Pharmacy and Public Health

Examining the links between strategy and practice

Joseph Bush

Doctor of Philosophy

Aston University

May 2008

Aston University

Thesis summary

Pharmacy and Public Health: Examining the links between strategy and practice

Joseph Bush

Doctor of Philosophy

2008

Despite having been described by the then (2003) Chief Pharmaceutical Officer for England as *"probably the biggest untapped resource for health improvement"*, the development of the public health function of community pharmacists has been limited. However, devolution of healthcare budgets has led to differential rates of development of the public health function in each administration of the UK (England, Scotland, Wales and Northern Ireland). This is measured and reflected upon in this thesis. Two large-scale surveys were conducted, one of key strategic personnel (Directors of Public Health and Chief Pharmacists) in Primary Care Organisations (PCOs) and one of practicing community pharmacists. This research highlights the fact that community pharmacists have developed an individualistic, service-based approach to their engagement with public health that is contrary to the more collective approach adopted by the wider public health movement. The study measures the scope and level of health-improving services through community pharmacy across the UK and shows that the nature of the pharmacy contractor (independent, multiple etc.) may impact on the range and nature of services provided. Survey data also suggest that attitudes towards pharmacy involvement in the public health agenda vary markedly between Directors of Public Health, PCO Chief Pharmacists, and community pharmacists. Furthermore, within the community pharmacist population, attitudes are affected by a wide range of factors including the nature of employment (owner, employee, self-employed) and the type of employing pharmacy (independent, multiple etc.). Implications for policy and areas for further research aimed at maximising the public health function of community pharmacists are suggested.

Keywords (5):

Community pharmacy services
Pharmacists
Public health
Survey methodology
United Kingdom

Dedication

Mark Bush (1976-2003)

Acknowledgements

Firstly I would like to thank my primary supervisor Chris Langley for his "open door" policy and always having time for me – no matter how inconsequential my questions were (and the vast majority of the time they were). I must also thank Chris for his post-"busy day at a conference" company and fondness for socialising (I think that's the best euphemism I can use!).

My thanks must also go to my associate supervisor Jill Jesson for grounding my thoughts and making me analyse things outside of my pharmacist comfort zone.

I am also grateful for the support of Keith Wilson (a.k.a. The Prof) who, despite being the busiest man in the world...ever, managed to find time to assist me in my research wherever possible.

I am indebted to all research participants without whose cooperation none of this would have been possible. Particular thanks must go to those participants who had the misfortune of being interviewed by myself – I apologise for saying "er" approximately every 4 seconds.

I must thank my mother and father (or, as they say in my native Derbyshire, me Mam and Dad) for their unqualified support even though I'm now 28 and I've never had a proper job (what do you mean that job at Wilko's don't count?!). I apologise for being such a financial burden, then again, if you didn't give it me you'd only spend it on fags and Diamond White! No, seriously, you're the best parents anyone could hope for and, thankfully, your love is unconditional (yeah, even you Dad!).

I also owe Jenny a debt of gratitude for keeping me company through the lonely days. Thanks must also go to my friends for keeping me sane – so that's Stig, Wrighty, Jules and even Vinny (no matter how hard you try, you're never going to be a "real" doctor!). Anyone who feels they deserved a mention there but didn't get one – apologies, I'll buy you a beer.

No "acknowledgements" would be complete without an expression of gratitude for the one you love so, many thanks Chesterfield F.C. Only joking! Michelle, you always make me smile even when I'm at my lowest ebb. You're a star and I couldn't have done it without you – you're the best.

List of Contents

List of Tables

List of Figures

List of Panels

SECTION I: THE CONTEXT

Chapter 1 Introduction and Background

1.1 Introduction

This thesis is about the public health function of community pharmacists. The study provides insights into:

- The public health activity of community pharmacists, both at the time of writing and activity planned for the immediate future;
- Attitudes towards the development of the public health function of community pharmacists held by those both within the profession (primary care and community pharmacists) and senior public health planners within primary care external to pharmacy (Directors of Public Health);
- Perceived advantages and disadvantages of community pharmacy practice in developing the community pharmacist's public health function; and,
- Possible success factors in developing widespread and innovative public health programmes via community pharmacy.

The research was undertaken against a backdrop of uncertainty within the pharmacy profession with the Government advocating a reduction in the focus of pharmacists on their the traditional core dispensing function in order to allow them to undertake new roles[1], and the virtual disappearance of extemporaneous preparation[2]. As a result of these developments, community pharmacists entered the 21st century searching for a defined and protected role in the provision of modern healthcare. The research was also undertaken within a framework of important policy changes which are outlined in this opening section. Such policy changes are radically altering the organisation and delivery of primary health care services including the introduction of a degree of market economics into the provision of healthcare through the National Health Service (NHS).

1.2 Aim and objectives

Where pharmacy has engaged with the public health agenda, its focus has been predominantly on the promotion of better health through modification of individual (health-damaging) behaviour. The pharmacist's role has traditionally been that of the guardian of medicines, supervising their use to ensure maximal benefit for society. Despite the loss of the production function, and the subsequent attempts at re-professionalisation, the focus on medicines has been retained and permeates into the current public health function of community pharmacists. Such a focus may undersell the effectiveness of pharmacists in the public health arena[3].

Pharmacy's public health function has been evolving since the 1980s. However, current pharmacy public health practice has developed little since the mid-1990s, retaining a focus on health promotion and altering the behaviour of individuals within a framework of medicines management and pharmaceutical care. Typically, current public health practice is still based around the supply of health promotion materials, an approach that pharmacy has to move beyond if it is to maximise its contribution to public health[4].

It is this impression of stagnation in the development of community pharmacy's public health function, with an inability to move beyond an individualistic, health promotion approach, which shaped the aim and objectives of the research.

The overall aim of the research is to investigate the public health function of primary care and community pharmacists.

The research objectives are:

1. To describe the current public health activities of community pharmacists;

2. To identify any planned new community pharmacy-based public health activities;
3. To explore current awareness amongst primary care pharmacists of what is currently taking place within their primary care organisations (PCOs) with respect to the public health agenda;
4. To identify examples of cutting-edge pharmaceutical public health provision in the UK;
5. To explore the attitudes of senior public health and pharmacy personnel within PCOs to the involvement of pharmacy in the public health movement;
6. To explore the attitudes of community pharmacists to the involvement of pharmacy in the public health movement;
7. To explore the attitudes of senior public health and pharmacy personnel within PCOs on recent policy developments that may impact on the public health function of community pharmacists;
8. To explore the attitudes of community pharmacists on recent policy developments that may impact on the public health function of community pharmacists; and,
9. To identify critical success factors where innovative pharmaceutical public health activity has taken place as a basis for the development of an implementation strategy for wider application.

1.3 What is health?

Health is defined in the World Health Organisation's (WHO) Constitution as "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"[5].

1.3.1 The 'Medical' and 'Social' Models of Health

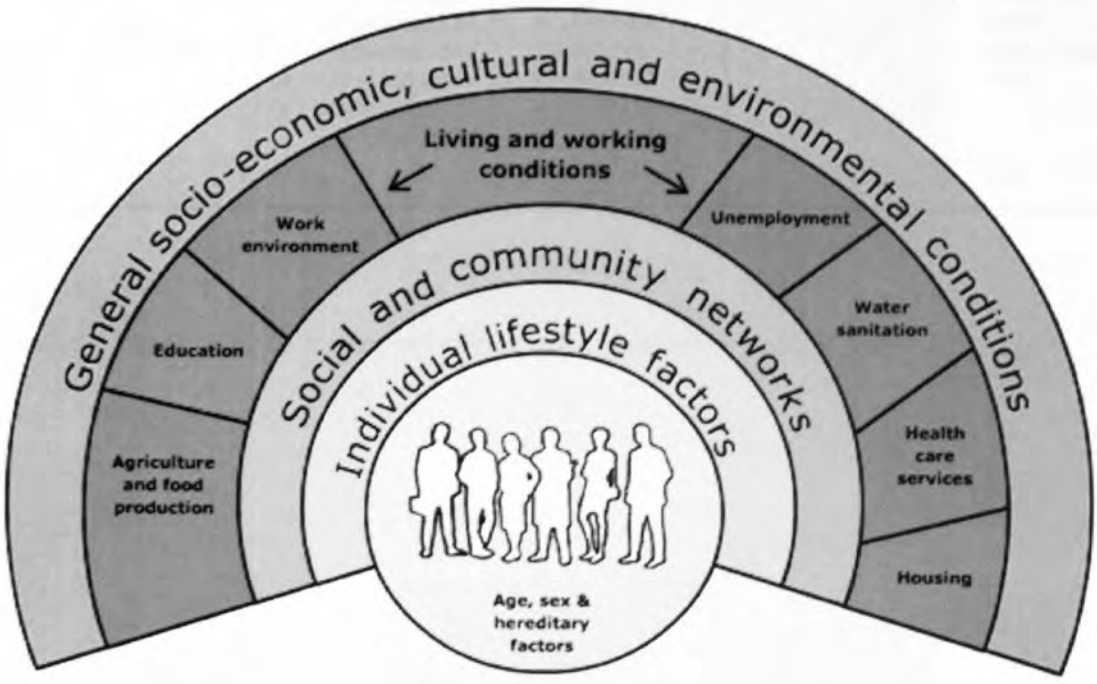
There have traditionally been two models applied to health which have been viewed as antithetical. The 'medical' (or biomedical) model of health dates back to at least the 17th century and was influenced by the work of the

philosopher René Descartes. The medical model takes a mechanistic view of the body and supports a reductionist approach to disease, essentially the body is a machine and illness its malfunctioning. In this context health is the absence of illness[6].

The medical model remained the dominant paradigm until at least the middle of the 20th century when medicine was subjected to vehement criticism from the likes of McKeown[7] (see Section 1.5.4) and Illich[8] (who challenged the supremacy of modern medicine, alleging that it had hijacked and defined "health" to suit its own ends and that medicine had created the dangerous delusion that it was highly effective when in fact various socioeconomic and cultural factors were much more decisive in influencing health status). Such work established the idea of a 'social' model of health on the professional mind-map.

The 'social' model conceives health as an interaction between body, mind and environment[6]. Health is influenced by a multitude of different determinants ranging from societal-level factors through to individual hereditary factors (see Figure 1.1).

Figure 1.1 The social determinants of health model[9]



The medical and social models are often presented as incompatible alternatives. However, general systems theory provides a conceptual framework which can reconcile the two. Systems theory "*conceives of a hierarchical arrangement of 'systems', each comprised of related 'events' with common properties and functions – so levels of organisation may run from, say, molecules to cells to organs to organisms (e.g. the person) to family to society etc.*"[6]. George Engel[10], applying systems theory to health, developed a holistic 'biopsychosocial' model of health. In this model the medical model would function towards the 'microscopic' (micro) end (i.e. molecule end) of the hierarchy, while the social model would reside in the upper, more 'macroscopic' (macro) regions (i.e. the society end), with substantial overlap in between. Within such a framework, the determinants of health can be split into upstream (macro), midstream (intermediate) and downstream (micro) (see Table 1.1).

Table 1.1 Determinants of health (from Turrel, G. (2002)[11])

1.4 What is public health?

In its simplest form, public health refers to the health of a population, the longevity of its members and the extent to which they are free from disease[12]. It implies a focus on the health states of populations rather than individuals[13]. Public health is also rooted in a positive concept of health with a strong collective focus.

The definition of public health devised by Acheson[14] is now widely used in the UK:

> *"The science and art of preventing disease, prolonging life and promoting, protecting and improving health through organised efforts of society."*

The Faculty of Public Health[15] recognises the public health approach as:

- Emphasising the collective responsibility for improvement in health and on prevention of disease.
- Recognising the key role of the state, linked to a concern for the underlying socio-economic and wider determinants of health, as well as disease.
- Multi-disciplinary, incorporating quantitative, as well as qualitative, methods.
- Emphasising partnerships with all those who contribute to the health of the population.

Most work within public health principally falls within three key domains: health protection and disease prevention, health and social care and health improvement (see Panel 1.1).

Panel 1.1 The three key domains of public health practice[14]

Health protection and disease prevention	Health and social care	Health improvement
• Disease and injury prevention • Communicable disease control • Environmental health • Emergency planning	• Quality • Clinical effectiveness • Efficiency • Service planning • Audit and evaluation • Clinical governance	• Employment • Housing • Family/community • Education • Inequalities/exclusion • Lifestyle advice

To set the relationship between pharmacy and public health in the UK in context, an overview of public health practice is presented in the next section.

1.5 A summary overview of public health in the UK

In the UK, the origins of public health are widely perceived to be rooted in the nineteenth century[16]. However, there is evidence that the ancient civilisations made efforts to promote health and prevent disease[12]. A great advancement in public health was made in Britain in the late 1700s. Edward Jenner, the father of vaccination, discovered that cowpox vaccination afforded protection against the much more debilitating smallpox. Vaccination against small pox became compulsory in Britain in the 1850s[12].

1.5.1 The Victorians and the 'Sanitary Idea'

The rapid industrialisation of Britain in the early nineteenth century led to an influx of people to the newly industrialised towns and cities. For example, the population of Birmingham increased from around 85,000 in 1811 to over 500,000 in 1901[17]. Towns and cities were often unable to cope with such mass migration and the problems brought in its wake.

The working classes of the cities were to be found in slums and health problems were rife. In such conditions, epidemics of infectious diseases were common. During the middle of the 19th century, infectious disease was responsible for a third of all deaths in England and Wales[12]. The most

dreaded of these epidemics was cholera. The disease struck quickly, often killing within hours and the belief that cholera was caused by filthy living conditions and a poor physical environment, highlighted the need for sanitary reform[12].

Life for the poor of the middle nineteenth century was dominated by the draconian Poor Law. The Poor Law Commission was the body responsible for the system of relief for those in poverty. The Commission had been established under the Poor Law Amendment Act of 1834, the main purpose of which had been to reform the system of relief for the poor in order to reduce the burden on local rate payers. The new system reduced eligibility for relief. All but the absolutely destitute were deterred by the prospect of the workhouses[12]. The Secretary of the Poor Law Commission was Edwin Chadwick who believed that filth and the immorality of the poor were principal causes of disease. Prompted by Chadwick, the Commission supported further studies into the possible link between illness and poverty. In 1838 the Commission appointed three doctors - Kay, Southwood Smith and Arnott - to study conditions affecting public health in London. Their findings were the catalyst for further studies eventually culminating in Chadwick's monumental *Report on the Sanitary Condition of the Labouring Population of Great Britain* (1842)[18].

The report outlined the plight of the urban poor and suggested that insanitary conditions caused social as well as biological disease, a psychosocial degradation that led desperate people to invest their hope in alcohol or, worse, in revolution. Chadwick became the champion of the "sanitary idea" of public health through public works, based on the principle that it is a public duty to prevent infectious disease by providing water that is pure and sewers that will safely remove what is dangerous[19]. Improved sanitation would further reduce the burden on local rate payers of relief for the poor by ensuring that male breadwinners did not succumb to acute infectious diseases. Additionally, a public gift of good sanitation was viewed as a possible key to keeping the proletariat docile[20].

Chadwick's work led to The Public Health Act of 1848, by which, for the first time, the British Government charged itself with a measure of responsibility for safeguarding the health of the population[18]. The act permitted localities to establish health boards which could regulate practices and conditions deemed to harm health. The health boards could also manage sanitation, waste disposal and burial grounds. Public health became the responsibility of local people[21].

1.5.2 Into the 20th Century – Preventive medicine and the Ministry of Health

Later in the Victorian period, there was a shift from a focus on sanitary reform to 'preventive medicine'. Sanitation became more closely integrated with broader issues of social welfare and public health was subjected to 'medicalisation'. Attention shifted from population-wide interventions towards specific subgroups and individuals, and an increasing emphasis was placed on access to health services[12].

The medical profession exerted a greater influence on debates about the future direction of public health but this does not adequately explain the subsequent medicalisation of public health. Concurrently, medical knowledge was advancing. The importance of medical knowledge in relation to public health was demonstrated in two main fields: epidemiology and bacteriology[12].

Epidemiology is defined as *"the branch of medicine dealing with the incidence and prevalence of disease in large populations and with detection of the source and cause of epidemics of infectious disease"*[22]. Epidemiology is exemplified by Snow's work on the cholera epidemic of 1854. By marking reported cases of cholera on a map, Snow discovered that water supplies were associated with an outbreak in the Soho area of London. He identified the source of the problem as being drinking water obtained from the Broad Street pump. He ordered the removal of the handle from the pump and thereby prevented further proliferation of the disease[23].

Reforms in the early twentieth century at least began to address the widespread poverty that still permeated all regions of the UK. The People's Budget of 1909 introduced a more progressive tax system which made it possible for the state to finance social policies that were likely to improve health through better material conditions. However, the Poor Law continued as the principal form of state assistance until 1929[12].

In 1919, the Ministry of Health was created. This was seen as a major advancement for public health. It was believed the Ministry could coordinate the haphazard network of public health services and it was felt that it could free public health from the shadow of the Poor Law system[12]. The Ministry was given extensive responsibilities for the control of environmental factors which affected the health of the population with a statutory duty *"to take all steps as may be desirable to secure the preparation, effective carrying out and coordination of measures conducive to the health of the people"*[12]. Promotion of health and prevention of illness were thus seen as areas of crucial importance[14].

1.5.3 Public health and the National Health Service

The creation of the National Health Service (NHS) in 1948 was seen as a major advance for public health. The new service was comprehensive, inclusive and free at the point of delivery. For the first time, worker's dependents, the poor and those requiring specialist services were able to access suitable healthcare. However, concerns were raised from the outset that the NHS was a sickness rather than a health service[12].

By the mid-1970s, public health medicine had been relegated in importance by the increasing profile of both General Practitioners (GPs) and social workers[12]. In 1974 there was a reorganisation of the NHS and the responsibility for public health was transferred from local authorities to the NHS. However, social care and environmental health were to remain under

the control of local authorities. In an attempt to raise public health's profile, it was redefined as 'community medicine' and its practitioners were afforded specialist status. Public health doctors became community physicians[24].

The change in name did little to strengthen the public health function and by the late 1980s, it was acknowledged the speciality of community medicine was in crisis. Infectious disease scandals in hospitals, and salmonella in eggs, prompted the Government to establish the committee of inquiry into the future development of the public health function[24], chaired by Sir Donald Acheson.

The committee's report, known as the Acheson Report[14], was published in January 1988. It made thirty nine recommendations including:

- The renaming of community medicine as public health medicine.
- Each health authority should appoint a Director of Public Health who would act as the lead for the public health function within the locality, and who should be part of the key decision making machinery in the district.
- Public health should be given more priority by health authorities.

1.5.4 The New Public Health

The term 'the new public health' implies the 'rediscovery' of, and some continuity with, 'the old public health project' ('old public health' referring to nineteenth century public health)[13]. However, it is misleading to think that the 'movement' began with the publication of the Acheson Report. In the early 1970s, the economies of Western countries were slowing down, placing great pressure on governments to critically examine their healthcare systems. In response, many governments simply capped expenditure but the Canadians were more radical and scrutinised modern healthcare systems[25].

In 1974, Marc Lalonde, the then Canadian Minister for Health and Welfare, published a report entitled *A New Perspective on the Health of Canadians*[26]. It was to become a seminal report and came to be known as the *Lalonde Report*. It has been described as *"the first government document in the Western World to acknowledge that the current emphasis upon a biomedical health care system is not entirely desirable for the enhancement of health, nor particularly relevant to prevention"* [25].

The report gave an emphasis to an "upstream" policy agenda. Approaches that tackle upstream factors are likely to result in the greatest impact on population-wide differentials. However, such societal-level changes are the most difficult to bring about as well as being the most politically sensitive. Policies that address "downstream" factors, while important, probably only serve to improve individual health[11].

Lalonde suggested that future improvements in the health of Canadians would come mainly from improvements in the environment, moderating risky lifestyles, and increasing our understanding of human biology. Its intellectual inspiration came from the work of Thomas McKeown.

McKeown's critique of modern medicine and healthcare *The Role of Medicine*[7] was first published in 1976. McKeown's argument was that medicine was too disease focused and had a preoccupation with the individual at the expense of taking a more holistic view. He believed the emphasis placed on curative medicine as being the prime driver in the reduction of mortality witnessed since the 18th century was misplaced. Economic growth, better standards of living and improved nutrition were all more important than the role of medicine.

McKeown's thesis was the subject of a seminal critique by Szreter[27]. Amongst other charges, Szreter claimed that McKeown's analysis of the post 1838 causes of death data was flawed – his overemphasis on the role of tuberculosis leading him to overstate that role of improving living standards and nutrition. Szreter argues that McKeown's assumptions about the limited

value of medical intervention and the need for social reform predetermined his analytic categories, thus biasing his interpretation of evidence. Accusations of an inherent bias in McKeown's theses were also levelled by Johansson[28]. Johansson opines that McKeown utilised powerful rhetoric to convey his message and that his arguments were *"empirically weak but very persuasive"*(p105). Szreter remained convinced that improving living standards and nutrition played a role in the mortality decline but *"the role of a battling public health ideology, politics, and medicine operating of necessity through local government, is more correctly seen as the principal causal agency involved"*(p36).

However, whether his interpretation of the available evidence was accurate or not, McKeown's thesis served to focus attention on the wider causes of ill health and created a broader awareness of social and environmental factors. His work is still debated today, primarily due to the importance of the question that underlay it: *"Are public health ends better served by targeted interventions or by broad-based efforts to redistribute the social, political, and economic resources that determine the health of populations?"*[29]. This has implications for the policy debate including the need for a health strategy to promote health and prevent disease[12].

1.5.5 Health inequalities

Improvements in sanitation, road safety, medical knowledge and technology, amongst other things, coupled with a reduction in poverty meant that standards of health improved dramatically throughout the twentieth century. Standards of health are most commonly measured in terms of mortality rates and life expectancy. In the UK, in 2006, life expectancy at birth for women was 81 years, compared with 49 in 1901; for men it was 77, compared with 45[30 31].

While the standards of health of all the population have improved over that time, the differences in health between the richest and the poorest members

of society have widened dramatically, i.e. the poorest individuals in society suffer more ill health and die much sooner than their richer contemporaries.

The scale of such inequalities within modern societies is striking. A 1994 study which looked at differences in health in the 678 electoral wards of the northern region of England found that death rates were four times as high in the poorest ten percent as they were in the richest ten percent[32]. This is not to say that health differences are confined to differences between the poor and the rest of society. They run right through society with every section of the social hierarchy having worse health than the level above it.

Further illustration of the scale of inequalities in health is provided by Shaw *et al*[33]. Using constituency level data for the whole UK they were able to compare the fortunes of people living in the constituencies containing the one million people with the highest mortality rates, with the fortunes of the one million people in constituencies with the lowest mortality rates. Their research showed that had the mortality ratios of the 'worst health' million been equal to those of the 'best health' million then 62% of deaths under 65 would not have occurred in the period 1991-95.

1.5.5.1 Explanations behind inequalities in health status

The postulated reasons behind inequalities in health status are both numerous and contentious but, as demonstrated by the figures above, there is an obvious link to poverty and income levels and it has long been established that socioeconomic factors are major determinants of health and mortality.

In the developing world, life expectancy is directly linked to gross national product (GNP) per capita[a], or the closely related gross domestic product

[a] Gross National Product (GNP) per capita is the total volume of all final goods and services produced by a country's factors of production and sold on the market in a given time period, per head of the population.

(GDP) per capita[b]. These are measures of absolute income. As GNP/GDP per capita increases, so does life expectancy. For example, in 2004, the UK had a GDP per capita of 26,273 Int $ (the US dollar adjusted according to purchasing power) and male life expectancy was 75.8 years. The Democratic Republic of the Congo had a GDP per capita of 346 Int $ and a male life expectancy of 41 years[5]. It is also perhaps worth considering that, in 1999, the richest 200 people in the world had wealth equivalent to 41 percent of the world's population[34].

1.5.5.1.1 The psychosocial interpretation

The relationship between GNP per capita and life expectancy ceases to exist once a certain level of GNP is reached. Wilkinson (1996)[35] put this figure at around $5000 per annum. At this point, referred to by Wilkinson as "*the epidemiological transition*", the economies have advanced beyond a crucial stage when living standards reach a threshold level adequate to ensure basic material standards for all and cancers and degenerative diseases overtake infectious diseases as the main cause of death. However, poorer people in developed countries may have annual death rates two to four times higher than rich people within the same society. Within such societies, health is linked to relative income (and thereby material standards) as opposed to absolute income.

Wilkinson goes on to argue that, having gone through the epidemiological transition, it looks increasingly as if the psychosocial influences on health are pre-eminent. Perceptions of place in the social hierarchy, based on relative position according to income, have a deleterious effect on health. Such perceptions produce negative emotions, such as distrust and shame, that are translated within the body into poorer health via psycho-neuro-endocrine mechanisms and stress-induced behaviours such as smoking. Perceptions of

[b] Gross Domestic Product (GDP) per capita is the total volume of final goods and services produced within a country's borders in a year, per head of the population.

relative position will be ever-present, regardless of the actual living conditions for those at the bottom of the social hierarchy[35].

In the developed world, it is not the richest countries that have the best health but the most egalitarian. The United States and the United Kingdom were both found to have particularly high inequalities in health. In Europe, Sweden, Finland and the former East Germany had the lowest inequality[36]. The more equal distribution of wealth in these countries leads to increased social cohesion. In such countries the individualism that the market institutionalises is restrained by a sense of social morality, there is a strong sense of community and less anti-social aggressiveness. In essence, the social fabric is in better condition[35].

Wilkinson provides many illustrations to substantiate his hypothesis. In the case of Britain, much the most rapid improvements in life expectancy in the twentieth century came during the two world wars. In the decades containing the wars, life expectancy increased by between six and seven years. Wilkinson asserts that this was probably due to near full employment and a dramatic narrowing of income differences which fostered social cohesion which was further bolstered by the threat of a common enemy[35].

Conversely, under the Thatcher Government of the 1980s, income differences widened very rapidly (the rate was unprecedented). This led to a slowing down in life expectancy increases in each age group and death rates amongst young men and women in the most deprived electoral wards increased[32 35].

Social cohesion is fundamental to the concept of social capital. Social capital has been defined as "*the features of social organisation, such as civic participation, norms of reciprocity, and trust in others, that facilitate cooperation for mutual benefit*"[37]. Consequently, social capital is a community-level variable whose counterpart at the individual level is gauged by a person's social networks. Therefore increased social capital will lead to increased social cohesion and subsequently, as outlined by Wilkinson, better standards of health.

The concept was initially developed outside the health arena, most notably by Putnam[38], who urged caution in considering health as an outcome of social capital. Nevertheless it found favour as a possible explanation for the relationship between income inequality and health. Perhaps influenced by this groundswell, in a later book, *Bowling Alone*[39], Putnam claimed *"of all the domains in which I have traced the consequences of social capital, in none is the importance of social connectedness so well established as in the case of health and well-being"*.

Kawachi *et al*[37], in a paper commented on by Wilkinson[40], provided the first quantitative evidence that aspects of social cohesion may indeed link smaller income differences to lower mortality rates. Their study, based on data from 39 US states, measured social capital by per capita density of membership in voluntary groups in each state and level of social trust, as gauged by the proportion of residents in each state who believed that people could be trusted. They concluded that income inequality leads to increased mortality via disinvestment in social capital.

1.5.5.1.2 The neo-material interpretation

Despite such evidence, the 'social capital hypothesis' is not without its detractors. As detailed before, Wilkinson stated that, after passing through the epidemiological transition, health is related to relative rather than absolute income. This is a fundamental concept in psychosocial theories of health inequalities.

In an article published in 1997[41], Wilkinson uses data from 23 members of the Organisation of Economic Cooperation and Development (OECD), thus restricting the comparison to developed, democratic countries with market economies and GDP per capita greater than $10,000, to demonstrate that there is no relation between absolute income and health (represented by life expectancy).

However, Lynch *et* al (2000)[42], using data from all 33 OECD countries with GDP greater than $10,000, not just the 23 OECD countries examined by Wilkinson, demonstrated a relationship between absolute income and life expectancy. They concluded that the association between absolute income and life expectancy among wealthier countries depends on which countries are included.

In a rebuttal to this claim Wilkinson (alongside Marmot)[43] defends his original hypothesis by producing data for the 25 richest countries in the world for which the World Health Organisation holds data. This shows no correlation between absolute income and life expectancy. Wilkinson and Marmot claim that the research by Lynch *et al* only showed a relationship between the two because the new countries included in their analysis disproportionately favoured poorer countries (although still with GDP greater than $10,000).

It is the opinion of Lynch *et al*, based on the available evidence of income inequality and health status, that "*the psychosocial environment interpretation*" does not adequately explain the inequality in health suffered by the poor. They favour a "*neo-material interpretation*"[42].

The neo-material interpretation says that "*health inequalities result from the differential accumulation of exposures and experiences that have their sources in the material world*"[42]. The effect of material conditions varies with time and context. For example, in 19th century industrial Britain, material conditions meant adequate food, safe water supply, effective sanitation and such like. At this time infectious diseases were still the dominant cause of mortality. In the 21st century, where chronic diseases dominate morbidity and mortality, it is a set of 'neo-material' conditions, such as access to medical care, exercise and a nutritious low fat diet, that exert influence on longevity[44].

Lynch *et al* state "*under a neo-material interpretation, the effect of income inequality on health reflects a combination of negative exposures and an*

underinvestment across a wide range of human, physical, health, and social infrastructure"[42].

To compare the two interpretations, Lynch *et al*[42] provide a tongue-in-cheek metaphor of airline travel, in particular the effects on well being of travelling in economy class. Differences in neo-material conditions may produce health inequalities after a long-haul flight. First class passengers benefit from many advantages - a wider, more comfortable seat that reclines into a bed, more space, and better food and service. Economy passengers have little space and cramped and uncomfortable seats making sleep extremely difficult. First class passengers will arrive feeling relaxed and refreshed whereas economy passengers may feel "*a little rough*".

Under a psychosocial interpretation, these health inequalities are due to negative emotions, i.e. resentment, and a consequent loss of social capital, engendered by perceptions of relative disadvantage, particularly when walking past the first class seats on leaving the plane. Under a neo-material interpretation, the health inequalities would be due to the confines of the economy class seat and the subsequent inability to sleep.

