from chapter one, it highlights the changeability of the concept across different professions. The concept of deprofessionalisation and reprofessionalisation were also discussed, and the effects of these forces must be considered for pharmacy. Whilst developing theories, commentators considered the first professions to have been divinity, law and medicine. This meant that newer occupations seeking to become professions were often held to the professionalisation theories of the first professions. Therefore, when considering pharmacy, more recent commentators have had to adapt theories to address the newer professions. These elements can be used as a framework within which pharmacy can be considered throughout chapter two.

2.1 History of Pharmacy

2.1.1 Pre 20th Century

In medieval Britain there were a number of different occupational groups working in healthcare related practices, these included physicians, apothecaries, and chemists and druggists. Much of the work carried out by these bodies overlapped and tensions between them were often high.

2.1.1.1 *Spicers and Pepperers*

The apothecaries, and chemist and druggists both share a history with the Grocers' Company. This company held a monopoly on the procurement and transport of crude drugs and medicines and the activities were carried out by persons known as spicers. Those working as spicers would develop their skills of manufacture and supply of medicines and set up the apothecaries, they would become separate from the Grocers' Company following the establishment of "The Worshipful Society of the Art and Mystery of the Apothecaries" in 1617⁵². Chemists and druggists would later gain increased business as the role of the apothecaries changed to a practitioner of medicine, where they would supply medicines and also give advice on treatment⁵³.

Physicians and the apothecaries practised alongside each other whereby the apothecaries dispensed medicines once the physicians had recommended treatment for members of the public and taken a fee. Apothecaries were also able to recommend medicines and treatments for those members of the public who could not afford to see a physician⁵⁴. Arguments broke out between the two bodies as the advice-giving element of their work overlapped. In 1701 a decision, following the Rose Case, by the House of Lords allowed apothecaries to legally prescribe and dispense medicines, physicians accepted them as practitioners albeit with a lower social standing⁵³.

As apothecaries started to focus more on their advice-giving role, work on the preparing and supplying of medicines could be carried out by chemists and druggists. In the early 1800s the chemists and druggists argued that they would be best placed to set their own standards as the

change in roles between them and the apothecaries became more apparent. In 1815 the Apothecaries Act was created which finally removed the control over making medicines from the apothecaries⁵⁴. This series of events would eventually lead to the apothecaries to develop further their advice-giving role, focussing on diagnosis. The closest current match for this would in the modern day would be general practitioners.

2.1.1.2 The Pharmaceutical Society

In 1841 the Pharmaceutical Society was established by leading members of chemists and druggists (hereafter 'the Society' is used interchangeably with 'the Pharmaceutical Society'). The aims of the Society were to protect the interests of its members and to advance scientific knowledge⁵⁵.

Registration was ensured that those practising pharmacy were properly trained; and in passing the Pharmacy Act 1852 the register for pharmaceutical chemists was founded. This register held names of those who had passed the Society's major examination, the act itself, however, did not restrict those who could practise as a chemist and druggist. The 1868 Pharmacy Register Act meant that all chemists and druggists could appear on a non-mandatory register. The difference between the registrants was the type of examination they had undertaken, the formation of the Society marked the beginning of qualifications relating specifically to pharmacy. Two exam types were set up with chemists and druggists only needing to take the 'minor' examination while pharmaceutical chemists sat the 'major' examination. Despite these steps towards regulation, registration was not mandatory until the Pharmacy and Poisons Act (1933) came into effect¹¹.

The Poisons Act 1933 also established disciplinary mechanisms within the Society including the establishment of a statutory committee for pharmacists accused of misconduct. The purpose of this committee was to act as a disciplinary body for pharmacists who had committed misconduct and those convicted of offences under the Pharmacy Act⁵⁶. The Poisons Act also allowed the appointment of inspectors to ensure that any offences were properly investigated.

In 1843 the Society was granted a Royal Charter of Incorporation. This charter gave the Society the purpose of: *“Advancing chemistry and pharmacy and promoting a uniform system of education”*, the charter also granted the Society legal recognition, that is to limit the professional title and to criminalise unlicensed work within their jurisdiction^{25,55}. Despite this the Society would not be known as the Royal Pharmaceutical Society of Great Britain until 1988⁵³.

Pharmacy first introduced a simple code of ethics in 1941, which would eventually lead to a full code of ethics which members were expected to follow⁵⁷. The code of ethics provided by the Society was split into seven principles, these were: make the care of the patient your first concern, exercise your professional judgment in the interests of patients and the public, show respect for others, encourage patients to participate in decisions about their care, develop your professional knowledge and competence, be honest and trustworthy and take responsibility for your working practices⁵⁸.

The transmission of knowledge from practising pharmacists to aspiring pharmacists had originally emerged as an apprenticeship scheme where a trainee would work for four to five years, after which they would demonstrate their learning by undertaking an examination. With an increase in specialised knowledge more stringent controls over learning would be established. As the field of pharmacy became more advanced, the apprentices were encouraged to attend lectures which were held at the first school of pharmacy which was established in Bloomsbury Square, London in 1842⁵⁹. The first university led course in pharmacy started in 1924 at the University of London; this established pharmacy as an academic discipline.

2.1.2 Towards a Health Service

Prior to 1911 basic medical insurance was being provided by “friendly societies” whereby workers could pay a small weekly fee and claim free medical consultation and treatment. The National Insurance Act (1911) established legislation for a national insurance scheme and stated that any employee contributing to the medical insurance scheme would be entitled to free consultation with a medical practitioner and any treatment. The Act also removed the role of dispensing from doctors

and placed it mostly into the hands of the pharmacists (private patients at the time could still have medication dispensed by their doctor and dispensing doctors also exist to serve isolated communities)⁵³. This Act would later pave the way for the formation of a single national system for all.

In 1948 the National Health Service (NHS) was introduced in Great Britain, the service entitled all members of the public to free healthcare provided by the state. This included consultations with doctors and treatments dispensed by pharmacists. The number of private patient's being seen by doctors significantly dropped as did the amount of dispensing they were undertaking. This meant that pharmacists were provided with the vast majority of dispensing work. Figures indicate that the number of prescriptions increased from 70 million in 1947 to 250 million in 1949⁵³.

2.1.3 The Rise of the Multiples

In 1880 Jesse Boot the founder of Boots the Chemist (now Boots UK Ltd) helped establish multiple shop ownership by corporate bodies by being the first business man to open multiple pharmacy stores. This eventually led to rapid expansion of multiple pharmacies during the 1880s and 1890s. The rise of the multiples caused internal tensions within the profession most notably from independent pharmacists because the multiples were able to undercut their prices by using their greater purchasing power to buy on beneficial terms. Boots would clash with other pharmacy companies on a number of occasions throughout the 20th century. One notable instance was in 1965 when the company sought to stop a meeting being held by the Society. At the Society's Annual General Meeting (AGM) members were due to discuss a motion stipulating that pharmacies must be situated in distinct premises and trade was limited to the sale of pharmaceuticals and traditional chemist's goods. At this time Boots had started selling toiletries, cosmetics and photographic items within their stores. When the meeting was eventually held, members voted on this motion the result was in favour of the restrictions. However Boots appealed to the High Court who ruled that this kind of motion was outside the powers of the Society⁵³.

By the 1960s much of the pharmacists' compounding and manufacturing roles had transferred to the pharmaceutical industry and as such medication prepared on pharmacy premises became less common place⁶⁰. Pre-packaged medication was being supplied to pharmacies for onward dispensing to patients. These included calendar packs pre-prepared for 28 days' worth of medication. This was one of the first instances where pharmacy lost one of its more traditional tasks⁶¹.

In response to the threat that certain traditional areas of practice were under, members of the profession started to look towards the future. The Nuffield Report was published in 1986 following an inquiry into the future of pharmacy commissioned by the trustees of the Nuffield Foundation (a charitable trust responsible for funding research). The Report set out twenty-six recommendations that specifically related to community pharmacy. One of the key messages from these recommendations was that the future of community pharmacy involved extending the pharmacist's role⁶².

At a similar time the extended role for pharmacists became an interest for researchers in the USA. The concept of 'pharmaceutical care' was introduced by the pharmacists Hepler and Strand. Pharmaceutical care is defined as: "...the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life"⁶³. In this way the focus of the pharmacist was shifting towards the patient rather than the medicines themselves.

Once most of the recommendations from the Nuffield report had been implemented an updated vision for the future of pharmacy was set out in the RPSGB report *Pharmacy in a New Age* (PIANA). This was an attempt to involve as many members of the profession as possible in the process of developing a strategy for the future of pharmacy. Along with two additional reports (*The New Horizon* in 1996 and *Building the Future* in 1997) the Society set out a number of aims for pharmacy⁶⁴:

- For pharmacists to be the professionals of choice to provide effective advice and support to all patients taking prescribed medicines.
- For pharmacists themselves to be able to prescribe
- For pharmacists to be able to provide comprehensive advice and support to all patients on long-term medication and ensure continuity of high-quality pharmaceutical care.
- For pharmacists to be able to prescribe repeat supplies
- For community pharmacies to be regarded as the natural first port of call
- For the role of pharmacists as advisers on healthy lifestyles to be fully recognised and properly integrated into the work of the NHS
- For all health care teams to have pharmaceutical advice readily available

2.1.4 New Labour and 20th Century

In 1997 Labour succeeded the Conservative Party and Tony Blair became prime minister, this had implications for the NHS and for pharmacy. The NHS Plan was published in 2000 and outlined a number of reforms for the NHS. A subsequent document, *Pharmacy in the Future – Implementing the NHS Plan*, was published in the same year which outlined the role pharmacy would play in the NHS Plan. Despite PIANA being published during the previous government many of the aims set out were reflected in the agenda set out by this document (see Table 2-1). A structural change set out by the NHS plan was the formation of Primary Care Trusts (PCTs) these were local bodies setup to control the spending on NHS services, this included services provided by pharmacists.

Table 2-1 - Pharmacy in a New Age aims⁶⁴ and the corresponding Government agenda from Pharmacy in the Future

(Adapted from Lewis & Jenkins 2002⁶⁵)

Pharmacy in a New Age (1995) Aims	Pharmacy in the Future (2000) agenda
For pharmacists to be the professionals of choice to provide effective advice and support to all patients taking prescribed medicines.	
For pharmacists to be able to provide comprehensive advice and support to all patients on long-term medication and ensure continuity of high-quality pharmaceutical care.	
For pharmacists themselves to be able to prescribe	Prescribing by pharmacists
For pharmacists to be able to prescribe repeat supplies	Dispensing repeat prescriptions without the need to contact a GP
For community pharmacies to be regarded as the natural first port of call	Increasing the sale of 'over the counter' medicines
For the role of pharmacists as advisers on healthy lifestyles to be fully recognised and properly integrated into the work of the NHS	Supporting self-care (for example, advice and support on stopping smoking)
For all health care teams to have pharmaceutical advice readily available	More flexible working between pharmacists and other professionals/support staff.
	Dispensing electronic prescriptions and offering e-consultations
	Supporting clinical governance and new disciplinary procedures
	Establishing Local Pharmaceutical Services (LPS) schemes to meet local needs

Acting as a progress report and update to *Pharmacy in the Future, A Vision for Pharmacy in the new NHS* was published in 2003. This report highlighted successes that the pharmacy profession had achieved since the original agenda was put forward. This included steps towards pharmacy prescribers, reclassification of certain medications from prescription only (POM) to pharmacist controlled (P) and pharmacy's role in public health. The report also identified ten key roles for pharmacy, including that it should be the first point of contact with healthcare services; that pharmacy should tackle health inequalities prescribe medicines and monitor clinical outcomes; and that pharmacy should be a public health resource and to support patients as partners in medicines taking⁶⁶. The pharmacy contract came under scrutiny in the report and a framework for renewal was outlined.

2.1.5 New Pharmacy Contract

Remuneration for community pharmacies in England is determined by the 'pharmacy contract' which outlines numerous different services a pharmacy can provide. A new community pharmacy contractual framework was introduced in April 2005. The intention was that the contract would signal a move towards reward for quality rather than simply volume of service provided⁶⁷. The contract is made up of three different service levels⁶⁸:

- Essential services

These are services provided by provided by all contractors, they include: dispensing, repeat dispensing, disposal of unwanted medicines, promotion of healthy lifestyles (public health campaigns), signposting patients to other health care providers, support for self-care and clinical governance.

- Advanced services

Advanced services were introduced into the pharmacy contract to allow pharmacists to provide a nationally recognised and remunerated clinical service⁶⁹. Community pharmacies can choose to provide advanced services as long as they meet the requirements set out in the Secretary of State Directions⁶⁸. A fee is paid to pharmacies for each time they undertake an occurrence of an advanced service.

The first of these services was the medicines use review (MUR) and the pharmacy services negotiating committee (PSNC) set out specific aims for the service, all of which related to putting the patient first. The role of an MUR is for the pharmacist and patient to discuss the patient understanding of their current medication. The consultation is conducted in a private consultation room to ensure confidentiality for the patient⁷⁰. An MUR is based on the concept of adherence and concordance with the latter used to encourage patients to become increasingly empowered in their own medicine taking decisions⁷¹.

In 2014 93.5% of all community pharmacies reported provision of MUR services, there has been an increase in the number of MURs carried out every year since they were first introduced⁷². The main driver for pharmacist delivery of MURs is the individual motivation of the pharmacist⁷³. Most pharmacists have welcomed the introduction of such services as a move away from dispensing and towards other roles⁷⁴⁻⁷⁶. There have been positive opinions from community pharmacists relating to MURs and the opportunity they may present to grow the profession⁷⁷⁻⁷⁹.

As payment for MUR services has become more important, pharmacies are often aiming to reach the upper limit of MUR provision of 400 per year. Many employee pharmacists are now contractually obliged to carry out a certain number of MURs each day and as such this upper limit is now treated as a target⁸⁰. However, numerous barriers exist to the delivery of MURs, locum pharmacists have reported little motivation and desire to carry out this service, citing factor such as unfamiliarity with settings, policies and procedures⁷⁵. Employee pharmacists have experienced pressure to carry out this service which may be related to the pharmacy owners expressing concerns that they struggle to carry out MURs whilst maintain an economically viable environment⁷⁵.

The new medicines service (NMS) was introduced as an advanced pharmacy service in 2011, it followed the government white paper *Pharmacy in England; Building on strengths – delivering the future* which called for “a new service for those who are starting to take regular medicines to treat their condition for the first time”⁸¹. The service focussed on patients receiving new medicines for a number of different conditions (hypertension, type 2 diabetes, asthma/chronic obstructive pulmonary disease and patients receiving anti-coagulant/antiplatelet agents). The service aimed to improve adherence to prescribed medicines and to reduce medicine wastage due to patients not taking their medication⁷². Patients are first engaged at the pharmacy when they present with a prescription for a new medication, after that two subsequent consultations

occur: intervention and follow-up. It was initially expected that 0.5% of all prescription items dispensed in community pharmacies would be eligible for the service⁸².

- Locally commissioned services

These services were previously described as Enhanced services they are commissioned locally by Local Authorities, Clinical Commissioning Groups (CCGs) and NHS England (previously by Primary Care Trusts) in response to the needs of the local population. Examples of these services include: stop smoking services, substance misuse services, electronic prescription service, sexual health services, health screening, treatment of minor ailments, travel health, inhaler support, providing services to care homes, gluten free food services, supplementary prescribing, falls intervention services, alcohol awareness and intervention services and anti-coagulant (warfarin) service.

As practising pharmacists familiarised themselves with the new contract, the Society was facing scrutiny following the Foster review (2006) into regulation⁸³. For over 150 years the PSGB (and subsequently the RPSGB) was acting as both the professional and the regulatory body for the pharmacy profession, but due to conflicts of protection and regulation of its members the Society was to be split into two separate bodies⁸⁴.

The government policy responsible for the split was the 2007 paper *Trust, Assurance and Safety – The Regulation of Health Professionals in the 21st Century* which was prompted in part by the failing of regulators in the cases of Dr Harold Shipman (the Manchester general practitioner who was convicted of murdering 15 women patients during the years 1995 to 1998 and also suspected of killing a much larger number of people over a much longer period of time) and at the Bristol Royal Infirmary (where operations by paediatric surgeons on babies and young children resulted in a number of deaths and a lack of whistle blowing delayed exposure of the scandal)^{39,40,85}. A key principle emerging from the inquiries of these two regulatory failures was that professional leadership and regulation should not sit in the same body⁸⁶.

The pharmacy specific report by Lord Carter of Coles: *Report of the working party on professional regulation and leadership in pharmacy* resulted in the Pharmacy Order 2010 which set out the arrangements for the on-going regulation of pharmacy and the establishment of the General Pharmaceutical Council (GPhC) as the regulator for pharmacy^{86,87}.

In 2010 the GPhC became the independent regulator for pharmacists, pharmacy technicians and pharmacy premises in Great Britain⁸⁸. This new body controlled mandatory registration of pharmacists and pharmacy premises. Registration for pharmacy technicians was not mandatory until July 2011. Following the removal of its regulatory responsibilities the RPSGB underwent a rebranding becoming the Royal Pharmaceutical Society (RPS) and registration became voluntary⁸⁹. It continues to provide and is further developing its role in relation to professional development and training⁹⁰.

2.1.6 Pharmacy in the New NHS

Following the 2010 general election a Conservative–Liberal Democrat coalition Government came into power. Along with the incoming Government reforms for the NHS in England were outlined in the 2010 White Paper, *Equity and excellence: liberating the NHS*⁹¹. The passing of the Health and Social Care Act 2012 signalled a significant change in the way the NHS was structured. Many of the responsibilities previously dealt with by the Department of Health were passed onto a politically independent body called NHS England. Affecting pharmacy was the change in responsibility for service commissioning. PCTs were dissolved and in their place Local Authorities and Clinical Commissioning Groups (CCGs) would have responsibility for commissioning of services. CCGs are predominantly made up of a group of local GPs; there is no requirement for a pharmacist to be part of a CCG. This has led some to question the best way to ensure that the CCGs recognise the value of pharmacists⁹². Currently CCGs can access the views of pharmacists through Local Professional Networks and Local Pharmaceutical Committees. The LPC is a committee representing the owners of the community pharmacies in the LPC area recognised by NHS England under the NHS Act 2006. The act gives LPCs statutory powers as NHS England must consult them on matters such as market entry and local enhanced services. Local Professional Networks (LPNs) for pharmacy (LPNs also exist for

dentistry and optometry) are part of local NHS England teams. They provide clinical input into the operation of the local team and local commissioning decisions. However, it has been noted that there are varying levels of engagement with these bodies across the country⁹³.

The overview of pharmacy history presented here demonstrates a profession that has undergone much change and is still finding a place within the new NHS. Certain milestones have been reported that indicate significant changes to the way that pharmacists practise and how they understand their roles within society. By understanding the history of pharmacy the application of sociological theories can be clearer and easier.

2.2 Pharmacy, the Pharmacy and the Pharmacist

Many occupations and professions can be split into different work levels: macro (leadership & representation), meso (organisations & institutions) and micro (individuals)⁹⁴. By applying this to community pharmacy three different work levels become apparent (Table 2-2).

Table 2-2 - Pharmacy, the pharmacy and the pharmacist

Work Level	Unit	Examples
Macro	Pharmacy	Representative and regulatory bodies
Meso	The Pharmacy	Pharmacy employers and organisations
Micro	Pharmacist	Employees and self-employed

By considering the different levels of pharmacy in a contemporary setting it is possible to produce a picture of pharmacy practice which can be used to assess pharmacy's claims to professional status.

2.2.1 Pharmacy

The macro level of pharmacy encompasses bodies involved with regulation and representation as well as policy makers who have an influence on the profession.

2.2.1.1 Regulation

As outlined in the section of the history of pharmacy the RPSGB was the regulatory body for pharmacists up until 2010, at which time it was split into two distinct bodies due to potential conflicts between the representation and the regulation of pharmacists.

In 2010 the two separate bodies became active, the GPhC became the independent regulator for pharmacists, pharmacy technicians and pharmacy premises in Great Britain⁸⁸. The GPhC's role is to protect, promote and maintain the health, safety and wellbeing of members of the public by upholding standards and public trust in pharmacy. The principal functions of the GPhC can be seen in Table 2-3.

Table 2-3 - The Principal Functions of the GPhC⁸⁸

Approving qualifications for pharmacists and pharmacy technicians and accrediting education and training providers;
Maintaining a register of pharmacists, pharmacy technicians and pharmacy premises;
Setting standards for conduct, ethics, proficiency, education and training, and continuing professional development (CPD);
Establishing and promoting standards for the safe and effective practice of pharmacy at registered pharmacies;
Establishing fitness to practise requirements, monitoring pharmacy professionals' fitness to practise and dealing fairly and proportionately with complaints and concerns.

All practising pharmacists must be registered with the GPhC and are required to undertake CPD to ensure high standards of practice with the aim to continually update and improve a pharmacist's knowledge and skills. All prospective pharmacists must enter into some form of higher education. The most common route is to undertake a masters level degree lasting four years⁹⁵. After graduating from university, future pharmacists must undertake a one year preregistration placement where competence (in a defined set of performance standards) is assessed by a tutor. At the end of the year's training, they must pass a national registration examination set by the pharmacy regulator (the GPhC) and satisfy checks for good health and good character before admission to the GPhC register.

Government policy also forms part of the regulation of pharmacy, for instance the legal classification of drugs as outlined in the Medicines Act 1968 must be adhered to in order to comply with the law. Changes to the legal classification of drugs must be made through the relevant government agency (Medicines and Healthcare products Regulatory Agency [MHRA]) and can be made by the pharmaceutical industry.

2.2.1.2 Representation

Within pharmacy there are a number of bodies that represent different sectors of the profession; these are bodies that share a common goal with their members. Membership of the bodies outlined in this section is voluntary and each body may have different goals.

2.2.1.2.1 Royal Pharmaceutical Society

Following the removal of its regulatory responsibilities the RPSGB underwent a rebranding. It is now known as the Royal Pharmaceutical Society (RPS) and registration is no longer mandatory⁸⁹. The RPS, now acting solely as the professional leadership body for pharmacy, has stated that it is committed to representing and leading its members. In addition, it speaks for its membership, aims to raise the status and profile of the profession of pharmacy and represents the interests of its members to the GPhC, government and patients. It continues to provide and is further developing its role in relation to professional development and training⁹⁰. A recent initiative by the RPS has been the 'Now or Never' campaign, as part of which they set up a Commission to 'develop practical ideas about how future models of care can be delivered through pharmacy'⁹⁶. The Commission consulted with pharmacists, others in the healthcare sector, patients and the general public. Some of the key findings arising from the Commission include: providing a broader range of services, aiding with out-of-hours healthcare provision and improving the public image of pharmacy.

2.2.1.2.2 National Pharmacy Association

The National Pharmaceutical Association (NPA) is a representative body for the independent community pharmacy sector⁹⁷. They work to 'shape public policy and to create an environment in

which pharmacies can prosper, for the benefit of patients, communities and the NHS'. Since 1983 they have been promoting pharmacy to the public through the 'Ask your Pharmacist' campaign.

More recently, the NPA has collaborated with the Association of Independent Multiple Pharmacies (AIMp) and the Company Chemists' Association (CCA) to form the campaign group: *Pharmacy Voice*. Together they have launched the Dispensing Health campaign. This has been 'designed to encourage the general public, parliament, politicians, policy makers and health professionals to think differently about how they interact with community pharmacy'⁹⁸

2.2.1.2.3 Independent Pharmacy Federation

As of 1st April 2015, the Independent Pharmacy Federation (IPF) merged with the NPA (and thus ceases to exist). The IPF acted as a representative body for independent community pharmacies and provided a voice for its independent pharmacy members. They did this through promotion of policies ensuring adequate recognition for the independent sector. The IPF were partly responsible for the Manifesto for Community Pharmacy (see section 2.2.1.2.4 for more information)⁹⁹.

2.2.1.2.4 All Parties Pharmacy Group

Unlike other representative bodies the All Parties Pharmacy Group (APPG) does not have a membership¹⁰⁰. The APPG is a body made up of politicians from all political parties. Their role is to raise awareness of the profession of pharmacy, and to promote pharmacists' current and potential contribution to the health of the nation. They do this by conducting meetings to discuss current issues and then contacting Health Ministers to discuss findings, views and recommendations. A Manifesto for Community Pharmacy (see Table 2-4) urging all political parties to sign up to five pledges it contained was launched at the House of Commons by the APPG in partnership with the Independent Pharmacy Federation, Pharmacy Voice and the Pharmaceutical Services Negotiating Committee¹⁰¹.

Table 2-4 - Pledges put forward in the Manifesto for Community Pharmacy¹⁰¹

1.	We will encourage patients to think pharmacy first and we will use pharmacy to help relieve pressure on GPs and emergency departments.
2.	We will improve patient choice and healthcare by making it easier to commission pharmacy services and backing more national services.
3.	We will help improve the public's health, recognising the accessibility and support community pharmacy can provide.
4.	We will enable patients, especially those with long term conditions, to get more from their medicines through better use of community pharmacy.
5.	We will help pharmacies to get access to the records and information they need to provide more effective and safer care to patients.

2.2.1.2.5 Company Chemists' Association

The Company Chemists' Association (CCA) is the representative body for large multiple pharmacies, their members include: Boots, The Co-operative Pharmacy, Lloydspharmacy, Tesco, Sainsbury's, Wm Morrison Supermarkets, Asda, Rowlands Pharmacy and Superdrug. One of their principle aims is to influence policy to the benefit of their members. The CCA is part of Pharmacy Voice, responsible for the Dispensing Health campaign¹⁰².

2.2.1.2.6 Association of Independent Multiple Pharmacies

The Association of Independent Multiple Pharmacies (AIMp) represents community pharmacy companies with between 5 and 300 branches. Through representation and negotiation AIMp promotes, protects and supports its members. AIMp is part of Pharmacy Voice, responsible for the Dispensing Health campaign¹⁰³.

2.2.1.2.7 Pharmacists' Defence Association

The Pharmacists' Defence Association (PDA) is a body that aims to represent individual pharmacists rather than pharmacy companies (regardless of size)¹⁰⁴. They aim to improve the status of and the working environment for employee pharmacists and also locums. The PDA also provides professional indemnity insurance and financial legal aid. Additionally, they act as the trade union for employee and locum pharmacists as well as undergraduates and pre-registration students. In 2013 the PDA published a document entitled 'The PDA Road Map' this document outline their vision for the future

of pharmacy, this includes the proposal that community pharmacists should be split into two tiers, one 'patient facing' and the other 'clinic based'¹⁰⁵.

2.2.1.2.8 Pharmaceutical Services Negotiating Committee

As previously discussed, in 2005 a new contract for pharmacy was introduced. This separated activities into three different service levels: essential services, advanced services and locally commissioned services. The responsibility for the introduction of this contract was the Department of Health, in negotiation with the Pharmaceutical Services Negotiating Committee (PSNC) a body with a goal to develop the NHS community pharmacy service, to enable community pharmacies to offer an increased range of high quality and fully funded services¹⁰⁶. Pharmacists must act in accordance to the pharmacy contract and as such the PSNC are largely responsible for the day to day work of pharmacists.

An initiative associated with the future of community pharmacy has also been developed by the PSNC; *Vision for NHS Community Pharmacies* recommends development across four different domains. These domains include: optimising the use of medicines, enabling healthier lives, supporting people to self-care and encouraging independent living. As outlined with the other pharmacy bodies, another vision for the future of pharmacy may affect a clear voice for the profession.

2.2.1.2.9 NHS England

Whilst not explicitly a representative pharmacy body, NHS England is the national commissioner for NHS community pharmacy services and so has a stake in the future of pharmacy. Through NHS England an invitation of engagement was sent out to community pharmacists and others, entitled *Community Pharmacy Call to Action* the main purpose was to stimulate debate in local communities, with everyone who works with community pharmacy, to find out the best way to develop services¹⁰⁷.

2.2.1.2.10 Summary

This section has demonstrated a number of bodies associated with the regulation and representation of community pharmacy. There is a wide variety of bodies with a wide variety of, often incongruous, agendas. Representative bodies all seek to influence policy and the future of pharmacy for the benefit of their members. This possibly poses problems as it may seem as though the profession is fragmented. This is not aided by the fragmentation within pharmacy and the different workplace practices that exist. These issues are best addressed by focussing on the meso level – The Pharmacy.

2.2.2 The Pharmacy

The meso level of community pharmacy practice relates to the organisations or employers of pharmacists and also to where the pharmacist works and what the pharmacist does.

2.2.2.1.1 Pharmacist Role

Following the introduction of the new pharmacy contract, pharmacists reported an increase in their workload and as such had delegated tasks such as administration, filing and some services (such as smoking cessation) to support staff¹⁰⁸. An investigation into the day-to-day roles of pharmacists was conducted in 2014¹⁰⁹. The research identified different activities that a pharmacist may undertake during a working day (Table 2-5) and then, using a fixed-interval work sampling technique, identified how often these activities were conducted. The results revealed that the majority of a pharmacist's time was spent undertaking prescription related matters (almost 41.6% of a working day) and that only 5% of a day was dedicated to service provision. The researchers conclude that the movement from technical to service-based practice will be an evolutionary process and that, at the current pace, it could be decades before community pharmacists fulfil their potential as service providers. This research demonstrates a possible disconnect between how macro pharmacy representatives see pharmacist development compared to both meso level employers and micro level employees.

The provision of services by pharmacists is included in the contract and indicates a move toward the extended role put forward by many theorists and also macro level pharmacy bodies. The most frequently provided service is the medicines use review (MUR)⁷². The services provided by pharmacists under the contract can be seen as altruistic engagement with patients, although the majority of pharmacists are employees and so remuneration for services can be seen as profit generating for employers. This discord between professional pressures and commercial pressures is revisited in subsequent sections.

Table 2-5 - Pharmacist Daily Activities (Adapted from Davies 2014¹⁰⁹)

Daily Activities	Mean percentage of day spent on activity
Prescription monitoring and appropriateness	11.9%
Assembly and labelling of products	25.2%
Endorsing prescriptions and clerical health-related work	8.2%
Counselling patients on prescribed medicines	4.2%
Non-prescription medicines counselling/responding to symptoms	6.6%
Professional encounter with non-patients	3.5%
Health-related communication	3.2%
Provision of advanced services	0.6%
Provision of enhanced or other National Health Service services	2.6%
Provision of private enhanced services	0.9%
Provision of services to homes	0.9%
Inventory and stock control	3.6%
Staff training and education	2.7%
Housekeeping	2.7%
Sales transactions	1.6%
Money and managerial administration	2.9%
Rest, waiting and personal time	11.2%
Nonprofessional encounters	7.0%

Further additional services of note are the increased number of prescribing roles available to pharmacists. In 2003, pharmacists and nurses were given prescribing powers following recommendations from the Crown report¹¹⁰. As supplementary prescribers they would be able to work with doctors to follow a clinical management plan^b. In 2006 further legislation came into place that allowed both nurses and pharmacists to become independent prescribers without the need for the initial prescribing to be undertaken by a doctor¹¹¹. The introduction of these prescribing roles

^b Clinical management plans can also be set up in conjunction with Dentists.

was supposed to provide the pharmacist with a platform from which to act as support to doctors¹¹². However, this development has not been adopted widely (3% of pharmacists in 2010 reported as being prescribers, this increased to 6.6% in 2013) and inter-professional cooperation with GPs is hampered by a number of barriers^{7,113,114}. In addition, research into public opinion has demonstrated that trust in pharmacists to provide these kind of 'high risk' services is low¹¹⁵.

2.2.2.2 Sphere of Practice

The 2013 GPhC registrant survey was undertaken to understand the work, practice and training of registered pharmacists⁷. From this survey valuable information can be accessed relating to where community pharmacists practise (Figure 2-1). The researchers divided community practice into three different levels:

Small community pharmacy - this was 'community pharmacy with 4 or fewer stores'.

Large multiple – 'Large multiple community pharmacy', defined on the questionnaire as being one of ten companies – Asda, Boots, Co-operative, Day Lewis, Lloydspharmacy, Morrisons, Rowlands, Sainsbury's, Superdrug and Tesco.

Other multiple – this was 'another multiple community pharmacy not listed above, with 5 or more stores'. The pharmacies 'listed above' refer to the large multiples listed on the questionnaire.

A slightly more revealing survey into pharmacy practice was carried out by the RSPGB in 2008; they separated community pharmacy into five different levels: Independent pharmacy, Medium sized multiple (5-25 stores), Supermarket chain, Small chain (2-4 stores) and Large multiple (Over 25 stores)¹¹⁶.

Work published in the 2008 *Pharmacy Workforce Census* categorised workplace differently (Figure 2-2). However, both analyses reveal that the majority of community pharmacists practise within a multiple pharmacy setting.

Figure 2-1- Setting of Main Job in Community Pharmacy^c (adapted from GPhC Registrant Survey 2013⁷)

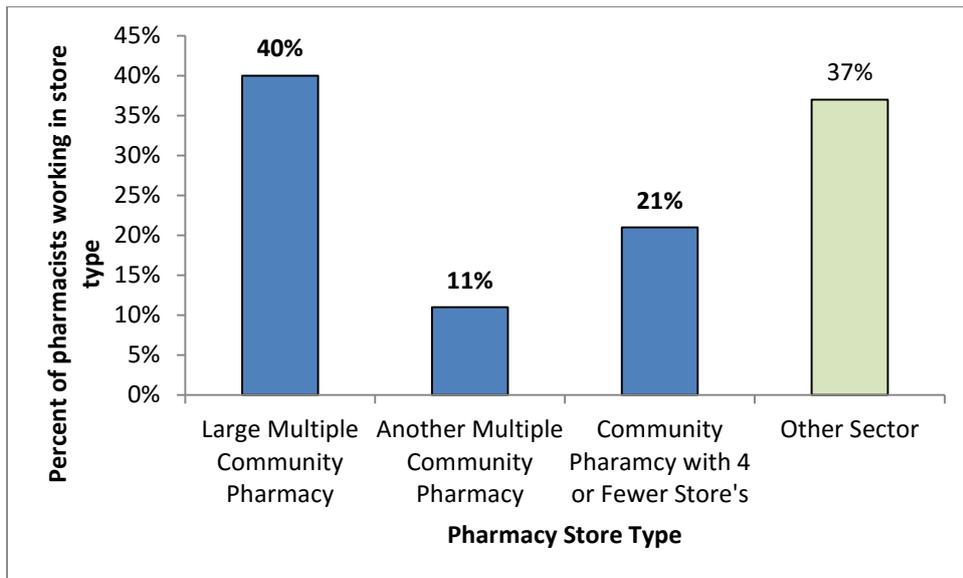
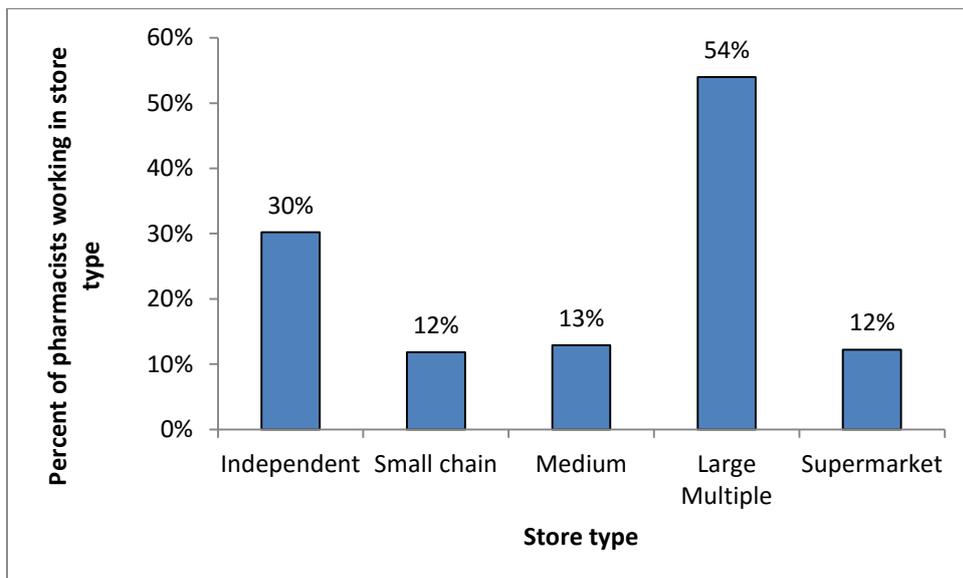


Figure 2-2 - Type of Pharmacy Worked in^d (adapted from Pharmacy Workforce Census 2008¹¹⁶)



^c Respondents could report multiple settings so percentages can add to more than 100%

^d Respondents could report multiple settings so percentages can add to more than 100%

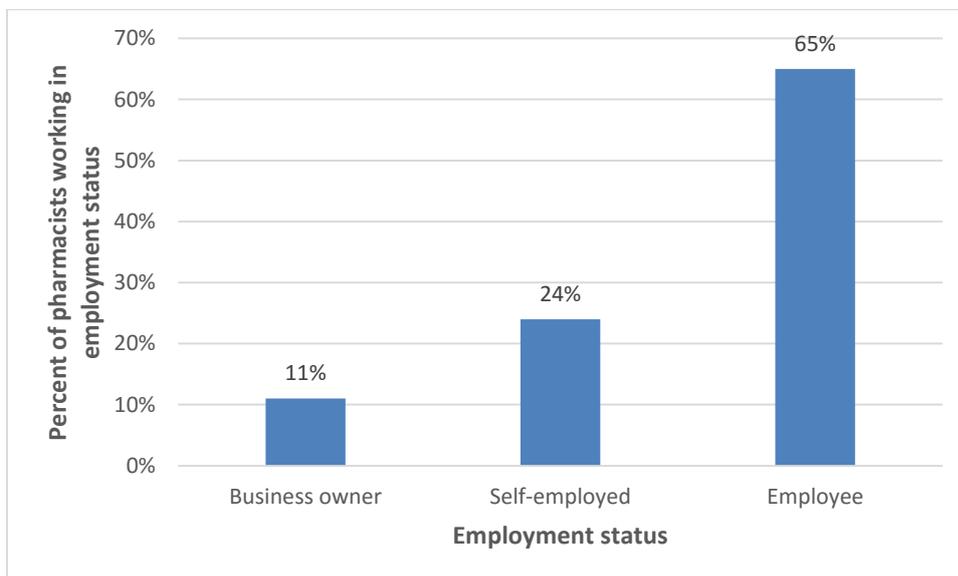
2.2.2.3 Employment status

Both the 2008 and the 2013 surveys asked pharmacists about employment status, unfortunately the questions were posed in different ways and as such cannot be directly compared^{7,116}. However, the information they provide may offer insights into employment trends within pharmacy.

The 2008 survey did not differentiate between community pharmacy and the rest of the profession when asking questions about employment and revealed that 65.2% of pharmacists were employees. It also revealed that only 7.9% of pharmacists were business owners (a drop of 1.1% over 3 years).

The 2013 survey revealed that 74% of the pharmacy workforce are employees and that 8% are business owners. This survey also breaks down these figures so that community pharmacy specific information can be seen (Figure 2-3). This again demonstrates the large proportion of employee pharmacists working in community pharmacy.

Figure 2-3 - Employment status within Community Pharmacy (adapted from GPhC Registrant Survey 2013⁷)



2.2.2.4 Pharmacy Usage

A report conducted for the Department of Health identified how often different healthcare services were being used by the public¹¹⁷. They found that 75% of respondents were using pharmacies for personal treatment. Within their survey they were able to detail how these figures had changed over

four years and they identified an overall decrease in pharmacy use. When asking about self-care advice (advice relating to care taken by individuals towards their own health and wellbeing) they identified only 7% had used their pharmacy compared to 46% using GP surgeries.

The use of pharmacies by the general public was investigated by Boardman in a 2005 survey of adults¹¹⁸. She found that 59% of respondents using pharmacies had collected a prescription medicine and 40% had purchased an over-the-counter (OTC) medicine, whereas only 12% had asked for advice. Similarly, a GPhC survey of the public demonstrated high use of pharmacies (79% of respondents) with visitors most frequently using prescription services (65%) and OTC medications (27%)¹¹⁹. As with other reports the advice-giving function of community pharmacists was not well used with only 9% of respondents seeking advice for a health problem and only 5% seeking health service advice from community pharmacists.

The evidence seems to suggest that although the general public are visiting pharmacies, they are doing so for more traditional roles (e.g. prescriptions & OTC medication) rather than aspects such as a pharmacist's advice giving role.

2.2.3 The Pharmacist

At the micro level, the individual pharmacist may be regarded as an actor undertaking daily work and tasks. However, how the pharmacist is viewed (by both themselves and others) should also be considered. This allows for an insight into how pharmacists are seen and how they desire to be seen.

Pharmacists' perceptions of professional identity were investigated by Elvey *et al.* to ascertain how they see themselves and how they think others view their profession¹²⁰. Group and individual interviews were conducted in England with community, hospital and primary care pharmacists. Data from the interviews were analysed using the framework method. The study identified the presence of nine identities for pharmacists:

- the scientist

- the medicines adviser
- the clinical practitioner
- the social carer
- the medicines maker
- the medicines supplier
- the manager
- the business person
- the unremarkable character

The author concludes that this is a relatively high number of identities compared to other comparable studies and that this may be due to role ambiguity and a lack of understanding of what makes pharmacists unique. This may be through a combination of lack of direction or a lack of ownership from the profession. However, the author also acknowledges that the pharmacists interviewed may have a flexible view of their role.

There have been few studies that have gathered insights into how pharmacists think others view them. Hughes and McCann identified a theme of subordination to GPs that included the view that community pharmacists were considered shop keepers¹¹⁴. A more recent study has reported that pharmacists broadly believed that there was a poor awareness of a visual identity relating to the pharmacy profession and that society now perceives pharmacists as shopkeepers rather than clinicians¹²¹.

The theme of GP subordination is further reinforced by Edmunds and Calnan who identified pharmacists as giving GPs ultimate authority over patient matters^{114,122}. Articles published in the *Pharmaceutical Journal* outlined the view that the public image of pharmacy had declined after pharmacists were classified as non-manual (the same as technicians, salesmen and clerks) with one author indicating this may be due to the commercial aspect of pharmacy and the supply of drugs for income^{123,124}.

How pharmacists are viewed by others has been investigated by a number of researchers. Edmunds and Calnan have shown that GPs show some support for some extended roles (e.g. repeat dispensing) but others are seen as a threat to their autonomy and control (e.g. prescribing)¹²². Bryant reported similar findings in New Zealand, demonstrating that GPs did not agree with more clinical roles for pharmacists and found the traditional roles of supply and distribution to be more acceptable¹²⁵. The GPs in Hughes and McCann's study also identified the shopkeeper identity of pharmacists as a barrier to pharmacist role extension¹¹⁴.

In a 1998 study by Varnish, focus groups were used to attain data, the objective of the research was to understand the extent to which the public view pharmacy as a true profession¹²⁶. It was demonstrated that the public understand the expertise of pharmacists, albeit with a number of 'grey areas'. Also in 1998, Hassell published a paper arguing that the public do not use pharmacists as general health advisors¹²⁷. In a literature review the following year, she suggested that the public would rarely seek pharmacy care over GP care¹²⁸. However the public felt that there was less social distance between pharmacists and themselves compared to that between GPs and themselves.

The 2011 Department of Health report, Long Term Health Conditions, showed that the public are largely aware of the advice that pharmacists can provide¹¹⁷. More respondents recognised advice related to minor problems with long term health conditions and the use of medicines as part of the pharmacist's role.

A recent survey carried out by the GPhC demonstrated that public trust in pharmacy was high although it reported that the degree to which they trusted the advice given by pharmacists was relatively low¹¹⁹. The survey also reiterated previous findings that the public are more likely to seek out their GP for advice rather than the pharmacist.

The pharmacist identities documented may show that pharmacists are becoming more engaged with the role extension that theorists have identified as vital for the professions' survival, the scientist,

the clinical practitioner and social carer all demonstrate a move away from the more traditional functions of community pharmacy¹²⁰. These traditional functions, however, are still present in the form of the medicines supplier and medicines maker identities.

The pharmacist has many identities and contradictions between these identities may influence how they feel they are viewed by others. The business person, the medicines supplier and the unremarkable character seem to be the identities that GPs view pharmacists as and this is reinforced by how pharmacists think they are view by GPs¹¹⁴. The public are more aware of the medicines supplier and advisor identities although they seem to view the GP as a more reliable source of advice. These views seem to indicate continued subordination of the pharmacist to the GP within the healthcare division of labour, a phenomenon that has been identified previously and may pose a significant barrier to future roles¹²⁹.

2.3 Pharmacy as a Profession

2.3.1 Professionalisation

By reviewing the history of pharmacy it is possible to isolate the different checkpoints put forward in the trait-functional model of professionalisation which helps determine that pharmacy has indeed succeeded in becoming a profession. It is however, important to note that although pharmacy can satisfy one model of professionalisation, the other models are still used as tools to assess an occupation's claim.

In 1969 Goode (Quoted in Etzioni 1969) revised the trait theory into two central generating qualities of a profession¹³⁰:

1. A basic body of abstract knowledge
2. The ideal of service.

A pharmacist is trained in preparing, mixing, and dispensing drugs and medicinal preparations and this can be considered the body of knowledge that underpins the profession. More recently

education provision is changing to provide a more clinical focus as the traditional supply function role of the pharmacist changes to a clinical role¹³¹. The ideal of service can be seen when pharmacists practise in the best interests of the patient¹³².

Although it has been demonstrated that pharmacy can at least satisfy the criteria for professionalisation outlined by certain researchers, others have iterated a belief that pharmacy has failed to fully professionalise. McCormack made reference to pharmacy as a marginal profession; she argued that there was a conflict between business interests and professional interests¹³³. She goes on to question those undertaking training: "it may attract persons who are marginal in the social structure and who impose the concomitants of the ambiguous status on the occupation."

In 1968, Denzin and Mettlin wrote a paper entitled: "*Incomplete Professionalization: The Case of Pharmacy*". The authors considered retail and hospital pharmacy in their publication examining the nature of both sectors. The central tenet of their argument was that pharmacy had been unsuccessful in attaining professional status and remained a 'quasi-profession'. Despite the paper being published over forty years ago and the research being based in America – their argument remains a topic of debate in western nations to this day¹³⁴.

Denzin and Mettlin believed that pharmacy – as a profession – had an inability to maintain licence and mandate. The mandate that pharmacists have attempted to develop is one of the medicines expert but Denzin and Mettlin concluded that they had failed in the eyes of nurses and physicians who believed that the pharmacist was just: "*the person who gets the drug up here when I want [it]*". Secondly, pharmacy had failed to recruit committed persons – research quoted in their paper seems to imply that students were not entering the profession for humanitarian goals but rather because the profession offered economic security or that it suited a particular aptitude. Thirdly, pharmacy had failed to become completely self-governing – Denzin and Mettlin argued that pharmacy societies were not working together to provide a consistent voice for all members of the profession. The division within pharmacy was what they attributed to further incomplete professionalisation.

And finally pharmacy had failed to secure its social object – it was noted that the social object of pharmacy, the drug, was not being wholly controlled by the profession. Many physicians thought that because they were the professional writing the prescriptions, they were the drug experts. The researchers also argued that when a drug is considered a product to be sold for profit the lack of altruism goes against the ideals of service.

2.3.2 Deprofessionalisation

In 1982 Birenbaum highlighted the increase in automation of the traditional tasks of the pharmacist as a threat to the professional status of pharmacy⁶¹. His observations were based on pharmacy in the USA and he concluded with his vision for the future of pharmacy, 'clinical pharmacy' roles should replace the technical aspect of a pharmacist's work.

In 2000, Harding and Taylor focussed on Ritzer's 1983 paper: 'the "McDonaldization" of society'^{135,136}. Ritzer talked about the rationalisation of the medical profession and how it compared to the fast food chain famous for its fast product turnaround. He developed four dimensions of rationalisation: efficacy, calculability, predictability and control. Harding and Taylor used Ritzer's model and applied it to community pharmacy, examples can be seen in

Table 2-6. The argument they made was the pharmacists may become deskilled and perform solely routinised activities, thus leading to potential deprofessionalisation (i.e. a return to the level of occupation by failing to meet the traits or retain the power afforded to professions by professionalisation theory). By enhancing productivity and profits by rationalising and routinising processes, community pharmacy has become a victim of Weber's theories of bureaucratisation and rationalisation¹¹.

Table 2-6 - Examples of the "McDonaldization" of pharmacy (adapted from Harding and Taylor 2000¹³⁵)

Efficacy	There is standardisation and rationalisation of products and services.
	Medicines are available as pre-packaged units for rapid processing.
	Pharmacy chains have bureaucratic structures, with clearly defined hierarchies.
Calculability	Pharmacies trade in commodities of which medicines are but one among a wide range of other, often lifestyle-related products.
Predictability	Outlets and fittings are of a uniform design and are clean, hygienic, sanitary and sanitised. These, together with standardised dress, name badges and staff behaviour, promote a distinct brand identity.
Control	Skilled activities are minimised. Workers undertake simple, clearly defined tasks in accordance with written procedures.
	Computer technology is used wherever possible, for example, to generate labels and information leaflets, order replacement stock and for drug information.

2.3.3 Reprofessionalisation

Claims that pharmacy was undergoing, or had undergone, deprofessionalisation prompted discussion about the process of reprofessionalisation. The early calls for reprofessionalisation through role extension by Birenbaum have been discussed in subsequent sections, although other theorists hold similar views⁶¹.

In 1995 a reanalysis of Denzin and Mettlin's work, Dingwall and Wilson disagreed with the conclusions of the original authors^{134,137}. They felt that there was not significant evidence used to substantiate the claims that trait analysis deemed pharmacy a quasi-profession. They also argued that Denzin and Mettlin did not fully appreciate the social significance of a pharmacist's role, stating that the 'symbolic transformation of the inert chemical into the drug' was the social object on which pharmacies claim to professional status is based.

The concept of pharmacists imparting social significance onto drugs was revisited again in 1997 by Harding and Taylor¹³⁸. They contested that a pharmacist's role was to ensure 'the symbolic transformation of a drug into a *medicine*'. For this reason they felt that the calls for

reprofessionalisation through role extension were ill founded as they would take pharmacists away from their role in this 'symbolic transformation':

"...strategies which displace the activities associated with dispensed medicines, and emphasise those associated with technology and routinised advice giving, may have a deprofessionalising effect, when drugs lose their centrality to pharmacists' activities."

For Harding and Taylor a focus on the drug and medicine was more important to retaining professional status than role extension.

In contrast to Harding and Taylor's assessment discussed above was an analysis by Edmunds & Calnan (2001) which argued that the trend for extended roles for pharmacy would be important in driving reprofessionalisation¹²². However, Birenbaum's proposal for reprofessionalisation of pharmacy through 'clinical pharmacy' roles created some tensions as Holloway (1986) reports that some pharmacists feel that the process was not necessary or desirable¹³⁹.

This section has demonstrated a number of polarised views surrounding the professionalisation of community pharmacy. Factors such as automation and rationalisation may have contributed to deprofessionalisation; whereas the social significance of medicines and the possibility of role extension may have aided reprofessionalisation. To determine the current professional status of pharmacy it is necessary to understand how pharmacy is currently practised.

2.3.4 Professionalism

The place of community pharmacy within the three logics presented by Freidson can be considered using the information presented in chapter one⁶. The first of these logics can be described as market competition, the second is an increase in bureaucratic regulation, and the third logic is professionalism.

An apparent increase of commercialism and consumerism can be applied to the free market logic. As consumers decide where they buy their medicines (and not all places may be pharmacies) it can be argued that this logic dictates the work of pharmacies. However, as many pharmacy services are

provided to the consumer without a fee, a contrasting argument would be that the free market logic has minimal impact upon pharmacy.

The bureaucratic regulation outlined by Freidson's second logic can be applied by looking at the increase in employee pharmacists compared to business owners, especially in the community pharmacy sector. An increase in rationalisation also indicates a move towards this second logic, again moving away from the logic of professionalism.

Professionalism was described as the third logic, an ideal type of control for work. Members of a profession would work towards the ideology of professionalism by working for the greater good rather than economic benefit. The other two logics were seen by Freidson as a threat to professionalism. Pharmacy can be seen to fulfil the third logic of professionalism by considering on professional autonomy. Community pharmacists still have the opportunity to exercise their professional judgment and can make informed professional decisions underpinned by their specialist knowledge.

Despite the alignment of pharmacy with the different logics, Freidson's theory states that a profession will be closer to one logic and so compromise on the others. The position of community pharmacy within a retail environment already predisposes it to effects of the free market, as indicated previously there are some exceptions to this, and so the effect of this logic will always be felt. The impact of rationalisation within community pharmacy may have an impact on professional judgment which may in turn compromise the professionalism logic; this would move pharmacy closer to the bureaucratic regulation logic.

Alongside a large research focus on professionalism within medicine there has also been a certain amount of research within the pharmacy profession. Following the publication of Project Professionalism (the report produced by ABIM evaluating professionalism as a component of clinical competence), the American Pharmaceutical Association Academy of Students of Pharmacy (APhA-

ASP) and the American Association of Colleges of Pharmacy Council of Deans (AACP-COD) set out to study professionalism of pharmacy students. They identified 10 traits of a professional which serve to develop professionalism (Table 2-7).

Table 2-7 - Traits that distinguish a professional by the APhA-ASP / AACP Task Force on Professionalism

1) Knowledge and skills of a profession
2) Commitment to self-improvement of skills and knowledge
3) Service orientation
4) Pride to the profession
5) Covenantal relationship with the client
6) Creativity and innovation
7) Conscience and trustworthiness
8) Accountability for his/her work
9) Ethically sound decision making
10) Leadership

In 2010 Wilson *et al.* sought to determine how professionalism is defined and discussed in contemporary pharmacy literature⁵. They identified 58 articles pertaining to professionalism within pharmacy published between 1998 and 2009. From the articles selected they were able to identify 55 different components of professionalism, concluding that: *“there remains a lack of consensus around the definition of professionalism, as evidenced by the range of literature and diversity of definitional terms”*.

To aid understanding of their findings the researchers were able to arrange the components into eight different groups⁵:

- Essential characteristics
- Desirable characteristics
- Personal characteristics
- Inter-personal working
- Vocational commitment
- Personal value systems
- Knowledge and skills

- Healthcare specific terms (e.g. concordance and patient-centred)

Schafeutle (2012) interviewed academic staff and pharmacy students and found that whilst they demonstrated an awareness of common attitudinal and behavioural attributes of professionalism, they found it difficult to define ‘professionalism in pharmacy’¹⁴⁰. Elvey *et al.* (2011) proposed a definition, or a rather description, of professionalism in pharmacy¹⁴¹:

“Pharmacy is a vocation in which a pharmacist’s knowledge, clinical skills, and judgement (as medicines expert) are put in the service of protecting and restoring human well-being. This purpose is realised through a partnership between the patient and pharmacist, which closely relates to, and supports, the partnership between patient and doctor. It is based on mutual respect, individual responsibility, and appropriate accountability.”

When considering pharmacy specific literature, Hutchings and Rapport were able to identify key concepts for ‘patient-centred professionalism’ within pharmacy^{142,143}. Within pharmacy, the GPhC standards of conduct ethics and performance outline what is expected of pharmacy professionals¹³². Alongside this the RPS publication Medicines, Ethics and Practice (MEP) also advises what is expected of professionals⁵⁸. Although not defined as ‘patient-centred professionalism’, the principles outlined in these documents mirror the definitions of patient-centred professional care set out by the Picker institute. Table 2-8 outlines the core features of the concept.

Table 2-8 - Core features of ‘patient-centred professionalism’ identified from work carried out within the UK, USA, and Canada by the Picker Institute to examine what this concept mean (after Hutchings and Rapport 2012¹⁴²)

- | |
|--|
| <ul style="list-style-type: none"> • People have the right to decide whether and when to consult a health service, and which one to consult • Patients should be free to decide which treatment they want out of a range of treatments available for their conditions, or to refuse any treatment, or to cede the decision about treatment to someone else • However, all decisions about treatment of an individual patient must be based on scientific knowledge and concern for equity, as well as on what the patient prefers • In order for patients to make choices about their treatment, doctors and other health professionals should: <ul style="list-style-type: none"> ○ present all relevant and available options and their implications ○ get to know patients’ own experience of the condition/illness and their preferences and values ○ take these into consideration in presenting the options ○ accept the decision-making role if the patient wishes the choice to be made by the professional |
|--|

A recent call for responses was put out by the GPhC specifically targeted at better understanding the concept of ‘patient-centred professionalism’ within pharmacy¹⁴⁴. This section demonstrates a lack of

consensus on a definition of professionalism within pharmacy (and also medicine). The role of the professional pharmacist has been described and newer concepts such as 'patient-centred professionalism' have sought to bring professionalism within pharmacy in line with that demonstrated in other healthcare disciplines.

2.4 Socialisation of Professionalism within pharmacy

Most research surrounding professional socialisation within pharmacy has been focussed on education and training^{140,145,146}. One study with newly qualified pharmacist participants identified that there are three stages of socialisation: early life, undergraduate education, and experience in practice¹⁴⁶. This is reflected in studies within medicine where Shuval identified three stages of professional socialisation: pre-socialisation (home life and schooling), formal socialisation (professional education and training) and post-socialisation (occurring after formal socialisation until retirement)¹⁴⁷. Specifically discussing pharmacy, Hammer (2003) describes professional socialisation as¹⁴⁸:

"...the transformation of individuals from students to professionals who understand the values, attitudes, and behaviours of the profession deep in their soul. It is an active process that must be nurtured throughout the professional's/student's development. In pharmacy the socialization process begins the moment a student (or potential student) observes or interacts with pharmacists, evaluates what they do, or actively seeks information about the profession. Beliefs, attitudes, and behaviours begin to develop with regard to pharmacists' roles."

It is important to acknowledge the impact of early life on an individual's professional socialisation⁴².

As previously identified this has been shown to be true within pharmacy practice and this is also true of other health professions such as medicine^{146,149}.

Within medicine, the teaching of professionalism has been widely reported, alongside discussion about how important these teachings are^{150,151}. During a medical student's education, researchers have identified different forms of curricula: formal, informal and hidden¹⁵². Formal curricula can be understood as the taught subject matter during lecture, workshops and tutorials etc. Informal curricula are less tangible and include students identifying role models. Finally, the hidden

curriculum is the influences a student obtains from the culture or structure of the educational organisation. Hafferty (1998) concludes¹⁵²:

“...there is a fundamental distinction between what students are taught and what they learn.”

The application of these theories to pharmacy education reveals similarities with, and differences to, the professional socialisation observed in medicine. The formal curriculum presented for pharmacy students includes a focus on professionalism and professional standards¹⁵³. However, Taylor and Harding (2007) state that professional socialisation is limited by an increased focus on science rather than practice, a point also noted by students and other researchers^{131,154,155}. The impact of the informal and hidden curricula has come under scrutiny within pharmacy education. Role models have often been cited by pharmacists as an important way to understand professionalism but opportunities for exposure to role models throughout the pharmacy degree appears to be limited¹⁵⁶. Research conducted by Wilson *et al.* (2003) identified that practical placements varied occurred within all the schools of pharmacy in the study, however, community placements were generally uncommon¹⁵⁵. More recent initiatives from schools of pharmacy have increased the number of practical placements on many MPharm courses, however there are still concerns over placement length and quality¹⁵⁷.

However, student commitment to pharmacy has been called into question. Some researchers have applied the terms disenchanted or disillusioned to pharmacy students and cited mixed messages and potential contradictions within pharmacy education as their reasoning^{131,158}. These mixed messages may be due to a disconnect between what is taught at universities and what happens in practice. A study carried out in 2001 asked pharmacy graduates how well they felt the MPharm course prepared them for practice, 87% believed that more emphasis should be placed on teaching clinical and practice subjects and 31% felt that the degree had little resemblance to knowledge needed for practice¹⁵⁹.

Once university training has been completed students must enter into their pre-registration year^e. The GPhC provide these students the 'Pre-registration Manual'¹⁶⁰. Within this document a number of performance standards are explicitly stated and pre-registration trainees must be signed off by their tutor against all 76 standards. Despite this a study carried out by Elvey *et al.* identified that newly qualified pharmacists did not recognise these standards as underpinning their learning¹⁴¹. Although the author concluded that the:

"...pre-registration year and the very early years of practice as a qualified pharmacist were the time where their professionalism, and understanding of it, developed."

The study used focus groups with participants including early career pharmacists, pharmacy support staff and pre-registration tutors. Their aim was to explore the perceptions of these groups regarding professionalism and its development in pharmacy practice.

The final stage of socialisation (described as post-socialisation) occurs after the pre-registration year and includes early career experiences¹⁴⁷. Willis *et al.* (2011) found this to be an important concept within pharmacy¹⁴⁵:

"...professionalism learning was by no means considered as being complete at the point of registration but as continuing into pharmacists' early career years."

The aforementioned study by Elvey *et al.* included the views of newly qualified pharmacists and described the development of 'softer' skills associated with professionalism developed in this later stage¹⁴¹. These skills included interacting and communicating appropriately with others, particularly patients.

2.5 Measuring Pharmacy Professionalism

As discussed in chapter one, a review of medical literature carried out by Arnold (2002) outlined steps that could be taken to strengthen assessment of professionalism⁴⁶:

^e In certain circumstances the pre-registration year may be incorporated into a five year degree programme (as typified by Bradford University²⁷⁷)

“The well-circumscribed concept of professionalism can serve as a foundation for future measurement initiatives, but it does require clarification.

Assessment of professionalism should focus on professionalism, in and of itself.

Instruments that measure the separate elements of professionalism should be developed.

Rigorous qualitative approaches to assessment should be encouraged, along with more quantitative measures of the elements of professional behaviour

The hypothesis should be explored that to improve assessment of professionalism, our tools should emphasize behaviours as expressions of value conflicts, explore the resolution of these conflicts, and take into account the contextual nature of professional behaviours.

Of most immediate concern is whether measurement tools should be tailored to the stage of a medical career.

How the environment can support or sabotage the assessment of professional behaviour is also a central issue.”

Whilst these steps are derived from medical literature, many are also applicable to pharmacy professionalism research. This issue and difficulties with regards to defining professionalism have been previously discussed and still remain an issue of contention. Also, investigation into context and environment is important within pharmacy due to the diverse nature of practice. Other aspects may be of less relevance; the stages of career for pharmacists may be important but differ widely from that of medicine.

In his 1968 publication ‘professionalization and bureaucratization’ Hall provides a professionalism scale for professionals in the construction industry of 50-items across five different domains¹⁶¹:

- Professional Organization as Reference
- Belief in Service to Public
- Belief in Self-Regulation
- Sense of Calling to Field
- Feeling of Autonomy

Although he did not assess pharmacists himself, Snizek (1972) did include ‘chemists’ in his data collection using the same scale as Hall¹⁶². Following this, Snizek was able to modify Hall’s scale reducing it to 25-items; this is one of the earliest times an instrument was used to measure

pharmacist professionalism. A further modification of Hall's professionalism scale was undertaken by Schack and Hepler (1979); they modified it specifically for pharmacists¹⁶³. They created a 40-item scale that referred to a respondent's thoughts, feelings and perceptions about themselves. The authors reported the use of this scale with hospital pharmacists.

An alternative modification of Hall's scale was conducted by Clark, Grussing and Mrtek (1994) they focussed on role perceptions of pharmacy managers and pharmacists in chain pharmacies¹⁶⁴. The authors used a 6-item scale based on Hall's work and largely focussed on respondents' belief in self-regulation. The study found that pharmacists working in frontline practice roles tended to respond with more professional attitudes than pharmacists working in management roles.

Rutter and Duncan (2008) carried out a review of pharmacist professionalism measures and identified three authors who have produced survey tools to measure professionalism. Firstly Hammer *et al.* (2000) developed an instrument designed to assess the professionalism of USA pharmacy students¹⁶⁵. Utilising evaluation reports, expert review and exploratory factor analysis, the authors were able to produce a 25-item scale designed to be distributed to students and their preceptors. The authors reported that the scale demonstrated validity and reliability after testing. Secondly an adaptation of the Schack and Hepler scale was presented by Lerkiatbundit (2005) and was circulated amongst Thai pharmacy students¹⁶⁶.

Finally, another USA study carried out by Chisholm *et al.* produced an 18-item scale derived from focus groups and relating to the ABIM's six domains of professionalism¹⁶⁷. The scale was aimed specifically at pharmacy students and included items such as: 'I want to exceed the expectation of others', 'it is important to produce quality work' and 'I complete my assignments independently and without supervision'.

Following the publication of Rutter and Duncan's review a number of other measures have been identified¹⁶⁸. Peeters and Stone (2009) published a pilot study carried out in Canada¹⁶⁹. They

produced an instrument containing 15-items based on the ABIM’s six domains of professionalism. This instrument was designed to be distributed to practising pharmacists and examples of the questions used can be seen in Table 2-9.

Table 2-9 - Example Questions Taken from an Instrument Used by Peeters and Stone (2009)¹⁶⁹

<p>Q. It is imperative that I continue to keep my knowledge base and skills up to date throughout my career.</p> <p><input type="checkbox"/> Strongly disagree <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Strongly agree</p>
<p>Q. Since graduation, I likely have completed Continuing Education equivalent to:</p> <p><input type="checkbox"/> 0–5 contact hrs <input type="checkbox"/> 6–10 contact hrs <input type="checkbox"/> 11–20 contact hrs <input type="checkbox"/> 21+ contact hrs</p>
<p>Q. How often do you read primary medical literature? (e.g. journal articles)</p> <p><input type="checkbox"/> < 1/mo <input type="checkbox"/> <1/wk, but more than 1/mo <input type="checkbox"/> >1/wk, but <daily <input type="checkbox"/> >daily</p>

An instrument developed to measure professionalism in Iranian pharmacists contained 26-items and was distributed amongst practising pharmacists¹⁷⁰. The instrument was highly focussed on the Iranian model of pharmacy and contained items such as:

- *“According to the possibility of drug shortage in our country if a known patient with a history of a chronic disease refers there is the possibility that I propose buying more drugs than the recommended amount by the physician.”*
- *There is possibility to reject the consultation fees to increase the number of customers of the pharmacy.*
- *In some cases I may recommend using different types of supplements such as Zinc, Garlic tablet, Ginseng, and Royal Jelly to the patients.”*

An instrument constructed by Kelley *et al.* (2011) built on the work of Hammer *et al.* and Chisholm *et al.* using previously proposed items and also adding new ones^{165,167,171}. A 33-item scale was produced based across five different domains designed for distribution amongst USA pharmacy students:

1. Reliability, Responsibility and Accountability;
2. Lifelong Learning and Adaptability;

3. Relationships with Others;
4. Upholding Principles of Integrity and Respect;
5. Citizenship and Professional Engagement.

There have been a number of instruments and scales published for the assessment and measurement of professionalism. It can be argued that these could be separated into three groups: academic, practice and external. Academic measures focus on the perceptions of students and those responsible for training students, these measures are often used longitudinally. Practice measures assess the professionalism of practising pharmacists in different sectors of work and tend to be used for cross-sectional studies. External measures are less common and focus on the views of those not directly associated with the profession (for example patients or the general public). Scales that fit into combinations of these groups also offer opportunities to investigate professionalism from different perspectives.

In this section the measurement of professionalism has been considered. Drawing from medical research and more recent pharmacy research a number of instruments have been discussed. As Lynch *et al.* point out, the development of new instruments may not always be necessary and the modification of current instruments may save time and resources. This advice has not always been heeded and a number of different research groups have produced their own scales to measure professionalism.

2.6 Professional status

With discussions around marginal, semi and quasi-professions as well as deprofessionalisation, proletarianisation and reprofessionalisation, the current professional status of pharmacy has become a subject of debate¹³⁵. There are aspects of current pharmacy work that fit certain features of certain models but no overall model that provides a true representation of the professional status of pharmacy.

The RPS provides a yearly publication to all pharmacists registered with them called Medicines, Ethics & Practice: The professional guide for pharmacists (the MEP)⁵⁸. Within this document, the RPS dedicate a section to: Professionalism and Professional Judgment, and in this section they outline specific details about professions, professionals and professionalism. They provide the following concepts relevant to professions:

- An occupation that is recognised by the public as a profession
- An occupation for which there is a recognised representative professional body
- An occupation that benefits from professional standards and codes of conduct
- An occupation that is regulated to ensure the maintenance of standards and codes of conduct

This description seems to follow the trait-functionalist model of professionalisation. Community sanction, setting up a professional association, producing a formal code of ethics and obtaining a state licence (to enforce breaches of the code) are all traits identified as being associated with a profession. Although this model fits the development of pharmacy, as detailed above, many theorists do not agree with the trait approach. Rather, many pharmacy specific commentators have been more interested in pharmacy's unique body of knowledge (the drug or medicine) and how control of this knowledge creates a 'market shelter' for pharmacy^{137,138}.

Prevalent commentators Harding and Taylor outline a number of factors undermining pharmacy's professional status⁵⁴. These include: technology, consumerism, commercialism, corporatisation, failure to achieve social closure (legal entitlements excluding competitors from supplying services or products) and incomplete control over medicines.

The deprofessionalising effect that increasing reliance on technology within pharmacy has already been discussed along with the possibility of rationalisation. The ramifications of this have been articulated by Turner (quoted in Harding and Taylor 2003⁵⁴):

"...objective changes in tasks, brought about for example, by technological advance, inevitably threaten to transform or possibly obliterate, a particular profession."

Consumerism is prevalent within modern society especially in community pharmacy where medicines are often treated as simple products to be bought by members of the public¹⁷². Increased deregulation of medicines and the availability of some medicines to be purchased away from a pharmacy (e.g. paracetamol bought at a petrol station) have caused consumers to view them as commodities⁵⁴. One study has demonstrated that a consumer's focus is on buying a product rather than using a pharmacist's expertise during such transactions¹⁷².

As previously discussed the commodification of medicines has caused the general public to view medicines as a product to be bought like other commodities such as sugar or petrol. More recently the proliferation of supermarket pharmacies has further emphasised the commodity nature of medicines¹¹. The commercial nature of community pharmacy is necessary to support the profession as it has done since the chemist and druggists first practised in the 19th century in a model of private enterprise. Tensions between commercialism and professionalism have been noted by a number of researchers and may possibly cause 'role strain or 'role ambiguity'^{8,54,135}. Indeed, "the re-branding of 'retail pharmacy' as 'community pharmacy' suggests the profession's own awareness of a tension between commerce and professionalism"¹⁷².

The rise in employee pharmacists may reinforce the views of theorists who argue that pharmacy is a marginal profession. McCormack argued that there were conflicts between clinical autonomy and commercial enterprise that arise from the corporatisation of professions¹³³. This is a conflict that has been repeatedly reported in the literature^{8,173}. The increase in employee pharmacists (see previous sections) may be increasing these tensions making commercialism particularly relevant. Employee pharmacists are also increasing being managed by non-pharmacist managers¹²⁰. It has been argued that targets set by management can cause pharmacists to focus on quantity rather than quality of services which could potentially undermine professional, patient-centred care¹⁴¹.

In the UK pharmacists are not the only healthcare professional able to dispense medication; in certain parts of the country dispensing doctors are able to provide this service without the presence of a pharmacist. Also, in certain limited circumstances nurses and dentists may also provide medicines to patients. This is highlighted by Harding and Taylor as failure on the part of pharmacy to achieve social closure as other professions can provide a (albeit limited) dispensing service⁵⁴.

Finally, the incomplete control over medicines is a potential issue to professional status. Roberts proclaims that: “[the pharmacist] acts rather like the chef in a kitchen, preparing the order as written on the piece of paper presented to him”¹⁷⁴. It is this idea of subordination that has potential threats to professionalisation as, by simply following doctor’s instructions, the pharmacist fails to act autonomously and employs little professional judgment¹²⁹. This was highlighted in the case of *Dwyer v Roderick, Jackson and Cross Chemists* whereby a patient suffered serious side effects caused by an overdose of Migril which had been prescribed by a doctor and dispensed by a pharmacist. The owner of the pharmacy admitted negligence and was told by the judge that⁵⁶:

"Pharmacists... have to exercise an independent judgment to ensure that the drug is apt for the patient as well as that it conforms to the physician's requirements"

By considering these factors alongside different interpretations of professionalisation, the current professional status of pharmacy seems to be in flux. There are still many prevalent factors contributing to a continuation of the deprofessionalisation thesis. However, it is clear that many professional bodies are supportive of a drive to reprofessionalise pharmacy through role extension.

2.7 Community pharmacist perceptions of professionalism

In 2010 Rapport *et al.* set out to clarify the concept of ‘patient-centred professionalism’ and its effect on community pharmacists and their working practices^{143,175}. They did so through a series of consultation workshops involving both experienced and newly qualified community pharmacy participants. The workshops were supported by bio-photographic datasets reflecting GPs’ and

community pharmacists' own views and images of their workspaces. The authors used a research method known as Nominal Group Work (NGW) that: *"systematically enables key characteristics to be disclosed, refined, and ordered."* The established pharmacists discussed positive and challenging exemplars of 'patient-centred professionalism' and were asked to rank them at the end of the workshop. The most important positive exemplars related to professionalism were:

"Ensuring that patient safety was at the forefront of the pharmacist's mind and that pharmacists had up to date knowledge in order to maintain this patient safety..."

The most important challenging exemplars were related to patient issues and were:

"...generally the reverse of the positive exemplars. The most important related to compromising patient safety due to volume of work, time constraints and insufficient staff."

The positive and challenging exemplars from different consultation workshops (including established pharmacists, pharmacy staff, stakeholders and members of the public) were then merged and resultant themes identified using a thematic analysis technique. The study uncovered four different themes affecting 'patient-centred professionalism':

- Different roles and expectations
- The effects of space and environment
- Managing external forces
- Building caring relationships

Data gathered from the initial consultation workshops allowed the authors to conclude that 'patient-centred professionalism'¹⁷⁶:

"...cannot be defined in any singular or stationary sense, but should be seen as a 'moveable feast', best understood through everyday examples of practice and interaction, in relation to whose experience is being expressed, and whose needs considered."

The exemplars listed were then presented to the newly qualified pharmacist workshop for their consideration and input. The final list of exemplars was then classified into 11 themes of 'patient-

centred professionalism' presented in a 'template of patient-centred professionalism in community pharmacy'. The template defines the notion in terms of the 11 themes¹⁷⁷:

- safety
- professional characteristics
- relationships with patients
- confidentiality and privacy
- accessibility
- training
- professional pressures
- services
- environment
- changing professional roles
- patient characteristics

The article publishing the list of themes concluded¹⁷⁸: *“Outcomes indicate, that while proud of supporting patients, many pharmacists feel demoralised, torn between pressing public and professional demands and the expectations of advice-giving in unfamiliar, formal situations within nondescript, corporate workspaces”*.

The list of themes was presented to a forum group who ranked the list on importance, the forum group was made up of members of public, stakeholders, pharmacy staff, pharmacists and newly qualified pharmacists. The group ranked safety and professional characteristics as the most important themes within 'patient-centred professionalism'.

The use of a mixture of pharmacists and non-pharmacists to attain a consensus can be seen as a limitation of this research as the views of the different participants cannot be separated.

Additionally the study acknowledges a number of limitations; research was carried out within one

geographical location in South Wales, UK, it also only had one public workshop carried out during the study (n=6). The use of bio-photographic data may have elicited bias amongst participants as they were only provided with a limited amount of data which may not have been representative of all community pharmacy. Additionally the use of data from a GP surgery may have caused biased comparisons from the participants depending on the choice of material.

Further research into how professionalism develops in early career pharmacists was carried out by Elvey *et al.* (2011)^{141,145}. They wanted to clarify and: *“to consider the implications of this development for the delivery of quality patient-centred care.”*

Focus groups were used with participants including early career pharmacists, pharmacy support staff and pre-registration tutors. The aim was to explore the perceptions of these groups regarding perceptions of professionalism and its development in pharmacy practice. Thematic analysis was carried out on data gathered from the focus groups and the concept of trust emerged as the most prevalent theme.

“Trust underpinned the relationship pharmacists had with patients, and it also underpinned the relationship these patients had with doctors, who they saw as the healthcare professional in whose direct and overall care they were.”

The study also identified attributes associated with being a good professional, these included:

- being respectable
- being honest and trustworthy
- having respect for patients
- acknowledging the importance of patient confidentiality
- acting in a non-judgemental manner

An additional attribute of professionalism discussed by the participants of the research was that of interacting and communicating appropriately. The study acknowledges limitations indicating that

“the number of participants in the study was too small to be representative of the populations from which they were drawn.”

This section has outlined the research into pharmacist perceptions of professionalism. The research reiterates the lack of a clear definition but does offer some insights into the nature of pharmacist professionalism. Putting the patient first emerges as a reoccurring theme alongside safety and trustworthiness. It is also noteworthy that some pharmacists feel that pressures and increasing demands may negatively impact professionalism.

2.8 Public perceptions of community pharmacist professionalism

In a 1998 study by Varnish the objective of the research was¹²⁶: *“to gauge the extent to which pharmacy qualifies as a true profession in the eyes of the people it serves.”*

The researcher approached the study with a qualitative methodology and used focus groups to attain data. It is noted in the article that: *“such methods provide a good insight into what people are thinking and feeling, but may be less generalisable than extensive and rigorous quantitative work due to the smaller numbers and localisation of participants involved.”* The sample used in the focus groups were all ‘regular’ users of community pharmacy services, and were recruited from five different pharmacies, there were a total of 23 participants taking part in 5 separate focus groups.

The following are the professional criteria used in the discussion:

- High academic achievement and lengthy training
- Registration requirements
- Ethical code present
- Altruistic service
- Skill based on theoretical knowledge
- Autonomy of practice

Data were analysed to generate themes and the author concluded that:

“...while there are a few grey areas in the lay public’s understanding of pharmacy, the overall feelings expressed were ones of recognition of the profession, understanding of its area of expertise, and support for the role it is playing.”

It is important to note that this study was carried out 15 years ago and since its publication there have been a number of changes in the field of pharmacy, most notably the introduction of the new pharmacy contract in 2005. The changes in pharmacy practice over the last 15 years may have altered the perceptions of the public. Other limitations of this work include the sample used; the title talks about ‘the public’s perceptions’ but the participants are all recruited from pharmacies and are labelled in the article as regular users of pharmacy. This may produce some bias as the regular users may have an increased knowledge of pharmacy compared to infrequent or non-users. Also social desirability bias may affect the study, this is the tendency to respond to questions in a socially acceptable direction¹⁷⁹. For instance people may describe the variable of interest in a way they think the investigator wants to hear¹⁸⁰. Also ‘regular’ users may not have wanted to besmirch pharmacists for fear of them being identified by their ‘regular’ pharmacist. Finally, the author does not disclose over what geographical locale the participants were recruited, this could be of importance as opinions expressed in one area of the country may differ from those in another.

The 2010 report by Rapport *et al.* included one consultation workshop consisting of 6 members of the public¹⁴³. They discussed positive and challenging exemplars of ‘patient-centred professionalism’ and were asked to rank them at the end of the workshop. The positive exemplars that were classified as being most important were related to the dispensing pharmacy role, ensuing that:

- prescriptions were correct
- the service was efficient
- the pharmacy was accessible (both socially and in terms of opening hours)

The challenging exemplars that were classified as being most important were also related to the dispensing pharmacy role, ensuring that:

- prescriptions were correct (no mistakes in administering/delivering medicines)

- they were delivered in a timely fashion (no long waits for prescriptions)
- pharmacists were not involved with multiple tasks that could potentially lead to incorrect prescribing

The public group also acknowledged a lack of patient knowledge with respect to ‘patients and professional needs and expectations’.

In this section the limited literature relating to the public’s perceptions of professionalism within pharmacy has been reviewed. The most common theme is the lack of understanding relating to the role of the community pharmacist. As discussed above, further reports have demonstrated that the public view criteria such as safety and efficiency as important professional exemplars.

2.9 Contribution to research

The intended contribution of this research is to understand the differences between leadership views, pharmacist views and public views of community pharmacy in England. By gaining an insight into this area it is possible to identify whether the public deems pharmacy a profession, and to investigate reasons for and against this assertion. It is important for the future of the pharmacy profession to be well regarded and useful in the eyes of society and to ensure this occurs a professional image is valuable. The outcomes from the study may help to inform policy relating to the future of the profession.

2.10 Summary: moving towards a programme of work

Chapter one of this thesis provided a background to orientate the research. The discussion of professionalism as a sociological concept and how it can be applied to pharmacy was discussed in this second chapter, along with a literature review of previous work undertaken in this field.

Understanding the current conceptualisations of professionalism and where pharmacy is positioned within them has helped to develop ideas towards a programme of work. The general public’s views of pharmacy have been sought for a number of different pharmacy practice studies and, as

demonstrated in this chapter, the public's views have also been sought with specific relation to professionalism. The strengths and weaknesses of these studies have been discussed and there seems to be a dearth of up to date and rigorously collected data.

Review of the literature seems to indicate that the professional status of pharmacy is in flux. Application of theoretical models such as the trait-functionalist model of professionalisation seem to indicate that pharmacy has achieved professional status. However, there are numerous commentators who highlight specific reasons that pharmacy may be considered a semi-profession due to the effects of deprofessionalisation. These reasons include: increased reliance on technology, consumerism, commercialism, corporatisation, failure to achieve social closure and incomplete control over medicines. Reprofessionalisation through activities such as role extension may ensure pharmacy remains a profession. The forces of deprofessionalisation and reprofessionalisation are apparent within pharmacy indicating fluctuation of professional status.

There appears to be a lack of consensus on a definition of professionalism within pharmacy and also within other healthcare disciplines. Despite this a number of traits occur across different descriptions or definitions. These include: knowledge and skills, commitment to the profession and a patient centred partnership. In addition the studies identified personal values as important for professionalism, these values included accountability and responsibility. Despite the importance of professionalism, a fixed definition remains elusive. The majority of research relating to pharmacist professionalism seems to be sought from the education sector with numerous studies involving students, pre-registration pharmacists or newly qualified pharmacists.

The views of practising pharmacists have been sought on a limited number of occasions in relation to pharmacist professionalism. Those studies that have investigated this concept have often been inward looking. Research into the views of pharmacists of how they perceive public opinion is lacking. In addition, there are no current studies comparing the views of the general public and pharmacists in relation to pharmacist professionalism.

Following a review of the literature a further programme of work was considered. Methodology for the thesis is outlined in the third chapter, emphasising the benefits of mixed methods research and providing justifications for the research processes used. The fourth, fifth and sixth chapters outline results of the three studies that comprise this thesis. The discussion and conclusions are provided in chapter seven, where relevant findings are detailed and how this study has met the research objectives and provided a significant original contribution to the field of pharmacy practice research are discussed.

2.11 Aims and objectives

The background and application of theory to pharmacy has identified the need to research professional status and professionalism within pharmacy as the current state of pharmacies professional claim remains unclear. The aim of this research was to identify how the professional status of pharmacy is perceived by the general public and how this compares to the views of practising pharmacists. This was achieved using the following objectives:

- To understand how current theories of professionalism fit within the pharmacy profession.
- To identify the thoughts and views of professional leaders within pharmacy on matters relating to professionalism and professional status.
- To assess the level of importance the general public and pharmacists place on different attributes of professionalism.
- To establish if public perceptions of pharmacist professionalism are affected by differing amounts of pharmacy exposure.
- To examine if public perceptions of pharmacist professionalism differ between different demographic sub-groups.
- To explore which activities of the pharmacist's work pharmacists and the public believe to be 'professionalising' and which 'deprofessionalising'?

- To analyse the frequency of the occurrence of compromises in professionalism attributable to 'commercial pressures'.

Chapter 3: Methods

This chapter provides details relating to the programme of work including the methods used and the philosophical stance adopted. It also outlines the foundations of research methods theory. The research presented in this thesis consisted of three work streams; an initial qualitative phase followed by two mixed methods work streams utilising questionnaires and interviews conducted in two distinct populations – one in a population of community pharmacists and one amongst the general public. Each of these work streams is described in the succeeding chapters.

3.1 Scientific Methods

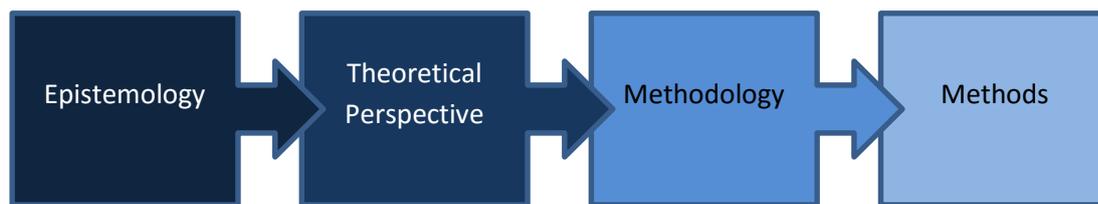
People attempt to comprehend the world around them by using different types of reasoning.

Inductive reasoning is a means by which the study of a number of individual cases leads to hypothesis generation and eventually to generalisation across a population¹⁸¹. Conversely, deductive reasoning begins with a general idea or theory, with testable hypotheses being developed from this theory and then tested by data collection¹⁸⁰.

The primary feature of the scientific method is that the process is systematic. This means that it should be based on a rigorously followed and agreed upon set of rules. Scientific processes should allow research to be evaluated against these rules¹⁸⁰. Different theoretical perspectives have been proposed in order to study data and test hypotheses in the real world. The positivist paradigm is associated with the belief that social science procedures should attempt to mirror those used in the natural sciences. Positivists believe that it is possible to capture 'reality' through the use of research instruments such as experiments and questionnaires¹⁸² although they have also been criticised for failing to measure the meaning of situations to people¹⁸⁰. Because of these criticisms a post-positivist approach was proposed, this maintains the same basic beliefs as positivism but researchers argue that social reality can only be known imperfectly and probabilistically. In contrast with the other paradigms is the interpretivist view where by researchers see interpretations of the social world as culturally derived and historically situated¹⁸².

Within research there are two distinctive research approaches, qualitative and quantitative. The quantitative paradigm has been, historically, closely linked to positivism although it has now been largely superseded by post-positivist approaches¹⁸³. Quantitative research is a means for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured so that numbered data can be analysed¹⁸⁴. On the other hand, qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem¹⁸⁴. The philosophical underpinnings of qualitative research are various. One of the most common approaches is social constructionism or interpretivist indicating a focus on how the social world is interpreted by those involved in it¹⁸³.

Figure 3-1 - Foundations of Social Research



Selection of methods within social research is dependent upon a number of different interconnected factors (Figure 3-1). The method itself is the technique to be used for research. It will allow for the testing of hypotheses. The selection of the method is dependent on the methodology; this is the strategy, plan of action, process or design which governs the choice of method. It will act to link the method to the desired outcomes. The methodology is informed by the theoretical perspective of the research while the philosophical stance provides context and grounding for the research's logic and criteria. The epistemology is the theory of knowledge used to drive the decision of the theoretical perspective. Examples of these factors can be seen in Table 3-1.

Table 3-1 - Examples of Factor that can Influence Research Decisions (adapted from Crotty 1998)

Epistemology	Theoretical perspective	Methodology	Methods
Objectivism Constructionism Subjectivism	Positivism (and post-positivism) Interpretivism Critical inquiry Feminism Postmodernism	Experimental research Survey research Ethnography Phenomenological research Grounded theory Heuristic inquiry Action research Discourse analysis Feminist standpoint research	Sampling Measurement and scaling Questionnaire Observation Interview Focus group Case study Life history Narrative Statistical analysis Data reduction Theme identification Comparative analysis Interpretative methods Document analysis Content analysis Conversation analysis

Alongside quantitative and qualitative research methods, a relatively new form of enquiry has been developed which incorporates aspects of each¹⁸⁶. This is known as mixed methods research. The core characteristics of this approach are that¹⁸⁴:

- It involves the collection of both qualitative and quantitative data in response to research questions or hypotheses.
- It includes the analysis of both forms of data.
- The procedures for both qualitative and quantitative data collection and analysis need to be conducted rigorously (e.g. adequate sampling, sources of information, data analysis steps).
- The two forms of data are integrated in the design analysis through merging the data, connecting the data, or embedding the data.
- These procedures are incorporated into a distinct mixed methods design that also includes the timing of the data collection (concurrent or sequential) as well as the emphasis (equal or unequal) for each database.

By using qualitative and quantitative methods together the overall strength of a study can be increased compared to the use of either method alone¹⁸⁷.

Consideration of the theories of research and how they apply to this study will be discussed in subsequent sections. Reference will be made to how different aspects of this study relate to points raised within this section.

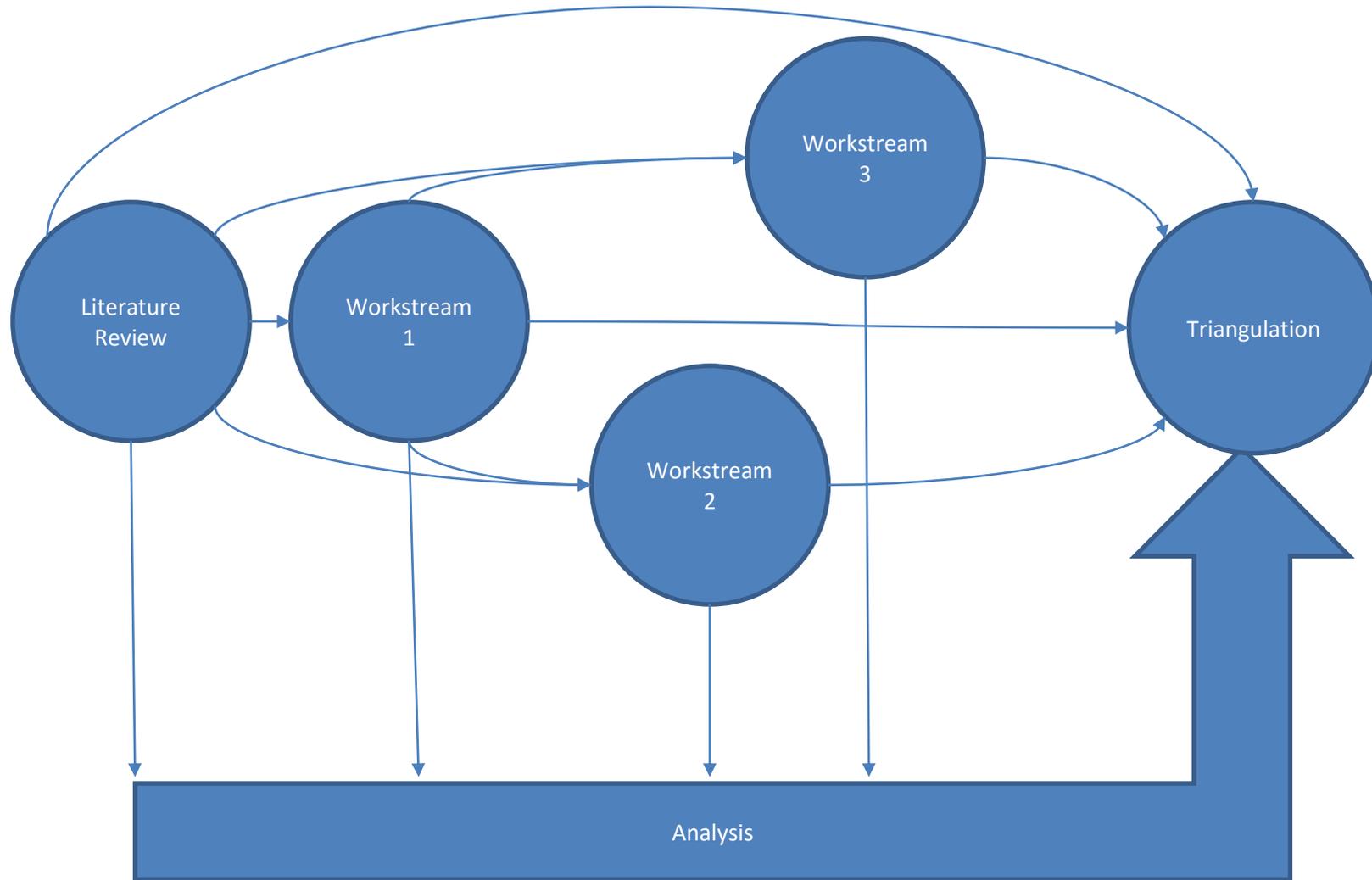
3.2 Overall aim of the programme of work

The aim is to investigate perceptions of professionalism and factors influencing professionalism from the perspectives of those within the pharmacy profession and those external to it. In order to address this aim, three separate studies were developed. The studies follow the mixed method framework of research, using a approach known as the 'sequential exploratory strategy'¹⁸⁷. A three phase approach is used, during phase 1 a researcher may gather and analyse qualitative data. Subsequent analysis of these data will guide development of a research instrument (Phase 2). The administration of this instrument to a sample population is considered the third phase. This strategy was combined with an explanatory sequential method; this is the use of qualitative techniques to further explain findings from quantitative research. This has been visualised in (Figure 3-2)

3.2.1 Triangulation

Triangulation involves the combination and comparison of different types of data, approaches and/or methods within the same research study¹⁸⁸. The types of triangulation used in this study involved data triangulation and methodological triangulation. Data triangulation involves using multiple data sources that may vary based on time, setting, or persons from whom data were collected¹⁸⁹. Methodological triangulation, on the other hand, refers to the use of more than two data collection methods and often refers to qualitative and quantitative methods that can be used during research studies^{190,191}. The purpose of triangulation in this study was to combine two types of data collection (qualitative interviews and questionnaires), analysis and to complement the results from different perspectives (professional leaders, members of the general public and pharmacists). It is recognised that triangulation adds rigour and credibility to a study and these are powerful reasons for mixing methods¹⁹².

Figure 3-2 - Overall aim of the programme of work



3.3 Literature Review

A search of literature was conducted to identify publications concerned with professionalism within pharmacy and associated professions. The electronic databases Web of Science and PubMed were searched. In addition to these databases specific journals were also searched, these were: International Journal of Pharmacy Practice, Pharmaceutical Journal and Research in Social and Administrative Pharmacy. Articles published in the trade publication Chemist and Druggist were also searched. Finally, relevant PhD theses were identified using the EthoS database. A number of search terms were used in different combinations to ensure relevant articles were sourced, these can be seen in Table 3-3. Search terms were used combined with Boolean operators (e.g. AND; OR; NOT) as part of the search strategy. 'Wildcards' were also used to ensure differences in spelling of relevant terms (e.g. professionalisation vs. professionalization) were properly identified (e.g. 'professionali?ation'; 'professionali\$ation').

Table 3-3 - Literature Review Search Terms

"Profession"
"Professional"
"Professionalisation"
"Professionalism"
"Pharmacist"
"Pharmacists"
"Pharmacy"
"Pharmacies"
"Doctor"
"Medicine"
"Medical"
"Healthcare"

The titles, abstracts, and keywords of each of these articles were reviewed to assess their relevance to the research; relevant articles were then read in full. The references of the reports and selected articles were also surveyed for other appropriate articles, which may have not been highlighted during the literature search.

3.3.1 Inclusion and exclusion criteria

Strict exclusion criteria were not used as the researcher did not want to miss potentially useful literature. There were no resources to translate non English-language articles, therefore if the search identified non-English articles then these would not be reviewed.

3.4 Interviews with professional leaders

Once an initial review of literature had been carried out and a specific gap in current knowledge was identified, it was deemed valuable to conduct interviews with leaders from representative and leadership bodies within pharmacy. It was believed that these interviews would help to enrich the data obtained from the literature and to help form hypotheses and theories for further testing. This study had the following aim:

- To identify the thoughts and views of professional leaders within pharmacy on matters relating to professionalism and the professional status of pharmacists.

3.4.1 Methodology

A methodology can be described as the plan of action behind the choice and use of particular methods within research. It is also concerned with the linking of the choice and use of methods to the desired outcomes. Phenomenology is a qualitative methodology concerned with perception, meanings and how individuals see the world around them¹⁹³. It is part of a constructivist paradigm which usually indicates a focus on the individual and how they construct and make sense of their world¹⁸³. In 2006, Rochette *et al.* presented a paper where they had not applied phenomenology in a rigid way but instead explored only meanings within their subject matter¹⁹⁴. It is this type of ‘phenomenological orientation’ that was used to assess the perceptions of professional leaders on the subject of professionalism within pharmacy.

3.4.2 Methods

Interviews methods involve the collection of data through talking to respondents and recording their responses¹⁸⁰. In particular they are a principal method of data collection in qualitative studies¹⁹⁵.

Interviews are often categorised according to their degree of structure¹⁸³:

- Fully structured interview. Has predetermined questions with fixed wording, usually in a pre-set order.
- Semi-structured interview. The interviewer has an interview guide that serves as a checklist of topics to be covered and a default wording and order for the questions, though these can be modified based on the flow of the interview. Additional unplanned questions are asked to follow up on what the interviewee says.
- Unstructured interview. The interviewer has a general idea of interest and concern but lets the conversation develop within this area.

Semi-structured interviews were selected as the research method as they provide an important data gathering technique suited to an initial exploratory phase of work. This method of data collection also allows for hypothesis generation¹⁹⁶. Interview sessions may vary in length, anything under half an hour is unlikely to be valuable; anything much over an hour may be making unreasonable demands on busy interviewees¹⁸³. It was expected that a one hour interview with each participant would be suitable to obtain the necessary data. Interviews were recorded digitally and then transcribed word for word. After transcription, copies were sent to participants for approval that the transcript was an accurate representation of what was said during the interview.

To aid the administration of the interview, an interview schedule is frequently used. An interview schedule has been described as an aide memoire for researchers which can¹⁹⁷:

- Help the interviewer to remember the points to cover
- Suggest ways of approaching and talking about topics
- Remind the interviewer about probes and ways of asking questions
- Include an introduction and a way of ending the interview
- Ensure that the interviewer covers all the topics
- Give a possible order of topics
- Help the interviewer to enable people to talk in their own way, and as fully as possible.

The interview schedule was designed according to the principles outlined by Carter & Thomas¹⁹⁷. The topic areas to be discussed were: professionalism, acquisition of a professional ethos, perceptions of pharmacy professionalism and threats and opportunities affecting pharmacist professionalism. The question structure was entirely based around open ended questions and basic prompts were included in the interview schedule to ensure that all points were covered during the interview itself. The layout was designed to ensure ease of use with consideration given to font style and size, the use of bullet points and separate text boxes. The final interview schedule can be seen in Appendix 1 – Work Stream 1 Interview schedule.

3.4.3 Sampling

Qualitative samples should be selected in terms of characteristics and relevance to the wider population¹⁹⁸. There exist a number of sampling methods for qualitative research; the most common types are outlined briefly below.

Purposive sampling is a deliberately non-random method of sampling, which aims to sample a group of people with a particular characteristic¹⁸⁰. A sample is built up which enables a researcher to satisfy their specific needs in a study¹⁸³. The results are often not generalisable to the wider population.

Convenience sampling is the sampling of subjects for reasons of convenience (e.g. easy to recruit, near at hand, likely to respond)¹⁸⁰. However, this technique may be biased and unrepresentative of the population in question¹⁸³. It is often used as method where accessibility, speed, and low cost are important.

Theoretical sampling uses insights gained from previous research to inform sample selection for a new study¹⁹⁸. This method is developed from grounded theory, whereby data is collected until saturation is achieved¹⁸⁴. Using this method subjects are selected to help locate data and to develop and challenge emerging hypotheses¹⁸⁰.

Professional leaders in pharmacy have varying levels of effect upon the current and future state of professionalism. Leaders can come from either regulatory or representative back grounds, both of which endeavour to promote the highest levels of professionalism within pharmacy.

Actions of these leadership bodies include:

- Professional advice and support
- Providing a professional voice to pharmacists
- Maintaining standards
- Ensuring professional services
- Influencing policy

Interviews were conducted with a purposive sample of professional leaders from eight different leadership bodies:

- Company Chemists Association (CCA)
- Department of Health (DH)
- General Pharmaceutical Council (GPhC)
- Independent Pharmacy Federation (IPF)
- National Pharmacy Association (NPA)
- Pharmacy Defence Association (PDA)
- Pharmacy Services Negotiating Committee (PSNC)
- Royal Pharmaceutical Society (RPS)

One participant from each body was selected for recruitment. Individuals were eligible for inclusion if their job roles and their responsibilities within their organisations related to professionalism and professional matters. Contact was made with selected participants via post and email, participants were sent a covering letter and an information sheet (Appendix 2 – Work Stream 1 Interview Invitation Letter and Appendix 3 – Work Stream 1 Interview Information Sheet).

3.4.4 Ethics

Ethical approval was applied for from the School of Life & Health Sciences Research Ethics Committee at Aston University before commencing the research. The application was approved on 02/07/2013 (PhD Student Ethics Application 550). NHS ethical approval was deemed unnecessary as the participants would be representatives of non-NHS bodies and as such not covered by the DH's 'Governance Arrangements for Research Ethics Committees' (GafREC)¹⁹⁹.

3.4.5 Administration

The interviews took place at a time, date and place that was agreed upon by both the participant and the researcher. The administrative arrangements of the interviews can be seen in Table 3-4.

Table 3-4 - Logistics of Interview Administration

Participant ID	Face-to-face or Telephone	Setting	Location
Professional leader 1	Face-to-face	Private Meeting Room	London
Professional leader 2	Face-to-face	Private Meeting Room	Manchester
Professional leader 3	Telephone	Private Office (both parties)	London/Birmingham
Professional leader 4	Face-to-face	Private Office	London
Professional leader 5	Face-to-face	Private Office	London
Professional leader 6	Face-to-face	Private Meeting Room	London
Professional leader 7	Face-to-face	Private Office	Birmingham
Professional leader 8	Face-to-face	Private Meeting Room	London

3.4.6 Analysis

Once transcription had been undertaken the transcript was sent to the relevant participant for approval before analysis was undertaken.

Thematic coding analysis is a method for identifying, analysing and reporting patterns within data; it can be used to help form hypotheses from the collected data²⁰⁰. It relies on the constant comparison technique involving taking one piece of data (one interview, one statement, one theme) and comparing it with all others that may be similar or different in order to develop conceptualisations of the possible relations between various pieces of data²⁰¹. The process involves coding of data to produce themes; these themes are derived inductively—that is, obtained gradually from the data²⁰². The steps involved in this process, together with a brief description of each step can be seen in Table 3-5.

Table 3-5 - Phases of thematic analysis (after Braun and Clarke, 2006)

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	On-going analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

3.5 Public Questionnaire

The method selected to carry out this study was the postal questionnaire. This method of data collection is commonly used in pharmacy practice research¹⁹⁵. Questionnaires benefit the research by allowing the collection of data from large numbers of people in a timely and low cost manner. They allow respondents to complete the questionnaire at their own pace and remove any possibility of interviewer bias²⁰³. Questions are standardised and can comprise of closed or open questions to allow a range of different data to be collected¹⁹⁵.

For this study quantitative closed questions were selected owing to the large sample size proposed (see below) as analysis of answers to closed questions is considered less time and resource intensive²⁰³. The questionnaire was distributed via post for self-completion by participants. This is a common method adopted by social scientists and was necessitated by the fact that the electoral roll was used to identify participants¹⁸⁰ (sampling strategy is discussed in further detail below).

There are number of design considerations that apply to postal questionnaires and these were incorporated into the final questionnaire design¹⁸³. Giving clear instructions (e.g. 'put a tick') helps respondents complete the questionnaire easily. Sub-lettering of questions to help group questions on specific issues ensures that respondents know what to expect in each section of the questionnaire. A brief note included at the end of the questionnaire thanking participants for their help. Addressing envelopes to named individuals helps respondents to differentiate between 'junk

mail' and the questionnaire. Inclusion of a covering letter helps to engender the respondent to the researcher by outlining reasons for conducting the research.

3.5.1 Sampling strategy

Previous studies have used patients or pharmacy users as their sample¹²⁶. Additionally, certain studies have used the terms public, customer, patient and client interchangeably¹⁷⁶. However, Hogg (1999) states that each of these will have different implications²⁰⁴. It has been reported that frequent users of pharmacies are females aged 35-74 and males aged over 55²⁰⁵. This research sought views of the general public and as pharmacy users were unlikely to be representative of the general public it was felt that following these methods could potentially introduce bias. It was then decided that the population under investigation would be the general public. There were 64.1 million people living in England in mid-2013²⁰⁶. At the age of 16 members of the English population are able to register to vote (although they are unable to cast a vote until 18). When a member registers to vote they are given the option of opting out of the edited or open electoral register. The edited/open register is a list of voters (who have not opted out) that is available for purchase from local authorities. As of February/March 2014 there were 40,001,780 registered voters in England (62.4% of the total population) and 26,072,335 (65.0% of total voters, 40.6% of the total population) enrolled on the edited/open register.

While it may be reasonable to assume that the people on the open electoral register are representative of the wider population of England, previous research suggests that people who opt out of the open electoral register are more likely than the general population to be single, wealthy and middle aged²⁰⁷.

An *a priori* sample size calculation was carried out to decide upon an adequate sample size that was representative of the population. Using a 3% margin of error and 95% confidence level, the required number of responses from the sample was calculated as 1,068. The next consideration was response rate, in general, postal surveys tend to have lower response rates than face-to-face or telephone

interviews²⁰⁸. It has been reported that response rates can be as low as 30%²⁰⁹. Using a conservative estimate of 20% response rate, the sample size needed to get approximately 1,000 responses was calculated to be 5,000.

There exist numerous different sampling methods for quantitative research. The following methods represent the most common methods but this list is by no means exhaustive. Simple random sampling is method whereby each member of a population is assigned a number. Using a random number generator members of the population are selected and a sample is created¹⁸⁰. Each member of the population has an equal chance of being selected.

Systematic random sampling allows a researcher to use a list of a population to randomly select a sample¹⁸⁰. In this method each member of the population does not have an equal chance of being selected. A random starting point is selected on the population list and then a sampling fraction is used to select members for the sample by counting along the list¹⁸⁰. This method provides a more even spread of the sample than simple random sampling.

Another form of participant selection is stratified sampling, this involves dividing members of a population in groups or strata¹⁸³. Each member of the strata should share a common characteristic e.g. age range, geographical location etc. Random sampling then occurs within each stratum to ensure that all groups are adequately represented in the final sample.

Cluster sampling involves dividing a population into a number of clusters, each of which have a range of characteristics¹⁸³. The clusters are then chosen at random and then the sub-population is chosen within the cluster to form the sample. This method is often used for widely dispersed populations¹⁸³.

In an attempt to ensure that responses were received from a representative sample of the general public of England, it was decided that a stratified sample would be used, taking into account geographical location, rurality and deprivation. This decision was made so that the diverse population of England would be better reflected in the sample.

There are 326 local authorities in England and the edited electoral roll is available for purchase from each of these. The contact details of approximately 1,000 registrants were purchased from 20 different local authorities (i.e. contact details of approximately 20,000 people were obtained). Of the 1,000 registrants from each LA, duplicate households (more than one registrant per household) would be removed and a random sample of 250 registrants would be selected using the =RAND() function in Microsoft Excel. This is described as a function that:

“Returns an evenly distributed random real number greater than or equal to 0 and less than 1”

This function has previously been used in research to generate random numbers²¹⁰.

3.5.1.1 Sampling Local Authorities

This section outlines the processes used to determine which local authorities were approached to obtain open electoral role records for sampling. It was decided that the local authorities selected were to be chosen based on their populations, geographical location, geographical circumstances (rural or urban) and the indices of multiple deprivation (IMD) to ensure a representative sample is attained.

3.5.1.1.1 Geographical location

England can be subdivided into 9 different regions²¹¹ for the purposes of administration related to electoral activities. The number of local authorities within each region is outlined in Table 3-6.

Table 3-6 – Number of Local Authorities per English region

	Number of Local Authorities
East Midlands	40
East of England	47
London	33
North East	12
North West	39
South East	67
South West	37
West Midlands	30
Yorkshire and The Humber	21
Total	326

3.5.1.1.2 Rural/Urban Nature of Local Authorities

Using data from the Office of National Statistics each local authority (LA) can be classified as either rural or urban ²¹² (see Table 3-7).

Table 3-7 - Local Authorities by Geographical Circumstance

	Rural LA	Urban LA	Total LA
East Midlands	25	15	40
East of England	30	17	47
London	0	33	33
North East	3	9	12
North West	13	26	39
South East	35	32	67
South West	25	12	37
West Midlands	16	14	30
Yorkshire and The Humber	11	10	21
Total	158	168	326

3.5.1.1.3 Indices of multiple deprivation (IMD)

Using data from the Department for Communities and Local Government²¹³ each local authority was assigned a classification based on their rank when sorted by average score for IMD (see Table 3-8).

Table 3-8 - Indices of Multiple Deprivation Quintiles

Classification	
A	<20% Rank of Average Score
B	21-40% Rank of Average Score
C	41-60% Rank of Average Score
D	61-80% Rank of Average Score
E	81-100% Rank of Average Score

These data were then used with the geographical circumstance data to further define the local authorities from 'Rural A' (Rural high deprivation) to 'Rural E' (Rural low deprivation) and from 'Urban A' (Urban high deprivation) to 'Urban E' (Urban low deprivation) (see Table 3-9).

Using the combined data the percentage weighting of each category (Rural A to Urban E), the weighting from a sample size of 20 and the weighting if a sample size of 20 as an integer could be established (see

Table 3-10).

Table 3-9 – Local Authorities in combined geographical circumstance and IMD quintile by region

	East Midlands	East of England	London	North East	North West	South East	South West	West Midlands	Yorkshire and The Humber	Total
Rural A	1	1	0	2	0	0	0	0	0	4
Rural B	3	5	0	0	4	5	3	2	4	26
Rural C	8	4	0	1	4	2	10	5	0	34
Rural D	8	10	0	0	4	6	8	7	4	47
Rural E	5	10	0	0	1	22	4	2	3	47
Urban A	6	0	14	6	19	2	1	6	7	61
Urban B	3	5	7	3	3	7	5	4	2	39
Urban C	1	2	6	0	3	11	4	4	0	31
Urban D	3	6	4	0	1	2	1	0	1	18
Urban E	2	4	2	0	0	10	1	0	0	19
Total	40	47	33	12	39	67	37	30	21	326

Table 3-10 - Local Authorities in combined geographical circumstance and IMD quintile by region using an integer sample size of 20

	East Midlands	East of England	London	North East	North West	South East	South West	West Midlands	Yorkshire and The Humber	Total	%	if 20	If 20 (integers)
Rural A	1	1	0	2	0	0	0	0	0	4	1.22	0.24	0
Rural B	3	5	0	0	4	5	3	2	4	26	7.97	1.59	2
Rural C	8	4	0	1	4	2	10	5	0	34	10.42	2.08	2
Rural D	8	10	0	0	4	6	8	7	4	47	14.41	2.88	3
Rural E	5	10	0	0	1	22	4	2	3	47	14.41	2.88	3
Urban A	6	0	14	6	19	2	1	6	7	61	18.71	3.74	4
Urban B	3	5	7	3	3	7	5	4	2	39	11.96	2.39	2
Urban C	1	2	6	0	3	11	4	4	0	31	9.50	1.90	2
Urban D	3	6	4	0	1	2	1	0	1	18	5.52	1.10	1
Urban E	2	4	2	0	0	10	1	0	0	19	5.82	1.16	1
Total	40	47	33	12	39	67	37	30	21	326	100	20	20

3.5.1.1.4 Population

To ensure the sample was representative of the English population, data relating to the size of each region's population²⁰⁶ were added. Using the population percentage data the total number of local authorities out of the twenty to be approached could be worked out for each category (see

Table 3-11).

Table 3-11 - Local Authorities in combined geographical circumstance and IMD quintile by region including region populations using an integer sample size of 20

	East Midlands	East of England	London	North East	North West	South East	South West	West Midlands	Yorkshire and The Humber	Total	%	If 20	If 20 (integers)
Rural A	1	1	0	2	0	0	0	0	0	4	1.22	0.24	0
Rural B	3	5	0	0	4	5	3	2	4	26	7.97	1.59	2
Rural C	8	4	0	1	4	2	10	5	0	34	10.42	2.08	2
Rural D	8	10	0	0	4	6	8	7	4	47	14.41	2.88	3
Rural E	5	10	0	0	1	22	4	2	3	47	14.41	2.88	3
Urban A	6	0	14	6	19	2	1	6	7	61	18.71	3.74	4
Urban B	3	5	7	3	3	7	5	4	2	39	11.96	2.39	2
Urban C	1	2	6	0	3	11	4	4	0	31	9.50	1.90	2
Urban D	3	6	4	0	1	2	1	0	1	18	5.52	1.10	1
Urban E	2	4	2	0	0	10	1	0	0	19	5.82	1.16	1
Total	40	47	33	12	39	67	37	30	21	326	100	20	20
Popn (thousands)	4,567.7	5,907.3	8,308.4	2,602.3	7,084.3	8,724.7	5,339.6	5,642.6	5,316.7	53,493.6			
Popn (%)	8.54	11.04	15.53	4.86	13.24	16.31	9.98	10.55	9.94	100.00			
If 20	1.71	2.21	3.11	0.97	2.65	3.26	2.00	2.11	1.99	20.00			
If 20 (integers)	2	2	3	1	3	3	2	2	2	20			

3.5.1.1.5 Final Weighting & Selection

By considering only the integer data (see

Table 3-11) and the classification distribution within each region, the final weighting of local authorities per region to be approached could be decided. Using a Microsoft Excel spreadsheet the local authorities in each category and region were randomised using the =RAND() function and the appropriate number selected according to Table 3-12. The initial choice of local authorities can be seen in Table 3-13.

Table 3-12 - Final weighting for Local Authorities in combined geographical circumstance and IMD quintile by region

	East Midlands	East of England	London	North East	North West	South East	South West	West Midlands	Yorkshire and The Humber	Total
Rural A										0
Rural B				1					1	2
Rural C	1						1			2
Rural D	1	1						1		3
Rural E		1				1		1		3
Urban A			1	1	1				1	4
Urban B			1				1			2
Urban C					1	1				2
Urban D			1							1
Urban E						1				1
Total	2	2	3	1	3	3	2	2	2	20

In an attempt to purchase the necessary data each local authority was approached by email in July 2014. As each local authority replied it became apparent that each had a different process for purchasing and distributing the necessary data.

The initial contact email to the local authorities asked for 1,000 random registrant details to be provided, although this was not an option for the majority of local authorities. These local authorities could only supply sequential data from specific sections of their register. The number of

registrant details available also varied between each local authority. The data type and number of entries attained can be seen in Table 3-14.

Table 3-13 - Initial Choice of Local Authorities based on Region, Rurality and IMD

Location	Rurality	Quintile of Deprivation	Local Authority
East Midlands	Rural	C	Kettering
East Midlands	Rural	D	East Northamptonshire
East of England	Rural	D	Epping Forest
East of England	Rural	E	South Cambridgeshire
London	Urban	A	Waltham Forest
London	Urban	B	Ealing Broadway
London	Urban	D	Bromley
North East	Urban	A	South Tyneside
North West	Urban	C	Warrington
North West	Urban	A	Rochdale
North West	Rural	B	Copeland
South East	Urban	C	Gosport
South East	Rural	E	Eastleigh
South East	Urban	E	Wokingham
South West	Urban	B	Poole ^f
South West	Rural	C	Wiltshire
West Midlands	Rural	D	Stafford
West Midlands	Rural	E	Bromsgrove
Yorkshire and The Humber	Urban	A	Barnsley
Yorkshire and The Humber	Rural	B	Calderdale

^f Initially Bristol City Council was randomly selected; however the local authority was in the process of transferring their registration system and advised that there would be a significant delay in releasing the relevant information. It was decided that in order to prevent delays to the study a replacement local authority should be selected. Using the same sampling methods another “urban B” local authority from the South West was selected: Poole.

Table 3-14 - Data type and number of entries per Local Authority

Local Authority	Data Acquired	Type of Data
Barnsley	5,927	Sequential
Bromsgrove	932	Sequential
Calderdale	906	Sequential
Copeland	1,804	Sequential
Ealing Broadway	3,199	Sequential
Eastleigh	1,384	Sequential
Epping Forest	1,050	Sequential
Gosport	1,000	Random
Rochdale	3,608	Sequential
South Cambridgeshire	1,019	Sequential
South Tyneside	952	Sequential
Warrington	1,383	Sequential
Wiltshire	1,314	Sequential
Wokingham	1,462	Sequential
Bromley	1,822	Sequential
East Northamptonshire	1,649	Sequential
Poole	1,433	Sequential
Stafford	981	Sequential
Waltham Forest	1,775	Sequential
Kettering	1,000	Random

The data acquired from the local authorities varied in format and so a significant amount of time was spent “tidying” the data and building a master database. The process of tidying involved extracting data from Adobe Portable Document Format (PDF) files to import into the database. Different local authorities provided different levels of information and so time was spent filtering relevant data from irrelevant data. The final database included the fields:

- Forename
- Surname
- Address 1
- Address 2
- Address 3
- Address 4
- Address 5
- Postcode

- Unique identifier

The unique identifier field was used to monitor responses to the survey to ensure that any reminders were not sent out to those who had already responded.

3.5.2 Questionnaire Design

This section will outline the rationale behind the design of the research instrument used in this study. A final version of the questionnaire can be found in Appendix 4 – Work Stream 2 Questionnaire.

3.5.2.1 Section 1

The first section of the questionnaire contained questions relating to pharmacist roles and the pharmacist's place within society. A brief description of the reason for inclusion, and the evidence used to construct the question will be provided for each question.

3.5.2.1.1 Question 1

This question was concerned with establishing levels of public knowledge of the current roles of pharmacies and pharmacists. The rationale for this question came from the results of the literature review and also the results and analysis of the interviews with professional leaders (see chapter 4 for further details).

A number of previous studies have identified why pharmacy users have attended pharmacies but there is a dearth of data identifying how knowledgeable the general public are with regards to the roles of pharmacists. Most previous research has focussed on the views of pharmacy users rather than the views of the wider public (including those that do not use pharmacies or use pharmacies only very sparingly). Professional leaders also identified this gap in research:

"...the public are really good but the public don't actually know what we do..." Professional leader 2

A recent study by Davies (2014) identified the main roles of community pharmacists (see Table 2-5 on page 52) through a work sampling study. These have been used as the basis for the structure for this question. After review within the supervisory team it was decided that, in an attempt to reduce

the burden on respondents, a number of the items could be merged, separated, removed or rephrased. To ensure that the public understood the meaning of the tasks a brief description was written for those that may not be obvious.

Furthermore, other research has identified that some pharmacists have had to delegate tasks to their support staff to ensure they effectively managed their workload¹⁰⁸. For this reason it was decided that the response choices for this question would be that the task in question was either:

“Performed by pharmacist” and/or “Performed by other pharmacy staff”

3.5.2.1.2 Questions 2 & 3

These questions focussed on issues surrounding pharmacists practising in commercial environments.

It was decided that a distinction needed to be made between the pharmacist and the pharmacy. This was based on the discussion surrounding micro and meso levels of the pharmacy profession outlined in chapter 1. There was also discussion surrounding commercialism and professionalism during the preliminary interviews:

“...you have other people who will have a perception that they are shop keepers who happen to be- who provide some sort of healthcare even if it’s only supply of medicines.” Professional Leader 5

The questions were designed to address the distinction between the pharmacist and the pharmacy by asking:

- In general, how do you view community pharmacy premises (‘chemist’s shops’)?
- In general, how do you view community pharmacists (individual ‘chemists’)?

For measurement a Likert scale was used ranging from “purely health focussed” to “purely business focussed”, this was taken from the thesis “Pharmacy and Public Health: Examining the links between strategy and practice” by Bush *et al.* 2009⁸.

3.5.2.1.3 Questions 4 & 5

These questions were designed to investigate further the public's understanding of the pharmacist's role, specifically patient-facing pharmacy services. Pharmacy's move from a more service based profession (rather than technical) has been previously discussed in chapter 2.

The list of services was constructed using the PSNC services database which:

"Has been developed to provide accurate, relevant and up-to-date information to support the development of local pharmacy strategies and locally commissioned services."

The list of services extracted from the database was then refined and different services grouped together.

Question 4 was designed to understand how aware the respondent was of the potential for pharmacists to be able to provide different services and also which services they have used in the past. Question 5 used the same list of services but asked respondents if they felt that pharmacists provided the service to improve the health of service users or the services were provided to improve the profitability of their business.

3.5.2.1.4 Question 6

This question focussed on an issue relating to the macro level of the pharmacy profession. Nigel Clarke is the Chair of the General Pharmaceutical Council and at the 2014 RPS conference the Pharmaceutical Journal published an article headlined:

"Public would expect pharmacists to join professional body, says chairman of GPhC"

The public awareness of pharmacy's professional body has not been investigated; this question was designed to address this. A number of bogus items were included in the question, these were based upon the names of professional bodies for other professions and finalised through discussion with colleagues.

3.5.2.2 Section 2

This section related specifically to pharmacist professionalism. It consisted of only one question.

3.5.2.2.1 Question 7

A number of different scales which have been used to measure professionalism were discussed in chapter 2. Of those scales, only one was a validated scale that had been used to assess the public's views of professionalism. Chandratilake *et al.* published a scale of 55 items, distributed to the general public relating to professionalism of doctors. It was this scale that was chosen for the study. It was decided that due to the number of questions proposed the number of items would need to be reduced. So as not to overburden respondents with a large number of questions, it was decided through discussion with the supervisory team that 30 items would be suitable for the purposes of this study. Of the 55 original items nine were included as misconceptions (items unrelated to professional attributes) and it was decided that the revised items should also include these misconceptions to aid with reliability testing. The 28 items reported as most important from Chandratilake *et al.* were used as well as the top 2 misconceptions. The items were then randomised using the =RAND() function in Microsoft Excel to ensure the misconceptions were adequately separated. A 5-item Likert scale was used with answer options ranging from "very important" to "very unimportant".

3.5.2.3 Section 3

This section of the questionnaire titled about you. It included six questions that focussed on the respondent's use of pharmacies as well as background demographic questions.

3.5.2.3.1 Questions 8, 9 & 10

Question 8 asked "How often do you visit a community pharmacy?" This question was included so that investigations could be made into how varying levels of exposure to pharmacy affected the responses to other questions.

The next question (question 9) was concerned with how identifiable the pharmacist is within a pharmacy: "How easy do you find it to identify the pharmacist when visiting a community pharmacy?" By asking this question it is possible to identify how easy a respondent finds it to identify a pharmacist and how this affects the responses to other questions.

Question 10 was included to differentiate how often a respondent visits a pharmacy compared to how often they communicate with the pharmacist. The question was worded as: “How often do you communicate with a pharmacist?” The respondent was given a number of options as a tick box. This was included to help understand how varying levels of pharmacist communication affected the responses to other questions.

3.5.2.3.2 Questions 11, 12 & 13

The final questions of the questionnaire related to demographic details of respondents. The questions related to sex, age and ethnicity respectively. Each question offered pre-determined choices including a “prefer not to say” option. Ethnic categorisation was based on the Health and Social Care Information Centre (HSCIC) guidance for ethnic character²¹⁴.

3.5.3 Covering Letter and Information Sheet

A covering letter and information sheet were sent to every participant alongside the questionnaire. The covering letter contained the following details: name, address, contact details and background of the researcher; the design of the study; the aim of the research; confirmation that the study had received ethical approval; instruction as to how to return the questionnaire; a date by which the questionnaire should be returned; an assurance of confidentiality; and a direction to contact the researcher if there were any unanswered questions or queries (this can be found in Appendix 6 – Work Stream 2 Questionnaire Information Sheet). The information sheet reiterated a number of these details but also added: further background details for the study; details on why and how the participant had been chosen; and details relating to the university complaints procedure (this can be found in Appendix 5 – Works Steam 2 Questionnaire Covering Letter).

3.5.4 Ethics

Ethical approval was applied for from the School of Life & Health Sciences Research Ethics Committee at Aston University before commencing the study. The application was approved on 22/07/2014 (PhD Student Ethics Application 671). NHS ethical approval was deemed unnecessary as

the participants were representatives of non-NHS bodies and as such not covered by 'Governance Arrangements for Research Ethics Committees' (GAfREC)¹⁹⁹.

3.5.5 Pilot Study

A pilot study is defined as¹⁹⁵:

"...a small version of a larger study, using the same population, methods and procedures."

The main reasons for conducting a pilot study are:

- To check that the methods and procedures are acceptable and feasible in the settings in which the main study will be conducted.
- To ensure that the chosen methods provide the data required (in terms of completeness, reliability and validity) to meet the study objectives.

For this pilot study the questionnaire was sent out as detailed in the questionnaire design section but also contained two additional open questions to gather feedback from respondents, these were:

- "How long did it take you to fill out this questionnaire?"
- "If you have any feedback about the questionnaire please detail it below:"

It was decided that a sample of 100 registrants would be sent the questionnaire. Each randomly selected registrant (using the =RAND() function) was sent a questionnaire postal pack which contained:

- Covering letter
- Information sheet
- Questionnaire
- Pre-paid envelope

The postal packs for the pilot study were sent out in September 2014 and yielded a response rate of 7%. The time taken to complete the questionnaire varied with the average time calculated as: 8

minutes 54 seconds (n=7). Minimal feedback was left and none of which was relevant to the structure or formatting of the questionnaire. All the participants who responded had completed the questionnaire fully without any indication of difficulty or misunderstandings. Regardless of this it was decided that further investigation into usability of the questionnaire would be valuable. For this reason an additional second pilot was conducted.

The questionnaire was reformatted into an online format for the second pilot study. This decision was made because the focus of this pilot study was related to usability. Additional ethical approval was granted in November 2014 and the questionnaire went live the same month. The questionnaire was promoted by inclusion in a bi-weekly internal university email for Aston university staff. This iteration of the pilot received a further 7 responses with the average time taken by participants to complete the questionnaire in this second pilot being 7 minutes. Again minimal feedback was provided, however one relevant response indicated that the questionnaire was:

“Clear and easy to complete”

3.5.5.1 Pilot Outcomes

As detailed above the response rate for the pilot was lower than the 20% response rate that initial sample size calculations were based on. For this reason the decision was made to increase the sample size to ensure that the necessary 1,068 (as dictated by the previously outlined power calculation) responses would be attained. The sample size was therefore increased to 10,000, equating to 500 registrants from each of the 20 local authorities.

3.5.6 Survey administration procedure

3.5.6.1 Initial mail out

Due to the variation in protocol at the different local authorities it was not possible to attain the required 500 unique registrants from each. Therefore it was necessary to sample slightly more than 500 registrants from some local authorities to ensure that a total sample of 10,000 was achieved (see Table 3-15).

Table 3-15 - Registrants approached per Local Authority

Local Authority	Registrants
Barnsley	506
Bromsgrove	413
Calderdale	510
Copeland	500
Ealing Broadway	522
Eastleigh	500
Epping Forest	500
Gosport	501
Rochdale	515
South Cambridgeshire	500
South Tyneside	496
Warrington	514
Wiltshire	500
Wokingham	509
Bromley	502
East Northamptonshire	500
Waltham Forest	500
Poole	500
Stafford	500
Kettering	512

Posting for the initial mail out was between 26/01/2015 and 02/02/2015 using second class mail.

3.5.6.2 Reminders

Reminders were sent out to registrants after two weeks. The registrants were sent out complete postal packs as per the initial mail out but 'reminder packs' included an alternative covering letter reflecting the fact that this was a reminder (see Appendix 7 – Work Stream 2 Questionnaire Reminder Letter). Reminders were sent out between 16/02/2015 and 23/02/2015.

A planned third mailing was cancelled after a higher than expected overall response rate (15.7%, n=1,537/9,769) using only one reminder.

3.5.7 Data Analysis

Raw data were entered for analysis into Microsoft Excel 2010 and exported to SPSS 22 for Windows® for subsequent statistical testing. Descriptive statistics were used to explore means, medians, modes, standard deviation, and ranges.

Subgroup analysis was performed by applying appropriate statistical tests including Chi-square (χ^2), Mann Whitney and Kruskal Wallis, in order to examine differences between independent subgroups.

Independent subgroups studied were:

- Respondent age
- Sex
- Quintile of IMD
- Rurality
- Ethnicity

Additionally, as well being dependent variables themselves, two further variables were used as independent variables in certain cross-tabulations:

- Frequency of pharmacist contact
- Frequency of pharmacy visits
- Ease of pharmacist identification

For an association to be considered significant the significance value (p) has to be 0.05 or less.

Where this occurs, the null hypothesis can be rejected, indicating that the two variables are related with statistical significance at the 5% level. A significance level above this value means the result is not significant.

A binary logistic regression analysis was used to identify any relative effects of demographic factors on the general public's views towards business practices of pharmacy premises and towards views towards business practices of pharmacists.

Exploratory factor analysis and reliability tests were performed on the data obtained from the professionalism section of the questionnaire. Factor analysis is used to reduce the number of items in an instrument by combining items that are related to create a single variable or construct^{183,215}.

The extraction method used in this study was principal component analysis, and the orthogonal

rotation method used was varimax with Kaiser Normalisation.

When analysing results of the principal component analysis, items identified as part of distinct groups were extracted. Reliability tests were performed to assess the likelihood of loading those groups into a construct. Cronbach's (coefficient) alpha is a measure commonly used to assess internal consistency²¹⁵. Internal consistency assessment allows researchers to identify if items within an instrument measure the same idea or concept. Nunnally and Bernstein (1994) suggest that a Cronbach's alpha of 0.70 is acceptable, indicating that this level represents a modest degree of homogeneity²¹⁶.

Once constructs were developed, analysis was performed to reveal frequencies, mean, median, standard deviation, and range. Throughout analysis the significance value (p) has remained 0.05 or less. For each construct its item-total statistics are displayed in the results section, as well as a histogram displaying the breakout.

Non-parametric analysis should be used when data does not fit a normal distribution. Analysis for significant differences between demographic groups was carried out using Mann-Whitney U Tests for groups with two variables and Kruskal-Wallis tests for groups with multiple variables. Post-hoc analysis was carried out using Dunn's test²¹⁷. Dunn's test is a multiple comparisons test; it compares the difference in the sum of ranks between two groups. In calculating the P-value, the test takes into account the number of comparisons made. This controls for the probability of making a Type I error by reducing the significance level. It is preferred over other post hoc tests as it can be used with groups of equal or unequal size.

3.6 Pharmacist questionnaire

The questionnaire administration method used for this study was different to that of the general public. Additionally certain aspects of the questionnaire content differed. The differences and similarities along with design considerations and administration procedure are outlined below.

3.6.1 Sampling Strategy

As stated in previous chapters the GPhC maintain a register of all practising pharmacists. Due to the voluntary nature of other professional bodies, no other is able to provide access to a representative sample of pharmacists.

In the GPhC registrant survey (2013) there were 44,751 registered pharmacists. Eighty five percent of those practice in England and 64% practice within the community sector. Therefore there are approximately 28,000 community pharmacists registered in England, to achieve a representative sample (using a confidence level of 95% and a confidence interval of 3%) 1,027 respondents would be required⁷. Two studies^{108,218} were identified where pharmacists were approached via postal surveys, the response rates of those studies were 42% and 50% (increasing the sample size to between 2,054-2,445).

After discussions with the GPhC, it became apparent that they were unable to dispatch questionnaires solely to pharmacists resident in England. The register of pharmacists covers all pharmacy sectors and all countries in Great Britain. To discriminate between the sectors and countries, and to ensure that a sufficient response rate was achieved, additional questions were introduced to the questionnaire and the proposed sample size was increased. Community pharmacists make up 64% of pharmacists on the register and 85.1% of all pharmacists practice in England. Therefore the sample size was increased by 50.9% (36% + 14.9%). Based on these increases, the sample size would need to be between 3,099 and 3,689 to account for those practising outside of community pharmacy and outside of England. Therefore it was decided that the final sample size should be 3,500.

3.6.1.1 Obtaining contact details for the sample

In a study conducted by Manchester University in 2013, the methods section outlines that the researchers were provided with a database of registrant details from the GPhC to be used in their study²¹⁹:

“After submitting a request to the GPhC for access to data for research purpose [sic], the research team were provided with a random sample of 1,500 pharmacists and 1,500 pharmacy technicians based in England from the GPhC register. The database provided contained the respondents’ names, addresses and email addresses (where available).”

Given this precedent and the availability of a representative sample of participants, it was decided to contact the GPhC in an attempt to obtain a representative sample of pharmacists. An initial email was sent to the GPhC on 06/04/2014 asking for information about access to the register. The response from this correspondence came back as a failed freedom of information request denying the project access to the registrant database.

After discussion with the research team, further correspondence was sent to the GPhC outlining the particulars of the request, how the research aligned itself with the GPhC standards and restating that they had provided this information to other institutions for research purposes. Following further discussions, the GPhC agreed to support the study.

The GPhC offered to send emails to a random sample of registrants (98% of registrants have a registered email address with the GPhC) including a message from them outlining the reason for contact followed by a message written by the researcher (further details are outlined in the covering email and information sheet section above). The initial sample size discussed was 3,500.