A psychosocial outlook on reducing these health inequalities would lead to the abolition of first class, thus abolishing any sense of relative disadvantage. Under a neo-materialist interpretation, the inequalities would be reduced by upgrading conditions in economy class[42].

Proponents of the neo-material interpretation argue that income inequality, health and social capital in a community may all be consequences of macro-level social and economic processes that influence health across the life course[45]. It is also claimed that evidence on social capital as a determinant of better health is scant or ambiguous[46].

Further evidence contradicting the psychosocial interpretation comes from New Zealand where income inequality has widened dramatically over the last two decades. If social capital (and psychosocial pathways) were important

direct determinants of health, overall health limits should have declined accordingly. In fact, mortality rates have declined. It is argued that this is because the lifetime experiences of successive cohorts in New Zealand improved throughout the twentieth century, in line with their improving health status[45].

Several commentators are openly critical of the whole concept of social capital. Labonte[47] argues that "*social capital doesn't exist, but is being created by those aspects of social relations particular theorists or researchers choose to study in its name. The choice of these relations is directed by ideology. To those aligned with more neoliberal, market-driven ideology, social capital is a means to the end of economic growth, something that can pick up the slack of privatised or reduced public services. To those aligned more with social justice and communitarian ideology, social capital is an end in itself, requiring the defence of strong, egalitarian state intervention into market practices that create inequalities*".

Pearce and Davey Smith[45] believe the concept of social capital is largely a repackaging of old ideas such as "*community capacity*", "*empowerment*" and "*social support*" in order to make the language more acceptable to the current dominant political orthodoxy. Labonte[47] warns that social capital "*should not confuse all of the previous 'good' work undertaken in the name of empowerment and community capacity*". Further warning is sounded by Leeder and Dominello[48] who state that "*while social capital is an arresting term, its ambiguity limits its broad applicability and even makes it dangerous*" and that "*the ability of social capital to capture fully the subtle interplay of individuals and society so essential for their health and happiness is questionable*".

In a critique of Wilkinson's work, Muntaner and Lynch[49] outline that Wilkinson's models goes against the weight of historical evidence by implying that social cohesion rather than political change is the major determinant of population health. It is also argued that an emphasis on social capital and

cohesion can result in communities being held responsible for their morbidity and mortality rates. This is akin to victim blaming at the community level[44 49].

Despite the arguments levelled against it, social capital has found its way into the policy field, particularly in Britain. Muntaner *et al*[46] argue that social capital has found favour due to the apolitical nature of the term. It has been used in public health as an alternative to both state-centred economic redistribution and party politics thus representing a potential privatisation of both economy and politics. "*Such uses mirror recent 'third way' policies*" so beloved of New Labour. They predict that if 'third way' policies loose support in Europe then the prominence of social capital may well be short lived.

1.5.5.2 The socio-political context

The literature on health inequalities is vast but there are relatively few studies on the importance of political ideologies and systems in influencing social inequalities and population health. Presented here is a brief review of the available literature.

1.5.5.2.1 Neo-liberalism, individualism and globalisation

Coburn[50] argues that not enough attention has been paid to the social context of income and health inequalities or on the root causes of these inequalities. Coburn[50 51] associates rising levels of inequalities in health status with the increased adoption of neo-liberal ideology, arguing that neo-liberalism (referring to the dominance of markets and the market model – as exemplified by Thatcherism in the UK) leads to declining working class power and attacks on the welfare state subsequently producing higher income inequality and lowered social cohesion resulting in lowered health status. Furthermore, it is argued that neo-liberal ideologies are particularly individualistic and positively endorse inequalities as a means of encouraging work motivation and participation in markets, etc.

Coburn uses numerous examples to illustrate his theory. Income inequality in the United States and the United Kingdom was relatively low and had been declining since the end of the Second World War – an indication that the welfare state in both nations was successful in ameliorating the inequalities created by the market. However, from around 1968 in the US and 1978 in the UK, income inequality began to rise rapidly with a concurrent deleterious effect on the health status of both nations. While in 1960 the UK and the US were ranked 7th and 8th in infant mortality (in a study of 18 nations, with 1 being the nation with the best infant mortality rate), by 1995 they were 13th and 17th out of the same nations[51].

Wilkinson[52] identifies what he considers to be two important weaknesses in Coburn's theory. Firstly, linking the rise of neo-liberalism with the rise of health inequalities limits the theory to a specific historic period whereas Wilkinson contends that widening income differences seem to be damaging whatever their source. Secondly, while Coburn had been critical of other researchers in the health inequalities arena for focussing too much attention on the mechanisms that lie behind health inequalities, his own lack of focus on the mechanisms that translate neo-liberal ideology into inequalities in health status weakened his hypothesis.

Countering these assertions Coburn[53] argues that although a number of writers have mentioned social and political forces, economic and political phenomena have been far from the centre of attention. Considering income inequality in a broader perspective suggests that income inequality has social structural underpinnings.

Supporting Coburn's thesis, Lynch states that "*the social and philosophical tenets of neo-liberalism reflect individualist rather than collectivist sentiments*" and that such sentiments encourage the view that others should be viewed with "*some skepticism and distrust, as competitors for scarce resources*"[54] thus diminishing trust and social cohesion. Further support is provided by Scambler and Higgs who assert that "*it is class relations ("rationalized" by Thatcher's neo-liberalism, but also, if more circuitously, by Blair's governance*

of the "third way") which, properly theorized, are preeminently responsible for enduring health inequalities in countries like Britain"[55].

A demonstration of the influence of political forces on health inequalities is provided by Davey Smith & Dorling[56]. They found that Conservative and Labour voting are at least as strongly associated with mortality as is a standard deprivation index. People living in better circumstances (nominally Conservative voters), and who have better health, who are least likely to require the assistance of the state (be it unemployment benefit, free school meals etc), and who are most able to opt out of state subsidised provision of transport, education and the NHS, vote for the party that is most likely to dismantle the welfare state (i.e. the "most neo-liberal" party)[56].

This is an example of the individualism embodied by neo-liberalism, and in particular Thatcherism. From an individualist perspective, everybody is self-interested and possessed of a fixed, competitive human nature. Everyone has the potential for upward mobility through hard work[57]. Individualism often leads to "victim blaming" - blaming the victims of oppression for their own condition because of personal dysfunction. And it is individualistic neo-liberalism that leads to a greater emphasis on social capital, social cohesion and other psychosocial approaches at the expense of evaluation of social and historical dynamics of health – i.e. in terms of policies to combat health inequalities, neo-liberal Governments are more likely to show an increased tendency to favour interventions that promote and increase social capital as such interventions are likely to be both less costly and less controversial than interventions that would improve the material conditions of the least well-off (e.g. upstream, macroscopic changes such as wealth redistribution through increased taxation of the most well-off). This distorts connections between health inequalities and power and politics[46].

An integral feature of contemporary ideology with respect to health inequalities is a refusal to recognise its origins and roots, making any attempts to explore the relationship of health inequalities to political power appear fruitless[57]. Individualistic tendencies within the public health community itself

lead to attacks against researchers involved in the analysis and study of health inequalities[58].

The increasing prominence of neo-liberal economic globalisation also reverberates into the health inequalities debate. Increasing control of the flow of the world's resources is placed in the hands of large, unaccountable trans-national corporations, subsequently reducing the ability of national governments to influence economic practices. Globalisation leads to the disintegration of communities, weakening of social institutions and insecurity as jobs and resources are constantly and rapidly shifted to regions of lowest production costs and cheap labour anywhere in the world[57].

The working classes have no influence over the international financial institutions, such as the World Bank, that outline developing countries' health policy reforms[59]. Globalisation, primarily via its 'enforcers' - the World Bank and the International Monetary Fund (IMF), has forced developing countries to cut public expenditure and move towards privatisation. The bank has also promoted the introduction of market oriented healthcare reforms, including user charges, thereby compromising the poor's access to health services[60]. Globalisation emphasises efficiency and effectiveness at the expense of equity[61].

The ruthless drive for efficiency in the UK led to the demonisation of social security claimants and indeed civil servants or 'bureaucrats', who are regularly highlighted as a source of waste within the public sector. However, reductions in social support are little to do with efficiency, but rather a means of making people available for, and vulnerable to, the labour markets as cheap labour. "*The political goal in reducing the role of the public sector is to eliminate policies that protect people from the vagaries of the global market*"[57].

1.5.5.2.2 Socialism and collectivism

Collectivists and socialists place great emphasis on the role of the state and other collective arrangements and are highly critical of self-centred individualism. From a socialist/collectivist perspective, those in political power should develop and implement policies that ameliorate the health damaging consequences of individualism[12].

The impact on social inequality of political orthodoxies is largely ignored but examples do exist. The state of Kerala in India has been widely studied due to its impressive reduction of inequalities over the last forty years and improvements in the health status of its population. Almost all of the studies however, have failed to make the link between the improvements in health and the public policies carried out by the state's governing party for the longest period during those forty years, the Indian Communist Party[62].

Another region referred to admiringly by researchers has been the north-eastern regions of Italy. In these regions there is active popular participation in governance alongside active polices to reduce social inequalities. The studies, including Wilkinson's *Unhealthy Societies*[35], fail to mention that all those regions were governed by the Italian Communist Party, which was to a large degree responsible for such policies[62].

In a study by Navarro & Shi[62] the influence of politics on health inequalities was examined. They examined political traditions in the advanced OECD countries during the 'golden years' of capitalism (1945-80). The countries were assigned into four groups based on the dominant type of political force that governed them during the time when their welfare states were established: *social democratic, Christian democratic (or conservative parties within the Christian tradition), liberal, and fascist.*

They found that the liberal countries (including the UK) had less commitment to redistributive policies and worse health indicators. The social democratic

countries had the highest level of commitment to redistributive polices and the best health indicators. The Christian democratic countries had taken the middle ground with redistributive policies weaker than those in the social democratic countries but stronger than those in the liberal countries.

This led them to conclude that "*for those wishing to optimize the health of populations by reducing social and income inequalities, it seems advisable to support political forces such as the labor movement and social democratic parties, which have traditionally supported larger, more successful redistributive policies than have the Christian democratic or liberal parties*"[62].

1.5.5.3 Tackling health inequalities

Any serious moves to reduce disparities in health in the Western, largely free-market democracies will require a change in the *status quo*. The rise of "third way" politics, exemplified by the New Labour administration in the UK, makes governments wary of formulating any policy that may be deemed 'radical'.

Despite being the political orthodoxy *de rigueur* in Western democracies, the "third way" is difficult to define. It is often considered, sometimes derogatorily, as neither old left nor new right. It rejects both the top down, command and control modality of socialism and the competitive, free market approach of neo-liberalism. The third way has been, and continues to be, the subject of much criticism. To give but one example, Powell[63] (who believes that the third way is best summarised by the acronym PAP – pragmatism and populism) argues that the third way is essentially devoid of ideology and leans to the right rather than the centre or left.

Social justice is a central tenet of a socialist or collectivist worldview and social justice dictates that socialists/collectivists should aim to eradicate inequalities in health. Therefore political parties with social justice, including the decidedly third way New Labour[64], as a fundamental concept of their constitution should do everything possible to achieve this goal.

The principle of social justice is much easier to link with health than, for example, social capital. Krieger and Birn[65] state, "*social justice is the foundation of public health... It is an assertion that reminds us that public health is indeed a public matter, that societal patterns of disease and death, of health and well-being, of bodily integrity and disintegration, intimately reflect the workings of the body politic for good and for ill*". From a social justice perspective, "*disparities in health status among different population groups are unjust and inequitable because ... they result from preventable, avoidable, systemic conditions and policies based on imbalances in political power*"[57]. Without such a perspective approaches to inequalities in health will likely focus on downstream interventions, probably with minimal impact.

Attempts to tackle health inequalities by focussing on upstream factors are likely to result in the greatest impact on population-wide differentials. However, such societal-level changes are the most difficult to bring about as well as being the most politically sensitive. Interventions that focus on midstream factors may benefit the groups or areas targeted but will make little impact on population health. Policies that address downstream factors, while important, probably only serve to improve individual health with no discernible impact on population-level health inequalities[11].

While 'upstream' interventions offer the widest range of benefit it has been acknowledged that a broad approach to tackling health inequalities, incorporating policies that intervene both 'upstream' and 'downstream' is necessary[66].

Despite the plethora of literature concerning social and health inequalities, evidence of which policies are most effective at reducing health inequalities is scant. During the independent inquiry into inequalities in health (see Section 1.6.4)[66], Macintyre *et al* were invited to become an "evaluation group" to assess the quality of the material submitted in order to ensure that the recommendations of the inquiry were evidence-based[67].

They were surprised by the paucity of evidence concerning the likely or actual effectiveness of many of the recommendations suggested to the inquiry: "*we were struck by the lack of empirical evidence available for a government to base policies or decide on priorities, despite the large amount of research undertaken and published on the subject in the United Kingdom*"[67].

Evidence-based policy making is not without its critics. One of the members of the evaluation group was quoted as saying "*Our recommendations are quite medical because those are the sort that tend to have evidence behind them*". Davey Smith *et al*[68], in response, highlight the fact that health differentials between social classes "*are not primarily generated by medical causes and require solutions at a different level*".

Evidence based research focuses on individual-level risk indicators which are often unimportant determinants of population-level outcomes. Evidence based assessments, like those used in the inquiry into inequalities in health, are generally restricted to individualised interventions. "*The Cochrane Library is unlikely ever to contain systematic reviews or trials of the effects of redistributive fiscal policies, or of economic investment leading to reductions in unemployment, on health*"[68].

This position is backed up by Nutbeam[69] who states "*the greater volume of evidence on potential interventions comes from studies designed to modify individual behaviour risks... In contrast, there is relatively little research funded or conducted to assess the effectiveness of interventions to tackle some of the wider social, economic and environmental determinants of health*".

Regardless, research currently has little direct influence on health services policy or governance policies[70]. Black suggests that researchers need to tailor their research to target the values of the policymakers who are influenced by social, electoral, ethical, cultural and economic factors. Research evidence will be rejected "*if it is incompatible with policymakers'*

interests and ideologies." He urges researchers to be cautious about uncritically accepting the notion of evidence based policy[70].

As iterated by Davey Smith *et al*[68] and Nutbeam[69], a lack of evidence of the effectiveness of interventions to tackle wide ranging socioeconomic determinants of health, such as low income, unemployment and poor housing, is used by some policymakers to excuse combating such upstream determinants.

Policymakers' propensity to focus on individual-level interventions has directed the focus of policy for many years. Such policies have had little impact on societal-level health inequalities and may have actually widened health differences between social groups. For example, through 1976-1990, despite the powerful financial disincentive not to smoke, which might be expected to be strongest amongst the poor, the poor, against the national trend, smoked more. Wilkinson argues that this is due to the increased levels of psychosocial stress suffered by the least well-off leading to lower self-esteem which, in turn, makes giving up smoking more difficult for those on low incomes than those on higher incomes[35]. Alternatively, this is because disadvantaged groups are constrained by their socioeconomic circumstances in ways that make behavioural change difficult[11].

It is examples like these that led Acheson[66] to recommend that all policies likely to affect health should be evaluated in terms of their impact on health inequalities. Furthermore, in response to evidence that social circumstances in early life can have important long term effects on later risk of death and ill health[71 72], the report recommended a high priority for policies aimed at improving health and reducing health inequalities in women of childbearing age, expectant mothers and young children.

Consensus remains divided on which is the most appropriate interpretation to utilise, and on the best way forward in tackling health inequalities. Pearce and Davey Smith[45] suggest that health researchers should primarily consider the health effects of macro-level policies and should not study community-level

factors, such as social capital, and individual-level factors out of context. Marmot and Wilkinson[43] argue that research should focus on psychosocial factors because, unlike many of the direct effects of material factors, such factors exacerbate other social problems such as levels of violence and educational attainment. Directly contradicting this viewpoint Lynch states "*the bottom-line for public health is that it seems hard to understand how a theory of health inequalities built on a foundation of perceptions of social rank, shame, distrust, hostility and informal social support can form the basis for an effective policy agenda to improve overall levels of population health and to reduce health inequalities*". The same author, writing alongside others[42], supports investment in neo-material conditions via more equitable distribution of public and private resources.

1.6 Public health policy in the UK

England followed Canada's lead in policy development much later. *The Health of the Nation*[73], England's first ever health strategy, wasn't published until 1992 but the development of a health strategy for the UK can be traced back to the mid-1970s. In 1976, the Labour government published a consultative document, *Prevention and Health: Everybody's Business*[74]. This identified several key areas for future intervention including inequalities in health status, heart disease and smoking-related diseases. The subsequent White Paper, *Prevention and Health*[75], did little to alter the balance between prevention and treatment services[12].

1.6.1 The Black Report

As in the *Prevention and Health* consultative document, a key area for future intervention was inequalities in health status. There was dissatisfaction with the record of the welfare state in failing to reduce the relative health disadvantages of the poor (though it had greatly reduced *absolute* disadvantages). The incumbent Labour administration established a Research Working Group on Inequalities in Health chaired by Sir Douglas

Black - at that time the President of the Royal College of Physicians. The subsequent report of this group (better known as the *Black Report*) was published, under an incoming Conservative Government, in 1980[76].

The conclusion reached by the Working Group was that the poorer health experience of lower occupational groups applied at all stages of life and that the class gradient seemed to be greater than in some comparable countries and was becoming more marked[76].

Their research established that much of the problem lay outside the scope of the NHS. Numerous factors were involved, the majority of which were social and economic in nature. Income, employment status, the nature of employment, environment, education, housing, transport and lifestyles all affect health and all favour the better off. In a number of different respects, whilst being the group most likely to need the services of the health care system, the manual classes made smaller use of the NHS than the better off[76].

The Black Report made a total of thirty seven recommendations including redressing the balance of the health care system so that more emphasis was given to prevention, primary care and community health and radically improving the material conditions of life of poorer groups, especially children and people with disabilities by increasing or introducing certain cash benefits[76].

The report was dismissed by the Conservative Government. Only 260 duplicated typescripts were made available and no press release or conference was arranged. A few copies were sent to journalists on the Friday before the August Bank Holiday helping to ensure the lowest possible level of publicity[76].

1.6.2 The Health Divide

Throughout the 1980s, the UK Government, led by Margaret Thatcher, refused to acknowledge that socio-economic factors affected health and remained vehemently opposed to any form of central health strategy[77]. The Thatcher Government favoured prevention policies that were consistent with its ideological predisposition - saving public money, promoting managerialism in public services and encouraging individual responsibility[12]. McKeown's findings[7] were being used by the New Right to question the value of the welfare state system and its associated policies of income redistribution, full employment and free public services. McKeown's interpretation was now taken as supporting the view that organised social intervention, whether by medicine or the state, had never played a major role in improving human health and welfare and that only strong economic growth was the principal guarantor of such improvement. In turn, economic growth dictated that greater scope be given to the free market and that all forms of public services be reduced[78]. McKeown's work was used as a rationale for containing costs with little acknowledgement of the author's concern for humane and equitable care.

The Thatcher government created an 'internal market' within the NHS, separating responsibility for the purchasing and provision of healthcare, in an attempt to stimulate competition between providers. It was hoped that, through competition there would be a strong incentive to increase efficiency within the NHS. Ham (2004)[79] argues that the internal market, by challenging the traditional influence of providers (i.e. acute hospitals), served to focus more attention on primary care and public health issues. However, the government continued to pay little attention to health inequalities. In March 1987 'The Health Divide'[80], commissioned by the Health Education Council (HEC), updated the evidence on inequalities in health which had accumulated since 1980 and assessed the progress made on the thirty seven recommendations of The Black Report. The report concluded that very little progress had been made on any of the Black Report's recommendations.

Like the Black Report before it, the Conservative administration attempted to dismiss the findings, immediately announcing plans to disband the HEC[80].

1.6.3 The Health of the Nation

During 1992, with John Major having replaced Margaret Thatcher as Prime Minister, *The Health of the Nation*[73] strategy was published. The stated aim was:

> *"to secure continuing improvement in the general health of the population of England by: adding years to life: an increase in life expectancy and reduction in premature death; and adding life to years: increasing years lived free from ill health, reducing or minimising the adverse effects of illness and disability, promoting healthy lifestyles, physical and social environments and, overall, improving quality of life"*[73].

This was to be achieved through the selection of key health areas, based on the following criteria: that the health problem in question must be a major cause of premature death or avoidable ill health, responsive to effective intervention and amenable to the setting of objectives, targets and methods of monitoring.

The strategy focused on five key areas:

- Cancer;
- Heart disease and stroke;
- Mental illness;
- HIV/AIDS and sexual health; and,
- Accidents.

For each of these categories, two types of target were identified (also see Table 1.2 on page 52):

- Main targets - setting out a reduction in the incidence of illness and mortality in various key areas; and,
- Risk factor targets - aimed at tackling some of the causes of these illnesses.

The Health of the Nation was generally welcomed, although it was criticised for not taking into account the socio-economic determinants of health and being too focused on the biomedical model:

> *"for some it was a bold initiative, setting out specific health targets for cutting mortality from the major causes of death and reducing risk factors across a range of illnesses and diseases, For others, [it] side-stepped issues such as the need to tackle poverty and deal effectively with equity"* (Appleby, 1997)[81].

Indeed, on reflection, the *Health of the Nation* strategy had a limited impact. It did little to tip the balance in the NHS away from health care services towards a more preventative agenda. It was rooted in the biomedical model of health, disease-oriented with little focus on the social aspects of health[25]. In terms of the health inequalities agenda, the strategy acknowledged that health status differed between regions, genders, ethnicities and socioeconomic circumstances. However, these differences were referred to as "variations" rather than "inequalities". This terminology reflected Conservative ideology at that time, placing the emphasis on individual responsibility and refusing to accept that society was unequal or unjust.

1.6.4 The Acheson Report into Inequalities in Health

The General Election of May 1997 saw the rebranded New Labour, under leader Tony Blair, elected in a landslide victory. The New Labour administration set about formulating health policy based on, what ministers described as a 'third way' of reform, different both from the focus on competition introduced by Thatcher's internal market and the centralised, planning of previous Labour administrations. During the 18 years of Conservative rule, the leadership of the Labour party has shifted its

ideological perspective significantly to the right, although 'New Labour' considered itself a party of the centre-left and retained a strong commitment to social justice. The willingness of the Labour party to accept some of the policies initiated by its political opponents was symptomatic of the changes to Labour's approach that occurred throughout the 1990s[77 79].

In July 1997 an independent review into inequalities in health was commissioned. Three key limitations were placed on the inquiry however: recommendations had to based on evidence, they had to be made within the framework of no increase in public spending, and they had to be made within a year. The Independent Inquiry into Inequalities in Health was chaired by Sir Donald Acheson and, like the report of his 1988 inquiry into the future development of the public health function, it's Report, published in late 1998, was known as The Acheson Report[66].

The Acheson Report into inequalities in health reinforced the conclusions reached in the Black Report nearly twenty years previously but, significantly, noted that health inequalities had widened in the intervening years. The report made thirty nine recommendations compared with Black's thirty seven and was well received but not without criticism[82 83] and counter-criticism[84]. Unlike the Black Report, Acheson's recommendations were politely welcomed by the Government stating *"its conclusions, based on evidence, will contribute to the development of a new strategy for health"*[66].

This strategy, *Saving Lives: Our Healthier Nation*[85], was published in June 1999. A key aim of the new strategy was the reduction of health inequalities.

1.6.5 Saving Lives: Our Healthier Nation

While in opposition, the Labour Party was critical of several aspects of *The Health of the Nation*, particularly its failure to acknowledge the impact of social, economic and environmental factors. Upon election to power one its first decisive acts was the creation of a new post: the Minister for Public

Health. The new government, and minister, were keen to advance a new approach to health policy to demonstrate their commitment to a more socially equitable and cohesive society[25].

Saving Lives: Our Healthier Nation[85] succeeded *The Health of the Nation*. It is worth noting that, with the process of devolution well underway in the UK, this strategy was specific to England. Despite criticism of *The Health of the Nation* while in opposition, *Our Healthier Nation* retained a focus on targets. However, the number of targets was reduced from twenty seven to four, in only four key areas (as opposed to five in *The Health of the Nation*). The key areas and targets of both strategies are shown in Table 1.2.

Table 1.2 A comparison of the key areas and targets of *The Health of the Nation* and *Our Healthier Nation*

Target areas	Health of the Nation	Our Healthier Nation
Coronary heart disease, stroke, and related illnesses	• To reduce the death rate in people under 65 years old by 40% by the year 2000 • To reduce the death rate in people aged 65 to 74 by 30% by the year 2000	To reduce the death rate in people under 75 years old by at least two-fifths
Accidents	• To reduce the death rate for accidents in those aged under 15 by 33% by 2005 • To reduce the death rate for accidents in those aged 15 to 24 by 25% by 2005 • To reduce the death rate for accidents in those aged 65 and over by 33% by 2005	To reduce the death rate from accidents by at least a fifth and to reduce the rate of serious injury by at least a tenth
Cancer	• To reduce the death rate for breast cancer in women invited for screening by at least 25% by 2000 • To reduce the incidence of invasive cervical cancer by 20% by 2000 • To reduce the death rate for lung cancer in those aged under 75 by 30% for men and 15% for women by 2010 • Halt the year on year increase in the incidence of skin cancer by 2005	To reduce the death rate in people under 75 years old by at least a fifth
Mental illness	• To improve appreciably the health and social functioning of mentally ill people • To reduce the overall suicide rate by 15% by 2000 • To reduce the suicide rate of severely mentally ill people by 33% by 2000	To reduce the death rate from suicide and undetermined injury by at least a fifth
HIV/AIDS and sexual health	• To reduce the incidence of gonorrhoea by 20% by 1996 (as an indicator of HIV/AIDS trends) • To reduce the rate of conception in girls aged under 16 by 50% by 2000	No target(s) set

The new strategy incorporated a greater awareness of the social, economic and environmental factors in ill health compared with *The Health of the Nation* acknowledging that *"the social, economic and environmental factors tending towards poor health are potent"*. Whilst health inequalities had been virtually

ignored under the previous government, *Saving Lives: Our Healthier Nation* stated a desire *"to improve the health of everyone; and the health of the worst off in particular"*[85].

The need for integrated working, both within central government and locally, to improve coordination of public health matters was outlined in the strategy. Such a need had also been highlighted in *The Health of the Nation*[73] but, without any plan to achieve integration, the recommendation was never implemented. This time government expressed an intention to gear other policies – in diverse fields such as housing, crime and education – to the achievement of public health objectives.

Proposals were also set out to improve training in public health, to strengthen the public health roles of nurses, health visitors and midwives, and to create a new post of Specialist in Public Health open to professions outside medicine – a seemingly important development for pharmacists.

The Blair government's commitment to public health was indicated by the prominence given to the role of health authorities in improving the health of the population rather than their traditional focus on developing local health services. Health authorities were expected to become public health agencies. As their tenure in power progressed, New Labour's policies came to reflect perceived weaknesses in attempts to manage the NHS on a centralised basis. An increasing emphasis was given to incentives and contestability. As Ham outlined there was a "*strong element of continuity between the latter stages of the Conservative government and the approach pursued by the new Labour government*" (p71)[79].

While considerable enthusiasm had been shown by the health lobby upon the release of the consultative document, reaction to the final strategy was more subdued. Despite containing much that was significant in respect of a health agenda, too much of it still appeared to be rooted in a medical model of health prevention and promotion that distracted attention from the wider socio-economic determinants of health[25].

1.6.6 Other public health policy developments since Our Healthier Nation

There have been a number of other health policy documents that impact on public health either directly or indirectly. Some of these had an obvious public health focus (such as the Tackling Health Inequalities Programme and the Choosing Health? consultation), others appeared less relevant to public health yet still either did, or had the potential to, influence the public health movement. The following section details such documents.

1.6.6.1 The Tackling Health Inequalities Programme

The Government's commitment to tackling inequalities in health was reflected in *Reducing health inequalities: an action report (1999)*[86] detailing the breadth of the Government's response to the recommendations of the independent inquiry into inequalities in health.

However, evidence suggested that inequalities in health had continued to grow. In 1999, a study showed that mortality differentials had increased dramatically in Britain during 1981-95 in line with equally dramatic increases in income inequality[33]. The authors claimed that, based on current evidence, the Government was doing little to reduce inequalities in material standards of living and that, based on fiscal and economic data, overall income inequalities would not be greatly reduced by the Government's policies[87]. Furthermore, one of the authors accused the Government of reneging on its commitments regarding health made before the election[88].

Such allegations were naturally refuted by the Government[89] who highlighted the fact that they were intent on reducing health inequalities and were investing considerable sums of money to do so[90 91]. Additionally, the Government had launched several initiatives to reduce inequalities in both wealth and health including Sure Start, Health Action Zones, a national

minimum wage and tax credits. These measures were aimed at the poor and families reflecting the recommendation of both the Acheson Report[66], and the Black Report[76] twenty years previously, that priority should be given to policies that radically improve the material conditions of life of poorer groups, especially children.

Despite making health inequalities part of its core political programme doubts were raised about the effectiveness of the interventions detailed by the Government. The consensus view was that the Government was relying too heavily on the NHS rather than examining the wider determinants of health inequalities and was failing to research the effectiveness of its interventions. Horton asked *"why is the Government so frightened of testing its ideas?"*[92].

While not contradicting the consensus view, others argued that the NHS could make a meaningful contribution by reducing inequalities in the provision of NHS care[93]. Such inequalities in access to health services had been noted several years earlier, for example Tudor Hart's Inverse Care Law which, in its simplest form, stated that those most in need of healthcare were those least likely to be able to access it locally[94], a theory backed up by empirical evidence[95], and a trend that continues to the modern day[96].

The NHS Plan (2000)[97], outlining the Government's programme of NHS reform, devoted an entire chapter to *"Improving health and reducing inequality"*. For the first time there was to be a national inequalities target (which was outlined in *Tackling health inequalities: a programme for action* – 2003). To help achieve this target, the Government pledged to[97]:

- Increase and improve primary care in deprived areas;
- Introduce screening programmes for women and children;
- Set up smoking cessation services; and,
- Improve the diet of young children by making fruit freely available in schools for 4-6 year olds.

The first of these four proposals can be regarded as an attempt to correct the inequalities in access identified by the Inverse Care Law[94]. The origins of the latter three can, once again, all be traced back to the recommendations of the Acheson[66] and Black[76] Reports that policy should focus on poorer groups, and particularly children living in poverty.

In November 2002 *Tackling Health Inequalities: Summary of the 2002 Cross Cutting Review*[98] attempted to identify a balanced mix of interventions based on good evidence, where available, and giving priority to those areas with the strongest evidence base. It also advocated a multi-departmental approach to reducing inequalities in health. These 'judgments' formed the basis for *Tackling Health Inequalities: A Programme for Action*[99] (July 2003) setting out a three year plan to cut inequalities in health. The document also stipulated the actions needed to achieve the 2010 targets of reducing infant mortality by 10% across social groups and raising by 10% life expectancy in the most disadvantaged areas of the country, compared with the population as a whole. In the foreword the Prime Minister Tony Blair described the action plan as *"a whole series of cross-departmental actions [that] will address the root causes of poor health and inequalities"*[99].

1.6.6.2 NHS Plan

The NHS Plan (2000)[97] detailed the Government's programme of NHS reform. The key principle of the plan was to redesign the health service based around the needs of the patient. This aim was to be backed up by devolvement of power (and budgets) to local health services. Local NHS organisations were to get more freedom to run their own affairs. The better these organisations performed the more freedom they would receive. Additionally, patients were to be given more say in how the NHS operated. Funding for the NHS would be increased considerably. More doctors and nurses would be recruited and current NHS staff would be used more effectively. There were to be extended roles for NHS staff, such as nurse prescribing.

Contentiously, the plan opened up the NHS to private providers. This would enable the NHS to make better use of facilities in private hospitals but only where this represented value for money and maintained standards of patient care. Despite such reassuring language, it was argued that the plan allowed for a considerable privatisation of the NHS[100].

1.6.6.3 The Wanless Reports

Having committed themselves to radically reforming and improving the NHS, the New Labour Government was faced with the problem of controlling the costs associated with creating a NHS fit for the 21st century. The cost of dealing with illness via the NHS was high and rising – health spending had risen on average by 3.9% a year in real terms over the period 1962-2002[101]. Preventing ill health in the first instance seemed to be a more cost effective way of utilising NHS resources. In March 2001 the Chancellor commissioned Derek Wanless, former Chair of the National Westminster Bank, to examine future health trends and to identify the key factors which will determine the financial and other resources required to ensure that the NHS can provide a publicly funded, comprehensive, high quality service available on the basis of clinical need and not ability to pay.

Securing our Future Health: Taking a Long-Term View (2002)[101] argued that *"better public health measures could significantly affect the demand for health care"*[101]. In addition to health benefits, a focus on public health was also seen as having the potential to bring wider benefits by increasing productivity and reducing inactivity in the working-age population. The review was critical of the balance of care, which, the review team felt, was too focussed on the acute hospital setting.

Underlying the first Wanless Report, not unlike Chadwick's Report of 1842[18] (although in an incomparable political and socioeconomic context), was a conviction that good health is good economics and that, far from being a financial burden, investment in health is a benefit to individuals, employers

and the Government[25]. Healthy communities attract investment, while unhealthy ones do not[102].

The review presented three alternative future scenarios (see Panel 1.2) depending on how productively the NHS uses resources, and the extent to which people are successfully engaged in protecting and promoting their own health.

Panel 1.2 Scenarios in the Wanless Report

Slow uptake – there is no change in the level of public engagement: life expectancy rises less than in the other two scenarios and the health status of the population is constant or deteriorates. The health service is relatively unresponsive with low rates of technology uptake and low productivity;

Solid progress – people become more engaged in relation to their health: life expectancy rises considerably, health status improves and people have confidence in the primary care system and use it more appropriately. The health service is responsive with high rates of technology uptake and a more efficient use of resources; and

Fully engaged – levels of public engagement in relation to their health are high: life expectancy increases go beyond current forecasts, health status improves dramatically and people are confident in the health system, and demand high quality care. The health service is responsive with high rates of technology uptake, particularly in relation to disease prevention. Use of resources is more efficient.

A 'fully engaged' scenario would generate better health outcomes and a lower increase in costs via more efficient use of resources. This was accepted by the Government. By accepting the 'fully engaged' scenario, the Government committed itself to major improvements in public health that would benefit the high risk groups at a faster rate than the rest, thereby reducing the health gap.

In April 2003 Derek Wanless was asked to provide an update on implementing the 'fully engaged' scenario with a particular focus on public health measures and health inequalities. This review, *Securing Good Health for the Whole Population* (2004)[103], represented *"the first systematic attempt by Government to consider what the right balance should be between health care and public health measures"*[104].

The review focussed particularly on prevention and the wider determinants of health in England and on the cost-effectiveness of action that can be taken to improve the health of the whole population and to reduce health inequalities. Wanless updated Acheson's definition for public health in this review,

introducing the word 'choices', at that time the Government's 'buzz-word', and emphasising the responsibility of every individual to care for their own health. Public health, according to Wanless, became *"the science and art of preventing disease, prolonging life and promoting health through the organised efforts and informed choices of society, organisation, public and private, communities and individuals"*[103]. It is arguable that this update of the definition of public health reflected the neo-liberal, individualist ideology of New Labour by seeking to pass on some of the responsibility for the health status of the population from the state to individual citizens themselves.

On health inequalities, Wanless was non-committal concluding that, while it was too early to comment on progress of the *Programme for Action*, based on current policy, the target for health inequalities may be achievable. Wanless identified a number of factors which could lead to the government failing to achieve the life expectancy element of the target[103]:

- Some interventions and services may not be reaching the most disadvantaged.
- Lack of knowledge about what interventions work for the most disadvantaged groups.
- Interventions are too focussed on the beginning and end of the life cycle, more needs to be done to reduce inequalities in other age cohorts.
- Lack of information about cost-effectiveness of interventions which hinders priority setting at local level.

1.6.7 Devolution – strategies across the UK

New Labour's commitment to devolution, particularly the devolution of healthcare budgets, has led to the differential development of the NHS within each of the home countries. Each administration developed country-specific health strategies. Table 1.3 (below) lists these documents and notes any key advances for pharmacy within them. The strategic documents from the

devolved administrations closely mirror developments within England. In marked contrast however, it is apparent that in Scotland, Wales and Northern Ireland pharmacy is on the national policy agenda.

Table 1.3 Health strategies in the devolved administrations of the UK

Devolved administration	NHS Policy documents	Key developments for pharmacy
Scotland	Partnership for care (2003)	Pledged to promote the use of local pharmacies as walk-in centres where people can receive health advice and services
Wales	Improving health in Wales (2001)	Announced freezing of prescription charges and the abolishment of the prescription charge for the under-25s
Northern Ireland	Investing for health (2000)	Encouraged the development of "health promoting pharmacies". Pharmacists working in these pharmacies would have the possibility to become involved in community outreach work. Premises would be able to be used for the provision of services by other health professionals

The effect of devolution on health policy has been analysed by Greer (2003) who argues that:

> *"Each system has taken a distinct path from the 1991 baseline of Margaret Thatcher's 'internal market'. England is the most market-based; the Labour government has pursued market-based service organisation and private participation and focused on service provision rather than new public health. Scotland is its near opposite, rebuilding the unitary NHS with strong planning and service integration and a buyout of Scotland's most prominent private hospital as well as a small but meaningful commitment to new public health. Wales diverges not only in its reluctance to work with the private sector and its strong commitment to new public health but also in the way that commitment shapes its service organisation" (pp 198-9)*[105].

1.6.8 Choosing Health?

In 2004, the then Secretary of State for Health, John Reid, announced a consultation on improving public health – *Choosing Health?*[106]. This consultation was billed as an opportunity for all interested parties – the NHS, local government, non-governmental organisations, schools, employers, industry, the media, central government and individuals themselves - to contribute to a debate on how together they can create the opportunities for everyone to enjoy the best health that is possible for them. The consultation

ended in June 2004 and the Public Health White Paper – *Choosing Health: Making healthy choices easier* was published in November 2004[107].

The White Paper established what it described as three core principles of a new public health approach[107]:

1. Informed choice – helping individuals to make informed decisions about choices that impact on their health;
2. Personalisation – support to be tailored to the needs of the individual; and,
3. Working together – emphasising the importance of partnerships across communities including local government, the NHS, business, advertisers, retailers, the voluntary sector, faith groups and many others.

Choosing Health also detailed six overarching priorities for action:

- Reducing the numbers of people who smoke.
- Reducing obesity and improving diet and nutrition.
- Increasing exercise.
- Encouraging and supporting sensible drinking.
- Improving sexual health.
- Improving mental health.

Unlike its predecessors, the *Health of the Nation*[73] and *Saving Lives: Our Healthier Nation*[85], *Choosing Health* didn't set any measurable targets. It did however detail some significant policy changes that would help to address the priorities listed above such as a food labelling system that would make it easier for consumers to select food items consistent with a healthy diet, restrictions, although not a complete ban as had been mentioned previously, on tobacco advertising, and a partial smoking ban, in enclosed public places and workplaces, by 2008.

However, some of the proposals put forward in *Choosing Health* raised controversy. Of particular note was the Government's proposal to work in partnership with the Portman Group to help reduce binge drinking. Despite the Portman Group defining its purpose as the promotion of responsible drinking, the prevention of misuse of alcohol, the encouragement of responsible marketing and the fostering of a balanced understanding of alcohol-related issues, it is funded by the UK's leading alcoholic drinks producers including Carlsberg, Coors, Scottish and Newcastle breweries, and the J.D. Wetherspoon pub chain[108].

Despite being generally welcomed by the public health community, the UK Public Health Association (UKPHA) published a critical assessment of the White Paper and the political ideology underpinning it[109]. The report highlighted a number of weaknesses in the Government's policy and cast doubt as to whether the proposed three core principles – informed choice, personalisation and working together – were the most critical issues in addressing health inequalities and promoting the public's health. It concluded that the policy was seriously flawed. Additionally, it was suggested that their was no real need for a new health strategy and that the Government had superseded *Our Healthier Nation* (published in 1999) to bring the strategy into line with the mantra of choice, individualism and marketisation of the NHS that it had introduced since 2002[110].

Fearing criticism of the 'nanny state', the Government avoided direct regulation wherever possible. Instead they placed the onus on providing information and support to enable individuals to make healthy choices for themselves. *Choosing Health* therefore failed to resolve philosophical tensions that have long prevented the formulation of a coherent public health strategy; namely, what is the balance that should be struck between intervention by the state and individual freedom? The focus of policy remains on individualised health promotion methods rather than community-based action to improve health and on the provision of acute services and *Choosing Health* offered little prospect of change. Furthermore, the differences between the *Our Healthier Nation* and *Choosing Health* documents suggested a return

to a neo-liberal focus on the influence of individual lifestyle factors and a reduced role for collectivist Government[77 111].

1.6.9 The marginalisation of public health in UK health policy

The emphasis placed on promoting efficiency within the NHS since the late 1970s has focussed attention on how to best use the finite resources allocated for healthcare by central government. This, in turn, demands that the healthcare provided by the NHS is cost-effective. The drive for efficiency allied to the rise of a target-driven culture within the NHS goes someway to explaining why several commentators[25 77 112] believe that public health has been pushed to the margins of contemporary health policy.

The improvement in the health status of the population made since the establishment of the NHS may have been associated with the introduction of health services free at the point of use to patients, but this does not demonstrate that the gains made in health have been caused by the NHS. Indeed, factors such as poverty, housing and employment are often more important than healthcare services in reducing morbidity and mortality[79]. Furthermore, strategies aimed at the prevention of ill health often lack evidence of cost-effectiveness. While such strategies may be expected to reduce the burden of treatment on the NHS, they may also have longer-term costs that impact on public services in the future. For example, if strategies to reduce alcohol consumption are successful, this may have an impact on healthcare cost, not to mention the costs of pensions and long-term care[12].

A major focus of health reform since the 1980s has been the reduction of waiting times – both in the acute sector and within primary care. Waiting is a major concern for the public and the feature of NHS provision of which they are most critical[79]. Public health has not been immune from the drive to increase access and reduce waiting times. Indeed, Crowley and Hunter (2005) argue that "*delivering on healthcare targets in respect of access and waiting times is diverting public health practitioners from their core*

business"[112]. Furthermore, it is their belief that public health in the NHS "*has been, or has allowed itself to be, driven down the narrow, and ultimately self defeating, road of health service performance management and finds itself unable to step back and examine the root causes of ill health in the populations served*"[112]. They cite such developments as evidence that a 'target culture' in public services is dysfunctional and counterproductive.

With a focus on achieving targets, funding for initiatives aimed at improving health and preventing ill health in the general population may not be prioritised. It is much easier to measure improvements in service delivery than achieve well-being in specific population groups and strategies are directed at individuals, not communities, regions or classes. Indeed, much health policy has a downstream focus on symptoms and treatments, microanalysis of individual risk factors, and changing people's behaviour and lifestyles, not conditions or places[57]. For example, few decision makers adopt an upstream focus and examine the relationship of inequalities in health status to social, political, and economic inequality. Such an approach is anathema to the new public health movement which demands acknowledgement of the wider structural determinants of ill health. As Hofrichter[57] asserts, policymakers in both the US and the UK "*present options primarily through a biomedical model and remedial solutions, mostly associated with health care, rarely stressing social transformation*".

Contemporary UK politics is dominated by a 'third way' ideology that shares many of the basic tenets of neo-liberalism. Indeed, Tony Blair's political ideology has been described as "Blatcherism", indicating the continuity of Blair's third way with the Thatcherite conservatism of the 1980s and 1990s[113]. The dominant political orthodoxy then offers little hope for a shift in the policy agenda towards an upstream focus more consistent with the new public health. As has been stated elsewhere in this chapter (Section 1.5.5.2), a neo-liberal policy agenda is likely to focus interventions towards individuals rather than upstream, macro-level structural change. Such a stance adopts a largely *laissez faire* approach to the market and seeks to avoid intervention for fear of

being accused of operating a 'nanny state'. This is reflected in contemporary health policy, most pertinently *Choosing Health*.

1.7 Summary

This chapter of the thesis has provided an overview of public health and has shown the development of public health policy and practice in the UK from the Victorian era to the modern day. It has also documented the changing nature of public health problems, in particular the inequitable burden of problems experienced by those suffering socioeconomic disadvantage. The prime reasons for morbidity and mortality amongst the poor has moved on from death from acute illness (i.e. infectious disease caused by insanitary living conditions) to the chronic diseases (coronary heart disease etc.) which used to be considered as the diseases of affluence. This chapter has also highlighted the disproportionate levels of ill health suffered by the socioeconomically disadvantaged which, despite efforts to reduce these health inequalities, are still apparent and continuing to grow – arguably as a result of the prevailing neo-liberal political orthodoxy. The next chapter examines the available literature concerning pharmacy and its role(s) in improving health and tackling health inequalities.

Chapter 2 Pharmacy and Public Health

2.1 Introduction

Chapter 1 provided an overview of public health policy and practice in the UK. The effect of socioeconomic circumstances on health status was also introduced. This chapter will expand on the background provided so far but with a specific focus on pharmacy – its contribution to date and its potential contribution in the future.

2.2 History, professionalism and the public health function

2.2.1 Historical roots of pharmacy

The roots of modern day pharmacists can be traced back to the apothecaries who emerged in the mid-sixteenth century. At this time, the apothecaries dealt mainly with the preparation and sale of substances for medicinal purposes. The Society of Apothecaries was founded in 1617 and from this point onwards, apothecaries practised medicine alongside physicians. While physicians tended to restrict themselves largely to surgery, apothecaries were considered the 'poor-mans' doctor' – during the plague, for example, the majority of physicians fled the cities while the apothecaries remained[114]. In 1704 the Society of Apothecaries won a key legal suit (the Rose Case) against the Royal College of Physicians allowing apothecaries to both prescribe and dispense medicines facilitating the evolution of apothecaries into today's general practitioners of medicine[115].

From the 18th century onwards, Chemists and Druggists (C&Ds) became more commonplace. C&Ds supplied drugs and dispensed medicines yet had no formal qualifications or experience. Apothecaries objected to this boundary encroachment (i.e. what they viewed as encroachment onto 'their

patch') and attempted to restrict the dispensing and sale of medicine to the apothecary. They failed and the Apothecaries Act of 1815 allowed C&Ds to continue the supply of medicines while also exempting them from restrictions or inspections. In the face of continuing hostility, the Pharmaceutical Society of Great Britain was established as a representative organisation for C&Ds with the principle object of establishing consensus and outlining delivery of a system of education for C&Ds in order to prevent continuing attack from the vested interests opposing their existence[114]. Just as the apothecaries evolved into today's GPs, so C&Ds developed into today's community pharmacists.

2.2.2 Professions theory

The establishment of the Pharmaceutical Society together with the introduction of formal education and training for C&Ds can be viewed as the beginning of the process of professionalising pharmacy (although it is of note that it can be argued that pharmacy has never fully attained professional status). A profession has been defined by Carr-Saunders and Wilson[116] as an "*occupation which is based upon specialized intellectual study and training, the purpose of which is to supply skilled service or advice to others for a definite fee or salary*". However specialised training and a skilled service are not the only characteristics of professions as a number of occupations also possess these features. Occupations transforming themselves into professional groupings also[116]:

- 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.

2.2.2.1 Trait analysis

Defining what constitutes a profession is contentious. A popular approach adopted in the 1950s and 1960s was to list those characteristics that differentiated professions from other occupations – 'trait analysis'. In 1952, Lewis and Maude (see Mrtek and Catizone, 1989)[117] identified the following characteristics of professions:

- Registration or state certification embodying standards of training and practice in some statutory form;
- A fiduciary practitioner-client relationship;
- An ethical code;
- A ban on the advertising of services; and,
- Independence from external control.

Goode (1969)[118] provided a list of what he considered "generating traits", that is, if a group of workers acquires these characteristics, it becomes professional. A profession is defined by all these characteristics which can be simplified into two interrelated groupings[117 118]:

- Body of Knowledge (Professional Knowledge)
    - Formal organisation
    - Autonomy
    - Ethics
- Use of the Knowledge to Serve Mankind (The Service Ideal)
    - Enduring ideals
    - Altruistic attitude

As can be seen from the limited number of views presented above, what exactly constitutes a profession, and distinguishes a profession from an occupation, is open to much debate – "*no two authorities agree precisely on what the basic traits of a profession are*"[119]. Regardless, professions had

claimed a licence to carry out certain actions and a mandate to define what is proper conduct of others towards their work[120].

2.2.2.2 Achieving professional status

An occupation may attain professional status through improvements in skills and knowledge. However, arguably of more importance is the ability of a profession's leaders to successfully convince the state that autonomy and self-regulation are warranted. Accordingly, an appropriate relationship with service users is essential. Johnson[121] suggested that the key to such a relationship is establishing and maintaining a sense of mystique about the elements that make up professional services.

Harding and Taylor[122] state:

> *"Promoting services as esoteric, while creating a dependence on them, increases the social distance between professional and the public (i.e., the differential social status derived from membership of a privileged occupational group), and reduces the areas of knowledge and experience professionals have in common with service users. This wards off potential challenges to status by the public. It is not simply a list of attributes, then, that defines a profession, but the circumstances in which the public is willing to accept or challenge the professionals' area of expertise".*

The possession of a large number of "professional traits" may not be enough to account for the advancement of an occupation into a profession. The occupation has to convince the state and the public that of its importance for the good of society. *"Achieving professional status also relies on the results of political struggles and power conflicts among different occupations, during which each occupation attempts to establish itself as warranting autonomy to practice and self-regulate"*[122].

2.2.2.3 Professional power

Trait analysis maintained a neutral perspective on professions; it neither criticised nor endorsed their privileged position in society. During the 1970s however, a more radical perspective of the social order emerged, that focussed on the inequities of the economic system and the way in which it operated to disadvantage the economically less well off[122]. Sociological research became interested in how the professions had managed to persuade society to grant them a privileged position[119].

Friedson (1970)[123], focussing on the medical profession, identified two associated domains to medicine's power: the first related to the ability to control one's own work activities (autonomy), and the second related to the formal control over the work of others in the healthcare division of labour (dominance). The autonomy of the medical profession, in most English speaking countries, has developed and resulted in dominance over allied health professions[124]. Friedson argued that "organised autonomy" (i.e. power) allowed the medical profession the "*freedom to regulate other occupations*" before continuing:

> *"Where we find one occupation with organised autonomy in a division of labour, it dominates the others. Immune from legitimate regulation or evaluation by other occupations, it can legitimately evaluate and order the work of others. By its position in the division of labour we can designate it as a dominant profession"*[123].

It is of note that, as a juxtaposition to the medical profession, pharmacy has been described as an occupation which has "*a low profile and little political influence*"[125].

2.2.2.4 Proletarianisation and deprofessionalisation

Emerging out of Marxism, proletarianisation and deprofessionalisation challenged Friedson's theory of professional dominance. Proletarianisation is linked to the Marxian belief of the polarisation of classes – the inevitable

historical process, within a capitalist society, of the class structure becoming increasingly polarised. Over time, the class system will come to consist of just two classes – the proletariat and the bourgeoisie, i.e. the intermediate groups and classes are inevitably reduced to the level of wage labourers[126]. "*In recent sociology, proletarianisation is seen as the process by which the work situation of middle-class workers becomes increasingly comparable to that of the manual working class, with subsequent implications for trade union and political attitudes*"[119].

McKinlay (1977)[127], again focusing on medicine in the USA, argues that physicians have been incorporated into more complex organisational structures where control and autonomy over their work practices are steadily withdrawn. McKinlay contends that medicine is "*increasingly subject to a process of rationalisation, as it is divided into numerous technical tasks, some of which are undertaken by cheaper and less qualified occupational groups (e.g. nurses)*"[119]. He argues that physicians no longer work altruistically, instead, like any other workers, they work for large corporations. All of this points to the proletarianisation of medicine[128].

Max Weber, regarded as one of the founders of modern sociology, considered the most distinctive feature of modern ("Western") society to be its organisation along rational lines. In his works, the most famous of which being "*The Protestant Ethic and the Spirit of Capitalism*"[129], he alludes to an inevitable move towards rationalisation (i.e. the pursuit of ever more efficient ways of living). Rationalisation challenges the professions' claim to mystical knowledge, thus reducing the social distance between the professional and the public. It demands that service delivery becomes more transparent, so that the process as a whole can be disassembled into its composite parts. As a result, the processes of production and service delivery become more rational and thus more effective. The end, for Weber, is lucid and horrible – yet unavoidable. It is a mechanised, routinised world in which professionals are merely neat little cogs in a perfectly functioning machine[130]. "*Attempts to preserve the mystical qualities of knowledge therefore represent attempts to resist rational processes and become in themselves irrational*"[122].

Linked to prolaterianisation, but arguably more salient to the nature of professions, is the concept of deprofessionalisation. Like prolaterianisation's link to the Marxist theories of class polarisation, so deprofessionalisation is linked to Marxist observations of de-skilling. De-skilling, a product of increasing rationalisation, can be defined as:

> "*the process by which division of labour and technological development has led to the reduction of the scope of an individual's work to one, or a few, specialized tasks. Work is fragmented, and individuals lose the integrated skills and comprehensive knowledge of the crafts persons*"[126].

Deprofessionalisation can be viewed, on the same continuum, as the de-skilling of the professional classes. Haug (1973), described deprofessionalisation 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*"[131].

Haug[131] argued that trends toward greater egalitarianism[c] as well as a rise in educational attainment among the general public makes it possible for clients to question authorities (the professional) due to narrowing of 'the knowledge gap'. Additionally, in the case of medicine, the explosion in medical knowledge makes it increasingly difficult for physicians to keep one step ahead of the general public in the knowledge stakes. Haug described how physicians traditionally deal with these increasing threats to their autonomy through increasing specialisation, i.e. the concentration of knowledge on a limited speciality rather then a general knowledge of numerous medical specialities, thus perpetuating monopoly through specialisation[119].

Both proletarianisation and deprofessionalisation are not without their critics. When considering prolaterianisation, it is clear that unskilled manual labourers

[c] It is of note that Haug's thesis was formulated before the rise of neo-liberalism (i.e. the political ideology typified by Reaganism and Thatcherism) in the 1980s.

do not possess the kind of knowledge and marketable skills that physicians have, nor do they supervise others, affording them much less protection from the vagaries of the capitalist free market than physicians. Despite a shift in US medicine towards the direct employment of physicians by healthcare organisations, this does not mean that medicine has become prolaterianised[132]. Annandale[132] argues that the validity of Haug's thesis on deprofessionalisation is dependent on the extent to which we accept the logic of consumerism in relation to healthcare. In the UK, the amount of "choice" patients can exercise within the health service, both in primary and secondary care, is limited and caution should be exercised in considering the deprofessionalisation thesis within this context[119].

2.2.3 Professional status: the case of pharmacy

Employing trait analysis, it can be seen that pharmacy possesses a number of the characteristics viewed as necessary for the evolution of an occupation into a profession. It is an occupation based upon specialised intellectual study and training. Pharmacists in the UK have a monopoly of practice as only individuals registered as pharmaceutical chemists with the Royal Pharmaceutical Society of Great Britain (RPSGB or 'the Society' – the membership and regulatory body for pharmacists practicing in Great Britain) are able to practice pharmacy. Additionally, the RPSGB, via the statutory committee, also regulates professional conduct. The service ideal of pharmacists comes from their provision of pharmaceutical services, the treatment of minor ailments and the provision of health advice. The trait approach seems to indicate that pharmacy is a profession but others have disputed this claim.

Denzin and Mettlin (1968)[133] argued that pharmacy had not become a *bona fide* profession as it had failed to secure control of the social object of its practice (namely medicines). Despite the recent introduction of independent pharmacist prescribing, pharmacists are, to a large degree, dependent on prescribers. The pharmacist, whether operating in a hospital or community

environment, is governed, in part, by the judgements and decisions of the medical profession. So, while pharmacists may consider themselves to be, and promote themselves as, drug experts, it can be seen that they have historically failed to secure control of the social object of their work[122]. Denzin and Mettlin also contended that the commercial interests of pharmacists, at least in the community setting, are inconsistent with the altruistic attitude of the service ideal of professions. They labelled pharmacy a "quasi profession"[133].

The views of Denzin and Mettlin are countered by Dingwall and Wilson (1995 in Harding & Taylor, 1997[125]) who argue that, when applied to the medical and legal professions, 'trait analysis' does not significantly differentiate pharmacists from physicians and lawyers. They also argue that, although market pressures may apparently compromise the professional status of pharmacists, professional altruism and commercial interests are not necessarily in conflict. Dingwall and Wilson also criticised Denzin and Mettlin for their failure to distinguish the difference between the drug as a material object and 'the-drug-as-a-basis-for-social action' when accounting for the inability of pharmacists' to secure control of the object of their work arguing that "*the social object of pharmacy is the symbolic transformation of the inert chemical into the drug*". (1995: 125)

While largely endorsing Dingwall and Wilson's critique, Harding and Taylor (1997)[125] argue that the social object of pharmacy is:

> "the symbolic transformation of a drug into a *medicine*. Pharmacists have more than a legal license to dispense prescribed drugs, they also possess a publicly recognised authority to transform potent pharmacological entities, into medicines, i.e. to inscribe prescribed, or purchased drugs with a particular meaning for the user (e.g. to alleviate or control a biological dysfunction)." (p 554, italics appear in original)

For example, while warfarin is a well known rodenticide, it is transformed into a medicine when supplied by a pharmacist for a specific medical purpose. They conclude that, within the community setting, pharmacy has the ability to

secure control of its' social object and attain professional status, yet has failed to capitalise on this opportunity.

2.2.4 Pharmacy in the 20th century: a case of deprofessionalisation?

The practice of pharmacy in the UK changed markedly throughout the 20th century. Anderson[134] identifies three key time frames of pharmacy practice: a period before 1948 characterised as the role of the 'traditional' pharmacist; a period between 1948 and 1982 characterised as the 'disappearing' pharmacist, when the role of the pharmacist was the dispensing of prescriptions at the back of the shop; and a period of 're-invention' of the pharmacist during the 1980s and 1990s, a process which included the rediscovery of the pharmacist's role in health promotion.

Prior to 1948, pharmacists were to be found at the front of their shops with the responsibility for dispensing being left to the apprentices 'in the back'. The pharmacist was an important and well-known member of the local community – a readily available source of wisdom and advice about a whole range of health-related issues such as domestic hygiene, diet and sexual health. Providing advice about such issues was an integral part of the pharmacist's role in the community. With the provision of personalised medicines, dispensed 'in house', the mystique of pharmacy at this time meant that pharmacy was a privileged occupation, and arguably a profession.

However, such roles were relegated in importance, practically overnight, with the arrival of the NHS in 1948. As Anderson[134] states *"state prescriptions virtually quadrupled overnight, from about 70 million a year to around 250 million. To meet this increased workload pharmacists had little option but to spend much of their working day in the dispensary, particularly since many of the prescriptions still needed to be made extemporaneously."*

The knock-on effects of this were myriad. With all medicines now available free of the charge on the NHS, counter dispensing declined rapidly. *"Retail chemists found themselves in the middle of a shifting relationship between self-help and lay care on the one hand and state provision of services on the other"*[135]. The community pharmacist, at least in many places, virtually disappeared from the public's view, and hence their consciousness. *"The public face of pharmacy was now the counter assistant, with the pharmacist only appearing grudgingly if the customer insisted on seeing him"*[134].

During the same era, the functions of the community pharmacist altered significantly in other ways. Anderson and Berridge[135] assert that *"the thirty-year period between the 1930s and the 1960s ... witnessed the transfer of responsibility for the making of medicines, initially from the family to the chemist, and later from the chemist to the manufacturer. It ... also witnessed the depersonalisation of the medical product, with the chemist no longer making something 'specially for them'"*.

Mrtek and Catizone, identify similar upheaval in the functions of the American community pharmacist:

> *"In the span of about 50 years [from approximately 1900-1950], the profession lost no less than three of the four functions that had been the mainstay of the work of pharmacists since at least the 8th century! The old mysteries of the art of apothecary, drug procurement, storage and compounding, had vanished"* (Mrtek and Catizone, 1989, p. 30)[117].