3.6.1.2 Inclusion and exclusion criteria

The research aims and objectives relate specifically to community pharmacy practice within England, unfortunately the GPhC were unable to separate their database by location or sector. For this reason questions 1-9 were included to differentiate pharmacists location of practice and also sector of practice.

3.6.2 Questionnaire design

The questionnaire was designed based on the influence of initial qualitative work. A number of the questions were designed to match up to the public questionnaire to allow comparison between the

general public group and the pharmacist group. A final version of the questionnaire can be found in Appendix 8 – Work Stream 3 Questionnaire.

3.6.2.1 Questions 1-9

These questions were designed to identify what type of pharmacist was completing the questionnaire. The focus of this study was on community pharmacists and so routing was used to ensure that only community pharmacists would complete relevant questions. Because the sample would contain pharmacists from all sectors of practice, some questions would be only be relevant for some respondents, where this has occurred it has been addressed below. The questions included covered the following areas:

- Location of practice
- Pharmacy related role
- Current employment status
- Full or part time
- Current pharmacy sector

If community pharmacy:

- Job role
- Sphere of practice

3.6.2.2 Question 10

This question asked: Which of the following functions of community pharmacists do you think the general public are aware of?

- I feel the general public are fully aware of this role
- I feel the general public have some awareness of this role
- I feel the general public are unaware of this role

The items used were the same as those used in question one of the general public questionnaire. This question was only asked to those participants who work in community pharmacy or 'those whose' last pharmacy related role was in community pharmacy. The similarities to question one of the general public questionnaire allowed for comparison between the two groups.

3.6.2.3 Questions 11, 12 & 13

These questions were only asked to those participants who work in community pharmacy or when their last pharmacy related role was in community pharmacy. All three questions related to pharmacy services, with the items included being the same as those used in questions 4 & 5 in the general public questionnaire. Question 11 asked if a pharmacist has provided a service from the same list of items and question 12 asked why the respondent provided the service – to improve the health of service users; to improve the profitability of the pharmacy; or, to improve the health of service users and to improve the profitability of the pharmacy.

They were designed to complement question 5 of the general public questionnaire. Question 13 asked how aware the participant thought the general public were of the services listed and was designed to complement question 4 of the general public questionnaire.

3.6.2.4 Question 14

The results from the interviews with professional leaders showed differing opinions of when a pharmacist develops a professional ethos. Therefore this question was designed to investigate the importance pharmacists place on each of the following stages in the development of a professional ethos. The question was phrased as: How important do you think each of the following are in the development of a professional ethos within individual pharmacists?

- Upbringing (home life)
- Schooling
- Undergraduate education
- Pre-registration year

- Early years as a practising pharmacist
- Other years as a practising pharmacist

A 5-point Likert scale was used to assess each item ranging from “very important” to “very unimportant”. The context of this question was deemed important for all pharmacists, therefore it was asked to pharmacists from all sectors of pharmacy.

3.6.2.5 Question 15

This question acknowledges that there are numerous different leadership bodies offering pharmacy representation and is included because of comments made in the interviews with the professional leaders. For example:

“...it’s got to have a strong professional leadership body that can actually punch those messages out and when it does we’ve all got to be singing from the same hymn sheets...” Professional Leader 7

The question outlines a number of campaigns conducted by various bodies which were being conducted at the time of the study. The question was designed to assess the participant’s awareness of these campaigns:

- PSNC - Vision for NHS Community Pharmacies
- The PDA - Roadmap
- RPS - Now or Never: Shaping pharmacy for the future
- Department of Health - A call to action
- Pharmacy Voice - Dispensing Health

The context of this question was deemed important for all pharmacists, therefore it was asked to pharmacists from all sectors of pharmacy.

3.6.2.6 Question 16

This question directly complemented question 3 of the general public questionnaire. The question related to how the participant views themselves as a pharmacist ranging from “purely health

professional” to “purely business man/woman”. The context of this question was deemed important for all pharmacists, therefore it was asked to pharmacists from all sectors of pharmacy.

3.6.2.7 Question 17 & 18

When combined these questions complemented question 7 of the general public survey, the same professionalism scale was used along with the Likert scale of the original instrument. The context of this question was deemed important for all pharmacists, therefore it was asked to pharmacists from all sectors of pharmacy.

3.6.2.8 Questions 19, 20 & 21

These questions relate to sex, age & ethnicity respectively. These questions were asked to all participants regardless of sector of practice.

3.6.3 Covering email and Information sheet

A covering email and a link to the information sheet were sent to every participant alongside a link to the questionnaire. The covering email was split into two sections, firstly a message from the GPhC (who sent the emails on behalf of the author) and the second part detailed specific information about the research study. The second part contained the following details: name, address, contact details and background of the researcher; the design of the study; the aim of the research; confirmation that the study had received ethical approval; instructions as to how to send the questionnaire back to the researcher; a date by which the questionnaire should be returned; an assurance of confidentiality; and a direction to contact the researcher if there were any unanswered questions or queries (Appendix 9 – Works Stream 3 Questionnaire Covering Letter). The information sheet reiterated a number of these details but also added: further background details for the study; details on why and how the participant had been chosen; and details relating to the university complaints procedure (Appendix 10 – Work Stream 3 Questionnaire Information Sheet).

3.6.4 Ethics

Ethics approval was applied for from the School of Life & Health Sciences Ethics Committee before commencing research. The application was approved on 21/08/2014 (PhD Student Ethics Application

685). NHS ethical approval was deemed unnecessary as the participants would be representatives of non-NHS bodies and as such not covered by 'Governance Arrangements for Research Ethics Committees' (GAfREC)¹⁹⁹.

3.6.5 Pilot Study

An initial pilot study was conducted with 50 participants emailed by GPhC on 29/09/2014. It was proposed that the pilot would run for 2 weeks, however after the first week no responses had been received. At this point, contact was made with the GPhC and they agreed to send out a reminder email to the initial 50 participants and also to increase the mailing to 100 participants overall.

After an additional week (remaining within the 2 week proposal) the response rate had risen to 8%, as with the general public questionnaire additional questions were included in the pilot asking about completion time and also if the participant had any feedback relating to the completion of the questionnaire. The average completion time was 7 minutes 54 seconds. Unfortunately there was minimal feedback left for the questionnaire and none of the feedback directly related to the completion of the questionnaire.

3.6.5.1 Pilot Outcomes

As detailed above the response rate for the pilot was lower than the 40-50% response rate that initial sample size calculations were based on. For this reason the decision was made to increase the sample size to ensure the 1,027 *a priori* responses calculation would be attained. It was agreed with the GPhC that a sample of 10,000 could be contacted to help achieve this.

3.6.6 Survey administration procedure

3.6.6.1 Initial mail out

The sample was contacted via email from the GPhC; the email contained a hyperlink to the questionnaire and also a link to the information sheet. The initial mail out commenced on 05/01/2015.

3.6.6.2 Reminders

It was agreed that two reminder emails would be sent out at 2 week intervals, these contained links to the questionnaire and the information leaflet but the wording of follow-up emails was changed to reflect the fact that this was a reminder. The first reminder was sent on 20/01/2015 and the final reminder was sent on 03/02/2015.

3.6.7 Data Analysis

The method of data analysis was the same as was used for the general public questionnaire (see section 3.5.7).

For English community pharmacists the independent variables studied were:

- Pharmacy type worked in (independent, large chain, multiple, small chain or supermarket)
- Age
- Employment type (self-employed, employee or pharmacy owner)
- Sex
- Work type (part time or full time)
- Ethnicity

Throughout analysis results were considered statistically significant if the p value was less than 0.05.

3.7 Limitations

The methods described above have a number of limitations. The overall approach of mixed methods comes with its own complexities, these include training, time constraints and integration¹⁸³:

- Researchers working alone must ensure they have adequate training and skills to carry out both qualitative and quantitative data collection techniques. This may become time consuming if a researcher is unfamiliar with one particular tradition.
- Time constraints also become an issue when conducting mixed methods research as each potential component of a study can have different time implications.
- Researchers must also ensure that there is proper integration of findings to justify the use of this method.

In addition, semi-structured interviews as a research method have been shown to have a number of limitations¹⁹⁸:

- Researcher skills

Research quality is heavily dependent on the individual skills of the researcher and open questioning can be easily influenced by the researcher's personal biases and idiosyncrasies.

- Rigour

Rigour is more difficult to maintain, assess, and demonstrate compared to some quantitative research techniques.

- Time constraints

In deadline restricted work the time consuming transcription and analysis can limit the number of interviews carried out.

- Social desirability bias

In addition, the researcher's presence during data gathering, which is often unavoidable in qualitative research, can affect the subjects' responses.

Alongside these issues the choice of analytical method has also come under scrutiny with one researcher stating¹⁸³:

"The flexibility of the method means that the potential range of things that can be said about your data is broad, which can be inhibiting to the researcher trying to decide what aspects of their data to focus on."

Finally, questionnaires suffer from some disadvantages²⁰³. There can be problems with data quality especially concerning completeness and accuracy, it is also impossible to check the honesty or seriousness of participant answers. Questionnaires typically have low response rates; this can be due to complexity of questioning, participant misunderstanding or language/literacy problems.

Furthermore, misunderstandings cannot be corrected once a questionnaire has been sent out which can lead to participant confusion and additional issues with data quality. Due to the low response

rates, it is often advised that reminders be sent out after the initial questionnaire has been sent out. This can add to the logistical costs of time and money¹⁸⁰.

3.8 Summary

This chapter describes the overall programme of work undertaken for this study. An outline of scientific methods was provided as well as an explanation as to why they are important to consider when conducting research. The chapter also described the mixed-method strategy utilised in this research, which involved face-to-face semi-structured preliminary interviews. The interviews were carried out using an interview schedule including topic areas such as: professionalism, acquisition of a professional ethos, perceptions of pharmacy professionalism and threats and opportunities affecting pharmacist professionalism. The study also involved two postal survey questionnaires, the questionnaire has been designed to accommodate recommendations from literature whilst ensuring data collected are pertinent to the research questions. The line of questioning has been informed by previous research and results from the preliminary qualitative interviews. Thus, this study fits within the exploratory mixed methods design. The findings of the research strategy are presented in the subsequent chapters of this thesis.

Chapter 4: **Work Stream 1 - Interviews with professional leaders**

This chapter of the thesis covers work stream 1. This involved conducting semi-structured interviews with members of pharmacy leadership bodies. This work was conducted in the summer of 2013, at mutually convenient locations across England. This chapter presents the results and a summary of work stream 1. A more comprehensive discussion of the results of work stream 1, along with those of work stream 2 and 3, is given in an overall discussion in chapter 7.

This work stream draws upon findings from chapters 1 and 2. Sociological and professional theory were discussed in chapter 1 and the application of these theories to pharmacy were investigated in chapter 2. Literature relating to professionalisation was examined in relation to pharmacy, with a view to better understanding professional status. The forces of deprofessionalisation and reprofessionalisation are apparent within pharmacy indicating fluctuation of current status. Within pharmacy and other healthcare disciplines a fixed definition of professionalism remains elusive. Following a review of the literature, further research was deemed necessary to better understand these concepts. Pharmacy leadership bodies have some responsibility in ensuring deprofessionalising forces are minimised and professionalism is nurtured. These aspects helped with formulating different topics to explore using semi-structured interviews with members of pharmacy leadership bodies in work stream 1.

Substantial amounts of data were generated by the interviews conducted during the initial qualitative stage of the study. Using an inductive and comparative method of thematic analysis, recurring themes were derived from the data. These themes are presented below along with quotes from the transcripts to reinforce key aspects.

4.1 Emerging Themes

Once analysis had been conducted, five distinct themes were identified. Table 4-1 outlines the various themes and sub-themes. What follows is a presentation of all five themes with examples of data excerpts.

Table 4-1 - Themes and Sub-themes Derived from Interview Data

Themes	Sub-themes				
Influence of the pharmacy landscape	Public health campaigns	Clinical role for pharmacists	Technology in pharmacy	Pharmacist roles	Contact with peers
Vocalising pharmacy	Lack of public knowledge	Differences between sectors	Communication with other HCPs		
The impact of commercialism	Commercial bias	"Shopkeeper" identity			
Responsibility for professionalism	Personal	Hierarchal	Pharmacy leaders		
The journey to professionalism	Development	Role models			

4.1.1 Influence of the Pharmacy Landscape

The changing pharmacy landscape encompasses a number of different factors that influence the future of pharmacy professionalism. These factors all relate to the position of pharmacy within the NHS and society, and the future prospects of the profession itself. By considering the role of the pharmacist and reflecting on what current opportunities are available, specifically in public health and clinical roles, a move into a more service-based practice seems to offer significant prospects to enhance professionalism. Associated to this is the impact on a supply chain revolution and the implications this may have on the current level of patient contact in community pharmacies. The threat of a change in practice from current and future technologies may pose a risk to pharmacy but it may also provide the profession an opportunity to embrace changes and develop future models of practice. Similarly the threat of escalating pharmacist numbers could damage the profession unless steps are taken to control numbers or the profession embraces the change. In an effort to enhance contact between healthcare professionals both within, and external to the profession a number of

networks have been set up (including LPNs, LPFs and LPCs). Along with the Clinical Commissioning Groups there is now an additional opportunity to engage with other professionals and improve communication between different groups.

The current position of pharmacy within the wider healthcare system was discussed by participants and it became clear that extending the roles of pharmacists may provide significant opportunities towards enhancing professionalism and reinforcing professional status.

"I think there's huge potential, it's a challenging environment for sure but there is loads of potential for pharmacists to grow the role to be more, to have a place round the table, all of those things, I think there is a really great opportunity at the moment and we see pockets of it around the country and we now need to ensure that it is everywhere." Professional Leader 8

In particular public health campaigns were identified as being the most important focus of role extension. The campaigns mentioned were varied and included: Healthy Living Pharmacies, Medicines Optimisation, Medicine Use Reviews, New Medicines Service and various other public health initiatives (including weight loss, screening, smoking cessation, lifestyle changes, anti-coagulation services, inhaler technique, long-term condition management and sexual health).

"...I think community pharmacy has got a huge role to play within public health and therefore let's look at working with local authorities and so if they can stop them smoking, alcohol, fall service, helping people with falls, weight loss, early identification of diabetes..." Professional Leader 2

"...you start to be able to show the benefits you can do, and evidence it. Whether its life style interventions around smoking or sexual health or substance misuse or activity, diet those sorts of things..." Professional Leader 5

"we are already working on our next strategy and that's going to be about public health, and public health will be the new pharmaceutical care...public health will be our next one, but professionalism will be an important part of what it's all about there as well." Professional Leader 7

Another area highlighted was a more clinical role that pharmacists could take up:

"What we wanted to create was a new discipline in pharmacy ... we wanted this role of the "clinic pharmacy" to be out there in the community" Professional Leader 7

"...there's also things like for me the role of consultant pharmacists...embedding the consultant pharmacist role" Professional Leader 8

"I think there is that bit about: they don't see that we could have... a much more clinical role, particularly community pharmacy." Professional Leader 8

Potentially allied to the clinical role was discussion around pharmacist prescribing:

"...building their accreditations and a lot of it has to do with ambition as well they want to be prescribers... They know they're going to have to become a pharmacist prescriber to do that so they want to get on the bicycle, pedal away wildly and get to that place as quickly as possible." Professional Leader 7

During the interviews participants were encouraged to think about the future of pharmacy and a recurring theme was the potential impact of technological developments on the practice of pharmacists. Participants talked about the negative influences technology could have on pharmacy including initiatives such as remote supervision, automation of the dispensing process and electronic prescribing services (EPS).

"...some of those issues around automation if they're not professionally led; if they're commercially led then I really do see some big risks for the profession..." Professional Leader 1

"...it's a significant workload change and process change within pharmacy for EPS. But nobodies taking it on board..." Professional Leader 2

"...moving to remote provision with the electronic prescription service which could rapidly reduce the number of pharmacists we require right at the point." Professional Leader 3

One interviewee identified the need to embrace technology to stop it becoming a threat:

"I think the digital stuff we have to embrace because patients will demand that of us actually and as kind of my generation become more long term conditions we'll want all of those things so I think pharmacy has to be careful it doesn't turn the online and the digital kind of scenario into a threat because actually it's like anything, there are opportunities around that it's about the way that we do it whereas if we just go "oh God this is coming" and I don't think that's the way to do it. So, I think there's some opportunities around that and I think that some pharmacies are already clearly taking that" Professional Leader 8

In 2013, analysis by the Centre for Workforce Intelligence predicted an oversupply of pharmacists in the future²²⁰. This trend and its potential impact on pharmacy was discussed by participants and a range of opinions emerged, those recognising the threat commented:

"...and that growth in the number of pharmacists short term is probably viewed positively by pharmacy contractors, you know, decreasing downward pressure on wage bill that's all good news. Well, maybe it is. Does it give us more of a pick of pharmacists and get people in the

right mind set? Yes, short term. I wouldn't want to see it go too far where we have a massive excess..." Professional Leader 1

"I think that a real, real big problem is going to be this over production of students because that goes like a bullet to the heart to loss of status." Professional Leader 7

Whilst a differing perspective viewed the potential increase as less of a threat:

"...for the totality of the profession perhaps we shouldn't be so worried about an explosion in numbers [be]cause there are some switched on CCGs..." Professional Leader 4

The supply function of pharmacy and the future role of pharmacy in supply featured as an area of importance during the interview. Internet pharmacies were talked about and a move toward an 'Amazon'⁸ type model of supply online.

"...threats to individual pharmacists are quite significant at the moment in terms of the potential for the supply chain to be revolutionised- for an 'Amazon Pharmacy' type scenario if we describe it that way..." Professional Leader 1

"I think there's some big decisions got to be made about supply [of medicines]; and that sort of thing [supply of medicines] is unchecked" Professional Leader 4

"And then there are some challenges now which are increasingly coming from alternative supply routes, whether it's through secondary care, whether it's through healthcare at home, whether it's through internet or distance selling pharmacies... and that could undermine it, and if you let that go and didn't do something about it you could probably get to a point where you had one hundred, two hundred, five hundred internet pharmacies or distance selling pharmacies... hubs around the country and an 'Amazon' type model for supply..." Professional Leader 5

Participants noted that involvement in groups such as clinical commissioning groups (CCGs) or local professional networks (LPNs) may offer significant opportunities to community pharmacists by allowing greater contact with other pharmacists and other healthcare professionals.

"And again bringing people together using the society's LPFs [Local Practice Forums], using the LPNs going forward in England, local meetings, LPCs [Local Pharmaceutical Committees] run... they're all opportunities for people to mix and to share experiences..." Professional Leader 1

"I do see LPNs working and we've got a great example of an LPN... it is becoming the root to describe and to show the professionalism in the roles of community pharmacy so I think LPNs are critical" Professional Leader 2

"I think we've got to find better ways of pulling people together which is why I think LPNs are potentially quite interesting." Professional Leader 4

⁸ Amazon is an large internet retailer which offers a wide variety of products

“CCGs may be an opportunity or the local professional networks... are a great opportunity. I think it will interface with CCGs and it will interface with health and wellbeing boards, it'll interface with the area teams within the NHS.” Professional Leader 5

Although one participant had reservations about the new developments in pharmacy networks:

“And yes they argue we've now got Local Practice Forums and it's all electronic but do you know, there are certain things you can't do electronically, you can't have a one to one chat. Somebody can't put their arm on somebody's shoulder and say “do you know what if I were you this is what I would do in that situation”, some of these things you can't commit to an electronic, written format...” Professional Leader 7

4.1.2 Vocalising Pharmacy

The concept of vocalising pharmacy incorporates many different aspects of communication within pharmacy. By considering how the profession is viewed externally a clearer picture can be seen of how effective advertising and promotion initiatives are. The consensus from the interviews seems to indicate that more could be done in the area of improving the visibility of pharmacy in the eyes of the general public. Intra-professional communication between peers practising in community pharmacy, potentially within different spheres, or other sectors (such as hospital or industry) was highlighted as an important issue that could potentially help enhance professionalism. Additionally by further engaging with other healthcare professionals the professional image of pharmacy could continue to be maintained or improved.

The interviews identified visibility and communication as important factors to how pharmacists are understood and their positions perceived to those both internal and external to the profession. It was noted that a lack of communication could hinder professional development and that enhancements could be made through improvement of current communication channels. The participants acknowledged that there were issues surrounding the visibility of pharmacy, specifically how pharmacy is viewed by the general public. There was discussion surrounding how the public viewed the pharmacist and also how the pharmacy profession was advertised and promoted.

“But sometimes one wonders... who knows what the public thinks, and do they simply want their prescription to be rapidly fulfilled and to get out of the pharmacy as quickly as possible.” Professional Leader 1

“I think the general public have very low expectations. Full stop.” Professional Leader 4

“Undoubtedly it [pharmacy] could spend more on advertising and promotion.” Professional Leader 4

“...pharmacy is struggling to have a voice and therefore perceptions of professionalism are not based on I suppose a general... a conscious thought more of a subconscious or instinct and that’s because it seems to be struggling with visibility.” Professional Leader 6

“So I think there’s an issue for me about our visibility as a profession...” Professional Leader 8

In discussions regarding the general public there was also examples of a lack of role knowledge relating to the pharmacist’s body of work.

“...the public are really good but the public don’t actually know what we do...” Professional Leader 2

“...there is an education piece to be done about what the pharmacist is and how he got there and their roles in the various sectors and disciplines they work in, so a lot... if [you] ask the public” Professional Leader 5

“...they attribute huge amounts of significance and importance to... “How long is it going to take for my prescription to be dispensed?” [Which] is a complete paradox to, if you like, where professionalism actually lies” Professional Leader 7

The importance of good and clear communications with the general public for the future of pharmacy development was summarised by one interviewee:

“I don’t think at the moment patients have an expectation that those services will be delivered via their community pharmacy so it’s sort of a “oh yes, we like what we do, and we trust you” but no concept of how much more could be done. And I think that’s something that we really need to address and again how we sort of market that it’s quite a challenge I think.” Professional Leader 8

It was also acknowledged that there were differences in perceptions between the different sectors within the pharmacy profession (community, hospital and industry etc.); though there was a split between participants as to whether these were generally unfounded.

“I can only speak about a historic perception of the view of perhaps primary care pharmacists and hospital pharmacists and perhaps a historic negative attitude about what community pharmacy has to bring to the party.” Professional Leader 1

“Oh! We are very sector bound it’s... I don’t know whether it’s more or less than other professions... we do differentiate ourselves and I don’t know all the time whether that’s good.” Professional Leader 3

“I think that the barriers between the three are not as great as we imagine...” Professional Leader 8

Similarly it was considered that there were different perceptions depending on what sphere of practice a community pharmacist operated (independent, small multiple, large multiple, supermarket etc.) the data revealed that these views maybe unsubstantiated.

"...I think when you move from single handed entrepreneurial and often clinically excellent practitioners all the way down to an employee, I think we do have different perspectives and different drivers...so yes I think we are different across those...but I don't think the differences are as big as we might think." Professional Leader 3

"I think there's more... significantly more synergies and analogies that there are contradictions in the different models, you know it's about the pharmacist and their team practising..." Professional Leader 5

"...my experience in this job is actually if you've got any of those generalisations in your head they're quickly put out of your head because it's not how it is..." Professional Leader 8

It was acknowledged that community pharmacists generally practise in isolation and as such communication between individual pharmacists may be limited.

"...most pharmacists practise in community pharmacy in isolation so they often don't have that ability to compare or contrast and I think that's one of the great challenges we have as a sector and the fact that we don't have that ability to practise together at times probably is a negative in terms of being able to enhance our professionalism." Professional Leader 1

"I'm not as a big a fan as some people of multi-disciplinary learning but we can certainly do something to knit people together a bit better and I think that again in the isolation of the community it's much more tricky." Professional Leader 4

"I think a threat has always been if we work in silos across the profession, and that's always been there and I think it is improving I have to say but I think it's always hovers there and when we're all under pressure we retreat back to the bit that we know so I think that's still a threat." Professional Leader 8

An additional issue raised was the communication between pharmacists and other healthcare professionals (including GP's, nurses etc.), how this affected pharmacy work and also how it affected perceptions of pharmacists.

"...I don't think we've done ourselves any favours with GPs at all but it does very much depend on the individual at a practice level and how well they get on." Professional Leader 2

"We're kind of trained not to diminish the standing of the prescriber in the eyes of the patient. So that puts us automatically at a kind of subservient thing... we're all a little bit deferential to doctors whereas we could demonstrate a bit of a lead of saying were not prepared to do that." Professional Leader 4

“Often the first interchange you have between a pharmacist and a GP is when the GP has done something wrong, and it’s not a very good start or engagement saying “you have prescribed the wrong thing” or the “wrong strength” or the “wrong dose for this”, it’s not a very good start for a relationship.” Professional Leader 5

“Community pharmacy isn’t trusted by the rest of the primary care team now there are some very famous examples that are exceptions of course, there always will be...” Professional Leader 7

“I often rebuff this idea that there’s animosity between the two professions ‘cause my experience... is that that’s not actually how it is, GPs mostly- they understand what we do and they value it. Same with nurses...” Professional Leader 8

4.1.3 The Impact of Commercialism

A commodity-led, profit driven persona would go against these standards possibly affecting a pharmacist’s professional judgment. Due to these aspects of a pharmacist’s practice there is a potential increase in the level of commercialism and this may negatively impact on the perceptions of professionalism. The commercial agenda has often been associated with larger group pharmacies and multiples but it is important to recognise the need for all community pharmacy business to make a profit.

One of the most prominent themes to emerge from the data related to how commercialism affects professionalism. Participants talked about how some of the functions conducted by pharmacists could be perceived as commercially focussed and how, in some cases, these roles create conflict between a pharmacist’s desire to provide an altruistic, professional service and a contractor’s need to generate profit. The data also revealed that participants considered some of the practices by companies and employers to have an overt commercial bias.

“There’s certainly, I would perceive more focus on the commercial realities of pharmacy practice in a lot of the multiples but perhaps that is just because they... because the commercial reality exists in all pharmacies but it’s just not necessarily as clear to the individual pharmacist in a small chain or an independent.” Professional Leader 1

“...it has largely allowed the commercial agenda to take over community pharmacy setting, now a lot of this has been actively led by large retailers, supermarkets have got in there so of course customer is king, consumer is king get it out on the shelves etc.” Professional Leader 7

“I think clearly it’s a challenging environment that we all find ourselves in, the financial environment is such that it’s easy to become embroiled in the money rather than thinking of the patient and the medicines and the services I think that’s a bit of a threat if we let it become one.” Professional Leader 8

A number of interviewees believed that a public perception of the pharmacist as a shopkeeper had the potential to threaten professionalism and how addressing this perception could be of benefit to the profession.

"It is, you know, we are not just shop keepers we are health professionals first and foremost, we are actually 'scientists on the high street', all of these good phrases. We are not just shop owners..." Professional Leader 3

"...you have other people who will have a perception that they are shop keepers who happen to be- who provide some sort of healthcare even if it's only supply of medicines." Professional Leader 5

"...most members of the public will get their view of pharmacy because of the chemist shop and I think that will be a disappointing view because it will be based on a consumerist expectation and not the professional expectation." Professional Leader 7

The shopkeeper identity of community pharmacy affects the way in which other members of society perceive pharmacists. The GPhC standards state that pharmacists must ensure that:

"[Their] professional judgement is not affected by personal or organisational interests, incentives, targets or similar measures"

4.1.4 Responsibility for Professionalism

The responsibility for maintaining and enhancing levels of professionalism within pharmacy falls with all those operating within it. Within pharmacy there are a number of different roles that can have influence over the profession, these include: individual pharmacists (from all spheres and sectors), community pharmacy managers (either pharmacists or non-pharmacists) and professional leaders. It is important that the attitudes of all these groups are aligned to ensure professional behaviours are exhibited and society perceives pharmacy as professional. By operating within clear communication channels between the groups, all those practising within pharmacy can ensure they are all following the same agenda for the future of the profession.

The responsibility to convey professionalism was acknowledged as an important concept for those within the profession. By understanding the roles that each member of the profession can play, it is

possible to enhance the development of professionalism. Conversely, it is also possible for the behaviour of members of the profession to bring the profession into disrepute.

The attitudes exhibited by members of the profession were identified as having a significant influence on the way the profession is perceived externally and how those members perform within the profession.

“So it’s about building up awareness of what people should expect and I think the most potent way of doing that is to actually deliver the services and change people’s expectations that way.” Professional Leader 1

Some interviewees believed that attitudes within pharmacy may need to change to ensure enhancement of professionalism.

“I think that what they will tell you when you meet them is that, why do they spoon feed a lot of it? Because that’s what people [pharmacists] want.” Professional Leader 4

“...pharmacists are still very keen on being told what to do...” Professional Leader 6

“I guess the profession itself not embracing not understanding its customer base, not understanding what the patients and the public want and sort of just continuing with the model and not thinking...” Professional Leader 8

Improved communication within the profession was viewed as a potential way to enhance professionalism within pharmacy. Interviewees highlighted current low levels of communication between pharmacists working in different sectors or different spheres of practice.

“And again bringing people together using the [Royal Pharmaceutical] Society’s LPFs, using the LPNs [Local Professional Networks] going forward in England local meetings, LPCs run... they’re all opportunities for people to mix and to share experiences...” Professional Leader 1

“I think one of the interesting things- interesting developments is the local professional network because where networks exist that bring together pharmacists from different sectors...” Professional Leader 4

“...what better opportunities if hospital and community pharmacy could talk to one another and that is within touching distance actually that is incredible isn’t it?” Professional Leader 8

The participants highlighted the fact that it is an individual’s responsibility to ensure they are practising in a professional manner, and that they are engaging with the rest of the profession to ensure the highest levels of practice.

“Because I strongly believe that having time together as professionals helps us to improve our own practice and gives us an opportunity for peer review.” Professional Leader 1

“...clearly professionalism is seen in many different forms within a working environment including the ability to perform only in those areas which you are competent as well as a desire and a manifestation of an attempt to continually improve one’s practice...” Professional Leader 6

“...’cause actually professionalism in pharmacy can be delivered by one pharmacist in one setting...” Professional Leader 7

“...so self-reflection some people do naturally, some people never think about their behaviours, but for me when you, as a- an individual, I think about certain situations and you reflect yourself and kind of go actually I could have behaved either more professionally or I really felt I let myself down in that...” Professional Leader 8

Hierarchical management was also identified as having a role in ensuring the professionalism of pharmacists. Furthermore, concerns about the merits of, and the threats posed by, non-pharmacist managers supervising pharmacists were highlighted during the interviews.

“In principle if you’ve got the right person as manager, be they a pharmacist or non-pharmacist it shouldn’t make a difference” Professional Leader 1

“But my understanding is that definitely the guys in the shops- in some of the multiples are feeling severely under pressure in terms of having to do MURs and NMSs and being put under the pressure of having to deliver work, and it may not be of a quality or a standard they would like it to be so I think there are issues around that...” Professional Leader 2

“...so people who say ‘non-pharmacist managers in pharmacies is a bad thing’... it’s horses for courses, it’s what works in an individual environment as long as the rules are set and clear.” Professional Leader 5

“...there are clearly frustrations that are articulated about those that are trying to manage at a regional level or a group level pharmacies who don’t come from a- with a professional qualification in pharmacy. Professional Leader 6

“And that is a real problem for pharmacy today that we don’t have people up in higher management echelons who understand any of these things, in fact they see them as a real problem so the person that acts with high levels of professionalism is seen as somebody that they would rather not employ.” Professional Leader 7

The roles of pharmacy leaders also came under scrutiny, participants identified ways in which they were encouraging professionalism but also discussed gaps in the current roles of organisations.

“...they seem far more focussed on insular issues which may be important but which don’t speak to the public they speak to other members of the profession... Professional Leader 6

“...that’s a very, very important role for a profession, it is part of professionalism, understanding that the professional body for it to maintain its protections and retain its credibility it’s got to have a strong professional leadership body that can actually punch

those messages out and when it does we've all got to be singing from the same hymn sheets..." Professional Leader 7

"...but even now if you look [at] RCGP [the Royal College of General Practitioners] and the Royal Pharmaceutical Society are working more closely together y'know it's definitely on the- it's improving." Professional Leader 8

The interviewees identified a number of issues that affect the profession as a whole and highlighted how these can help or hinder the public's perceptions of professionalism.

"...we generally are viewed positively but there's a difference between that and the being willing to say 'well I trust all pharmacists' compared with 'I trust my local pharmacist cause I know him or her'..." Professional Leader 1

"...so you need to build the relationships through demonstrating knowledge and capability in a professional setting around patient care." Professional Leader 5

"...for this to succeed for professionalism within pharmacy, it needs to be confident that it's a skilled profession and that the five years at university weren't just a- to get a degree, but that actually they were training to become something..." Professional Leader 6

"I believe that professionalism will go through a renaissance 'cause you can only do that through real polished professional practice can only do that through therapeutic partnerships, when you're working with the doctors and the nurses and the other consultants and specialists..." Professional Leader 7

4.1.5 The Journey to Professionalism

By considering the different aspects of a pharmacist's professional journey, from pre-university through to fully qualified pharmacist, different stages of development can be recognised. Although acquisition of a professional ethos cannot be pinned down to one specific time of life, it is also important to consider that even a qualified pharmacist's professionalism may continue to develop.

The interview participants were asked to think about where a pharmacist may obtain a professional ethos, the results highlighted a number of key stages during which engenderment of such an ethos occurs.

"...think an awful lot is about learning as you go and throughout our professional careers we will be challenged with different situations at different times and find ourselves coping in different ways, and that's why it's important for us to think about the stages of our career and professional development quite distinctly so we give people the appropriate support when they need it." Professional Leader 3

Data revealed that the pharmacist's upbringing and their decision to enter into a pharmacy degree often determined their sense of professionalism.

"I guess it should be implicit in the choice of that as a vocation and career." Professional Leader 5

"I guess it comes from a number of things, one is someone's kind of innate sense of doing the right thing..." Professional Leader 6

"...some of it is about your own inherent standards about the way you behave and some of that you acquire actually not through your professional education if you like or your career education it's about the way you're brought up..." Professional Leader 8

The interviews revealed that the undergraduate stage of a pharmacist's development has an impact on their professional ethos. In particular the dispensing classes and looking to staff as roles models were highlighted as important.

"I would hope that a lot of that understanding of what professionalism needs to be is actually... has actually been drummed in during the undergraduate period..." Professional Leader 1

"I guess in those dispensing practicals that was the first point for a lot of pharmacists - of the pharmacy undergraduates where you came into contact with practising pharmacists with the teacher practitioners and the professionalism rubs off from them." Professional Leader 1

"I think certainly in the modern curriculum it's increasingly embedded in that [professionalism] and perhaps wasn't in my time which was more factual and scientific" Professional Leader 5

"I think there is something that we can do with undergraduates to say these are the standards within which we expect you to fall but this is the line beyond which it is not professional and that would be considered unprofessional behaviour" Professional Leader 8

Some participants did however warn that we must not expect full engenderment of professionalism solely at undergraduate level.

"I do think that it's kind of like unfair for everything to be pushed onto the MPharm, you think about it, these individuals are young in their lives, you know young in terms of life experience very often and you grow and develop as you mature and that's all part of the going to university anyway so I think we have an expectation that universities should be leading by example and embedding the ideas and notions and examples of professionalism throughout their courses..." Professional Leader 3

"...it's hard to think at 18 to give somebody "well it's just the way you do it and do it right" and that's really a nebulous kind of a concept isn't it and you can see people who struggle with that ..." Professional Leader 8

The pharmacist pre-registration year was also discussed as part of the developmental process of enhancing professionalism; again role models were thought to be important in the practice setting.

“...further enhanced as we move towards the integration of pre-reg and undergraduate where we increasingly exposing the students to that practice environment very early on.” Professional Leader 1

“...currently the pre-reg is absolutely vital and that’s why we really need to sort it out because you get, you know I think it’s random whether you get a great experience or a bad experience, whether you see a good professional or a not so good professional.” Professional Leader 4

“...the other opportunity is during the pre-reg year...” Professional Leader 5

“I think the best way being a pre-reg tutor is to demonstrate that professionalism yourself and let it be watched by your pre-reg” Professional Leader 8

The interviews also highlighted ways in which qualified, practising pharmacists can maintain their levels of professionalism through the decisions they make and their attitudes towards practice.

“...you have to stand firm because you believe it’s right... it’s your professional judgment it’s that that keeps you sharp professionally.” Professional Leader 1

“But if they find that situation, in their professional judgement inappropriate, they’ve all got a procedure that you should immediately follow, and they would not be expecting the pharmacy to open until it’d been fixed.” Professional Leader 4

“...using professional judgment which goes above and beyond what a delegated task maybe, so for example our chief executive I think is on the record summed it up as “professionalism is about doing the right thing when nobody is looking” and that’s not a bad way I think to describe it. Professional Leader 6

“So you do see how some pharmacists’ generate their own approach to developing and building upon their professionalism their professional knowledge, their skills... building their education...” Professional Leader 7

4.2 Summary

Sociological and professional theory were discussed in chapter 1 and the application of these theories to pharmacy were investigated in chapter 2. Key factors such as: professionalisation, professional status and professionalism, were drawn upon to formulate different topics used during semi-structured interviews.

The views and opinions of members of pharmacy leadership bodies on these topics had not been sought before. Members were chosen as they have responsibilities in ensuring deprofessionalising forces are minimised and that professionalism is nurtured.

Data were compiled from eight transcripts of interviews with professional leaders from representative and leadership bodies within pharmacy. A number of prevalent themes emerged from the interview data. The first theme was Influence of the Pharmacy Landscape, this theme focussed on the role that pharmacy plays within the NHS and society and how future developments may affect professionalism within pharmacy. The second theme was Vocalising Pharmacy, pharmacist communication with others within the profession and also those external to the profession, including other healthcare professionals and the general public, is important to ensure a high professional standing for pharmacy. The Impact of Commercialism was also a prevalent theme identified. Professionalism and commercialism were generally seen to be opposed to one another and a rise in commercialism within pharmacy may impact on perceptions of professionalism. The next theme was entitled: Responsibility for Professionalism, this related to the professional image of pharmacy being maintained by the individuals operating within it regardless of their scope of practice. It is the responsibility of all those individuals to ensure that they exhibit professional behaviours. Finally the theme The Journey to Professionalism was identified. Acquiring a professional ethos is an ongoing continual process but there are certain stages in a pharmacist's development that are considered important. These include upbringing, undergraduate and pre-registration. These themes represent the views and opinions of the interview participants; they encompass the development of professionalism and also opportunities and threats to professionalism.

The present results are significant in at least three major respects. Firstly, a number of themes dealt with factors that could be considered deprofessionalising. These include: rationalisation, technological advancement and commercialism. Secondly, the results reported a perceived lack of public knowledge in relation to pharmacy. Finally, members of pharmacy leadership bodies found it difficult to define professionalism but identified responsibilities for pharmacists to uphold certain standards.

A key strength of the present study was the number of leadership bodies included. By including as many leadership bodies as possible, within cost and timeframe constraints, a variety of views and opinions was sought. A limitation allied to this was that the number of interviews may not have been insufficient for data saturation. Further interviews with members from different leadership bodies, or further interviews with other members for the leadership bodies approached may have yielded additional views and opinions.

The participants interviewed represented a cross section of the pharmacy leadership bodies, the views and opinions sought were analysed and five themes emerged. These themes relate to aspects of the literature review carried out in chapters 1 and 2. The results in this chapter indicate that there are deprofessionalising forces at work within pharmacy, and some of these may be related to a perceived lack of public knowledge. The next chapter, therefore, moves on to investigate the general public's perceptions of pharmacy roles, services and professionalism.

Chapter 5: Work Stream 2 - Public Questionnaires

This chapter of the thesis covers work stream 2. This involved administering a cross-sectional postal survey to 10,000 members of the general public in England. This work was conducted in the winter of 2014. This chapter presents the results and a summary of work stream 2. A more comprehensive discussion of the results of work stream 2, along with those of work stream 1 and 3, is given in an overall discussion in chapter 7.

This work stream draws upon findings from the literature review and the results of the qualitative interviews reported in chapter 3. The views and opinions of members of pharmacy leadership bodies had not been sought before and work stream 1 revealed five themes relating to professionalisation, professional status and professionalism. From these themes a number of key points emerged. These included: deprofessionalising effects, lack of perceived public knowledge and a difficulty in defining professionalism.

Participants in the interviews articulated concerns that pharmacy may be subject to deprofessionalising forces. The results showed that rationalisation, technological advancement and commercialism were the most widely discussed of these. Furthermore, the concept of professionalism was discussed as a key factor when considering pharmacy as a profession. However, the participants in the interviews were unable to successfully define the term. Finally, participants reported a lack of perceived public knowledge of pharmacist roles and pharmacy services. This indicated a need to understand the levels of knowledge that exist among members of the general public. Therefore, undertaking a large scale cross-sectional survey involving members of the general public was deemed appropriate to address such topics. The results of work stream 1, along with the reviewed literature, helped with formulating different topics to explore using postal surveys in work stream 2.

5.1 Quantitative Results

5.1.1 Demographic Information

Data obtained from the questionnaire administered by post to a random sample of the general public was used to assess the generalisability of the findings by considering different demographic factors.

5.1.1.1 Response Rate

Of the 10,000 members of the public who were invited to take part in the survey, 231 were identified as deceased or questionnaires were unable to be delivered by Royal Mail (reasons included addressee gone away, address incomplete, address inaccessible, addressee unknown, refused, not called for or no such address). This gave an eligible sample size total of 9,769. Overall, 1,537 registrants completed a questionnaire, giving an overall response rate of 15.7%.

5.1.1.2 Demographic details

The demographic questions answered by survey respondents were used to compare the response sample with the general population. Data taken from the Office of National Statistics and Department for Communities and Local Government were used as baseline and differences in response were identified (Table 5-1)^{212,213}.

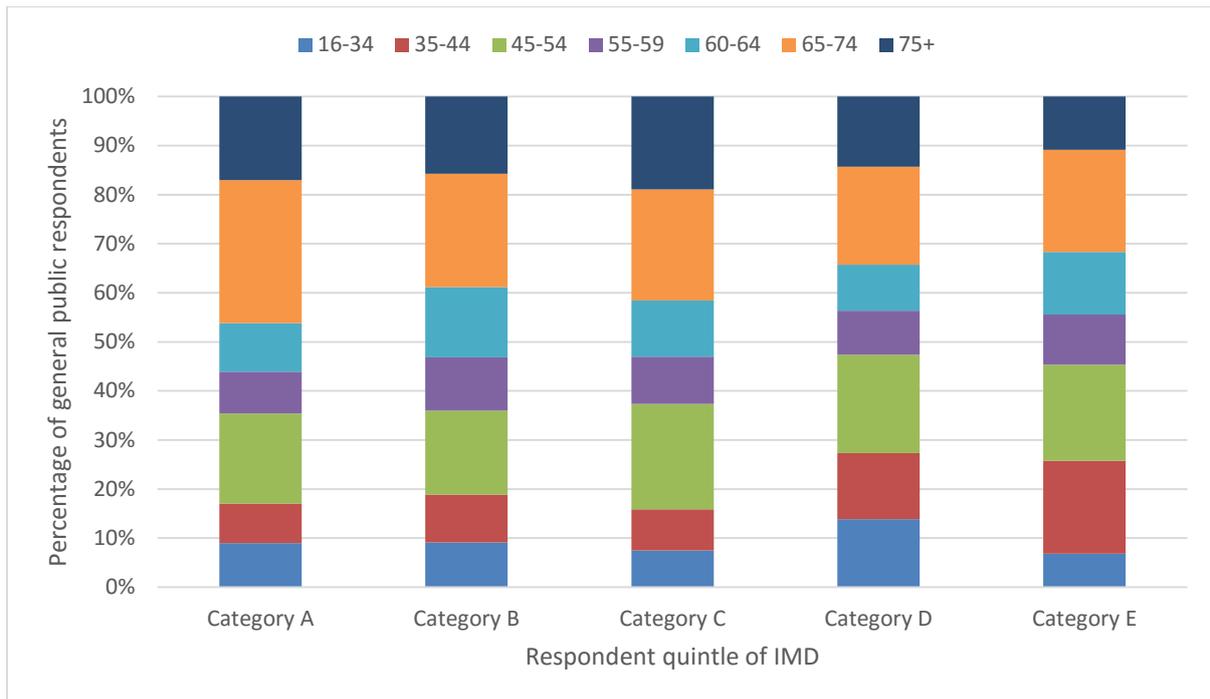
Table 5-1 - Comparison of General Public representative sample and study responses by demographic factors

		Representative of general population in England (%)	Respondents achieved in each quota (%)	Percentage Difference
Sex*	Females	26,943,308 (50.8)	844 (61)	-10.2%
	Males	26,069,148 (49.2)	539 (39)	10.2%
Age*	16-24	6,284,760 (14.6)	43 (3.1)	11.5%
	25-44	14,595,152 (34)	264 (19.2)	14.8%
	45-64	13,449,179 (31.3)	586 (42.6)	-11.3%
	65+	8,660,529 (20.1)	483 (35.1)	-15.0%
Ethnicity*	White	45,281,142 (85.4)	1,320 (95.6)	-10.2%
	Mixed	1,192,879 (2.3)	13 (0.9)	1.3%
	Asian	4,143,403 (7.8)	34 (2.5)	5.4%
	Black	1,846,614 (3.5)	11 (0.8)	2.7%
	Other	548,418 (1)	3 (0.2)	0.8%
Location	East Midlands	4,537,400 (8.5)	153 (11)	-2.5%
	East Of England	5,862,400 (11)	122 (8.8)	2.3%
	London	8,204,400 (15.4)	161 (11.6)	3.9%
	North East	2,596,400 (4.9)	52 (3.7)	1.1%
	North West	7,056,000 (13.3)	212 (15.3)	-2.0%
	South East	8,652,800 (16.3)	202 (14.5)	1.8%
	South West	5,300,800 (10)	234 (16.8)	-6.9%
	West Midlands	5,608,700 (10.6)	151 (10.9)	-0.3%
Yorkshire	5,288,200 (10)	103 (7.4)	2.5%	
Deprivation	A (Most deprived)	11,132,616 (21)	211 (15.2)	5.8%
	B	10,602,491 (20)	264 (19)	1.0%
	C	10,602,491 (20)	388 (27.9)	-7.9%
	D	10,602,491 (20)	224 (16.1)	3.9%
	E (Least deprived)	10,072,367 (19)	303 (21.8)	-2.8%
Rurality	Rural	14,313,363 (27)	714 (51.4)	-24.4%
	Urban	38,699,093 (73)	676 (48.6)	24.4%

*Some categorical data have been merged to allow for direct comparison between this study and data from the office of national statistics

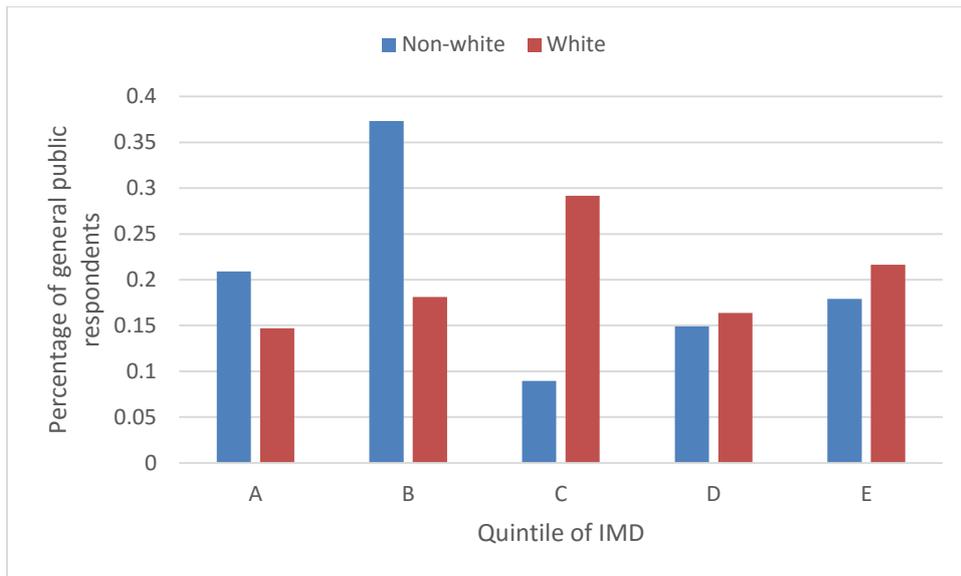
A chi-square test of independence examined the relationship between indices of multiple deprivation categories and age (Figure 5-1). The relationship between these was statistically significant, $\chi^2=51.954$, $df=24$, $p<0.001$. Results show that 68.3% ($n=1,027/1,504$) of respondents categorised as least deprived (category E) are under the age of 65. Of those categorised as most deprived the largest proportion (20.8%, $n=67/322$) was between the ages of 65-74.

Figure 5-1 - The relationship between IMD and the proportions of general public respondents of varying age ranges



A test was carried out to examine the relationship between ethnicity and indices of multiple deprivation categories of respondents (Figure 5-2). The relationship between these was statistically significant, $\chi^2=23.837$, $df=4$, $p<0.000$. The results show that the two most deprived categories (A and B) account for 58.2% ($n=39/67$) of the non-white population (compared to 32.8%, $n=475/1,447$ for the white population). The two least deprived categories account for 32.8% ($n=22/67$) of the non-white population (compared to 38.0%, $n=550/1,447$ for the white population).

Figure 5-2 - The relationship between ethnicity and the proportions of the general public from different quintiles of IMD



5.1.2 Investigating Pharmacy Use and Awareness

General public respondents were asked how often they visited a pharmacy, how easy they found it to identify the pharmacist amongst other staff and how often they communicated with the pharmacist (Table 5-2). The largest proportion of the general public reported visiting pharmacies about once a month (39.4%). Over half (55.1%) of the respondents reported visiting about once a month or more frequently. The majority of respondents found it easy or very easy to identify the pharmacist (82.3%).

The largest proportion of the general public reported communicating with their pharmacist about once a month (24.6%). Just under half (49.2%) reported communicating with their pharmacist less frequently than about once every six months.

Table 5-2 - Frequency of responses for pharmacy visits, pharmacist Identification and Pharmacist communication

		n (%)
Pharmacy visits	Once a day	3 (0.2)
	Once every two or three days	10 (0.7)
	About once a week	71 (4.6)
	About once a fortnight	156 (10.2)
	About once a month	603 (39.4)
	About once every three month	325 (21.2)
	About once every six months	162 (10.6)
	About once a year	74 (4.8)
	Less than once a year	92 (6)
	Never	34 (2.2)
Pharmacist identification	Very easy to identify	685 (46.1)
	Easy to identify	538 (36.2)
	Difficult to identify	226 (15.2)
	Very difficult to identify	37 (2.5)
Pharmacist communication	Once a day	9 (0.6)
	Once every two or three days	5 (0.3)
	About once a week	36 (2.4)
	About once a fortnight	63 (4.2)
	About once a month	371 (24.6)
	About once every three month	267 (17.7)
	About once every six months	191 (12.6)
	About once a year	198 (13.1)
	Less than once a year	256 (16.9)
Never	115 (7.6)	

Missing values have been excluded

5.1.2.1 Pharmacy Visits

This research investigated the different levels of contact members of the general public have with pharmacists and pharmacies. A 2008 publication reported that there are 1.6 million daily visits to pharmacies in England²⁰⁵. This figure was derived from a sample size of 1645 members of the public and extrapolated to represent the population of England in 2008.

Based on the current population of England (54,786,300) extrapolation using data from general public questionnaire responses shows an increase to 1.9 million daily visits²²¹. However, despite an 11.5% increase in the number of community pharmacies in England there has only been a 6.6% increase in the daily visits per community pharmacy (Table 5-3).

Table 5-3 – Annual daily visits per pharmacy

Year	Pharmacy daily visits (million)	Number of Community Pharmacies	Daily visits per community pharmacy
2007	1.6	10,475	152.7
2015	1.9	11,674	162.8

5.1.2.2 Frequency of Pharmacy Visits

A larger proportion of the general public reported visiting pharmacies more frequently than they communicated with a pharmacist (about once every three months and more frequently, 76.3% and 62.3% respectively) (Table 5-4). The relationship between these was statistically significant, $\chi^2(4, N = 3,041) = 311.025, p < 0.000$.

Table 5-4 - A Comparison of visit frequency and frequency of pharmacist contact

	Visits (%)	Contact (%)
More frequently than once per month	240 (15.7)	484 (32.0)
About once per month	603 (39.4)	267 (17.7)
About once every three months	325 (21.2)	191 (12.6)
Less frequently than once every three months	328 (21.4)	454 (30.0)
Never	34 (2.2)	115 (7.6)

Missing data excluded

The relationship between how often respondents visit pharmacies and how easy they find the pharmacist to identify was investigated (Table 5-5). Those visiting more frequently than once every three months reported finding it easier (“very easy” or “easy”) to identify their pharmacist compared to those visiting less frequently than about once a month (58.6%, $n=716/1,222$ and 41.4%, $n=506/1,222$ respectively). Cross tabulation revealed that more than 20% of the expected counts within the table were less than 5 and when this occurs the chi-squared test cannot be used²²². Therefore the relationship cannot be considered statistically significant.

Table 5-5 - Frequency of pharmacy visits by demographic factor

		Visits*					p
		More frequently than once per month (%)	About once per month (%)	About once every three months (%)	Less frequently than once every three months (%)	Never (%)	
Contact*	More frequently than once per month	165 (34.1)	300 (62.0)	6 (1.2)	9 (1.9)	4 (0.8)	<0.000
	About once per month	32 (12.0)	86 (32.2)	147 (55.1)	2 (0.7)	0 (0.0)	
	About once every three months	12 (6.3)	63 (33.0)	46 (24.1)	68 (35.6)	2 (1.0)	
	Less frequently than once every three months	22 (4.8)	123 (27.1)	96 (21.1)	209 (46.0)	4 (0.9)	
	Never	6 (5.2)	27 (23.5)	24 (20.9)	35 (30.4)	23 (20.0)	
Ease of pharmacist identification	Very Easy	134 (19.6)	296 (43.3)	145 (21.2)	109 (15.9)	0 (0.0)	<0.000
	Easy	67 (12.5)	219 (40.7)	120 (22.3)	132 (24.5)	0 (0.0)	
	Difficult	34 (15.0)	66 (29.2)	50 (22.1)	76 (33.6)	0 (0.0)	
	Very Difficult	3 (8.1)	15 (40.5)	9 (24.3)	10 (27.0)	0 (0.0)	
Age	16-34	14 (10.4)	38 (28.4)	30 (22.4)	49 (36.6)	3 (2.2)	<0.000
	35-44	25 (14.0)	45 (25.3)	55 (30.9)	49 (27.5)	4 (2.2)	
	45-54	28 (9.5)	105 (35.6)	66 (22.4)	90 (30.5)	6 (2.0)	
	55-59	13 (8.8)	53 (36.1)	32 (21.8)	48 (32.7)	1 (0.7)	
	60-64	30 (17.0)	70 (39.8)	41 (23.3)	33 (18.8)	2 (1.1)	
	64-74	66 (19.3)	165 (48.2)	69 (20.2)	36 (10.5)	6 (1.8)	
Sex	Female	146 (15.6)	374 (40.1)	207 (22.2)	188 (20.2)	18 (1.9)	0.369
	Male	94 (16.0)	224 (38.1)	116 (19.7)	138 (23.5)	16 (2.7)	
IMD	A	41 (17.9)	103 (45.0)	41 (17.9)	38 (16.6)	6 (2.6)	0.003
	B	50 (17.3)	108 (37.4)	65 (22.5)	61 (21.1)	5 (1.7)	
	C	76 (17.7)	179 (41.6)	84 (19.5)	82 (19.1)	9 (2.1)	
	D	42 (16.9)	98 (39.4)	55 (22.1)	52 (20.9)	2 (0.8)	
	E	31 (9.5)	112 (34.1)	79 (24.1)	94 (28.7)	12 (3.7)	

Missing data have been excluded

*Items "Once a day", "Once every two or three days", "About once a week" and "About once a fortnight" have been merged. Additionally items "About once a year" and "Less than once a year" have also been merged.

A relationship was observed between respondent age and how often respondents visit pharmacies ($\chi^2=157.584$, $df=24$, $p<0.000$). Approximately two thirds of respondents 60 and over (61.2%, $n=506/827$) reported visiting a pharmacy more frequently than about once every three months compared to 38.8% ($n=321/827$) of respondents under 60 (Table 5-5).

The relationship between how often members of the public visit pharmacies and the IMD 2010 quintile of the individuals home address was also investigated (Table 5-5). A statistically significant relationship was observed, $\chi^2=36.335$, $df=16$, $p<0.003$. Just under half (45.0%, $n=103/229$) of the most deprived respondents (category A) reported visiting a pharmacy once a month. Respondents from the least deprived category (E) reported only 34.1% ($n=112/328$) for the same visiting frequency. In addition 28.7% ($n=94/328$) of those from category E reported visiting a pharmacy less frequently than once every three months compared to 16.6% ($n=38/229$) of respondents from category A.

5.1.2.3 Frequency of Pharmacist Contact

Statistically significant relationships were observed for age and indices of multiple deprivation and how often respondents make contact with a pharmacist. Almost two thirds of respondents aged 75 and over reported communication with a pharmacist more frequently than about once every six months compared to less than four in ten of those aged 16-34 (62.2%, $n=143/230$ and 39.4%, $n=52/132$), $\chi^2=69.308$, $df=24$, $p<0.000$.

Respondents from the most deprived quintile (category A) reported communicating with a pharmacist more frequently than about once every three months whereas fewer respondents in category E reported visiting at the same frequency (57.7%, $n=131/227$ and 38.8%, $n=125/322$), $\chi^2=52.381$, $df=16$, $p<0.000$.

5.1.2.4 Pharmacist Roles and Roles of Other Pharmacy Staff

General public respondents were asked which of a series of pharmacy related roles they believed were performed by pharmacists and which were performed by other pharmacy staff (Table 5-6). The

roles recognised as being carried out mostly by pharmacists were: monitoring prescription appropriateness (90.4%), counselling patients on prescribed medicines (90.4%), patient counselling (85.8%) and communications with other health professionals (85.3%). The roles recognised as being carried out mostly by other pharmacy staff were sales transactions (92.4%) and over the counter medicine sales (82.4%).

Table 5-6 - Frequency of Respondents identifying roles as performed by Pharmacists or by Other Pharmacy Staff (Respondents were able to select either or both so total percentages may be larger than 100%)

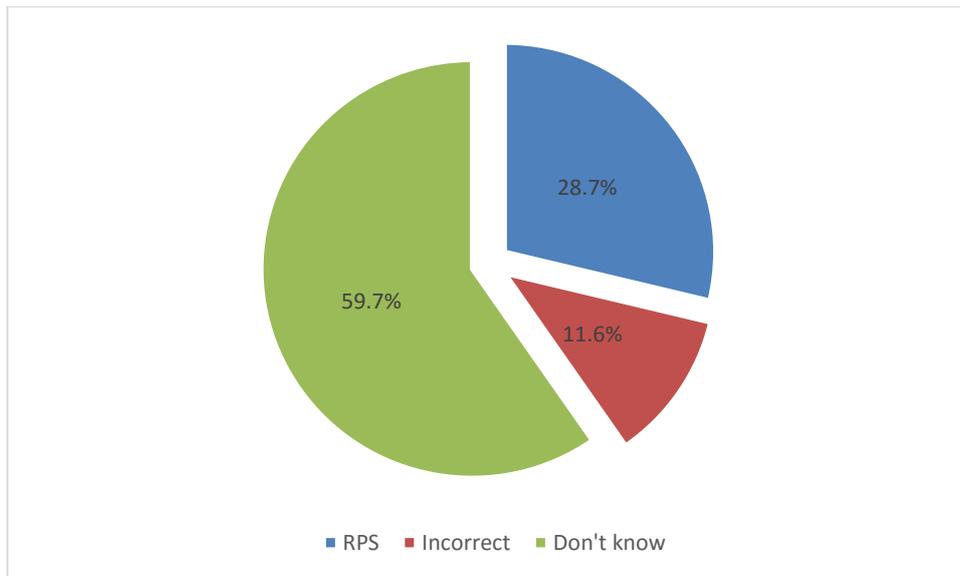
	Number of respondents indicating that each role is performed by pharmacist (%)*	Performed by other pharmacy staff (%)*
Monitoring prescription appropriateness	1,390 (90.4)	330 (21.5)
Assembly and labelling of products	1,179 (76.7)	795 (51.7)
Counselling patients on prescribed medicines	1,389 (90.4)	370 (24.1)
Over the counter medicine sales	837 (54.5)	1,266 (82.4)
Patient counselling	1,318 (85.8)	297 (19.3)
Communications with other health professionals	1,311 (85.3)	319 (20.8)
Meetings with people other than patients	1,128 (73.4)	494 (32.1)
Providing additional services	906 (58.9)	876 (57)
Sales Transactions	250 (16.3)	1,420 (92.4)

*Missing values have been excluded

5.1.2.5 Awareness of the Royal Pharmaceutical Society

The general public population were asked if they knew the name of the professional leadership body for pharmacy in Great Britain. The correct option was “Royal Pharmaceutical Society”, a number of incorrect options were also included (these have been categorised as incorrect): “British Pharmacy Association”, “Royal College of Pharmacy” and “British Society of Pharmacy”. An option for “I do not know” was also included. One third of respondents correctly identified the name of the professional body (28.7%, n=434/1,510) and one tenth answered incorrectly (11.6%, n=175/1,510) (Figure 5-3).

Figure 5-3 - Percent reporting knowledge of the RPS as the professional leadership body for pharmacy in Great Britain



5.1.3 Pharmacy Service Provision

This study investigated the use and awareness of a number of different pharmacy services. Services included were compiled from the PSNC service database²²³.

5.1.3.1 Use of Pharmacy Services

The general public were asked which, if any, services they had used from a pre-defined list (participants were considered to have not used a service if they selected either “not used but aware” or “unaware”). The three services reported as being most used were: Electronic prescription services (25.1%), Minor ailments scheme (14.2%) and Medicine use reviews (13.9%) (Table 5-7). The three services being used the least were: substance misuse (1.0%), falls Intervention service (0.8%) and alcohol awareness and intervention (0.2%).

Table 5-7 - Frequency of Pharmacy Service Use by the General Public

	Missing	Used (%)	Not Used (%)
Electronic Prescription Service	69	369 (25.1)	1,099 (74.9)
Treatment of minor ailments	42	212 (14.2)	1,283 (85.8)
Medication Use Reviews	81	202 (13.9)	1,254 (86.1)
Travel health	53	120 (8.1)	1,364 (91.9)
Health screening	74	113 (7.7)	1,350 (92.3)
Inhaler support	51	109 (7.3)	1,377 (92.7)
New medicines services	96	60 (4.2)	1,381 (95.8)
Stop Smoking services	54	53 (3.6)	1,430 (96.4)
Anti-coagulant (warfarin) service	62	52 (3.5)	1,423 (96.5)
Sexual Health Services	94	44 (3.0)	1,399 (97.0)
Supplementary prescribing	78	36 (2.5)	1,423 (97.5)
Providing services to Care Homes	80	25 (1.7)	1,432 (98.3)
Gluten Free Food Service	71	24 (1.6)	1,442 (98.4)
Substance Misuse	84	14 (1.0)	1,439 (99.0)
Falls Intervention Service	112	11 (0.8)	1,414 (99.2)
Alcohol awareness and intervention	44	3 (0.2)	1,490 (99.8)

The total number of services used by each respondent was calculated and the data were then analysed to ascertain the average number of services used by the general public. The median number of services used was 1 and the mode was also 1. The data were then categorised into two groups: greater than median and less than or equal to median. This categorisation allowed for statistical analysis between demographic groups. Respondents visiting pharmacies more frequently and those having more frequent communications with their pharmacist reported using more than one pharmacy service (Table 5-8). Respondents visiting pharmacies more than about once every three months reported using two or more pharmacy services more than those attending less frequently (51.8% n=270/521 and 31.9% n=90/282), $\chi^2= 32.685$, $df=6$, $p<0.000$ (Table 5-8). A similar relationship was observed for frequency of communications with the pharmacist; over half of respondents reported communicating with a pharmacist more than about once every three months compared to under a third of those attending less frequently (53.2%, n=247/464 and 33.1%, n=96/290), $\chi^2= 37.624$, $df=6$, $p<0.000$ (Table 5-9).

Table 5-8 - Analysis of Number of Services Used by Frequency of Visits

	Frequency of visits to a pharmacy						
	More than once a month (%)	About once a month (%)	About once every three months (%)	About once every six months (%)	About once a year (%)	Less than once a year (%)	Never (%)
One service	20 (39.2)	48 (45.3)	183 (50.3)	108 (67.1)	46 (71.9)	32 (68.1)	6 (60.0)
Two or more services	31 (60.8)	58 (54.7)	181 (49.7)	53 (32.9)	18 (28.1)	15 (31.9)	4 (40.0)
Total	51	106	364	161	64	47	10

Table 5-9 - Analysis of Number of Services Used by Frequency of Communication with a Pharmacist

	Frequency of Communication with a pharmacist						
	More than once a month (%)	About once a month (%)	About once every three months (%)	About once every six months (%)	About once a year (%)	Less than once a year (%)	Never (%)
One service	28 (37.3)	108 (46.2)	81 (52.3)	60 (61.9)	65 (67.7)	69 (71.1)	24 (66.7)
Two or more services	47 (62.7)	126 (53.8)	74 (47.7)	37 (38.1)	31 (32.3)	28 (28.9)	12 (33.3)
Total	75	234	155	97	96	97	36

A chi-squared analysis was then undertaken investigating any relationships between demographic groups and if the general public respondents had used a specific service or not (participants were considered to have not used a service if they selected either “not used but aware” or “unaware”). Appendix 11 –shows the number of respondents from demographic groups that reported they had used a particular service. Significant relationships were found for those respondents reporting communication with a pharmacist about once a month and use of the following services.