Mrtek and Catizone[117] contend that "*the loss of such deeply rooted functions endangered the identity of the entire profession*" leaving merely "*the simple dispensing of drugs on order of the prescriber, with its associated monetary transaction*". In the UK, even the dispensing of drugs is not exclusive to pharmacy as some general practitioners ("community physicians") have the right to dispense their own medicines (i.e. "dispensing doctors").

By the late 1970s community pharmacy was in trouble:

> *"One knew that there was a future for hospital pharmacists, one knew there was a future for industrial pharmacists, but one was not sure that one knew the future for the general practice pharmacist"* (Pharmaceutical Journal, 1981)[136].

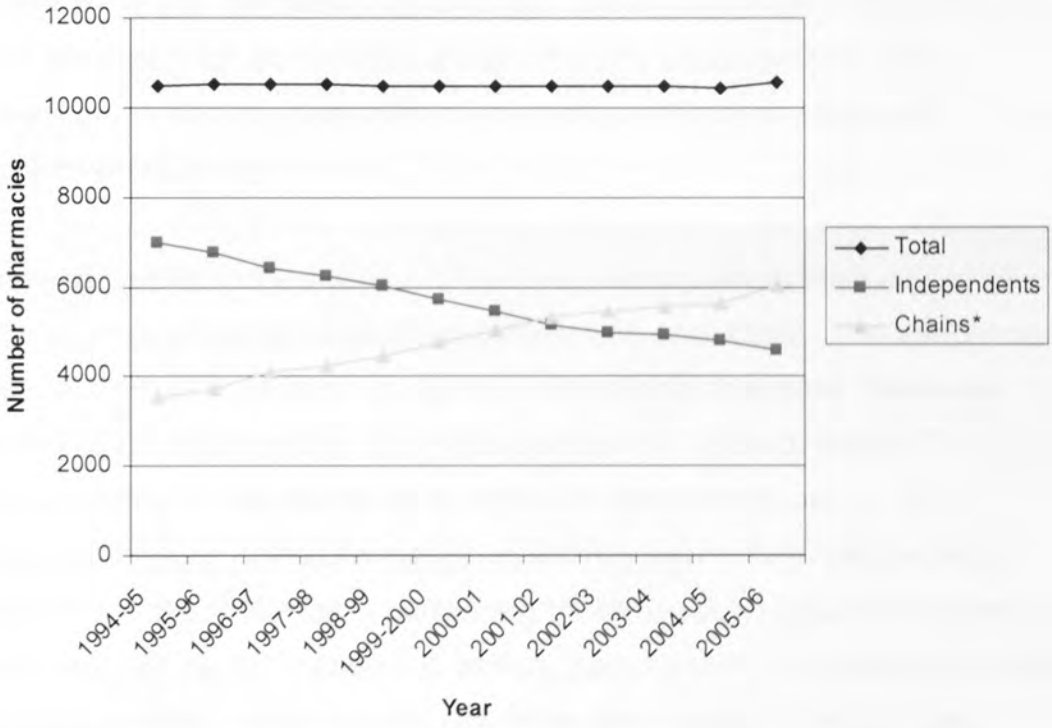
Community pharmacists found themselves over-trained for what they did and under-utilised in relation to what they knew[137]. Technological advances, such as the widespread reliance on pharmacy computer systems and the repackaging of drugs from loose pots of one thousand or more into standardised original packs (of 28 days duration for example), have led to the automation of tasks within pharmacy which has, in turn, undermined the traditional basis for its claim to professional status[138 139]. Additionally, the trend of making drugs increasingly available for purchase from non-pharmacy outlets (such as petrol filling stations and grocers), reduces the drugs to a commodity, with the connotation that no associated 'expert' supervision and advice is required[140].

2.2.4.1 The corporatisation of community pharmacy

Community pharmacists have often been described as the most accessible of health professionals. This accessibility can, at least in part, be attributed to the operation of community pharmacies in a retail environment. While approximately 80% of a community pharmacy's turnover may be derived from the contracted provision of NHS services[141] (i.e. the core dispensing function), community pharmacy has never been fully integrated into the NHS. Pharmacies do not benefit from the same "safety net" provided to GPs surgeries, where overheads are covered by the NHS, and therefore, pharmacies can only continue to function while they are profitable. This context has fostered a tension between the desire of pharmacists to provide a health service and the necessity to operate a profitable business. Community pharmacy is divided by the requirement for contractors to seek a competitive advantage, pitching contractor against contractor.

Historically, most community pharmacies were owned by self-employed community pharmacists. However, this pattern of ownership has been eroded by the takeover of independent pharmacies by larger pharmacy chains and, most recently, by supermarkets (at the time of writing less than 44% of pharmacies in England and Wales are now part of chains of 5 or fewer outlets compared to 66% in 1994 – see Figure 2.1)[142 143]. This growing "corporatisation" of the community pharmacy sector has seen multiple pharmacy chains, and now supermarkets, assume a position of predominance in terms of the provision of pharmaceutical services.

Figure 2.1 Number of community pharmacies in England and Wales from 1994-95 to 2005-06[142 143]



Notes on Figure 2.1:

*refers to multiple pharmacy chains of 6 outlets or more

Figure 2.1 shows that the number of community pharmacies in England and Wales has remained fairly constant from 1990 through to 2005. Throughout the time course plotted above, the number of chain pharmacies has increased

year on year while the number of independent pharmacies has decreased each year.

The control of entry regulations and retail pharmacy services in the UK (Office of Fair Trading (OFT), 2003)[144] recommended the abolition of regulations governing the awarding of NHS dispensing contracts which enable a retail pharmacy outlet to dispense NHS prescriptions (as stated previously, 80% of the average community pharmacy's turnover is generated by NHS prescription business[141]). The regulations had been in place since 1987 and had ensured the maintenance of outlets at a relatively steady level ever since (see Figure 2.1), thus ensuring a fairly uniform community pharmacy network throughout the UK. The OFT's opinion was that the regulations were unduly impeding the way the market works to the ultimate detriment of the public. They inhibited price competition, stifled efficiency improvements and innovation, limited the availability of pharmacy services, and imposed substantial regulatory burdens[144].

Complete abolition of the control of entry regulations would have placed all retail pharmacy outlets in direct competition with each other. The independent pharmacy would have been up against multinational pharmacy chains like Boots and Lloydspharmacy, and the supermarkets. Indeed, the OFT's recommendations seemed to be at odds with Government policy. For example, changes to the pharmacy market may lead to failure to deliver on key points of the NHS Plan[97], particularly those health target areas that rely on pharmacies as information and campaigning centres. Additionally, it would be expected that, in a community where the pharmacy is forced to close, a con-commitant increase in non-essential GP appointments would result[141].

In the devolved administrations of Wales and Scotland, the OFT's recommendations were rejected outright. At Westminster however, the OFT's recommendations were cautiously welcomed. The Department of Trade and Industry (DTI) recommended a halfway house between deregulation and the current situation. These recommendations included[145]:

- An obligation for Primary Care Trusts (PCTs – the local NHS primary care organisations in England) to consider the impact on consumer choice when considering applications for services.
- Boosting patient choice through access to mail-order and internet services.
- Allowing an exemption from the regulations for pharmacies wishing to locate in large shopping developments (over 15,000 square metres). This exemption is only available to pharmacies providing a "full and prescribed" range of services.
- Similar arrangements apply to pharmacies opening more than 100 hours a week and those taking part in the new one-stop primary care centres.

It appeared that these recommendations still had the capacity to erode community provision, by allowing supermarkets an exemption from the control of entry regulations by virtue of their long opening hours or location in new retail developments. They ignored the possibility of the vested interests of PCTs when making pharmacy location decisions. This could deprive communities of access, as was the case before the introduction of the control of entry regulations when "leapfrogging" led to pharmacies being clustered around GPs' surgeries[146].

Some of the effects of this relaxation to the Control of Entry Regulations are starting to be realised. Figure 2.1 shows an uncharacteristic increase in the number of pharmacy outlets between the years 2004-2005 and 2005-2006 (an increase of 139 outlets for the year compared to a net decrease of 68 pharmacies for the previous 10 years). While the number of independents fell by 221, the number of chains increased by 360. Of 226 applications awarded contracts in 2005-06 under the exemptions introduced in response to the OFT report, 23% (n=51) were awarded to pharmacies meeting the criteria for out of town, large shopping developments (which applies to many supermarkets) and 69% (n=156) were awarded to pharmacies proposing to open for 100 or more hours a week (again, applicable, but not exclusive to, supermarkets)[143].

These data suggest that the relaxations to the Control of Entry Regulations have facilitated the development of the corporate pharmacy sector at the expense of the independents.

2.2.4.1.1 Implications for pharmacy's professional status

As an organisation grows in complexity, it is forced to adopt distinct working practices in order to operate economically, effectively and competitively. Profits are maximised by the rationalisation of products and services. Ritzer (2000)[147] has coined the term "McDonaldisation" to illustrate that the policies and practices adopted for efficient, routinised production of fast food pervade into other organisations, including those in the healthcare sector. Harding and Taylor (2000)[148] have underlined how the four dimensions of rationality highlighted by Ritzer (2000)[147], namely Efficiency, Predictability, Calculability and Control, are evident in corporate pharmacies in the UK.

Efficiency is achieved through standardisation and rationalisation of products and services. For example, there is a production line approach to dispensing with technicians each completing a small part of the process, a process set to become further rationalised by new technologies such as electronic transfer of prescriptions and robotic dispensing systems. *Predictability* is achieved by standardising services products and pack sizes, so that all outlets – all of a uniform design – offer identical "experiences". Employees follow written protocols to ensure uniformity of service – routinising even interactions between pharmacists and clients[149]. *Calculability* comes from the commodification of medicines (i.e. medicines are sold as commodities on the basis of cost rather than on quality and efficacy). *Control* is exerted by minimising the skilled activities of the workforce. Employees undertake simple, clearly defined tasks in accordance with written procedures whilst technology is used whenever possible[148].

Supermarkets have been at the centre of much debate regarding the working environment found within corporate pharmacy. Supermarket pharmacy has

been described as "*the least satisfying environment in which pharmacy is currently operating*" practicing in "*clinically sterile*" premises providing little opportunity to see patients more than once[150]. This removes opportunities for developing a health professional-client relationship. Furthermore, Brunt (2003)[151] asks why any pharmacist would "*wish to work in such downmarket surroundings as food stores*"? Indeed, within the supermarket environment, the pharmacist becomes the "manager" of a "pharmacy section" and is indistinguishable from the "managers" of other departments (e.g. cosmetics, delicatessen, fresh fish)[152]. These negative viewpoints, held by pharmacists, are countered by others who feel that supermarket offers various benefits. In terms of job satisfaction, supermarkets allow pharmacists to concentrate their activities on pharmacy services rather than on the non-pharmacy areas (i.e. toiletries) traditionally associated with community pharmacy and enables pharmacists to spend more time applying their clinical skills, counselling patients and discussing health related issues[153 154]. Furthermore, it is suggested that some users prefer the quick, impersonal service offered by supermarkets[155].

In the mid-1980s, pharmacist turnover (i.e. the rate at which an employer gains and loses staff) in US corporate pharmacy chains was estimated at 10-25%. Reasons for departure given by employees who left pharmacy chains included a feeling that they had not been treated with the respect and dignity befitting a professional person and a perception of "just being a body" to fill a slot – leading to conflict with the employer. Pharmacists also believed that inadequate support personnel prevented them from having patient contact which they viewed as an indirect infringement of their professional autonomy[156].

The growing corporatisation of the community pharmacy sector has a number of implications. Perhaps most importantly, as hinted at above, the changing patterns of pharmacy ownership have implications for pharmacy's claim to professional status. The predominance of the multiple pharmacy chains and supermarkets has led to a proportionate increase in employee pharmacists at the expense of independent pharmacist-proprietors. With an increasing

number of pharmacists being recruited as employees of major corporations, the professional autonomy of these pharmacists is challenged. As Harding and Taylor (1997)[125] state:

> "*Successful large bureaucratic organisations require rational and routinised procedures for maximising efficiency, and this is reflected in their delivery of rationalised, standardised pharmaceutical services dictated by company policies. Thus the autonomy of pharmacists employed in such organisations to practice discretion in their occupation is precluded.*" (p556)

The rationalisation imposed by corporate pharmacy has been such that pharmacists have non-pharmacist line managers and may be required to undertake "general shop duties"[157]. It is argued that a future breed of "McPharmacists" may be subjected to de-skilling and ultimately perform solely routinised activities for comparatively little remuneration[148 152].

As has been argued elsewhere in this section of the thesis, throughout the twentieth century, the activities of the community pharmacist were rationalised, leading to demystification of his/her work in the eyes of the general public. Demystification of the pharmacist's work reduces the social distance between the pharmacist and the public and has a deprofessionalising effect on pharmacy. By the early 1980s, it is arguable that pharmacy had been largely deprofessionalised and the growing corporatisation of community pharmacy further challenges pharmacy's claims to professional status.

2.2.5 The reprofessionalisation of pharmacy

The profession's response to the loss of function and the resultant stress and role ambiguity was "role extension" as part of a movement toward "reprofessionalisation"[138 158]. The traditional functions that pharmacy lost to industry (i.e. drug procurement, storage and compounding) fitted neatly into the "technical paradigm". With so few functions remaining in the technical paradigm, the process of reprofessionalisation manifested itself primarily in a gradual shift away from the technical paradigm toward an entirely different

paradigm: one that emphasises a disease and patient-orientated approach to pharmaceutical decisions[119 158]. The development of the concept and practice of "pharmaceutical care", seemingly superseded in the UK by the adoption of the term "medicines management", exemplifies this approach – representing an attempt to furnish the community pharmacist with a more meaningful role and emphasising a commitment to patient care[158].

A more recent development has seen an expansion in the provision of diagnostic testing (e.g. blood pressure, diabetes etc.) through pharmacies. Furthermore changes in policy, law and contractual frameworks have led to the reclassification of a growing number of prescription-only medicines (POMs) as pharmacy-only medicines ("P" medicines), the introduction of patient group directions (PGDs) to allow pharmacy supply of POMs to specific patient groups without the requirement of a physician's prescription and the introduction of a limited number of pharmacist-prescribers – first on a supplementary basis to physicians, but now also as independent prescribers.

However, the role extension of pharmacists has been viewed by some as an attempt to extend the boundaries of pharmacy practice into the territory of the medical profession (i.e. "boundary encroachment" – the boundary in this instance being that between prescribing and dispensing)[137]. Physicians resist any perceived encroachment onto both their professional and economic territory and opposition to pharmacy's role extension from physicians has been fierce, particularly in the case of the right to diagnose – a prerequisite for the suitable prescribing of medicines[159]. Gilbert (1998)[158] argues that the right to diagnose is pivotal in the struggle as it is a determining factor in the social control and reimbursement for services.

Edmunds and Calnan[160] suggest that the adversarial stance of physicians is reactionary and unnecessary. They view the strategies developed by community pharmacists to enhance their professional status as a bid for survival rather than an attempt at usurping the general practitioners' (primary care physician) role. They also believe that pharmacists themselves contribute to the subservient role played by pharmacists in relation to

physicians by attributing ultimate authority to doctors. Additionally, pharmacists are held back by internal occupational divisions such as those between pharmacy proprietors and employee pharmacists.

The opposition from the medical profession, which seems to define all areas of health and disease as its domain[161], has limited progress towards the achievement of extended roles and responsibilities for pharmacists[162]. This is to say that medicine, the dominant profession within the field of healthcare, exercises its "organised autonomy" and attempts to regulate the other, "subservient" occupations (in this case pharmacy)[123].

Whilst there has been resistance to pharmacy's extended role, physicians have been willing to delegate certain of their functions to other paramedical groups, particularly nurses. However, such task delegation has been largely made with the caveat that overall responsibility for the patient remains with the medical profession. The usual justification for such task delegation is that such practices are convenient for patients and result from the workload of busy physicians. Eaton and Webb (1979)[137] suggest that, in this case, the monitoring of adverse drug reactions had been delegated from physicians to nurses as, unlike pharmacists, nurses were *"a group who had no pretensions to extend their expertise into the field of drug treatment"*.

The functions that the medical profession delegate to other healthcare professionals are the tasks that are unwanted yet, at the same time, reinforce the professional status of physicians by combating bureaucratisation and rationalisation. Thus, while physicians are supportive of the delegation of clerical tasks, such as maintaining patient drug profiles, to pharmacists, they are unsupportive of the delegation of tasks that allow the pharmacist to make independent, technical-therapy decisions, such as choice of drug[161]. They are unwilling to permit pharmacists to interact with the patient in ways that are considered to be threatening to the status quo[117].

Furthermore, while Dingwall and Wilson (1995 in Harding and Taylor, 1997[125]) may not view the business aspects of community pharmacy practice as

incompatible with claims to professional status (indeed, a South African study suggests that over 90% of community pharmacists perceive themselves to be health professionals with only 36% describing themselves as primarily businessmen[163]), research has suggested that physicians have a relatively low regard for the clinical contribution that can be made by pharmacists, and tend to view them as "shopkeepers" rather than health professionals and members of the primary healthcare team[164-167]. These attitudes, reinforced by the corporatisation of pharmacy, make collaboration between physicians and community pharmacists difficult and, in such a context, task delegation to pharmacists unlikely. However, one, more recent (2006), study has suggested that the attitudes of physicians towards community pharmacists may have shifted and that physicians were willing to work with community pharmacists[168]. Whether this would lead to any task delegation from physician to pharmacist, and thus further extension of the pharmacists' role is unclear and, at the time of writing, there appeared to be little sign of physicians demonstrating an increased propensity to delegate tasks to pharmacists.

Others have argued that, while resistance from physicians to the extended role of pharmacists may be fierce, the emphasis on role extension as a reprofessionalisation strategy itself is flawed. As mentioned previously, Harding and Taylor (1997)[125] argue that pharmacy has the ability to secure its' social object, which they define as the symbolic transformation of a drug into a medicine, and attain professional status, yet had failed to capitalise on this opportunity. They assert that, by focusing on activities other than dispensing, the centrality to pharmacy of the dispensing process is not recognised. Furthermore, they argue that the extended role makes little or no capital of the gap between the pharmacists' skills and knowledge and that of the general public and has failed to develop, or maintain, a power relationship between pharmacists and the public. Harding and Taylor contend that, ironically, the extended role may have in fact had a deprofessionalising effect[125].

While the role of the community pharmacist in the UK has been extended since the early 1980s, success has been only partial. It is expected that

physicians will continue to resist attempts by pharmacists to encroach on the traditional roles of prescribing and diagnosis[158]. Currently, the dispensing process is still the predominant function of the vast majority of community pharmacists in the UK and it has been recommended that, a more effective approach towards reprofessionalisation , would entail the pharmacy profession seeking to increase its control over drug therapy and knowledge while remaining within its traditional task domain[125 161].

2.2.5.1 The extended role and the public health function

Anderson[134] argues that, in the UK, a significant part of the reprofessionalisation of pharmacy took the form of a reclaiming of the pharmacists traditional role in health promotion. One early initiative, in the 1980s, was the National Pharmacy Association's "Ask Your Pharmacist" campaign. At around the same time, the first pharmacy based health promotion schemes were launched. Topics covered included smoking cessation, healthy eating, alcohol awareness and the safety of medicines. These were largely small-scale campaigns undertaken by a few committed pharmacists on a voluntary basis[134].

In 1986, the Nuffield Foundation published "*Pharmacy: The Report of a Committee of Inquiry Appointed by the Nuffield Foundation*" (the Nuffield Report)[169] which supported the extended role of community pharmacists. In terms of the development of the public health function of community pharmacists as part of the extended role, the inquiry also concluded that "*there is a role for pharmacists in health education, in co-operation with other health care professionals*".

However, the Nuffield Report highlighted reservations concerning the involvement of pharmacists in all health advice. As the report noted:

> "*The Consumers' Association survey showed that few people thought of the pharmacy as a likely source of family planning advice, or for that*

matter of advice on diet, stopping smoking, how to cope with tension, or checking blood pressure"[169].

While the report offered a cautious welcome to the involvement of community pharmacists in the provision of advice about symptoms, recommending that alterations to the training and education of pharmacists were required to reflect the emergence of this role, the report did recommend increasing involvement of pharmacists in the provision of advice about medicines. However, the growth in health consumerism during the 1980s led to increasing public demand for more information about both health and medicines[134].

In 1986, the 'Healthcare in the High Street' scheme was launched, involving the first national distribution of health education leaflets through pharmacy. In 1987, funding was promised for the 'Pharmacy Healthcare Scheme' – a replacement of 'Healthcare in the High Street' – in the White Paper "*Promoting Better Health*"[170]. However, this funding (central government funding of £250,000 per year was announced in 1989) covered only the organisation and administration of the scheme, and contained no element of remuneration for those pharmacists taking part[134].

The Nuffield Report[169] identified the fundamental problem of remuneration of the community pharmacist and its influence on his work, recognising "*a clash between the promotion of what is professional and the requirements of running a business*". The report recommended that the basis of remuneration of community pharmacists should be changed so that the objectives set for the profession may be reinforced. In particular it suggested that payments under the NHS pharmaceutical services contract in respect of prescriptions dispensed should be reduced and separate payments made for other professional activities such as advice to patients, long term patient care, domiciliary activities, and health education[171].

Building on the Nuffield Report of ten years previously, Pharmacy in a New Age (commonly shortened to PIANA) was a project administered by the

RPSGB. It created a vision of the future of the pharmacy profession, a vision which, in the following years, was adopted pretty much in full by the governments of the UK[172]. One of the key outputs to emerge from PIANA was a clear definition of what pharmacy was for. For many this was the first concise, comprehensive and definitive statement of what pharmacy could contribute, expressed in terms that could be readily understood (see Table 2.1).

Table 2.1 Pharmacy's functions and aims[173]

Function	Aim
1. Management of prescribed medicines	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.
2. Management of long-term conditions	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.
3. Management of common ailments	For community pharmacies to be regarded as the natural first port of call.
4. The promotion and support of healthy lifestyles	For the role of pharmacists as advisers on healthy lifestyles to be fully recognised and properly integrated into the work of the NHS.
5. Advice and support for other health care professionals	For all health care teams to have pharmaceutical advice readily available.

Pharmacy in a New Age was followed by the Government policy paper Pharmacy In The Future (2000)[174]. This was, in effect, a document detailing how pharmacy could help to deliver the NHS Plan[97] (for details of pharmacy strategies in other UK countries see Table 2.3). It makes no specific mention of a future public health role for pharmacy or of the role pharmacy was already playing in improving the health of the public.

The document embraced many of the ambitions of PIANA. For example, Pharmacy In The Future stated that the national contract for community pharmacies would be developed to reward high quality services at the expense of those prepared only to provide the basic minimum. It also pledged to develop the role of pharmacist-prescribers as well as increasing the supply of POMs under PGDs. Furthermore, Pharmacy in the Future stated that pharmacists would spend more time focusing on the clinical needs of individual patients', particularly in helping patients to get the most out of their

medicines. The role of community pharmacists in supporting self-care was stressed in the document, including an indication that the Government wished to increase the range of medicines available to the public over the counter, without the need for a prescription. By supporting self-care, and demonstrating their accessibility and expertise, community pharmacists would become increasingly involved in the promotion of good health.

From the footings of the Nuffield Report, amid the wider role extension of pharmacists, the health promotion element of the pharmacist's role grew. In 1994, health promotion became a contractual obligation for community pharmacy with remuneration being received for the display of health promotion materials (posters and leaflets). This contractual obligation was consolidated in the 'new' contractual framework in 2005 (see Section 2.4.1) with 'public health' (in terms of healthy lifestyle promotion) designated as an essential service obliging each pharmacy to take part in six public health campaigns (again, principally health promotion), coordinated by the local PCT, each year. Anderson[134] contends that the development of the community pharmacists' public health function, as part of the extended role, represents at least a partial return to the role practised by the 'traditional', arguably professional, pharmacist prior to 1948.

2.2.6 The pharmacy workforce

Some important characteristics of the pharmacy workforce in Great Britain are highlighted below[175]:

- Sex
    - Over half (54%) of all pharmacists are female.
        - Among community pharmacists, this figure drops slightly to 51%.

- Age
    - A fifth of all pharmacists (20%) were under 29 in 2005

        - Almost one-fifth of community pharmacists were under 29 (19%) with 57% of community pharmacists are aged forty or over.

- Employment
    - 32% of pharmacists (19% male and 41% female) work part time (defined as up to 32 hours per week).
    - Employee pharmacists constitute over two-thirds (68%) of all pharmacists with less than one-in-ten pharmacists (9%) being pharmacy owners.
    - Significant numbers of pharmacists (22%) operate as self-employed locums[d].
        - Over half (54%) of all actively employed community pharmacists work in a multiple pharmacy chain (a chain of over 25 (n) stores). Less than a third report working in an independent (n=1) pharmacy (29%) with 13% and 14% indicating that they work in medium ($5 \leq n \leq 25$) and small ($2 \leq n \leq 4$) pharmacy chains respectively (figures add up to more than 100% as pharmacists can operate in more than one environment).

2.2.6.1 Some pertinent workforce issues

The implications for pharmacy of the characteristics of the pharmacy workforce are too numerous to be summarised accurately here (for example, see a series of articles published in the Pharmaceutical Journal detailing the findings of the 2003 Pharmacy Workforce Census[176-181]). However, explored below in greater detail are some of the implications of the large proportion of pharmacists working as locums and the feminisation of the pharmacy workforce.

[d] For reference, a locum pharmacist is a pharmacist who temporarily fills the duties of another pharmacist. For example, a locum pharmacist will work in the place of the regular pharmacist when that pharmacist is away on holiday or ill. The term locum is derived from the Latin *locum tenens* meaning "holding the place".

2.2.6.1.1 *Locum pharmacists*

Locum pharmacists represent over a quarter (26%) of all actively employed pharmacists. This figure rises to 37% among actively employed community pharmacists. More locum pharmacists are female (52%) than male (48%). Comparison between locum and non-locum community pharmacists reveals that locum pharmacists are twice as likely to work in an independent pharmacy as non-locum pharmacists. Community pharmacists who do not hold a locum position primarily work in large multiple pharmacies[175].

As seen above, quantitative research of the pharmacy workforce, detailing working patterns, socio-demographic characteristics of pharmacists etc., has been conducted (for further illustration see the Pharmacy Workforce Censuses conducted on behalf of the RPSGB[175 182]), but relatively little work has been conducted on why pharmacists, in particular locum pharmacists, choose to work the way they do.

One notable exception to this trend has been the research on the pharmacy locum workforce conducted by Shann and Hassell for the RPSGB[183]. Despite being qualitative research and therefore not generalisable to the entire locum workforce, the work provides valuable insights into the motivations behind the decision to undertake locum duties, as well as identifying what locum pharmacists perceive to be the advantages and disadvantages of employment on a locum basis. Their research suggested that the central overriding driver behind why many pharmacists choose to locum is that people want or need flexibility in their work patterns.

Many locum pharmacists do not wish to be subject to the extra responsibility that comes with pharmacy management (such as administrative duties, staff management, the pressure of meeting company targets etc.), either as a proprietor or an employee. Shann and Hassell suggest that "*At the nub of this may well be the longstanding tension in community pharmacy between*

providing a health service and running a profitable business" (p 85). Furthermore, the authors reported that many locums derived great satisfaction from providing advice, liaising with other healthcare professionals and from patient contact showing that such fundamental aspects of working as healthcare professionals are of most importance to many locums. Amid the growing corporatisation of community pharmacy in the UK, arguably creating greater than ever demand for managerial pharmacy positions, Shann and Hassell argue that the considerable proportion of the pharmacy workforce choosing to work as locums indicates that these "*commercially–orientated employment opportunities are simply not appealing to so many pharmacists*" (p 91)[183].

The majority of the disadvantages of practicing as a locum pharmacist emerging from Shann and Hassell's research are predictable such as lack of sick and holiday pay. However, another disadvantage highlighted by the locums who took part in the research was the lack of access to training for extended role activities. This has implications for the profession in that an inability to access training for additional services could be an impediment to the range of services available in certain pharmacies. Pharmacy may not be able to provide the services required of it by the primary care policy agenda if pharmacists are unable to be involved in such services through a lack of training opportunities[183].

2.2.6.1.2 The feminisation of pharmacy

In recent decades, countries such as the UK[184], America[185], Canada[186] and Australia[187] have witnessed a feminisation of professional employment. Law, medicine and dentistry have all been subject to feminisation but the process has been most pronounced in pharmacy[186 188].

In 2005, 54% of all pharmacists registered with the RPSGB were female; in 1964 this figure stood at just 19%[189]. The feminisation of the profession shows little signs of abating. Female pharmacists tend to be younger than

their male counterparts (55% of female pharmacists were aged 39 or under in 2005 compared to 38% of male pharmacists) and new entrants to the profession are predominantly female (65% of new entrants in 2005 were female)[175]. Furthermore, 63% of undergraduate pharmacy students entering university in 2002 were female[189]. Additionally, female pharmacists are more likely than male pharmacists to recommend pharmacy as a career to others and more willing, hypothetically, to make the same career choice again[190]. All the available data indicate that the feminisation of pharmacy will continue.

Obviously, pharmacy is not exempt from the great advances made by women in wider society throughout the twentieth century; but why has the process been so pronounced in pharmacy? A sociological perspective on employment suggests that employers preferentially hire males. However, when insufficient males are available, employers turn to females. Women, for their part, respond by filling the previously men-only jobs because these jobs are perceived as "better" than the ones they currently hold. This process leads some occupations to open up to women because men are no longer interested in them. Declining income, poor working conditions etc. cause males to abandon an occupation, creating a vacuum that women eventually fill. Well-qualified women are thus seen as responding to opportunities made available to them[188].

Pharmacy is a clear example of an occupation that has become less attractive for males. In particular, decreasing income levels in relation to other occupations, ever-increasing workloads, and diminishing opportunities for independent store ownership have made men increasingly reluctant to enter the profession and increasingly eager to leave it for more productive employment[188]. Research amongst Canadian pharmacists suggested that male pharmacists were significantly more likely than female pharmacists to cite prospects for self-employment as a reason for choosing to enter pharmacy. However, as the authors state "*given that these entrepreneurial ambitions are a more important part of male than female motivations for entering pharmacy, it is entirely conceivable that other young male candidates have steered clear of pharmacy because they anticipate thwarted business*

careers"[190]. Resulting labour shortages in the occupation are filled by the group that is next in line, that is, women[188].