- Anti-coagulant service
- Electronic prescription service
- Inhaler support
- Medication use reviews
- New medicines services
- Stop smoking services

Similarly those respondents visiting a pharmacy about once a month reported using the following services:

- Anti-coagulant services
- Electronic prescription services
- Health screening
- Inhaler support
- Medication use reviews
- New medicines services
- Stop smoking services

Relationships were also identified between different age groups and service use, respondents sixty four years old or above (64-74 age group or 75+ group) reported using certain services more than younger age groups: anti-coagulant service (75+: 46.0%, n=23/50, $\chi^2=55.995$, df=6, p<0.000), electronic prescription service (64-74: 24.1%, n=87/361, $\chi^2=16.407$, df=6, p<0.012), health screening (64-74: 30.9%, n=34/110, $\chi^2=22.281$, df=6, p<0.001), inhaler support (75+: 27.4%, n=29/106, $\chi^2=18.428$, df=6, p<0.005) and medication use reviews (64-74: 37.1%, n=73/197, $\chi^2=56.179$, df=6, p<0.000). There was one service where the relationship observed trended in the opposite direction, sexual health services were used by 16-34 year olds more than any other age group (39.5%, n=17/43, $\chi^2=70.126$, df=6, p<0.000).

Three quarters of respondents reporting it very easy to identify their pharmacist were found to use the new medicine services (74.6%, n=44/59, $\chi^2=24.183$, df=3, p<0.000). A similar relationship was identified for inhaler support services and medication use reviews with 60.7% and 56.2% of respondents identifying with it being very easy to identify their pharmacist (n=65/107, $\chi^2=12.449$, df=3, p<0.006 and n=113/201, $\chi^2=12.507$, df=3, p<0.006).

For a number of services a significant number of female respondents reported more use than male respondents, these were: electronic prescription service (66.5%, n=244/367, $\chi^2=6.693$, df=1, $p<0.01$), sexual health services (88.6%, n=39/44, $\chi^2=14.723$, df=1, $p<0$), travel health (50.4%, n=60/119, $\chi^2=6.066$, df=1, $p<0.014$) and treatment of minor ailments (68.7%, n=145/211, $\chi^2=5.858$, df=1, $p<0.016$).

Other relationships identified included a link between rurality and stop smoking services, two thirds of respondents using this service were identified as coming from a rural location (67.9%, n=36/53, $\chi^2=5.858$, df=1, $p<0.016$). Respondents from the indices of multiple deprivation categories B and E (category E is least deprived) reported new medicine services less than the other groups on the scale (27.1%, n=16/59 and 10.2%, n=6/59 respectively), $\chi^2=12.050$, df=4, $p<0.017$.

5.1.3.2 Awareness of Pharmacy Services

General public respondents were asked which of a series of pharmacy services they were aware of (a combination of 'used' and 'not used but aware of'). The sample reported they were most aware of the following pharmacy services (Table 5-10): stop smoking services (72.9%, n=1,121/1,483), electronic prescription service (69.7%, n=1,072/1,468) and health screening (63.4%, n=928/1,463). The lowest ranked services were alcohol awareness and intervention (32.0%, n=478/1,493), supplementary prescribing (31.1%, n=454/1,459) and falls intervention service (14.1%, n=201/1,425).

Table 5-10 - General public respondents' awareness of pharmacy services

	Aware (%)	Unaware (%)
Stop Smoking services	1121 (75.6)	362 (24.4)
Electronic Prescription Service	1072 (73)	396 (27)
Health screening	928 (63.4)	535 (36.6)
Inhaler support	843 (56.7)	643 (43.3)
Sexual Health Services	775 (53.7)	668 (46.3)
Travel health	763 (51.4)	721 (48.6)
Substance Misuse	721 (49.6)	732 (50.4)
Providing services to Care Homes	708 (48.6)	749 (51.4)
Treatment of minor ailments	685 (45.8)	810 (54.2)
Medication Use Reviews (MUR)	659 (45.3)	797 (54.7)
Anti-coagulant (warfarin) service	633 (42.9)	842 (57.1)
Gluten Free Food Service	618 (42.2)	848 (57.8)
New medicines services	528 (36.6)	913 (63.4)
Alcohol awareness and intervention	478 (32)	1015 (68)
Supplementary prescribing	454 (31.1)	1005 (68.9)
Falls Intervention Service	201 (14.1)	1224 (85.9)

5.1.3.3 Opinions of Profitability

Participants were asked about why pharmacists provide certain pharmacy services, the response choices being: 'to improve health of service users', to improve the profitability of their business and 'to improve health of service users and to improve the profitability' of their business. The highest rated services for perceived improvement of service user's health were inhaler support (60.2%), treatment of minor ailments (56.7%) and anti-coagulant service (56.7%) (Table 5-11). The services rated highest for pharmacy profitability were travel health (15.4%), electronic prescription service (13.8%) and providing services to care homes (11.7%).

Analysis for significant differences between demographic groups was carried out using chi-square tests of independence.

Table 5-11 - General Public views of Pharmacist Reasons for Provision of Health Services

	...to improve health of service users (%)	...to improve health of service users and to improve the profitability of their business (%)	...to improve the profitability of their business (%)	Total
Inhaler support	853 (60.3)	517 (36.5)	45 (3.2)	1415
Treatment of minor ailments	788 (56.8)	522 (37.6)	78 (5.6)	1388
Anti-coagulant (warfarin) service	785 (56.7)	542 (39.2)	57 (4.1)	1384
Alcohol awareness and intervention	797 (56.6)	541 (38.5)	69 (4.9)	1407
Substance Misuse	750 (54.4)	558 (40.5)	71 (5.1)	1379
Medication Use Reviews (MUR)	723 (52.5)	578 (41.9)	77 (5.6)	1378
Falls Intervention Service	683 (52.2)	550 (42.0)	75 (5.7)	1308
Health screening	688 (49.0)	630 (44.9)	85 (6.1)	1403
Sexual Health Services	648 (46.7)	661 (47.6)	79 (5.7)	1388
Stop Smoking services	628 (44.3)	710 (50.1)	79 (5.6)	1417
New medicines services	499 (36.6)	737 (54.0)	129 (9.5)	1365
Gluten Free Food Service	501 (36.1)	753 (54.2)	135 (9.7)	1389
Supplementary prescribing	477 (34.8)	748 (54.6)	144 (10.5)	1369
Electronic Prescription Service	461 (33.0)	742 (53.2)	193 (13.8)	1396
Providing services to Care Homes	447 (32.3)	776 (56.0)	163 (11.8)	1386
Travel health	354 (25.4)	825 (59.2)	215 (15.4)	1394

5.1.3.3.1 Frequency of Communication with a pharmacist

A significant relationship was identified for inhaler support services, those respondents

communicating with their pharmacist about once a month (66.0%, n=223/338) were more likely to consider inhaler support services provided to improve the health of service users compared to those communicating less than once a year (55.8%, n=135/242), $\chi^2=21.239$, df=12, p<0.047.

Significant relationships were also detected for the care home services and respondents. Those respondents who had contact with their pharmacist more than once a month (40.2%, n=41/102) were more likely to report believing care home services is provided to improve health of service

users compared to those who had contact less than once a year (26.0%, n=61/235), $\chi^2=21.098$, df=12, p<0.049.

Those respondents who had contact with their pharmacist more than once a month (54.3%, n=57/105) were more likely to report believing sexual health services are provided to improve health of service users compared to those who had contact less than once a year (41.7%, n=100/240), $\chi^2=21.512$, df=12, p<0.043. Regarding travel health services, those respondents who had contact with their pharmacist more than once a month were more likely to report that travel health services was provided to improve health of service users (41.9%, n=44/105) compared to those who had contact about once every six months (17.9%, n=31/173), $\chi^2=29.478$, df=12, p<0.003.

5.1.3.3.2 Age

Significant relationships were detected for the electronic prescription service and respondents.

Those respondents aged 16-34 were more likely to consider electronic prescription service to be provided to improve the profitability of a pharmacist's business (22.3%, n=29/130) than those age 60-64 (9.9%, n=16/162). Further those aged 75 and over (41.6%, n=74/178) were more likely to consider electronic prescription service provided to improve health of service users than those aged 16-34 (27.7%, n=34/123), $\chi^2=28.884$, df=12, p<0.004. Almost two thirds of 16-34 year olds felt that health screening was provided to improve the health of service users (62.4%, n=83/133) compared to those aged 55-59 (39.6%, n=53/134), $\chi^2=25.338$, df=12, p<0.013.

Age was also revealed to have a significant relationship for inhaler support services. Those aged 75 and over (70.8%, n=136/192) were more likely to consider inhaler support services provided to improve the health of service users than those aged 55 to 59 (51.8%, n=71/137), $\chi^2=28.958$, df=12, p<0.004. When asked about medicine use reviews more respondents aged 75 and over (62.7%, n=111/177) reported that they believe pharmacists provide medicine use reviews to improve health of service users than those aged 35-44 (48.0%, n=83/173), $\chi^2=32.217$, df=12, p<0.001. Over sixty per cent of 16-34 year olds felt that sexual health services was provided to improve the health of service

users (60.4%, n=81/134) compared to those aged 60 to 64 (37.7%, n=61/162), $\chi^2=22.408$, df=12, $p<0.033$.

5.1.3.3.3 Indices of multiple deprivation

Respondents who came from an area in the lowest indices of deprivation quintile (A, most deprived, 45.6%, n=94/206) reported gluten free food services to be provided to improve health of service users compared to those in quintile B (27.9%, n=72/258), $\chi^2=21.435$, df=8, $p<0.006$.

5.1.3.3.4 Ethnicity

A relationship was also detected for ethnicity and responses for gluten free food services. Non-white respondents were almost twice as likely to consider gluten free food services provided to improve the profitability of a pharmacies business (21.1%, n=12/57) than white respondents (9.2%, n=121/1,315), $\chi^2=8.908$, df=2, $p<0.012$.

5.1.3.3.5 Rurality

Respondents from urban areas were more likely to believe that stop smoking services was provided by pharmacists for the improvement of business profitability (60.8%, n=48/78) than improvement of health (46.5%, n=291/626), $\chi^2=6.096$, df=2, $p<0.047$.

5.1.3.3.6 Sex

Significant relationships were detected for the sex and participant belief for a number of pharmacy services. For the majority of services male respondents were more likely to believe services were provided by pharmacists for the improvement of business profitability than improvement of health (Table 5-12).

For alcohol awareness services almost twice as many of those believing that these services are provided by pharmacists to improve health of service users were female (63.7%, n=504/791), $\chi^2=8.686$, df=2, $p<0.013$. Male respondents were more likely to consider electronic prescription service provided for the improvement of business profitability (46.6%, n=89/191) than improvement of health (34.6%, n=157/454), $\chi^2=8.536$, df=2, $p<0.014$.

Table 5-12 - General public respondent's beliefs of reasons for pharmacists providing services by sex

		Sex		
		Female (%)	Male (%)	
Anti-coagulant (warfarin) service	...to improve health of service users	502 (64.4)	277 (35.6)	x ² =7.221, df=2, p=.027
	...to improve health of service users and to improve the profitability of their business	309 (57.8)	226 (42.2)	
	...to improve the profitability of their business	31 (54.4)	26 (45.6)	
Falls Intervention Service	...to improve health of service users	433 (64)	244 (36)	x ² =6.664, df=2, p=.036
	...to improve health of service users and to improve the profitability of their business	321 (59.1)	222 (40.9)	
	...to improve the profitability of their business	38 (50.7)	37 (49.3)	
Gluten Free Food Service	...to improve health of service users	326 (65.6)	171 (34.4)	x ² =7.918, df=2, p=.019
	...to improve health of service users and to improve the profitability of their business	441 (59.1)	305 (40.9)	
	...to improve the profitability of their business	73 (54.5)	61 (45.5)	
Health screening	...to improve health of service users	440 (64.7)	240 (35.3)	x ² =10.171, df=2, p=.006
	...to improve health of service users and to improve the profitability of their business	366 (58.7)	258 (41.3)	
	...to improve the profitability of their business	42 (49.4)	43 (50.6)	
Inhaler support	...to improve health of service users	549 (65)	295 (35)	x ² =14.06, df=2, p=.001
	...to improve health of service users and to improve the profitability of their business	285 (55.6)	228 (44.4)	
	...to improve the profitability of their business	23 (51.1)	22 (48.9)	
New medicines services	...to improve health of service users	323 (65.4)	171 (34.6)	x ² =9.559, df=2, p=.008
	...to improve health of service users and to improve the profitability of their business	438 (59.8)	294 (40.2)	
	...to improve the profitability of their business	65 (51.2)	62 (48.8)	
Providing services to Care Homes	...to improve health of service users	298 (67.6)	143 (32.4)	x ² =17.695, df=2, p=.000
	...to improve health of service users and to improve the profitability of their business	467 (60.5)	305 (39.5)	
	...to improve the profitability of their business	79 (49.1)	82 (50.9)	
Sexual Health Services	...to improve health of service users	409 (63.9)	231 (36.1)	x ² =7.351, df=2, p=.025
	...to improve health of service users and to improve the profitability of their business	390 (59.5)	265 (40.5)	
	...to improve the profitability of their business	39 (49.4)	40 (50.6)	
Stop Smoking services	...to improve health of service users	405 (65)	218 (35)	x ² =6.652, df=2, p=.036
	...to improve health of service users and to improve the profitability of their business	409 (58.3)	293 (41.7)	
	...to improve the profitability of their business	46 (58.2)	33 (41.8)	
Substance Misuse	...to improve health of service users	474 (64.1)	266 (35.9)	x ² =7.67, df=2, p=.022
	...to improve health of service users and to improve the profitability of their business	324 (58.4)	231 (41.6)	
	...to improve the profitability of their business	36 (50.7)	35 (49.3)	
Supplementary prescribing	...to improve health of service users	307 (65.2)	164 (34.8)	x ² =9.788, df=2, p=.007
	...to improve health of service users and to improve the profitability of their business	451 (60.8)	291 (39.2)	
	...to improve the profitability of their business	72 (50.7)	70 (49.3)	
Travel health	...to improve health of service users	219 (62.9)	129 (37.1)	x ² =6.216, df=2, p=.045
	...to improve health of service users and to improve the profitability of their business	511 (62.4)	308 (37.6)	
	...to improve the profitability of their business	114 (53.5)	99 (46.5)	

5.1.3.3.7 Ease of pharmacist identification

Significant relationships were detected between ease of pharmacist identification and participant belief for a number of pharmacy services (Appendix 12 – Public beliefs of reasons for pharmacists providing services by ease of identification). For all services those respondents reporting it very easy to identify their pharmacist were more likely to believe services were provided by pharmacists for the improvement of health rather than improvement of business profitability compared to those who reported it very difficult.

5.1.4 Health versus Business

The general public were asked to make a judgement, using a five-point Likert scale, as to whether they considered pharmacy premises as purely business focussed at one extreme to purely healthcare focussed at the other extreme. One in ten members of the general public sample (10.6%, n=161/1,516) considered pharmacy premises to be purely healthcare focussed with just over 1% (n=19/1,516) reporting pharmacy premises as purely business focussed.

A similar question was asked, this time asking them to make the same judgment (using the same five-point Likert scale) when considering pharmacists. One in five general public respondents (20.7%, n=312/1,510) considered pharmacists to be purely healthcare focussed with just over 1% (n=17/1,510) reporting them as purely business focussed.

Almost two thirds of respondents reported that they considered pharmacists to be more healthcare focussed or purely healthcare focussed (63.6%, n=960/1,510); this was only true for 42.5% of respondents when considering pharmacy premises (n=644/1,516) (Table 5-13).

Table 5-13 - General Public views of Pharmacy and Pharmacist Business Focus

	Premises (%)	Pharmacists (%)
Purely healthcare focussed	161 (10.6)	312 (20.7)
More healthcare focussed than business focussed	483 (31.9)	648 (42.9)
Half healthcare focussed, half business focussed	711 (46.9)	464 (30.7)
More business focussed than healthcare focussed	142 (9.4)	69 (4.6)
Purely business focussed	19 (1.3)	17 (1.1)

Missing data have been excluded

Very few respondents considered either pharmacy premises or pharmacists as predominantly business focusses (less than 10% for both groups). Therefore, to enable suitable statistical analysis, for the next stage of analysis the top two and bottom two categories in the five-point Likert scale were recoded to create a three-point Likert scale (more healthcare focussed, half healthcare focussed, half business focussed and more business focussed).

5.1.4.1 Views of Pharmacy Premises

A binary logistic regression analysis was used to identify any relative effects of demographic factors on the general public's views towards the business practices of pharmacy premises (Appendix 13 – Analysis of the general public's views towards business practices of pharmacy premises by demographic factor). Using a p -value of less than 0.05 as an indication for significance, odds ratios (OR) and associated 95% confidence interval (95%CI) were used to interpret associations.

Results show that those communicating with a pharmacist about once a month (OR=0.54, 95%CI 0.32-0.91), about once every six months (OR=0.25, 95%CI 0.25-0.82), about once a year (OR=0.45, 95%CI 0.25-0.81) and less than once a year (OR=0.4, 95%CI 0.22-0.73) were less likely to consider pharmacy premises healthcare focussed than those communicating more than once a month. Respondents reporting visiting a pharmacy about once a month were more likely to consider pharmacy premises healthcare focussed than those visiting more than once a month (OR=1.84 95%CI 1.06-3.2). Respondents who found it easy to identify their pharmacist were less likely to consider pharmacy premises as health care focussed compared to those who found it very easy

(OR=0.66 95%CI 0.52-0.84); the same was true for those who reported finding it difficult to identify their pharmacist (OR=0.68 95%CI 0.48-0.95).

Forty five year old to fifty four year old respondents were shown to be less likely to think of pharmacies as health care focussed (OR=0.6 95%CI 0.38-0.93) Additionally, male respondents were more likely than female respondents to consider pharmacy premises as healthcare focussed (OR=1.31 95%CI 1.04-1.65). Respondents falling into categories B, C and E of indices of multiple deprivation were less likely to consider pharmacies as healthcare focussed than those in category A (OR=0.62 95%CI 0.42-0.91, OR=0.5 95%CI 0.34-0.73 and OR=0.51 95%CI 0.33-0.79). Members of the general public living in urban areas were less inclined to consider pharmacies as healthcare focussed compared to those in rural areas (OR=0.7 95%CI 0.53-0.91).

5.1.4.2 Views of Pharmacists

Binary logistic regression analysis was also used to identify the any relative effects of demographic factors on the general public's views towards business practices of pharmacists (Appendix 14 – Analysis of the general public's views towards business practices of Pharmacists by demographic factor). Respondents who reported finding it easy to identify their pharmacist were less likely to consider their pharmacist as healthcare focussed (OR=0.74 95%CI 0.57-0.94). Thirty five year old to forty four year old respondents were over three times more likely to consider their pharmacist business focussed (OR=3.78 95%CI 1.04-13.73). Those finding their pharmacist very difficult to identify were over four times likely to consider their pharmacist business focussed (OR=4.28 95%CI 1.44-12.66).

5.1.5 Pharmacist Professionalism

The general public sample were asked their views about the importance of the professional behaviours of pharmacists. These results were analysed and the results presented below.

5.1.5.1 English Community Pharmacists Professionalism

The general public respondents were asked how important they think different professional attributes are for pharmacists. They were asked to make a judgment using a five-point Likert scale

ranging from very important at one extreme to very unimportant at the other. The internal consistency of the 30-item scale was very high, demonstrating a Cronbach's alpha coefficient of 0.94. The respondents felt that all attributes of professionalism included in the scale were 'very' or 'somewhat' important.

The mean score of each attribute was taken by assigning the following numerical values to the items on the Likert scale:

- Very important (1)
- Somewhat important (2)
- Neither important nor unimportant (3)
- Somewhat unimportant (4)
- Very unimportant (5)

When ranked according to mean score, 28 of the attributes were categorised as 'very important' by the sub-sample i.e. a mean value of < 2. The top ranked items related to lawfulness (functioning according to the law, respecting patients' confidentiality and privacy, behaving honestly and with integrity and adhering to professional rules and regulations), personal qualities (communicating with patients in a clear and effective manner) and safety (being sound in judgment and in decision making). Both items included by the researcher as dummy items (which were identified by previous researchers to be social misconceptions on professionalism) were rated as the bottom two items.

The mean rating for each item is shown in Table 5-14.

Table 5-14 - Mean score given to different attributes of professionalism by the General Public

	Mean	Std. Deviation
Functioning according to the law	1.06	.282
Respecting patients' confidentiality and privacy	1.07	.301
Communicating with patients in a clear and effective manner	1.07	.316
Behaving honestly and with integrity	1.07	.318
Being sound in judgment and in decision making	1.09	.377
Adhering to professional rules and regulations	1.10	.376
Being accountable for one's actions	1.11	.377
Treating patients fairly and without prejudice	1.11	.408
Acting in a responsible fashion towards patients	1.12	.392
Behaving in a reliable and dependable way	1.12	.407
Being attentive to the needs of patients	1.16	.449
Providing advice to patients when required	1.19	.453
Taking a dedicated approach to work	1.24	.503
Respecting patients' autonomy	1.28	.553
Being aware of own limitations	1.29	.546
Treating other healthcare professionals fairly and without prejudice	1.33	.589
Showing compassion towards patients	1.35	.586
Being empathetic when caring for patients	1.35	.579
Making effective use of the resources available	1.35	.556
Being able to manage situations where there is a conflict of interest	1.36	.577
Treating colleagues of the same profession fairly and without prejudice	1.39	.620
Respecting colleagues of the same profession	1.40	.632
Not using professional status for personal gain	1.40	.778
Avoiding substance or alcohol misuse	1.45	.834
Having a positive attitude towards professional development	1.45	.651
Working well as a member of a team	1.50	.678
Reflecting on your actions with a view to self-improvement	1.58	.688
Being receptive to constructive criticism	1.58	.661
Being physically fit	2.37	.869
Having a good sense of humour	2.48	.973

5.1.5.1.1 Factor analysis

The Kaiser-Meyer-Olkin (KMO) measure of sampling was used to determine suitability for PCA;

anything larger than a minimum value of 0.6 is considered acceptable²¹⁵. Another measure, Bartlett's

Test of Sphericity, should be significant ($p \leq 0.05$) for factor analysis to be considered appropriate.

Table 5-15 shows that the general public sample demonstrates adequate KMO results to proceed with principal component analysis (PCA).

Table 5-15 - Sample adequacy and item suitability in the survey for a principal component

Test		Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.966
Bartlett's Test of Sphericity	Approx. Chi-Square	23,809.742
	df	435
	Sig.	0.000

The principal component analysis generated three components and they explained 43.2%, 8.0% and 3.8% of the variance respectively (total variance explained by three component model is 54.9%) (Table 5-16).

Table 5-16 - Total Variance explained by the three components

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.946	43.153	43.153	12.946	43.153	43.153	7.242	24.141	24.141
2	2.409	8.031	51.184	2.409	8.031	51.184	6.519	21.730	45.871
3	1.129	3.764	54.948	1.129	3.764	54.948	2.723	9.078	54.948

Drawing from the original research associated with the professionalism scale, the three components were assessed to see if they followed a similar pattern. Chandratilake named the components: Workmanship (relationships with colleagues and other healthcare professionals), Clinicianship (relationships with patient) and Citizenship (behaviour in society)². After visual review of the items loaded under each component it was decided that with adjustments these names would be similarly applicable to this research and so component one was renamed to Professionalism in Practice, component two was renamed to Professionalism in Work and component three was renamed to Professionalism in Society (Table 5-17).

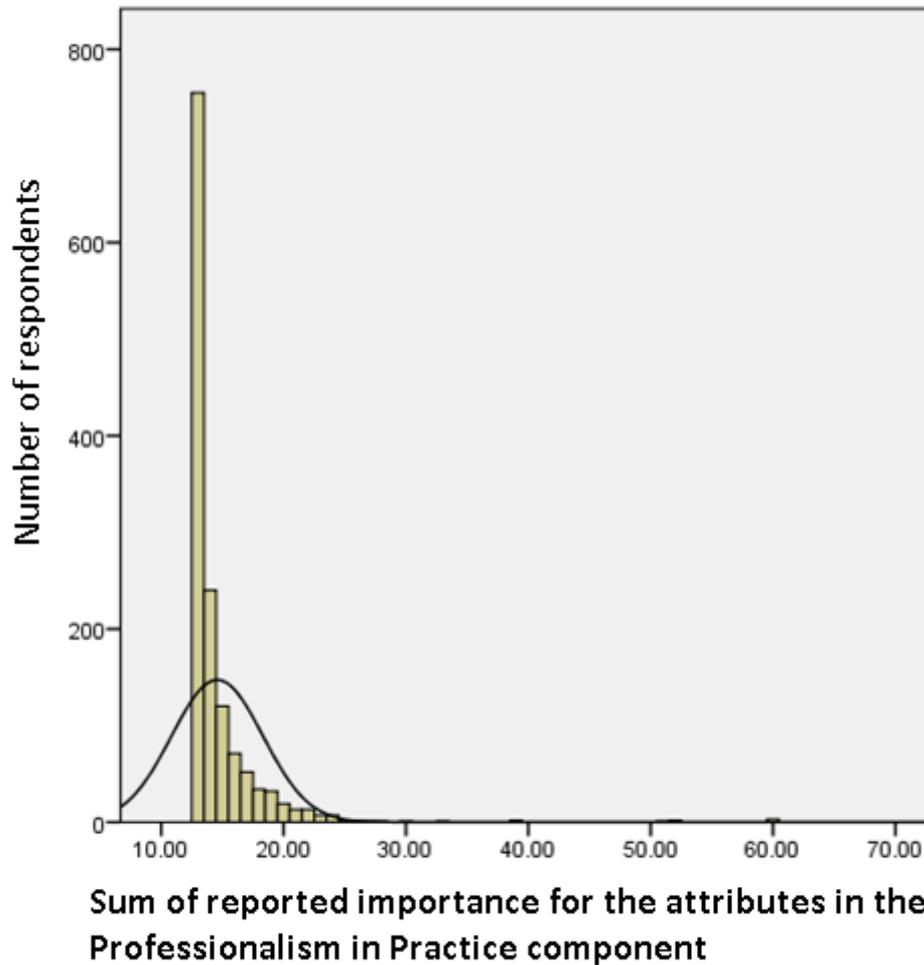
Table 5-17 - Varimax rotated component matrix generated by principal component analysis of the pharmacist responses to 30 items and subscales (latent variables) identified (Highest factor coefficient for each item is indicated in bold.)

	Component		
	1	2	3
Professionalism in Practice			
Functioning according to the law	.613	.050	.155
Taking a dedicated approach to work	.483	.267	.314
Behaving in a reliable and dependable way	.720	.260	.159
Communicating with patients in a clear and effective manner	.719	.180	.193
Being sound in judgment and in decision making	.764	.282	.075
Providing advice to patients when required	.513	.430	.135
Behaving honestly and with integrity	.747	.258	.081
Treating patients fairly and without prejudice	.725	.348	.117
Being accountable for one's actions	.650	.301	.103
Respecting patients' confidentiality and privacy	.713	.242	.048
Adhering to professional rules and regulations	.742	.230	.072
Acting in a responsible fashion towards patients	.685	.371	.117
Being attentive to the needs of patients	.565	.404	.266
Professionalism in Work			
Treating other healthcare professionals fairly and without prejudice	.392	.632	.072
Having a positive attitude towards professional development	.200	.691	.213
Respecting patients' autonomy	.386	.535	.152
Being aware of own limitations	.416	.503	.095
Making effective use of the resources available	.367	.594	.173
Respecting colleagues of the same profession	.280	.706	.179
Reflecting on your actions with a view to self-improvement	.165	.759	.169
Being receptive to constructive criticism	.190	.731	.249
Treating colleagues of the same profession fairly and without prejudice	.281	.754	.188
Working well as a member of a team	.177	.663	.402
Being able to manage situations where there is a conflict of interest	.315	.617	.276
Professionalism in Society			
Not using professional status for personal gain	.322	.029	.416
Having a good sense of humour	-.052	.189	.637
Being physically fit	-.012	.341	.687
Avoiding substance or alcohol misuse	.258	.148	.520
Being empathetic when caring for patients	.340	.482	.541
Showing compassion towards patients	.329	.463	.520

5.1.5.1.1.1 Professionalism in Practice

Further analysis was then carried out on the different components, firstly Professionalism in Practice. It is comprised of thirteen items, with a Cronbach's alpha of 0.912. Responses to items in this component were measured using a five-point Likert-scale, spanning from Very important (1) to Very unimportant (5); therefore, the sum of an individual's response to this component could range from 13-65, with a range between 13 and 60 for this component. The component mean was 14.58, with a median of 13 and a standard deviation of 3.73. Responses were strongly skewed toward very important/somewhat important (Figure 5-4).

Figure 5-4 – Professionalism in Practice Histogram for the general public



Non-parametric analysis should be used when data does not fit a normal distribution. Analysis for significant differences between demographic groups was carried out using Mann-Whitney U Tests for groups with two variables and Kruskal-Wallis tests for groups with multiple variables.

The variables pharmacist communication, rurality and ethnicity did not return significant values from analysis. A Kruskal-Wallis test revealed a significant difference between importance placed on this component and frequencies of pharmacy visits (Table 5-18) $\chi^2=26.01$, $df=6$, $p<0.000$.

Table 5-18 – Kruskal-Wallis test eligible general public respondent’s and frequency of pharmacy visits

	n
More than once a fortnight	83
About once a fortnight	154
About once a month	599
About once every three month	324
About once every six months	162
Less than once every 6 months	166
Never	33
Total	1521

Pairwise comparisons with adjusted p-values showed that those respondents that reported never visiting a pharmacy had a lower average rank than those who reported visiting less than once every six months ($U=275.775$, $z=3.58$, $p<0.007$, $r=0.25$). Similarly, those visiting about once a month demonstrated a lower average rank than those who reported visiting less than once every six months ($U=-139.446$, $z=-3.93$, $p<0.002$, $r=0.14$).

Differences were also revealed during Kruskal-Wallis analysis of age categories and the Professionalism in Practice component (Table 5-19) $\chi^2=35.16$, $df=6$, $p<0.000$. Those aged 75 years and above had a significantly lower average rank indicating greater importance for this component when compared to the 16-34 ($U=232.5$, $z=5.35$, $p<0.00$, $r=0.14$), 35-44 ($U=129.1$, $z=3.23$, $p<0.026$, $r=0.16$) and 45-54 age groups ($U=109.5$, $z=3.1$, $p<0.038$, $r=0.14$).

Table 5-19 - Kruskal-Wallis test eligible general public respondent’s and age

	n
16-34	134
35-44	177
45-54	295
55-59	147
60-64	176
64-74	343
75+	230
Total	1502

Similarly ease of identification was revealed to have statistically significant differences ($\chi^2=16.187$, $df=3$, $p<0.001$). Those reporting it very easy to identify their pharmacist had a significantly lower

average rank compared to those finding it easy ($U=-67.25$, $z=-2.96$, $p<0.018$, $r=0.08$) and very difficult ($U=-186.7$, $z=-2.81$, $p<0.03$, $r=0.1$) to identify (Table 5-20).

Table 5-20 - Kruskal-Wallis test eligible general public respondent's and ease of pharmacist identification

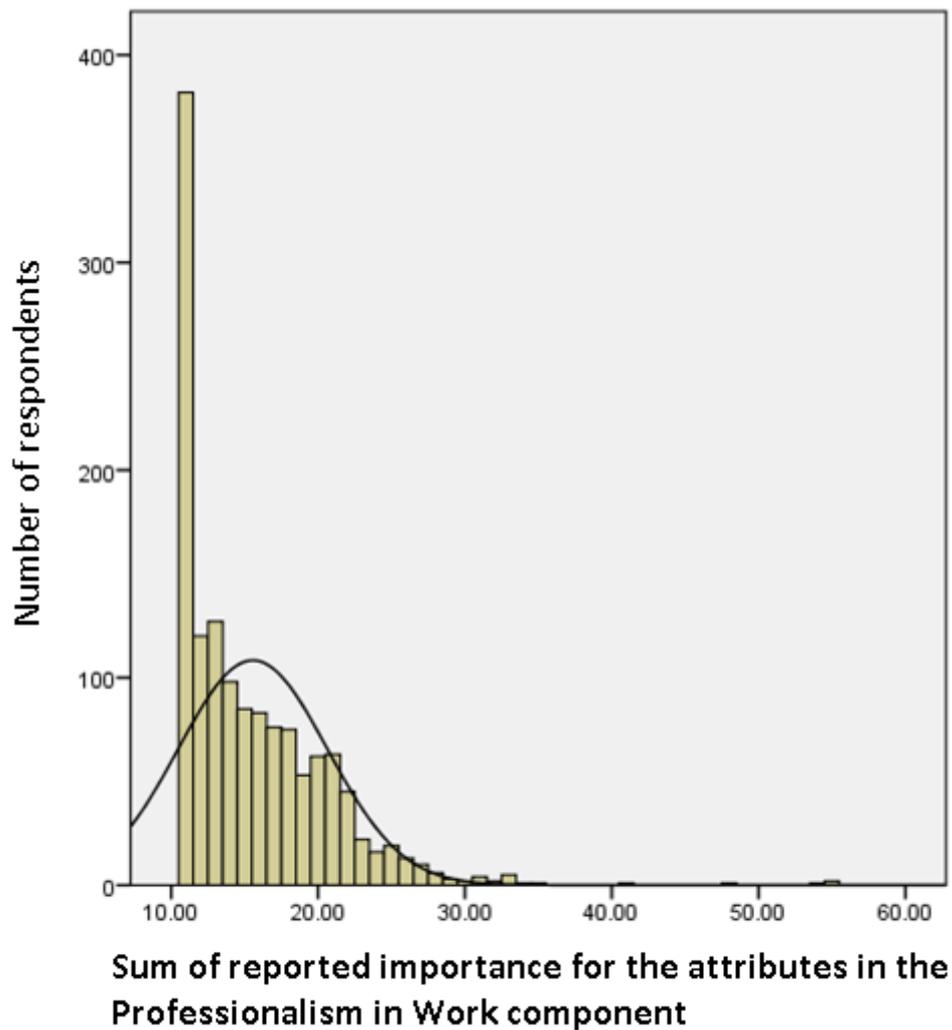
	n
Very Easy	680
Easy	537
Difficult	225
Very Difficult	37
Total	1479

A Mann-Whitney test indicated that women placed greater importance on the Professionalism in Practice component (mean rank=727.99, median=13, $n=928/1,513$) compared to men (mean rank=803.02, median=13, $n=585/1,513$), $U=298,361$, $z=-3.530$, $p<0.000$, $r=0.09$ (occasionally, the difference between two groups can be statistically significant with median being the same for both groups). This indicates that females rank this component as more important than males, albeit with a very small effect size (using Cohen (1988) criteria²²⁴).

5.1.5.1.1.2 Professionalism in Work

The Professionalism in Work component is comprised of eleven items, with a Cronbach's alpha of 0.917. Responses to items in this component were measured using a five-point Likert-scale, spanning from Very important (1) to Very unimportant (5); therefore, the sum of an individual's response to this component could range from 11-55, and the full range was present for this component. The component mean was 15.55, with a median of 14 and a standard deviation of 5.07. Responses were strongly skewed toward very important/somewhat important (Figure 5-5).

Figure 5-5 – Professionalism in Work Histogram for the general public



The communication with pharmacist variable did not reveal any differences among the groups when conducting the Bonferroni test despite a statistically significant difference arising in the Kruskal-Wallis test ($\chi^2=13.51$, $df=6$, $p<0.036$).

A Kruskal-Wallis test revealed a significant difference in the Professionalism in Work component across categories for frequency of pharmacy visits (

Table 5-21) $\chi^2=26.11$, $df=6$, $p<0.000$. Pairwise comparisons with adjusted p-values showed that those visiting about once a month had lower average rank scores than those visiting about once every six months ($U=-139.2$, $z=-3.6$, $p<0.006$, $r=0.13$) and less than once every six months ($U=-138.3$, $z=-3.64$, $p<0.006$, $r=0.13$).

Table 5-21 - Kruskal-Wallis test eligible general public respondent's and frequency of pharmacy visits

	n
More than once a fortnight	83
About once a fortnight	154
About once a month	596
About once every three month	324
About once every six months	162
Less than once every 6 months	166
Never	33
Total	1518

Differences were also revealed during Kruskal-Wallis analysis of age categories and the Professionalism in Work component (Table 5-22), $\chi^2=47.32$, $df=6$, $p<0.000$. Pairwise comparisons with adjusted p-values were conducted to explore the differences between the groups. Respondents aged 64-74 and 75+ reported statistically significant lower average rank scores, than those aged 16-34 ($U=203.6$, $z=4.66$, $p<0.00$, $r=0.21$ and $U=222.5$, $z=4.78$, $p<0.000$, $r=0.24$ respectively), 35-44 ($U=162.8$, $z=4.1$, $p<0.001$, $r=0.18$ and $U=181.7$, $z=4.24$, $p<0.000$, $r=0.21$) and 45-54 ($U=132.4$, $z=3.89$, $p<0.002$, $r=0.16$ and $U=151.3$, $z=4.01$, $p<0.001$, $r=0.17$).

Table 5-22 - Kruskal-Wallis test eligible general public respondent's and age

	n
16-34	134
35-44	177
45-54	295
55-59	147
60-64	176
64-74	341
75+	229
Total	1499

Similarly ease of identification was revealed to have statistically significant differences ($\chi^2=36.57$, $df=3$, $p<0.000$). Pairwise comparisons with adjusted p-values were conducted to explore the differences between the groups (Table 5-23). Respondents who reported finding it very easy to identify their pharmacist had a statistically significant lower average rank score than those reporting it easy ($U=-98.3$, $z=-4.03$, $p<0.000$, $r=0.12$), difficult ($U=-146.56$, $z=-4.51$, $p<0.000$, $r=0.13$) or very difficult ($U=-269.9$, $z=-3.79$, $p<0.001$, $r=0.15$).

Table 5-23 - Kruskal-Wallis test eligible general public respondent's and ease of pharmacist identification

	n
Very Easy	680
Easy	536
Difficult	225
Very Difficult	37
Total	1478

A Kruskal-Wallis test also revealed a significant difference in the Professionalism in Work component across the five different quintiles for indices of multiple deprivation (Table 5-24), $\chi^2=25.409$, $df=4$, $p<0.000$. Pairwise comparisons with adjusted p-values were conducted to explore the differences between the quintiles. Group A (most deprived) reported a statistically significant lower average rank score than groups B ($U=-138.7$, $z=-3.61$, $p<0.003$, $r=0.16$), C ($U=-106.4$, $z=-3$, $p<0.027$, $r=0.12$) and E ($U=-134.45$, $z=-3.59$, $p<0.003$, $r=0.15$). Whereas those from group D reported statistically lower average rank scores than those from groups B ($U=126.26$, $z=3.37$, $p<0.008$, $r=0.15$) and E ($U=122$, $z=-3.33$, $p<0.008$, $r=0.14$).

Table 5-24 - Kruskal-Wallis test eligible general public respondent's and indices of multiple deprivation quintile

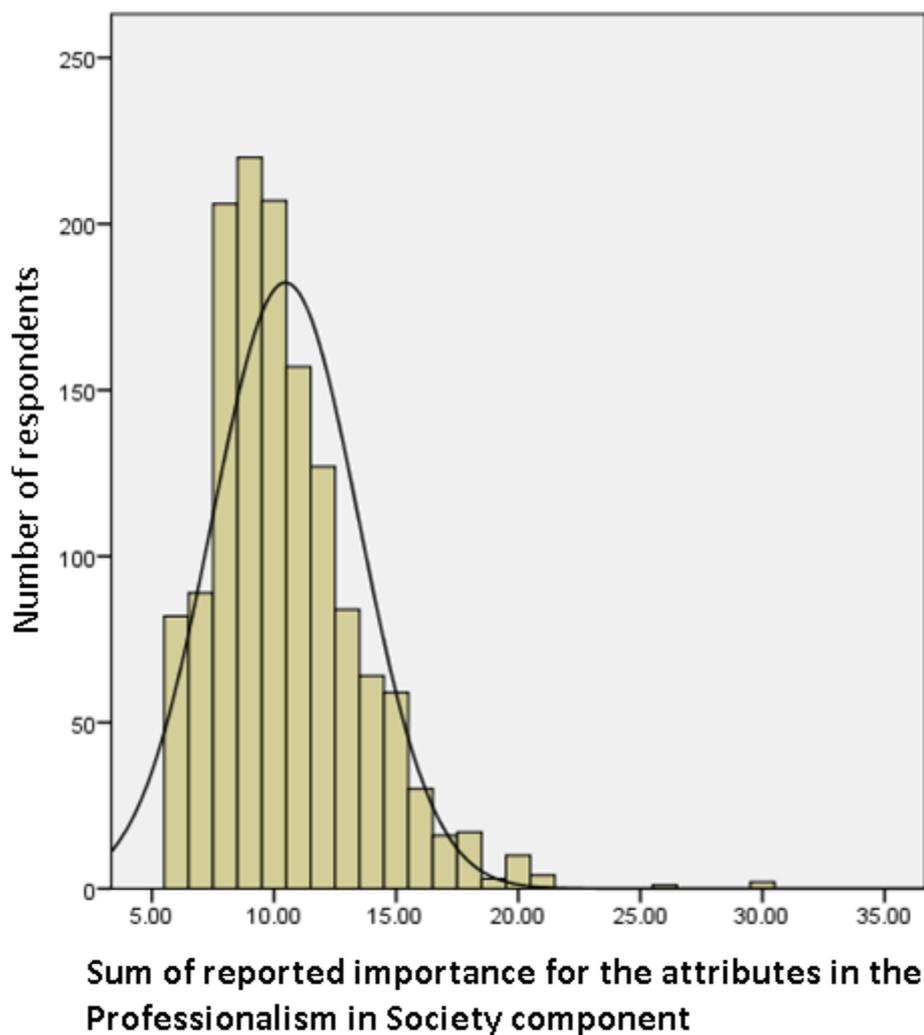
	n
A	229
B	288
C	429
D	250
E	323

A Mann-Whitney test indicated that importance in the Professionalism in Work component was greater for women (mean rank=713.85, median=13, $n=927/1,510$) than for men (mean rank=821.73, median=13, $n=583/1,513$), $U=308,830$, $z=-4.731$, $p<0.000$, $r=0.12$ (Occasionally, the difference between two groups can be statistically significant with median being the same for both groups). This indicates that females rank this component as more important than males, albeit with a small effect size (using Cohen (1988) criteria²²⁴).

5.1.5.1.1.3 Professionalism in Society

The Professionalism in Society component is comprised of six items, with a Cronbach's alpha of 0.708. Responses to items in this component were measured using a five-point Likert-scale, spanning from Very important (1) to Very unimportant (5); therefore, the sum of an individual's response to this component could range from 6-30, and the full range was present for this component. The component mean was 10.47, with a median of 10 and a standard deviation of 3.01. Responses were strongly skewed toward very important/somewhat important (Figure 5-6).

Figure 5-6 – Professionalism in Society Histogram for the general public



The variables rurality and ethnicity did not return significant values from analysis. A Kruskal-Wallis test revealed a significant difference in the Professionalism in Work component across categories for

frequency of communications with a pharmacist (Table 5-25), $\chi^2=28.33$, $df=6$, $p<0.000$. Pairwise comparisons with adjusted p-values were conducted to explore the differences between the groups. Respondents reporting communication with a pharmacist less than once a year had a statistically significant higher average rank score (and therefore placed less importance on this component) compared to those communicating more than once a month ($U=-194.1$, $z=-3.98$, $p<0.001$, $r=0.2$) and about once a month ($U=-132.65$, $z=-3.79$, $p<0.003$, $r=0.15$). Additionally, those reporting communication about once every six months had a higher average rank score compared to those communicating more than once a month ($U=-168.96$, $z=-3.3$, $p<0.02$, $r=0.19$).

Table 5-25 - Kruskal-Wallis test eligible general public respondent's and pharmacist contact

	n
More than once a month	112
About once a month	369
About once every three months	264
about once every six months	190
about once a year	195
less than once a year	255
never	114

Likewise, a Kruskal-Wallis test revealed a significant difference for frequency of pharmacy visits (Table 5-26), $\chi^2=44.45$, $df=6$, $p<0.000$. Pairwise comparisons with adjusted p-values were conducted to explore the differences between the groups. Those respondents visiting about once every six months and less than once every six months, reported a statistically significant higher average rank score than those visiting more than once a fortnight ($U=-227.04$, $z=3.87$, $p<0.002$, $r=0.25$ and $U=-202.58$, $z=-3.46$, $p<0.011$, $r=0.22$ respectively), about once a fortnight ($U=-211.94$, $z=4.33$, $p<0.000$, $r=0.24$ and $U=-187.47$, $z=-3.85$, $p<0.003$, $r=0.22$ respectively) and about once a month ($U=-166.97$, $r=4.33$, $p<0.000$, $r=0.16$ and $U=-142.5$, $z=3.72$, $p<0.004$, $r=0.14$ respectively), $df=6$, $F=5.58$, $p<0.000$. Differences were also identified for those reporting visits about once every three months. This group had a higher average rank score than those visiting about once a fortnight ($U=-136.53$, $z=3.2$, $p<0.028$, $r=0.15$) and about once a month ($U=-91.56$, $z=-3.05$, $p<0.049$, $r=0.1$).

Table 5-26 - Kruskal-Wallis test eligible general public respondent's and frequency of pharmacy visits

	n
More than once a fortnight	83
About once a fortnight	154
About once a month	597
About once every three month	323
About once every six months	162
Less than once every 6 months	165
Never	33

Differences were also revealed during Kruskal-Wallis analysis of age categories and the Professionalism in Society component (Table 5-27), $\chi^2=149.9$, $df=6$, $p<0.000$. Pairwise comparisons with adjusted p-values were conducted to explore the differences between the groups. Respondents aged 45-54 reported lower average rank scores than those aged 16-34 ($U=140.38$, $z=3.14$, $p<0.036$, $r=0.15$). Similarly, respondents aged 55-59 reported a statistically significant lower average rank score than those aged 16-34 ($U=183.2$, $z=3.6$, $p<0.007$, $r=0.21$). Additionally respondents aged 60-64 reported statistically significant lower average rank score than those aged 16-34 ($U=261.8$, $z=5.3$, $p<0.000$, $r=0.3$) and 35-44 ($U=154.9$, $z=3.39$, $p<0.015$, $r=0.18$). Lower average rank scores were also reported for the 64-74 age group compared to 16-34 ($U=347.2$, $z=7.93$, $p<0.000$, $r=0.36$), 35-44 ($U=240.3$, $z=6.04$, $p<0.000$, $r=0.27$), 45-54 ($U=206.85$, $z=6.06$, $p<0.000$, $r=0.24$) and 55-59 ($U=164.03$, $z=3.87$, $p<0.002$, $r=0.17$). Finally the 75+ group had a lower average rank score than the 16-34 ($U=444.09$, $z=9.48$, $p<0.000$, $r=0.5$), 35-44 ($U=337.18$, $z=7.82$, $p<0.000$, $r=0.39$), 45-54 ($U=303.72$, $z=8$, $p<0.000$, $r=0.35$), 55-59 ($U=260.9$, $z=5.73$, $p<0.000$, $r=0.3$) and 60-64 ($U=182.28$, $z=4.22$, $p<0.001$, $r=0.21$) age groups.

Table 5-27 - Kruskal-Wallis test eligible general public respondent's and respondent age

	n
16-34	134
35-44	177
45-54	295
55-59	147
60-64	176
64-74	343
75+	226

Similarly ease of identification (Table 5-28) was revealed to have statistically significant differences ($\chi^2=29.15$, $df=3$, $p<0.000$). Pairwise comparisons with adjusted p-values were conducted to explore the differences between the groups. Respondents who reported finding it very easy to identify their pharmacist had a statistically significant lower average rank score than those reporting it easy ($U=-92.72$, $z=-3.79$, $p<0.001$, $r=0.1$) or difficult ($U=-154.92$, $z=4.76$, $p<0.000$, $r=0.16$).

A Mann-Whitney test indicated that importance in the Professionalism in Society component was greater for women (mean rank=717.4, median=10, $n=925/1,509$) than for men (mean rank=814.49, median=10, $n=584/1,509$), $U=304,844.5$, $z=-4.2$, $p<0.000$, $r=0.1$ (occasionally, the difference between two groups can be statistically significant with median being the same for both groups). This indicates that females rank this component as more important than males, albeit with a small effect size (using Cohen (1988) criteria²²⁴).

Table 5-28 - Kruskal-Wallis test eligible general public respondent's and ease of pharmacist identification

	n
Very Easy	678
Easy	536
Difficult	225
Very Difficult	37

A Kruskal-Wallis test also revealed a significant difference in the Professionalism in Work component across the five different quintiles for indices of multiple deprivation (Table 5-29), $\chi^2=25.898$, $df=4$, $p<0.000$. Pairwise comparisons with adjusted p-values were conducted to explore the differences between the quintiles. Group A (most deprived) reported a statistically significant lower average rank score than groups B ($U=-147$, $z=-3.8$, $p<0.001$, $r=0.17$), C ($U=-117.115$, $z=-3.28$, $p<0.011$, $r=0.12$) and E ($U=-172.22$, $z=-4.57$, $p<0.000$, $r=0.19$). Group D also showed a statistically significant lower average rank score than group E ($U=-106.52$, $z=-2.9$, $p<0.037$, $r=0.12$).

Table 5-29 - Kruskal-Wallis test eligible general public respondent's and indices of multiple deprivation quintile

	n
A	227
B	289
C	428
D	249
E	325

5.2 Summary

A large scale cross-sectional survey was deemed appropriate to investigate the general public's perception of pharmacy services, pharmacist roles and pharmacist professionalism. It was established in work stream 1 that there was a perceived lack of public knowledge in relation to pharmacy. By conducting this research a better understanding of the level of public knowledge was derived.

Questionnaires were distributed to a random stratified sample of the general public. Collected data were processed and analysed using relevant statistical techniques. The analysis was split into a number of related sections. These were investigations into demographic information, the use of pharmacy and awareness of pharmacy, the provision of pharmacy services, the balance between health and business, and pharmacist professionalism.

The overall response rate to the questionnaire was 15.7%, respondents were predominately over 45 years of age, white and female. The largest proportion of the general public reported visiting pharmacies about once a month, with the elderly visiting most frequently. Additionally those from the most deprived areas were found to visit most frequently. The largest proportion of the general public reported communicating with their pharmacist about once a month and it was found that of those visiting more frequently the respondents were more likely to have communicated with a pharmacist. The majority of respondents found it easy or very easy to identify the pharmacist.

Respondents were asked which roles they believed were performed by pharmacists and which were performed by other pharmacy staff. The roles recognised as being carried out most frequently by pharmacists were mainly prescription related. The roles recognised as being carried out mostly by

other pharmacy staff were mostly sales related. Only one third of respondents correctly identified the name of the professional leadership body for pharmacy in Great Britain.

The most used pharmacy services was reported as electronic prescription services and the least used was alcohol awareness and intervention services. Respondents who reported visiting a pharmacy more than once a month were more likely to use two or more services than those who visited less frequently. The respondents also reported they were most aware of stop smoking services and least aware of falls intervention services. The highest rated service for perceived improvement of service users' health were inhaler support services, whereas the services rated highest for pharmacy profitability were travel health. Those respondents who found their pharmacist easy to identify felt that most services were provided to improve the health of service users. Additionally, male respondents felt that the majority of services were provided to improve the profitability of the business.

When respondents were asked as to whether they considered pharmacy premises to be business-focused or healthcare-focused, only one-in-ten respondents considered pharmacy premises to be purely healthcare focussed. A similar question was asked, this time asking respondents to make the same judgement when considering pharmacists, and only one-in-five respondents considered pharmacists to be purely healthcare focussed. Respondents reporting visiting a pharmacy about once a month were more likely to consider pharmacy premises healthcare focussed than those visiting less frequently.

The general public respondents were also asked how important they think different professional attributes are for pharmacists. When ranked according to mean score, the majority of the attributes were categorised as 'very important'. The top ranked items related to lawfulness, personal qualities and safety. Factor analysis was undertaken and revealed three components of professionalism: Professionalism in Practice, Professionalism in Work and Professionalism in Society. Female respondents, the elderly and those who reported frequently visiting a pharmacy were more likely to

consider each of the components as more important than male, younger and less frequent visitors respectively.

The study has gone some way towards enhancing our understanding of the general public's knowledge of pharmacy services and pharmacy roles. Additionally, the findings add to a growing body of literature on pharmacist professionalism. The major limitation of this study is the low response rate.

The current study has only examined members of the general public from select local authorities in England. The sampling method used aimed to ensure the sample was as representative of the English population as possible.

The evidence from this study suggests that members of the general public mainly associate pharmacist roles with prescription related matters, rather than fully appreciating the full range of roles undertaken by pharmacists. Additionally, respondents reported awareness of pharmacy services but only limited use. Views on profitability related to pharmacy services was also investigated as it has been acknowledged that commercialism is a potentially deprofessionalising force within pharmacy. This work also contributes to existing knowledge of pharmacist professionalism by providing three components of professionalism (in Practice, in Work and in Society).

Whilst this study was able to provide detailed insights into the views and opinions of members of the general public in relation to pharmacy services, pharmacist roles and pharmacist professionalism; it has been acknowledged that the responsibility for professionalism within pharmacy and some aspects of promotion lie with the pharmacist. It was therefore of interest to explore the views and opinions of pharmacists in relation to perceptions of public knowledge and professionalism. This led to the development of a survey administered to sample of GPhC registered pharmacists in chapter 6, which follows.

Chapter 6: Work Stream 3 - Pharmacist Questionnaires

This chapter of the thesis covers work stream 3. This involved administering a cross-sectional online survey to 10,000 GPhC registered pharmacists. This work was conducted in the winter of 2014. This chapter presents the results and a summary of work stream 3. A more comprehensive discussion of the results of work stream 3, along with those of work stream 1 and 2, is given in an overall discussion in chapter 7.

This work stream draws upon findings from the literature review and the results of the qualitative interviews reported in chapter 4. As the views and opinions of members of pharmacy leadership bodies had not been sought before, work stream 1 revealed five themes relating to professionalisation, professional status and professionalism. From these themes a number of key points emerged. These included: deprofessionalising effects, lack of perceived public knowledge of pharmacist roles and pharmacy services and a difficulty in defining professionalism.

Participants in the interviews articulated concerns that pharmacy may be subject to deprofessionalising forces. The results showed that rationalisation, technological advancement and commercialism were the most widely discussed of these. Participants also reported a lack of perceived public knowledge of pharmacist roles and pharmacy services. Furthermore, the concept of professionalism was discussed as a key factor when considering pharmacy as a profession. The participants in the interviews were unable to successfully define the term. Therefore, undertaking a large scale cross-sectional survey involving pharmacists would address such topics. The results of work stream 1, along with the reviewed literature, helped with formulating different topics to explore using surveys in work stream 3.

6.1 Quantitative Results

6.1.1 Demographic Information

Data obtained from the questionnaire administered online to a sample of pharmacists registered with the GPhC was used to assess the generalisability of the findings by considering different demographic factors.

6.1.1.1 Response Rate

Of the 10,000 registrants who were invited to take part in the survey, one was identified as ineligible to complete the survey due to a conflict of interest (the registrant in question being the author). This gave an eligible sample size total of 9,999. Overall, 706 registrants completed a questionnaire, giving an overall response rate of 7.1%.

6.1.1.2 Assessment of Generalisability to the Wider Population

The demographic questions answered by survey respondents were used to compare the characteristics of respondents with the registrant population at large. Results from a registrant survey carried out in 2013 by the GPhC were used as the comparator group for a chi-square test (Table 6-1 and

Table 6-2)⁷. Upon inspection the respondent population was broadly generalisable to the wider pharmacist population.

Table 6-1 - Comparison of Pharmacist representative sample and study responses by demographic factors

Demographic Factor	Characteristic	Representative Sample of GPhC population (%)	Respondents achieved for each characteristic (%)	Percentage Difference	
Sex	Male	5,707 (36.7)	282 (40.17)	3.50%	p= 0.060
	Female	9,846 (63.3)	420 (59.83)	-3.50%	
Age	Under 60	14,160 (91)	610 (87.77)	-3.30%	p<0.003
	60+	1,393 (8.96)	85 (12.23)	3.30%	
Location	England	13,038 (83.8)	604 (85.67)	1.80%	p<0.388
	Scotland	1,650 (10.6)	64 (9.08)	-1.50%	
	Wales	865 (5.6)	37 (5.25)	-0.30%	

Respondents selecting "Do not want to say" have been excluded

Table 6-2 - Comparison of Pharmacists currently working in a paid pharmacy related job and study responses by demographic factors

Demographic Factor	Characteristic	Percentage representative Sample of GPhC population (%)	Percentage respondents achieved for each characteristic (%)	Percentage Difference	
Sector	Community	9,963 (72)	459 (69.1)	-2.90%	p<0.807
	Hospital	3,183 (23)	100 (15.1)	-7.90%	
	Primary Care	830 (6)	51 (7.7)	1.70%	
	Education	277 (2)	19 (2.9)	0.90%	
	Industry	415 (3)	10 (1.5)	-1.50%	
	Other	415 (3)	25 (3.8)	0.80%	
Status	Employee	10,240 (74)	293 (63.8)	-45.70%	p<0.218
	Locum	2,491 (18)	130 (28.3)	45.80%	
	Owner	1,107 (8)	36 (7.8)	-0.20%	
Work Pattern	Full Time	10,102 (73)	431 (64.9)	-8.10%	p<0.215
	Part Time	3,736 (27)	233 (35.1)	8.10%	

Respondents selecting "Do not want to say" have been excluded

Almost one third of respondents were aged 25-34 (30.9%) and over 75% were aged 54 or younger (

Table 6-3). Direct comparison between the GPhC data and the data gathered for this study was difficult to compare. This was due to different items being used within questions (e.g. age range), to achieve a minimum level of comparison the items within the data sets were combined, therefore data could not be interpreted fully.

Table 6-3 - Responses by Age

	Frequency (%)
16-24	13 (1.8)
25-34	218 (30.9)
35-44	170 (24.1)
45-54	144 (20.4)
55-59	65 (9.2)
60-64	43 (6.1)
65-74	35 (5)
75+	7 (1)
Do not want to say	11 (1.6)

The vast majority of respondents (94.1%; n=664/706) reported working in a pharmacy setting for the basis of their main job. Of the remaining 42 respondents 13 identified that they were retired, 3 identified as not in active employment, 13 identified as previously working in pharmacy and a further 13 identified as working partly in pharmacy and partly in other areas.

6.1.1.3 Community Pharmacists practising in England

Data obtained from the questionnaire administered online to a sample of pharmacists registered with the GPhC was then filtered to obtain the subset of English community pharmacists.

6.1.1.3.1 Response Rate

The main focus of this study was on community pharmacists practising in England, for this reason the data set was subject to a number of exclusions. Data from returned questionnaires were excluded if the respondent did not work:

- Primarily in England
- Primarily in pharmacy
- Primarily in community pharmacy

Of the 706 registrants who took part in the survey, 394 were community pharmacists practising in England. Therefore, from the 9,999 pharmacists contacted the overall response rate for this subset was 3.9%.

Further demographic information was taken from respondents identifying themselves as community pharmacists in relation to their job title (Table 6-4). Almost one third of respondents identified themselves as managers (31.5%).

Table 6-4 - English community pharmacist responses by demographic factors

		n (%)
Sex	Female	221 (56.2)
	Male	172 (43.8)
Age	16-24	4 (1)
	25-34	115 (29.2)
	35-44	101 (25.6)
	45-54	84 (21.3)
	55-59	38 (9.6)
	60-64	20 (5.1)
	65-74	24 (6.1)
	75+	3 (0.8)
	Do not want to say	5 (1.3)
Working pattern	Full time	252 (64)
	Part time	142 (36)
Job title	Manager	124 (31.5)
	Locum	114 (28.9)
	Second pharmacist	48 (12.2)
	Relief pharmacist	42 (10.7)
	Other	31 (7.9)
	Proprietor/Owner	26 (6.6)
	Non-store based pharmacist	9 (2.3)
Employment status	Locum	114 (29)
	Owner	26 (6.6)
	Employee*	253 (71.9)

*Employee options consisted of: Manager, Relief pharmacist, Second pharmacist and Non-store based pharmacist

Previous research has demonstrated that male pharmacists report being self-employed or owners of pharmacy business more frequently than female pharmacists. Results of analysis showed that only 54.7% of male pharmacists are employees, compared to 71.9% of female pharmacists; these results were confirmed to be statistically significant $\chi^2 (2, N = 393) = 23.451, p = 0.000$ (Table 6-5).

Table 6-5 - Analysis of Employment status by Sex

	Owner	Locum	Employee
	n (%)	n (%)	n (%)
Female	4 (1.8)	58 (26.2)	159 (71.9)
Male	22 (12.8)	56 (32.6)	94 (54.7)
Total	26 (6.6)	114 (29.0)	253 (64.4)

Missing data have been excluded

The number of respondents working full-time or part-time as a function of sex is shown in Figure 1. Male pharmacists also reported being in work full-time more compared to female pharmacists, $\chi^2 (1, N = 393) = 11.091, p = 0.001$ (Table 6-6).

Table 6-6 - Analysis of Working Pattern by Sex

	Full time	Part time
	n (%)	n (%)
Female	126 (57.0)	95 (43.0)
Male	126 (73.3)	46 (26.7)
Total	252 (64.1)	141 (35.9)

Missing data have been excluded

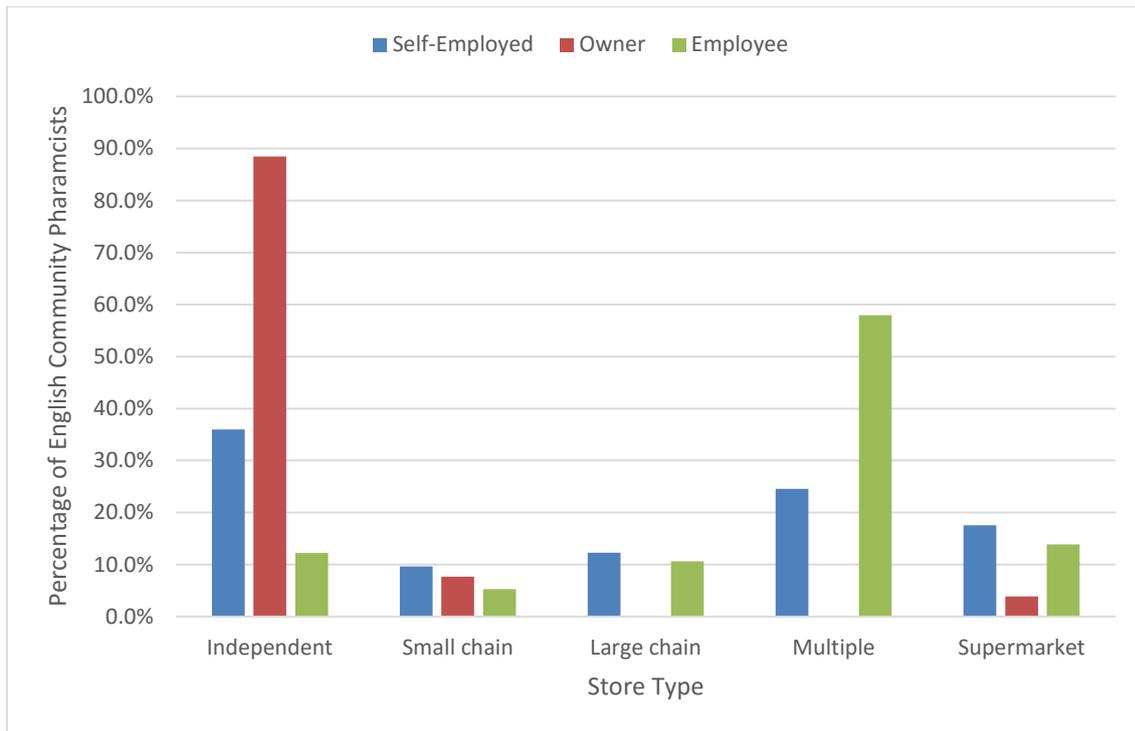
Further data were collected relating to the type of store community pharmacy respondents work in most often (Table 6-7). The majority of respondents work in a multiple setting, with the next highest proportion working in independent pharmacies (44.2% and 24.4% respectively).

Table 6-7 - Frequency of responses by store type

Store type		n (%)
		Independent (5 outlets or fewer)
	Small chain (20 outlets or fewer but more than 5)	26 (6.8)
	Large chain (more than 20 outlets but fewer than 200)	40 (10.4)
	Multiple (200 outlets or more)	170 (44.2)
	Supermarket	55 (14.3)

The number of respondents working in different store types as a function of employment status is shown in Figure 6-1. Over half of pharmacists identifying as employees reported working for multiple store types (n=142/245, 58.0%) whereas owners reported working primarily in independent pharmacies (n=23/26, 88.5%), differences were statistically significant, $\chi^2 = 104.911, df=8, p = 0.000$.