The feminisation of pharmacy has a number of implications. The majority of women work their entire careers as employees. Women have rapidly moved into the corporate pharmacy sphere where community pharmacy jobs are increasingly likely to be found, while men have managed to retain their foothold in the declining independent sector[188]. As has been mentioned elsewhere, the growing corporatisation of community pharmacy, at least partially fuelled by the availability of female pharmacists for employment, has implications for pharmacy's claims to professional status. The demise of independent pharmacy, traditionally the preserve of males, may result in decreased professional autonomy for pharmacists[191].

A further problem associated with the feminisation of pharmacy is that female recruits will tend to quit and be permanently lost to the profession when child bearing and child care responsibilities begin to take precedence in their lives. From the pharmacy profession's perspective, a reliance on female recruits will result in a shortage of pharmacists in the community[192]. However, the results of a pilot study in Canadian pharmacy suggest that fears of shortages due to women working part-time while they raise their children are unfounded[191].

Bottero (1992)[184] argues that, rather than having a deprofessionalising effect on pharmacy, women's entry into pharmacy in the UK has helped to elevate the standing of the profession. This assertion is based on the fact that the more recent cohorts of female entrants have superior educational credentials to their male counterparts and male predecessors. As alluded to previously, there is a historic tension in community pharmacy between providing a health service and running a profitable business[183]. It is of note therefore, that female students are more likely than males to prioritise patient care over business opportunities as reasons for entering the profession[193]. Whilst this may help to explain the disproportionate number of women who move into hospital pharmacy (76% of hospital pharmacists in the UK are female[175]), where the requirement for profit-generation is removed, it could be expected

that female community pharmacists would also prioritise patient care over commercial concerns. This presents the profession with a paradox: women are more likely than men to focus on 'professional' elements of their practice, yet they are also more likely to be employed in an arena (corporate pharmacy) that stifles their ability to focus on such elements[125 148 152 157]. It is arguable, therefore, that, if independent pharmacy still predominated the market, feminisation would have a professionalising impact on pharmacy.

2.3 The public health function of pharmacists

Pharmacists are involved in the maintenance of health and the prevention of ill health. They contribute daily to improving public health. This interaction occurs on two clearly defined levels. Pharmacists on the 'front-line', be it in a community pharmacy or in a hospital pharmacy, are involved in public health at a general level. At a more strategic level operate the 'specialists'. This section provides a brief overview of pharmacy's current involvement in public health.

2.3.1 The current public health activity of community pharmacists

Community pharmacists, at the time of writing, make a contribution to public health by providing appropriate information, advice and support to the public on subjects ranging from contraception to medicines and alternative treatments to lifestyle. Additionally, they perform a useful 'sign-posting' role – referring patients to other appropriate health professionals and community organisations[194]. Examples of roles pharmacists play in public health are listed in Panel 2.1 below.

There is an evidence base on the effectiveness of community pharmacy based public health interventions[195 196] which demonstrates that community pharmacy can make a positive contribution to improving the public's health across a wide range of disease states as well as reducing incidences of potentially health damaging behaviours. Areas where pharmacy can

contribute effectively include smoking cessation, coronary heart disease, obesity, skin cancer prevention, drug misuse, diabetes and asthma.

Panel 2.1 Examples of public health roles for pharmacists (adapted from Walker[197])

- Provide advice on self-care
- Provide advice to young mothers
- Provide support to develop effective parenting skills
- Participate in health promotion campaigns
- Promote drug misuse awareness
- Participate in needle exchange schemes
- Promote healthy schools
- Improve AIDS awareness
- Provide sexual health support
- Provide unplanned teenage pregnancy support
- Support patients with chronic illness
- Provide advice on how medicines work
- Maintain patient medication records
- Promote patient medication awareness
- Provide out-of-hours services
- Provide collection and delivery services
- Undertake domiciliary visits
- Facilitate disposal of waste medicines

Whilst evidence may exist to support pharmacy's claims for a public health role, the public's use of pharmacies as a source of advice and information may be limited. A 1996 study[198] found that 94% of the UK population use a pharmacy at least once a year for the dispensing of prescriptions, the purchase of health-related products not on a prescription, advice about a specific health-related problem or more general health advice. The greatest use of pharmacies is for prescriptions (with 89% of respondents using a pharmacy for this purpose). However, use of pharmacies for advice, whether specific or general, is much lower (34% and 11% respectively).

The public perception of pharmacies as being primarily for the dispensing of prescriptions, allied to a lack of high level pharmacist representation within the Department of Health (for example, the Chief Pharmaceutical Officer, unlike the Chief Medical Officer, is not a member of the Departmental Board), may go some way to explain why community pharmacy has received limited attention in health policy.

In March 2001 the final report from the *Chief Medical Officer's Project to Strengthen the Public Health Function in England* was published[199]. The review was set up in response to the Government's desire to improve the

health of the population as a whole but especially that of the worst-off sections in society (as outlined in *Saving Lives: Our Healthier Nation*[85]). It was argued that implementation would not succeed without a strong public health function.

Several themes emerged during the project as being essential for a successful public health function including:

- A broader understanding of health and well-being.
- Better coordination and communication within the public health function.
- Effective joined-up working.
- Sustained community development and public involvement.
- An increase in capacity and capabilities in the public health function.

The report identified three broad categories of people, from a range of disciplines and at all levels of seniority, who contribute in their daily work to the public health workforce. The first category is people who play a public health role, probably without realising it. These include teachers, social workers, housing officers and some health professionals, all of whom need to adopt a public health "mind set", with greater appreciation of how their work can make a difference to health. The second category is professionals who spend a major part, or all of their time, in public health practice. These include health visitors and environmental health officers. These professionals have knowledge and skills in depth for their specific areas and are a vital part of the workforce. The final category is public health consultants and specialists who work at a strategic or senior management level or at a senior level of scientific expertise, such as in public health statistics. They have an ability to manage change, to lead public health programmes and to work across organisational boundaries, which is as crucial as technical skills in epidemiology, health promotion or health care evaluation[199].

Throughout the report the necessity for a strong, multidisciplinary public health workforce is stressed. Pharmacists receive no specific mention in the report

but it is arguable that the majority of community pharmacists could be classed in the first category, i.e. "people who play a public health role, probably without realising it". At the other end of the scale, the report also paved the way for individuals from professions outside of medicine to attain Specialist status. Pharmacists (almost exclusively in Scotland and Wales) have attained specialist status, becoming Specialists in Pharmaceutical Public Health (SiPPH).

Pharmaceutical public health (PPH) has been defined as:

> *"The application of pharmaceutical knowledge, skills and resources to the science and art of preventing disease, prolonging life, promoting, protecting and improving health for all through organised efforts of society"*[197].

With NHS reform, at the time, shifting the focus from central administration to localities, PCTs became more important in terms of NHS development. *A Vision for Pharmacy*[1] stresses the need for community pharmacy to be fully engaged with PCTs in the planning and delivery of local services. It is suggested that this could be achieved by the appointment of pharmacists onto PCT Professional Executive Committees (PECs). However, there is no statutory obligation for PCTs to include pharmacy in their decision making processes and in 2003 only around 50% of PCTs had appointed pharmacists onto their PECs[200]. Community pharmacists, like other health professionals, consider themselves to be important service providers and, if a truly multi-disciplinary approach to public health is to be fostered, they should not be excluded from the planning table. Given the Government's intention to strengthen the public health role of pharmacists, this is particularly important[201].

The RPSGB has recurrently called for pharmacists to be included in Strategic Health Authorities (SHAs) and Regional Government Offices (RGOs) at strategic management level. Such individuals could then act as leaders in relation to pharmacists working elsewhere in the wider public health workforce[202-204]. The roles of professionals who work at this level have a

strategic and performance management focus. It is important, therefore, that pharmacists have the ability to play a full part in this process to ensure pharmaceutical elements of public health are recognised and delivered. It has been suggested that this function can be performed by specialists in pharmaceutical public health[205].

Most front-line pharmacists working in healthcare settings already support the delivery of the public health agenda in some way. The roles these pharmacists can, and do, contribute have been well documented[195-197]. However, specialists work at a strategic or senior management level[206]. Specialists in public health have been identified as individuals whose principal aim is to maintain and to improve health[207]. They can come from a number of different backgrounds and experience, and have a responsibility to act as guardians of the health of the population[208]. They should possess a number of attributes, as well as being given the necessary authority and support, if they are to realise their true public health potential.

Specialists in *pharmaceutical* public health should be no different. They must be well organised, accessible, capable of exercising leadership, and be able to deploy their skills and expertise to best effect. Their unique contribution should come from specialist pharmaceutical expertise, experience of providing health services and clinical practice, and breadth of vision in health improvement[205].

Devolution of healthcare budgets has led to the differential development of the public health function, and certainly the pharmaceutical public health function. Specialists in pharmaceutical public health operate in both Scotland and Wales but not in England (see Table 2.2). It has been argued that SiPPH are the 'missing link' in England[205]. Asghar *et al*[205] also suggest that a lack of availability of relevant pharmaceutical expertise to the public health discipline, or the failure to develop a suitable capacity for this activity, might constitute a significant risk to the public's health. Without suitably trained and experienced individuals involved at SHA level and above, pharmacists' knowledge and skills at the front line of health care may be under-utilised[205].

Table 2.2 Pharmaceutical public health practice across the UK (adapted from Asghar et al[205])

England	Wales
• Disjointed practice with pockets of excellence • No coordinated pharmaceutical public health activity • Limited recognition of the potential contribution at HA/PCT level • Inconsistency in training • Variable multidisciplinary working with other public health practitioners	• Directors of pharmaceutical public health (DsPPH) based in multidisciplinary public health departments • Regular dialogue between DsPPH and the National Assembly • Well established services in each HA • Support from the National Assembly for the PPH role and function
Scotland	**Northern Ireland**
• Specialist role established within health boards • Increasing awareness of pharmaceutical contributions within multidisciplinary public health teams • Some recognition within undergraduate and postgraduate pharmacy teaching programmes • Requirement to develop specialist training	• Dialogue with the Department of Health, Social Services and Public Safety on pharmacy and the public health agenda • "Building the community – pharmacy partnership" initiative welcomed by Government • Acknowledgement of the contribution of pharmacy to the public health function in *"Making it Better"*

2.3.2 Pharmacy and health inequalities

The reduction of health inequalities has been a principal element of Government policy in the UK for several years. While it appears that the healthcare professions in general have, in the most part, responded to this agenda positively, there remains little sign of any engagement by pharmacy, particularly at a strategic level.

One obvious reason for this may be that there is no role for pharmacy to play. While perhaps not being able to perform as direct a role as the medical or nursing professions, everybody involved in healthcare has a responsibility to combat health inequalities. Indeed, in *A Vision for Pharmacy in the New NHS*[1], pharmacy was identified as "*probably the biggest untapped resource for health improvement*". Since this statement however, little progress has been made in involving pharmacy in any moves to combat health inequalities.

There have been innovative examples of how community pharmacy can help to reduce health inequalities at the community level. In Euston, London, an

area with a large Bengali community, Green Light Pharmacy introduced a health translation and education service. Weekly translation clinics and bi-weekly seminars are held in the pharmacy's consulting room. Patients are able to have any medical issues translated from Bengali into English and are then given referral forms in English to take to their general practitioners. The scheme improves access to the health care system in an area of great need[209].

Other examples of pharmacy's contribution at the community-level include the supply of emergency hormonal contraception on patient group directions (PGDs), services for drug misusers, and the "signposting" of patients or groups of patients onto other organisations (medical or not) that may be able to better meet their needs, as exemplified by Lloydspharmacy's CHAT (Community and local Healthcare, social and welfare Advice, provided informally by Trained professionals) centres[210].

Examples exist of where community pharmacy, in the private sector, has engaged with the public sector. On the Castle Vale estate, a deprived area of Birmingham undergoing regeneration, Lloydspharmacy engaged in community health development in conjunction with the Housing Action Trust (HAT). A touch-screen source of information was installed in the pharmacy to provide customers with information about various health issues. It also recorded daily use and specific article hits, in order to identify which areas were of interest to the community. The data collected led to the establishment of a pharmacy-based smoking cessation clinic[211]. Evidence suggests that similar schemes, involving partnership working, have been replicated across the UK in response to identified need[212].

As alluded to earlier in this section of the thesis, there has been little focus or debate on how pharmacy can contribute to reducing health inequalities. However, Bissell *et al*[213] have suggested that pharmacy has a place in fostering social capital in a local community and call for further research on the contribution pharmacy makes to local health networks. *"In doing so, pharmacy is likely to become increasingly important in the debate about*

health inequalities". In a further paper, Bissell[214] states *"the location of pharmacies at the centre of many communities and as a bridge between formal and informal health care networks may allow them to make a unique contribution to the development of social capital, and thus health inequalities".* The concepts of social capital outlined above are supported by Ghalamkari and Jenkins[215]. They go on to explain how pharmacists can be "social entrepreneurs" by improving the health and wellbeing of individuals in neighbourhoods. However, the largely non-committal language used in discussions about pharmacy and social capital underlines the fact that there is, as yet, no definitive evidence of a contribution from pharmacy towards fostering social capital. Bissell *et al*[213] highlight the relatively low status accorded to this area by the pharmacy profession and stress the need for further research on the topic.

Community pharmacy may already be playing a role in reducing health inequalities. The location of pharmacies in the heart of communities, particularly in areas of high socioeconomic deprivation, reduces inequities in access to healthcare. A lack of access to the healthcare system maybe more pronounced in deprived areas[94] where car ownership is low and public transport may be both irregular and unreliable.

The decline in the diversity and number of independent retailers located on Britain's high streets, contributed to by the supermarkets, with their vast buying power, is well documented[216]. Research commissioned by Lloydspharmacy showed that, in January 2003, there were 6624 pharmacies located within the catchment area of two or more supermarkets, indicating that a very high number of pharmacies are under a potential threat from the relaxation of the Control of Entry Regulations. This could translate to as many as 145 pharmacies being lost in an urban area such as Birmingham[217]. In these zones, between a fifth and a third of these populations are defined as "most deprived" by the official index of Multiple Deprivation[218]. Closure of pharmacies in these communities threatens to further compound the inequality defined by the inverse care law[94]. Furthermore, evidence already exists that patients, particularly those in rural areas, are not receiving

equitable access to health services because they are denied access to community pharmacies[219].

2.4 Pharmacy's position in health policy

Until the publication of *A Vision for Pharmacy in the New NHS* (2003)[1] (see Section 2.3.1), continuing frustration was expressed by national pharmacy organisations at the low profile given to pharmacy by the Government. After the publication of *Saving Lives: Our Healthier Nation*[85] the National Pharmaceutical Association (the National Pharmaceutical Association (NPA) is the national body of Britain's community pharmacy owners) complained that pharmacy was *"continuously ignored or sidelined"* in White Papers[220], a call echoed by members amongst the Local Pharmaceutical Committee (LPC) movement[221].

Given the high standing of public health in the political agenda throughout the duration of this study, the continual disregard for pharmacy shown by policy-makers was an anomaly. To meet the aims of both *Saving Lives: Our Healthier Nation*[85] and its successor *Choosing Health*[107], the importance of cooperative working between numerous agencies and professional groups in developing a common agenda and working toward agreed public health goals was stressed. This included community pharmacy[222].

In its submission to the second Wanless review[103], the RPSGB called for increased investment to enable pharmacists to make a greater contribution to improving the public's health. The Society highlighted several contributions that pharmacists make including services for deprived and socially excluded groups, reducing health inequalities and patient empowerment[223]. In response to the second Treasury consultation on 'Wanless 2', the Pharmaceutical Services Negotiating Committee (PSNC – the representative organisation of community pharmacy contractors on NHS matters) called for pharmacy to be more fully integrated into public health plans[224].

Despite such calls, pharmacy received only a minor mention in 'Wanless 2'. The report acknowledged the role of community pharmacy in the management of chronic conditions but omitted pharmacists as an example of primary care staff with a public health role perhaps indicating a belief amongst policy-makers that pharmacists have no or, at best, a very limited role to play in public health.

2.4.1 Pharmacy-specific public health policy

There have been a number of pharmacy-specific policy changes since the turn of the millennium that have impacted on pharmacy's public health function culminating in the publication of a dedicated pharmaceutical public health strategy for England in 2005.

Pharmacy In The Future (2000)[174] was, in effect, a document detailing how pharmacy could help to deliver the NHS Plan[97] (for details of pharmacy strategies in other UK countries see Table 2.3 on page 107). It makes no specific mention of a future public health role for pharmacy or of the role pharmacy was already playing in improving the health of the public.

In England, pharmacy's potential public health role was finally recognised in 2003 with the publication of *Vision for pharmacy in the new NHS*[1]. The *Vision* document was described as "a strategy for taking pharmacy into the future." In reality the document was a progress report on the implementation of the pharmacy plan (*Pharmacy in the Future*) of 2000. It highlighted the significant progress made to date as well as looking forward to how these achievements could be built on.

Included in the *Vision* document were the 10 key roles for pharmacy, as identified by the then Chief Pharmaceutical Officer – Dr Jim Smith. One of the key roles was:

> *"To be a public health resource and provide health promotion, health improvement and harm reduction services"*[1].

The *Vision* document also stated that:

> *"The public has ready access to pharmacists in the heart of the community. This means that pharmacists are well-placed to make an important contribution to improving public health and the wider promotion of health"*[1].

> *"Community pharmacies are not just another shop on the high street or in the retail centre. We believe they should be clearly seen as places where patients are able to access readily an increasing range of healthcare services. They are a valuable resource for improving health and reducing health inequalities, especially for vulnerable and deprived populations"*[1].

The Government acknowledges the under-utilisation of pharmacists in the public health field:

> *"Pharmacists are probably the biggest untapped resource for health improvement. We will explore opportunities to develop and enhance the contribution that pharmacists can make to reducing health inequalities by providing advice on health promotion, health improvement and harm reduction"*[1].

In terms of future development of the public health function the *Vision* document outlined the strategy for the development of the important role played by pharmacists as public health specialists. It also pledged to develop a coherent framework for a pharmacy public health strategy by 2005 (see Section 2.4.1.1). Furthermore the public health contribution of community pharmacists would be reflected in the new pharmacy contract which was being negotiated at the same time.

Table 2.3 Pharmacy strategies in the devolved administrations

Country	Pharmacy strategies and public health developments
Scotland	The right medicine: a strategy for pharmaceutical care in Scotland (2002)[225] • pharmacy's contribution to public health noted • pharmaceutical public health specifically identified as part of specialist public health practice Pharmacy for health: the way forward for pharmaceutical public health in Scotland (2002)[226] • specific pharmaceutical public health strategy • recognised pharmacists as public health practitioners but identified that their public health role has not yet been fully developed • pharmaceutical public health is not the exclusive domain of a small number of 'specialists' working in an NHS Board or academic department. Public health roles should extend across the breadth of the profession
Wales	Remedies for success: a strategy for pharmacy in Wales (2002)[227] • the emerging role of specialists in pharmaceutical public health (SiPPH) noted • stated that SiPPH have *"the potential to significantly improve the health of the population."* • SiPPH were to form part of a newly formed National Public Health Service
Northern Ireland	Making it better: a strategy for pharmacy in the community (2003)[228] • acknowledges that pharmacy is a key part of the community and that pharmacies can act as a vehicle for community empowerment, rather than just being an outlet • outlines plans for a *"Health Promoting Pharmacies Network"* - These pharmacies would be accredited and able to deliver public health services and messages as required by the local Health and Social Service Boards

The implementation of the new contractual framework for NHS pharmaceutical services in England and Wales began in April 2005. It consisted of three different levels of service[229]:

- **Essential services:** these were to be offered by all contractors.
- **Advanced services**: these services were optional and required accreditation.
- **Enhanced services**: the specification and value of these services were agreed nationally, however, they were commissioned locally by PCTs on the basis of need.

Public health was included in the essential services component of the contract. However, the PSNC detailed this as being "healthy lifestyle promotion" consisting of the provision of opportunistic advice to patients obtaining prescriptions from the pharmacy and involvement in public health campaigns. Many other harm reducing and health improving measures were

included in the enhanced services section including substance misuse, the provision of emergency hormonal contraception, smoking cessation and needle exchange services.

At the time of the study a new pharmaceutical services contract for Scotland was also being implemented. Its structure was different to its English equivalent in that it had four distinct core components rather than differing levels of service (see Panel 2.2). In addition to the four core components there were also a number of additional services, with national benchmark specifications and remuneration rates, which could be commissioned by local PCOs (similar to the enhanced service level of the contract in England and Wales).

Panel 2.2 Framework of the Scottish Contract

Scottish Pharmacy Contract	4 core components	Acute Medication Service	The dispensing of prescriptions for acute conditions
		Chronic Medication Service	The pharmaceutical contribution to the management of long term conditions allowing continuity of pharmaceutical care between the patient and their general practitioner, their practice team and their community pharmacist
		Public Health Service	The contribution of community pharmacists to improving health
		Minor Ailments Service	The management of minor ailments through the NHS by community pharmacists
	Plus additional services	A range of services available to the public but not necessarily from every community pharmacy. Agreed between NHS Boards and local contractors but on the basis of national specifications (for example out of hours services, oxygen supply and harm reduction services)	

2.4.1.1 Choosing Health through Pharmacy

The development of a pharmaceutical public health strategy for England was first mooted in *A Vision for Pharmacy*[1]. In *Choosing Health*[107] the Government pledged to *"put in place measures which make the most of the contribution that pharmacists can make"* and to publish a pharmaceutical public health strategy in 2005.

Choosing Health through Pharmacy: A programme for pharmaceutical public health 2005-2015[230] was published in April 2005. The guidance identified public health targets that pharmacists can have an impact on, such as smoking, obesity and sexual health, and describes how pharmacists can become health champions by 2015. It also provided examples of innovative service provision, none of which were formalised under the essential services tier of the new contractual framework which began implementation at the same time.

Despite the guidance stating *"we want to see pharmacists and their staff in all parts of the country becoming involved in pubic health initiatives, instead of only some pharmacists in some parts of the country"*[230], the document contained no obligations for PCTs to use pharmacy as a public health resource more readily. It was merely a resource for pharmacists, PCTs, NHS Trusts and public health organisations to *help* maximise the contribution of pharmacists, their staff and the premises in which they work to improve health and reduce inequalities. Like *Vision for pharmacy* before it, *Choosing Health through Pharmacy* was a document heavy on aspiration but light on any strategy for implementation.

2.5 Barriers to pharmacy's involvement in the new public health agenda

Jesson[231] highlights a lack of interest by pharmacists in public health and noted that pharmacy has been conspicuously absent from United Kingdom Public Health Association Forums – in which anyone working in or with the public sector to improve public health and well-being has a presence. While it is arguable that this is indicative of the restricted nature of the public health function of pharmacy, the author suggests that this demonstrates the apathetic response of pharmacy to the public health agenda. Such apathy may well be explained by a concurrent lack of awareness amongst the vast majority of the pharmacy profession as to what public health is and how it affects pharmacists in their individual practice. Undergraduate training covers

little of the science of public health and there is little exposure to public health in the day-to-day practice of community pharmacy[232].

The development of the pharmacists' public health function, as part of the extended role, has been criticised by Jesson and Bissell (2006)[233] who argue that, even after 25 years of development, the pharmacy public health agenda has failed to move beyond service provision and individual level intervention. They believe the agenda needs to taken in a wider collective public health direction and that there is reluctance, within pharmacy, to engage with the arguments surrounding the structural and political causes of ill health within communities.

The current public health practice of community pharmacists is focussed on downstream interventions – health promotion, medicines management, pharmaceutical care, prescribing and prescribing advice – not on public health in its widest sense[233]. Pharmacists tend to focus on individual behaviour, i.e. lifestyles, with little awareness or consideration of wider population-level determinants of both health and behaviour[234], attitudes bolstered by a focus on the concept of pharmaceutical care[197]. This attitude could well be linked with pharmacy's strong adherence to a biomedical model of health and illness.

Pharmacists and the wider pharmacy profession have an inherent preoccupation with the biomedical model of health which places little emphasis on the ways that health and illness are influenced by wider social, economic and psychological factors[234]. They see pharmacy as a medical science and may give short shrift to 'flimsy' social science (for an example of this mindset see a letter by Armstrong[235] published in the Pharmaceutical Journal).

Within pharmacy there is a low level of cooperation between the fragmented and isolated sections that make up the profession, be it between hospital pharmacists and community pharmacists, community pharmacists and primary care pharmacists or between multiples and independents within the community pharmacy sector. Pharmacy has a uniprofessional culture that

understates the value of partnerships[197]. Within the community, this can lead to a lack of engagement with local initiatives such as SureStart schemes[222].

A select few pharmacists have recognised that the downstream focus of community pharmacy is restrictive in attempts to develop the pharmacists' public health function. Boorman *et al* (2001)[222] suggested that if pharmacy was to make a contribution and connect directly with the mainstream agenda of improving health and reducing inequalities, it would have to adopt key principles of good public health practice, entailing, amongst other developments, the pharmacy network engaging with specific local initiatives such as SureStart and the now defunct Health Action Zones. However, at the time of writing little evidence existed of widespread pharmacy engagement with the mainstream public health agenda and the focus remains almost exclusively on downstream, service-based interventions.

Jesson and Bissell[233] state that attempting to "graft" a public health mindset onto pharmacists operating within a commercial environment is, in their opinion, contradictory. Indeed, the commercial nature of the sector may impact negatively on pharmacy's reputation. Pharmacies are potentially a health resource, however, it is recognised that retail pharmacies are business enterprises with the primary aim of generating financial reward for their many disparate owners. This commercial focus may well make it difficult to claim that pharmacy is a healthcare profession which puts the patient's interests first. Companies are sensitive to public opinion and may react to please shareholders rather than patients[236 237].

The growing corporatisation of the community pharmacy sector also impacts on the functions of the pharmacist. As mentioned previously, the RPSGB has developed a number of initiatives (e.g. PIANA) aimed at developing the pharmacist's professional function. However, the rise of corporate pharmacies has made it increasingly difficult for the RPSGB to exert influence across the community pharmacy sector. For example, despite concerns from within the profession that pharmacists are not being given adequate breaks during working hours, potentially leading to an increased number of

dispensing errors[238 239]; the RPSGB has proved ineffectual in ensuring its members have the working conditions and support necessary to promote and develop professional practice.

The community pharmacy sector is characterised by a dualistic approach to service delivery: "*corporate pharmacies maximise profit through economies of scale and rationalisation, independents pursue profit maximisation primarily by service delivery*"[152]. While corporate pharmacies are involved in service delivery, ultimately such pharmacies pursue an agenda driven by profit maximisation rather than any commitment to the development of the profession. A measure of this commitment to profit generation can be gauged from the reaction of some corporate pharmacies to the OFT's recommendations on the deregulation of the community pharmacy market. The OFT's report was not well-received by various bodies representing pharmacists and pharmacy contractors, nor by the House of Commons Health Select Committee[240], however, it was welcomed by the supermarkets ("*great for pharmacy and customers*") and some other corporate pharmacy chains[146]. Taylor and Harding[152] argue that, as the RPSGB aims to reconcile the interests of its members in both the independent and corporate sectors, "*it risks being seen as ineffectual and ultimately irrelevant*". Furthermore, it is their belief that, in certain circumstances, pharmacy policy is driven by commercial rather than professional concerns rendering both individual pharmacists and pharmacy bodies impotent to influence policy development and impacting negatively on the perception of pharmacists held by fellow health professionals and policy-makers.

With the loss of many of its historic functions in the technical paradigm, pharmacy began a process of reprofessionalisation. This process has seen pharmacy attempt to reposition itself in a patient-centred paradigm. However, with a strong adherence to a biomedical model of health, pharmacy has focussed its attentions on developing clinical skills and promoting a service-based, individual-focussed approach to health interventions. The focus of the profession has been on downstream, micro-level activities such as health promotion, pharmaceutical care and prescribing, with little attention

paid to public health in its widest sense and almost no engagement with the debate on health inequalities. Some of the possible explanations for pharmacy's lack of engagement with the new public health agenda have been outlined above and it is clear that enormous changes, including a seismic shift in focus from the downstream determinants of health to a more holistic, macroscopic view of health and its determinants, will be needed if pharmacy is to play any significant role in improving the health of the nation and reducing inequalities in health status.

2.6 Summary

This chapter has outlined the public health function of community pharmacists, both historically and currently and within the context of pharmacy's claims to professional status. Barriers to further development of the public health function have been discussed. It has been argued that to take forward the public health agenda within pharmacy, a change in focus is required, not only from practicing community pharmacists, but from pharmacy leaders and policy-makers. More attention needs to be paid to maximising pharmacy's contribution to public health in the widest sense of the word. However the latest policy developments (particularly *Choosing Health through Pharmacy*[230]) have only served to reinforce pharmacy's public health function at the individual level. The next chapter comprehensively describes the programme of work undertaken in order to fulfil the aim and objectives of this research.

SECTION II: METHODOLOGY

Chapter 3 Methodology

3.1 Introduction

Chapter 1 provided an overview of the public health movement, from the Victorian sanitary idea through the evolution of the New Public Health to the present day. Chapter 2 examined pharmacy's position within these movements and, in turn, exposed the paucity of available literature concerning public health within a pharmacy context. This chapter will begin with an overview of the overall study design and will describe the work undertaken in each stage of the four distinct phases of the research:

a) Preliminary interviews;
b) A survey of Directors of Public Health (DPHs) and Chief Pharmacists (CPs) in UK PCOs;
c) Follow-up interviews of DPHs and CPs; and,
d) A survey of community pharmacists.

The subjects and their selection will be discussed, as will the regulatory frameworks covering the research. Finally, the limitations of this research will be examined.

3.2 Background

Scientific enquiry was historically based on the philosophical framework of *deductive* logic. Using such an approach, "*an investigator starts with general ideas and develops a theory and testable hypotheses from it. The hypotheses are then tested by gathering and analysing data*"[241]. However, the prevailing philosophy of science was changed by the rise of empiricism – a framework emphasising the role of experience, particularly experience based on observation – which gave increased prominence to *inductive* reasoning: the investigator "*begins with observations and builds up ideas and more general*

statements and testable hypotheses from them for further testing on the basis of further observations"[241].