Figure 6-1 - The relationship between store type worked in and employment status



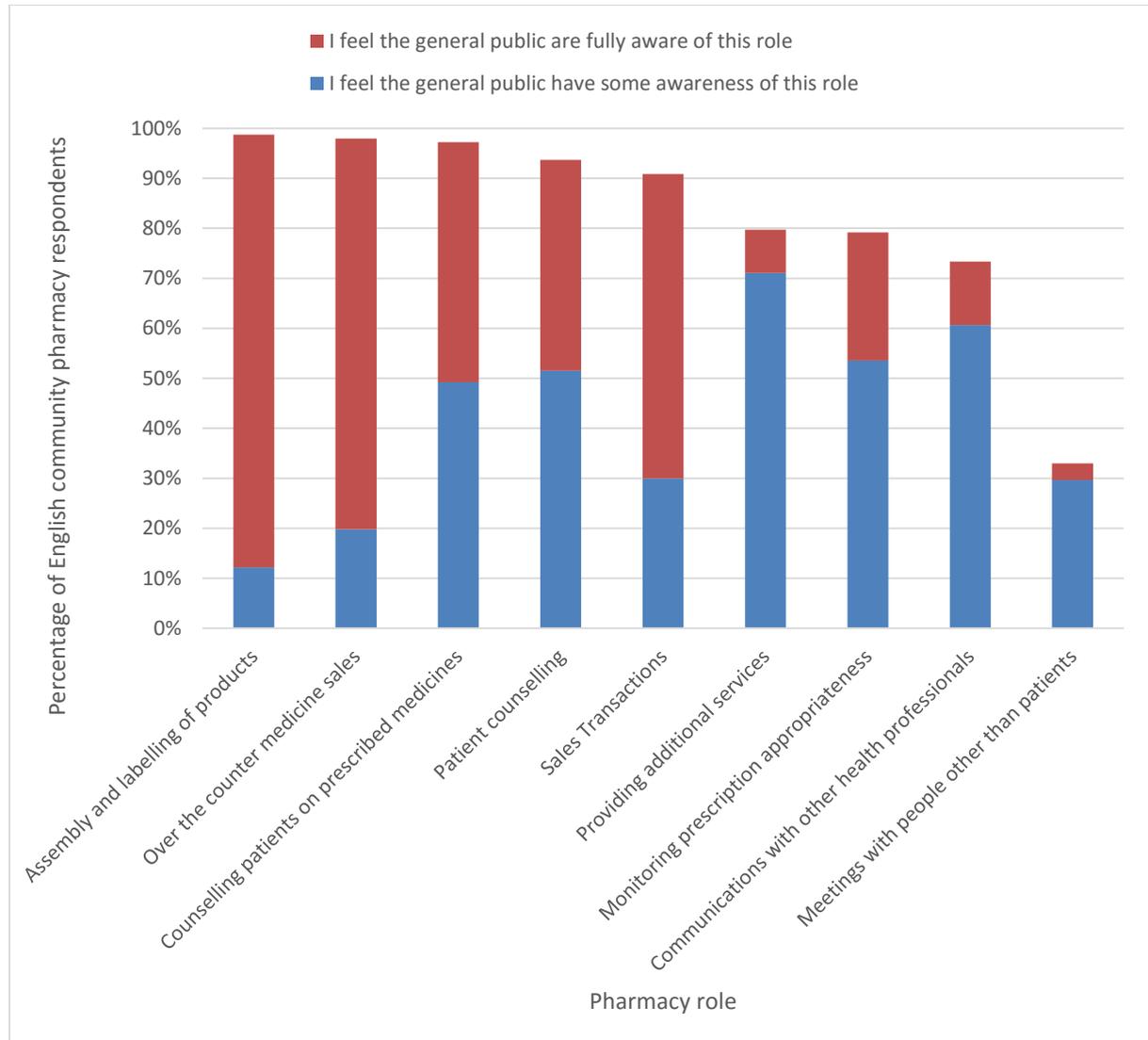
A relationship was observed between reporting of the type of community pharmacy most regularly worked in and sex ($\chi^2=16.196$, $df=4$, $p<0.003$). Over half of female survey pharmacists (66.3%, $n=142/214$) reported working most regularly for either supermarkets or multiple pharmacy chains compared to only 48.2% ($n=82/170$) of male respondents. Conversely, one third of male survey pharmacists (32.9%, $n=56/170$) reported working most regularly in an independent pharmacy with a fifth of female respondents (17.8%, $n=38/214$) working most regularly in independent community pharmacies.

6.1.2 Pharmacist Roles and Roles of Other Pharmacy Staff

The subset of English community pharmacist respondents ($n=394$) were asked how aware they felt the general public were of different pharmacy related roles (Figure 6-2). They were asked to make a selection, using a three-point Likert scale, as to whether they considered the general public to be “fully aware”, to have “some awareness” or to be “unaware” of the roles presented. The data were then merged to form two groups: aware (made up from “fully aware” and “some awareness”) and

unaware. This process helped simplify statistical analysis by providing dichotomous data and helped to avoid statistical violations from smaller subgroups.

Figure 6-2 - The proportion of English community pharmacist respondents reporting they felt the general public are aware of specific pharmacy roles



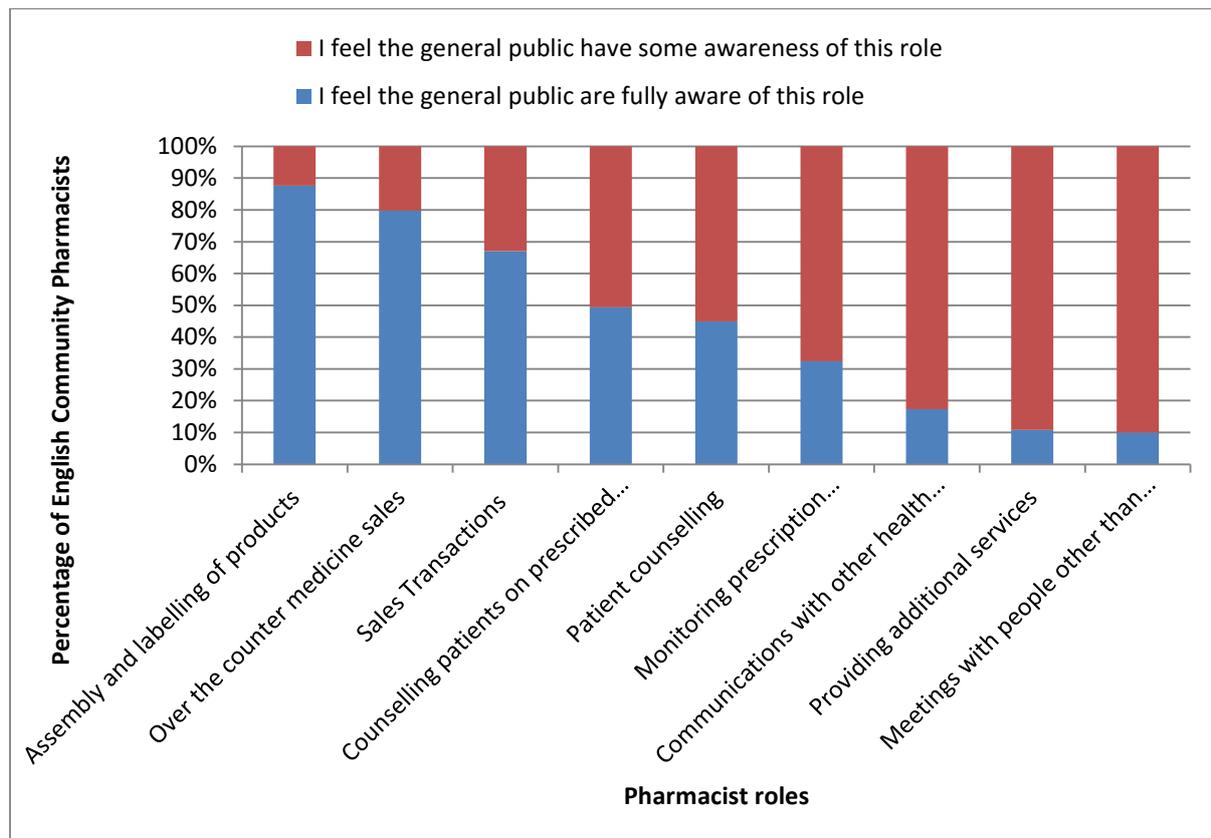
The majority of respondents felt that the general public were most aware of the roles: assembly and labelling of products, over the counter medicine sales and counselling patients on prescribed medicines (98.7%: n=389/394, 98.0%: n=386/394 and 97.2%: n=383/394). Pharmacists reported they felt there were high levels of awareness for all but one of the roles presented, over two thirds felt that the public were unaware of the “meetings with people other than patients” role (67.0%, n=264/394).

A chi-squared analysis was undertaken to investigate any relationships between demographic groups and whether the sub-sample of respondents thought the general public were aware of specific roles or not (Appendix 15 – Pharmacist respondent belief of public awareness of pharmacy roles by demographic factor). The variables age, store type and work pattern did not return significant values from analysis.

A higher proportion of pharmacy owners reported that they felt the general public were aware of the role communications with other health professionals more (84.6%, n=22/26) than employee pharmacists (69.3%, n=176/254), $\chi^2= 6.273$, df=2, $p<0.043$. Only one quarter of female respondents from the sub-sample (26.2%, n=58/221) reported that they felt that the general public were aware of their meetings with people other than patients role, compared to 41.9% of male pharmacists (n=72/172), $\chi^2= 10.655$, df=1, $p<0.001$. Additionally public awareness of this role was thought to be higher by non-white pharmacists (39.6%, n=72/182) compared to white pharmacists (27.4%, n=58/212), $\chi^2= 6.595$, df=1, $p<0.01$.

By investigating the 'fully aware' and 'somewhat aware' responses, it is possible to investigate how aware pharmacists feel the general public are about different pharmacist roles (Figure 6-3). The roles ranked highest as the general public being fully aware were: Assembly and labelling of products (87.7%, n=341/389), Over the counter medicine sales (79.8%, n=308/386) and Sales transactions (67.0%, n=240/358).

Figure 6-3 - The relationship between pharmacy roles and how aware English community pharmacists believed the general public were of those roles



A chi-squared analysis was undertaken to investigate any relationships between demographic groups and if the sub-sample of respondents thought the general public were aware of specific roles or not. The variables age and store type did not return significant values from analysis (Appendix 16 – The relationship between pharmacy roles and how aware English community pharmacists believed the general public were of those roles by demographic factor).

Just over half of employee pharmacist respondents (54.7%, n=134/245) felt that the public were fully aware of their counselling patients on prescribed medicines role, this is compared to one third of pharmacy owners (36.0%, n=9/25) and 40.7% of self-employed pharmacists (n=46/113), $\chi^2=7.958$, $df=2$, $p<0.019$. Self-employed pharmacists reported that the general public were less fully aware (70.5%, n=79/112) of the role over the counter medicine sales compared to owners (84.0%, n=21/25) and employee pharmacists (83.5%, n=208/249) $\chi^2=8.389$, $df=2$, $p<0.015$. There were also a statistically significant difference detected for the awareness of this role and pharmacist’s working

pattern. More of those working full-time (83.7%, n=206/246) felt the public were fully aware than those working part time (72.9%, n=102/140) $\chi^2=6.554$, df=1, p<0.01.

Two thirds of pharmacy owners felt that the general public were somewhat aware of a pharmacist's communications with other health professionals role (63.6%, n=14/22) compared to over eighty percent of self-employed (87.9%, n=80/91) and employee pharmacists (82.4%, n=145/176), $\chi^2=7.328$, df=2, p<0.026. Only three quarters of pharmacists identifying as non-white also felt that the general public were somewhat aware of this pharmacist role (76.7%, n=105/137), 88.2% of white pharmacists reported the same feeling (n=134/152), $\chi^2=6.678$, df=1, p<0.01.

Male pharmacists were more likely to think that the general public were fully aware of the pharmacist role: meetings with people other than patients (15.3%, n=11/72), than female pharmacists (3.4%, n=2/58), $\chi^2=4.995$, df=1, p<0.025. Additionally, non-white pharmacists were more likely to think that the general public were fully aware of this role (15.3%, n=11/72) than white pharmacists (3.4%, n=2/58), $\chi^2=4.995$, df=1, p<0.025.

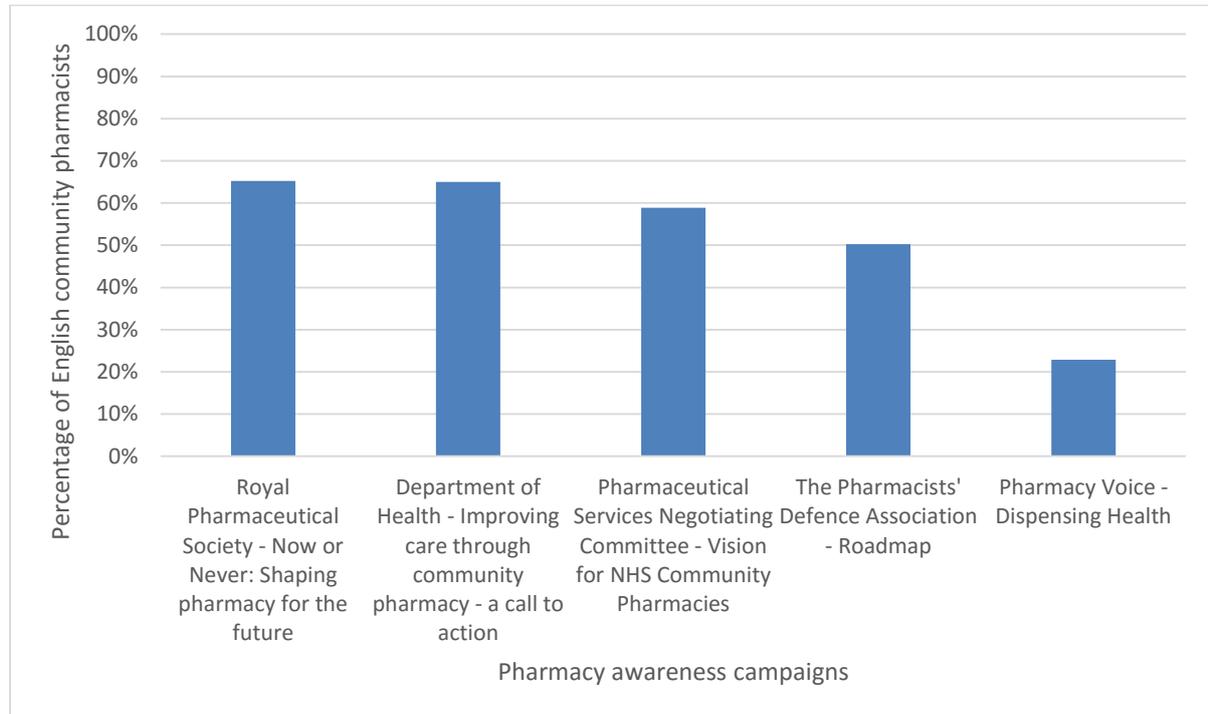
Fifteen percent of male pharmacists were more likely to think that the general public were fully aware of the pharmacist role: providing additional services (n=21/143), than female pharmacists (8.3%, n=13/157), $\chi^2=3.974$, df=1, p<0.046. Fifteen percent of pharmacists identifying as non-white also felt that the general public were somewhat aware of this pharmacist role (15.4%, n=22/143), 7.0% of white pharmacists reported the same feeling (n=12/171), $\chi^2=5.646$, df=1, p<0.017.

6.1.3 Pharmacist Awareness of Campaigns championed by Leadership Bodies

The English community pharmacist sub-sample was asked if they had heard about a number of different campaigns that may impact the professional status of pharmacy (Figure 6-4). Almost two thirds of respondents had heard of the RPS campaign: "Now or Never: Shaping pharmacy for the future" (65.2%, n=257/394) with a similar amount having heard of the Department of Health campaign: "Improving care through community pharmacy - a call to action" (65.0%, n=256/394) and the PSNC campaign: "Vision for NHS Community Pharmacies" (58.9%, n=232/394). The campaign by

the PDA (“PDA Roadmap”) was reported as being known by half of the respondents (50.3%, n=198/394). The least widely recognised campaign was from Pharmacy Voice (“Dispensing Health”), where just over one in five respondents reported recognition (22.8%, n=90/394).

Figure 6-4 - The proportion of English community pharmacists reporting awareness of campaigns championed by leadership bodies



6.1.4 Pharmacy Service Provision

This study investigated the provision of a number of different pharmacy services. The services included were those listed in the PSNC service database²²³.

6.1.4.1 Pharmacist provision of Pharmacy Services

English community pharmacists were asked which, if any, services they had provided from a pre-defined list (Table 6-8). The three services most frequently reported as being provided by the respondents were: MURs (n=381, 96.7%), NMS (n=371, 94.2%) and electronic prescription services (92.9%). The three services being provided the least were: anti-coagulation services (12.7%), falls intervention services (7.6%) and supplementary prescribing (3.6%).

Table 6-8 - Frequency of services provided by English Community Pharmacy Respondents

	n (%)
Medication Use Reviews (MUR)	381 (96.7)
New medicines services	371 (94.2)
Electronic Prescription Service	366 (92.9)
Substance Misuse	352 (89.3)
Sexual Health Services	300 (76.1)
Stop Smoking services	299 (75.9)
Inhaler support	274 (69.5)
Health screening	258 (65.5)
Minor ailments scheme	247 (62.7)
Providing services to Care Homes	239 (60.7)
Travel health	218 (55.3)
Gluten Free Food Service	161 (40.9)
Alcohol awareness and intervention	115 (29.2)
Anti-coagulant service	50 (12.7)
Falls Intervention Service	30 (7.6)
Supplementary prescribing	14 (3.6)

The total number of services provided by each pharmacist was calculated and the data were then analysed to ascertain the average number of services provided by English community pharmacists (Figure 6-5). The median number of services provided per respondent was 9 and the mode was 10. The data were then categorised into two groups: greater than median and less than or equal to median (Table 6-9). This categorisation allowed for statistical analysis between demographic groups (frequency of communication with a pharmacist, frequency of visits to a pharmacy, age, ease of pharmacist identification, sex, indices of multiple deprivation, rurality and ethnicity). However, no statistically significant differences were detected between the groups investigated.

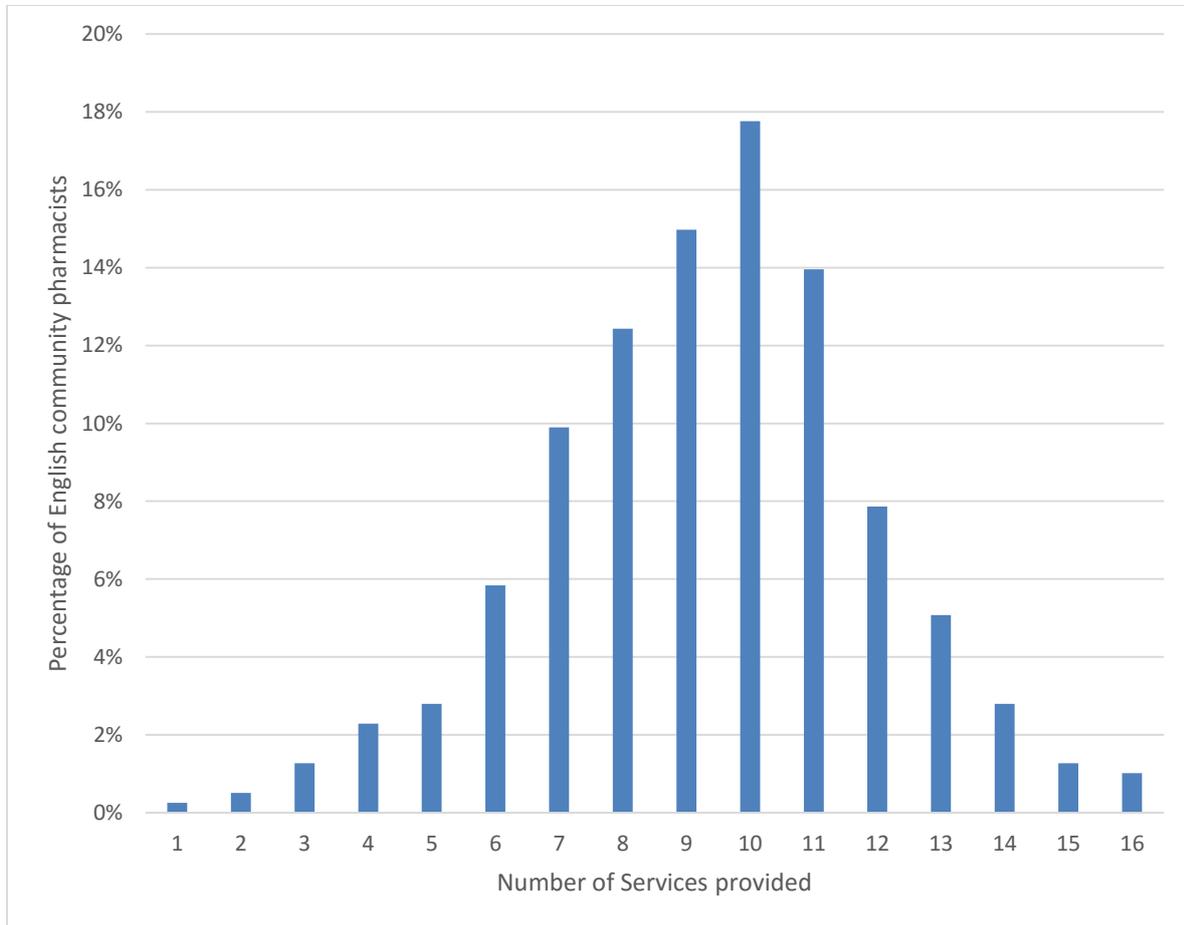
Table 6-9 - Number of services provided by demographic factors (Categorised into greater than median or, less than or equal to median)

		Less than or equal to median (%)	Greater than median (%)
Store type	Independent	47 (50)	47 (50)
	Small chain	11 (42.3)	15 (57.7)
	Large chain	21 (52.5)	19 (47.5)
	Multiple	90 (52.9)	80 (47.1)
	Supermarket	26 (47.3)	29 (52.7)
Age	16-34	70 (58.8)	49 (41.2)
	35-44	50 (49.5)	51 (50.5)
	45-54	38 (45.2)	46 (54.8)
	55+	37 (43.5)	48 (56.5)
Employment	Locum	58 (50.9)	56 (49.1)
	Manager	53 (42.7)	71 (57.3)
	Non-store based pharmacist	3 (33.3)	6 (66.7)
	Other	19 (61.3)	12 (38.7)
	Proprietor/Owner	13 (50)	13 (50)
	Relief pharmacist	26 (61.9)	16 (38.1)
	Second pharmacist	26 (54.2)	22 (45.8)
Sex	Female	111 (50.2)	110 (49.8)
	Male	86 (50)	86 (50)
Employment	Self-Employed	58 (50.9)	56 (49.1)
	Owner	13 (50)	13 (50)
	Employee	127 (50)	127 (50)
Work type	Full time	129 (51.2)	123 (48.8)
	Part time	69 (48.6)	73 (51.4)
Ethnicity	White	99 (46.7)	113 (53.3)
	Non-white	99 (54.4)	83 (45.6)

A chi-squared analysis was then undertaken investigating any relationships between demographic groups and if the subsample of respondents had carried out a specific service or not. Appendix 17 – Association between service provision and demographic factors shows the number of respondents from demographic groups that reported they had provided a particular service. One fifth of self-employed respondents reported providing an anti-coagulant service (19.3%, n=22/114) compared to 9.8% of employee respondents (n=25/254), $\chi^2= 6.383$, df=2, p<0.041. Employee respondents were also the group who reported providing a falls intervention service the least (5.1%, n=13/254), pharmacy owners were the highest providers (19.2%, n=5/26), $\chi^2= 8.612$, df=2, p<0.013. Also reporting provision of falls interventions services were white pharmacists, 10.4% (n=22/212) reported providing the service compared to 4.4% (n=8/182) of non-white pharmacists, $\chi^2= 4.981$, df=2, p<0.026. Almost half of respondents working part-time had provided a gluten free food service

(48.9%, n=68/142) compared to those working full-time (36.9%, n=93/252), $\chi^2= 4.433$, df=1, $p<0.033$.

Figure 6-5 - The proportion of English community pharmacists providing a specific number of pharmacy services



A relationship was also identified between store type and respondents performing health screening services. Eighty seven percent of respondents working in supermarket pharmacies provided the service (n=48/55), of those working in multiple pharmacies only 61.7% had provided the service (n=105/170), $\chi^2= 13.519$, df=4, $p<0.009$. Respondent age was related to whether they had provided an inhaler support service, over three quarters of those aged 35-44 reported provision (77.2%, n=78/101), the 16-34 age group only reported 60.5% (n=72/119), $\chi^2= 8.810$, df=3, $p<0.032$. Inhaler support services were also provided more by part-time workers (76.1%, n=108/142, $\chi^2= 4.447$, df=1, $p<0.035$) and those working in multiple type pharmacies (76.5%, n=130/170, $\chi^2= 10.387$, df=4, $p<0.034$).

Medicines use reviews and new medicine services were also investigated for demographic relationships. MUR provision was reportedly provided more by female pharmacists (98.6%, n=218/221, $\chi^2= 6.006$, df=1, p<0.014) and respondents identifying as non-white (99.5%, n=181/182, $\chi^2=8.017$, df=1, p<0.005). Similarly female pharmacists and non-white pharmacists reported providing NMS more (96.8%, n=214/221, $\chi^2= 6.607$, df=1, p<0.010 and 96.7%, n=176/182, $\chi^2=3.973$, df=1, p<0.046 respectively). Also respondents identifying as full-time and employees reported provision of NMS more (96.4% n=243/252, $\chi^2= 6.532$, df=1, p<0.011 and 97.2%, n=247/254, $\chi^2= 12.351$, df=2, p<0.002).

Respondents working in an independent pharmacy reported that they provide services to care homes more than other store types (70.2%, n=66/94, $\chi^2=14.199$, df=4, p<0.007) also reporting more provision of this service were white pharmacists (65.6%, n=139/212, $\chi^2= 4.629$, df=1, p<0.031). Self-employed pharmacists reported that they provided sexual health services less (66.7%, n=76/114) than those identifying as owners or employees (80.8%, n=21/26 and 79.9%, n=203/254 respectively) $\chi^2=7.938$, df=2, p<0.019. Relationships for stop smoking services were identified for job type and work type, managers and owners both reported high provision of this service (86.3%, n=107/124 and 88.5%, n=23/26, $\chi^2= 6.383$, df=2, p<0.041), as did full-time workers (79.4%, n=200/252, $\chi^2=4.619$, df=1, p<0.032).

Only three quarters of respondents identifying as working in a large chain pharmacy reported providing substance misuse services (75.0%, n=30/40) this is significantly lower than the 95.3% of multiple pharmacists (n=162/170), $\chi^2= 18.270$, df=4, p<0.001. Relationships also existed for sex, employment type and ethnicity and whether respondents had reported provision of substance misuse services, 94.1% of female pharmacists reported providing the service (n=208/221, $\chi^2= 12.213$, df=1, p<0.000). Over nine tenths of employee pharmacists reported the same (91.7%, n=233/254), this compared to only 76.9% of pharmacy owners (n=20/26), $\chi^2= 6.482$, df=2, p<0.039.

Also reporting more provision of this service were white pharmacists (92.9%, n=197/212, $\chi^2= 4.629$, df=1, p<0.013).

Travel health service provision was found to have a relationship with job type, almost two thirds of relief pharmacists stated they had not provided this service (64.3%, n=27/42) $\chi^2= 13.678$, df=6, p<0.033. Travel health services were also reportedly provided by white pharmacists more than non-white pharmacists (61.3%, n=130/212 and 48.3%, n=88/182, $\chi^2= 6.664$, df=1, p<0.010). Almost three quarters of locum pharmacists reported providing minor ailments scheme services (72.8%, n=83/114, $\chi^2= 12.840$, df=6, p<0.046), also reporting high engagement with this service were small chain pharmacies (80.8%, n=21/26, $\chi^2= 4.629$, df=1, p<0.013).

6.1.4.2 Awareness of Pharmacy Services

The subset of English community pharmacist respondents (n=394) were asked how aware they felt the general public were of different pharmacy services. They were asked to make a selection, using a three-point Likert scale, as to whether they considered the general public to be “fully aware”, to have “some awareness” or to be “unaware” of the services presented. The data were then merged to form two groups: aware (made up from “fully aware” and “some awareness”) and unaware. The top three services that the majority of respondents felt that the general public were aware of were: stop smoking services, substance misuse and electronic prescription service (94.2%, n=371/394, 90.4%, n=356/394 and 89.3%, n=352/394). The majority of pharmacist respondents reported that they felt the public were unaware of the following five services: gluten free food service, anti-coagulant service, alcohol awareness and intervention, supplementary prescribing and falls intervention services (43.9%, n=173/394, 29.7%, n=117/394, 23.1%, n=91/394, 20.6%, n=81/394 and 14.5%, n=57/394).

Both the pharmacist group and general public group were asked about awareness of pharmacy services, and as such comparisons can be drawn between them. A comparison of ranks was undertaken to investigate any differences between the groups and awareness of pharmacy services

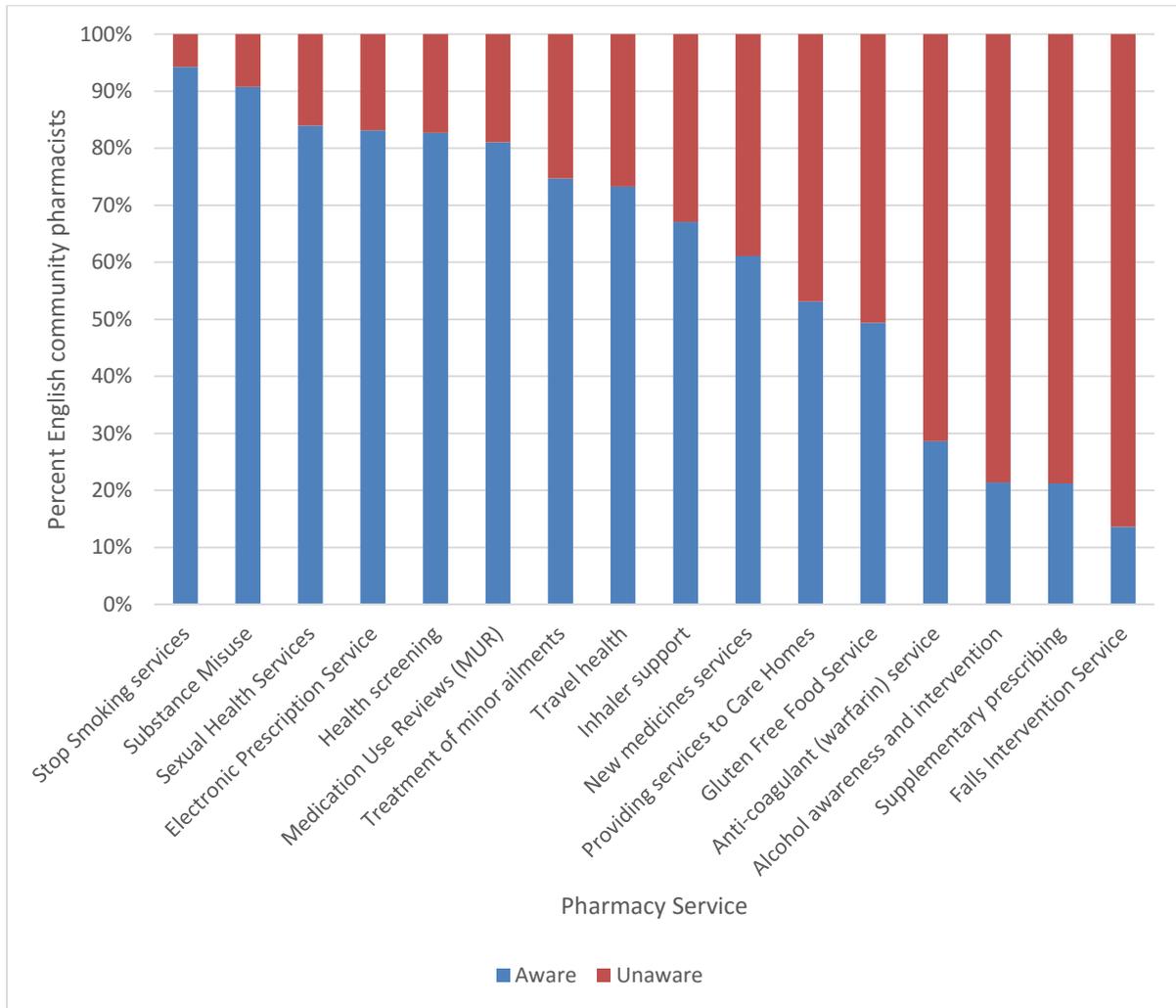
(Table 6-10). Both placed stop smoking services highest and the electronic prescription service was in the top three by rank for both groups. These comparisons do not, however, examine the extent to which each group reported awareness.

Table 6-10 - Comparison of Public Awareness of Pharmacy Services Rank and Perceived Public Awareness Rank by Community Pharmacists

	Pharmacist (%)	Public (%)
Stop Smoking services	1st (94.2)	1st (75.6)
Substance Misuse	2nd (90.4)	7th (49.6)
Electronic Prescription Service	3rd (89.3)	2nd (73)
Medication Use Reviews	4th (84.5)	10th (45.3)
Sexual Health Services	5th (84.3)	5th (53.7)
Health screening	6th (81.2)	3rd (63.4)
Treatment of minor ailments	7th (73.9)	9th (45.8)
Travel health	8th (72.6)	6th (51.4)
Inhaler support	9th (66)	4th (56.7)
New medicines services	10th (63.7)	13th (36.6)
Providing services to Care Homes	11th (52.8)	8th (48.6)
Gluten Free Food Service	12th (43.9)	12th (42.2)
Anti-coagulant (warfarin) service	13th (29.7)	11th (42.9)
Alcohol awareness and intervention	14th (23.1)	14th (32)
Supplementary prescribing	15th (20.6)	15th (31.1)
Falls Intervention Service	16th (14.5)	16th (14.1)

By investigating the responses that were merged to make the aware category (some awareness and fully aware) of the pharmacist sub sample, it was possible to investigate how aware they feel the general public are about different services (Figure 6-6). For all services the majority of pharmacists felt that the general public only had “some awareness”, the services that received the highest scores for “fully aware” were: stop smoking services (34.8%, n=129/371) and substance misuse services (36.8%, n=131/356).

Figure 6-6 - The relationship between pharmacy services and how aware English community pharmacists believed the general public were of those services



6.1.4.3 Service Profitability

Participants were asked about their motivations for providing certain pharmacy services, the options were: to improve health of service users, to improve the profitability of their business and to improve health of service users and to improve the profitability of their business. The highest rated services for improvement of service users' health were supplementary prescribing (75.0%, n=15/20), inhaler support (72.2%, n=244/338) and falls intervention service (71.7%, n=33/92) (Table 6-11). The services rated highest for pharmacy profitability were electronic prescription service (17.7%, n=75/424), providing services to care homes (13.0%, n=38/293), substance misuse (8.8%, n=38/431) and medication use reviews (8.0%, n=34/426).

Table 6-11 - Pharmacist Reasons for Provision of Health Services

	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)
Supplementary prescribing	15 (75.0)	4 (20.0)	1 (5.0)
Inhaler support	244 (72.2)	89 (26.3)	5 (1.5)
Falls Intervention Service	33 (71.7)	13 (28.3)	0 (0.0)
Alcohol awareness and intervention	91 (64.5)	48 (34.0)	2 (1.4)
Anti-coagulant (warfarin) service	40 (64.5)	20 (32.3)	2 (3.2)
Health screening	165 (51.7)	139 (43.6)	15 (4.7)
Gluten Free Food Service	110 (48.9)	102 (45.3)	13 (5.8)
Sexual Health Services	158 (42.5)	201 (54.0)	13 (3.5)
Treatment of minor ailments	121 (39.0)	171 (55.2)	18 (5.8)
Stop Smoking services	133 (35.7)	226 (60.6)	14 (3.8)
Travel health	90 (33.3)	164 (60.7)	16 (5.9)
Substance Misuse	139 (32.3)	254 (58.9)	38 (8.8)
Providing services to Care Homes	78 (26.6)	177 (60.4)	38 (13.0)
Electronic Prescription Service	103 (24.3)	246 (58.0)	75 (17.7)
New medicines services	89 (21.6)	293 (71.1)	30 (7.3)
Medication Use Reviews (MUR)	79 (18.5)	313 (73.5)	34 (8.0)

Analysis for significant differences between demographic groups was carried out using chi-square tests of independence (Appendix 18 – Pharmacist reason for service provision by demographic factor). No significant results were revealed for the following services: alcohol awareness, anti-coagulant services, falls intervention, gluten free food services, health screening, inhaler support sexual health services, stop smoking services, substance misuse, supplementary prescribing and minor ailments services.

Of those respondents providing the electronic prescription service over a third of those who identified providing the service to improve the profitability of their business worked in multiple pharmacies compared to fewer working in small chain pharmacies, $\chi^2=21.554$, $df=8$, $p<0.006$. Self-employed pharmacists, employee pharmacists and pharmacy owners all indicated that this service was offered to improve health of service users and to improve the profitability of their business.

However, employee pharmacists were three times more likely to hold this view when compared to provision of this service to improve the health of service users, $\chi^2=10.297$, $df=4$, $p<0.036$.

For respondents providing medicines use reviews, those identifying as self-employed pharmacists, employee pharmacists and pharmacy owners all indicated that this service was offered to improve health of service users and to improve the profitability of their business. However, employee pharmacists were over five times more likely to hold this view compared to providing this service to improve the health of service users, $\chi^2=20.798$, $df=4$, $p<0.000$.

A relationship between the type of store a respondent worked in and the response to the new medicines service was identified. Respondents from all store types reported that this service was provided to improve health of service users and to improve the profitability of their business. However, respondents working in multiple pharmacies were over five times more likely to hold this view compared to provision of this service to improve the health of service users, $\chi^2=33.886$, $df=8$, $p<0.000$. Similarly, self-employed pharmacists, employee pharmacists and pharmacy owners all indicated that this service was offered to improve health of service users and to improve the profitability of their business. However, employee pharmacists were almost five times more likely to hold this view compared to providing this service to improve the health of service users, $\chi^2=20.064$, $df=4$, $p<0.000$.

Just under one in ten female pharmacists reported that providing services to care homes was carried out to improve the profitability of their business compared to 17.4% of male pharmacists, $\chi^2=9.030$, $df=2$, $p<0.011$. Of those pharmacists offering travel health services almost half providing the service to improve health of service users reported working part-time, this was compared to 23.9% of those working full time, $\chi^2=14.412$, $df=2$, $p<0.001$.

6.1.4.3.1 Combined Opinions on Profitability

Both the public and pharmacist samples were asked questions relating to service profitability:

General Public sample	Pharmacist sample
Pharmacists provide this service to improve health of service users	I provide(d) this service to improve the health of service users
Pharmacists provide this service to improve health of service users and to improve the profitability of their business	I provide(d) this service to improve the health of service users and to improve the profitability of the pharmacy
Pharmacists provide this service to improve the profitability of their business	I provide(d) this service to improve the profitability of the pharmacy

These questions were assumed to be analogous to allow direct comparison. The results showed no significant results for the following services: alcohol awareness, health screening, providing services to care homes, anti-coagulant service and health screening.

Statistical analysis of the electronic prescription service responses revealed that the public (33.0%, n=461/1,397) perceive this service more for the improvement of health than pharmacists (24.3%, n=103/424), $\chi^2=12.715$, df=2, p<0.002. A larger proportion of pharmacists (48.9%, n=110/225) reported that provision of gluten free food services were delivered to improve the health of service users than the public believed (36.1%, n=501/1,388), $\chi^2=14.568$, df=2, p<0.001. Similarly pharmacists (72.2%, n=244/338) reported the inhaler support services were delivered to improve the health of service users more than the public believed (60.3%, n=853/1,415), $\chi^2=17.169$, df=2, p<0.000.

A larger proportion of public respondents (52.5%, n=723/1,377) believed medicines use reviews were provided to improve the health of service users than pharmacists did (18.5%, n=79/427), $\chi^2=152.755$, df=2, p<0.000. Three quarters of pharmacists (75.0%, n=15/20) providing supplementary prescribing reporting delivery of this service to improve the health of service users, just over two thirds of the public group held the same view (34.8%, n=447/1,284), $\chi^2=13.918$, df=2, p<0.001.

A greater proportion of the general public group (54.4%, n=750/1,379) recognised the provision of substance misuse services as there to improve the health of service users compared to views of the

pharmacist group (32.3%, n=139/430), $\chi^2=65.064$, df=2, $p<0.000$. The belief that travel health services were provided to improve the profitability of a pharmacies business was almost three times higher in the public group (15.4%, n=215/1,396) than the pharmacists (5.9%, n=16/271), $\chi^2=20.132$, df=2, $p<0.000$.

6.1.5 Health versus Business

The English community pharmacy sample were asked to make a judgement, using a five-point Likert scale, as to whether they considered themselves to be purely a health professional at one extreme to purely a businessman/woman at the other extreme.

Just over a quarter of respondents (26.1%, n=103/394) considered themselves to be purely a health professional with only 1.0% (n=4/394) classing themselves as being purely a businessman/woman.

Very few respondents considered themselves to be more businessman/woman than health professional or purely a businessman/woman (less than 5%). Therefore, to enable suitable statistical analysis, for the next stage of analysis the top two and bottom two categories in the five-point Likert scale were recoded to create a three-point Likert scale (more health professional, half health professional, half businessman/woman and more businessman/woman).

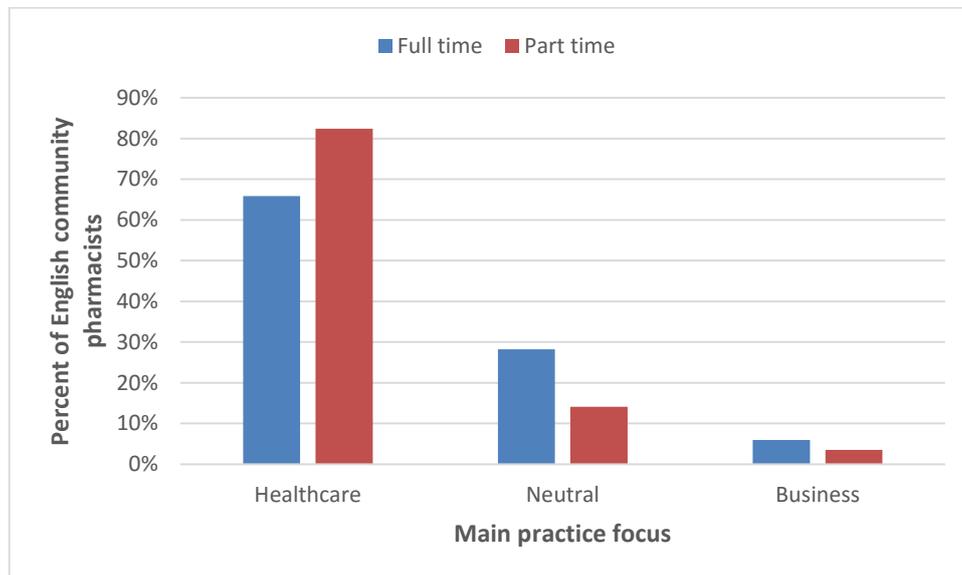
A chi-squared analysis was then undertaken investigating any relationships between demographic groups and where the subgroup respondents had placed themselves on the business to healthcare scale (Table 6-12). Over eighty percent of self-employed respondents and almost seventy percent of employees placed themselves as more healthcare professional, compared to just over half of pharmacy owners, $\chi^2=10.353$, df=4, $p<0.035$. Additionally, respondents who work part-time identified as being more healthcare professional and less as businessman/woman, $\chi^2=12.316$, df=2, $p<0.002$ (Figure 6-7).

Table 6-12 - Pharmacist business practice by demographic factor

		Healthcare	Neutral	Business
		n (%)	n (%)	n (%)
Age	16-34	89 (74.8)	21 (17.6)	9 (7.6)
	35-44	78 (77.2)	22 (21.8)	1 (1)
	45-54	53 (63.1)	25 (29.8)	6 (7.1)
	55+	59 (69.4)	22 (25.9)	4 (4.7)
Store type	Independent	67 (71.3)	21 (22.3)	6 (6.4)
	Small chain	18 (69.2)	8 (30.8)	0 (0.0)
	Large chain	31 (77.5)	8 (20)	1 (2.5)
	Multiple	125 (73.5)	38 (22.4)	7 (4.1)
	Supermarket	36 (65.5)	14 (25.5)	5 (9.1)
Sex	Female	162 (73.3)	51 (23.1)	8 (3.6)
	Male	120 (69.8)	40 (23.3)	12 (7)
Employment*	Self-Employed	93 (81.6)	17 (14.9)	4 (3.5)
	Owner	14 (53.8)	10 (38.5)	2 (7.7)
	Employee	176 (69.3)	64 (25.2)	14 (5.5)
Work type*	Full time	166 (65.9)	71 (28.2)	15 (6)
	Part time	117 (82.4)	20 (14.1)	5 (3.5)
Ethnicity	White	161 (75.9)	42 (19.8)	9 (4.2)
	Not White	122 (67)	49 (26.9)	11 (6)

* Indicates p≤0.05

Figure 6-7 – The relationship between the main practice focus of respondent English community pharmacist and their working patterns



6.1.5.1 Combined Views of English Community Pharmacists and the General Public

Direct comparisons between the opinions of the general public and English community pharmacists were undertaken by assuming the following scales were comparable:

Pharmacist questionnaire	Public questionnaire
Purely a health professional	Purely healthcare focussed
More health professional than businessman/woman	More healthcare focussed than business focussed
Half health professional, half businessman/woman	Half healthcare focussed, half business focussed
More businessman/woman than health professional	More business focussed than healthcare focussed
Purely a businessman/woman	Purely business focussed

Cross-tabulation and statistical analysis confirmed a difference between where the general public placed pharmacists on the business to healthcare scale and where the pharmacist sub-sample placed themselves ($\chi^2=11.316$, $df=4$, $p<0.023$). The largest proportion of respondents for both groups identified pharmacists as more healthcare focussed than business focussed (general public: 42.9%, $n=648/1,510$ and pharmacists: 45.7%, $n=180/394$) (Table 6-13). A larger proportion of community pharmacists placed themselves towards the health professional end of the scale (71.8%, $n=283/394$ 'purely health professional' or 'more health professional than business person') than the general public (63.6%, $n=960/1,510$).

Table 6-13 - Pharmacist business focus by sample group (%)

	Pharmacist (%)	Public (%)
Purely healthcare focussed	103 (26.1)	312 (20.7)
More healthcare focussed than business focussed	180 (45.7)	648 (42.9)
Half healthcare focussed, half business focussed	91 (23.1)	464 (30.7)
More business focussed than healthcare focussed	16 (4.1)	69 (4.6)
Purely business focussed	4 (1.0)	17 (1.1)

Missing data have been excluded

6.1.6 Pharmacist Professionalism

Aspects of professionalism were investigated in both the general public questionnaire and the questionnaire administered to pharmacists. The pharmacist group were asked about aspects relating to the development of a professional ethos as well as the importance of certain professional behaviours.

6.1.6.1 Development of professionalism

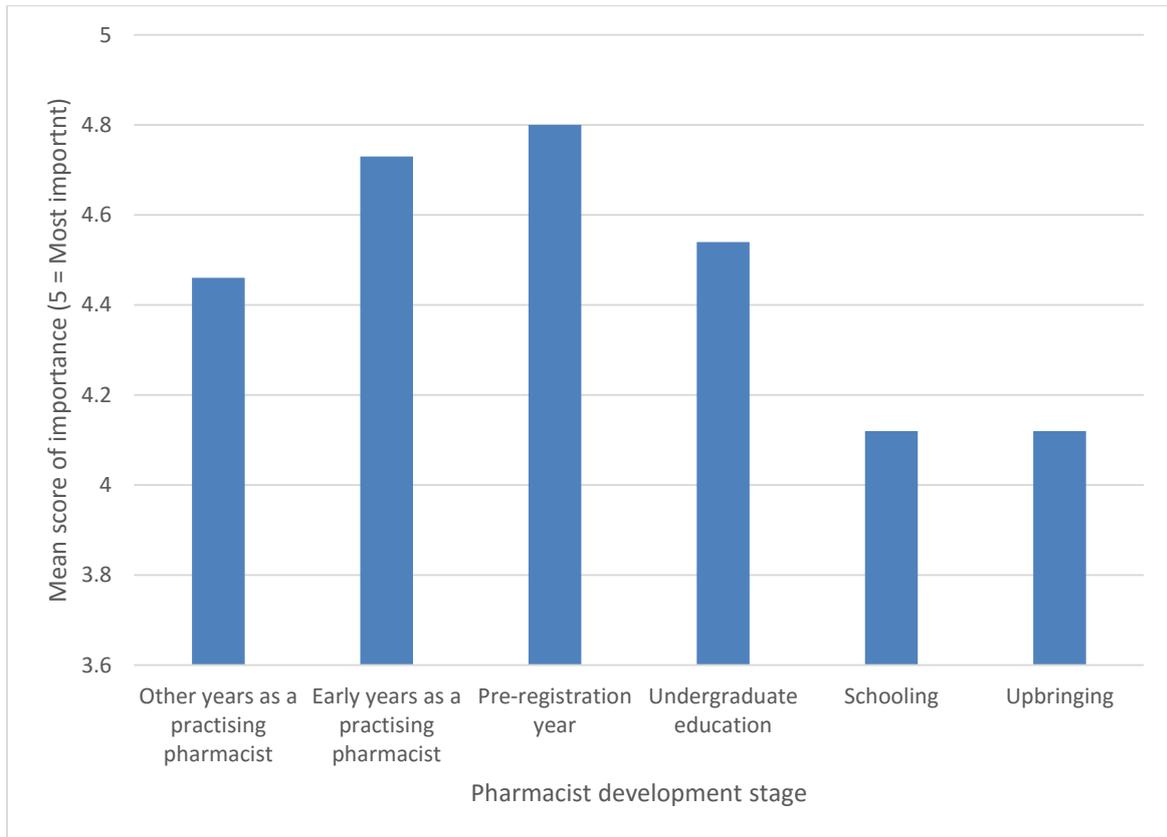
All pharmacist respondents were asked how important they thought a number of different stages of a pharmacist's life are in the development of a professional ethos (Table 6-14). They were asked to make a judgment using a five-point Likert scale ranging from very important at one extreme to very unimportant at the other. The stages used to investigate development ranged from their upbringing to years practising as a pharmacist. The scale was assessed for internal consistency and displayed a Cronbach alpha coefficient of 0.75 (values of above 0.7 are considered acceptable, although above 0.8 is preferable)²¹⁵.

Table 6-14 - Importance of Pharmacist life stages on development of a professional ethos (%)

	Very important (%)	Somewhat important (%)	Neither important (%) nor unimportant (%)	Somewhat unimportant (%)	Very unimportant (%)
Upbringing (home life)	283 (40.1)	282 (39.9)	99 (14.0)	26 (3.7)	16 (2.3)
Schooling	249 (35.3)	336 (47.6)	92 (13.0)	17 (2.4)	12 (1.7)
Undergraduate education	443 (62.7)	218 (30.9)	33 (4.7)	6 (0.8)	6 (0.8)
Pre-registration year	607 (86.0)	80 (11.3)	7 (1.0)	4 (0.6)	8 (1.1)
Early years as a practising pharmacist	563 (79.7)	114 (16.1)	16 (2.3)	4 (0.6)	9 (1.3)
Other years as a practising pharmacist	403 (57.1)	247 (35.0)	40 (5.7)	8 (1.1)	8 (1.1)

The majority of respondents indicated that all stages of development were considered very important or somewhat important (ranging from 80.0% to 97.3% of respondents). A mean score was used for results of items on the development scale. A rating scale for this question set was scored as: very important = 5.0, somewhat important = 4.0, neither important nor unimportant = 3.0, somewhat unimportant = 2.0 and very unimportant = 1.0. The mean was then taken and the results ranked to identify the highest average (Figure 6-8). The development stages that scored the highest were pre-registration year (4.8) and early years as a practising pharmacist (4.73).

Figure 6-8 - Mean score of importance placed on development stage by English community pharmacists by pharmacist development stage



6.1.6.2 Professionalism of English Community Pharmacists

The subset of English community pharmacist respondents was asked how important they think a number of different professional attributes are for pharmacists. They were asked to make a judgment using a five-point Likert scale ranging from very important at one extreme to very unimportant at the other. The internal consistency of the 30-item scale was very high, demonstrating a Cronbach’s alpha coefficient of 0.95. The respondents felt that all attributes of professionalism included in the scale were ‘very’ or ‘somewhat’ important.

When ranked according to mean score, 28 of the attributes were categorised as ‘very important’ by the sub-sample. The top ranked items related to the relationship with patients (respecting a patient’s confidentiality and privacy, communicating with patients in a clear and effective manner and treating patients fairly and without prejudice), and personal qualities (behaving honestly and with integrity and communicating with patients in a clear and effective manner). Both items included

by the researcher as dummy items (which were identified by previous researchers to be social misconceptions on professionalism) were rated as the bottom two items. The mean rating for each item is shown in Table 6-15.

Table 6-15 - Mean score given to different attributes of professionalism by English Community Pharmacists

	Mean	Std. Deviation
Respecting patients' confidentiality and privacy	1.05	0.357
Behaving honestly and with integrity	1.05	0.338
Treating patients fairly and without prejudice	1.05	0.331
Communicating with patients in a clear and effective manner	1.05	0.360
Providing advice to patients when required	1.06	0.355
Acting in a responsible fashion towards patients	1.06	0.359
Behaving in a reliable and dependable way	1.07	0.368
Being accountable for one's actions	1.09	0.390
Functioning according to the law	1.10	0.394
Being sound in judgment and in decision making	1.12	0.444
Being attentive to the needs of patients	1.12	0.438
Treating other healthcare professionals fairly and without prejudice	1.14	0.440
Adhering to professional rules and regulations	1.15	0.444
Being aware of own limitations	1.17	0.488
Treating colleagues of the same profession fairly and without prejudice	1.18	0.474
Being empathetic when caring for patients	1.20	0.541
Avoiding substance or alcohol misuse	1.20	0.551
Being able to manage situations where there is a conflict of interest	1.22	0.513
Making effective use of the resources available	1.23	0.499
Taking a dedicated approach to work	1.24	0.550
Showing compassion towards patients	1.24	0.560
Respecting colleagues of the same profession	1.24	0.562
Having a positive attitude towards professional development	1.25	0.546
Reflecting on your actions with a view to self-improvement	1.25	0.518
Working well as a member of a team	1.25	0.572
Respecting patients' autonomy	1.27	0.550
Being receptive to constructive criticism	1.29	0.542
Not using professional status for personal gain	1.38	0.855
Being physically fit	2.02	0.850
Having a good sense of humour	2.18	0.923

6.1.6.2.1 Factor Analysis

Suitability for PCA was measured using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy; anything larger than a minimum value of 0.6 is considered acceptable²¹⁵. Another measure, Bartlett's Test of Sphericity, should be significant ($p \leq 0.05$) for factor analysis to be considered appropriate. Table 6-16 shows that the English community pharmacy sample demonstrates adequate results to proceed with PCA.

Table 6-16 - Sample adequacy and item suitability in the survey for a principal component

Test		Values
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.955
Bartlett's Test of Sphericity	Approx. Chi-Square	9,774.979
	df	435
	Sig.	0.000

The principal component analysis generated four components and they explained 51.1%, 6.6%, 4.2% and 3.7% of the variance respectively. An inspection of the scree plot revealed a clear break after the third component. Using Cattell’s (1966) scree test it was decided to retain three components for further investigation²²⁵. The three component solution explained a total of 61.9% of the variance (Table 6-17).

Table 6-17 - Variance explained by the three components

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.323	51.076	51.076	15.323	51.076	51.076	8.316	27.719	27.719
2	1.984	6.613	57.689	1.984	6.613	57.689	5.307	17.690	45.409
3	1.253	4.175	61.864	1.253	4.175	61.864	4.937	16.455	61.864

Drawing from the original research associated with the professionalism scale and the previous factor analysis with the general public sample, the components were assigned the following titles: Professionalism in Work (relationships with colleagues and other healthcare professionals), Professionalism in Practice (relationships with patient) and Professionalism in Society (behaviour in society). Scholars also advised that factor analysis should be used as guidance but not as a rule²²⁶. Therefore, the item "Taking a dedicated approach to work" was moved from Professionalism in Society to Professionalism in Work (Table 6-18).

Table 6-18 - Varimax rotated component matrix generated by principal component analysis of the pharmacist responses to 30 items and subscales (latent variables) identified (Highest factor coefficient for each item is indicated in bold.)

	Component		
	1	2	3
Professionalism in Practice			
Functioning according to the law	0.632	0.343	0.018
Behaving in a reliable and dependable way	0.772	0.312	0.168
Communicating with patients in a clear and effective manner	0.788	0.179	0.433
Being sound in judgment and in decision making	0.682	0.341	0.182
Providing advice to patients when required	0.792	0.193	0.414
Behaving honestly and with integrity	0.759	0.405	0.196
Treating patients fairly and without prejudice	0.751	0.409	0.139
Being accountable for one's actions	0.723	0.406	0.137
Respecting patients' confidentiality and privacy	0.807	0.165	0.383
Adhering to professional rules and regulations	0.587	0.464	0.068
Acting in a responsible fashion towards patients	0.755	0.346	0.239
Being attentive to the needs of patients	0.620	0.243	0.555
Professionalism in Work			
Not using professional status for personal gain	0.188	0.302	0.115
Treating other healthcare professionals fairly and without prejudice	0.490	0.540	0.201
Respecting patients' autonomy	0.337	0.507	0.391
Being aware of own limitations	0.490	0.565	0.243
Making effective use of the resources available	0.358	0.627	0.189
Respecting colleagues of the same profession	0.260	0.536	0.386
Reflecting on your actions with a view to self-improvement	0.294	0.654	0.372
Being receptive to constructive criticism	0.248	0.646	0.416
Treating colleagues of the same profession fairly and without prejudice	0.373	0.688	0.278
Avoiding substance or alcohol misuse	0.322	0.506	0.160
Taking a dedicated approach to work	0.456	0.287	0.463
Being able to manage situations where there is a conflict of interest	0.220	0.536	0.522
Professionalism in Society			
Having a good sense of humour	-0.007	0.143	0.570
Having a positive attitude towards professional development	0.329	0.373	0.538
Being physically fit	-0.064	0.360	0.554
Being empathetic when caring for patients	0.399	0.219	0.743
Showing compassion towards patients	0.404	0.167	0.741
Working well as a member of a team	0.291	0.196	0.741

6.1.6.2.1.1 General public and English community pharmacist comparisons

The majority of items loaded under each of the components were the same for both the English community pharmacist sub-sample and the general public factor analysis. There were four items where differences did occur, these can be seen in Table 6-19.

Table 6-19 - Professional attributes loaded onto differing components

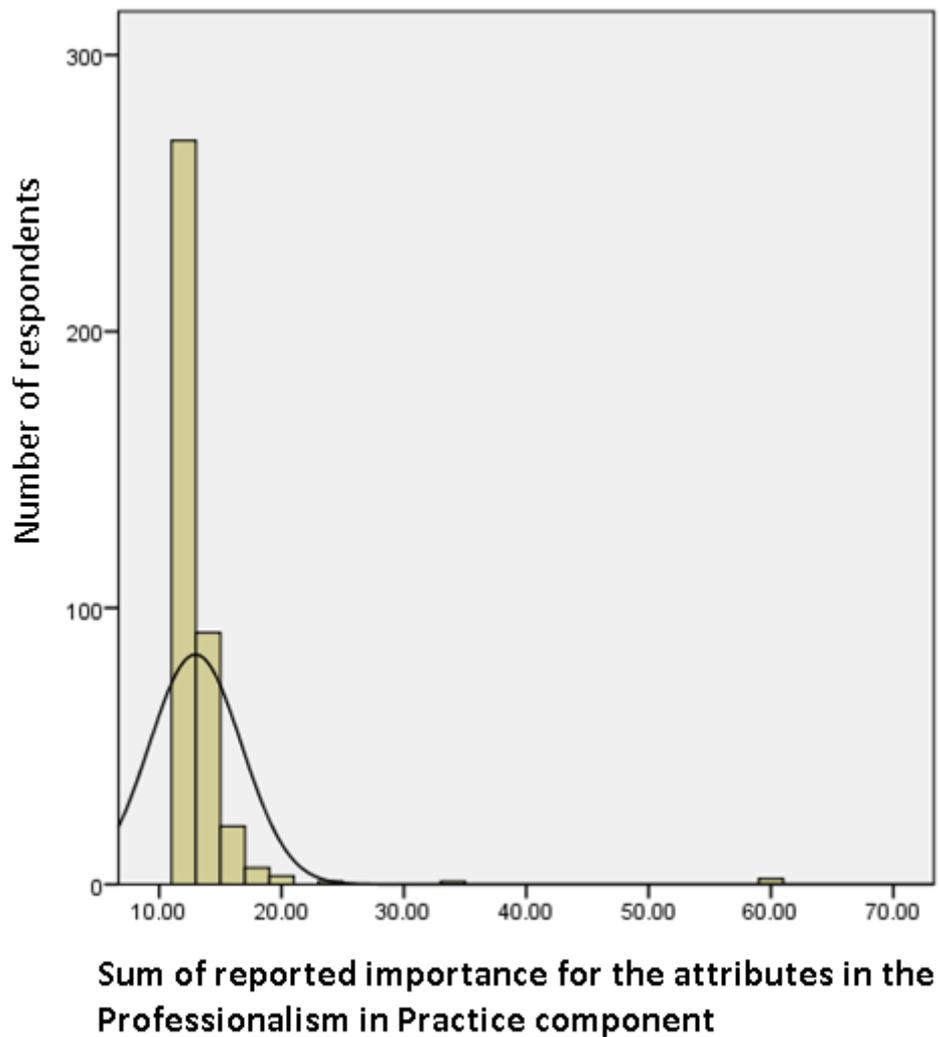
	English Community Pharmacist	General Public
Avoiding substance or alcohol misuse	Professionalism in Work	Professionalism in Society
Not using professional status for personal gain	Professionalism in Work	Professionalism in Society
Working well as a member of a team	Professionalism in Society	Professionalism in Work
Having a positive attitude towards professional development	Professionalism in Society	Professionalism in Work

6.1.6.2.1.2 Professionalism in Practice

Further analysis was then carried out on the different components, firstly Professionalism in Practice. It is comprised of twelve items, with a Cronbach’s alpha of 0.804. Responses to items in this component were measured using a five-point Likert-scale, spanning from ‘very important’ (1) to ‘very unimportant’ (5); therefore, the sum of an individual’s response to this component could range from 12-60, and the full range was present for this component. The component mean was 12.96, with a median of 12 and a standard deviation of 3.78. Responses were strongly skewed toward very important/somewhat important (Figure 6-9).

Non-parametric analysis should be used when data does not fit a normal distribution. Analysis for significant differences between demographic groups was carried out using Mann-Whitney U Tests for groups with two variables and Kruskal-Wallis tests for groups with multiple variables. Post-hoc analysis was carried out using Dunn’s test (Dunn, 1964)²¹⁷. Dunn's test is a multiple comparisons test, it compares the difference in the sum of ranks between two groups. In calculating the P-value, the test takes into account the number of comparisons you are making. This controls for the probability of making a Type I error by reducing the significance level. It is preferred over other post hoc tests as it can be used with groups of equal or unequal size.

Figure 6-9 - Professionalism in Practice Histogram for English community pharmacists

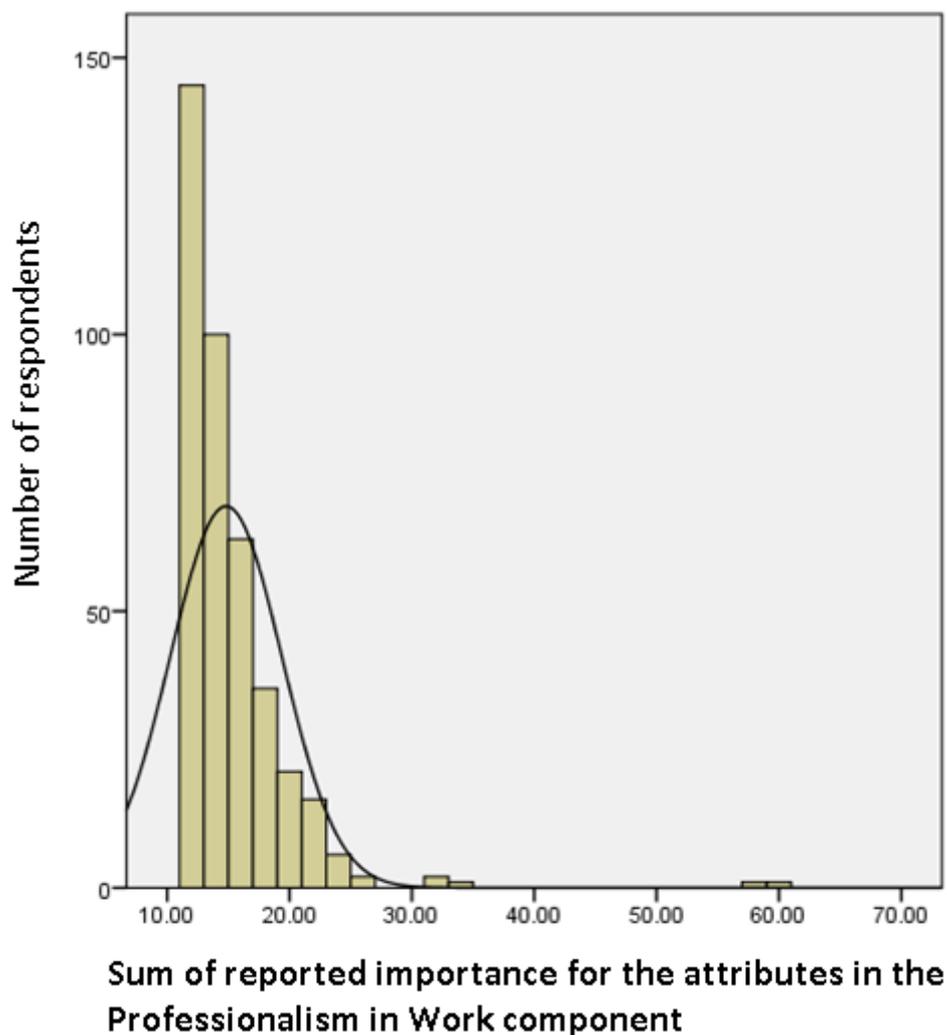


The variables age, store type, employment status, work pattern and ethnicity did not return significant values from analysis. A Mann-Whitney U test revealed a significant difference between female (mean rank=184.5, median=12, n=221/394) and male respondents (mean rank=213.1, median=12, n=172/393), $U=21,769.5$, $z=-3.009$, $p<0.003$, $r=0.15$ (occasionally, the difference between two groups can be statistically significant with median being the same for both groups). This indicates that females rank this component as more important than males, albeit with a small effect size (using Cohen (1988) criteria²²⁴).

6.1.6.2.1.3 Professionalism in Work

The Professionalism in Work component is comprised of twelve items, with a Cronbach's alpha of 0.897. Responses to items in this component were measured using a five-point Likert-scale, spanning from Very important (1) to Very unimportant (5); therefore, the sum of an individual's response to this component could range from 12-60, and the full range was present for this component. The component mean was 14.81, with a median of 13 and a standard deviation of 4.56. Responses were strongly skewed toward very important/somewhat important (Figure 6-10).

Figure 6-10 - Professionalism in Work Histogram for English community pharmacists



The variables age, store type, work pattern and ethnicity did not return significant values from analysis. A Kruskal-Wallis test revealed a significant difference in the Professionalism in Work

component across three different employment statuses (self-employed, n=114/394; owner, n=26/394; employee, n=254/394), $\chi^2=7.556$, $df=2$, $p<0.023$. Pairwise comparisons with adjusted p-values showed that employees ranked the Professionalism in Work component as significantly more important than pharmacy owners ($U=61.3$, $z=-2.69$, $p<0.021$, $r=0.16$). A Mann-Whitney U test revealed a significant difference between female (mean rank=183.5, median=13, n=221/394) and male respondents (mean rank=214.3, median=14, n=172/393), $U=21,980.5$, $z=-2.74$, $p<0.006$, $r=0.14$. This indicates that females rank this component as more important than males, albeit with a small effect size (using Cohen (1988) criteria²²⁴). Additionally a Mann-Witney U test revealed that non-white pharmacists rank the component lower (mean rank=180.7, median=13, n=182/394) than white pharmacists (mean rank=212, median=14, n=212/394), $U=16,226.5$, $z=-2.79$, $p<0.006$, $r=0.14$.

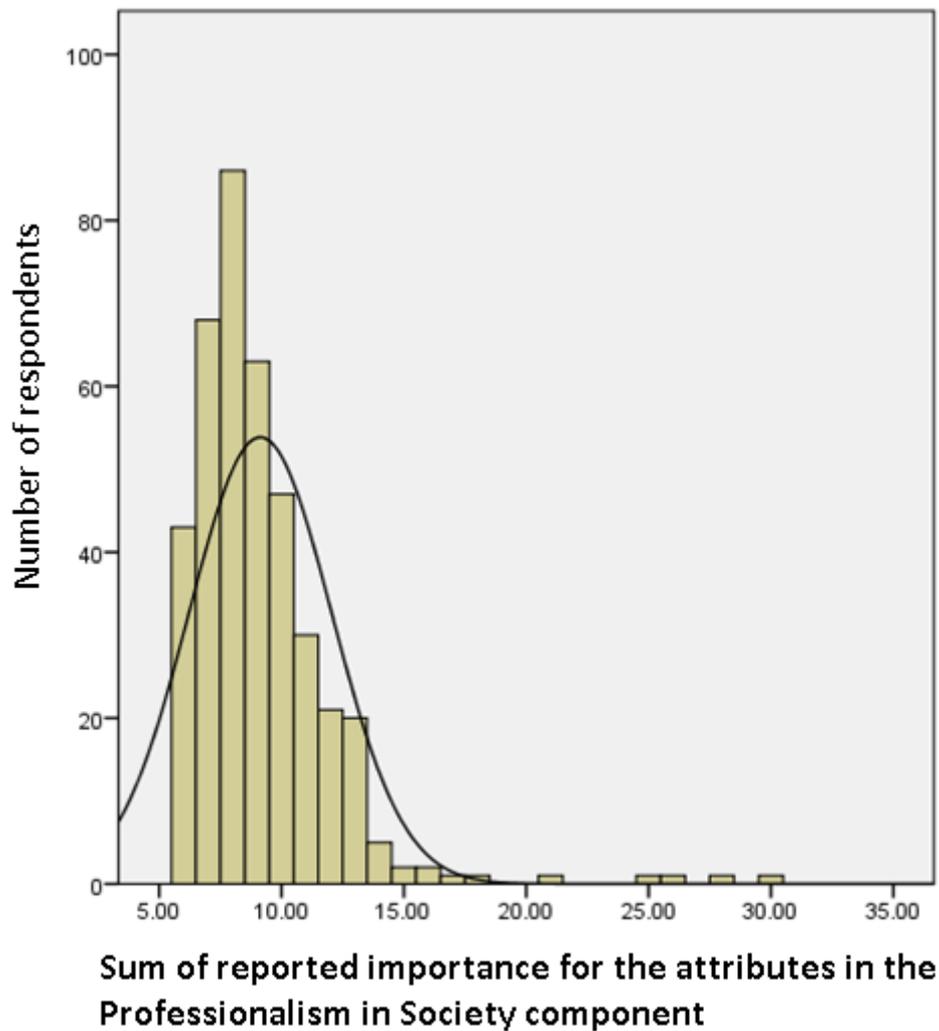
6.1.6.2.1.4 Professionalism in Society

The Professionalism in Society component is comprised of six items, with a Cronbach's alpha of 0.804. Responses to items in this component were measured using a five-point Likert-scale, spanning from Very important (1) to Very unimportant (5); therefore, the sum of an individual's response to this component could range from 6-30, and the full range was present for this component. The component mean was 9.13, with a median of 8.5 and a standard deviation of 2.91. Responses were strongly skewed toward very important/somewhat important (Figure 6-11).

The variables age, store type, work pattern and ethnicity did not return significant values from analysis. A Kruskal-Wallis test revealed a significant difference in the Professionalism in Society component across five different store types (independent, n=94/385; large chain, n=40/385; multiple, n=170/385; small chain, n=26/385 and supermarket, n=55/385), $\chi^2=9.881$, $df=4$, $p<0.042$. However, further pairwise analysis did not reveal any differences among the groups (when conducting Dunn's test) despite a statistically significant difference arising in the Kruskal-Wallis test. A Mann-Whitney U test revealed a significant difference between white (mean rank=212.66, median=9, n=221/394) and non-white respondents (mean rank=182.17, median=8, n=182/393), $U=16,501.5$, $z=-2.506$, $p<0.012$, $r=0.13$. This indicates that non-white respondents rank this

component as more important than white respondents, albeit with a small effect size (using Cohen (1988) criteria²²⁴).

Figure 6-11 - Professionalism in Society Histogram for English community pharmacists



6.2 Comparisons between the views of English Community Pharmacists and the General Public

Because the questions making up the professionalism scale were asked of both the general public and the English community pharmacist sub-sample, the results can be compared. A series of Mann-Witney U tests were carried out for each item on the scale (Table 6-20). Five of the items were found not to be significantly different, they were: functioning according to the law, not using professional

status for personal gain, taking a dedicated approach to work, being sound in judgment and in decision making and respecting patients' autonomy.

The remaining items were all significantly different and all but one of the items was rated as more important by pharmacists than by the general public. The only item reported as more important to the general public was: Adhering to professional rules and regulations.

Table 6-20 - Comparisons between the professional attribute mean scores for English community pharmacists and the general public

	Pharmacist	Public	p
Respecting patients' confidentiality and privacy	1.05	1.13	0.00
Communicating with patients in a clear and effective manner	1.05	1.12	0.00
Behaving honestly and with integrity	1.05	1.13	0.00
Treating patients fairly and without prejudice	1.05	1.12	0.00
Providing advice to patients when required	1.06	1.19	0.00
Acting in a responsible fashion towards patients	1.06	1.12	0.00
Behaving in a reliable and dependable way	1.07	1.12	0.00
Being accountable for one's actions	1.09	1.18	0.01
Functioning according to the law	1.10	1.12	0.29
Being sound in judgment and in decision making	1.12	1.09	0.33
Being attentive to the needs of patients	1.12	1.16	0.03
Treating other healthcare professionals fairly and without prejudice	1.14	1.33	0.00
Adhering to professional rules and regulations	1.15	1.10	0.01
Being aware of own limitations	1.17	1.29	0.00
Treating colleagues of the same profession fairly and without prejudice	1.18	1.39	0.00
Avoiding substance or alcohol misuse	1.20	1.45	0.00
Being empathetic when caring for patients	1.20	1.35	0.00
Being able to manage situations where there is a conflict of interest	1.22	1.36	0.00
Making effective use of the resources available	1.23	1.35	0.00
Taking a dedicated approach to work	1.24	1.24	0.43
Showing compassion towards patients	1.24	1.35	0.00
Respecting colleagues of the same profession	1.24	1.40	0.00
Having a positive attitude towards professional development	1.25	1.45	0.00
Reflecting on your actions with a view to self-improvement	1.25	1.58	0.00
Working well as a member of a team	1.25	1.50	0.00
Respecting patients' autonomy	1.27	1.28	0.78
Being receptive to constructive criticism	1.29	1.59	0.00
Not using professional status for personal gain	1.38	1.40	0.10
Being physically fit	2.02	2.37	0.00
Having a good sense of humour	2.18	2.48	0.00

6.3 Summary

A large scale cross-sectional survey involving pharmacists was deemed appropriate to investigate the views and opinions that exist relating to deprofessionalising effects and pharmacist professionalism.

The views and opinions of members of pharmacy leadership were gathered in work stream 1. The

questionnaire was designed after a number of key points emerged, these included: deprofessionalising effects, lack of perceived public knowledge and a difficulty in defining professionalism. In addition it was revealed that the responsibility for professionalism fell, at least in part, with individual pharmacists and so the views of individual pharmacists were sought.

The overall response rate for the study was 7.1%, respondents were predominately female, working fulltime in community pharmacy in England. The data were then filtered to obtain the subset of English community pharmacists. Analysis of this subset revealed that almost one third of respondents identified themselves as managers. Analysis showed that female respondents were more likely to be employees than male respondents. The majority of respondents worked in a multiple pharmacy setting, with the next highest proportion of respondents working in independent pharmacies.

The subset of English community pharmacist respondents were asked how aware they felt the general public were of different pharmacy related roles. The majority of respondents felt that the general public were most aware of the roles: assembly and labelling of products, over the counter medicine sales and counselling patients on prescribed medicines.

Respondents were asked if they had heard about of a number of different campaigns that may impact the professional status of pharmacy, almost two thirds of respondents had heard of the RPS campaign: "Now or Never: Shaping pharmacy for the future".

Pharmacist provision of services was investigated and services reported as being provided the most were MURs and NMS. The services being provided the least were anti-coagulation services, falls intervention services and supplementary prescribing. The median number of services provided by English community pharmacists was nine.

Respondents were also asked about how aware they felt the general public were of different pharmacy services. The top three services that the majority of respondents felt that the general

public were aware of, were: stop smoking services, substance misuse and electronic prescription service. A comparison of ranks was undertaken to investigate any differences between the general public and English community pharmacists of the public awareness of pharmacy services. Both placed stop smoking services highest and the electronic prescription service was in the top three by rank for both groups. Further investigation revealed that for all services the majority of pharmacists felt that the general public only had “some awareness”.

Respondents felt that supplementary prescribing was the service provided most for the improvement of service users’ health and the electronic prescription service was the highest rated for pharmacy profitability. Because both the public and pharmacist samples were asked analogous questions comparisons can be made relating to service profitability. A larger proportion of public respondents believed that MURs were provided to improve the health of service users than pharmacists did.

Just over a quarter of respondents considered themselves to be purely a health professional with only 1.0% classing themselves as being purely a businessman/woman. Self-employed and employee respondents placed themselves as more healthcare professional, compared to pharmacy owners. Direct comparisons between the opinions of the general public and English community pharmacists were undertaken and a larger proportion of community pharmacists placed themselves towards the health professional end of the scale (‘purely health professional’ or ‘more health professional than business person’) than the general public.

All pharmacist respondents were asked how important they think different stages of a pharmacist’s life are in the development of a professional ethos. The development stages that scored the highest were pre-registration year and early years as a practising pharmacist.

Respondents were also asked how important they think different professional attributes are. When ranked according to mean score, the majority of the attributes were categorised as ‘very important’.

The top ranked items related to the relationship with patients, and personal qualities. Factor analysis was undertaken and revealed three components of professionalism: Professionalism in Practice, Professionalism in Work and Professionalism in Society.

Female respondents were more likely to consider Professionalism in Practice, and Professionalism in Work as more important than male respondents. Because the questions making up the professionalism scale were asked of both the general public and the English community pharmacist sub-sample, the results can be compared. All but one of the items was rated as more important by pharmacists than by the general public. The only item reported as more important to the general public was: Adhering to professional rules and regulations.

The findings in this study add to a growing body of literature on pharmacist professionalism and professionalisation. Potential deprofessionalising forces were discussed to business practices and profitability within pharmacy. One of the key strengths of this study was the large number of participants invited to participate, however the major limitation of this study is the low response rate.

This study has shown that most pharmacists feel that the general public are fully aware of their prescription related roles, however they acknowledged that the general public only had some awareness of roles such as: providing additional services. It was also shown that for all services the majority of pharmacists felt that the general public only had 'some awareness'. A further finding was that no more than two thirds of pharmacists were aware of specific campaigns championed by leadership bodies. Finally, the comparison between the general public and the English community pharmacist on the professionalism scale revealed five items that were found not to be significantly different, they were: functioning according to the law, not using professional status for personal gain, taking a dedicated approach to work, being sound in judgment and in decision making and respecting patients' autonomy. These items may warrant further research to determine their place when considering pharmacist professionalism.

Chapter 7: Discussion & Conclusions

7.1 Introduction

The research questions posed at the beginning of this thesis have been used throughout study to guide the exploration. The questions were as follows:

- To understand how current theories of professionalism fit within the pharmacy profession.
- To identify the thoughts and views of professional leaders within pharmacy on matters relating to professionalism and professional status.
- To assess the level of importance the general public and pharmacists place on different attributes of professionalism.
- To establish if public perceptions of pharmacist professionalism are affected by differing amounts of pharmacy exposure.
- To examine if public perceptions of pharmacist professionalism differ between different demographic sub-groups.
- To explore which activities of the pharmacist's work pharmacists and the public believe to be 'professionalising' and which 'deprofessionalising'?
- To analyse the frequency of the occurrence of compromises in professionalism attributable to 'commercial pressures'.

A mixed methods study consisting of three work streams was conducted in order to answer the research questions. A mixed methods approach was chosen as this style of study allows in depth investigation of topics with limited previous research.

The first work stream consisted of preliminary semi-structured interviews with members of pharmacy leadership bodies. This stage of the research helped inform the following stages and provided insights into the research topic of public perceptions and professionalism. The second work stream of the study consisted of a quantitative questionnaire the contents of which were informed by the stage one interview data and information obtained during a literature review. The

questionnaire was sent to a sample of the general public and, once data had been collected, analyses were undertaken using appropriate statistical techniques. The third work stream was similar in format to work stream two. A questionnaire, developed following work stream one, was sent to a sample of pharmacists. Once data had been collected, it was possible to isolate the English community pharmacy subgroup. Analyses were then undertaken using appropriate statistical techniques. A mixed method study allowed for triangulation of ideas and these ideas helped form answers to the research questions.

In the subsequent sections the results from the quantitative questionnaire are discussed in combination with qualitative information collected from the initial semi-structured interviews.

7.2 Research strengths and limitations

Pharmacy practice is a relatively new area of research and recent interest in pharmacy professionalism has ensured that this research is relevant and timely⁸¹. This programme of work is the first to compare views of pharmacists and the general public on matters relating to commercialism and professionalism. Previous studies obtaining the views of the general public have been small in scale and restricted in their geographical location¹⁷⁶. This thesis adds considerably to the knowledge base of how the public perceive pharmacists and how pharmacists perceive themselves.

The use of a mixed methodology adopted for this study was a major strength. It has been previously reported that this methodology has been underutilised in pharmacy practice research²²⁷. A total of 20,016 participants were contacted to participate in this research in at least one of the stages. It was an ambitious piece of work that required adherence to strict timescales to ensure questionnaire administration and delivery was completed within the established deadlines. A total of 19,999 questionnaires were administered alongside the completion of 8 semi-structured interviews, demonstrating the richness and variety of data from which the findings are derived.

The use of preliminary qualitative semi-structured interviews allowed for the exploration of the views of professional leaders on professionalism and public perceptions of pharmacy. Analysis of this preliminary data were subject to ongoing supervision from the author's (AT) supervisory team which helped to ensure the validity of the findings.

A quantitative study was used to obtain a more standardised measure of the views of both the general public and pharmacists. Questionnaires were developed based on the findings of the preliminary qualitative study, and were grounded in professional theory. Some of the concepts examined used scales identified in the literature which had previously undergone validity and reliability checks, thus increasing confidence in the reliability and validity of the findings reported in this thesis.

Although the research conducted has a number of strengths, the programme of research has some limitations which need to be acknowledged.

The literature review undertaken for this study was not sufficiently systematic to ensure all relevant references were considered. Because this was not a systematic review, there was potential for bias being introduced during the search, selection of the studies, and interpretation of studies. The search was restricted to a small number of key databases, further databases could have been searched including: Cumulative Index to Nursing and Allied Health (CINAHL), MEDLINE, EMBASE, International Pharmaceutical Abstracts, PsycInfo and/or Scopus.

A further limitation of this work was the relatively low response rate in both of the questionnaires conducted (pharmacist response rate: 7.1%; general public response rate: 15.7% - although it should be noted that, for the general public group, the sample size calculation performed prior to sampling suggested a minimum of 1,068 respondents needed to provide a 3% margin of error and 95% confidence level. Upon return of completed questionnaires the number of responses received exceeded the minimum number required according to the power calculation ($n=1,537$).

However, for the pharmacist group the response rate was considerably lower. It has been previously reported that the questionnaire response rates for healthcare professionals are low²²⁸. Those working in pharmacy practice in the UK have stated that research within community pharmacy poses difficulties due to pharmacy practice research being relatively new²²⁹. A study in 2000 assessed pharmacists' views towards practice research and while the majority of respondents believed that it was important and relevant to themselves and the development of community pharmacy, two thirds of respondents reported that their daily activities precluded research participation, and almost three quarters reported that they would only participate in such research if paid to do so²³⁰. Commentators within pharmacy have identified a lack of pharmacist engagement in research and this has led to questions being asked as to why there are so few contributions to research²³¹. Factors such as interest, desire and time have been previously reported as barriers to engagement²³². In an attempt to persuade more pharmacists to participate Allen (2014) called for one hundred percent of the pharmacy population to be 'research active'²³³.

A marked difference was also noted between the response rate observed in this study and the response rate observed in another GPhC -facilitated study. In 2013 a study team from Manchester University were issued with a database containing registrant information and were able to independently approach pharmacists to participate in their research. The researchers sent out postal questionnaires and obtained a response rate from pharmacists of 43.2%. In the study presented in this thesis, where the author was not granted access to a database of registrant data with the GPhC serving as the only point of contact for participants, a response rate of only 7.1% was achieved. The lower response rate seen in this study may be attributable to a variety of factors but primary among them may be the different methods of questionnaire distribution employed and, in the case of the present study, a degree of confusion as to who was conducting the study (the GPhC or the author). Some members of the sample may have believed that the questionnaire was from their regulator as opposed to one hosted by an academic institution. The relatively low response rate achieved could be a result of negative expectations held by pharmacists on certain features of GPhC

correspondence, for example monitoring of CPD, compliance with professional standards and fitness to practise procedures.

A further component to work stream 2 and work stream 3 had initially been planned by the researcher. Once participants had completed the questionnaire they had been invited to attend an interview. Due to time constraints only 8 interviews were carried out for both groups (general public and pharmacist), it was decided that this number of interviews would not generate enough data for analysis. For this reason the results of these interviews have not been included in this thesis. The researcher acknowledges that interview data could have been obtained from more participants if the following had been considered: flexibility in interview method, for example undertaking interviews via telephone, skype or instant messaging as this may have yielded more interview data. More interviews could have been carried out if shorter interviews with participants were undertaken. For participant responses to adequately contribute to triangulation, data saturation would need to have occurred.

7.3 Reflexivity on the research journey

The researcher acknowledges that reflexivity is becoming an increasingly important consideration within research²³⁴. Reflexivity refers to “the recognition that the involvement of the researcher as an active participant in the research process shapes the nature of the process and the knowledge produced through it”²³⁵. With the help of a supervisory team, the researcher was tasked with designing the programme of research, data collection, analysis and interpretation, and ultimately producing a thesis documenting these features. This section presents the role of the researcher and highlight aspects of the researcher’s journey throughout the programme of work.

As a qualified pharmacist coming from a practice background within community and hospital pharmacy, the researcher had a keen interest in researching a topic relating to the public and pharmacists. Through discussions with the supervisory team, the concept of professionalism and professional status arose as a mutually agreeable area of interest. Despite the practice background

of the research, prior research experience had been limited and the sociological underpinnings of such research were not fully understood.

The first steps in the programme of research involved reading considerable amounts of literature relating to sociological research methods within healthcare. Once an understanding had been established, focus shifted on to literature relating to professionalisation and professionalism within healthcare and specifically pharmacy. In the early stages of research, the sheer volume of literature available was overwhelming for a novice researcher although this was sufficiently overcome with time.

Once an understanding of the relevant literature had been amassed, focus shifted on to the research aims and the methodological approaches to address them. A mixed method approach was adopted as it was felt that this would give the researcher the ability to collect adequate data to provide meaningful results but also ensure that the data were sufficiently contextualised. The researcher led the direction of the research and developed and performed three complementary stages of work.

The opening stage of work involved qualitative interviews, this was the first time the researcher had experience with conducting interviews for research purposes. Further challenges arose during the subsequent transcription, analysis and interpretation of the data collected. Speaking to professional leaders within pharmacy was enlightening and the wealth of experience and breadth of knowledge they collectively had of pharmacy was far-reaching. As a registered pharmacist, the interactions and relationship with the participants may have affected the way in which discussions were held and the way in which different subjects could be broached. On reflection, it would appear that the prior experience of pharmacy practice strengthened the relationships and facilitated more open discussions with participants.

The second stage of the work programme was the most gruelling and brought a different set of challenges and opportunities to the researcher. Once analysis had been carried out on the stage one

interview data, two questionnaires were designed. The questionnaire for the general public was piloted and received a low response rate. After discussions with the supervisory team the researcher decided that to ensure an adequate number of responses the scale of the sample would need to be increased. It was an ambitious choice and resulted in physical and mental pressures for the researcher. The opportunity to manage a large-scale questionnaire from start to finish was enormously beneficial for developing the researcher's competence (areas such as administration techniques; data cleaning and analysis) in this important area of practice research.

The researcher handled the programme of work well given the lack of previous research experience and using different research methods. In conducting this work the researcher's skills in every aspect of research were vastly improved; from assessing research literature to designing research and recruiting participants through to analysis and interpretation of data and disseminating it to a range of audiences. The research journey was enormously fulfilling, having overcome numerous difficulties and developed countless new skills the researcher is proud to present this thesis.

7.4 Lack of Public Role Knowledge, and Knowledge and Use of Services

This research investigated public perceptions of pharmacist roles and also English community pharmacists' views of public perceptions of pharmacist roles. In addition, both groups were asked about their perceptions of pharmacy services. Using triangulation these data were compared and contextualised using previously reported findings.

7.4.1 Pharmacist Roles

In this study pharmacists seem to believe that the general public were most aware of their role in dispensing medication and felt as though there was only some awareness of prescription monitoring. Results from the general public demonstrate that they did in fact recognise the pharmacist's role in prescription monitoring and were also aware that it is a pharmacist role rather than a support staff role.

A number of studies have sought to establish how a pharmacist spends their time while at work. Davies et al. (2014) suggested that almost forty per cent of the pharmacist's day was spent dealing with prescription-related matters¹⁰⁹. Other studies have also suggested that these activities take up a significant proportion of the pharmacist's time (51-75%)^{108,236}. Furthermore, Lea et al. (2014) report that "[the] Pharmacist perceived their own role to be dominated by the dispensing and checking of prescriptions"²³⁷.

Prescription related matters include all those activities related to the safe dispensing process; these include the pharmacist's clinical check and also the dispensing procedures (such as product selection, label creation and assembly of dispensed products).

A mismatch of beliefs was identified between pharmacists and the general public. Monitoring of prescription appropriateness was the most frequently recognised pharmacist role by the general public. However, pharmacists believed that the public awareness of this role would feature behind other roles such as patient counselling and sales transactions. Less than half of the pharmacist respondents believed that the general public were fully aware of this role.

Also categorised as a prescription related matter was the assembly and labelling of products. Pharmacists reported that they felt as though the general public would be most aware of this role, whereas more than half deemed the general public fully aware.

The public identified that non-pharmacist staff would be less involved in monitoring prescription appropriateness. This is congruent with current UK law and reflected in regulations set out by the GPhC whereby only the pharmacist may have the responsibility to clinically check prescriptions for safety and legality²³⁸.

7.4.2 Services

This section reports the use and awareness of pharmacy services overall. The majority of pharmacist questionnaire respondents reported that they felt that the general public were aware of their role as

providers of additional services. However, an equal proportion of the general public sample reported that they believed that service provision was carried out by pharmacists and non-pharmacist staff.

Recent literature has identified service provision as taking up little of a pharmacist's day to day activities. Davies *et al.* (2014) placed services (including provision of advanced Services (e.g. MURs), enhanced or other NHS services (e.g. Emergency hormonal contraception or smoking cessation advice via a patient group direction) and private enhanced services (e.g. medicines supplied via private patient group direction or paid for vaccinations) as the activity most infrequently carried out during a day with only 5% the available working hours of the day dedicated to the role¹⁰⁹. In another study less than ten percent of a pharmacist's time was dedicated to the provision of services¹⁰⁸. Furthermore, the public have been reported to be sceptical of both community pharmacist and support staff competence in the provision of pharmacy services²³⁹. It appears that the general public may not differentiate between who should provide pharmacy services between pharmacists and other pharmacy staff.

Research conducted in England and Scotland has reported that for some services other pharmacy staff have an active role in provision²⁴⁰. Services that target lifestyle changes such as stop smoking and weight management services were mostly delivered by other trained support staff rather than pharmacists and were often completely separate from consultations for advanced services. This may explain the views of public relating to service provision by both pharmacists and other pharmacy staff.

Of those pharmacists believing that the general public were aware of pharmacists undertaking services as a role, the majority felt that the general public only had some awareness. This may be due to limited exposure to pharmacy services as reported in the literature^{205,241}.

7.4.2.1 Provision & Use

English community pharmacist respondents to the questionnaire were asked how often they provided specific services. Medication Use Reviews (MUR) were identified as the most commonly performed service with the New Medicines Service (NMS) being the 2nd most commonly performed

service by English community pharmacists. In 2014 over ninety percent of all community pharmacies reported provision of MUR services and a total of 775,998 NMS consultations were undertaken⁷². This number of NMS consultations is an increase upon previous years, however, the number of pharmacies providing the service had fallen⁷².

Limits imposed by the pharmacy contract set a maximum number of MUR consultations that can be undertaken annually. These limits have been increasingly treated by employers as targets to be achieved⁸⁰. However, numerous barriers exist to the delivery of MURs. Locum pharmacists have reported little motivation and desire to carry out this service, citing factors such as unfamiliarity with settings, policies and procedures⁷⁵. Employee pharmacists have experienced pressure to carry out this service, as highlighted in a recent news report accusing Boots of putting pharmacists under unacceptable workplace pressures²⁴².

Additionally pharmacy owners express concerns that they struggle to carry out MURs whilst maintaining an economically viable environment⁷⁵. Similarly, remuneration has been identified as a potential barrier to full provision of the NMS service²⁴³. Pharmacists also reported finding it difficult to schedule the follow up consultations and make contact with the patients for NMS²⁴⁴.

When participants asked about how aware they thought the general public were of MURs a discrepancy was found with the pharmacist group believing that levels of awareness amongst the general public were higher than awareness levels amongst the general public actually were. Lack of patient uptake and interest has been a barrier to provision of MURs. A study in England and Wales cited lack of patient knowledge of the service and further research revealed that patients rarely ask for MURs themselves^{77,245,246}.

Recent literature reinforces some of the results from this study. Despite potential barriers there has been a steady increase in the provision of the NMR and MUR services⁷². The introduction of targets

may possibly contribute to this increase as pharmacists are expected to carry out specific numbers of service consultations per day.

The results from the current study revealed that the median number of services provided by English community pharmacist respondents was 10, whereas the median number of services used by the general public sample was one. Those members of the general public who did use more than one service were more likely to be frequent visitors to pharmacies. This demonstrates that whilst pharmacists are providing numerous different services the use of services by members of the general public is low. Additionally, it appears that there is a difference between how aware the general public are of certain pharmacy services and how aware English community pharmacists believe them to be.

7.4.3 Communication

A lack of public knowledge may be due to the amount of contact a member of the general public has with their pharmacist, therefore communication between the two groups was investigated. The data showed that almost a third of respondents interacted with their pharmacist more frequently than once per month. This was significantly different to the frequency with which respondents visited pharmacies. Respondents reported visiting pharmacies more frequently than they had contact with a pharmacist. This may be due to the different reasons a person may have to visit a pharmacy as not all visits, particularly those for retail purposes, require the individual to interact with a pharmacist. Such visits for retail purposes may include the purchase of toiletries and beauty products²⁰⁵. Another possible explanation for this is that the public have varying levels of ease identifying the pharmacists amongst other pharmacy staff^{247,248}. Indeed, this research found no association between those visiting more frequently and those who found it easier to identify their pharmacist. Previous literature has also identified instances where very few patients (3%, 12/478) will ask to speak to their pharmacist when visiting a pharmacy²⁴⁹.

7.5 Promotion to Raise Public Awareness of Community Pharmacy

This is the largest study up to now investigating the general public's expectations, experiences and understanding of pharmacist roles and pharmacy services. This section deals with results relating to promotion of pharmacy and leadership within pharmacy.

7.5.1 Public Knowledge

A lack of public knowledge relating to the pharmacist's function was prominent throughout all stages of the research. Within the preliminary qualitative interviews pharmacy leaders expressed concern that the public did not know what pharmacists did. These sentiments were further investigated during the quantitative stage. Members of the general public were asked about what roles they felt were performed by the pharmacist and what roles were carried out by pharmacy support staff. As detailed in previous sections, the general public reported prescription related roles as the most frequently performed by pharmacists and sales roles most frequently performed by pharmacy support staff.

The public were also asked about their awareness of services; the service the public reported being most aware of was the stop smoking service and the service they reported being least aware of was the falls intervention service. Overall awareness of services was low, with less than half of the general public respondents reporting awareness of the fact that pharmacy offers any of the services.

Pharmacists were also asked how aware they felt the general public were of services. For the majority of services, pharmacist respondents appeared to believe that levels of reported awareness of services by the general public were higher than was actually reported.

The results reveal a range of knowledge and awareness of pharmacist roles and the services offered by community pharmacies. During the qualitative stage it was revealed that there was a feeling of minimal knowledge and awareness of the pharmacist role and the services that can be offered from pharmacies. In the quantitative stage, data suggested that there was recognition of some primary roles of pharmacists, such as prescription matters and counselling, but respondents reported that

they believed that service provision could be the role of any member of the pharmacy staff and not exclusively the role of the pharmacist.

There is very little published evidence concerning the public's expectations, experiences and understanding of pharmacist roles and pharmacy services. Qualitative research carried out with members of the general public in 2013 revealed less understanding about the newer roles of the pharmacist such as service provision compared with the more traditional supply roles such as prescription matters²⁵⁰. The Royal Pharmaceutical Society report 'Now or never: shaping pharmacy for the future' (2013), also suggested that there is insufficient public awareness of the range of services offered by pharmacists and called for efforts to be made to improve the public's understanding of the pharmacist's role⁹⁶. A 2014 report revealed that only a third of the general public understand that community pharmacies fall within the scope of primary care²⁵¹. The results from this study build upon previous research and offer insights into the views and opinions of both the general public and pharmacists on expectations, experiences and understanding.

7.5.2 Promotion

This work provided an important opportunity to advance the understanding of the effectiveness and prevalence of promotional efforts within pharmacy. A lack of promotion of pharmacist roles and pharmacy services was reported during work stream 1 (interviews with professional leaders).

There are currently a number of national pharmacy campaigns; these vary from short term to ongoing. The 'Ask Your Pharmacist' campaign is run by the National Pharmacy Association; the focal point of this campaign being the annual 'Ask your pharmacist' week²⁵². During this week, members of the NPA and other interested parties are asked to signpost people to community pharmacy as the first port of call for common ailments. Common activities include radio appearances, community talks, newspaper columns and increased window displays.

As the professional membership body for pharmacists and pharmacy in Great Britain, the RPS aims to ensure the public has the best information when medicines are in the news²⁵³. The media related matters the Society are concerned with include:

- how medicines are used, their side effects and the impact of new medicine discoveries
- NHS pharmacy services on the high street
- public policy related to pharmacy, healthcare and medicines

Exposure of pharmacy-related media on television has been mixed. Commentators in the USA and Canada have discussed the possibility of integrating pharmacists into television programmes, although reports from previous pharmacist portrayals have shown that, in most cases, the pharmacist is shown in a negative light^{254,255}. Reinforcing the RPS media strategy, a Society spokesperson was featured in national and regional media every day between January and June 2015. Another example of pharmacy being represented in the media is through medicine advertising, almost two thirds of pharmacists questioned in a postal survey agreed that UK TV advertising of pharmacy medicines increased the public awareness of pharmacy²⁵⁶.

Historically, community pharmacists have been engaged with promotional activities such as health promotion. More recently pharmacists have been involved in the promotion of public health services²⁵⁷. A study carried out in the UK by Saramunee et al. reported that the promotional methods used for a particular service must correspond with those favoured by the potential users that the service is targeted towards²⁵⁸. They found that personal recommendation (either by health professionals or family and friends) was the method most likely to encourage service use.

Results also showed that pharmacists had differing awareness of promotional campaigns from leadership and representative bodies. This may be explained by pharmacists having different levels of exposure to the various bodies and therefore different levels of exposure to the campaigns of those bodies. The PSNC is a negotiating body that acts in the interests of pharmacy contractors

but does not deal directly with pharmacists. The PDA is a voluntary representative body and trade union so not all pharmacists would have access to their campaign materials. As stated in previous sections, the Pharmacy Voice campaign “Dispensing Health” is concerned with raising awareness of community pharmacy, and as such the campaign is directed specifically at the general public.

The variety of campaigns being run by different leadership and representative bodies means that there are numerous messages being put forward to pharmacists and the general public. The differing agendas of leadership and representative bodies mean that these campaigns may not completely align, this may cause confusion and lack of understanding for those that the campaigns are aimed at.

There is limited research on the effectiveness of promotional campaigns within pharmacy. Both short term and ongoing campaigns are active within community pharmacy but results from this study suggest that public awareness is limited despite these efforts. Focussed promotion of pharmacy to a general audience either through integration into television programming or advertisements may help to improve public knowledge. However, targeting to specific audiences may require individually tailored promotional methods.

7.6 Three Components of Professionalism

This is the first time that mixed methods research has been used to explore the concept of professionalism within pharmacy and the current findings add to a growing body of literature on this topic. The investigations within this study have focussed on professionalism as a series of behaviours exhibited by a professional following on from similar research conducted in medicine². The importance of these behaviours to pharmacists and the general public was explored as well as the factors which influence the development of a pharmacist’s professional ethos. Triangulation was used to draw together data from the different work streams undertaken.

7.6.1 Elements of Professionalism

Previous studies have tried to identify themes and attributes associated with being a good professional and with professionalism itself. The three components of the model reported in this

study (Professionalism in Work, Professionalism in Practice and Professionalism in Society) align with and streamline previous research. Rapport *et al.* proposed eleven themes relating to ‘patient-centred professionalism’ in community pharmacy¹⁷⁸. These were: relationships with patients, safety, confidentiality and privacy, services, changing professional roles, training, professional pressures, professional characteristics, patient characteristics, environment and accessibility. The results from the current study also fit within and expand upon earlier work. In addition, four themes have been previously published for ‘patient-centred professionalism’¹⁷⁶. The first theme identified by the researchers was of ‘different roles and expectations’, the second was ‘the effects of space and environment’, the next theme was ‘managing external forces’ and the final theme was ‘building caring relationships’.

Figure 7-1 - Three Components of Professionalism



The attributes used to assess professionalism were adapted from Chandratilake's work investigating the views of the general public on medical professionalism. The three tenets of professionalism derived from this study closely mirror the work of Chandratilake². His research revealed three themes: Workmanship (relationships with colleagues and other healthcare professionals), Clinicianship (relationships with patient) and Citizenship (behaviour in society). During analysis these themes were adapted for the pharmacy context (Professionalism in Society, in Work and in Practice). Similarities between public responses for both studies were found. The general public considered 'respecting patients' confidentiality and privacy' and 'behaving honestly and with integrity' as two of the most important attributes for both medics and pharmacists.

7.6.1.1 Public

Public opinions of professionalism within pharmacy have not been previously investigated in this manner. Data from this study suggests that the most important aspects of professionalism for the general public relate to lawfulness, personal qualities and safety. Previous studies sampling UK pharmacists have identified the importance of safety and personal qualities as features of professionalism^{5,178}. Research has highlighted exemplars of professionalism such as ensuring prescriptions are correct and that pharmacists are not involved with multiple tasks that could potentially lead to incorrect practice related to guaranteeing patient safety¹⁴³. Lawfulness is conspicuous by its absence in previous literature. This may be due to the implied lawfulness of a person working under a regulatory body responsible for ensuring the lawful practice of its registrants²³⁸. An alternative interpretation maybe that previous researchers did not place much importance on lawfulness as an aspect of professionalism.

All three components of professionalism (Professionalism in Society, in Work and in Practice) were considered to very important by those making frequent visits to pharmacies, those who find it easy to identify their pharmacist, older members of the general public and female members of the public. These particular subgroups seem to correlate with frequent users of pharmacies (including the elderly and female users) reported in the literature^{205,259-261}. Those respondents reporting more

frequent communications with their pharmacist viewed Professionalism in Society as more important than those having infrequent communications. Pharmacists have previously been described as active members of the community and some members of the general public may recognise those attributes related to community and society and place more importance upon them²⁶².

A relationship was also noted for those respondents identified as living in deprived areas; this group of respondents recognised the Professionalism in Work and Professionalism in Society components as being more important than respondents from less deprived areas. This group was also found to visit pharmacies more frequently than those from more deprived areas. It may be that this group puts more importance on these components as increased visit frequency may improve understanding around the pharmacist's role and the services that can be provided through contact with the pharmacist, contact with other pharmacy staff or in-store promotional materials.

7.6.1.2 English Community Pharmacists

As one of the most important roles of the pharmacist is to ensure the health and safety of the general public it is unsurprising that the highest rated components of professionalism on the scale presented to pharmacist participants related to relationships with patients. This indicates that patient centred care is one aspect of professional practice that pharmacists consider to be professionalising. This is congruent with the concept of 'patient-centred professionalism' which has received increasing attention in published literature and policy in recent years^{141,142,145}.

Personal qualities such as honesty and good communication skills were rated as the most important attributes by pharmacists. These qualities have been identified previously as forming part of a professional identity^{141,145}.

Results from this study indicate that females rank Professionalism in Practice as more important than males. Previous research suggests that female pharmacy students are more likely than males to

enter pharmacy for reasons related to patient care over business opportunities²⁶³. This is congruent with the increased importance put on this component of professionalism by female pharmacists.

Because the same attributes were presented to both the pharmacist and the public group the data are directly comparable. Overall, it was found that the combined mean score across all items in the professionalism scale showed that pharmacists reported the attributes of professionalism as more important than the general public. All but two attributes were rated as more important by the pharmacist group than the public group, they were “being sound in judgment and in decision making” and “adhering to professional rules and regulations”. The only item to receive a significant difference in reported importance between the two groups was adhering to professional rules and regulations. This item was rated as more important by the general public than it was by pharmacists. The absence of lawfulness as an as an element of professionalism has been previously identified within the literature as well as in this study. This absence of lawfulness might suggest that pharmacists are comfortable with minor infringements of regulations in certain circumstances. However, this finding may warrant further investigation.

7.6.2 Development of a professional ethos

Development of professionalism and a professional ethos were also investigated. Pharmacists identified the pre-registration year and early years as a practising pharmacist as the most important periods of time for the development of a professional ethos. Previous research has shown that that there are three stages of professional socialisation: early life, undergraduate education, and experience in practice¹⁴⁶. The results from this study suggest that pharmacists believe that experience in practice is the most important stage of the professional socialisation of pharmacists.

7.6.3 Professional Status

The concept of professionalism as an ideology was an outgrowth from professionalisation theories²². These theories attempted to explain what differentiated an occupation from a profession. However, occupations and professions are not mutually exclusive. Semi-professions or para-professions are

used to describe occupational groups whose claims to professional status are questioned. It has been suggested that pharmacy is one such occupation^{20,31}. This research has investigated a number of aspects relating to the perceived professional status of pharmacy.

Arguments questioning the professional status of pharmacy have been focussed on the work of the pharmacist. In 1956, McCormack highlighted the conflict between business interests and the professional interests of pharmacists¹³³. This research has demonstrated that most pharmacists consider themselves as more healthcare focussed than business focussed. It also demonstrated that the general public shared this view (although a greater proportion of the public than pharmacists believed that pharmacists were half health professional/half business person or purely a business person). This difference in opinion highlights an aspect of professional status rarely considered by pharmacy practice researchers; who decides the professional status of an occupation?

More recent models surrounding professional status have increasingly considered the place of pharmacy in society. Dingwall and Wilson (1995) discussed the social significance of the pharmacist's role²⁶⁴. They discussed the symbolic transformation of the inert chemical into the drug. In 1997, Harding and Taylor built upon this stance but argued that the social role of the pharmacist was the symbolic transformation of a drug into a *medicine*¹³⁸. This research has shown that prescription related matters were the most recognised roles by the general public and this demonstrates that the public still view a pharmacist's social role as that of medicine provider.

Edmunds & Calnan (2001) argued that the trend for extended roles for pharmacy would be important in driving reprofessionalisation and preventing deprofessionalisation¹²². However, this research has demonstrated that the provision of services is still a marginally understood aspect of a pharmacist's role and that the general public associate the provision of these roles with other pharmacy staff just as much as they do with pharmacists. The majority of the public respondents had not used pharmacy services and most had limited awareness of the existence of such services.

Further, theorists such as Eliot Freidson describe members of a society as having a role in acknowledging the necessity of the profession, and in determining whether an occupation is a profession⁶. Therefore, for pharmacy to be considered a profession in the eyes of society it must acknowledge the views and opinions of the general public and act on them accordingly.

Returning to the question of who decides the professional status of an occupation, in the case of pharmacy there are differences between the beliefs of the general public and the beliefs of pharmacists. Theorists have increasingly put the focus of professionalisation on what pharmacy does for society. It may then follow that the views of society are of primary importance in determining the professional status of an occupation^{138,264}. Both the general public respondents and the pharmacist respondents rated the three individual components of professionalism as important. However, the pharmacist respondents rated the components as slightly more important than the general public respondents. The continuation of rationalisation within pharmacy and the limited uptake of service provision places pharmacy in a critical position. This research demonstrates that pharmacists reported that they carry out their work with professionalism, however their working environment is facing deprofessionalising factors.

7.6.4 Commercialism

Professionalism is often seen as a counterpoint to commercialism within pharmacy²⁵⁰. Almost eighty per cent of respondents to the questionnaire sent to members of the general public reported a belief that pharmacists were not purely health care focussed and so have at least some business focus. This is possibly due to the commercial nature of community pharmacy²⁶⁵. Furthermore, one study has demonstrated that a consumer's focus is on buying a product rather than using a pharmacist's expertise during such transactions²⁶⁶. This may lead to a public perception of pharmacies as purely retail outlets leading to a focus on purchase of a commodity rather than the purchase of a medicine requiring expert advice.

The members of the English community pharmacist sample were also asked about their personal identification as either a healthcare professional or as a businessman/woman. Just over one quarter of community pharmacists identified themselves as purely healthcare professionals compared to only one percent identifying purely as a businessman/woman. As previously described the majority of a pharmacist's day is taken up with prescription related matters¹⁰⁹. It follows that these activities may help form the healthcare professional identity reported by this research. Additionally, this perception of being a healthcare professional may be developed during a pharmacist's training and their time practising.

Pharmacy undergraduate education programmes often refer to pharmacists as healthcare professionals throughout course materials¹⁴⁰. Similarly the GPhC pre-registration training manual refers to pharmacists as healthcare professionals¹⁶⁰. During practice, pharmacists must adhere to the GPhC Standards of conduct, ethics and performance, and in these standards pharmacists (and pharmacy technicians) are frequently referred to as pharmacy professionals²⁶⁷. All of these factors may predispose pharmacists towards identifying themselves as healthcare professionals.

A higher proportion of pharmacy owners placed themselves towards the business end of the continuum than did employees or locums. As a pharmacy owner, survival of one's business is dependent on making a profit and in this context, it is unsurprising that a larger proportion of pharmacy owners would gravitate towards a businessman/woman identity than those in other employment situations. The results also revealed that community pharmacists working part time considered themselves as more healthcare focussed than those working full time. A possible explanation for this might be that part time workers have less investment in the business side of pharmacy practice. Research has shown that part-time workers have little involvement in activities such as business planning or staff training²⁶⁸. Additionally, locum pharmacists are more likely to work part-time than employee pharmacists. These findings are consistent with previous research which

found that pharmacy owners considered themselves more of a business person compared to locum pharmacists²⁶⁹.

When the general public group and the pharmacist group were compared, a larger proportion of pharmacists placed themselves towards the health professional end of the scale whilst a lower proportion of the general public placed pharmacists towards the health professional end of the scale. These results suggest that community pharmacist's view themselves as more healthcare focussed than the wider general public perceive them to be. This may indicate that, despite a shift within community pharmacy towards more specific healthcare service provision, a sizeable proportion of the public still associate pharmacy with retail business practices and this may hold back the development of service provision within community pharmacy. These findings enhance our understanding of the impact of commercialism on English community pharmacists and on pharmacist professionalism.

7.7 Conclusions

This chapter brought together data from the three work streams and using triangulation a number of pertinent discussion points were identified. By considering data from each work stream it is possible to better understand the concepts of professionalism and professional status. The first theme related to a lack of public knowledge about pharmacist roles and services and also public use of pharmacy services. The findings in this study support previously published evidence that pharmacists spend most of their time on prescription related matters. This study adds to the literature by confirming that the general public are most aware of these roles rather than newer pharmacist roles such as service provision. A further theme discussed related to a lack of promotion to raise public awareness of community pharmacy. The lack of public knowledge about pharmacist roles and services may be due, in part, to a lack of promotion of pharmacy. The final theme presented three components of professionalism for community pharmacy (Professionalism in Work, in Society and in Practice). These three discussion points all offer novel insights into the current professional status of pharmacy.

7.7.1 Implications for policy and practice

The findings of the current programme of work have implications for community pharmacy practice specifically relating to the general public's understanding of pharmacy, the promotion of pharmacy, commercialism within pharmacy and for pharmacy's claims to professional status.

The aim of this programme of work was to investigate areas of community pharmacy practice that relate to professionalism and ultimately professional status. In this context it was important to examine the opinions of professional leaders within pharmacy, pharmacists and the general public.

This study has shown that there is limited general public engagement with pharmacy services and many people fail to appreciate the specific roles of the pharmacist in service provision; they appear to believe that many of the roles delivered from a community pharmacy environment are equally as likely to be provided by non-pharmacist staff as by pharmacists. The use of other pharmacy staff in the provision of pharmacy services has been discussed in the literature²⁷⁰. Ogunbayo *et al.* reported that services targeting lifestyle changes (e.g. stop smoking and weight management) were mostly delivered by pharmacy support staff. It has been previously discussed that the future of community pharmacy may rely on service provision⁶⁸. Some theorists even maintain that this is essential to reprofessionalise pharmacy¹²². As the pharmacist's service-based activities continue to develop, promotional activities may be required to ensure developments in pharmacist functions are recognised by the public.

The general public's lack of role knowledge may be attributable to a lack of suitable promotion of pharmacy to the general public. Whilst pharmacy leadership bodies (such as PSNC, The PDA, RPS and Pharmacy Voice) have made attempts to address this lack of public knowledge, this research has found that the impact of this is often suboptimal^{254–256}. Media appearances made by the pharmacy leadership bodies are often reactive and involve discussing pharmacy related matters once a relevant news story has been reported²⁷¹. This confines media appearances primarily to news outlets. In order to increase the awareness of pharmacy-based activities, it may be advisable to

become more wide reaching and proactive in media appearances. Such appearances could include the portrayal of pharmacists on soap operas or appearances on magazine or lifestyle programmes. The results from this study have shown that the majority of the general public are unaware of who the professional leadership body of pharmacy is, again this could be addressed using a more focussed promotion campaign. By raising awareness of the professional leadership body of pharmacy through focussed promotion, the RPS would be better placed to deliver relevant messages to a general public audience.

Commercialism and professionalism have been described as being opposing forces within pharmacy²⁵⁰. However, some commentators acknowledge that without the commercial side of community pharmacy, the role of the community pharmacist would not exist²⁷². The findings in this research show that both pharmacists and the general public recognise pharmacists focussed primarily on health rather than on business but understand that commerce is an essential part of community pharmacy practice.

Advanced services were introduced into the pharmacy contract to allow pharmacists to provide a nationally recognised and remunerated clinical service⁶⁹. The first of these services was the MUR and the PSNC set out specific aims for the service, all of which related to “putting the patient first”. This research has shown that advanced services are considered by pharmacists as to be focussed on both improving outcomes for patients and generating profits for pharmacy businesses, and that some pharmacists reported this may be due to commercial pressure pharmacists are put under by management within organisations. In particular, employee pharmacists were more likely to consider provision of this service as a combination of health improvement and profitability than they were to consider it solely offered for health improvement. The focus of any pharmacy service should be to deliver a service that safeguards the health, safety and wellbeing of patients¹³². The current remuneration model for advanced services rewards quantity, by the way of form submission for payment, and not quality of the services provided⁶⁸. This has effectively created a target number of

interventions which contractors have utilised to put in place targets for employees in an attempt to ensure that each pharmacy hits the maximum allowable number each year. These targets are set by employers based on the maximum allowable number without any prior knowledge of potential service user suitability or pharmacist workload. Without prior knowledge of service user suitability, these targets can be considered about maximising revenue rather than providing benefit for NHS patients. In addition to this, the setting of targets may contribute to the standardisation and rationalisation of community pharmacy by contributing to the control component of the McDonaldization model¹³⁵. This, as discussed previously, may have a deprofessionalising effect on pharmacy. By adapting practice to minimise these activities deprofessionalisation may be negated.

The programme of research undertaken has revealed the relative importance of various items thought to contribute towards professionalism to both the general public and pharmacists. The three tenets of professionalism reported (Professionalism in Society, in Work and in Practice) in this work can be used to encourage pharmacists to give equal focus to their professional behaviours in practice, work and society. The high level of importance put on building relationships with patients demonstrates its importance for professionalism within pharmacy.

This work has focussed on the views and opinions of the general public and pharmacists on matters such as roles, commercialism and professionalism and the effect these may have on pharmacy's professional status. The importance placed on professional behaviours by pharmacists demonstrates that they believe that they practise in a professional manner. Similarly, the general public perceive these behaviours as important for pharmacists. Pharmacists are increasingly put under commercial pressures to perform in accordance with their employer's wishes and this often includes commercial activities. Congruent with previous research, the general public are still aware of the commercial environment in which pharmacists practise²⁷³.

It is for reasons such as these that community pharmacy may be under deprofessionalising pressures from commercialism, commodification of medicines and further rationalisation. Theories

surrounding reprofessionalisation offer split opinion amongst researchers about the most effective way to undertake reprofesionalisation^{122,137,138}. Reprofessionalisation models proposed by Edmunds & Calnan (2001) include increasing the provision of health services and, with the introduction of the pharmacy contract and moves towards a commissioning-led NHS, it appears that service provision is likely to be increasingly prevalent in the future of pharmacy¹²². However, if service provision is to have the reprofessionalising effect described by Edmunds & Calnan then the general public must be aware of, and use such services. This research has demonstrated that pharmacy services are used infrequently by the general public and that a sizeable proportion of the general public have little knowledge of such services. As previously highlighted this could possibly be addressed by increasing promotion of pharmacy and pharmacy services. Further, the role of the general public in deciding whether an occupation is a profession increases the importance of ensuring the public adequately understand the role of pharmacists in providing health-related services.

Deprofessionalising pressures that are present within pharmacy may be more dominant than reprofessionalising initiatives. However, despite this, data from this research demonstrates pharmacists clearly identify themselves as professionals.

7.7.2 Implications for Research

One of the biggest problems with this study was the low response rate from both groups. To ensure the advancement of evidence-based pharmacy practice it is important that researchers are able to contact adequate numbers of participants. These issues are not novel and previous researchers have expressed similar difficulties and frustrations with accessing participants²⁷⁴. The use of the open electoral register provided this study with a large number of participant details but yielded a relatively low response rate.

The low response rate for pharmacists was also a significant limitation to this study. There appears to be a culture of disengagement with pharmacy practice research for pharmacists²⁷⁵. This poses an issue to the advancement of evidence-based practice, particularly at a time when the future of the

profession may potentially be influenced by provision of new healthcare services. In an attempt to encourage more pharmacists to engage in research the GPhC could consider implementing participation in research as part of the CPD framework.

Currently pharmacists must undertake CPD, the aim of which is to ensure high standards of practice and to ensure knowledge and skills are continually updated and improved⁸⁸. A minimum of nine entries must be made each year and pharmacist's compliance and competence in recording is reviewed over a five year period with random calls for submission. By participating in research, a pharmacist could be exempted from one annual CPD entry. Participation may improve their knowledge in the area of research or improve their skills if the research requires additional engagement. The use of a third-party organisation (such as a university) could be used to ensure that the research is of a suitable quality to ensure standards of CPD are upheld. This third party would also ensure that pharmacists participate with the research through to completion before awarding a certificate or token and undertake any requirements such as compliance with research protocol (reading information sheets, completing consent forms etc.). Past research has shown that pharmacists do not engage with research as they feel that they are not adequately remunerated for their time²⁷⁶. At present pharmacists already carry out CPD as part of their registration with the GPhC, if this recommendation was implemented pharmacists could spend time participating in research that would usually be used to complete a CPD entry.

Public understanding of pharmacy was investigated throughout this study. Future researchers should acknowledge that the general public hold the view that the pharmacist almost exclusively performs prescription-related functions. Additionally, this research has demonstrated that despite low response rates, questionnaires are still an adequate method of data collection for engaging with diverse populations.

References

1. Bulwer-Lytton E. *The Last Days Of Pompeii*. London: Richard Bentley; 1834.
2. Chandratilake M, McAleer S, Gibson J, Roff S. Medical professionalism: What does the public think? *Clinical Medicine, Journal of the Royal College of Physicians of London*. 2010;10(4):364-369.
3. Morgan J, Hopkins W, Acreman S, Jewell K, Garwood L, Candy E. What does professionalism look like? Attitudes and behaviours derived from a Delphi study. *Nursing Management*. 2014;21(7):28-40.
4. Trathen A, Gallagher JE. Dental professionalism: definitions and debate. *British Dental Journal*. 2009;206(5):249-253.
5. Wilson S, Tordoff A, Beckett G. Pharmacy professionalism: A systematic analysis of contemporary literature (1998-2009). *Pharmacy Education*. 2010;10(2):27-31.
6. Freidson E. *Professionalism: The Third Logic*. Cambridge: Polity Press; 2013.
7. Agur M, Nass L, Blake M. *GPhC Registrant Survey 2013*. London; 2014.
8. Bush J, Langley CA, Wilson KA. The corporatization of community pharmacy: Implications for service provision, the public health function, and pharmacy's claims to professional status in the United Kingdom. *Research in Social and Administrative Pharmacy*. 2009;5(4):305-318.
9. Lynn G, Davey E. Pharmacists illegally sell Valium and morphine. BBC News. <http://www.bbc.co.uk/news/uk-england-london-20633639>. Published 2012. Accessed December 15, 2016.
10. WHICH. Can you trust your local pharmacy's advice? <http://www.which.co.uk/news/2013/05/can-you-trust-your-local-pharmacys-advice-319886/>. Published 2013. Accessed December 15, 2016.
11. Kevin M.G. Taylor, Sarah Nettleton GH. *Sociology for Pharmacists*. London: Taylor & Francis; 2003.
12. Bissell P, Traulsen JM, Haugbølle LS. Sociological Theory and Pharmacy Practice Research: (1) an Introduction to Sociology - And What It Can Do For Pharmacy Practice Research. *International Journal of Pharmacy Practice*. 2001;9(1):289-296.
13. Bershady HJ, Cuff EC, Payne GCF. *Perspectives in Sociology*. Vol 10. London: Routledge; 1981.
14. Carr-Saunders A, Wilson P. *The Professions*. Oxford: Clarendon Press; 1933.
15. Broadbent J, Dietrich M, Roberts J. *The End of the Professions?: The Restructuring of Professional Work*. London: Routledge; 1997.
16. Simpson J. *The Oxford English Dictionary*. Oxford: Oxford University Press; 1989. <http://www.worldcat.org/oclc/17648714>.
17. Horne J, Jary D, Tomlinson A. *Sport Leisure and Social Relations*. London: Routledge; 2014.
18. Parsons T. *The Social System*. London: Routledge; 1951.
19. Greenwood E. Attributes of a profession. *Social work*. 1957;2(3):45-55.

20. Wilensky H. The professionalization of everyone? *American Journal of Sociology*. 1964;70(2):137-158.
21. Goode WJ. The Theoretical Limits of Professionalization. In: *The Semiprofessions and Their Organization*. New York: The Free Press; 1969 p. 266-313.
22. Johnson T. *Professions and Power*. London: Macmillan; 1972.
23. Freidson E. *Professional Dominance: The Social Structure of Medical Care*. New Jersey: Transaction Publishers; 1970.
24. Larson MS. *The Rise of Professionalism: A Sociological Analysis*. Berkley: University of California Press; 1977.
25. Abbott A. *The System of Professions: An Essay on the Division of Expert Labor*. Chicago: University of Chicago Press; 1988.
26. Larkin G. Occupational Monopoly and Modern Medicine. 1983:212.
27. Freidson E. *Professional Powers: A Study of the Institutionalization of Formal Knowledge*. Chicago: University of Chicago Press; 1988.
28. Oppenheimer M. The proletarianization of the professional. *The Sociological Review*. 1972;20(S1):213-227.
29. McKinlay JB. The business of good doctoring or doctoring as good business: reflections on Freidson's view of the medical game. *International Journal of Health Services*. 1977;7(3):459-488.
30. Traulsen JM, Bissell P. Theories of professions and the pharmacist. *International Journal of Pharmacy Practice*. 2004;12(2):107-114.
31. Freidson E. *The Professions and Their Prospects*. London: Sage Publications; 1973.
32. Hafferty FW. Definitions of professionalism: a search for meaning and identity. *Clinical Orthopaedics and Related Research*. 2006;449:193-204.
33. Brint S. Saving the "soul of professionalism": Freidson's institutional ethics and the defence of professional autonomy. *Knowledge, Work and Society*. 2006;4(2):101-129.
34. Evetts J. The sociological analysis of professionalism: Occupational change in the modern world. *International Sociology*. 2003;18(2):395-415.
35. Durkheim E. *Professional Ethics and Civic Morals*. Glencoe: The Free Press; 1958.
36. Chisholm-Burns MA, Vaillancourt AM, Shepherd M. *Pharmacy Management, Leadership, Marketing, and Finance*. Burlington: Jones & Bartlett; 2014.
37. Hanlon G. Professionalism as enterprise: Service class politics and the redefinition of professionalism. *Sociology*. 1998;32(1):43-63.
38. McClelland CE. Escape from freedom? Reflections on German professionalism 1870-1933. In: *The Formation of Professions: Knowledge, State and Strategy*. London: Sage Publications; 1990 p. 97-113.
39. Department of Health. *The Report of the Public Inquiry into Children's Heart Surgery at the*

- Bristol Royal Infirmary 1984-1995: Learning from Bristol*. London; 2001.
40. Smith J. *The Shipman Inquiry: Fifth Report*. London; 2004.
 41. Hafferty F, Castellani B. The Hidden Curriculum: A Theory of Medical Education. In: *Handbook of the Sociology of Medical Education*. London: Routledge; 2014 p. 15-35.
 42. Grusec JE, Hastings PD. *Handbook of Socialization: Theory and Research*. New York: The Guildford Press; 2008.
 43. Merton R. *The Student-Physician: Introductory Studies in the Sociology of Medical Education*. Boston: Harvard University Press; 1959.
 44. Freidson E. Professions and the occupational principle. In: *The Professions and Their Prospects*. London: Sage Publications; 1971 p. 19-38.
 45. Clouder L. Becoming professional: exploring the complexities of professional socialization in health and social care. *Learning in Health and Social Care*. 2003;2(4):213-222.
 46. Arnold L. Assessing professional behavior: yesterday, today, and tomorrow. *Academic Medicine*. 2002;77(6):502-515.
 47. Arnold EL, Blank LL, Race KEH, Cipparrone N. Can professionalism be measured? The development of a scale for use in the medical environment. *Academic Medicine*. 1998;73(10):1119-1121.
 48. Lynch DC, Surdyk PM, Eiser AR. Assessing professionalism: a review of the literature. *Medical Teacher*. 2004;26(4):366-373.
 49. Veloski JJ, Fields SK, Boex JR, Blank LL. Measuring professionalism: a review of studies with instruments reported in the literature between 1982 and 2002. *Academic Medicine*. 2005;80(4):366-370.
 50. Hauck FR, Zyzanski SJ, Alemagno SA, Medalie JH. Patient perceptions of humanism in physicians: Effects on positive health behaviors. *Family Medicine*. 1990;22(6):447-452.
 51. Hall MA, Zheng B, Dugan E, et al. Measuring Patients' Trust in their Primary Care Providers. *Medical Care Research and Review*. 2002;59(3):293-318.
 52. The Worshipful Society of Apothecaries of London. Apothecaries - Our History. <http://www.apothecaries.org/charity/history>. Published 2015. Accessed December 15, 2016.
 53. Anderson S. *Making Medicines: A Brief History of Pharmacy and Pharmaceuticals*. London: Pharmaceutical Press; 2005.
 54. Harding G, Taylor K. *Pharmacy Practice*. Vol 2. London: Taylor & Francis; 2002.
 55. Royal Pharmaceutical Society. The History of the Royal Pharmaceutical Society. <https://www.rpharms.com/about-us/our-heritage/history-of-the-society>. Published 2013. Accessed December 15, 2016.
 56. Appelbe GE, Wingfield J. *Dale and Appelbe's Pharmacy Law and Ethics*. London: Pharmaceutical Press; 2009.
 57. Deans Z, Dawson A. Why the Royal Pharmaceutical Society's Code of this is due for review. *The Pharmaceutical Journal*. 2005;275:445-446.

58. Royal Pharmaceutical Society. *Medicines, Ethics and Practice: The Professional Guide for Pharmacists*. London: Royal Pharmaceutical Society; 2016.
59. Robinson J. Looking back at 175 years of the Royal Pharmaceutical Society. *The Pharmaceutical Journal*. 2016;296(7888):online.
60. Bornat J. *Oral History, Health and Welfare*. London: Routledge; 2005.
61. Birenbaum A. Reprofessionalization in pharmacy. *Social Science and Medicine*. 1982;16(8):871-878.
62. Committee of Inquiry. *Pharmacy: A Report to the Nuffield Foundation*. London; 1986.
63. Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. *American Journal of Hospital Pharmacy*. 1990;47(3):533-543.
<http://www.ncbi.nlm.nih.gov/pubmed/2316538>.
64. Longley M. Pharmacy in a New Age: start of a new era? *The Pharmaceutical Journal*. 2006;277:256.
65. Lewis R, Jenkins C. *Developing Community Pharmacy - What Pharmacists Think Is Needed*. London; 2000.
66. Department of Health. *A Vision for Pharmacy in the New NHS*. London; 2003.
67. Blenkinsopp A, Bond C, Celino G, Inch J, Gray N. *National Evaluation of the New Community Pharmacy Contract*. London; 2007.
<file:///C:/Users/Alistair/Downloads/0046352b1c7f6c2e08000000.pdf>.
68. Pharmaceutical Services Negotiating Committee. Community Pharmacy Contractual Framework. <http://psnc.org.uk/contract-it/the-pharmacy-contract/>. Published 2010. Accessed December 15, 2016.
69. Bellingham C. How to offer a medicines use review. *The Pharmaceutical Journal*. 2004;273(7322):602.
70. Department of Health. *Implementing the New Community Pharmacy Contractual Framework: Information for Primary Care Trusts*. London; 2008.
71. Marinker M. *From Compliance to Concordance: Achieving Shared Goals in Medicine Taking*. Vol 314. London: Royal Pharmaceutical Society; 1997.
72. Croft K. *General Pharmaceutical Services*. London; 2014.
73. Elvey R, Bradley F, Ashcroft D, Noyce P. Implementing medication usage reviews through the new community pharmacy contract: key drivers and barriers. *International Journal of Pharmacy Practice*. 2006;Supplement:B32-B33.
74. McDonald R, Cheraghi-Sohi S, Sanders C, Ashcroft D. Professional status in a changing world: The case of medicines use reviews in English community pharmacy. *Social Science and Medicine*. 2010;71(3):451-458.
75. McDonald R, Cheraghi-Sohi S, Tickle M, et al. *The Impact of Incentives on the Behaviour and Performance of Primary Care Professionals*. Nottingham; 2010.
76. Bradley F, Wagner AC, Elvey R, Noyce PR, Ashcroft DM. Determinants of the uptake of

- medicines use reviews (MURs) by community pharmacies in England: A multi-method study. *Health Policy*. 2008;88(2-3):258-268.
77. Ewen D, Ingram M, MacAdam A. The uptake and perceptions of the medicines use review service by community pharmacists in England and Wales. *International Journal of Pharmacy Practice*. 2006:41-93.
 78. Latif A, Boardman H. Community pharmacists' attitudes towards medicines use reviews and factors affecting the numbers performed. *Pharmacy World and Science*. 2008;30(5):536-543.
 79. Hughes M, Eifion E, John D, Jones A. Medicines use reviews and language choice: an exploratory study. *International Journal of Pharmacy Practice*. 2009;Supplement:A41.
 80. Sukkar E. Have medicines use reviews come to represent profit over patient care? *The Pharmaceutical Journal*. 2013;291:137.
 81. Department of Health. *Pharmacy in England Pharmacy in England Building on Strengths – Delivering the Future*. London; 2008.
 82. Pharmaceutical Services Negotiating Committee. Changes to the Community Pharmacy New Medicine Service (NMS) payment structure. http://archive.psn.org.uk/data/files/PharmacyContract/Contract_changes_2011/Briefing_on_changes_to_the_New_Medicine_Service_final.pdf. Published 2012. Accessed December 15, 2016.
 83. Department of Health. *The Regulation of the Non-Medical Healthcare Professions*. London; 2006.
 84. Chemist and Druggist. Changing the rules: what next for the RPSGB? <https://www.chemistanddruggist.co.uk/content/changing-rules-what-next-rpsgb>. Published 2008. Accessed December 15, 2016.
 85. Department of Health. *Trust, Assurance and Safety: The Regulation of Health Professionals in the 21st Century*. London; 2007.
 86. Department of Health. *Full Impact Assessment of the Pharmacy Order 2009*. London; 2009.
 87. Lord Carter of Coles. *Report of the Working Party on Professional Regulation and Leadership in Pharmacy*. London; 2007.
 88. General Pharmaceutical Council. General Pharmaceutical Council Website. <https://www.pharmacyregulation.org/%0A>. Published 2015. Accessed December 15, 2016.
 89. Royal Pharmaceutical Society. Royal Pharmaceutical Society: About us. <https://www.rpharms.com/about-us>. Published 2015. Accessed December 15, 2016.
 90. Rodgers R, Dewsbury C, Lea A. *Law and Ethics in Pharmacy Practice*. London: Pharmaceutical Press; 2010.
 91. Department of Health. *White Paper – Liberating the NHS*. London; 2010.
 92. Waldron J. Pharmacy leaders disappointed by low CCG engagement. Chemist and Druggist. <https://www.chemistanddruggist.co.uk/news/pharmacy-leaders-disappointed-low-ccg-engagement>. Published 2013. Accessed December 15, 2016.
 93. Collins A. Earl Howe: CCGs must increase dialogue with pharmacists. Chemist and Druggist.