However, the observationalist-inductivist account of science was rejected by Karl Popper[242]. Popper argued that scientific theories are abstract in their nature and cannot be proven to be true, therefore scientists should focus on developing testable hypotheses and then formulate investigations which attempt to disprove their hypotheses. No number of positive outcomes from experimental testing can confirm a scientific theory but a single counterexample is decisive, showing, in deductive fashion, the theory to be false. Thus knowledge accumulates only by falsification. This approach is known as the *hypothetico-deductive* method, and it underlies the contemporary scientific method[241].

Much of the scientific method is rooted in positivism, a philosophy that states that the only *bona fide* knowledge is scientific knowledge, and that such knowledge can only be derived from positive confirmation of theories through strict scientific method. This approach is largely directed by quantitative research methods drawn from the natural sciences.

In social science, the positivist (logical positivist, neo-positivist) approach "*assumes that human behaviour is a reaction to external stimuli and that it is possible to observe and measure social phenomena, using the principles of the natural scientist, and the hypothetico-deductive method, and thereby to establish a reliable and valid body of knowledge about its operation based on empiricism (actual evidence gathered through use of the senses, i.e. observed).*[241]"

Despite positivism being the dominant philosophy underlying the scientific method, many social scientists have viewed it as misleading as it promotes an emphasis on "superficial" facts with little attention given to understanding the underlying mechanisms observed, or their implications for individuals. Indeed, positivists are not concerned with measuring the meaning of situations to

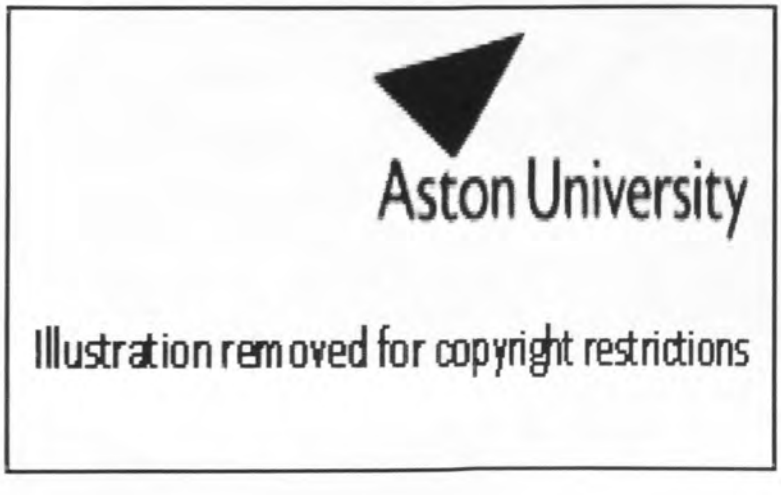
people because "meanings" cannot be measured in an objective, scientific manner[241].

Although it is often not acknowledged, much health services and pharmacy practice research is positivist in that the investigator's objectives frequently relate to the identification or qualification of external determinants of events and behaviours and/or the testing of hypotheses. Throughout the process of the research, investigators aim for 'objectivity', i.e. independence from personal perspectives or value judgements, in their technique[243].

3.2.1 Qualitative and quantitative approaches

In the social sciences, qualitative and quantitative research paradigms tend to be presented as antithetical. A relationship has evolved whereby objectivism is associated with quantitative methods, and subjectivism with interpretive modes of enquiry. Quantitative methods derive from a neo-positivist perspective and adhere to a clearly defined set of formalised procedures which highlight the importance of scientific rigour via measurability of data, generalisability of findings and replicability of the research process. Conversely, interpretivists, utilising qualitative research methods, study things in their natural settings and emphasise the importance of meaning and situational context (see Table 3.1)[244 245].

Table 3.1 Attributes of qualitative and quantitative paradigms (Krantz[246])



Although a distinction is commonly drawn between qualitative and quantitative aspects of scientific investigation, it has been argued that the two are far from mutually exclusive. For example, Kuhn (1970)[247] concluded that a prerequisite to productive quantification in the physical sciences has usually been significant amounts of qualitative work. Qualitative research is often used to obtain a general sense of the subject area and to form theories that can be tested using further quantitative research. Furthermore, it has been suggested that, philosophically, there is no "right" or "wrong" paradigm, rather, they represent two attitudes towards knowing that are based on stylistic preference rather than evidence or argument[246].

Indeed, it would seem more fruitful to view qualitative and quantitative methods as complementary rather than exclusive. There are three ways that this can be achieved[248]:

- As mentioned previously, qualitative work can be undertaken as a preliminary to quantitative work.
- Qualitative methods can also be used to supplement quantitative research. For example, this can part of the validation process, as in "triangulation", where three or more methods are used and the results compared for convergence, or as part of a pluralist, multi-method approach which examines a topic on a number of different levels; and,
- Qualitative work can be used to explore complex phenomena not amenable to quantitative research.

The majority of the research conducted during this study has been based on quantitative methods. However, this has been supplemented with a limited amount of qualitative research in an attempt to both inform the contents of the survey and to understand the underlying mechanisms observed from the survey data. Furthermore, although explanations can be postulated for the relationships observed, no hypotheses were pre-formed before the administration of the survey. For these reasons, while not entirely positivistic,

it can be said that this research has adopted a broadly (neo)-positivist approach.

3.3 *Overview of the study design*

After consideration of the aim and objectives of the research (Chapter 1, Section 1.2) it was considered appropriate to adopt a pluralist research strategy utilising both interview and cross-sectional survey methodology.

A survey design was considered a suitable strategy to help address gaps in knowledge, as identified from a review of the literature, in relation to the lack of progress in developing the public health function of community pharmacists. To explore this issue fully both qualitative (descriptive) and quantitative data were necessary.

This research involved the study of two separate samples in successive timeframes allowing for modification of the research instruments, if necessary, as the studies proceeded. The first sample studied operated at a strategic level within NHS primary care organisations (PCOs). The second sample consisted of practicing community pharmacists. It was hoped that such an approach would enable comparison between the data sets and examine the links, or lack thereof, between strategy and practice.

Follow-up interviews with a sub-sample of survey respondents were used alongside self-completion postal questionnaires to examine pertinent issues arising from the data generated by the first questionnaire (strategic level) in greater depth. This allowed an opportunity for clarification of the meaning of survey findings and further influenced the design of the second questionnaire (practice level). Ideally, follow-up interviews would also have been conducted with community pharmacist participants but, unfortunately, time constraints meant that this was not possible.

The broad scope of the project and the size and complexity of the field being studied necessitated an initial qualitative approach. This preliminary work was undertaken primarily to expand on the limited knowledge available in the literature. This, in turn, would inform the aims and objectives of the research and the design of the study instruments.

3.4 Preliminary work

The literature review provided an overview of pharmacy's contribution to public health and highlighted the underutilisation of pharmacists in health improvement. The literature also stressed the importance of pharmacist representation at strategic levels within the NHS for the development of the public health function. To supplement this knowledge, exploratory interviews were arranged with a number of pharmacy-public health "key players" identified through the literature.

3.4.1 Interview methodology

Interviews are commonly used in survey designs and in exploratory and descriptive studies[249]. "*They aim to go below the surface of the topic being discussed, explore what people say in as much detail as possible, and uncover new areas or ideas that were not anticipated at the outset of the research*"[250]. An interview has been described as "*a conversation...initiated by the interviewer for the specific purpose of obtaining research-relevant information and focused by him on content specified by research objectives of systematic description, prediction or explanation*"[251]. Such studies are often viewed as hypothesis-generating rather then hypothesis-testing[252].

The interviews conducted in this study were semi-structured. In such interviews, a set of questions are worked out in advance but the interviewer is free to modify their order based upon his/her perception of what seems to be appropriate in the context of the conversation[253]. "*This technique ensures that the researcher will obtain all information required (without forgetting a*

question), while at the same time gives the participant freedom to respond and illustrate concepts"[254].

The research tool of a semi-structured interview is a theme plan. Theme plans are also referred to as schedules or interview guides. Patton (1987)[255] believes that good questions in qualitative interviews should be open ended, neutral, sensitive, and clear to the interviewee. He also detailed six types of question that can be asked: those based on;

- Behaviour or experience
- Opinion or belief
- Feelings
- Knowledge
- Sensory
- Background or demographic.

It is considered best to begin the interview with non-threatening questions that the interviewee can answer easily and then proceed to more difficult, sensitive topics.

For the interviews conducted in this phase of the study, individual theme plans were used, tailored to reflect the area of expertise of the interviewee (see Appendix 1 for an indicative theme plan). However, common themes were constant through all the schedules allowing for comparative thematic analysis.

3.4.1 Qualitative sampling

While there is general agreement about what qualitative sampling should not be (i.e. *not* based on principles associated with extensive, statistical methods), there is less agreement about what qualitative sampling should be[256]. Outlined briefly below are the most common types of sampling used in qualitative research however, many others exist which are not covered here.

As qualitative research does not aim to produce a statistically representative sample or draw statistical inference, it utilises non-probability sampling. The most common form of sampling is purposive sampling where the researcher targets participants that will be informative with respect to the study objectives[252]. With a purposive, non-random sample the number of research participants is less important than the criteria used to select them. The characteristics of individuals are used as the basis for selection, most often chosen to reflect the diversity and breadth of the population of interest. For example if a study aimed to explore the barriers to accessing community pharmacy services from the perspective of Bangladeshi patients, then the sampling strategy would be to select patients that were Bangladeshi, and who needed to access such services. Obviously there would be no point choosing a white British person, as they would be unable to inform the research objectives[255].

However, different approaches to purposive sampling can be taken and there is tension between those who espouse a rather pure type of 'theoretical' sampling, as opposed to those who promote forms of 'purposive' sampling suitable for qualitative research[256]:

- Theoretical sampling is developed from 'grounded theory'. The term 'grounded theory' expresses the idea that theory is generated, through an iterative process, involving the continual sampling, collection and analysis of data to inform the next stage of the sample design, until 'theoretical saturation' is achieved; that is, no new ideas or theories emerge[257 258].
- Where the sample population is clearly defined, such as when testing already operational survey questions, and where resource and time constraints are in place, then a more constrained purposive sampling strategy can be devised that avoids iteration and does not necessarily achieve saturation, on the grounds of diminishing returns.

Further to these approaches, if a sampling frame does not exist – for example, if there is no 'list' of people with a particular disease – then snowball sampling is useful. The researcher asks the initial participants to try to recruit other potential participants from their network of friends and/or families. If the potential participants are amenable to participating in the research, they contact the researcher and, following consent, are recruited into the study. These new participants are then asked to try to recruit from their friends and/or family – and the process continues until enough participants have been recruited[259].

The interviews in this initial stage of the research were conducted with a purposive sample of 'key players' from the pharmacy public health sphere. As iterated previously, a purposive sample is "the deliberate identification and selection of particular individuals who share some experience of relevance to the study, and who the researcher believes will be most informative in achieving their objectives"[252].

The sample chosen incorporated community and hospital pharmacists employed at practice level and strategic level, as well as pharmacists employed in academia. To maintain a UK-wide focus, representatives from the devolved administrations of the UK (Scotland, Wales and Northern Ireland) were included. In addition, a senior pharmacist from a trans-national pharmacy multiple and a Chief Executive from the voluntary sector were interviewed. All of the respondents were advocates for greater pharmacy involvement in public health – well informed and largely unrepresentative of the wider pharmacist population.

The respondents were as follows:

1) A superintendent pharmacist, and public health innovator, from a trans-national pharmacy multiple (England)

2) A Specialist in Pharmaceutical Public Health and senior member of the Scottish Executive of the RPSGB (Scotland)

3) Senior member of staff of a charity that is a key advocate of pharmacy's role in public health (England)

4) A Director of Pharmaceutical Public Health and pharmacy public health leader (Wales)

5) A prominent community pharmacist, pharmacy public health innovator, senior pharmacist at the Department of Health, Social Services and Public Safety (DHSSPS), and advocate of pharmacy's involvement in public health (Northern Ireland)

6) A Chief Pharmacist of a large university hospital trust and, at the time of the interview, a member of the Council of the Royal Pharmaceutical Society of Great Britain (England)

3.4.2 Administration

Recruitment took place in early 2004 and the interviews were conducted, at locations convenient for the respondents, between February and October 2004. The interviews, with the agreement of the interviewees, were tape-recorded. The data were transcribed word-for-word using Microsoft Office Word 2003 and copies of the transcripts were sent to all interviewees for reference.

3.4.3 The analysis of qualitative data

A common approach in qualitative research is to begin the analytical process during data collection – the data already gathered are analysed and then shape the ongoing data collection. Known as interim analysis[260], this approach has the advantage of permitting the researcher to refine questions, develop hypotheses and follow emerging avenues of inquiry in further depth. Perhaps most importantly, it also permits the researcher to search for deviant

cases; that is, instances of talk or events that conflict with the emerging hypotheses or propositions and can be used to refine them.

A significant amount of analysis will still be required on completion of data collection. Textual data (i.e. interview transcripts) are analysed using some variant of content analysis. The data are preserved in their textual form and "indexed" to generate or develop analytical categories and theoretical explanations. These categories may be derived inductively (i.e. obtained gradually form the data) or used deductively as a way of approaching the data[261]. Deductive analysis in uncommon in qualitative approaches but is increasingly being used, for example in the "framework approach" (see later) – an approach that has been criticised as compromising researchers' interpretative skills, and trying to imitate the same rigid approach to data analysis as quantitative research[262].

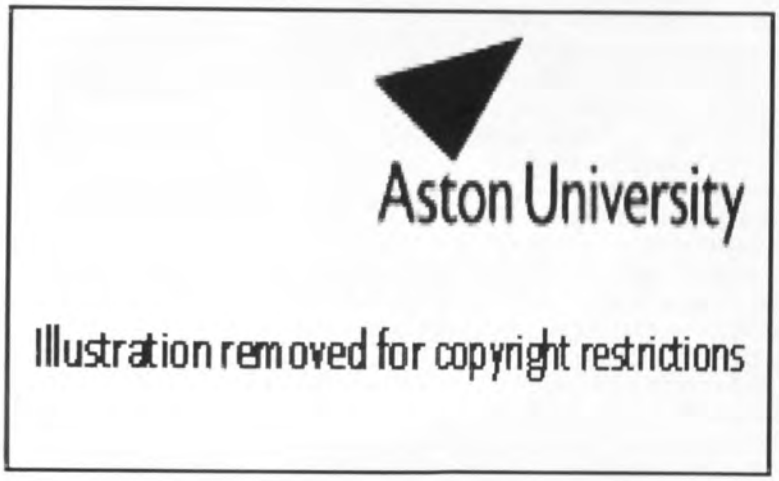
The term grounded theory is used to describe the inductive process of identifying analytical categories as they emerge from the data (developing hypotheses from the ground upwards rather defining them *a priori*)[257]. The data are read and reread to identify and index categories and themes (these may focus on particular phrases for example). Occasionally unfamiliar or interesting terms used by the research participants can form the basis of analytical categories.

All the data pertaining to each category are identified and examined using a process called constant comparison, in which each item is checked or compared with the remainder of the data to determine analytical categories. This process is inclusive – categories are added to reflect as many of the nuances in the data as possible, rather than reducing the data to a minimal number of numerical codes. Some sections of the data will include manifold themes so it is important to have a system of cross-indexing to deal with this (a number of software packages, such as NVivo[263], have been developed to assist with this process). Indexing the data creates a number of ill-defined categories. These categories, informed by the theoretical and analytical ideas developed during the research, are further clarified and reduced in number by

grouping them together. Key categories or themes can then be selected for further investigation[261].

The framework approach has been developed specifically for applied or policy-relevant qualitative investigation in which the objectives of the research are characteristically set in advance and influenced by the information requirements of the funding body[264]. The timescales in this sort of research tend to be short and there is often a need to link the analysis with quantitative findings. Ergo, despite the framework approach reflecting the observations of the research participants (that is, it is "grounded" and inductive), it commences deductively from pre-defined aims and objectives. The analytical process tends to be more strongly informed by *a priori* reasoning and less interpretative (see Table 3.2).

Table 3.2 The stages of data analysis in a framework approach (from Pope et al[261])



The largely unstructured nature of qualitative data makes its' analysis labour-intensive and time-consuming (for example, one hour of audio-recorded interview footage can take several hours to transcribe). Good qualitative data analysis, like the administration of good qualitative interviews, relies on the

skill of the researcher – vis-à-vis experience is highly valued in those conducting qualitative data analysis.

The textual data (interview transcripts) generated in this research were submitted to content analysis. The categories developed were derived inductively from the data with constant comparison being applied. However, theoretical saturation was not sought. While not formally based on the framework approach, the analysis did share some features as, at a fairly early stage, a semblance of a thematic framework was developed and the overall aims and objectives of the research had some influence on the analysis.

Analysis of the qualitative data generated by this research was conducted using QSR Nvivo 2.0 software. NVivo is produced by QSR International and is the latest member of the NUD*IST family of software. Qualitative data is relatively unstructured and not appropriately reduced to numbers. Researchers with this type of *Non-numerical, Unstructured Data* require ways of *Indexing, Searching and Theorising*. Hence the acronym NUD*IST[263]. Nvivo enables the user to manage the complexity of qualitative analysis. It provides a range of tools for handling rich data records and information about them. The software enables the user to link, code, shape and model data[263]. Results are presented, by key themes and the use of illustrative quotations, in Appendix 2.

3.5 The surveys

Postal surveys were employed to examine emerging themes identified by the interviews. The surveys provided an overview of the provision of pharmacy-based public health services across the UK as well as exploring the attitudes of the respondents to pharmacy involvement in public health. Surveys were conducted with two distinct samples:

1) Strategic level – Directors of Public Health (DPHs) and Chief Pharmacists (CPs) within UK PCOs; and

2) Practice level – Community pharmacists.

3.5.1 Survey methodology

The survey is a method of collecting information from a sample of the population of interest, the data being collected from a sample of sufficient size to enable generalisations to be made to a wider population[241]. "*Researchers aim to quantify their populations in terms of predetermined characteristics, to identify frequencies of events, to establish the proportion of respondents who hold particular views and/or to describe association between variables*"[243]. Survey research is considered a quantitative approach. However, survey strategies are flexible and allow different data collection instruments to be employed.

Survey instruments are generally structured questionnaires, commonly designed for self-completion and often distributed by post. With this method of data collection large samples of people can be included and it allows for high amounts of data standardisation. There are numerous other well known advantages of the self-completion postal questionnaire including low costs in time and money, the avoidance of interviewer bias and the minimisation of social desirability response bias (individuals responding in such a way that presents them at their best – giving the answer they think the researcher is looking for)[241 253 265].

3.5.2 Survey of Directors of Public Health and Chief Pharmacists at UK Primary Care Organisations

At the time of the study (November 2005-January 2006), decision and strategy-making in primary care in England was largely down to the individual Primary Care Trusts (PCTs) which controlled approximately 75% of the entire primary care budget[266] (the pattern, i.e. devolvement of healthcare budgets to local primary care organisations (PCOs), existed in the devolved administrations). PCTs had a statutory duty to employ a Director of Public

Health (DPH). This is usually, although not exclusively, an individual from the medical profession. As the heads of PCT Public Health Directorates, they are responsible for the development of strategies to prevent illness and promote good health within their localities

PCTs also employ pharmacists. They can have a number of capacities from prescribing advisors to Heads of Medicines Management. The Faculty of Public Health has identified that the public health approach has a multidisciplinary basis, emphasising partnerships with all those who contribute to the health of the population[15]. Within England however, there is little cross-over of pharmacists into Public Health Departments. This is an anomaly given that community pharmacy has well-established and researched roles in combating public health problems (smoking cessation, emergency hormonal contraception, supervised methadone administration etc.). It has even been suggested that a lack of availability of relevant pharmaceutical expertise to the public health discipline, or the failure to develop a suitable capacity for this activity, might constitute a significant risk to the public's health[205].

Logic suggested that, as the most senior representatives of their respective departments and the individuals most likely to possess a strategic overview, Directors of Public Health (DPHs) and Chief Pharmacists (CPs) should form the sample for the first phase of the survey methodology.

3.5.2.1 Sample

At the time of the study, there were 344 PCOs in the UK (see Table 3.3) equating to a total survey population of 688. The size of the population dictated the sampling frame and it was decide to survey all DPHs and CPs rather than a representative sample. A response rate of 50% among such figures has to be deemed *"fairly satisfactory"*[265]. At response rates of below 30% (103 participants), the validity of the study becomes open to questioning.

Table 3.3 Primary care organisations in the UK in 2005

Country	Primary Care Organisations	Numbers
England	Primary Care Trusts	303
Scotland	NHS Boards	15
Wales	Local Health Boards	22
Northern Ireland	Health and Social Services Boards	4

3.5.2.2 Pilot

The initial research instrument (first draft of the questionnaire) was scrutinised by colleagues then tested by semi-structured interviews with a DPH and CP (in this case a Head of Medicines Management) at a Birmingham PCT. The results of the interviews were transcribed word for word and sent to the participants for reference. Data were analysed using NVivo 2.0.

The results of the interviews aided the design of a more structured second draft. A number of previously open questions were transformed into closed questions and, where closed questions had already been designed, the precision of the instrument was increased by the addition of extra options highlighted by the respondents.

The questionnaire was then piloted on a convenience sample of colleagues (n=14). This sample consisted largely of academic pharmacists (n=5) and community pharmacists (n=5) but did include several lay-people (n=3) and an individual employed at a managerial level within the Public Health Directorate of a Birmingham PCT (n=1). It was decided not to pilot within the final sample as sample numbers were already limited to a point where reducing the potential sample further could affect the validity of the results.

The pilot revealed only minor faults in the questionnaire design. Question wording was altered in two questions to make them more specific and increase clarity, and further options were added to questions regarding 'barriers' and 'advantages' to pharmacy's public health function in order to allow for greater expression of attitudes.

3.5.2.3 NHS research ethics approval

It is often the case when conducting research within the NHS, that ethical approval will be required before the research can be commenced. Section 3.1 of the Governance Arrangements for NHS Research Ethics Committees (GAfREC)[267] details the criteria where research proposals require ethical advice from the appropriate NHS Research Ethics Committee (REC). This list includes, unsurprisingly and with good reason, patients and their carers, not to mention research involving foetal material or the corpses of the recently deceased. However, a further criterion is research involving "NHS staff – recruited as research participants by virtue of their professional role." As the research proposed surveying the DPH and CP of each UK PCO, a proposal had to be submitted for ethical review.

The project was submitted for ethical consideration by a Multi-centre Research Ethics Committee (MREC) via the Central Allocation System (CAS) of the Central Office for Research Ethics Committees (COREC) in April 2005. At the time of study, for research taking place entirely within one domain (i.e. in England, in one Strategic Health Authority) an application for ethical review could be made directly to the NHS Local Research Ethics Committee (LREC). Approval from an LREC allowed the research team to conduct the proposed research, subject to permission from the Research and Development (R&D) Department of the organisation involved, within the appropriate domain. However, for studies taking place in more than one domain, or for clinical trials of medicinal products, applications had to be made via the Central Allocation System. Where it was proposed that the research would take place in more than one domain, the application was considered by a Multi-centre Research Ethics Committee (MREC).

The author was invited to attend the meeting of the MREC in late May 2005 and in early June 2005 the Committee's formal judgement was received. The MREC would be content to give a favourable ethical opinion of the research subject to receiving a complete response to a request for certain further information. A response was provided and the Committee's final decision was

received in a letter dated 29th July 2005. This confirmed that the research had been given a favourable ethical opinion.

Final approval from the REC to proceed did not confer permission to commence the research. Research and Development (R&D) management permission was required at each site (i.e. PCO) before research could begin. It is of note that, at the time of the study, R&D Departments at PCOs were under no obligation to grant permission, even with the appropriate and necessary ethical approval.

3.5.2.4 NHS research governance approval

The Research Governance Framework for Health and Social Care (RGF) was introduced in 2001[268] and updated in 2005[269]. The RGF required all NHS medical and social care organisations to be aware of and take responsibility for all research taking place in their organisation. It was introduced, at least in part, in response to two major NHS research scandals at Alder Hey[270] and Bristol[271]. The Framework was set up to "improve the quality of research and protect the public while minimising bureaucratic processes"[272]. As a result, at the time of the study, all research taking place in NHS medical and social care organisations had to possess research governance approval in order to proceed.

At the time of writing (February 2007), many Primary Care Organisations were part of larger Research Management and Governance Organisations (RM&Gs). These tended to be consortia made up of solely PCOs or a mixture of both primary and secondary care organisations. Some RM&Gs also included local higher education institutions (HEIs). The rationale behind RM&Gs was to make the application process for regional multi-centre studies more efficient by reducing the amount of paperwork that the applicant had to complete. Instead of making applications to every PCO in a particular region the applicant only had to make one application to the "lead" organisation

which could then grant approval for all the other organisations in the consortium.

Identifying the RM&Gs proved problematic. Unlike applications for ethical approval where there was central coordination from the Central Office for Research Ethics Committees (COREC), at the time of the study there was no "national programme" for research governance applications. Owing to the variability in quantity and quality of information available on RM&Gs, it was decided to send a mass mail-shot to all 344 Primary Care Organisations (PCOs) in the UK.

The applications (n=344) were dispatched in mid-August 2005. The first responses were received 3 days later. By mid-September (day 31) approval had been given for the study to take place in only 123 PCOs (36%). An approval rate of 50% of possible PCOs was reached on day 39. On day 41 a reminder was sent out to the 48 PCOs who had failed to respond. Approvals were still being received on a fairly regular basis up until mid-December 2005, 119 days after the initial applications had been sent out. No more approvals were received up to mid-January 2006. The mean time taken from first mailing of the applications to final approval was 42 days.

A total of 315 PCOs gave approval for the research to take place in their organisation (see Table 3.4) with 29 PCOs being excluded from the study (see Table 3.5).

Table 3.4 Breakdown of PCOs which granted research governance approval

Administration	Total number of PCOs		Number of PCOs granting approval		Percentage of PCOs approved by each administration
	n	%	n	%	
England	303	88.0	287	91.1	94.7
Scotland	15	4.4	12	3.8	80.0
Wales	22	6.4	15	4.8	68.2
Northern Ireland	4	1.2	1	0.3	25.0
Total	344	100	315	100	91.6

Table 3.5 PCOs excluded from the study

Reason for exclusion	Administration				Total
	England	Scotland	Wales	N.I.	
Rejected by researcher[1]	5				5 (1.5%)
Failed to grant approval despite receiving all documentation requested[2]	10	2	6	3	21 (6.1%)
No contact[3]	1	1	1		3 (0.9%)
Total	16 (5.3%)	3 (20.0%)	7 (31.8%)	3 (75.0%)	**29 (8.4%)**

Notes on Table 3.5:

[1]Four PCOs (members of the same RM&G) required Criminal Records Bureau (CRB) checks on both the chief investigator and the supervisor before approval could be granted, even to send out the questionnaire. The delay to initiating the research that this would have caused was deemed too lengthy and the potential reduction in the total sample too insignificant to delay the project by a further 6 weeks. Additionally, one PCO claimed they had not received the application despite being sent the documentation twice. By the time contact was made in late October approval would not have been possible before mid to late-November. This delay was also deemed too lengthy and the potential reduction in the total sample too insignificant to delay the project further.

[2]Contact was made with all these PCOs and they received all the documentation they requested yet had still failed to grant approval by mid-January 2006. Any approval from these PCOs received after this point was disregarded.

[3]No contact was made with these PCOs. They failed to respond at all to the initial mailing, the reminder mailing and subsequent attempts to establish a dialogue by email.

3.5.2.5 The structure of the questionnaire

The questionnaire comprised five main sections and contained a total of 14 questions (see Appendix 3). The first section concerned occupational details and initially sought the respondent's job title. The term 'Chief Pharmacist' is more widely used in the hospital setting than in primary care. While equivalents (i.e. the individual in charge of managing pharmacy departments in the primary care setting) exist in PCOs, there are a plethora of titles to describe this individual (Head of Medicines Management, Pharmaceutical Advisor, Community Pharmacy Lead etc.). This poses a problem for those attempting to conduct a postal survey of such individuals whose names, and indeed job titles, are rarely available in the public domain (this contrasts sharply with DPHs whose details are freely available through a variety of sources including PCO and the Department of Health's websites).

Wherever possible, the questionnaire was dispatched to a named individual. Almost all questionnaires intended for DPHs were sent to a named individual, the only exceptions being the extremely rare cases where a name wasn't available on line or where the PCO in question had a vacancy for a DPH. However, the situation was quite different for CPs where names were only obtainable for a minority of PCOs. In an attempt to ensure that the questionnaires were answered primarily by the most senior pharmacist within the PCO, the majority were addressed to the "Chief Pharmacist" (it was felt that addressing them to any other variation of PCO pharmacist may have lead to them being completed by comparatively more junior members of staff).

The second section of the questionnaire focussed on "pharmacy public health activity" – i.e. health improving measures/schemes provided through community pharmacies. A list of 15 different services, derived from the literature – most noticeably the two PharmacyHealthLink Evidence Bases[195] [196] – and the preliminary exploratory interviews, was utilised.

Section three examined public health planning and strategy while the fourth section of the questionnaire examined attitudes towards pharmacy's involvement in public health, including opinions on recent pharmaceutical and NHS policy developments, and beliefs on advantages and disadvantages in the development of the public health function of community pharmacists. A number of potential advantageous factors and a number of potential barriers to the development of the public health function associated with community pharmacy practice were identified from the literature and preliminary interviews.

The final section of the questionnaire recorded demographic information about DPHs and CPs. Data collected were sex, age, ethnic background and religion (respondents were provided with a "do not want to say" option for any details which they did not wish to impart). Such background information helps to build a demographic profile of DPHs and CPs as well as allowing analysis of the effects of these variables on attitudes towards pharmacist involvement in public health.

3.5.2.6 Covering letters and reminders

A covering letter was sent with each questionnaire (see Appendix 4). The covering letter contained the following details: name, address and contact details of the researcher; the design of the study; the aim of the research; confirmation that the study had received the requisite ethical and research management and governance approvals; the approximate length of time needed to complete the questionnaire; 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. A reminder letter urged sample members to complete and return their questionnaires (see Appendix 5).