- <https://www.chemistanddruggist.co.uk/news/earl-howe-ccgs-must-increase-dialogue-pharmacists?cid=AFF-CDNEW-PREVIOUSARTICLE>. Published 2014. Accessed December 15, 2016.
94. Evetts J. A new professionalism? Challenges and opportunities. *Current Sociology*. 2011;59(4):406-422.
 95. Aston University. MPharm in Pharmacy. <http://www.aston.ac.uk/study/undergraduate/courses/lhs/pharmacy/>. Published 2015. Accessed December 15, 2016.
 96. Royal Pharmaceutical Society. *Now or Never : Shaping Pharmacy for the Future*. London; 2013.
 97. The National Pharmacy Association. The National Pharmacy Association Website. <https://www.npa.co.uk/>. Published 2015. Accessed December 15, 2016.
 98. Pharmacy Voice. Dispensing Health Website. <http://pharmacyvoice.com/campaign/dispensing-health/>. Accessed December 15, 2016.
 99. Independent Pharmacy Federation. The Independent Pharmacy Federation Website. www.theipf.co.uk/. Published 2015. Accessed December 15, 2016.
 100. All Party Pharmacy Group. All Party Pharmacy Group Website. <http://www.appg.org.uk/>. Published 2015. Accessed December 15, 2016.
 101. Horti S. Pharmacy leaders urge MPs to make 5 pre-election pledges. *Chemist and Druggist*. <https://www.chemistanddruggist.co.uk/news/pharmacy-leaders-urge-mps-make-5-pre-election-pledges>. Published 2015. Accessed December 15, 2017.
 102. The Company Chemists' Association. The Company Chemists' Association Website. www.thecca.org.uk/. Published 2015. Accessed December 15, 2016.
 103. The Association of Independent Multiple Pharmacies. The Association of Independent Multiple Pharmacies Website. <https://www.aimp.co.uk/>. Published 2015. Accessed December 15, 2016.
 104. The Pharmacists' Defence Association. The Pharmacists' Defence Association Website. <https://www.the-pda.org/>. Published 2015. Accessed December 15, 2016.
 105. The Pharmacists' Defence Association. *The PDA Road Map*. Birmingham; 2013.
 106. Pharmaceutical Services Negotiating Committee. Pharmaceutical Services Negotiating Committee Website. psnc.org.uk/. Published 2015. Accessed December 15, 2016.
 107. NHS England. Pharmacy call to action. <https://www.england.nhs.uk/2013/12/community-pharmacists-cta/>. Published 2014. Accessed December 15, 2016.
 108. Bond C, Blenkinsopp A, Inch J, Celino G, Gray N. *The Effect of the New Community Pharmacy Contract on the Community Pharmacy Workforce*.; 2008. http://www.pharmacyresearchuk.org/waterway/wp-content/uploads/2012/11/The_effect_of_the_new_community_pharmacy_contract_on_the_community_pharmacy_workforce.pdf.
 109. Davies JE, Barber N, Taylor D. What do community pharmacists do?: Results from a work sampling study in London. *International Journal of Pharmacy Practice*. 2014;22(5):309-318.

110. Crown J. *Review of Prescribing; Supply and Administration of Medicines. Final Report*. London; 1999.
111. Hewitt P. *The Medicines for Human Use Order*. London; 2006.
112. News Team. Independent prescribing rights prove a success. *The Pharmaceutical Journal*. 2011;286:555.
113. Latter S, Blenkinsopp A, Smith A, et al. *Evaluation of Nurse and Pharmacist Independent Prescribing*. London; 2010.
114. Hughes CM, McCann S. Perceived interprofessional barriers between community pharmacists and general practitioners: A qualitative assessment. *British Journal of General Practice*. 2003;53(493):600-606.
115. Gidman W, Ward P, McGregor L. Understanding public trust in services provided by community pharmacists relative to those provided by general practitioners: a qualitative study. *BMJ open*. 2012;2(3):e000939.
116. Seston L, Hassell K. *Pharmacy Workforce Census 2008: Main Findings*. London; 2009.
117. Department of Health. Long Term Health Conditions 2011. 2011.
118. Boardman H, Lewis M, Croft P, Trinder P, Rajaratnam G. Use of community pharmacies: a population-based survey. *Journal of Public Health*. 2005;27(3):254-262.
119. General Pharmaceutical Council. *Public Perceptions of Pharmacies*. London; 2015.
120. Elvey R, Hassell K, Hall J. Who do you think you are? Pharmacists' perceptions of their professional identity. *International Journal of Pharmacy Practice*. 2013;21(5):322-332.
121. Birchall G. Pharmacy is in need of a makeover. *Clinical Pharmacist*. 2014;6(10):276.
122. Edmunds J, Calnan MW. The reprofessionalisation of community pharmacy? An exploration of attitudes to extended roles for community pharmacists amongst pharmacists and General Practitioners in the United Kingdom. *Social Science and Medicine*. 2001;53(7):943-955.
123. Matowe BL. How should the profession respond to pharmacy's poor public image? *The Pharmaceutical Journal*. 2002;269:2002.
124. Norris P. How should the profession respond to pharmacy's declining public image? *The Pharmaceutical Journal*. 2003;270:48.
125. Bryant LJM, Coster G, Gamble GD, McCormick RN. General practitioners' and pharmacists' perceptions of the role of community pharmacists in delivering clinical services. *Research in Social and Administrative Pharmacy*. 2009;5(4):347-362.
126. Varnish J. Drug pushers or health care professionals: the public's perceptions of pharmacy as a profession. *International Journal of Pharmacy Practice*. 1998;6(1):13-21.
127. Hassell K, Noyce P, Rogers A, Harris J, Wilkinson J. Advice provided in British community pharmacies: what people want and what they get. *Journal of Health Services Research & Policy*. 1998;3(4):219-225.
128. Hassell K, Noyce PR, Rogers A. A review of factors that influence the use of community pharmacies as a primary health care resource. *International Journal of Pharmacy Practice*.

- 1999;7:51-59.
http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=emed4&AN=1999165819%5Cnhttp://metalib.lib.ic.ac.uk:9003/sfx_local?sid=OVID&isbn=&issn=0961-7671&volume=7&issue=1&date=1999&title=International+Journal+of+Pharmacy+Practice&title=A+revie.
129. Cooper RJ, Bissell P, Wingfield J. "Islands" and "doctor's tool": the ethical significance of isolation and subordination in UK community pharmacy. *Health*. 2009;13(3):297-316.
 130. Etzioni A. *The Semi-Professions and Their Organisation: Teachers, Nurses, Social Workers*. New York: The Free Press; 1969.
 131. Jesson JK, Langley CA, Wilson KA, Hatfield K. Science or practice? UK undergraduate experiences and attitudes to the MPharm degree. *Pharmacy World and Science*. 2006;28(5):278-283.
 132. General Pharmaceutical Council. *Standards of Conduct, Ethics and Performance*. London; 2012.
 133. McCormack TH. The Druggists' Dilemma: Problems of a Marginal Occupation. *American Journal of Sociology*. 1956;61(4):308.
 134. Denzin N, Mettlin C. Incomplete Professionalization: The Case of Pharmacy. *Social Forces*. 1968;46(3):375-381.
 135. Harding BG, Taylor K. The McDonaldisation of pharmacy. *The Pharmaceutical Journal*. 2000;265(7119):2-3.
 136. Ritzer G. The McDonaldisation of Society. In: *Journal of American Culture*. Vol 6. ; 1983 p. 100-107.
 137. Dingwall R, Wilson E. Is pharmacy really an "incomplete profession"? *Perspective on Social Problems*. 1995;7:111-128.
 138. Harding G, Taylor K. Responding to change: the case of community pharmacy in Great Britain. *Sociology of Health & Illness*. 1997;19(5):547-560.
 139. Holloway SWF, Jewson ND, Mason DJ. "Reprofessionalization" or "occupational imperialism"? Some reflections on pharmacy in Britain. *Social Science and Medicine*. 1986;23(3):323-332.
 140. Schafheutle EI, Hassell K, Ashcroft DM, Hall J, Harrison S. How do pharmacy students learn professionalism? *International Journal of Pharmacy Practice*. 2012;20(2):118-128.
 141. Willis, S., Lewis, P., Schafheutle, E., Elvey, R., Harrison S and, Hassell K. *Patient-Centred Professionalism among Newly Registered Pharmacists*. Manchester; 2011.
 142. Hutchings H, Rapport F. Patient-centered professionalism. *Patient Intelligence*. 2012:11-21.
 143. Rapport F, Doel M a, Hutchings H. *Contextualising Patient Centred Professionalism in Pharmacy Practice : Consulting with Patients , Professionals and Stakeholders*. London; 2010.
 144. General Pharmaceutical Council. *Patient-Centred Professionalism in Pharmacy*. London; 2015.
 145. Willis S, Schafheutle E, Elvey R, Lewis P, Harrison S, Hassell K. Can patient-centred professionalism be engendered in young pharmacists? *The Pharmaceutical Journal*.

- 2011;287(7667-7668):203-204.
146. Willis SC, Schafheutle EI, Elvey RE, Lewis PJ, Harrison S, Hassell K. Learning the professional role: How pharmacists develop during preregistration training and their early careers. *International Journal of Pharmacy Practice*. 2012;20:16-17.
 147. Shuval J. Entering medicine: The dynamics of transition. A seven year study of medical education in Israel. *Social Science & Medicine*. 1983;17:54-55.
 148. Hammer DP, Berger B a., Beardsley RS, Easton MR. Student professionalism. *American Journal of Pharmaceutical Education*. 2003;67(3):1-29.
 149. Park J, Woodrow SI, Reznick RK, Beales J, MacRae HM. Observation, reflection, and reinforcement: surgery faculty members' and residents' perceptions of how they learned professionalism. *Academic medicine : journal of the Association of American Medical Colleges*. 2010;85(1):134-139.
 150. Cruess SR, Cruess RL. Professionalism must be taught. *British Medical Journal*. 1997;315(December):1671-1674.
 151. Cruess RL, Cruess SR. Teaching professionalism: general principles. *Medical*. 2006;28:205-208.
 152. Hafferty FW. Beyond curriculum reform: confronting medicine's hidden curriculum. *Academic Medicine*. 1998;73(4):403-407.
 153. Schafheutle E, Hassell K, Ashcroft D, Hall J, Harrison S. Professionalism in Pharmacy Education. *Pharmacy Practice Research Trust*. 2010;40:1892, 1895.
 154. Taylor KMG, Harding G. The pharmacy degree: The student experience of professional training. *Pharmacy Education*. 2007;7(1):83-88.
 155. Wilson KA, Langley C, Jesson J, Hatfield K. Mapping teaching, learning and assessment in the MPharm in UK schools of pharmacy. *The Pharmaceutical Journal*. 2006;277(7419):369-372.
 156. Shann P, Hassell K. *The Diversity and Complexity of the Pharmacy Locum Workforce*. London; 2004.
 157. Torjesen I. How do we ensure pharmacists have the skills they need for their expanding role? *The Pharmaceutical Journal*. 2015;295(7874/5).
 158. Chalmers RK, Adler DS, Haddad AM, Hoffman S, Kjell A, Woodward JMB. Reports The Essential Linkage of Professional Socialization and. *American Journal of Pharmaceutical Education*. 1995;59(1):85-90.
 159. McAteer S, John D, Luscombe D. Views of pre-registration graduates on the UK pharmacy undergraduate course as preparation for pre-registration training. *International Journal of Pharmacy Practice*. 2004;12:R61.
 160. GPhC. Pre-registration Manual. <https://www.pharmacyregulation.org/preregmanual>. Accessed December 15, 2016.
 161. Hall R. Professionalization and Bureaucratization. *American Sociological Review*. 1968;33(1):92-104.
 162. Snizek WE. Hall's Professionalism Scale: An Empirical Reassessment. *American Sociological Review*. 1972;37(1):109-114.

163. Schack D, Hepler C. Modification of Hall's Professionalism Scale for Use with Pharmacists. *American Journal of Pharmaceutical Education*. 1979.
<http://www.eric.ed.gov/ERICWebPortal/recordDetail?accno=EJ208259>.
164. Clark BE, Grussing PG, Mrtek RG. Pharmacist Role Perceptions in Large Chain Pharmacy Organizations. *Journal of Pharmaceutical Marketing & Management*. 1994;8:59-71.
165. Hammer DP, Mason HL, Chalmers RK, Popovich NG, Rupp MT. Development and testing of an instrument to assess behavioral professionalism of pharmacy students. *American Journal of Pharmaceutical Education*. 2000;64(2):141-151.
166. Lerkiatbundit S. Factor structure and cross-validation of a professionalism scale in pharmacy students. *Journal of Pharmacy Teaching*. 2005;12(Feb):25-49.
167. Chisholm MA, Cobb H, Duke L, McDuffie C, Kennedy WK. Development of an instrument to measure professionalism. *American Journal of Pharmaceutical Education*. 2006;70(4):Article 85.
168. Rutter PM, Duncan G. Can professionalism be measured?: Evidence from the pharmacy literature. *Pharmacy Practice*. 2010;8(1):18-28.
169. Peeters MJ, Stone GE. An instrument to objectively measure pharmacist professionalism as an outcome: A pilot study. *Canadian Journal of Hospital Pharmacy*. 2009;62(3):209-216.
170. Javadi M, Asghari F, Salari P. Assessment of professionalism in Iranian pharmacists. *Journal of Medical Ethics and History of Medicine*. 2011;4.
171. Kelley KA, Stanke LD, Rabi SM, Kuba SE, Janke KK. Cross-validation of an instrument for measuring professionalism behaviors. *American Journal of Pharmaceutical Education*. 2011;75(9):179.
172. Hibbert D, Bissell P, Ward PR. Consumerism and professional work in the community pharmacy. *Sociology of Health and Illness*. 2002;24(1):46-65.
173. Benson A, Cribb A, Barber N. Understanding pharmacists' values - a qualitative study of ideals and dilemmas in UK pharmacy practice. *Social Science & Medicine*. 2009;68(12):2223-2230.
174. Roberts D. Dispensing by the community pharmacist: an unstoppable decline? *The Journal of the Royal College of General Practitioners*. 1988;38:563-564.
175. Rapport F. Patient-centred professionalism and its impact on community pharmacists. *The Pharmaceutical Journal*. 2011;286(January):112-113.
176. Rapport F, Doel MA, Hutchings HA, et al. Through the looking glass: Public and professional perspectives on patient-centred professionalism in modern-day community pharmacy. *Forum Qualitative Sozialforschung*. 2009;11(1).
177. Hutchings HA, Rapport FL, Wright S, Doel MA, Wainwright P. Obtaining consensus regarding patient-centred professionalism in community pharmacy: nominal group work activity with professionals, stakeholders and members of the public. *The International Journal of Pharmacy Practice*. 2010;18(3):149-158.
178. Rapport F, Doel M a, Hutchings H, et al. Eleven themes of patient-centred professionalism in community pharmacy: Innovative approaches to consulting. *International Journal of Pharmacy Practice*. 2010;18(5):260-268.

179. Bryman A, Lewis-Beck M. *The SAGE Encyclopedia of Social Science Research Methods*. London: Sage Publications; 2014.
180. Bowling A. *Research Methods in Health*. Maidenhead: Open University Press; 2002.
181. Cohen L, Manion L, Morrison K. *Research Methods in Education*. New York: Routledge; 2011.
182. Blaxter L, Hughes C, Tight M. *How to Research*. Maidenhead: Open University Press; 2003.
183. Robson C. *Real World Research: A Resource for Users of Social Research Methods in Applied Settings*. Chichester: Wiley; 2011.
184. Creswell J. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. London: Sage Publications; 2009.
185. Crotty M. *The Foundations of Social Research: Meaning and Perspective in the Research*. London: Sage Publications; 1998.
186. Johnson RB, Onwuegbuzie AJ, Turner LA. Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*. 2007;1(2):112-133.
187. Creswell J, Plano Clark V. *Designing and Conducting Mixed Methods Research*. London: Sage Publications; 2007.
188. Jick T. Mixing Qualitative and Quantitative Methods: Triangulation in Action. *Administrative Science Quarterly*. 1979;24(4):602-611.
189. Denzin N. *The Research Act: A Theoretical Introduction to Sociological Methods*. New York: McGraw-Hill; 1978.
190. Thurmond VA. The point of triangulation. *Journal of Nursing Scholarship*. 2001;33(3):253-258.
191. Mitchell E. Multiple triangulation: A methodology for nursing science. *Advances in Nursing Science*. 1986;8(3):18-26.
192. Denzin N, Lincoln Y. *The SAGE Handbook of Qualitative Research*. London: Sage Publications; 2011.
193. Giorgi A. The Theory, Practice, and Evaluation of the Phenomenological Method as a Qualitative Research Procedure. *Journal of Phenomenological Psychology*. 1997;28(2):235-260.
194. Rochette A, Tribble DS-C, Desrosiers J, Bravo G, Bourget A. Adaptation and coping following a first stroke: a qualitative analysis of a phenomenological orientation. *International Journal of Rehabilitation Research*. 2006;29(3):247-249.
195. Smith F. *Conducting Your Pharmacy Practice Research Project: A Step-by-Step Approach*. 2nd ed. London: Pharmaceutical Press; 2010.
196. Wilson A, Williams M, Hancock B. *Research Approaches in Primary Care*. Abingdon, Oxon: Radcliffe Medical Press; 2000.
197. Carter Y, Thomas C. *Research Methods in Primary Care*. Oxford: Radcliffe Medical Press; 1997.
198. Anderson C. Presenting and evaluating qualitative research. *American Journal of Pharmaceutical Education*. 2010;74(8):141.

199. Department of Health. *Governance Arrangements for Research Ethics Committees: A Harmonised Edition*. London; 2011.
200. Braun V, Clarke V. Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*. 2006;3(May 2015):77-101.
201. Thorne S. Data analysis in qualitative research. *Evidence-Based Nursing*. 2000;3(3):68-70.
202. Pope C, Ziebland S, Mays N. Qualitative research in health care: Analysing qualitative data. *British Medical Journal*. 2000;320(7227):114-116.
203. Gillham B. *Developing a Questionnaire*. Vol 2. London: Continuum; 2000.
204. Hogg C. *Patients, Power and Politics: From Patients to Citizens*. London: Sage Publications; 1999.
205. Department of Health. *Community Pharmacy Use: Quantitative and Qualitative Research*. London; 2008.
206. Office for National Statistics. *Statistical Bulletin: Annual Mid-Year Population Estimates for England and Wales, 2012*. London; 2013.
207. Callcredit Information Group. *A Change in the Tides: The 2012 Electoral Roll Report*. Leeds; 2012.
208. Fox N. *The NIHR Research Design Service for Yorkshire and the Humber*. Sheffield; 2009.
209. Smith F. Survey research: (1) Design, samples and response. *The International Journal of Pharmacy Practice*. 1997;5(3):152-166.
210. Trochim W, Donnelly J, Arora K. *Research Methods: The Essential Knowledge Base*. Boston: Cengage Learning; 2015.
211. Communities and local Government. Annex A : Local government geography and history. In: *Local Government Financial Statistics England No. 22*. London: Department for Communities and Local Government; 2012.
212. Office for National Statistics. *Rural/Urban Local Authority (LA) Classification (England)*. London; 2009.
213. Department for Communities and Local Government. *The English Indices of Deprivation 2010*. London; 2011.
214. Health and Social Care Information Centre. HSCIC Ethnic Category. <http://www.hscic.gov.uk/article/6520/Ethnic-category-ETHNOS>. Accessed December 15, 2016.
215. Pallant J. *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS*. Sydney: Allen & Unwin; 2007.
216. Nunnally JC, Bernstein I. *Psychometric Theory*. Vol 3. London: McGraw-Hill; 1994.
217. Dunn OJ. Multiple Comparisons Using Rank Sums. *Technometrics*. 1964;6(3):241-252.
218. Martin RM, Lunec SG, Rink E. UK postal survey of pharmacists working with general practices on prescribing issues: characteristics, roles and working arrangements. *International Journal*

- of Pharmacy Practice*. 1998;6(3):133-139.
219. Bradley F, Schafheutle EI, Willis SC. *Supervision in Community Pharmacy Final Report to Pharmacy Research UK*.; 2013.
 220. Centre for Workforce Intelligence. *A Strategic Review of the Future Healthcare Workforce Informing Medical and Dental Student Intakes*. London; 2012.
<https://www.gov.uk/government/publications/strategic-review-of-the-medical-and-dental-student-intakes>.
 221. Office for National Statistics. *Population Estimates for UK, England and Wales, Scotland and Northern Ireland: Mid-2015*. London; 2015.
 222. Cochran WG. Some methods of strengthening the common chi-square tests. *Biometrics*. 1954;10(4):417-451.
 223. Pharmaceutical Services Negotiating Committee. PSNC Services Database.
<https://psnc.org.uk/services-commissioning/services-database/>. Published 2014. Accessed December 15, 2016.
 224. Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. London: Routledge; 1988.
 225. Cattell RB. The Scree Test For The Number Of Factors. *Multivariate Behavioral Research*. 1966;1(2):245-276.
 226. Clark LA, Watson D. Constructing validity: Basic issues in objective scale development. *Psychological Assessment*. 1995;7(3):309-319.
 227. Hadi MA, Alldred DP, Closs SJ, Briggs M. Mixed-methods research in pharmacy practice: Basics and beyond (part 1). *International Journal of Pharmacy Practice*. 2013;21(5):341-345.
 228. Presseau J, Francis JJ, Campbell NC, Sniehotta FF. Goal conflict, goal facilitation, and health professionals' provision of physical activity advice in primary care: An exploratory prospective study. *Implementation Science*. 2011;6(1):73.
 229. Twigg MJ, Bhattacharya D, Poland F, Desborough J a, Wright DJ. The impact of automation on workload and dispensing errors in a hospital pharmacy. *International Journal of Pharmacy Practice*. 2013;21(2):128-130.
 230. Rosenbloom K, Taylor K, Harding G. Community pharmacists' attitudes towards research. *International Journal of Pharmacy Practice*. 2000;8:103-110.
 231. Wilson J. Research is not just for academics. *Pharmaceutical Journal*. 2005;274(7351):644.
 232. Gilbert H, Mills E, Ward E. How can community pharmacists become involved in practice research? *The Pharmaceutical Journal*. 2006;276(7385):104.
 233. Allen B. Putting research at the centre of practice is everybody's business. *Clinical Pharmacist*. 2014;6(3):72.
 234. Finlay L, Gough B. *Reflexivity: A Practical Guide for Researchers in Health and Social Sciences*. Oxford: Blackwell; 2008.
 235. King N. Using Interviews in Qualitative Research. In: *Essential Guide to Qualitative Methods in Organizational Research*. London: Sage Publications; 2004 p. 11-23.

236. Rutter P. Pharmacist work patterns : are they affected by staffing levels and prescription numbers ? *International Journal of Clinical Pharmacy*. 2002;10:R49.
237. Lea VM, Corlett S a., Rodgers RM. Workload and its impact on community pharmacists' job satisfaction and stress: A review of the literature. *International Journal of Pharmacy Practice*. 2012;20(4):259-271.
238. GPhC General Pharmaceutical Council. Guidance for Responsible Pharmacists. [https://www.pharmacyregulation.org/sites/default/files/GPhC Responsible pharmacist guidance.pdf](https://www.pharmacyregulation.org/sites/default/files/GPhC%20Responsible%20pharmacist%20guidance.pdf). Published 2010. Accessed December 15, 2016.
239. Saramunee K, Krska J, Mackridge A, Richards J, Suttajit S, Phillips-Howard P. How to enhance public health service utilization in community pharmacy?: General public and health providers' perspectives. *Research in Social and Administrative Pharmacy*. 2014;10(2):272-284.
240. Ogunbayo O, Schafheutle E, Cutts C, Noyce P. Exploring the contributions of community pharmacy in supporting people with long-term conditions (LTCs): A future model of care based on "self-care"? *International Journal of Pharmacy Practice*. 2013;21(S2):30-137.
241. Eades CE, Ferguson JS, O'Carroll RE. Public health in community pharmacy: A systematic review of pharmacist and consumer views. *BMC Public Health*. 2011;11(1):582.
242. Torjesen I. GPhC will not investigate Boots over claims it put pharmacists under unacceptable workplace pressure. *The Pharmaceutical Journal*. 2016.
243. Wells KM, Thornley T, Boyd MJ, Boardman HF. Views and experiences of community pharmacists and superintendent pharmacists regarding the New Medicine Service in England prior to implementation. *Research in Social and Administrative Pharmacy*. 2014;10(1):58-71.
244. B. L, A. B. Community pharmacists' experience and perceptions of the New Medicines Service (NMS) within one locality in England. *International Journal of Pharmacy Practice*. 2013;21(October 2011):9.
245. Thomas R, John D, Robert D, James D. Barriers and facilitators to the delivery of medicines use review (MUR) services in community pharmacies in Wales. *International Journal of Pharmacy Practice*. 2007;15:81-87.
246. Latif A, Boardman H, Pollock K. Reasons involved in selecting patients for a Medicines Use Review (MUR): Exploring pharmacist and staff choices. *International Journal of Pharmacy Practice*. 2011;19:31-32.
247. Cavaco AM, Dias JPS, Bates IP. Consumers' perceptions of community pharmacy in Portugal: A qualitative exploratory study. *Pharmacy World and Science*. 2005;27(1):54-60.
248. Oparah C, Iwuagwu M. Public perceptions of community pharmacists in Benin City, Nigeria. *International Journal of Pharmacy Practice*. 2001;9(3):191-195.
249. Banks J, Shaw A, Weiss MC. The community pharmacy and discursive complexity: A qualitative study of interaction between counter assistants and customers. *Health and Social Care in the Community*. 2007;15(4):313-321.
250. Kember J, Hodson K, Higman James D. Public Perception of Community Pharmacy: A Qualitative Study. *International Journal of Pharmacy Practice*. 2013;21:30.
251. Editorial. Giving patients a better clue. *The Pharmaceutical Journal*. 2014;293(7822/23).

- <http://www.pharmaceutical-journal.com/opinion/editorial/help-is-needed-for-patients-to-understand-the-scope-of-pharmacy-services/20066062.article>.
252. Fishwick S. Activities during Ask Your Pharmacist Week. *The Pharmaceutical Journal*. 2015;295(7883).
 253. Royal Pharmaceutical Society. RPS Media Centre. <http://rpsltd.com/media-centre/>. Published 2015. Accessed December 15, 2016.
 254. Shah A. Don't pharmacists have sex appeal ? *Canadian Pharmacists Journal*. 2012;4-6.
 255. Yanicak A, Mohorn PL, Monterroyo P, et al. Public perception of pharmacists: Film and television portrayals from 1970 to 2013. *Journal of American Pharmacists Association*. 2015;55:578-586.
 256. John DN, Evans SW. Television advertising of pharmacy medicines in the United Kingdom. *Pharmacy World and Science*. 2000;22(4):136-139.
 257. Anderson S. Community pharmacy and public health in Great Britain, 1936 to 2006: how a phoenix rose from the ashes. *Journal of Epidemiology and Community Health*. 2007;61(10):844-848.
 258. Saramunee K, Dewsbury C, Cutler S, Mackridge AJ, Krska J. Public attitudes towards community pharmacy attributes and preferences for methods for promotion of public health services. *Public Health*. 2016;140:186-195.
 259. Tully M, Temple B. The demographics of pharmacy's clientele—a descriptive study of the British general public. *International Journal of Pharmacy Practice*. 1999;7:172-181.
 260. The Royal Pharmaceutical Society of Great Britain. *Community Pharmacy: The Choice Is Yours. Access to and Usage of Community Pharmacies – the Customer's View*. London; 1996.
 261. Hassell K, Rogers A, Noyce P. Community pharmacy as a primary health and self-care resource: a framework for understanding pharmacy utilization. *Health & Social Care in the Community*. 2000;8(1):40-49.
 262. Kelly WN. *Pharmacy: What It Is and How It Works*. London: CRC Press; 2011.
 263. Ferguson J, Roller L, Wertheimer A. Social factors motivating students toward a career in pharmacy: An international study. *Journal of Social and Administrative Pharmacy*. 1986;3(127):135.
 264. Dingwall R, Wilson E. Is pharmacy really an incomplete profession. In: *Perspectives on Social Problems: Vol. 7*. Greenwood, Conn.: JAI; 1995 p. 111-128.
 265. Zaheer-Ud-Din B, Birna A, Almarsdottir, Bond C. Pharmacy Practice Research Methods. In: New York: Adis; 2015 p. 7, 223-235.
 266. Hibbert D, Bissell P, Ward PR. Consumerism and professional work in the community pharmacy. *Sociology of Health & Illness*. 2002;24:46-65.
 267. General Pharmaceutical Council. *Standards Ofconduct, Ethicsand Performance.*; 2012.
 268. Symonds BS. Part-time work in community pharmacy - A bridge, a trap or a balance? *The Pharmaceutical Journal*. 2000;264(7080):144-147.

269. Bush J, Langley C, Jesson J, Wilson K. Developing the public health function of locum pharmacists under the auspices of the new pharmacy contract. *International Journal of Pharmacy Practice*. 2008;Supplement.
270. Ogunbayo O, Schafheutle E, Cutts C, Noyce P. Exploring the contributions of community pharmacy in supporting people with long-term conditions (LTCs): A future model of care based on "self-care"? *International Journal of Pharmacy Practice*. 2013;21(S2):105-106.
271. Savage C. New pharmacy rules "should reduce dispensing mistakes."
<http://www.bbc.co.uk/news/health-32832536>. Published 2015. Accessed December 15, 2016.
272. Jankovic S. A healthy balance. *The Pharmaceutical Journal*. 2015;Online.
273. Bissell P, Blenkinsopp A, Short D, Mason L. Patients' experiences of a community pharmacy-led medicines management service. *Health and Social Care in the Community*. 2008;16(4):363-369.
274. Dewsbury C, Rodgers R, Krska J. Views of English Pharmacists on Providing Public Health Services. *Pharmacy*. 2015;3(4):154-168.
275. Ogunrinde A, Kayyali R, Patel N. Evaluation of community pharmacists' opinions and engagement in practice research. *International Journal of Pharmacy Practice*. 2013;21:91-92.
276. Kayyali R, Berko D, Patel N. Are pharmacists ready for research? *International Journal of Pharmacy Practice*. 2015;23(S1):2-27.
277. Bradford University. Pharmacy 5 years MPharm.
<http://www.bradford.ac.uk/study/courses/info/pharmacy-mpharm-5-years>. Accessed December 15, 2016.

Appendix 1 – Work Stream 1 Interview schedule

Interview guide

Thank you for agreeing to take part in this interview. Before we start, I would like to request permission to record the discussions to enable me to listen to all or parts of the discussions again. I would like to assure you that our conversation will remain confidential and no identifiable data will be included in any documents resulting from this interview.

Today I would like to talk to you about professionalism within pharmacy.

1. What does professionalism mean within pharmacy?
2. How do pharmacists acquire a professional ethos?
 - a. At university?
 - b. In practice?
 - c. Continual learning?
3. How are pharmacists viewed as professionals?
 - a. By the public?
 - b. By each other?
 - c. By other healthcare professionals?
 - d. Differences within sectors?
 - e. Differences within management hierarchies?
 - f. Differences within supermarket/multiple/independent?
4. How do you feel about perceptions of professionalism within pharmacy at present?
5. Do you feel as though perceptions of professionalism could be improved?
 - a. What initiatives could improve perceptions?
 - i. Services?
 - ii. Technology?
6. What threats to professionalism do you feel currently exist?
7. What threats to professionalism do you think may emerge in the future?
8. What opportunities do you foresee that may enhance professionalism within pharmacy?

Close interview. Many thanks for your cooperation...

Appendix 2 – Work Stream 1 Interview Invitation Letter



Pharmacy Practice Dept.
School of Life and Health Sciences
Aston Triangle
Birmingham
B4 7ET
United Kingdom

XXXX
XXXX
XXXX
XXXX

02/07/13

Dear XXXX,

My name is Adam Turner. I am registered pharmacist [REDACTED] and I am currently undertaking research towards a PhD in pharmacy practice at the School of Life and Health sciences at Aston University, Birmingham. I would like to invite you to participate in my research. I am currently investigating perceptions of pharmacy professionalism held by both those within the profession and those external to the profession. If you decide to participate I would like to meet with you to conduct an interview about your views and opinions of professionalism within pharmacy.

I am hoping that we can arrange a one hour interview. The interview can be scheduled at your convenience. With your consent, I will digitally record the interview and subsequently transcribe it. The transcript will then be forwarded to you so that you confirm that it is an accurate reflection of your comments before being analysed. .

Your participation will allow me to identify different perceptions of professionalism and identify possible themes of interest for further research. Results from stage of the research will inform the design of future work to be conducted examining this topic

Your participation in the research would be kept confidential. Any information will be kept in a secure location at Aston University and you will not be able to be identified by your comments. The results of this research may be published or presented at professional meetings, but your identity will not be revealed.

I will be happy to answer any questions you have about my research. You may contact me if you have any questions or problems at:

Email:



Telephone:



Thank you for reading this letter and considering participation in my research. If you would be willing to participate, please could you contact me confirming this via email, telephone or letter. I will then send further details and begin making arrangements for interview. Should you wish to reply via letter, I have included a postage-paid SAE for your reply.

Yours sincerely,

Adam Turner MRPharmS
PhD Student

Appendix 3 – Work Stream 1 Interview Information Sheet



Professionalism within pharmacy

You are being invited to take part in a research project that will be conducted at Aston University. Before you decide it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this

What is the purpose of the project?

Professionalism is a concept that encompasses the behaviours and attitudes practised by a member of a profession. The Royal Pharmaceutical Society (the professional body for pharmacists in England, Scotland and Wales) lists nine characteristics of professionalism expected of pharmacists: altruism, appropriate accountability, compassion, duty, excellence and continuous improvement, honour and integrity, professional judgment, respect for other patients, colleagues and other healthcare professionals and working in partnership with patients, doctors and the wider healthcare team in the patient's/public's best interest.

Many of these values, attitudes and behaviours are also reflected in the standards for conduct, ethics and performance which pharmacists have to abide by. These standards are produced by the regulator of pharmacist in England, Scotland and Wales, the General Pharmaceutical Council.

A review of literature has demonstrated little in the way of robust data concerning the perceptions of professionalism held by those within the pharmacy profession and those outside of the profession. There is therefore a need for exploratory research examining differing perceptions of professionalism

It is hoped that this qualitative work will lead to further quantitative work examining perceptions of professionalism and recommendations as to how pharmacy can enhance its professional status.

Why have I been chosen?

You have been identified as an individual with a degree of seniority from within an organisation that has the ability to impact pharmacy professionalism and the way pharmacy is practised. We believe your roles and responsibilities give you unique insights into professionalism within pharmacy.

Do I have to take part?

It is up to you to decide whether or not to take part. If you decide to take part you should return the accompanying consent form. This information sheet can be kept for your own reference. If you decide to take part you are still free to withdraw at any time without giving a reason. If you decide not to take part please disregard this, and future, communications regarding this project.

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

You will be asked to participate in an interview. These will be held at a time, date, and location that is convenient for yourself and all reasonable expenses will be reimbursed. The interviews will be digitally recorded to allow for full transcription and should last no longer than one hour. Copies of the transcripts will be sent to all participants for perusal and approval.

What are the possible disadvantages and risks of taking part?

The interviews have been planned to last approximately one hour and we appreciate that this may be an hour out of your working day or personal time. Risks during the interview will be kept to a minimum; the interview will take place at a mutually agreed time and place. The topics covered during the interview will not be of a sensitive, personal nature and should not present any barriers to communication.

What are the possible benefits of taking part?

Results from the study will be used to enrich data already collected from literature and the themes identified will help form the basis of further research within the overall project. The research will help inform the field of the current state of professionalism and potential future initiatives aimed at enhancing professionalism within pharmacy.

What happens when the research study stops?

Once the research is finished recorded interviews will be transcribed word for word, these transcripts will then be sent to you for you to approve that they are an accurate reflection of your comments. Transcripts will be securely stored for a period of ten years after completion of the project before being destroyed.

Will my taking part in this project be kept confidential?

All information collected about you during the study will be kept strictly confidential. Your name will not be disclosed to any individual or organisation and all data will be kept securely on university premises.

After the interviews, we may wish to highlight specific points made by the use of quotations. However, your name will not be revealed.

What will happen to the results of the research project and how will participant anonymity be protected?

The results of the research will form an important part of my PhD thesis, a copy of which will be kept at the British Library. In addition, the results may appear in certain scientific journals. An abstract of the project will be produced and sent to all participants. You will not be identified in any report or publication and you will not be identified in any documents (e.g. transcripts) produced during completion of the project.

Who has reviewed the project?

The project has been reviewed by Aston University's Ethics Committee.

Contact for further information

Mr Adam Turner MRPharmS

Pharmacy Practice Dept.
School of Life and Health Sciences,
Aston University,
Aston Triangle,
Birmingham,
B4 7ET
UK

Tel (mob): [REDACTED]

Email: [REDACTED]

Thank you in anticipation of your participation.

Appendix 4 – Work Stream 2 Questionnaire



The Roles and Professionalism of Community Pharmacists

A Questionnaire

Version 2.0

What is the survey about?

Professionalism can be described as the combination of qualities and behaviours regarded as essential to working in a professional manner. This questionnaire will examine how members of the general public view pharmacists as professionals and it will also help us to understand how aware members of the general public are of the roles that pharmacists perform. Our research focuses on community pharmacies including those pharmacies on the high street as well as supermarket and health centre pharmacies.

Completing the questionnaire

- This survey should take about 10 minutes to complete
- For each question please tick clearly inside the box(es) using a black or blue pen like this:



- Don't worry if you make a mistake; simply cross out the mistake and put a tick in the correct box.
- Please do not write your name or address anywhere on the questionnaire.
- If you do not want to answer any of the questions, simply leave them blank.

Section 1 - Pharmacist Practice

Q1 **Which of the following functions do you believe that community pharmacy staff (individual 'chemists' and other members of pharmacy staff) perform?**
(Tick all that apply - i.e. if you think that both 'pharmacists' and 'other pharmacy staff' perform the function then tick both boxes in the row)

	Performed by pharmacist	Performed by other pharmacy staff
Monitoring prescription appropriateness <i>Checking prescriptions brought into the pharmacy to ensure that they are suitable for the patient. This may include checking the type of drug, the dose and any other safety issues such as potential drug interactions.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Assembly and labelling of products <i>Ensuring that the correct products are selected for a patient and that the product is accurately labelled with the correct instructions.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Counselling patients on prescribed medicines <i>Talking to patients to ensure that they understand what has been prescribed for them, how to take the medication and any other important information.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Over the counter medicine sales <i>Advising patients on a range of different medications which are available to buy over the counter.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Patient counselling <i>Provide advice on a number of illnesses and conditions as well as information on different drugs and their effects.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Communications with other health professionals <i>Communicating with other individuals directly involved in patient care such as general practitioners (GPs).</i>	<input type="checkbox"/>	<input type="checkbox"/>
Meetings with people other than patients <i>Meeting people who are not directly involved in patient care such as drug company representatives or NHS business services.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Providing additional services <i>Providing services such as stop smoking services or sexual health services.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Sales Transactions <i>Selling non-healthcare goods, for example shampoos or makeup.</i>	<input type="checkbox"/>	<input type="checkbox"/>

Q2 **In general, how do you view community pharmacy premises ('chemist's shops')?**
(Tick one only)

- Purely healthcare focussed
- More healthcare focussed than business focussed
- Half healthcare focussed, half business focussed
- More business focussed than healthcare focussed
- Purely business focussed

Q3 **In general, how do you view community pharmacists (individual 'chemists')?**
(Tick one only)

- Purely healthcare focussed
- More healthcare focussed than business focussed
- Half healthcare focussed, half business focussed
- More business focussed than healthcare focussed
- Purely business focussed

2

Q4

Pharmacists are able to offer a number of health services to patients. These are known as 'advanced', 'enhanced' or 'locally commissioned services'. Using the tick boxes below, please indicate whether you have used any of the following services and also whether you were aware that pharmacists can provide the service.

(Tick one box per row only)

	I have used this service	I have not used this service but I know that pharmacists can provide this service	I have not used this service and I did not know that pharmacists can provide this service
Alcohol awareness and intervention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anti-coagulant (warfarin) service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Prescription Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Falls Intervention Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gluten Free Food Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health screening <i>(including diabetes, hepatitis, blood sugar, blood pressure and cholesterol testing)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inhaler support for patients with COPD or Asthma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medication Use Reviews (MUR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New medicines services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing services to Care Homes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sexual Health Services <i>(including chlamydia screening, pregnancy testing and emergency hormonal contraception)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stop Smoking services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Substance Misuse <i>(including supervised administration of prescribed medicines and needle exchange services)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supplementary prescribing <i>(some pharmacists can now in certain circumstances prescribe prescription medicines for certain medical conditions)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel health <i>(including vaccinations and Malaria prevention)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treatment of minor ailments involving the supply of medicines without charge to the patient <i>(including bugs and viruses, minor injuries, tummy troubles, women's health, skin conditions, allergies and children's problems)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q5 Please indicate below why you think community pharmacists ('chemists') provide each of the services mentioned in Q4.

(Tick one box per row only)

	Pharmacists provide this service to improve health of service users	Pharmacists provide this service to improve health of service users and to improve the profitability of their business	Pharmacists provide this service to improve the profitability of their business
Alcohol awareness and intervention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anti-coagulant (warfarin) service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Prescription Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Falls Intervention Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gluten Free Food Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health screening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inhaler support for patients with COPD or Asthma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medication Use Reviews (MUR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New medicines services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing services to Care Homes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sexual Health Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stop Smoking services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Substance Misuse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supplementary prescribing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treatment of minor ailments involving the supply of medicines without charge to the patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q6 The professional leadership body for pharmacy in Great Britain is which of the following? (Tick one only)

- British Pharmacy Association
- Royal College of Pharmacy
- Royal Pharmaceutical Society
- British Society of Pharmacy
- I do not know the name of the professional leadership body for pharmacy

Section 2 - Pharmacist Professionalism

Q7 Please rate the importance of each item as a professional attribute for pharmacists.
(Tick one box per statement only)

	Very important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Very unimportant
Functioning according to the law	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not using professional status for personal gain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Having a good sense of humour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taking a dedicated approach to work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Behaving in a reliable and dependable way	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treating other healthcare professionals fairly and without prejudice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communicating with patients in a clear and effective manner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being sound in judgment and in decision making	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing advice to patients when required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Having a positive attitude towards professional development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respecting patients' autonomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being aware of own limitations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Behaving honestly and with integrity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making effective use of the resources available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treating patients fairly and without prejudice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being accountable for one's actions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respecting patients' confidentiality and privacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respecting colleagues of the same profession	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adhering to professional rules and regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acting in a responsible fashion towards patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reflecting on your actions with a view to self-improvement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being receptive to constructive criticism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treating colleagues of the same profession fairly and without prejudice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being attentive to the needs of patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being physically fit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoiding substance or alcohol misuse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being empathetic when caring for patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Showing compassion towards patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Working well as a member of a team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to manage situations where there is a conflict of interest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5

Section 3 - About You

Q8 How often do you visit a community pharmacy?

(Tick one only)

- Once a day..... Go to Q9
- Once every two or three days Go to Q9
- About once a week..... Go to Q9
- About once a fortnight Go to Q9
- About once a month Go to Q9
- About once every three months Go to Q9
- About once every six months Go to Q9
- About once a year Go to Q9
- Less than once a year Go to Q9
- Never..... Go to Q10

Q9 How easy do you find it to identify the pharmacist when visiting a community pharmacy?

(Tick one only)

- Very easy to identify.....
- Easy to identify
- Difficult to identify
- Very difficult to identify.....

Q10 How often do you communicate with a pharmacist?

(Tick one only)

- Every day.....
- Every two or three days
- About once a week.....
- About once a fortnight
- About once a month
- About once every three months.....
- About once every six months
- About once a year
- Less than once a year
- Never.....

Q11 Are you:

(Tick one only)

- Male.....
- Female.....
- Prefer not to say

Q12 **Which of the following age groups do you fall into?**
(Tick one only)

- 16-24
- 25-34
- 35-44
- 45-54
- 55-59
- 60-64
- 65-74
- 75+
- Prefer not to say

Q13 **Which of these best describes your ethnic group?**
(Tick one only)

- White British
- White Irish
- Any other white background
- White & Black Caribbean
- White & Black African
- White & Asian
- Any other mixed background
- Indian
- Pakistani
- Bangladeshi
- Any other Asian background
- Caribbean
- African
- Any other Black background
- Chinese
- Any other
- Prefer not to say

Thank you.

Q14 If you would be willing to take part in a follow up interview relating to this questionnaire please indicate you email address below:

Many thanks for your time and cooperation in completing this questionnaire. If you have any questions or queries, please do not hesitate to contact one of the research team using the details below. Please return the questionnaire in the enclosed pre-paid envelope.

Adam Turner (Researcher)

Aston Pharmacy School
School of Life and Health Sciences
Aston Triangle
Birmingham
B4 7ET
Tel: [REDACTED]
E-mail: [REDACTED]

Joseph Bush (Supervisor)

Aston Pharmacy School
School of Life and Health Sciences
Aston Triangle
Birmingham
B4 7ET
Tel: [REDACTED]
E-mail: [REDACTED]

For office use only

--	--	--	--	--	--	--	--	--	--

Appendix 5 – Works Steam 2 Questionnaire Covering Letter



Version 2.0

School of Pharmacy
School of Life and Health Sciences
Aston Triangle
Birmingham
B4 7ET
United Kingdom

Dear Sir/Madam,

I am a pharmacist currently carrying out research towards a PhD in pharmacy practice at the School of Life and Health Sciences at Aston University, Birmingham. I am currently investigating the views of members of the general public on the professionalism of pharmacy and pharmacists. I would like to invite you to take part in my research.

By completing this questionnaire you will be helping me measure how pharmacy professionalism is viewed and this may help to develop pharmacy policy in the future. This is important because the views of the general public have never been examined in this way before.

There is no obligation for you to take part in this research - your participation is entirely voluntary. Should you decide to participate, your participation will remain confidential. Any responses will be stored securely at Aston University and at no point will you be able to be identified by your answers. The results of this research may be published or presented at professional meetings, but your identity will not be revealed.

I would be happy to answer any questions you have about my research. You may contact me if you have any questions or problems at:

Email:



Telephone:



Thank you for reading this letter and considering taking part in my research. If you would be willing to take part, please could you complete the enclosed questionnaire by 15/03/2015. I have included a postage-paid SAE for your reply.

Yours sincerely,

Adam Turner MRPharmS
PhD Student

Appendix 6 – Work Stream 2 Questionnaire Information Sheet



Study Information Leaflet

You are being invited to take part in a study investigating the views of members of the general public on the professionalism of pharmacy and pharmacists. Before you decide it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully.

What is the study about?

Professionalism can be described as the combination of qualities and behaviours regarded as essential to working in a professional manner. This questionnaire will examine how members of the general public view pharmacists as professionals and it will also help us to understand how aware members of the general public are of the roles that pharmacists perform. Our research focuses on community pharmacies including those pharmacies on the high street as well as supermarket and health centre pharmacies.

What will I have to do?

We are inviting you to take part by completing the questionnaire inside this pack.

Why have I been chosen?

You have been randomly selected as a member of the general public. Your details were obtained from the edited electoral roll available from the local authority in which you live.

Do I have to take part?

No. You can decide if you want to take part. You do not have to complete the form if you do not want to. If you choose not to complete the questionnaire it will have no impact on you whatsoever.

Will my taking part in this study be kept private?

Yes. Only the study researchers will see your responses. It will not be possible for anyone else to know who made these responses. The returned questionnaires will be stored in a locked filing cabinet at Aston University.

Who is organising and paying for the research?

The research is conducted by Aston Pharmacy School – part of Aston University.

Who has reviewed the study?

The study has been reviewed by the Research Ethics Committee of the School of Life and Health Sciences at Aston University.

Who do I contact for more information?

We would be more than happy to answer any further questions about the project. Our contact details are:

Adam Turner

PhD Researcher

Email: [REDACTED]

Telephone: [REDACTED]

Joseph Bush

Project Supervisor

Email [REDACTED]

Telephone: [REDACTED]

Who do I contact if I wish to make a complaint about the way in which the research is conducted?

If volunteers have any concerns about the way in which the study has been conducted, please contact the Secretary of the University Ethics Committee on: [REDACTED] or telephone [REDACTED]

Appendix 7 – Work Stream 2 Questionnaire Reminder Letter



Version 2.0

School of Pharmacy
School of Life and Health Sciences
Aston Triangle
Birmingham
B4 7ET
United Kingdom

Dear Sir/Madam,

I recently contacted you to ask if you would be prepared to take part in a research project examining the views of members of the general public on the professionalism of pharmacy and pharmacists by completing a questionnaire. As I have yet to receive a response from you, I am contacting you again to offer you another opportunity to participate in this important research.

By completing this questionnaire you will be helping me measure how pharmacy professionalism is viewed and this may help to develop pharmacy policy in the future. This is important because the views of the general public have never been examined in this way before.

There is no obligation for you to take part in this research - your participation is entirely voluntary. Should you decide to participate, your participation will remain confidential. Any responses will be stored securely at Aston University and at no point will you be able to be identified by your answers. The results of this research may be published or presented at professional meetings, but your identity will not be revealed.

I would be happy to answer any questions you have about my research. You may contact me if you have any questions or problems at:

Email: [REDACTED] Telephone: [REDACTED]

Thank you for reading this letter and considering taking part in my research. If you would be willing to take part, please could you complete the enclosed questionnaire by 15/03/2015. I have included a postage-paid SAE for your reply.

Yours sincerely,

Adam Turner MRPharmS
PhD Student

Appendix 8 – Work Stream 3 Questionnaire



Pharmacists: Professionalism and Roles

Version 1.0

Questionnaire

What is the survey about?

Professionalism can be described as the combination of qualities and conduct regarded as essential to professional practice. This questionnaire will help study how community pharmacists exhibit professionalism and also help us understand other aspects concerning pharmacist professional status.

This survey should take about XX minutes to complete.

- Q1 In which country is your main job based?
- England
 - Northern Ireland
 - Scotland
 - Wales
- Q2 Is your main job currently in a paid pharmacy related role?
- Yes Go to Q5
 - No Go to Q2

- Q3 Which one of the following applies to you?
- I used to work in pharmacy
 - I work partly in pharmacy and partly in (an)other area(s)
 - I am a retired pharmacist
 - I am not in active employment

- Q4 Which of the following best described the setting of your last pharmacy related job?
- Community Go to Q10a
 - Hospital Go to Q14a
 - Primary Care Go to Q14a
 - Education Go to Q14a
 - Pharmaceutical industry Go to Q14a
 - Other
- Please specify
- Go to Q14a

- Q5 In your main job, do you work full-time or part-time?
- Full-time
 - Part-time

Q6 Which of the following best describes the setting of your main job?

- Community Goto Q6
- Hospital Go to Q14a
- Primary Care Go to Q14a
- Education Go to Q14a
- Pharmaceutical industry Go to Q14a
- Other

Please specify
Go to Q14a

- Q7 Which one of the following applies to you?
- I work entirely within community pharmacy
 - I work partly in community pharmacy and partly in (an)other area(s) of the pharmacy profession
- Q8 Tick the box that most closely corresponds to the job you hold within community pharmacy
- Proprietor/Owner
 - Manager
 - Relief pharmacist
 - Second pharmacist
 - Locum
 - Non-store based pharmacist
 - Other
- Please specify
- Q9 Indicate the type of pharmacy you have worked in most recently
- Supermarket
 - Multiple (200 outlets or more)
 - Large chain (more than 20 outlets but fewer than 200)
 - Small chain (20 outlets or fewer but more than 5)
 - Independent (5 outlets or fewer)

Q10 Which of the following functions of community pharmacists do you think the general public are aware of? (Tick one per function)

	I feel the general public are fully aware of this role	I feel the general public have some awareness of this role	I feel the general public are unaware of this role
Monitoring prescription appropriateness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assembly and labelling of products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Counselling patients on prescribed medicines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Over the counter medicine sales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patient counselling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communications with other health professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meetings with people other than patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing additional services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sales Transactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q11

For each service listed please indicate if you have ever provided the service.

- Alcohol awareness and intervention
- Anti-coagulant (warfarin) service
- Electronic Prescription Service
- Falls Intervention Service
- Gluten Free Food Service
- Health screening (including diabetes, hepatitis, blood sugar, blood pressure and cholesterol testing)
- Inhaler support for patients with COPD or Asthma
- Medication Use Reviews (MUR)
- New medicines services
- Providing services to Care Homes
- Sexual Health Services (including chlamydia screening, pregnancy testing and emergency hormonal contraception)
- Stop Smoking services
- Substance Misuse (including supervised administration of prescribed medicines and needle exchange services)
- Supplementary prescribing
- Travel health (including vaccinations and Malaria prevention)
- Treatment of minor ailments involving the supply of medicines without charge to the patient.

Q12 Please indicate why you provide (or provided) each of the listed services

	I provide(d) this service to improve the health of service users	I provide(d) this service to improve the profitability of the pharmacy	I provide(d) this service to improve the health of service users and to improve the profitability of the pharmacy
Alcohol awareness and intervention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anti-coagulant (warfarin) service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronic Prescription Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falls Intervention Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gluten Free Food Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health screening	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inhaler support for patients with COPD or Asthma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medication Use Reviews (MUR)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
New medicines services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing services to Care Homes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual Health Services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stop Smoking services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Substance Misuse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supplementary prescribing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Travel health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treatment of minor ailments involving the supply of medicines without charge to the patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13 For each service listed please indicate how aware you believe the general public are of the provision of each service through pharmacies

	I feel the general public are fully aware of this service	I feel the general public have some awareness of this service	I feel the general public are unaware of this service
Alcohol awareness and intervention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anti-coagulant (warfarin) service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronic Prescription Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Falls Intervention Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gluten Free Food Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health screening (including diabetes, hepatitis, blood sugar, blood pressure and cholesterol testing)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inhaler support for patients with COPD or Asthma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medication Use Reviews (MUR)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
New medicines services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing services to Care Homes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual Health Services (including chlamydia screening, pregnancy testing and emergency hormonal contraception)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stop Smoking services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Substance Misuse (including supervised administration of prescribed medicines and needle exchange services)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supplementary prescribing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Travel health (including vaccinations and Malaria prevention)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treatment of minor ailments involving the supply of medicines without charge to the patient.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 How important do you think each of the following are in the development of a professional ethos within individual pharmacists?

	Very important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Very unimportant
Upbringing (home life)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schooling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undergraduate education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pre-registration year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Early years as a practising pharmacist (first 2 years after registration as a practising pharmacist)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other years as a practising pharmacist (from 2 years after registration until leaving the GPhC's register)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q15 In recent months a number of bodies have announced campaigns that may impact the professional status of pharmacy. Please indicate if you have heard of the listed campaigns (tick all that you are aware of):

- Pharmaceutical Services Negotiating Committee - Vision for NHS Community Pharmacies
- The Pharmacists' Defence Association - Roadmap
- Royal Pharmaceutical Society - Now or Never: Shaping pharmacy for the future
- Department of Health - Improving care through community pharmacy - a call to action
- Pharmacy Voice - Dispensing Health

Q16 Using the scale below please indicate how you view yourself as a pharmacist (Tick one box only):

- Purely a health professional
- More health professional than businessman/woman
- Half health professional, half businessman/woman
- More businessman/woman than health professional
- Purely a businessman/woman

Q17 Please rate the importance of each item as a professional attribute for pharmacists

	Very important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Very unimportant
Functioning according to the law	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not using professional status for personal gain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having a good sense of humour	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking a dedicated approach to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Behaving in a reliable and dependable way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treating other healthcare professionals fairly and without prejudice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicating with patients in a clear and effective manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being sound in judgment and in decision making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing advice to patients when required	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having a positive attitude towards professional development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respecting patients' autonomy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being aware of own limitations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Behaving honestly and with integrity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making effective use of the resources available	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treating patients fairly and without prejudice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being accountable for one's actions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respecting patients' confidentiality and privacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respecting colleagues of the same profession	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adhering to professional rules and regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acting in a responsible fashion towards patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reflecting on your actions with a view to self-improvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being receptive to constructive criticism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Treating colleagues of the same profession fairly and without prejudice	<input type="radio"/>				
Being attentive to the needs of patients	<input type="radio"/>				
Being physically fit	<input type="radio"/>				
Avoiding substance or alcohol misuse	<input type="radio"/>				
Being empathetic when caring for patients	<input type="radio"/>				
Showing compassion towards patients	<input type="radio"/>				
Working well as a member of a team	<input type="radio"/>				
Being able to manage situations where there is a conflict of interest	<input type="radio"/>				

- Q18 Are you:
- Male
 - Female
 - Do not want to say
- Q19 Which of the following age groups do you fall into?
- 16-24
 - 25-34
 - 35-44
 - 45-54
 - 55-59
 - 60-64
 - 65-74
 - 75+
 - Do not want to say
- Q20 Which of these best describes your ethnic group?
- White British
 - White Irish
 - Any other white background
 - White & Black Caribbean
 - White & Black African
 - White & Asian
 - Any other mixed background
 - Indian
 - Pakistani
 - Bangladeshi
 - Any other Asian background
 - Caribbean
 - African
 - Any other Black background
 - Chinese
 - Any other
 - Do not want to say

Q21 If you would you be willing to participate in a follow up interview relating to this questionnaire please enter your contact email address below other wise leave this section blank:

Many thanks for your time and cooperation in completing this questionnaire. If you have any questions or queries, please do not hesitate to contact me using the details below.

Mr Adam Turner MRPharmS
Aston Pharmacy School School of Life and Health Sciences Aston
Triangle Birmingham
B4 7ET

Tel: [REDACTED]

E-mail: [REDACTED]

Appendix 9 – Works Stream 3 Questionnaire Covering Letter



Version 2.0

Dear Colleague,

I am a pharmacist and I am conducting research towards a PhD in pharmacy practice at the School of Life and Health Sciences at Aston University, Birmingham. As part of this research, I am currently investigating views of community pharmacists on professionalism and public perceptions of pharmacy and pharmacists and I would like to invite you to take part in this research by completing a questionnaire. Completion of the questionnaire should take no longer than X minutes. The questionnaire can be accessed online by clicking on the link below:

<http://www.linktoquestionnaire.com>

By completing this questionnaire you will be helping me measure how pharmacists view professionalism and this may help to develop pharmacy policy in the future. This is important because little research has been conducted which examines pharmacists' views of professionalism and surveys of such views are almost non-existent.

There is no obligation for you to take part in this research; your participation is entirely voluntary. Should you decide to participate, your participation will remain confidential. Any responses will be stored securely at Aston University and at no point will you be able to be identified by your answers. The results of this research may be published or presented at professional meetings, but your identity will never be revealed.

I would be happy to answer any questions you have about my research. You may contact me if you have any questions or problems at:

Email: [REDACTED] Telephone: [REDACTED]

Thank you for reading this email and considering taking part in my research. If you would be willing to take part, please could you complete questionnaire by following the above link by XX/XX/2014.

Yours sincerely,

Adam Turner MRPharmS
PhD Student

School of Pharmacy
School of Life and Health Sciences
Aston Triangle
Birmingham
B4 7ET
United Kingdom

Appendix 10 – Work Stream 3 Questionnaire Information Sheet

Study Information Leaflet

Version 1.0

You are being invited to take part in a study examining the views of pharmacists in relation to professionalism and how the general public perceive their functions. Before you decide it is important for you to understand why the research is being undertaken and what it will involve. Please take time to read the following information carefully.

What is the study about?

Professionalism can be described as the combination of qualities and behaviours regarded as essential to working in a professional manner. This questionnaire will examine different aspects of professionalism as well as pharmacist views on the perceptions of the general public.

What will I have to do?

We are inviting you to take part by completing the questionnaire available by following the following link: [Questionnaire](#).

Why have I been chosen?

You have been randomly selected as a registered pharmacist. Your details were obtained from the General Pharmaceutical Council.

Do I have to take part?

No. You can decide if you want to take part. You do not have to complete the questionnaire if you do not want to. If you choose not to complete the questionnaire it will not affect you in any way.

Will my taking part in this study be kept private?

Yes, only the study researchers will see your responses. It will not be possible for anyone else to know who made these responses. The results of the questionnaires will be stored in a secure file stored on a secure server located within Aston University.

Who is organising and paying for the research?

The research is conducted by the Aston Pharmacy School part of Aston University.

Who has reviewed the study?

The study has been reviewed by the Aston University Ethics Committee.

Who do I contact for more information?

We would be more than happy to answer any further questions about the project. Our contact details are:

Mr Adam Turner

PhD Researcher

Email: [REDACTED]

Telephone: [REDACTED]

Dr Joseph Bush

Project Supervisor

Email: [REDACTED]

Telephone: [REDACTED]

Who do I contact if I wish to make a complaint about the way in which the research is conducted?