3.5.2.7 Data collection procedures

Due to the ever increasing pressures on time, the first mailing of questionnaires was dispatched when only 287 (83%) PCOs had given research governance approval for the study to take place. With one questionnaire to be sent to the Director of Public Health (DPH) and one to the Chief Pharmacist (CP) in each organisation, the initial sample was only 574. Further mailings (n=28) were made as and when approvals were received from PCOs. The questionnaires were distributed with a covering letter and a postage-paid self addressed return envelope (SAE). A reminder, containing a letter and a second numbered questionnaire, was sent after three weeks.

Wherever possible, the questionnaire was dispatched to a named individual. Each questionnaire was assigned a unique number which was recorded in a database. This allowed responses to be monitored so that respondents could avoid being inconvenienced by further mailings as well as facilitating the calculation of response times and rates. It is worth noting that several individuals (DPHs and CPs: n=12) had response times of zero days. This was due to an anomaly whereby copies of the questionnaire sent out in the

initial RM&G application had been completed and, in some instances photocopied, and returned without SAEs or, more importantly, organisational approval – perhaps indicating a level of ignorance of the Research Governance Framework amongst NHS employees.

3.5.2.8 Further notes on sample size

The total initial sample size for the survey was 688. After the "research governance process" the sample size was reduced to a maximum of 630, i.e. 2 individuals in each of the 315 PCOs for which approval was granted (see Table 3.4 and Table 3.5).

However, after the questionnaires had been sent, this sample was reduced further by a number of factors (see Table 3.6) leaving a final sample of 627.

Table 3.6 Changes to sample size during data collection

		DPHs					CPs					
		England	Scotland	Wales	N.I.	Total	England	Scotland	Wales	N.I.	Total	**Totals**
	Initial sample size	287	12	15	1	315	287	12	15	1	315	**630**
Minus	Unwilling to take part	3		1		4						**4**
	Position no longer filled	1				1						**1**
	Responsibility for 2 PCOs[1]	2				2	3				3	**5**
Plus	Questionnaires sent back without approval[2]		1	1	1	3	2			2	4	**7**
	Actual sample size	281	13	15	2	**311**	286	12	15	3	**316**	**627**

Notes on Table 3.6:

[1]At the time of the study a number of PCOs in England (i.e. PCTs) had shared arrangements for public health and/or pharmacy. This could be due to a number of factors including the size of the organisations or an inability to fill positions but was most probably due to the impending restructuring of the NHS (in which the number of PCTs was due to be reduced from over 300 to around 100).

[2]As stated previously, awareness of the Research Governance Framework varied significantly between organisations and within organisations. These questionnaires were counted in the sample despite the fact that the organisations which employed these individuals had not given formal approval for them to participate in the research.

3.5.2.9 Survey response rate

An Excel database was set up and contained country, Strategic Health Authority (for England), PCO, DPH name (where known) and exact job title, CP name (where known) and exact job title, as well as corresponding questionnaire identification numbers. Information on when questionnaires and reminders were sent and returned enabled the ongoing and final response rate to be calculated both before and after the reminder was sent and the response rates of each administration of the UK.

A total of 307 usable questionnaires were returned equating to an overall response rate of 49%. A response rate of more than fifty per cent from a sample of individuals not known to the investigator has to be reckoned "reasonably satisfactory" [265]. Therefore, a response rate of 49%, while not quite reaching the marker of 50%, can still be considered satisfactory especially taking into account the nature of the sample (senior health professionals). Table 3.7 summarises the response rates for each administration of the UK after the initial mail-out and the reminder.

Table 3.7 Questionnaire response rates by UK administration

Administration		Target sample (n)	Returned pre-reminder % (n)	Returned post-reminder % (n)	Total % (n)
England	DPHs	281	21.4 (60)	18.5 (52)	39.9 (112)
	CPs	286	32.5 (93)	23.4 (67)	55.9 (160)
	Combined	567	27.0 (153)	21.3 (121)	48.3 (274)
Scotland	DPHs	13	53.8 (7)	15.4 (2)	69.2 (9)
	CPs	12	41.7 (5)	8.3 (1)	50.0 (6)
	Combined	25	48.0 (12)	12.0 (3)	60.0 (15)
Wales	DPHs	15	33.3 (5)	0 (0)	33.3 (5)
	CPs	15	40.0 (6)	33.3 (5)	73.3 (11)
	Combined	30	36.7 (11)	16.7 (5)	53.3 (16)
Northern Ireland	DPHs	2	50.0 (1)	0 (0)	50.0 (1)
	CPs	3	100. 0(3)	0 (0)	100.0 (3)
	Combined	5	80.0 (4)	0 (0)	80.0 (4)
Total	DPHs	311	23.5 (73)	17.4 (54)	40.8 (127)
	CPs	316	33.9 (107)	23.1 (73)	57.0 (180)
	Combined	627	28.7 (180)	20.3 (127)	**49.0 (307)**

3.5.2.10 Data preparation

Returned questionnaires were checked for completeness. Although some item non-response was apparent, the levels were insignificant and it did not appear that respondents had experienced any real difficulty in answering any of the questions.

Responses to closed questions were inputted into a pre-designed database in SPSS (version 12.0 for Windows). A code scheme containing the questions and answer categories, with corresponding code values, was used. The final data set was screened for errors by frequency checks which revealed all coded values fell within the expected ranges.

Written responses to open questions were recorded in Excel. These were then transferred to Word and converted into rich text format (RTF) files for importation into NVivo. Key themes were identified and a coding framework developed. All responses were coded and placed into distinct nodes.

3.5.2.11 Data analysis

Analysis of the survey dataset was undertaken in two stages. Descriptive data analysis was undertaken initially. The data were organised and summarised to provide a snapshot of the sample. The second stage of data analysis was more analytical. Bivarate analyses were undertaken to explore associations between independent variables and other dependent variables.

The dependent variable (for example the reporting of the usefulness of pharmacy in tacking a public health challenge) was cross-tabulated with a number of independent variables. The independent variables studied were:

- Age;
- Sex; and,

- Professional group (Director of Public Health or Chief Pharmacist).

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

- The extent to which respondents believed their job to be concerned with public health; and,
- The extent to which respondents believed their job was affected by public health.

The cross-tabulations were performed without any preformed hypotheses of association between the dependent and independent variables.

The questionnaire contained almost exclusively nominal categorical data. The non-parametric test statistic Chi-square was applied to this data to test variables for associations. The test generates a value which has an associated significance level. To be considered significant (i.e. that the two variables are related) the significance value (ρ) has to be 0.05 or less. Where the ρ-value was 0.05 or less, the null hypothesis (i.e. no association between the two variables) was rejected, indicating statistical significance at the 5% level. A significance level above this value means the result is not significant[273 274].

As stated previously, free-text responses were coded and analysed in NVivo. Quotations from these data are used to illustrate key themes from the analysis. Where quotes are used, the text following the quote identifies whether the respondent was a DPH or a CP and the number corresponds with the appropriate questionnaire number.

3.5.3 Follow-up interviews

At the end of the questionnaire, survey respondents were asked to indicate whether they would be willing to participate in the next phase of the research

which involved further qualitative interviews (for further information on interview methodology, see Section 3.4 in this Chapter).

These interviews (n=6) were conducted to explore in greater depth, issues arising from the questionnaire. Respondents were selected based on their answers to the questionnaire and the interviews helped to illuminate selected findings of the survey. They were designed to explore the reasons behind the superior development of the public health function of community pharmacists in certain Primary Care Organisations (PCOs) (see Appendix 6 for an indicative theme plan). The PCOs selected were providing, or were to imminently provide, innovative and enhanced pharmaceutical public health programmes. As previously, a UK-wide focus was maintained so the sample was slightly stratified to include respondents from Scotland, Wales and Northern Ireland.

This second phase of this branch of the study aimed to explore critical success factors for successful public health interventions. It was hoped that the data collected could be used to develop a framework to guide future development of pharmacy services in this area which would hopefully aid the successful implementation of programmes in other PCOs.

The initial sample pool (n=9) was chosen based on answers given in the completed questionnaire returns. The following steps were conducted to enable selection of the appropriate sample:

Services ranking; all PCOs ranked according to services provided/planned (currently provided = 2 points, planned = 1, no/no answer = 0).

Extra services; Currently being provided – Arbitrary scale based on innovation. Services awarded between 0 (non – PH type service/pre-established commonly provided service/negative comments,) and 4 points (highly

innovative PH service/very positive comments e.g. community development).

Planned for the future – Arbitrary scale based on innovation. Services awarded between 0 (non – PH type service/commonly provided service for number of years/negative comments) and 3 points (highly innovative PH service/very positive comments e.g. "looking to vastly increase PH roles of pharmacists").

Scores from the above were then pooled to provide a "total score". In addition to take account of qualitative aspects of the questionnaire, a "qualitative factor" was also applied; respondents were also awarded a "qualitative factor" based on the answers to open questions. This ranged from 1 for comments that were negative or ambivalent about pharmacy's involvement in public health, through to 1.4 for highly positive comments. The aim of the qualitative factor was to reflect that the answers to the open questions were just as important as the quantitative data generated by the closed questions thus, "positive" comments, indicating enthusiasm for the public health agenda from the CP respondent or enthusiasm for the involvement of pharmacy in public health by the DPH respondent for example, were rewarded while negative or ambivalent qualitative data were not.

The "total score" was then multiplied by the "qualitative factor" to give a "final score".

All responses were ranked based on these criteria. The highest score obtained was 37.7 and the lowest 0 (mean 19). Interviewees were selected only from the top 10% of PCOs according to this ranking (with the exception of the interviewee from Wales – the reasons for this are explained later). The top 10% of responses according to this ranking system are shown in Table 3.8.

Table 3.8 The top 10% of survey responses according to the ranking system used to identify potential interviewees

DPH or CP	Country	Listed	Additional	Total Service Score	Qualitative Factor	Final Score	Volunteer?	
							DPH	CP
CP	England	26	3	29	1.3	37.7	✓	✓
CP	England	28	2	30	1.2	36.0	×	✓
CP	England	26	1	27	1.3	35.1	×	✓
CP	England	30	3	33	1	33.0	×	×
CP	England	22	3	25	1.3	32.5	×	✓
CP	Scotland	26	0	26	1.2	31.2	×	✓
DPH	England	25	5	30	1	30.0	✓	×
DPH	Scotland	28	2	30	1	30.0	×	×
CP	N.I.	26	4	30	1	30.0	✓	✓
CP	England	19	2	21	1.4	29.4	×	✓
CP	England	20	1	21	1.4	29.4	✓	✓
DPH	England	23	6	29	1	29.0	✓	×
CP	England	25	4	29	1	29.0	×	✓
CP	England	24	5	29	1	29.0	×	✓
DPH	England	24	5	29	1	29.0	✓	×
DPH	England	22	2	24	1.2	28.8	✓	×
CP	England	25	1	26	1.1	28.6	×	✓
CP	England	28	0	28	1	28.0	✓	×
*CP	England	27	1	28	1	28.0	×	×
CP	England	26	2	28	1	28.0	×	×
DPH	England	28	0	28	1	28.0	✓	×
CP	England	21	0	21	1.3	27.3	×	✓
*DPH	England	27	0	27	1	27.0	×	×
CP	England	25	2	27	1	27.0	×	✓
CP	England	25	2	27	1	27.0	×	✓
CP	England	26	1	27	1	27.0	×	×
CP	Scotland	27	0	27	1	27.0	×	✓
CP	England	23	4	27	1	27.0	×	✓
CP	England	20	2	22	1.2	26.4	×	✓
CP	England	18	4	22	1.2	26.4	✓	✓
CP	England	22	0	22	1.2	26.4	✓	✓

Notes on Table 3.8:

*respondents from same PCO

Responses highlighted were selected for pool of potential interviewees

Further selection criteria were than applied to select a suitably sized pool of potential interviewees. The criteria were as follows:

1) Position in "services ranking" table (Table 3.8)

- PCO had to have at least one entry (from either DPH or CP) in top ten per cent of UK PCOs

2) For England only, within the PCO identified the provisional agreement of both the DPH and the CP to be interviewed should have been obtained. This allowed cross-comparison of responses as well as being convenient in reducing travelling, expenses etc.

3) In order to maintain the UK-wide focus, certain adjustments were required to ensure adequate representation of Scotland, Wales and Northern Ireland. It was proposed that 9 interviews were conducted:

- 6 in England (3 PCOs with both DPH and CP agreement)
- 1 in each of Scotland, Wales and Northern Ireland
    - In Scotland, one PCO was in the top 10% of PCOs and the CP within that PCO had given an initial agreement to participate in an interview.
    - In Northern Ireland, one PCO appeared in the top 10% of PCOs and the agreement of both the DPH and CP had been obtained. In this instance the CP was selected for interview as this was a Director-level role in Northern Ireland and, in addition, it could be expected that he would possess more knowledge about both pharmacy and, more particularly, "Building the Community – Pharmacy Partnership" the strategy for pharmacy in the community.
    - However, in Wales, no PCO appeared in the top 10%. In the top ranking PCO there was only agreement to be interviewed from the CP. For the next highest ranked PCO, an agreement to be considered for interview had been obtained from both the DPH and the CP. However, only minimally further down the ranking was another Welsh PCO where the DPH was a pharmacist who had given provisional agreement to be interviewed. As there was only one interview to be conducted in Wales, it was decided that this individual would be the most appropriate candidate for interview.

On the basis of the above criteria, it was proposed that nine interviews were conducted (see Table 3.9).

Table 3.9 Intended follow-up interviews

Country	PCO	Individual(s) to be interviewed DPH	CP
England	PCO 1	✓	✓
	PCO 2	✓	✓
	PCO 3	✓	✓
Scotland	PCO 4		✓
Wales	PCO 5	✓	
Northern Ireland	PCO 6		✓

The selected volunteers were initially contacted to ascertain if they were still willing to be interviewed. All 9 members of the sample indicated that they were still amenable to participation in the research. The sample was then contacted again to make more formal arrangements for the conduct of the interviews. At this point, interviews were arranged with 6 members of the sample. Unfortunately the remaining 3 members of the sample failed to reply to both the first email and a number of follow-up emails and telephone calls, and only 6 interviews were eventually conducted (see Table 3.10).

Table 3.10 Follow-up interviews actually conducted

Country	PCO	Individual(s) to be interviewed DPH	CP
England	PCO 1	✓	✓
	PCO 2		✓
Scotland	PCO 3		✓
Wales	PCO 4	✓	
Northern Ireland	PCO 5		✓

Recruitment took place in May 2006 and the interviews were conducted, at locations convenient for the respondents, between June and August 2006. The interviews, with the agreement of the interviewees, were tape-recorded. The data were transcribed word-for-word using Microsoft Office Word 2003 and copies of the transcripts were sent to all interviewees for reference. Transcripts were imported to NVivo and subjected to thematic analysis. Results are presented, by key themes and the use of illustrative quotations, in Appendix 7.

3.5.4 Survey of practicing UK community pharmacists

A self-completion postal questionnaire was also used to survey practicing community pharmacists.

3.5.4.1 Sample

The second sample (phase) consisted of practicing community pharmacists from across the UK. While health professionals operating at the strategic level form, and manage, the policy, it is those pharmacists operating at the practice level who have to implement the policy. The development of the public health function of the community pharmacist is reliant on the cooperation of the wider community pharmacy workforce.

At the time of the study (August-October 2006) there were over 46,000 pharmacists registered with the regulatory body for pharmacy and pharmacists in England, Scotland and Wales, the Royal Pharmaceutical Society of Great Britain (RPSGB)[175]. All pharmacists who wish to practice in the UK have to be on the RPSGB's Register of Pharmaceutical Chemists, with the exception of pharmacists in Northern Ireland (n≈1,800) who are registered with the Pharmaceutical Society of Northern Ireland (PSNI)[275]. It was decided to survey a proportionate stratified sample of 2000 practicing community pharmacists.

The community pharmacist population was divided into layers (strata) – country of the UK and sex – and sampling from the strata was carried out using simple random sampling. This guarded against obtaining an unrepresentative sample. The sampling frame was designed to ensure proportionate representation of all the strata in the final sample. At this point the proposed sample still included pharmacists from Northern Ireland,

however, these were later removed[e] and the final sampling frame is shown in Table 3.11 below.

Table 3.11 Sampling frame for proportionate stratified sample of 2000 community pharmacists

Country	Male (47.10%)	Female (52.90%)	Total (100%)
England (84.17%)	793	890	1683
Scotland (10.38%)	98	110	208
Wales (5.45%)	51	58	109
Total (100%)	942	1058	2000

3.5.4.2 Pilot

The research instrument was derived from the questionnaire used to survey DPHs and CPs (see Section 3.5.2). Initial alterations were made to ensure that all questions would be relevant to community pharmacists – e.g. questions concerning pharmaceutical input into public health planning and the background of DPHs were no longer applicable. However, the questionnaire remained as similar as possible to the form used to survey DPHs and CPs so as to allow comparisons to be made between the two distinct samples.

As the administration and data collection of the form used to survey DPHs and CPs had revealed no significant internal validity problems, it was decided that widespread piloting of the questionnaire on the population to be studied would provide no real insight into potential problems with the new research instrument. Instead a more in-depth, multi-method piloting strategy was employed.

A convenience sample (n=9) of practicing community pharmacists was identified. The sample was selected to be representative of the survey sample and so included male and female pharmacists from a variety of age

[e]Numerous letters and emails were sent to the PSNI asking for the required registration information. However, no response was forthcoming. The final communication to the PSNI was a letter complaining about the lack of responses received previously and highlighting the fact that pharmacists in Northern Ireland would have to be removed from the sample if no response was received promptly. However, no response was received therefore Northern Irish pharmacists were removed from the sample.

groups, both employed and self-employed, and working both full and part-time. The employed pharmacists were drawn from all possible type of employing pharmacy – independents, small chains, multiples and supermarkets.

Members of the pilot sample were sent a copy of the research instrument which they were asked to complete and return in an enclosed self-addressed envelope. They were also asked to annotate the form with any comments they felt appropriate, such as where they found a question or an answer option ambiguous. Secondary to completing and retuning the form, respondents were interviewed. The interviews were semi-structured and used the draft questionnaire as an interview guide. This allowed the interviewer to explore how respondents had interpreted the questions and corresponding answer options, and, where necessary, to probe the respondent to provide further elucidation on any ambiguities in interpretation that had occurred. A similar approach has been used by others[276].

The interviews were then transcribed and analysed alongside the completed forms. The pilot highlighted a number of potential improvements that improved clarity and helped to avoid ambiguities in interpretation by respondents. The following changes were made to the list of services presented to respondents:

- "Services for drug misusers" split into...
    - Supervised administration of medicines; and,
    - Needle exchange scheme.
- "Domiciliary visits (including home delivery of medicines)" split into...
    - Domiciliary visits; and
    - Home delivery of medicines.
- Two new services added...
    - Palliative care services; and
    - Medicines Use Reviews (MURs).

Improvements were also made to the terminology used in the available answer options for questions 12 and 13 (advantages and barriers in the development of the public health function of community pharmacists). A number of the terms used were highlighted as being ambiguous or otherwise difficult to interpret. The comments of the pilot sample led to several alterations (see Table 3.12).

Table 3.12 Alterations made, as a result of the pilot study, to the terms used as answer options when considering potential advantages and barriers to the development of community pharmacy's public health function

	Before pilot	After pilot
Advantages	Freedom from NHS	Freedom from NHS control
	Geographical location	High Street location
	Opportunity to provide services outside of the traditional clinical setting	Opportunity to provide services outside of the traditional clinical setting (e.g. away from GP's surgeries, clinics etc.)
	Accessibility	Accessibility of the pharmacist
	-	Informal nature of the pharmacist/patient interaction
Barriers	Positioned outside of the NHS	Pharmacy's position on the fringes of the NHS

3.5.4.3 Ethical approval

As this phase of the research involved the study of health professionals not directly employed by the NHS, it fell outside of the terms of reference of NHS Research Ethics Committees. However, it was still considered expedient to seek suitable ethical advice. For this reason, the project was submitted to the Research Ethics Committee of the School of Life and Health Sciences (LHS REC) at Aston University for an ethical opinion. The project received a favourable ethical opinion.

3.5.4.4 Obtaining contact details for the sample

Contact details for the 2000 practicing community pharmacists of the sample were sought from the RPSGB. A letter was dispatched containing:

- The reason why the data (in the form of address labels) were required;
- Brief details of the study;

- Exact details of the data required including the sampling frame;
- A commitment to only use the data for the specified purpose;
- A statement that Aston University were happy to cover the costs of production of the required data; and,
- The authors contact details.

Also enclosed with the letter were copies of the questionnaire and the accompanying covering letter, a brief research proposal, the author's curriculum vitae, the research supervisor's curriculum vitae, and a copy of the letter confirming a favourable ethical opinion from the LHS REC.

After a period of greater than four weeks, the author received an email from the RPSGB. Attached to the email was a form to be completed before any registration data could be released. The form was completed and returned to the RPSBG. Two sets of address labels (one for the initial mail out and one for a reminder) containing the names and registered addresses of practicing community pharmacists were later received.

Upon inspection of the labels it became apparent that the labels provided were not an exact match to the sampling frame requested. In total, 1998 labels (per set) had been produced rather than the 2000 requested. 109 labels had been received in the Scottish female stratum (110 were requested) and 57 labels had been received in the Welsh female stratum (instead of the 58 requested). Owing to time constraints it was decided it would be best to proceed with a sample of 1998 rather than delaying initiation of the survey further by making a request for a further two address labels.

3.7.4.5 The structure of the questionnaire

As the questionnaire used to survey community pharmacists was based on the form used to survey DPHs and CPs (see Section 3.5.2), no detailed explanation of the form will be provided here (a copy of the questionnaire is included in Appendix 8). Where the two forms differed, other than changes in

the wording of questions as a result of the pilot study, was in the first section concerning occupational details. Questions examining the occupational details of primary care healthcare professionals were no longer directly relevant and so were adjusted to examine the occupational details of community pharmacists.

Additionally, in the occupational details section, a question was included to examine respondents' beliefs on the dichotomy between their health professional and business functions. Due to the nature of the community pharmacy sector, commercial aspects (such as retail, purchasing and stock management) necessarily impinge on the healthcare function of community pharmacists. This conflict between business and healthcare reinforces the image of the community pharmacist as a "shopkeeper" in the eyes of other members of the primary healthcare team[164]. Community pharmacists were therefore asked to make a subjective judgement as to whether they considered themselves as purely a businessman/woman at one extreme to purely a health professional at the other extreme of a five-point scale:

- 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.

3.5.4.6 Covering letters and reminders

See Section 3.4.1.6 (copies of the covering letter and reminder letter are included in Appendices 9 and 10 respectively)

3.5.4.7 Data collection procedures

Survey packs containing a covering letter, a numbered questionnaire and a postage-paid self addressed return envelope (SAE) were posted to members of the sample. A reminder, containing a letter and a second numbered questionnaire, was sent after four weeks.

3.5.4.8 Survey response rate

An Excel database was set up and contained country, sex and corresponding questionnaire identification numbers. Information on when questionnaires and reminders were sent and returned enabled the ongoing and final response rate to be calculated both before and after the reminder was sent and the response rates of each and administration of the UK.

In total, 1023 community pharmacists returned their questionnaire – an overall response rate of 51%. As stated in Section 3.4.1.9, a response rate of more than fifty per cent from a sample of individuals not known to the investigator has to be reckoned "reasonably satisfactory" [265]. Table 3.13 summarises the response rates for each administration of the UK after the initial mail-out and the reminder.

Table 3.13 Questionnaire response rates by country of the UK and sex

Administration		Target sample n	Returned pre-reminder % (n)	Returned post-reminder % (n)	Total % (n)
England	Male	793	28.6 (227)	17.4 (138)	46.0 (365)
	Female	890	36.3 (323)	20.3 (181)	56.6 (504)
	Combined	1683	32.7 (550)	19.0 (319)	51.6 (869)
Scotland	Male	98	25.5 (25)	14.3 (14)	39.8 (39)
	Female	109	35.8 (39)	18.3 (20)	54.1 (59)
	Combined	207	30.9 (64)	16.4 (34)	47.3 (98)
Wales	Male	51	33.3 (17)	9.8 (5)	43.1 (22)
	Female	57	33.3 (19)	26.3 (15)	59.6 (34)
	Combined	108	33.3 (36)	18.5 (20)	51.9 (56)
Total	Male	942	28.6 (269)	16.7 (157)	45.2 (426)
	Female	1056	36.1 (381)	20.5 (216)	56.5 (597)
	Combined	1998	32.5 (650)	18.7 (373)	**51.2 (1023)**

3.5.4.9 Data preparation

The method of data preparation was the same as was used for the questionnaire of DPHs and CPs (see Section 3.5.2.10)

3.5.4.10 Data analysis

The method of data analysis was the same as was used for the questionnaire of DPHs and CPs (see Section 3.5.2.11).

The independent variables studied were:

- Age;
- Sex;
- Employment status; and
- Type of pharmacy worked in.

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

- The extent to which respondents believed their job to be concerned with public health;
- The extent to which respondents believed their job was affected by public health; and,
- Where respondents placed themselves on the "health professional – businessperson" scale.

The cross-tabulations were performed without any preformed hypotheses of association between the dependent and independent variables.

3.6 Limitations

Survey methodology, and the data collection instruments associated with them, possess inherent disadvantages and these are to be considered as limitations in this research. Structured questionnaires largely contain pre-coded response choices that may not be sufficiently comprehensive[241]. More specifically, self-completion postal surveys do not allow for detection of ambiguities in, and misunderstanding of, the survey questions (although pilot studies aimed to negate these possibilities)[277]. There is no guarantee that the questions have been completed honestly[277] and there is also likely to be a social desirability response bias – people responding in a way that shows them in a good light[253].

Postal questionnaires tend to yield low response rates but the response rates achieved in the two questionnaires described was, at least, satisfactory. This may be explained by the subject matter being of interest to respondents and the relatively high profile of public health at the time of the study. A further limitation of this research is the limited evidence-base available for consultation when designing the questionnaire. However, the preliminary interviews and the available literature were used to inform the design of the questionnaire which was further refined as the research progressed.

Interviews also have limitations as a research tool. They are influenced by the interviewer's characteristics (such as class and sex) and their interaction with the interviewee[253]. During the course of an interview, the interviewer is also likely to be asked questions by the interviewee. In answering questions, the researcher may undo earlier efforts not to impose their own concepts on the interview. Additionally, if questions are not answered, the interviewee's willingness to answer the interviewer's subsequent questions may be reduced[250]. Other potential pitfalls during qualitative interviews include the potential for outside interruptions, asking questions that the interviewee finds awkward or embarrassing and the interviewer presenting their own perspective, thus potentially biasing the interview[250]. Morse and Field

(1995)[254] have identified numerous common pitfalls for interviewers and awareness of these can aid the researcher to develop methods of overcoming them (see Panel 3.1).

Panel 3.1 Common pitfalls in interviewing[254]

- Interruptions from outside (telephone etc.)
- Competing distractions (children etc.)
- Stage fright for interviewer or interviewee
- Asking interviewee awkward or embarrassing questions
- Jumping from one subject to another
- Teaching (e.g. giving interviewee pharmaceutical advice)
- Counselling (e.g. summarising responses too early)
- Presenting one's own perspective, thus potentially biasing the interview
- Superficial interviews
- Receiving secret information (e.g. suicide threats)
- Translators (e.g. potential inaccuracy)

An administrative limitation of the research was the sampling strategy used to survey DPHs and CPs. Wherever possible questionnaires were sent to named individuals. The names of the vast majority of DPHs were obtained prior to administration of the questionnaire and over 70% of questionnaires returned from public health directorates were completed by the DPH themselves. However, names of CPs were difficult to obtain which resulted in the majority of these questionnaires being dispatched addresses to the "Chief Pharmacist". There is little uniformity in the numbers, job specifications and job titles of pharmacists employed by PCOs so it is difficult to judge whether, as intended, these questionnaires have been completed by the most senior pharmacist within each PCO pharmacy department (a judgement on the seniority of the respondent can only be made by the respondent's job title).

Perhaps the main limitation of the research was the failure to conduct follow-up interviews with the community pharmacist sample. The REC and RM&G approval required around 6 months of full-time effort during which time it was impossible to commit to any other tasks. By the time the survey of community pharmacists had been completed there was no remaining time to identify potential interviewees, conduct the interviews, transcribe the data and perform the requisite analysis. The result of this is that a number of interesting issues arising from the survey data remain unexplained – the quantitative data is

included but there are no explanations of the meanings behind the questionnaire answers (i.e. while it may be known that a proportion of community pharmacists considered their role to be disassociated from public health why did they feel the way did?).

A final point concerns questionnaire non-response. Ideally non-responders would have been contacted to ascertain reasons for non-response. Such data would have been useful to assess potential bias introduced into results as a result of certain characteristics of the respondents (i.e. did some members of the sample fail to return questionnaires because they were offended by a certain question/the questionnaire?). However, this was unavoidable due to the stipulations imposed by the NHS MREC which limited further contact with the sample, after the initial mailing of questionnaires, to one reminder.

3.7 Summary

This chapter describes the programme of work undertaken for this study. The chapter also described the cross-sectional, multi-method strategy utilised in this research, which involved two postal survey questionnaires and follow-up face-to-face semi-structured interviews. The sampling strategies employed to identify both DPHs and CPs, and practicing community pharmacists, for this research are also described. The preparation of the data for analysis was the final aspect of the research programme considered in this chapter. The findings of the research strategy are presented in the Results Section (Section III) of this thesis and are described next.

SECTION III: RESULTS

Chapter 4 Results – Surveys of Directors of Public Health, Chief Pharmacists and community pharmacists

4.1 Introduction

The results in this chapter are from the postal surveys of:

- Directors of Public Health (DPHs) and Chief Pharmacists (CPs) at UK primary care organisations (PCOs) in 2005; and,
- Practicing community pharmacists in England, Scotland and Wales in 2006.

For details of the methodology employed, see Chapter 3.

4.2 Socio-demographic characteristics of survey respondents

The survey of DPHs and CPs yielded a final response rate of 49% (n=307/627). The final response rate of the survey of community pharmacists was 51% (n=1023/1998).