If volunteers have any concerns about the way in which the study has been conducted, please contact the Secretary of the University Ethics Committee on: [REDACTED] or telephone [REDACTED]

Appendix 11 – Analysis of Service Use by Demographic Factors

		Alcohol awareness and intervention (%)	Anti-coagulant (warfarin) service (%)	Electronic Prescription Service (%)
Frequency of Communication with a pharmacist	More than once a month	0 (0.0)	5 (9.6)	37 (10.2)
	About once a month	1 (33.3)	22 (42.3)	132 (36.4)
	About once every three months	2 (66.7)	13 (25.0)	77 (21.2)
	About once every six months	0 (0.0)	3 (5.8)	39 (10.7)
	About once a year	0 (0.0)	4 (7.7)	30 (8.3)
	Less than once a year	0 (0.0)	3 (5.8)	39 (10.7)
	Never	0 (0.0)	2 (3.8)	9 (2.5)
	p=	0.432*	0.006	0.000
Frequency of visits to a pharmacy	More than once a fortnight	0 (0.0)	3 (5.8)	22 (6.0)
	About once a fortnight	0 (0.0)	11 (21.2)	53 (14.4)
	About once a month	2 (66.7)	33 (63.5)	187 (50.7)
	About once every three months	1 (33.3)	4 (7.7)	75 (20.3)
	About once every six months	0 (0.0)	0 (0.0)	21 (5.7)
	Less than once every 6 months	0 (0.0)	1 (1.9)	9 (2.4)
	Never	0 (0.0)	0 (0.0)	2 (0.5)
	p=	0.923*	0.000	0.000
Age	16-34	0 (0.0)	0 (0.0)	17 (4.7)
	35-44	1 (33.3)	2 (4.0)	41 (11.4)
	45-54	0 (0.0)	1 (2.0)	74 (20.5)
	55-59	1 (33.3)	3 (6.0)	46 (12.7)
	60-64	0 (0.0)	5 (10.0)	42 (11.6)
	64-74	1 (33.3)	16 (32.0)	87 (24.1)
	75+	0 (0.0)	23 (46.0)	54 (15.0)
	p=	0.589*	0.000	0.012
Ease of pharmacist identification	Very Easy	2 (66.7)	29 (56.9)	184 (50.4)
	Easy	1 (33.3)	17 (33.3)	128 (35.1)
	Difficult	0 (0.0)	5 (9.8)	48 (13.2)
	Very Difficult	0 (0.0)	0 (0.0)	5 (1.4)
	p=	0.842*	0.257	0.076
Sex	Female	1 (33.3)	27 (51.9)	244 (66.5)
	Male	2 (66.7)	25 (48.1)	123 (33.5)
	p=	0.326*	0.165	0.01
Indices of multiple deprivation	A	1 (33.3)	13 (25.0)	58 (15.8)
	B	1 (33.3)	7 (13.5)	63 (17.2)
	C	1 (33.3)	14 (26.9)	112 (30.6)
	D	0 (0.0)	9 (17.3)	64 (17.5)
	E	0 (0.0)	9 (17.3)	69 (18.9)
	p=	0.711*	0.283	0.271
Rurality	Rural	2 (66.7)	30 (57.7)	175 (47.8)
	Urban	1 (33.3)	22 (42.3)	191 (52.2)
	p=	0.605*	0.39	0.072
Ethnicity	White	3 (100.0)	50 (98.0)	348 (94.8)
	Non-white	0 (0.0)	1 (2.0)	19 (5.2)
	p=	0.708*	0.379*	0.499

Bold indicates values of significance (* indicates violation of the chi-square test)

		Falls Intervention Service (%)	Gluten Free Food Service (%)	Health screening (%)
Frequency of Communication with a pharmacist	More than once a month	1 (10.0)	3 (13.0)	11 (9.9)
	About once a month	5 (50.0)	10 (43.5)	39 (35.1)
	About once every three months	2 (20.0)	4 (17.4)	20 (18.0)
	About once every six months	0 (0.0)	1 (4.3)	13 (11.7)
	About once a year	1 (10.0)	1 (4.3)	10 (9.0)
	Less than once a year	0 (0.0)	3 (13.0)	12 (10.8)
	Never	1 (10.0)	1 (4.3)	6 (5.4)
	p=	0.385*	0.238*	0.058
Frequency of visits to a pharmacy	More than once a fortnight	3 (30.0)	2 (8.7)	6 (5.4)
	About once a fortnight	0 (0.0)	2 (8.7)	15 (13.4)
	About once a month	4 (40.0)	13 (56.5)	63 (56.3)
	About once every three month	1 (10.0)	2 (8.7)	14 (12.5)
	About once every six months	1 (10.0)	2 (8.7)	5 (4.5)
	Less than once every 6 months	0 (0.0)	1 (4.3)	7 (6.3)
	Never	1 (10.0)	1 (4.3)	2 (1.8)
	p=	0.008*	0.443*	0.001
Age	16-34	0 (0.0)	0 (0.0)	4 (3.6)
	35-44	3 (30.0)	4 (17.4)	6 (5.5)
	45-54	2 (20.0)	5 (21.7)	15 (13.6)
	55-59	0 (0.0)	4 (17.4)	11 (10.0)
	60-64	0 (0.0)	0 (0.0)	14 (12.7)
	64-74	3 (30.0)	4 (17.4)	34 (30.9)
	75+	2 (20.0)	6 (26.1)	26 (23.6)
	p=	0.396*	0.148*	0.001
Ease of pharmacist identification	Very Easy	6 (66.7)	17 (77.3)	57 (52.3)
	Easy	3 (33.3)	4 (18.2)	38 (34.9)
	Difficult	0 (0.0)	1 (4.5)	12 (11.0)
	Very Difficult	0 (0.0)	0 (0.0)	2 (1.8)
	p=	0.453*	0.024*	0.411
Sex	Female	5 (50.0)	14 (60.9)	68 (60.7)
	Male	5 (50.0)	9 (39.1)	44 (39.3)
	p=	0.494*	1	0.996
Indices of multiple deprivation	A	4 (40.0)	4 (18.2)	17 (15.2)
	B	0 (0.0)	3 (13.6)	29 (25.9)
	C	3 (30.0)	5 (22.7)	27 (24.1)
	D	3 (30.0)	6 (27.3)	18 (16.1)
	E	0 (0.0)	4 (18.2)	21 (18.8)
	p=	0.042*	0.609*	0.329
Rurality	Rural	4 (40.0)	14 (63.6)	61 (54.5)
	Urban	6 (60.0)	8 (36.4)	51 (45.5)
	p=	0.455*	0.272	0.638
Ethnicity	White	8 (80.0)	23 (100.0)	106 (96.4)
	Non-white	2 (20.0)	0 (0.0)	4 (3.6)
	p=	0.020*	0.291*	0.653*

Bold indicates values of significance (* indicates violation of the chi-square test)

		Inhaler support (%)	Medication Use Reviews (%)	New medicines services (%)
Frequency of Communication with a pharmacist	More than once a month	17 (16.3)	25 (12.5)	9 (15.5)
	About once a month	36 (34.6)	82 (41.0)	22 (37.9)
	About once every three months	15 (14.4)	42 (21.0)	17 (29.3)
	About once every six months	12 (11.5)	18 (9.0)	4 (6.9)
	About once a year	13 (12.5)	23 (11.5)	4 (6.9)
	Less than once a year	7 (6.7)	7 (3.5)	1 (1.7)
	Never	4 (3.8)	3 (1.5)	1 (1.7)
	p=	0.000	0.000	0.000
Frequency of visits to a pharmacy	More than once a fortnight	7 (6.4)	13 (6.5)	7 (11.7)
	About once a fortnight	25 (22.9)	34 (16.9)	11 (18.3)
	About once a month	55 (50.5)	121 (60.2)	31 (51.7)
	About once every three month	11 (10.1)	29 (14.4)	10 (16.7)
	About once every six months	5 (4.6)	2 (1.0)	0 (0.0)
	Less than once every 6 months	5 (4.6)	1 (0.5)	0 (0.0)
	Never	1 (0.9)	1 (0.5)	1 (1.7)
	p=	0.000	0.000	0.000
Age	16-34	8 (7.5)	9 (4.6)	4 (7.1)
	35-44	12 (11.3)	11 (5.6)	4 (7.1)
	45-54	12 (11.3)	19 (9.6)	8 (14.3)
	55-59	9 (8.5)	17 (8.6)	6 (10.7)
	60-64	11 (10.4)	28 (14.2)	10 (17.9)
	64-74	25 (23.6)	73 (37.1)	16 (28.6)
	75+	29 (27.4)	40 (20.3)	8 (14.3)
	p=	0.005	0.000	0.481
Ease of pharmacist identification	Very Easy	65 (60.7)	113 (56.2)	44 (74.6)
	Easy	31 (29.0)	61 (30.3)	14 (23.7)
	Difficult	11 (10.3)	23 (11.4)	1 (1.7)
	Very Difficult	0 (0.0)	4 (2.0)	0 (0.0)
	p=	0.006	0.006	0.000
Sex	Female	62 (56.9)	112 (56.0)	32 (54.2)
	Male	47 (43.1)	88 (44.0)	27 (45.8)
	p=	0.35	0.123	0.282
Indices of multiple deprivation	A	19 (17.8)	34 (16.9)	16 (27.1)
	B	16 (15.0)	37 (18.4)	9 (15.3)
	C	25 (23.4)	57 (28.4)	15 (25.4)
	D	22 (20.6)	37 (18.4)	13 (22.0)
	E	25 (23.4)	36 (17.9)	6 (10.2)
	p=	0.373	0.542	0.017
Rurality	Rural	59 (55.1)	109 (54.2)	31 (52.5)
	Urban	48 (44.9)	92 (45.8)	28 (47.5)
	p=	0.499	0.425	0.857
Ethnicity	White	107 (99.1)	196 (98.0)	56 (96.6)
	Non-white	1 (0.9)	4 (2.0)	2 (3.4)
	p=	0.063*	0.06	0.696*

Bold indicates values of significance (* indicates violation of the chi-square test)

		Providing services to Care Homes (%)	Sexual Health Services (%)	Stop Smoking services (%)
Frequency of Communication with a pharmacist	More than once a month	3 (12.5)	3 (7.1)	11 (20.8)
	About once a month	11 (45.8)	7 (16.7)	16 (30.2)
	About once every three months	4 (16.7)	15 (35.7)	5 (9.4)
	About once every six months	3 (12.5)	3 (7.1)	7 (13.2)
	About once a year	0 (0.0)	6 (14.3)	3 (5.7)
	Less than once a year	2 (8.3)	4 (9.5)	8 (15.1)
	Never	1 (4.2)	4 (9.5)	3 (5.7)
	p=	0.115*	0.066	0.005
Frequency of visits to a pharmacy	More than once a fortnight	1 (4.0)	3 (6.8)	10 (18.9)
	About once a fortnight	3 (12.0)	6 (13.6)	4 (7.5)
	About once a month	14 (56.0)	11 (25.0)	27 (50.9)
	About once every three month	3 (12.0)	17 (38.6)	5 (9.4)
	About once every six months	2 (8.0)	6 (13.6)	3 (5.7)
	Less than once every 6 months	1 (4.0)	1 (2.3)	3 (5.7)
	Never	1 (4.0)	0 (0.0)	1 (1.9)
	p=	0.544*	0.032*	0.000
Age	16-34	0 (0.0)	17 (39.5)	5 (9.6)
	35-44	2 (8.7)	13 (30.2)	9 (17.3)
	45-54	7 (30.4)	6 (14.0)	13 (25.0)
	55-59	3 (13.0)	3 (7.0)	5 (9.6)
	60-64	4 (17.4)	3 (7.0)	3 (5.8)
	64-74	4 (17.4)	0 (0.0)	11 (21.2)
	75+	3 (13.0)	1 (2.3)	6 (11.5)
	p=	0.586*	0.000	0.69
Ease of pharmacist identification	Very Easy	12 (50.0)	20 (46.5)	30 (57.7)
	Easy	9 (37.5)	12 (27.9)	14 (26.9)
	Difficult	3 (12.5)	10 (23.3)	7 (13.5)
	Very Difficult	0 (0.0)	1 (2.3)	1 (1.9)
	p=	0.830*	0.411	0.322
Sex	Female	17 (68.0)	39 (88.6)	35 (66.0)
	Male	8 (32.0)	5 (11.4)	18 (34.0)
	p=	0.476	0.000	0.428
Indices of multiple deprivation	A	3 (12.0)	5 (11.4)	9 (17.0)
	B	3 (12.0)	9 (20.5)	10 (18.9)
	C	5 (20.0)	10 (22.7)	14 (26.4)
	D	9 (36.0)	11 (25.0)	13 (24.5)
	E	5 (20.0)	9 (20.5)	7 (13.2)
	p=	0.094*	0.478	0.335
Rurality	Rural	11 (44.0)	19 (43.2)	36 (67.9)
	Urban	14 (56.0)	25 (56.8)	17 (32.1)
	p=	0.448	0.264	0.017
Ethnicity	White	23 (92.0)	39 (88.6)	51 (96.2)
	Non-white	2 (8.0)	5 (11.4)	2 (3.8)
	p=	0.408*	0.027*	0.814*

Bold indicates values of significance (* indicates violation of the chi-square test)

		Substance Misuse (%)	Supplementary prescribing (%)	Travel health (%)	Treatment of minor ailments (%)
Frequency of Communication with a pharmacist	More than once a month	5 (35.7)	3 (8.3)	8 (6.8)	21 (10.0)
	About once a month	4 (28.6)	10 (27.8)	29 (24.6)	52 (24.6)
	About once every three months	2 (14.3)	13 (36.1)	23 (19.5)	42 (19.9)
	About once every six months	1 (7.1)	6 (16.7)	17 (14.4)	26 (12.3)
	About once a year	1 (7.1)	1 (2.8)	10 (8.5)	30 (14.2)
	Less than once a year	0 (0.0)	0 (0.0)	25 (21.2)	28 (13.3)
	Never	1 (7.1)	3 (8.3)	6 (5.1)	12 (5.7)
	p=	0.004*	0.010*	0.57	0.341
Frequency of visits to a pharmacy	More than once a fortnight	4 (28.6)	2 (5.6)	7 (5.9)	16 (7.6)
	About once a fortnight	2 (14.3)	3 (8.3)	16 (13.4)	23 (10.9)
	About once a month	5 (35.7)	15 (41.7)	44 (37.0)	75 (35.5)
	About once every three month	2 (14.3)	10 (27.8)	21 (17.6)	49 (23.2)
	About once every six months	0 (0.0)	2 (5.6)	15 (12.6)	26 (12.3)
	Less than once every 6 months	1 (7.1)	0 (0.0)	14 (11.8)	20 (9.5)
	Never	0 (0.0)	4 (11.1)	2 (1.7)	2 (0.9)
	p=	0.007*	0.003*	0.801	0.392
Age	16-34	2 (15.4)	2 (5.9)	12 (10.3)	26 (12.6)
	35-44	3 (23.1)	9 (26.5)	15 (12.9)	29 (14.1)
	45-54	1 (7.7)	3 (8.8)	20 (17.2)	50 (24.3)
	55-59	2 (15.4)	4 (11.8)	9 (7.8)	19 (9.2)
	60-64	1 (7.7)	5 (14.7)	11 (9.5)	18 (8.7)
	64-74	3 (23.1)	5 (14.7)	27 (23.3)	36 (17.5)
	75+	1 (7.7)	6 (17.6)	22 (19.0)	28 (13.6)
	p=	0.701*	0.128*	0.707	0.082
Ease of pharmacist identification	Very Easy	8 (57.1)	15 (46.9)	50 (43.1)	94 (45.2)
	Easy	5 (35.7)	9 (28.1)	43 (37.1)	76 (36.5)
	Difficult	1 (7.1)	6 (18.8)	20 (17.2)	37 (17.8)
	Very Difficult	0 (0.0)	2 (6.3)	3 (2.6)	1 (0.5)
	p=	0.691*	0.436*	0.937	0.179
Sex	Female	9 (64.3)	21 (58.3)	60 (50.4)	145 (68.7)
	Male	5 (35.7)	15 (41.7)	59 (49.6)	66 (31.3)
	p=	0.796	0.751	0.014	0.016
Indices of multiple deprivation	A	2 (14.3)	7 (19.4)	19 (15.8)	36 (17.0)
	B	2 (14.3)	7 (19.4)	26 (21.7)	34 (16.0)
	C	2 (14.3)	6 (16.7)	35 (29.2)	64 (30.2)
	D	6 (42.9)	11 (30.6)	21 (17.5)	33 (15.6)
	E	2 (14.3)	5 (13.9)	19 (15.8)	45 (21.2)
	p=	0.084*	0.072	0.609	0.698
Rurality	Rural	8 (57.1)	21 (58.3)	63 (52.5)	108 (50.9)
	Urban	6 (42.9)	15 (41.7)	57 (47.5)	104 (49.1)
	p=	0.665	0.431	0.847	0.768
Ethnicity	White	14 (100.0)	34 (97.1)	112 (94.9)	197 (94.7)
	Non-white	0 (0.0)	1 (2.9)	6 (5.1)	11 (5.3)
	p=	0.413*	0.647*	0.777	0.57

Bold indicates values of significance (* indicates violation of the chi-square test)

Appendix 12 – Public beliefs of reasons for pharmacists providing services by ease of identification

		Ease of identification				
		Very Easy (%)	Easy (%)	Difficult (%)	Very Difficult (%)	
Alcohol awareness and intervention	...to improve health of service users	370 (59.7)	287 (57.3)	107 (50.2)	12 (33.3)	x ² =17.297 df=6 p<0.008
	...to improve health of service users and to improve the profitability of their business	217 (35)	196 (39.1)	92 (43.2)	22 (61.1)	
	...to improve the profitability of their business	33 (5.3)	18 (3.6)	14 (6.6)	2 (5.6)	
Anti-coagulant (warfarin) service	...to improve health of service users	372 (61)	279 (56.4)	104 (50)	11 (31.4)	x ² =21.595 df=6 p<0.001
	...to improve health of service users and to improve the profitability of their business	212 (34.8)	200 (40.4)	91 (43.8)	23 (65.7)	
	...to improve the profitability of their business	26 (4.3)	16 (3.2)	13 (6.3)	1 (2.9)	
Electronic Prescription Service	...to improve health of service users	253 (41.1)	147 (29.7)	41 (19.2)	4 (11.4)	x ² =58.99 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	295 (47.9)	284 (57.4)	123 (57.7)	21 (60)	
	...to improve the profitability of their business	68 (11)	64 (12.9)	49 (23)	10 (28.6)	
Falls Intervention Service	...to improve health of service users	316 (55.8)	251 (52.8)	85 (43.1)	11 (31.4)	x ² =20.861 df=6 p<0.002
	...to improve health of service users and to improve the profitability of their business	222 (39.2)	201 (42.3)	94 (47.7)	19 (54.3)	
	...to improve the profitability of their business	28 (4.9)	23 (4.8)	18 (9.1)	5 (14.3)	
Gluten Free Food Service	...to improve health of service users	262 (42.5)	165 (33.7)	56 (26.7)	3 (8.6)	x ² =37.697 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	302 (48.9)	283 (57.8)	122 (58.1)	26 (74.3)	
	...to improve the profitability of their business	53 (8.6)	42 (8.6)	32 (15.2)	6 (17.1)	
Health screening	...to improve health of service users	337 (54.6)	234 (46.8)	88 (41.1)	11 (31.4)	x ² =23.141 df=6 p<0.001
	...to improve health of service users and to improve the profitability of their business	243 (39.4)	243 (48.6)	108 (50.5)	20 (57.1)	
	...to improve the profitability of their business	37 (6)	23 (4.6)	18 (8.4)	4 (11.4)	
Inhaler support	...to improve health of service users	408 (65.4)	296 (58.8)	112 (52.3)	13 (37.1)	x ² =28.338 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	195 (31.3)	193 (38.4)	97 (45.3)	18 (51.4)	
	...to improve the profitability of their business	21 (3.4)	14 (2.8)	5 (2.3)	4 (11.4)	
Medication Use Reviews (MUR)	...to improve health of service users	348 (57.2)	257 (52.1)	89 (42.8)	12 (34.3)	x ² =24.678 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	232 (38.2)	213 (43.2)	100 (48.1)	18 (51.4)	
	...to improve the profitability of their business	28 (4.6)	23 (4.7)	19 (9.1)	5 (14.3)	
New medicines services	...to improve health of service users	249 (41.6)	182 (37.1)	53 (25.2)	3 (8.8)	x ² =49.229 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	302 (50.5)	271 (55.2)	127 (60.5)	20 (58.8)	
	...to improve the profitability of their business	47 (7.9)	38 (7.7)	30 (14.3)	11 (32.4)	
Providing services to Care Homes	...to improve health of service users	241 (39.9)	144 (28.7)	42 (20)	4 (11.4)	x ² =42.188 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	300 (49.7)	300 (59.8)	134 (63.8)	25 (71.4)	
	...to improve the profitability of their business	63 (10.4)	58 (11.6)	34 (16.2)	6 (17.1)	
Sexual Health Services	...to improve health of service users	312 (51.7)	227 (45.4)	83 (38.8)	7 (20)	x ² =26.844 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	257 (42.6)	252 (50.4)	113 (52.8)	24 (68.6)	
	...to improve the profitability of their business	34 (5.6)	21 (4.2)	18 (8.4)	4 (11.4)	

		Ease of identification				
		Very Easy (%)	Easy (%)	Difficult (%)	Very Difficult (%)	
Stop Smoking services	...to improve health of service users	323 (52)	201 (39.7)	79 (36.6)	10 (28.6)	x ² =31.149 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	266 (42.8)	280 (55.3)	119 (55.1)	23 (65.7)	
	...to improve the profitability of their business	32 (5.2)	25 (4.9)	18 (8.3)	2 (5.7)	
Substance Misuse	...to improve health of service users	357 (59.4)	265 (53.3)	96 (45.3)	11 (31.4)	x ² =26.433 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	212 (35.3)	212 (42.7)	103 (48.6)	19 (54.3)	
	...to improve the profitability of their business	32 (5.3)	20 (4)	13 (6.1)	5 (14.3)	
Supplementary prescribing	...to improve health of service users	244 (40.8)	162 (32.8)	54 (26.2)	3 (8.6)	x ² =30.74 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	298 (49.8)	282 (57.1)	121 (58.7)	28 (80)	
	...to improve the profitability of their business	56 (9.4)	50 (10.1)	31 (15)	4 (11.4)	
Travel health	...to improve health of service users	186 (30.7)	115 (22.9)	35 (16.4)	5 (14.3)	x ² =33.305 df=6 p<0.000
	...to improve health of service users and to improve the profitability of their business	336 (55.5)	316 (62.9)	128 (60.1)	20 (57.1)	
	...to improve the profitability of their business	83 (13.7)	71 (14.1)	50 (23.5)	10 (28.6)	
Treatment of minor ailments	...to improve health of service users	370 (61.3)	271 (54.2)	108 (50.7)	16 (45.7)	x ² =16.236 df=6 p<0.013
	...to improve health of service users and to improve the profitability of their business	205 (33.9)	204 (40.8)	86 (40.4)	15 (42.9)	
	...to improve the profitability of their business	29 (4.8)	25 (5)	19 (8.9)	4 (11.4)	

Appendix 13 – Analysis of the general public's views towards business practices of pharmacy premises by demographic factor

		Healthcare Focus OR (95% CI)	Neutral OR (95% CI)	Business Focus OR (95% CI)
Contact	More than once a month	1	1	1
	About once a month	0.54 (0.32-0.91)	1.79 (1.06-3.03)	0.32 (0.03-0.91)
	About once every three months	0.65 (0.37-1.13)	1.68 (0.96-2.94)	0.37 (0.07-1.13)
	about once every six months	0.45 (0.25-0.82)	2.12 (1.18-3.82)	0.25 (0.01-0.82)
	about once a year	0.45 (0.25-0.81)	2.14 (1.19-3.86)	0.25 (0.01-0.81)
	less than once a year	0.4 (0.22-0.73)	2.47 (1.37-4.47)	0.22 (0-0.73)
	never	0.57 (0.29-1.11)	1.82 (0.93-3.56)	0.29 (0.08-1.11)
Visits	More than once a fortnight	1	1	1
	About once a fortnight	1.26 (0.71-2.24)	1.03 (0.58-1.82)	0.71 (0.93-2.24)
	About once a month	1.84 (1.06-3.2)	0.79 (0.46-1.36)	1.06 (0.39-3.2)
	About once every three month	1.41 (0.77-2.57)	0.91 (0.5-1.64)	0.77 (0.75-2.57)
	About once every six months	1.38 (0.72-2.66)	1.01 (0.53-1.91)	0.72 (0.97-2.66)
	Less than once every 6 months	1.53 (0.77-3.01)	0.74 (0.38-1.43)	0.77 (0.37-3.01)
Age	16-34	1	1	1
	35-44	0.89 (0.55-1.44)	1.03 (0.64-1.66)	0.55 (0.9-1.44)
	45-54	0.6 (0.38-0.93)	1.6 (1.04-2.48)	0.38 (0.03-0.93)
	55-59	0.69 (0.42-1.14)	1.09 (0.67-1.79)	0.42 (0.72-1.14)
	60-64	0.83 (0.51-1.34)	1.17 (0.72-1.89)	0.51 (0.52-1.34)
	64-74	0.71 (0.46-1.11)	1.48 (0.96-2.28)	0.46 (0.08-1.11)
	75+	1.05 (0.66-1.68)	0.99 (0.62-1.59)	0.66 (0.97-1.68)
Identify	Very Easy	1	1	1
	Easy	0.66 (0.52-0.84)	1.27 (1-1.62)	0.52 (0.05-0.84)
	Difficult	0.68 (0.48-0.95)	1.09 (0.79-1.52)	0.48 (0.59-0.95)
	Very Difficult	0.47 (0.22-1.05)	0.87 (0.42-1.81)	0.22 (0.71-1.05)
Sex	Female	1	1	1
	Male	1.31 (1.04-1.65)	0.68 (0.55-0.86)	1.04 (0-1.65)
IMD	A	1	1	1
	B	0.62 (0.42-0.91)	1.45 (0.99-2.15)	0.42 (0.06-0.91)
	C	0.5 (0.34-0.73)	1.52 (1.04-2.21)	0.34 (0.03-0.73)
	D	0.72 (0.47-1.11)	1.32 (0.86-2.02)	0.47 (0.21-1.11)
	E	0.51 (0.33-0.79)	1.47 (0.96-2.25)	0.33 (0.08-0.79)
Rurality	Rural	1	1	1
	Urban	0.7 (0.53-0.91)	1.26 (0.97-1.63)	0.53 (0.08-0.91)
Ethnicity	White	1	1	1
	Non-white	0.93 (0.53-1.62)	0.79 (0.46-1.37)	1.45 (0.67-3.13)

Bold indicates values of significance

Appendix 14 – Analysis of the general public's views towards business practices of Pharmacists by demographic factor

		Healthcare Focus OR (95% CI)	Neutral OR (95% CI)	Business Focus OR (95% CI)
Contact	More than once a month	1	1	1
	About once a month	0.92 (0.54-1.56)	1.13 (0.64-1.99)	1 (0.33-3.05)
	About once every three months	1.24 (0.7-2.2)	0.96 (0.52-1.77)	0.6 (0.17-2.1)
	About once every six months	1 (0.55-1.82)	1.17 (0.62-2.21)	0.7 (0.19-2.54)
	About once a year	0.99 (0.55-1.79)	1.12 (0.6-2.12)	0.89 (0.26-3.1)
	Less than once a year	1.05 (0.58-1.9)	1.05 (0.56-1.98)	0.79 (0.22-2.76)
	Never	1.41 (0.71-2.82)	0.72 (0.34-1.52)	0.81 (0.2-3.28)
Visits	More than once a fortnight	1	1	1
	About once a fortnight	1.32 (0.74-2.37)	0.74 (0.4-1.39)	0.82 (0.24-2.78)
	About once a month	1.23 (0.71-2.13)	0.89 (0.5-1.6)	0.77 (0.25-2.43)
	About once every three month	0.93 (0.51-1.69)	1.11 (0.59-2.09)	1.02 (0.29-3.58)
	About once every six months	0.82 (0.43-1.57)	1.24 (0.63-2.44)	1.29 (0.35-4.81)
	Less than once every 6 months	0.73 (0.37-1.42)	1.36 (0.67-2.74)	1.24 (0.32-4.85)
Age	16-34	1	1	1
	35-44	0.97 (0.59-1.59)	0.77 (0.46-1.29)	3.78 (1.04-13.73)
	45-54	0.84 (0.53-1.31)	0.98 (0.62-1.56)	2.72 (0.77-9.64)
	55-59	0.61 (0.37-1.01)	1.28 (0.76-2.15)	1.97 (0.47-8.19)
	60-64	0.67 (0.41-1.1)	1.12 (0.67-1.86)	3.66 (0.99-13.55)
	64-74	0.73 (0.47-1.16)	1.18 (0.74-1.87)	2.08 (0.56-7.67)
	75+	0.67 (0.41-1.09)	1.12 (0.68-1.84)	2.71 (0.71-10.29)
Identify	Very Easy	1	1	1
	Easy	0.74 (0.57-0.94)	1.3 (1-1.68)	1.48 (0.84-2.58)
	Difficult	0.76 (0.54-1.06)	1.14 (0.8-1.63)	1.87 (0.94-3.74)
	Very Difficult	0.61 (0.29-1.27)	0.91 (0.39-2.09)	4.28 (1.44-12.66)
Sex	Female	1	1	1.03 (0.63-1.68)
	Male	1.17 (0.93-1.48)	0.86 (0.68-1.1)	1
IMD	A	1	1	0.79 (0.33-1.92)
	B	0.9 (0.6-1.34)	1.15 (0.75-1.75)	1.16 (0.51-2.62)
	C	0.74 (0.5-1.09)	1.28 (0.85-1.93)	0.67 (0.24-1.84)
	D	0.83 (0.53-1.3)	1.28 (0.8-2.03)	0.93 (0.37-2.34)
	E	0.84 (0.54-1.3)	1.15 (0.72-1.84)	0.86 (0.49-1.51)
Rurality	Rural	1	1	1
	Urban	1.03 (0.79-1.34)	1 (0.76-1.31)	1.36 (0.16-11.35)
Ethnicity	White	1	1	2.21 (0.61-8)
	Non-white	0.66 (0.38-1.13)	1.09 (0.61-1.94)	2.06 (0.82-5.23)

Bold indicates values of significance

Appendix 15 – Pharmacist respondent belief of public awareness of pharmacy roles by demographic factor

		Monitoring prescription appropriateness	Assembly and labelling of products	Counselling patients on prescribed medicines	Over the counter medicine sales	Patient counselling	Communications with other health professionals	Meetings with people other than patients	Providing additional services	Sales Transactions	Total
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Age	16-34	90 (75.6)	119 (100)	115 (96.6)	117 (98.3)	109 (91.6)	90 (75.6)	37 (31.1)	90 (75.6)	110 (92.4)	119 (100)
	35-44	83 (82.2)	100 (99)	97 (96)	98 (97)	96 (95)	76 (75.2)	34 (33.7)	82 (81.2)	89 (88.1)	101 (100)
	45-54	70 (83.3)	82 (97.6)	83 (98.8)	83 (98.8)	79 (94)	58 (69)	31 (36.9)	68 (81)	80 (95.2)	84 (100)
	55+	66 (77.6)	83 (97.6)	83 (97.6)	83 (97.6)	80 (94.1)	62 (72.9)	27 (31.8)	69 (81.2)	75 (88.2)	85 (100)
Store type	Locum	94 (82.5)	112 (98.2)	113 (99.1)	112 (98.2)	106 (93)	91 (79.8)	36 (31.6)	97 (85.1)	104 (91.2)	114 (100)
	Large chain	33 (82.5)	40 (100)	40 (100)	40 (100)	39 (97.5)	26 (65)	13 (32.5)	31 (77.5)	35 (87.5)	40 (100)
	Multiple	136 (80)	168 (98.8)	167 (98.2)	166 (97.6)	162 (95.3)	125 (73.5)	50 (29.4)	128 (75.3)	154 (90.6)	170 (100)
	Small chain	19 (73.1)	26 (100)	25 (96.2)	26 (100)	26 (100)	20 (76.9)	7 (26.9)	24 (92.3)	24 (92.3)	26 (100)
	Supermarket	40 (72.7)	53 (96.4)	52 (94.5)	54 (98.2)	48 (87.3)	35 (63.6)	20 (36.4)	49 (89.1)	51 (92.7)	55 (100)
Sex	Female	171 (77.4)	218 (98.6)	215 (97.3)	218 (98.6)	205 (92.8)	154 (69.7)	58 (26.2)	170 (76.9)	198 (89.6)	221 (100)
	Male	140 (81.4)	170 (98.8)	167 (97.1)	167 (97.1)	163 (94.8)	134 (77.9)	72 (41.9)	143 (83.1)	159 (92.4)	172 (100)

		Monitoring prescription appropriateness	Assembly and labelling of products	Counselling patients on prescribed medicines	Over the counter medicine sales	Patient counselling	Communications with other health professionals	Meetings with people other than patients	Providing additional services	Sales Transactions	Total
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Employment	Self-Employed	94 (82.5)	112 (98.2)	113 (99.1)	112 (98.2)	106 (93)	91 (79.8)	36 (31.6)	97 (85.1)	104 (91.2)	114 (100)
	Owner	20 (76.9)	26 (100)	25 (96.2)	25 (96.2)	24 (92.3)	22 (84.6)	13 (50)	21 (80.8)	24 (92.3)	26 (100)
	Employee	198 (78)	251 (98.8)	245 (96.5)	249 (98)	239 (94.1)	176 (69.3)	81 (31.9)	196 (77.2)	230 (90.6)	254 (100)
Full time	Full time	196 (77.8)	248 (98.4)	243 (96.4)	246 (97.6)	236 (93.7)	183 (72.6)	87 (34.5)	196 (77.8)	229 (90.9)	252 (100)
	Part time	116 (81.7)	141 (99.3)	140 (98.6)	140 (98.6)	133 (93.7)	106 (74.6)	43 (30.3)	118 (83.1)	129 (90.8)	142 (100)
Ethnicity	White	162 (76.4)	209 (98.6)	207 (97.6)	209 (98.6)	202 (95.3)	152 (71.7)	58 (27.4)	171 (80.7)	194 (91.5)	212 (100)
	Not White	150 (82.4)	180 (98.9)	176 (96.7)	177 (97.3)	167 (91.8)	137 (75.3)	72 (39.6)	143 (78.6)	164 (90.1)	182 (100)

Appendix 16 – The relationship between pharmacy roles and how aware English community pharmacists believed the general public were of those roles by demographic factor

		Monitoring prescription appropriateness		Assembly and labelling of products		Counselling patients on prescribed medicines	
		I feel the general public are fully aware of this role (%)	I feel the general public have some awareness of this role (%)	I feel the general public are fully aware of this role (%)	I feel the general public have some awareness of this role (%)	I feel the general public are fully aware of this role (%)	I feel the general public have some awareness of this role (%)
Age	16-34	28 (31.1)	62 (68.9)	105 (88.2)	14 (11.8)	54 (47)	61 (53)
	35-44	29 (34.9)	54 (65.1)	88 (88)	12 (12)	54 (55.7)	43 (44.3)
	45-54	19 (27.1)	51 (72.9)	69 (84.1)	13 (15.9)	36 (43.4)	47 (56.6)
	55+	23 (34.8)	43 (65.2)	74 (89.2)	9 (10.8)	43 (51.8)	40 (48.2)
Employment	Locum	26 (27.7)	68 (72.3)	98 (87.5)	14 (12.5)	46 (40.7)	67 (59.3)
	Manager	37 (37.8)	61 (62.2)	111 (91.7)	10 (8.3)	65 (55.1)	53 (44.9)
	Non-store based pharmacist	1 (11.1)	8 (88.9)	8 (88.9)	1 (11.1)	6 (66.7)	3 (33.3)
	Other	5 (23.8)	16 (76.2)	28 (90.3)	3 (9.7)	18 (60)	12 (40)
	Proprietor/ Owner	9 (45)	11 (55)	23 (88.5)	3 (11.5)	9 (36)	16 (64)
	Relief pharmacist	10 (31.3)	22 (68.8)	36 (85.7)	6 (14.3)	21 (50)	21 (50)
	Second pharmacist	13 (34.2)	25 (65.8)	37 (77.1)	11 (22.9)	24 (52.2)	22 (47.8)
Store type	Independent	26 (34.7)	49 (65.3)	83 (89.2)	10 (10.8)	42 (46.7)	48 (53.3)
	Large chain	11 (33.3)	22 (66.7)	34 (85)	6 (15)	14 (35)	26 (65)
	Multiple	40 (29.4)	96 (70.6)	147 (87.5)	21 (12.5)	93 (55.7)	74 (44.3)
	Small chain	8 (42.1)	11 (57.9)	24 (92.3)	2 (7.7)	10 (40)	15 (60)
	Supermarket	15 (37.5)	25 (62.5)	45 (84.9)	8 (15.1)	24 (46.2)	28 (53.8)
Sex	Female	51 (29.8)	120 (70.2)	189 (86.7)	29 (13.3)	104 (48.4)	111 (51.6)
	Male	50 (35.7)	90 (64.3)	151 (88.8)	19 (11.2)	84 (50.3)	83 (49.7)
Employment	Self-Employed	26 (27.7)	68 (72.3)	98 (87.5)	14 (12.5)	46 (40.7)	67 (59.3)
	Owner	9 (45)	11 (55)	23 (88.5)	3 (11.5)	9 (36)	16 (64)
	Employee	66 (33.3)	132 (66.7)	220 (87.6)	31 (12.4)	134 (54.7)	111 (45.3)
Work type	Full time	71 (36.2)	125 (63.8)	220 (88.7)	28 (11.3)	128 (52.7)	115 (47.3)
	Part time	30 (25.9)	86 (74.1)	121 (85.8)	20 (14.2)	61 (43.6)	79 (56.4)
Ethnicity	White	47 (29)	115 (71)	186 (89)	23 (11)	100 (48.3)	107 (51.7)
	Not White	54 (36)	96 (64)	155 (86.1)	25 (13.9)	89 (50.6)	87 (49.4)

		Over the counter medicine sales		Patient counselling		Communications with other health professionals	
		I feel the general public are fully aware of this role (%)	I feel the general public have some awareness of this role (%)	I feel the general public are fully aware of this role (%)	I feel the general public have some awareness of this role (%)	I feel the general public are fully aware of this role (%)	I feel the general public have some awareness of this role (%)
Age	16-34	96 (82.1)	21 (17.9)	46 (42.2)	63 (57.8)	16 (17.8)	74 (82.2)
	35-44	80 (81.6)	18 (18.4)	49 (51)	47 (49)	13 (17.1)	63 (82.9)
	45-54	65 (78.3)	18 (21.7)	33 (41.8)	46 (58.2)	7 (12.1)	51 (87.9)
	55+	65 (78.3)	18 (21.7)	37 (46.3)	43 (53.8)	14 (22.6)	48 (77.4)
Employment	Locum	79 (70.5)	33 (29.5)	39 (36.8)	67 (63.2)	11 (12.1)	80 (87.9)
	Manager	100 (82)	22 (18)	55 (47.8)	60 (52.2)	16 (18.2)	72 (81.8)
	Non-store based pharmacist	9 (100)	0 (0.0)	4 (50)	4 (50)	1 (14.3)	6 (85.7)
	Other	24 (80)	6 (20)	13 (43.3)	17 (56.7)	2 (9.5)	19 (90.5)
	Proprietor/Owner	21 (84)	4 (16)	12 (50)	12 (50)	8 (36.4)	14 (63.6)
	Relief pharmacist	35 (83.3)	7 (16.7)	23 (57.5)	17 (42.5)	5 (19.2)	21 (80.8)
	Second pharmacist	40 (87)	6 (13)	20 (43.5)	26 (56.5)	7 (20.6)	27 (79.4)
Store type	Independent	68 (74.7)	23 (25.3)	41 (47.7)	45 (52.3)	19 (25)	57 (75)
	Large chain	30 (75)	10 (25)	13 (33.3)	26 (66.7)	3 (11.5)	23 (88.5)
	Multiple	134 (80.7)	32 (19.3)	73 (45.1)	89 (54.9)	16 (12.8)	109 (87.2)
	Small chain	24 (92.3)	2 (7.7)	11 (42.3)	15 (57.7)	2 (10)	18 (90)
	Supermarket	43 (79.6)	11 (20.4)	24 (50)	24 (50)	9 (25.7)	26 (74.3)
Sex	Female	173 (79.4)	45 (20.6)	88 (42.9)	117 (57.1)	20 (13)	134 (87)
	Male	134 (80.2)	33 (19.8)	78 (47.9)	85 (52.1)	29 (21.6)	105 (78.4)
Employment	Self-Employed	79 (70.5)	33 (29.5)	39 (36.8)	67 (63.2)	11 (12.1)	80 (87.9)
	Owner	21 (84)	4 (16)	12 (50)	12 (50)	8 (36.4)	14 (63.6)
	Employee	208 (83.5)	41 (16.5)	115 (48.1)	124 (51.9)	31 (17.6)	145 (82.4)
Work type	Full time	206 (83.7)	40 (16.3)	113 (47.9)	123 (52.1)	37 (20.2)	146 (79.8)
	Part time	102 (72.9)	38 (27.1)	53 (39.8)	80 (60.2)	13 (12.3)	93 (87.7)
Ethnicity	White	168 (80.4)	41 (19.6)	85 (42.1)	117 (57.9)	18 (11.8)	134 (88.2)
	Not White	140 (79.1)	37 (20.9)	81 (48.5)	86 (51.5)	32 (23.4)	105 (76.6)

		Meetings with people other than patients		Providing additional services		Sales Transactions	
		I feel the general public are fully aware of this role (%)	I feel the general public have some awareness of this role (%)	I feel the general public are fully aware of this role (%)	I feel the general public have some awareness of this role (%)	I feel the general public are fully aware of this role (%)	I feel the general public have some awareness of this role (%)
Age	16-34	5 (13.5)	32 (86.5)	9 (10)	81 (90)	75 (68.2)	35 (31.8)
	35-44	2 (5.9)	32 (94.1)	6 (7.3)	76 (92.7)	57 (64)	32 (36)
	45-54	2 (6.5)	29 (93.5)	7 (10.3)	61 (89.7)	53 (66.3)	27 (33.8)
	55+	4 (14.8)	23 (85.2)	11 (15.9)	58 (84.1)	53 (70.7)	22 (29.3)
Employment	Locum	5 (13.9)	31 (86.1)	8 (8.2)	89 (91.8)	68 (65.4)	36 (34.6)
	Manager	3 (7.3)	38 (92.7)	12 (12.6)	83 (87.4)	77 (68.8)	35 (31.3)
	Non-store based pharmacist	0 (0.0)	3 (100)	1 (12.5)	7 (87.5)	7 (87.5)	1 (12.5)
	Other	0 (0.0)	7 (100)	1 (4.5)	21 (95.5)	15 (55.6)	12 (44.4)
	Proprietor/Owner	2 (15.4)	11 (84.6)	2 (9.5)	19 (90.5)	18 (75)	6 (25)
	Relief pharmacist	0 (0.0)	15 (100)	4 (11.8)	30 (88.2)	24 (63.2)	14 (36.8)
	Second pharmacist	3 (20)	12 (80)	6 (16.2)	31 (83.8)	31 (68.9)	14 (31.1)
Store type	Independent	4 (10.8)	33 (89.2)	6 (8.1)	68 (91.9)	61 (70.9)	25 (29.1)
	Large chain	3 (23.1)	10 (76.9)	4 (12.9)	27 (87.1)	20 (57.1)	15 (42.9)
	Multiple	2 (4)	48 (96)	11 (8.6)	117 (91.4)	96 (62.3)	58 (37.7)
	Small chain	0 (0.0)	7 (100)	1 (4.2)	23 (95.8)	20 (83.3)	4 (16.7)
	Supermarket	4 (20)	16 (80)	11 (22.4)	38 (77.6)	36 (70.6)	15 (29.4)
Sex	Female	2 (3.4)	56 (96.6)	13 (7.6)	157 (92.4)	135 (68.2)	63 (31.8)
	Male	11 (15.3)	61 (84.7)	21 (14.7)	122 (85.3)	104 (65.4)	55 (34.6)
Employment	Self-Employed	5 (13.9)	31 (86.1)	8 (8.2)	89 (91.8)	68 (65.4)	36 (34.6)
	Owner	2 (15.4)	11 (84.6)	2 (9.5)	19 (90.5)	18 (75)	6 (25)
	Employee	6 (7.4)	75 (92.6)	24 (12.2)	172 (87.8)	154 (67)	76 (33)
Work type	Full time	10 (11.5)	77 (88.5)	21 (10.7)	175 (89.3)	153 (66.8)	76 (33.2)
	Part time	3 (7)	40 (93)	13 (11)	105 (89)	87 (67.4)	42 (32.6)
Ethnicity	White	2 (3.4)	56 (96.6)	12 (7)	159 (93)	136 (70.1)	58 (29.9)
	Not White	11 (15.3)	61 (84.7)	22 (15.4)	121 (84.6)	104 (63.4)	60 (36.6)

Appendix 17 – Association between service provision and demographic factors

		Alcohol awareness and intervention (%)	Anti-coagulant service (%)	Electronic Prescription Service (%)	Falls Intervention Service (%)	Gluten Free Food Service (%)	Health screening (%)
Age	16-34	34 (28.6)	13 (10.9)	108 (90.8)	4 (3.4)	49 (41.2)	69 (58.0)
	35-44	32 (31.7)	18 (17.8)	97 (96.0)	9 (8.9)	35 (34.7)	74 (73.3)
	45-54	25 (29.8)	12 (14.3)	80 (95.2)	9 (10.7)	37 (44.0)	56 (66.7)
	55+	24 (28.2)	7 (8.2)	77 (90.6)	8 (9.4)	37 (43.5)	54 (63.5)
	p=	0.951	0.222	0.285	0.189	0.529	0.122
Store type	Independent	35 (37.2)	13 (13.8)	84 (89.4)	8 (8.5)	41 (43.6)	58 (61.7)
	Small chain	10 (38.5)	5 (19.2)	23 (88.5)	4 (15.4)	14 (53.8)	16 (61.5)
	Large chain	9 (22.5)	3 (7.5)	38 (95.0)	3 (7.5)	12 (30.0)	25 (62.5)
	Multiple	46 (27.1)	22 (12.9)	160 (94.1)	10 (5.9)	68 (40.0)	105 (61.8)
	Supermarket	10 (18.2)	4 (7.3)	53 (96.4)	3 (5.5)	20 (36.4)	48 (87.3)
	p=	0.074	0.464	0.373*	0.476*	0.338	0.009
Sex	Female	61 (27.6)	25 (11.3)	210 (95.0)	16 (7.2)	91 (41.2)	144 (65.2)
	Male	54 (31.4)	25 (14.5)	156 (90.7)	14 (8.1)	70 (40.7)	114 (66.3)
	p=	0.412	0.342	0.093	0.739	0.924	0.816
Employment	Self-Employed	30 (26.3)	22 (19.3)	103 (90.4)	12 (10.5)	50 (43.9)	70 (61.4)
	Owner	12 (46.2)	3 (11.5)	24 (92.3)	5 (19.2)	11 (42.3)	17 (65.4)
	Employee	73 (28.7)	25 (9.8)	239 (94.1)	13 (5.1)	100 (39.4)	171 (67.3)
	p=	0.129	0.041	0.431	0.013	0.712	0.543
Work type	Full time	77 (30.6)	28 (11.1)	237 (94.0)	21 (8.3)	93 (36.9)	168 (66.7)
	Part time	38 (26.8)	22 (15.5)	129 (90.8)	9 (6.3)	68 (47.9)	90 (63.4)
	p=	0.426	0.21	0.235	0.473	0.033	0.51
Ethnicity	White	70 (33.0)	33 (15.6)	194 (91.5)	22 (10.4)	89 (42.0)	145 (68.4)
	Not White	45 (24.7)	17 (9.3)	172 (94.5)	8 (4.4)	72 (39.6)	113 (62.1)
	p=	0.071	0.064	0.249	0.026	0.626	0.189

		Inhaler support (%)	Medication Use Reviews (%)	New medicines services (%)	Providing services to Care Homes (%)	Sexual Health Services (%)
Age	16-34	72 (60.5)	110 (92.4)	110 (92.4)	68 (57.1)	94 (79.0)
	35-44	78 (77.2)	98 (97.0)	95 (94.1)	58 (57.4)	74 (73.3)
	45-54	63 (75.0)	84 (100.0)	82 (97.6)	56 (66.7)	60 (71.4)
	55+	57 (67.1)	85 (100.0)	80 (94.1)	54 (63.5)	68 (80.0)
	p=	0.032	0.004*	0.471*	0.453	0.438
Store type	Independent	65 (69.1)	85 (90.4)	81 (86.2)	66 (70.2)	69 (73.4)
	Small chain	17 (65.4)	24 (92.3)	24 (92.3)	18 (69.2)	19 (73.1)
	Large chain	22 (55.0)	39 (97.5)	37 (92.5)	24 (60.0)	32 (80.0)
	Multiple	130 (76.5)	169 (99.4)	168 (98.8)	101 (59.4)	134 (78.8)
	Supermarket	33 (60.0)	55 (100.0)	54 (98.2)	22 (40.0)	39 (70.9)
	p=	0.034	0.001*	0.000*	0.007	0.672
Sex	Female	161 (72.9)	218 (98.6)	214 (96.8)	135 (61.1)	175 (79.2)
	Male	112 (65.1)	162 (94.2)	156 (90.7)	103 (59.9)	124 (72.1)
	p=	0.099	0.014	0.01	0.809	0.102
Employment	Self-Employed	77 (67.5)	106 (93.0)	101 (88.6)	69 (60.5)	76 (66.7)
	Owner	18 (69.2)	25 (96.2)	23 (88.5)	18 (69.2)	21 (80.8)
	Employee	179 (70.5)	250 (98.4)	247 (97.2)	152 (59.8)	203 (79.9)
	p=	0.852	0.026*	0.002	0.647	0.019
Work type	Full time	166 (65.9)	249 (98.8)	243 (96.4)	149 (59.1)	194 (77.0)
	Part time	108 (76.1)	132 (93.0)	128 (90.1)	90 (63.4)	106 (74.6)
	p=	0.035	0.002*	0.011	0.407	0.601
Ethnicity	White	152 (71.7)	200 (94.3)	195 (92.0)	139 (65.6)	160 (75.5)
	Not White	122 (67.0)	181 (99.5)	176 (96.7)	100 (54.9)	140 (76.9)
	p=	0.316	0.005	0.046	0.031	0.736

		Stop Smoking services (%)	Substance Misuse (%)	Supplementary prescribing (%)	Travel health (%)	Minor ailments scheme (%)
Age	16-34	89 (74.8)	102 (85.7)	4 (3.4)	64 (53.8)	66 (55.5)
	35-44	80 (79.2)	93 (92.1)	3 (3.0)	56 (55.4)	62 (61.4)
	45-54	58 (69.0)	78 (92.9)	4 (4.8)	43 (51.2)	61 (72.6)
	55+	69 (81.2)	74 (87.1)	3 (3.5)	52 (61.2)	53 (62.4)
	p=	0.246	0.268	0.927*	0.599	0.102
Store type	Independent	75 (79.8)	84 (89.4)	8 (8.5)	57 (60.6)	68 (72.3)
	Small chain	23 (88.5)	23 (88.5)	0 (0.0)	13 (50.0)	21 (80.8)
	Large chain	32 (80.0)	30 (75.0)	0 (0.0)	16 (40.0)	24 (60.0)
	Multiple	122 (71.8)	162 (95.3)	5 (2.9)	91 (53.5)	93 (54.7)
	Supermarket	41 (74.5)	45 (81.8)	1 (1.8)	35 (63.6)	35 (63.6)
	p=	0.282	0.001	0.047*	0.141	0.016
Sex	Female	170 (76.9)	208 (94.1)	5 (2.3)	117 (52.9)	132 (59.7)
	Male	129 (75.0)	143 (83.1)	9 (5.2)	100 (58.1)	115 (66.9)
	p=	0.658	<0.000	0.115	0.304	0.147
Employment	Self-Employed	80 (70.2)	99 (86.8)	6 (5.3)	65 (57.0)	83 (72.8)
	Owner	23 (88.5)	20 (76.9)	1 (3.8)	14 (53.8)	17 (65.4)
	Employee	196 (77.2)	233 (91.7)	7 (2.8)	139 (54.7)	147 (57.9)
	p=	0.105	0.039	0.484*	0.908	0.023
Work type	Full time	200 (79.4)	221 (87.7)	8 (3.2)	140 (55.6)	160 (63.5)
	Part time	99 (69.7)	131 (92.3)	6 (4.2)	78 (54.9)	87 (61.3)
	p=	0.032	0.16	0.589	0.904	0.661
Ethnicity	White	160 (75.5)	197 (92.9)	11 (5.2)	130 (61.3)	126 (59.4)
	Not White	139 (76.4)	155 (85.2)	3 (1.6)	88 (48.4)	121 (66.5)
	p=	0.835	0.013	0.058	0.01	0.149

Appendix 18 – Pharmacist reason for service provision by demographic factor

		Alcohol awareness and intervention			Anti-coagulant (warfarin) service			Electronic Prescription Service		
		...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)
Age	16-34	32 (72.7)	11 (25)	1 (2.3)	10 (62.5)	6 (37.5)	0 (0.0)	30 (23.3)	75 (58.1)	24 (18.6)
	35-44	25 (64.1)	13 (33.3)	1 (2.6)	16 (69.6)	6 (26.1)	1 (4.3)	28 (25.5)	66 (60)	16 (14.5)
	45-54	15 (51.7)	14 (48.3)	0 (0.0)	6 (42.9)	7 (50)	1 (7.1)	25 (28.4)	46 (52.3)	17 (19.3)
	55+	19 (67.9)	9 (32.1)	0 (0.0)	8 (88.9)	1 (11.1)	0 (0.0)	20 (21.7)	55 (59.8)	17 (18.5)
Store type	Independent	34 (73.9)	12 (26.1)	0 (0.0)	13 (76.5)	4 (23.5)	0 (0.0)	31 (31.3)	55 (55.6)	13 (13.1)
	Small chain	7 (63.6)	4 (36.4)	0 (0.0)	3 (50)	3 (50)	0 (0.0)	3 (11.1)	17 (63)	7 (25.9)
	Large chain	3 (33.3)	5 (55.6)	1 (11.1)	3 (100)	0 (0.0)	0 (0.0)	12 (29.3)	18 (43.9)	11 (26.8)
	Multiple	33 (62.3)	19 (35.8)	1 (1.9)	16 (64)	8 (32)	1 (4)	31 (18.1)	115 (67.3)	25 (14.6)
	Supermarket	8 (66.7)	4 (33.3)	0 (0.0)	4 (66.7)	2 (33.3)	0 (0.0)	19 (33.9)	24 (42.9)	13 (23.2)
Sex	Female	47 (61)	28 (36.4)	2 (2.6)	20 (58.8)	13 (38.2)	1 (2.9)	56 (22.3)	148 (59)	47 (18.7)
	Male	44 (69.8)	19 (30.2)	0 (0.0)	20 (71.4)	7 (25)	1 (3.6)	47 (27.6)	97 (57.1)	26 (15.3)
Employment	Self-Employed	21 (63.6)	12 (36.4)	0 (0.0)	19 (76)	5 (20)	1 (4)	34 (29.6)	56 (48.7)	25 (21.7)
	Owner	12 (63.2)	7 (36.8)	0 (0.0)	3 (75)	1 (25)	0 (0.0)	9 (33.3)	17 (63)	1 (3.7)
	Employee	55 (65.5)	27 (32.1)	2 (2.4)	17 (54.8)	14 (45.2)	0 (0.0)	54 (20.7)	162 (62.1)	45 (17.2)
Work type	Full time	60 (65.9)	29 (31.9)	2 (2.2)	18 (56.3)	14 (43.8)	0 (0.0)	57 (22.4)	155 (60.8)	43 (16.9)
	Part time	28 (62.2)	17 (37.8)	0 (0.0)	21 (75)	6 (21.4)	1 (3.6)	40 (27)	80 (54.1)	28 (18.9)
Ethnicity	White	55 (61.1)	33 (36.7)	2 (2.2)	24 (60)	15 (37.5)	1 (2.5)	45 (18.7)	147 (61)	49 (20.3)
	Not White	36 (70.6)	15 (29.4)	0 (0.0)	16 (72.7)	5 (22.7)	1 (4.5)	58 (31.7)	99 (54.1)	26 (14.2)

		Falls Intervention Service			Gluten Free Food Service			Health screening		
		...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)
Age	16-34	8 (88.9)	1 (11.1)	0 (0.0)	45 (60)	25 (33.3)	5 (6.7)	49 (53.3)	39 (42.4)	4 (4.3)
	35-44	7 (53.8)	6 (46.2)	0 (0.0)	25 (53.2)	21 (44.7)	1 (2.1)	40 (47.1)	39 (45.9)	6 (7.1)
	45-54	6 (60)	4 (40)	0 (0.0)	13 (28.3)	30 (65.2)	3 (6.5)	39 (60)	25 (38.5)	1 (1.5)
	55+	12 (85.7)	2 (14.3)	0 (0.0)	25 (47.2)	24 (45.3)	4 (7.5)	35 (49.3)	32 (45.1)	4 (5.6)
Store type	Independent	12 (85.7)	2 (14.3)	0 (0.0)	35 (58.3)	25 (41.7)	0 (0.0)	36 (48.6)	36 (48.6)	2 (2.7)
	Small chain	4 (66.7)	2 (33.3)	0 (0.0)	8 (44.4)	10 (55.6)	0 (0.0)	11 (55)	7 (35)	2 (10)
	Large chain	0 (0.0)	3 (100)	0 (0.0)	7 (46.7)	4 (26.7)	4 (26.7)	14 (50)	13 (46.4)	1 (3.6)
	Multiple	8 (61.5)	5 (38.5)	0 (0.0)	44 (50)	39 (44.3)	5 (5.7)	70 (58.3)	46 (38.3)	4 (3.3)
	Supermarket	4 (100)	0 (0.0)	0 (0.0)	10 (43.5)	12 (52.2)	1 (4.3)	23 (44.2)	24 (46.2)	5 (9.6)
Sex	Female	21 (72.4)	8 (27.6)	0 (0.0)	68 (50)	63 (46.3)	5 (3.7)	93 (50.3)	85 (45.9)	7 (3.8)
	Male	12 (70.6)	5 (29.4)	0 (0.0)	42 (48.8)	38 (44.2)	6 (7)	72 (54.1)	53 (39.8)	8 (6)
Employment	Self-Employed	11 (73.3)	4 (26.7)	0 (0.0)	36 (57.1)	25 (39.7)	2 (3.2)	49 (61.3)	25 (31.3)	6 (7.5)
	Owner	6 (75)	2 (25)	0 (0.0)	11 (68.8)	5 (31.3)	0 (0.0)	11 (42.3)	15 (57.7)	0 (0.0)
	Employee	13 (65)	7 (35)	0 (0.0)	58 (43.9)	65 (49.2)	9 (6.8)	98 (50.5)	88 (45.4)	8 (4.1)
Work type	Full time	18 (66.7)	9 (33.3)	0 (0.0)	57 (47.1)	58 (47.9)	6 (5)	93 (48.2)	90 (46.6)	10 (5.2)
	Part time	12 (75)	4 (25)	0 (0.0)	48 (53.3)	37 (41.1)	5 (5.6)	65 (60.7)	38 (35.5)	4 (3.7)
Ethnicity	White	22 (64.7)	12 (35.3)	0 (0.0)	65 (46.4)	67 (47.9)	8 (5.7)	106 (54.4)	81 (41.5)	8 (4.1)
	Not White	11 (91.7)	1 (8.3)	0 (0.0)	45 (52.9)	35 (41.2)	5 (5.9)	59 (47.6)	58 (46.8)	7 (5.6)

		Inhaler support			Medication Use Reviews (MUR)			New medicines services		
		...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)
Age	16-34	73 (76)	22 (22.9)	1 (1)	26 (21.1)	93 (75.6)	4 (3.3)	30 (23.8)	88 (69.8)	8 (6.3)
	35-44	65 (69.1)	27 (28.7)	2 (2.1)	27 (25.5)	70 (66)	9 (8.5)	25 (24)	73 (70.2)	6 (5.8)
	45-54	45 (66.2)	23 (33.8)	0 (0.0)	13 (14.1)	71 (77.2)	8 (8.7)	14 (16.5)	65 (76.5)	6 (7.1)
	55+	57 (77)	15 (20.3)	2 (2.7)	13 (13.1)	74 (74.7)	12 (12.1)	20 (21.7)	63 (68.5)	9 (9.8)
Store type	Independent	66 (78.6)	17 (20.2)	1 (1.2)	28 (28.9)	64 (66)	5 (5.2)	36 (39.1)	54 (58.7)	2 (2.2)
	Small chain	13 (68.4)	6 (31.6)	0 (0.0)	4 (15.4)	18 (69.2)	4 (15.4)	4 (15.4)	18 (69.2)	4 (15.4)
	Large chain	18 (72)	6 (24)	1 (4)	11 (26.2)	29 (69)	2 (4.8)	10 (25)	27 (67.5)	3 (7.5)
	Multiple	103 (69.6)	42 (28.4)	3 (2)	23 (13)	146 (82.5)	8 (4.5)	25 (14)	143 (80.3)	10 (5.6)
	Supermarket	29 (78.4)	8 (21.6)	0 (0.0)	9 (16.1)	35 (62.5)	12 (21.4)	10 (18.5)	36 (66.7)	8 (14.8)
Sex	Female	147 (72.8)	54 (26.7)	1 (0.5)	43 (17.8)	182 (75.2)	17 (7)	52 (21.6)	175 (72.6)	14 (5.8)
	Male	95 (71.4)	34 (25.6)	4 (3)	36 (19.9)	129 (71.3)	16 (8.8)	37 (22)	117 (69.6)	14 (8.3)
Employment	Self-Employed	72 (82.8)	12 (13.8)	3 (3.4)	30 (26.5)	67 (59.3)	16 (14.2)	34 (32.1)	60 (56.6)	12 (11.3)
	Owner	16 (61.5)	10 (38.5)	0 (0.0)	8 (25.8)	22 (71)	1 (3.2)	9 (34.6)	16 (61.5)	1 (3.8)
	Employee	146 (70.2)	60 (28.8)	2 (1)	38 (14.4)	211 (80.2)	14 (5.3)	43 (16.2)	207 (78.1)	15 (5.7)
Work type	Full time	140 (72.2)	51 (26.3)	3 (1.5)	43 (16.2)	204 (76.7)	19 (7.1)	48 (18.4)	192 (73.6)	21 (8)
	Part time	94 (74)	31 (24.4)	2 (1.6)	33 (23.4)	96 (68.1)	12 (8.5)	38 (27.9)	91 (66.9)	7 (5.1)
Ethnicity	White	151 (72.9)	56 (27.1)	0 (0.0)	44 (18.5)	177 (74.4)	17 (7.1)	50 (21.6)	170 (73.3)	12 (5.2)
	Not White	93 (71)	33 (25.2)	5 (3.8)	35 (18.6)	136 (72.3)	17 (9)	39 (21.7)	123 (68.3)	18 (10)

		Providing services to Care Homes			Sexual Health Services			Stop Smoking services		
		...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)
Age	16-34	24 (27.3)	49 (55.7)	15 (17)	55 (45.1)	62 (50.8)	5 (4.1)	43 (36.8)	70 (59.8)	4 (3.4)
	35-44	24 (35.8)	36 (53.7)	7 (10.4)	39 (42.9)	50 (54.9)	2 (2.2)	38 (39.2)	56 (57.7)	3 (3.1)
	45-54	11 (17.2)	45 (70.3)	8 (12.5)	27 (38.6)	40 (57.1)	3 (4.3)	23 (33.8)	44 (64.7)	1 (1.5)
	55+	18 (25.7)	44 (62.9)	8 (11.4)	34 (40.5)	47 (56)	3 (3.6)	29 (33.3)	52 (59.8)	6 (6.9)
Store type	Independent	25 (30.1)	45 (54.2)	13 (15.7)	51 (55.4)	39 (42.4)	2 (2.2)	44 (46.3)	49 (51.6)	2 (2.1)
	Small chain	2 (9.1)	14 (63.6)	6 (27.3)	8 (34.8)	15 (65.2)	0 (0.0)	9 (33.3)	17 (63)	1 (3.7)
	Large chain	9 (33.3)	14 (51.9)	4 (14.8)	18 (50)	17 (47.2)	1 (2.8)	15 (40.5)	21 (56.8)	1 (2.7)
	Multiple	32 (28.1)	73 (64)	9 (7.9)	52 (34)	92 (60.1)	9 (5.9)	40 (27.8)	98 (68.1)	6 (4.2)
	Supermarket	7 (30.4)	11 (47.8)	5 (21.7)	19 (45.2)	22 (52.4)	1 (2.4)	17 (37.8)	26 (57.8)	2 (4.4)
Sex	Female	39 (23.1)	114 (67.5)	16 (9.5)	91 (40.8)	127 (57)	5 (2.2)	75 (34.1)	141 (64.1)	4 (1.8)
	Male	39 (32.2)	61 (50.4)	21 (17.4)	67 (45.6)	72 (49)	8 (5.4)	58 (38.4)	84 (55.6)	9 (6)
Employment	Self-Employed	22 (27.2)	43 (53.1)	16 (19.8)	51 (55.4)	39 (42.4)	2 (2.2)	43 (46.2)	47 (50.5)	3 (3.2)
	Owner	7 (25.9)	17 (63)	3 (11.1)	13 (44.8)	16 (55.2)	0 (0.0)	12 (42.9)	15 (53.6)	1 (3.6)
	Employee	47 (27.6)	105 (61.8)	18 (10.6)	86 (36.9)	136 (58.4)	11 (4.7)	71 (30.3)	155 (66.2)	8 (3.4)
Work type	Full time	42 (24.4)	103 (59.9)	27 (15.7)	90 (40.2)	124 (55.4)	10 (4.5)	79 (34.1)	143 (61.6)	10 (4.3)
	Part time	34 (32.1)	62 (58.5)	10 (9.4)	60 (46.2)	67 (51.5)	3 (2.3)	47 (38.2)	74 (60.2)	2 (1.6)
Ethnicity	White	49 (26.2)	114 (61)	24 (12.8)	96 (43)	123 (55.2)	4 (1.8)	80 (35.7)	137 (61.2)	7 (3.1)
	Not White	29 (27.4)	63 (59.4)	14 (13.2)	62 (41.6)	78 (52.3)	9 (6)	53 (35.6)	89 (59.7)	7 (4.7)

		Substance Misuse			Supplementary prescribing			Travel health			Treatment of minor ailments		
		...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)	...to improve the health of service users (%)	...to improve the health of service users and to improve the profitability of the pharmacy (%)	...to improve the profitability of the pharmacy (%)
Age	16-34	43 (32.6)	76 (57.6)	13 (9.8)	6 (85.7)	1 (14.3)	0 (0.0)	29 (34.9)	47 (56.6)	7 (8.4)	37 (40.7)	51 (56)	3 (3.3)
	35-44	47 (42.7)	54 (49.1)	9 (8.2)	2 (66.7)	0 (0.0)	1 (33.3)	22 (31.9)	46 (66.7)	1 (1.4)	30 (40.5)	40 (54.1)	4 (5.4)
	45-54	25 (28.1)	57 (64)	7 (7.9)	2 (50)	2 (50)	0 (0.0)	16 (32.7)	30 (61.2)	3 (6.1)	26 (36.6)	43 (60.6)	2 (2.8)
	55+	23 (24.7)	61 (65.6)	9 (9.7)	5 (83.3)	1 (16.7)	0 (0.0)	23 (35.4)	38 (58.5)	4 (6.2)	23 (33.8)	36 (52.9)	9 (13.2)
Store type	Independent	45 (42.1)	51 (47.7)	11 (10.3)	9 (81.8)	1 (9.1)	1 (9.1)	27 (38.6)	39 (55.7)	4 (5.7)	43 (50)	41 (47.7)	2 (2.3)
	Small chain	7 (25.9)	16 (59.3)	4 (14.8)	1 (100)	0 (0.0)	0 (0.0)	6 (40)	9 (60)	0 (0.0)	6 (24)	17 (68)	2 (8)
	Large chain	13 (38.2)	19 (55.9)	2 (5.9)	0 (0.0)	0 (0.0)	0 (0.0)	6 (35.3)	10 (58.8)	1 (5.9)	8 (29.6)	16 (59.3)	3 (11.1)
	Multiple	48 (25.9)	124 (67)	13 (7)	3 (50)	3 (50)	0 (0.0)	28 (27.5)	68 (66.7)	6 (5.9)	39 (34.8)	66 (58.9)	7 (6.3)
Sex	Supermarket	19 (38.8)	25 (51)	5 (10.2)	1 (100)	0 (0.0)	0 (0.0)	12 (30.8)	24 (61.5)	3 (7.7)	17 (44.7)	17 (44.7)	4 (10.5)
	Female	87 (33.9)	152 (59.1)	18 (7)	7 (77.8)	2 (22.2)	0 (0.0)	48 (32)	96 (64)	6 (4)	74 (41.8)	97 (54.8)	6 (3.4)
	Male	52 (30.6)	101 (59.4)	17 (10)	8 (72.7)	2 (18.2)	1 (9.1)	40 (34.2)	67 (57.3)	10 (8.5)	47 (35.9)	73 (55.7)	11 (8.4)
Employment	Self-Employed	48 (42.1)	58 (50.9)	8 (7)	5 (71.4)	1 (14.3)	1 (14.3)	41 (57.7)	29 (40.8)	1 (1.4)	44 (46.3)	44 (46.3)	7 (7.4)
	Owner	10 (35.7)	14 (50)	4 (14.3)	2 (100)	0 (0.0)	0 (0.0)	4 (19)	15 (71.4)	2 (9.5)	8 (36.4)	14 (63.6)	0 (0.0)
	Employee	75 (27.9)	171 (63.6)	23 (8.6)	7 (70)	3 (30)	0 (0.0)	36 (22.8)	111 (70.3)	11 (7)	62 (34.8)	105 (59)	11 (6.2)
Work type	Full time	74 (29.1)	157 (61.8)	23 (9.1)	9 (75)	3 (25)	0 (0.0)	38 (23.9)	111 (69.8)	10 (6.3)	63 (33.7)	111 (59.4)	13 (7)
	Part time	59 (37.6)	86 (54.8)	12 (7.6)	5 (71.4)	1 (14.3)	1 (14.3)	43 (47.3)	44 (48.4)	4 (4.4)	51 (47.2)	52 (48.1)	5 (4.6)
Ethnicity	White	81 (30.8)	163 (62)	19 (7.2)	13 (76.5)	3 (17.6)	1 (5.9)	54 (31.4)	107 (62.2)	11 (6.4)	72 (40.7)	99 (55.9)	6 (3.4)
	Not White	58 (34.5)	91 (54.2)	19 (11.3)	2 (66.7)	1 (33.3)	0 (0.0)	36 (36.7)	57 (58.2)	5 (5.1)	49 (36.8)	72 (54.1)	12 (9)