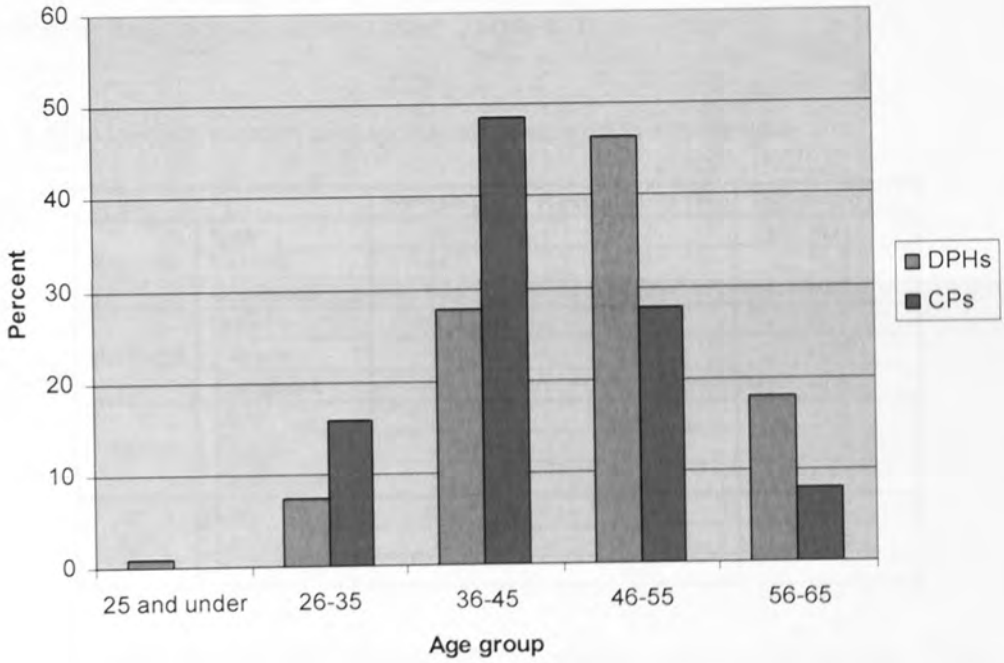
4.2.1 Directors of Public Health and Chief Pharmacists

Response from CPs (57%, n=180/316) was higher than response from DPHs (41%, n=127/311). Over 60% of survey respondents (61%, n=188/306) were women. The proportion of female DPH respondents (58%, n=73/127) was lower than the proportion of female CP respondents (64%, n=115/180). The proportion of female survey CPs is 10% higher than the proportion of women on the Register of Pharmaceutical Chemists held by the RPSGB (figure obtained from [175]). However, this figure is almost 15% lower than the proportion of female primary care pharmacists (pharmacists employed in the

primary care sector – not necessarily CPs) according to the latest Pharmacy Workforce Census[175] (a census of all registered pharmacists resident in Britain).

Almost three-quarters (74%, n=186/307) of survey respondents were aged between 36 and 55 (36-45: 39%, 46-55: 35%). 12% (n=37/307) of respondents were aged 26-35 and a further 12% (n=36/307) were aged 55-65. There were no respondents aged over 65 and only one respondent under the age of 26 (see Figure 4.1).

Figure 4.1 The age of DPH and CP respondents



With slight alterations to the categories employed (the merging of the 25 and under and 26-35 categories to create a 35 and under category and the omission of the "do not want to say" responses) to ensure that expected frequencies were above 5, a Chi-square test was conducted to assess any association (or lack thereof) between professional group (DPH/CP) and age. There was a relationship between professional group and the age of respondents (χ^2=24.516, df=3, ρ=0.000) with DPHs tending to be older than

CPs. Almost two-thirds (63%, n=79/125) of DPHs were 46 or older compared to around one-third of CPs (35%, n=63/180).

4.2.2 Community pharmacists

Gender and country of the UK (excluding Northern Ireland – see Chapter 3, Section 3.5.4.1 for an explanation the omission of Northern Irish pharmacists) were the strata used to make the sample representative of the population being studied, i.e. community pharmacists in the UK. Response was higher amongst the female subset of the sample (57%; n=597/1056) than the male subset (45%; n=426/942). Respondents approximated to the proportions intended in the original sample (see Table 4.1).

Table 4.1 Gender and location of respondents compared to total sample

		Sample (%)	Respondents (%)	Difference (%)
England	Male	39.7	35.7	-4.0
	Female	44.5	49.3	+4.8
	Combined	84.2	84.9	+0.7
Scotland	Male	4.9	3.8	-1.1
	Female	5.5	5.8	+0.3
	Combined	10.4	9.6	-0.8
Wales	Male	2.6	2.2	-0.4
	Female	2.9	3.3	+0.4
	Combined	5.4	5.5	+0.1
UK	Male	47.1	41.6	-5.5
	Female	52.9	58.4	+5.5
	Combined (n)	1998	1023	

Women accounted for 58% (n=590/1023) of all survey respondents. This figure is similar to the proportion of women (54%) on the Register of Pharmaceutical Chemists held by the RPSGB (figures obtained from [175]). However, the most recent Pharmacy Workforce Census[175] reported that 51% of the community pharmacy workforce (as opposed to the overall pharmacy workforce) were women (see Table 4.2).

Table 4.2 Comparison of the sex of survey respondents, respondents to the Pharmacy Workforce Census and all pharmacists on the Register of Pharmaceutical Chemists

	Community pharmacists (2005)[1] (%)*	Difference (%)^	Respondents (%)*	Difference (%)[$]	All pharmacists (2005)[2] (%)
Male	48.6	-7.1	41.5	-4.2	45.7
Female	51.4	+7.1	58.5	+4.2	54.3
Total (n)	15462		1009		46396

Notes on Table 4.2:

*where gender was known, i.e. "do not want to say" option (n=5) and missing values (n=9) were omitted

^sample minus community pharmacists

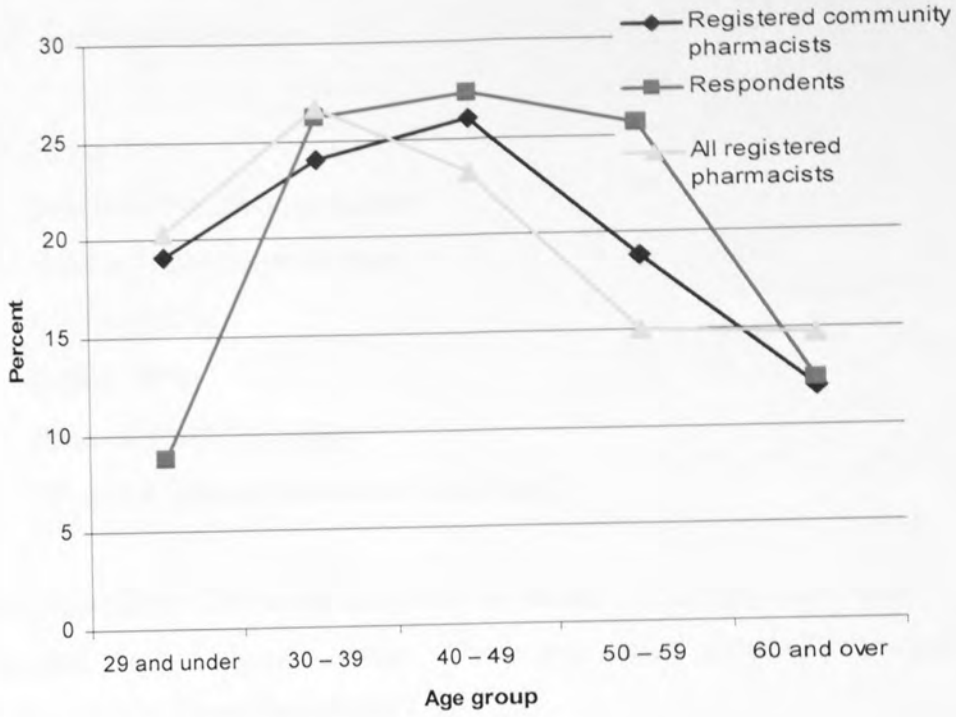
[$]sample minus all pharmacists

[1]Data from Pharmacy Workforce Census[175]

[2]Data from Register of Pharmaceutical Chemists[175]

9% (n=88/1014) of respondents were under the age of 29. However, around a fifth of all pharmacists (20%), and more specifically community pharmacists (19%), were under 29 in 2005. This suggests that pharmacists below the age of 29 were less likely to respond to the questionnaire. Conversely, a quarter (25%, n=258/1014) of all respondents were aged 50-59 compared to just 15% and 19% of all pharmacists and community pharmacists respectively (see Figure 4.2).

Figure 4.2 Age of respondents(2006), registered community pharmacists(2005) and all registered pharmacists (2005)[175]



Notes on Figure 4.2:

Figures for survey pharmacists only include those pharmacists for whom the age group was known, i.e. "do not want to say" option (n=5) and missing values (n=9) were omitted

4.3 Employment details

Survey respondents were asked for basic details of their employment. Owing to the divergent nature of the three professional groups studied (DPHs, CPs and community pharmacists), three different question streams were used. For this reason the results are presented in three different subsections here.

4.3.1 Directors of Public Health

The majority of forms (72%, n=91/127) returned from Public Health Directorates were completed by DPHs. 6% (n=8/127) of returned questionnaires were completed by Consultants in Public Health and a further 7% (n=9/127) were completed by Public Health Specialists (as a general rule of thumb, Consultants being less senior than Directors and Specialists being

less senior than Consultants). The remaining 14% (n=18/127) were completed by other individuals within Public Health Directorates. Other job titles of respondents included:

- Acting DPH
- Director of Health Improvement
- Head of Health Improvement
- Assistant DPH
- Deputy DPH
- Head of Health Promotion
- GP with a Special Interest in Public Health

Unlike pharmacists, DPHs can come from a variety of backgrounds, both clinical and, more rarely, non-clinical. DPHs were asked to specify in which field they initially trained (see Table 4.3).

Table 4.3 Initial training of DPH respondents

	Frequency	Percent
Medicine	76	60.3
Nursing	13	10.3
Pharmacy	8	6.3
Public health	7	5.6
Health promotion	4	3.2
Management	4	3.2
Dentistry	3	2.4
Other	11	8.7
Total	126*	100.0

Notes on Table 4.3 :

*one missing value

Table 4.3 shows that 60% (n=76/126) of DPHs initially trained in medicine. The second largest professional group filling DPH posts were nurses (10%, n=13/126) and six per cent of DPHs initially trained in pharmacy.

4.3.2 Chief Pharmacists

The most common job title of pharmacy respondents was Head of Medicines Management (47%, n=84/180). Prescribing Advisor (16%, n=28/180) and Chief Pharmacist (14%, n=25/180) were also considerable in number. Five pharmacist respondents described their job title as Director of Pharmaceutical Services despite this being a term previously restricted to Northern Ireland where there are only 4 PCOs and only 3 out of the possible 4 Directors of Pharmaceutical Services replied (i.e. 2 pharmacist respondents from England indicated that they were Directors of Pharmaceutical Services). The "other" job title option yielded 26 different titles with only 4 (Pharmaceutical Advisor, n=8; Community Pharmacy Advisor, n=2; Community Pharmacy Facilitator, n=2; and, Professional Executive Committee (PEC) Pharmacist, n=2) being specified more than once. Other titles mentioned included:

- Head of Pharmacy and Research and Development
- Specialist in Pharmaceutical Public Health
- Head of Prescribing and Pharmacy Policy
- Head of Pharmaceutical Public Health
- Primary/Secondary Care Interface Pharmacist
- Associate Director of Medicines Management and Pharmacy.

This demonstrates that no clear job title for "chief pharmacists" (i.e. the most senior pharmacist within a PCO) exists. However, there appeared to be variation in the principal job titles used across the administrations of the UK. 48% (n=76/160) of English CPs gave their job title as Head of Medicines Management compared to 64% (n=7/11) Welsh CPs. All CPs (n=3) in Northern Ireland were Directors of Pharmaceutical Services. However, as the numbers of CP respondents from the devolved administrations are so small, no firm inferences can be drawn from the data.

4.3.3 Community pharmacists

The majority of community pharmacist respondents (85%, n=867/1016) were working entirely within community pharmacy at the time of the study (August – October 2006). This figure was slightly higher for men (87%, n=362/414) than women (84%, n=494/588). A further 9% (n=91/1016) of those surveyed worked partly in community pharmacy and partly in another area. Of the remaining 6%, 2% (n=20/1016) indicated that they used to work in community pharmacy but no longer did while a further 1% (n=15/1016) of respondents were retired. A further 5 respondents were not in active employment while, despite requesting only the details of community pharmacists from the RPSGB's Register of Pharmaceutical Chemists, 2% (n=18/1016) of the sample reported working entirely outside of community pharmacy.

4.3.3.1 Part-time working

Of those respondents working entirely within community pharmacy, 57% (n=484/854) reported working full-time with 43% (n=370/854) working part-time (this figure is 10% higher than for the wider community pharmacy workforce[175]). There was a relationship between sex and part-time/full-time working (χ^2=79.203, df=1, ρ=0.000) with considerable variance between the male and female members of the sample (see Table 4.4).

Table 4.4 Percentage of respondents working full and part-time in community pharmacy by sex

	Sex	
	Male (%)	Female (%)
Full-time	74.7	43.7
Part-time	25.3	56.3
Total (n)	356	487

By comparison, in the latest Pharmacy Workforce Census (2005)[175], 19% of male pharmacists were working part-time (6% lower than in the sample) and 41% of female pharmacists (15% lower than in the sample). The figures for the sample, being drawn only from community pharmacists (a third of whom work part time[175]), as opposed to the entire pharmacy workforce, may be

skewed by the significant numbers of community pharmacists (over 20%[175]) who operate as self-employed locums and therefore have a greater degree of freedom to choose their hours of work than their colleagues who are employed in other sectors of the profession.

4.3.3.2 Employment status

Respondents who were actively employed in community pharmacy were asked to report the category that best described their job title. Over one-third of respondents (35%, n=330/956) reported that they were a locum pharmacist, with almost one-third of respondents (30%, n=285/956) reporting that they were a pharmacy manager (see Table 4.5).

Table 4.5 Employment status of survey pharmacists

		Sex*		Combined^
		Male (%)	Female (%)	
Proprietor	Proprietor	23.0	7.8	14.3
Employee	Manager	24.2	34.1	29.8
	Relief pharmacist	5.8	9.3	7.7
	Second pharmacist	3.0	13.8	9.3
Self-employed	Locum pharmacist	39.4	30.8	34.5
Other	Non-store pharmacist	2.0	1.3	1.6
	Other	2.5	2.9	2.7
	Total (n)	396	549	956

Notes on Table 4.5:

*where sex and job title known

^where job title known

Table 4.5 also suggests a relationship between employment status and sex with female respondents (57%, n=314/549) showing an increased tendency to be employed (i.e. "manager", "relief pharmacist" and "second pharmacist") compared to their male counterparts (33%, n=131/396). Male pharmacists conversely are more likely to be self-employed (as a "proprietor" or a "locum") than their female colleagues. Further analysis demonstrated a relationship between employment status and sex (χ^2=82.970, df=6, ρ=0.000).

Comparison can be made between the employment status of survey pharmacists and the employment status of the overall pharmacist population with some minor reclassification. Employee pharmacists constitute less than half of survey pharmacists whereas over two-thirds of all pharmacists are employees (see Table 4.6). This is not unexpected as levels of self-employment tend to be higher among community pharmacists than pharmacists practicing in other sectors of the profession. Almost one in seven survey pharmacists were pharmacy owners compared to less than one-in-ten in the wider pharmacy population.

Table 4.6 Employment status of actively employed pharmacists

	Sample* (%)	Census* (%)[175]	Difference (%)
Employee	48.9	68.5	-19.6
Self-employed locum	36.1	21.9	+14.2
Self-employed owner	15.0	9.6	+5.4
Total	100.0	100.0	

Notes on Table 4.6:

*figures expressed as a proportion of 100% however, actual figures total less than 100% due to incompatibility between categorisation in census and that used in the survey (survey: "non-store pharmacist" and "other" categories excluded; census: "self-employed consultant" and "other self-employed categories excluded)

4.3.3.3 Type of community pharmacy worked in

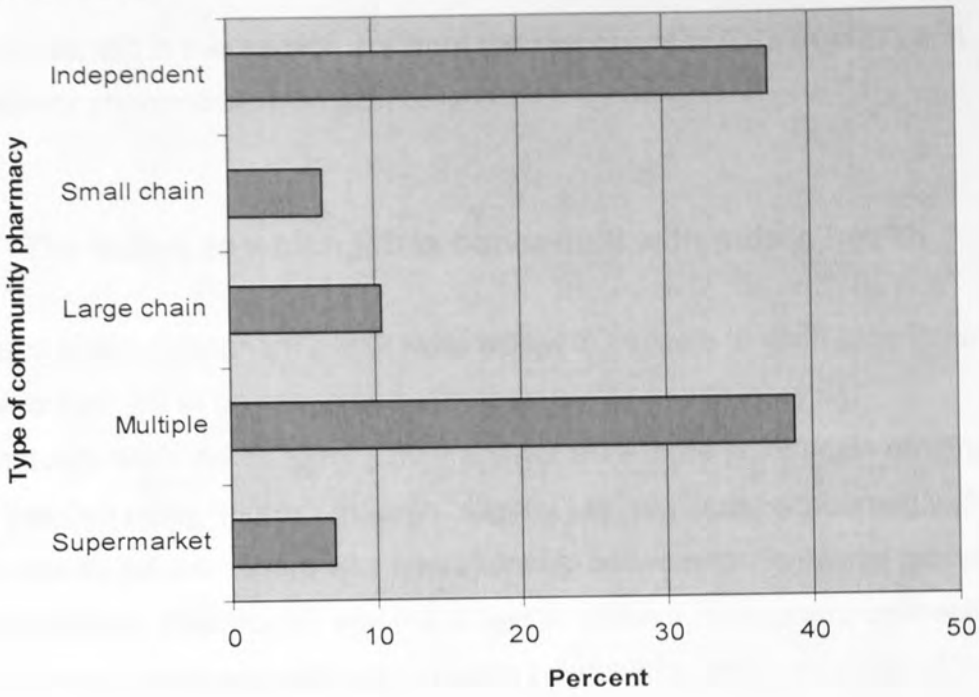
Respondents actively employed in community pharmacy were asked to report which type of community pharmacy they had worked in most frequently over the six months preceding data capture (see Panel 4.1). 39% (n=360/927) of actively employed survey pharmacists had most regularly worked in a multiple pharmacy chain. A similar number (37%, n=346/927) had most regularly worked in an independent pharmacy (see Figure 4.3).

Panel 4.1 Classification of types of community pharmacy

- Independent ($n \leq 5$)
- Small chain ($5 < n \leq 20$)
- Large chain ($20 < n < 200$)
- Multiple ($n \geq 200$)
- Supermarket pharmacy

where n is the number of pharmacy outlets

Figure 4.3 Type of community pharmacy worked in most regularly in the past six months by survey pharmacists



A relationship was observed between reporting of the type of community pharmacy most regularly worked in and sex (χ^2=31.359, df=4, ρ=0.000). Over half of female survey pharmacists (52%, n=274/532) reported working most regularly for either supermarkets or multiple pharmacy chains compared to only 39% (n=148/383) of male respondents (see Table 4.7). Conversely, almost half of male survey pharmacists (45%, n=174/383) reported working most regularly in an independent pharmacy environment with less than a third of female respondents (31%, n=166/532) working most regularly in independent community pharmacies.

Table 4.7 Type of community pharmacy worked in most regularly in the past six months by survey pharmacists

	Sex	
	Male (%)	Female (%)
Supermarket	2.9	10.2
Multiple	35.8	41.4
Large chain	9.4	11.3
Small chain	6.5	6.0
Independent	45.4	31.2
Total (n)	383	532

4.4 The impact of public health on the job of the pharmacist

Data presented in this section are from the responses of CPs (n=127) and community pharmacists (n=1023) only.

4.4.1 The extent to which job is concerned with public health

CPs and community pharmacists were asked to indicate to what extent they believed their job to be concerned with local public health issues. Pharmacists were asked to rank their answer on a three point scale ranging from their job being "highly", through "slightly", to "not at all" concerned with public health issues. There was a relationship between professional group (CP/community pharmacist) and the extent to which a respondent believed their job was concerned with public health (χ^2=31.468, df=2, ρ<0.001). Every CP respondent considered their job to be concerned with public health with 65% (n=110/170) of PCO pharmacists stating that their job was highly concerned with public health issues compared to 43% (n=408/943) of community pharmacists, 6% (n=56/943) of whom reported that their job was "not at all" concerned with public health (see Figure 4.4 below).

Within the community pharmacist subset, a relationship was observed between employment status and the level to which a respondents' job was concerned with public health (χ^2=19.605, df=4, ρ=0.001). Over half of pharmacy owners (51%, n=68/134) considered that their job was highly concerned with public health compared to 38% (n=123/321) of locum pharmacists (see Figure 4.5 below). Additionally, one-in-ten (10%, n=33/321) locums believed that their job was not at all concerned with public health.

Figure 4.4 The extent to which CPs and community pharmacists believed their job to be concerned with local public health issues

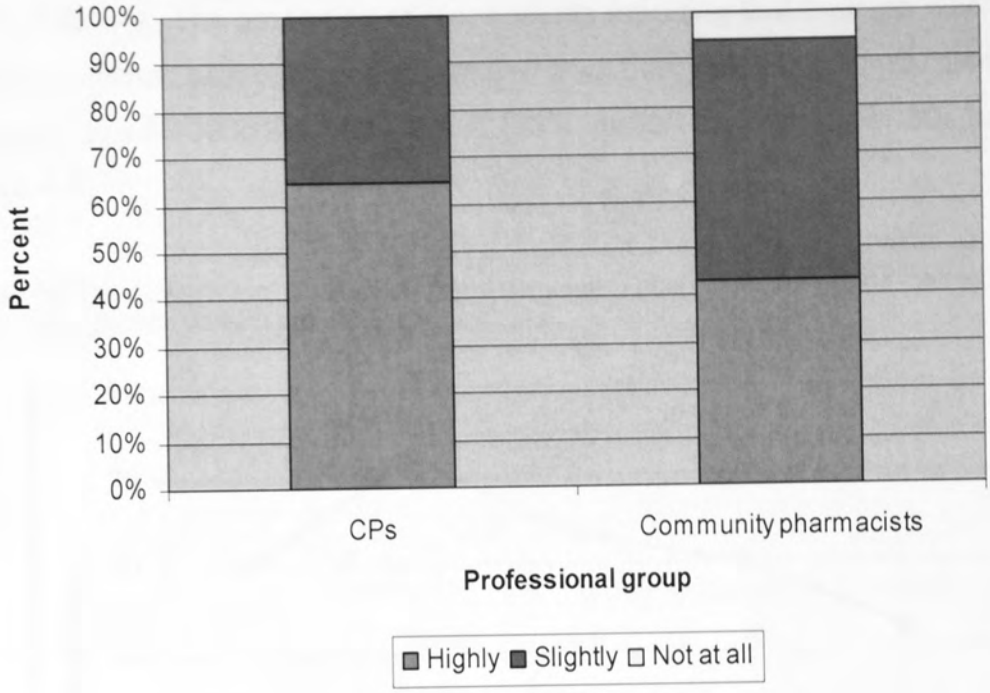
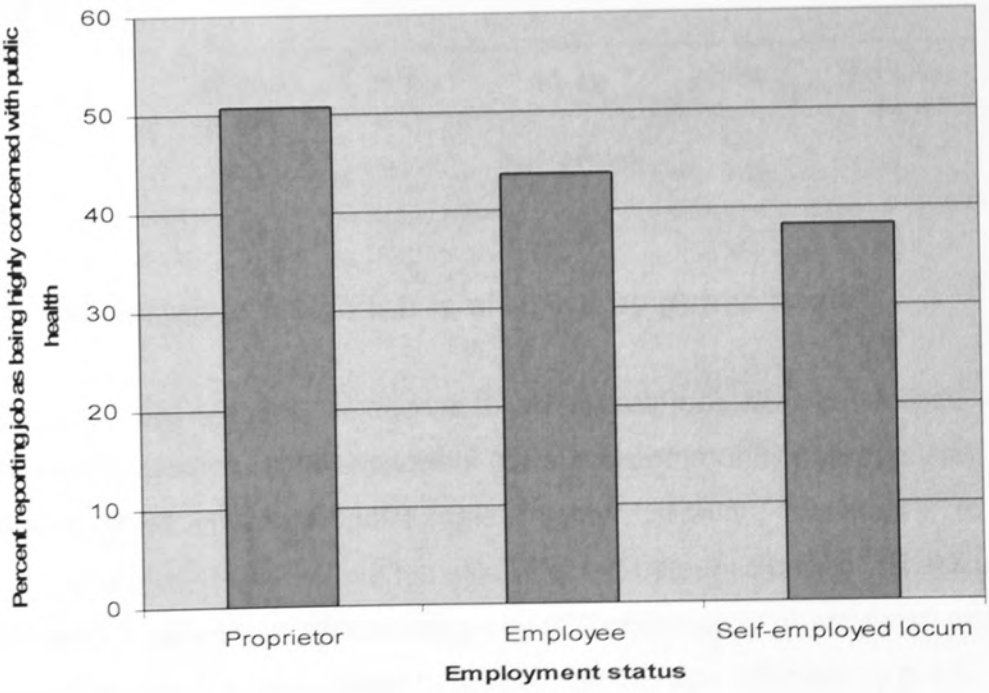
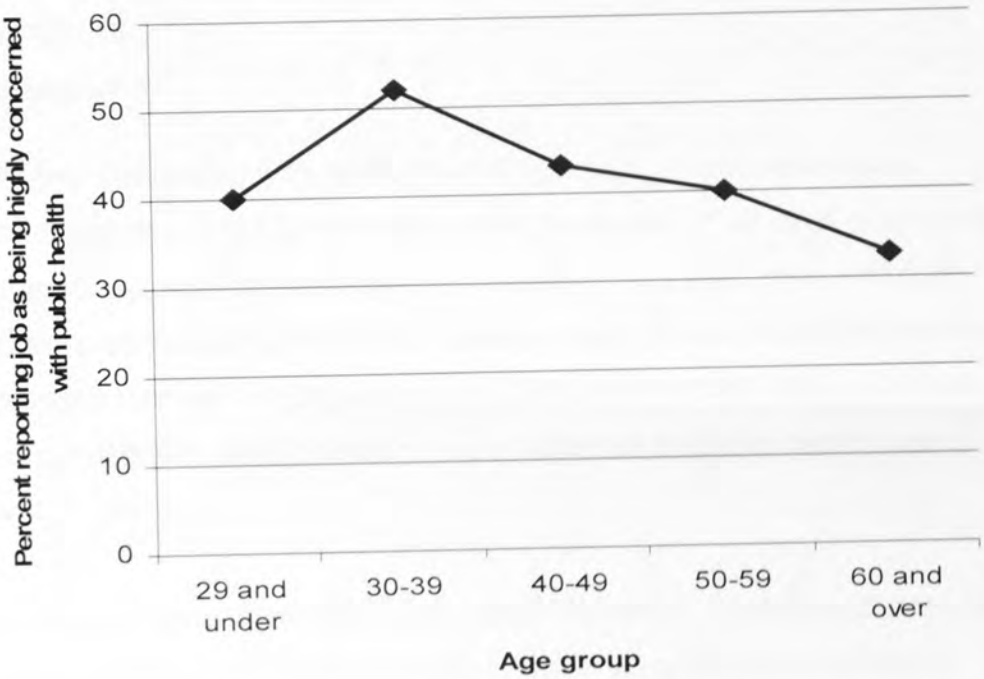


Figure 4.5 The proportion of actively employed community pharmacists reporting their job as being highly concerned with public health



There was also a relationship between age and the level to which a community pharmacists' job was concerned with public health (χ^2=22.597, df=8, ρ=0.004). The proportion of respondents reporting that their job was highly concerned with public health ranged from over half (52%, n=127/244) of those aged 30-39 to less than a third (33%, n=33/101) of the over 60s (see Figure 4.6).

Figure 4.6 The proportion of actively employed community pharmacists reporting their job as being highly concerned with public health



4.4.2 The extent to which job is affected by public health

In addition to being asked the degree to which their jobs were concerned with public health, pharmacist respondents (CPs and community pharmacists) were also asked, on a three-point scale ("highly", "slightly", "not at all"), to report the degree to which their job was affected by public health. There was a relationship between professional group (CP/community pharmacist) and the extent to which a respondent believed their job was affected by public health (χ^2=69.941, df=2, ρ<0.001) with 40% (n=370/917) of community

pharmacists considering their job to be highly affected by public health compared to 75% (n=127/170) of CPs (see Table 4.8).

Table 4.8 The extent to which CPs and community pharmacists believed their job to be affected by local public health issues

	Professional group			
	CPs		Community pharmacists	
	n	%	n	%
Highly	127	74.7	370	40.3
Slightly	43	25.3	507	55.3
Not at all	0	0.0	40	4.4
Total	170*	100.0	917*	100.0

Notes on Table 4.8:

*some missing values

As with the "concerned with public health" question, a relationship was observed between employment status and the degree to which a community pharmacists' job was affected by public health (χ^2=15.848, df=4, ρ=0.003). Pharmacy owners (45%, n=59/130) believed their job was more affected by public health than self-employed locums (36%, n=111/306), 8% (n=25/306) of whom reported that their job was not at all affected by public health (see Figure 4.7 below).

Again, like the "concerned with public health" question, a relationship was also observed between age and the degree to which a community pharmacist believed their job was affected by public health (χ^2=23.114, df=8, ρ=0.003). From the 30-39 age group (46%, n=110/239), the proportion of respondents reporting their job as being highly affected by public health tails off to just under one-quarter (23%, n=21/92) of those aged 60 or more. The one exception to this pattern is the 29 and under age group (where one may have expected a figure greater than 46.0%), where only 36% (n=30/84) reported their job as being highly affected by public health (see Figure 4.8 below).

Figure 4.7 The proportion of actively employed community pharmacists reporting their job as being highly affected by public health

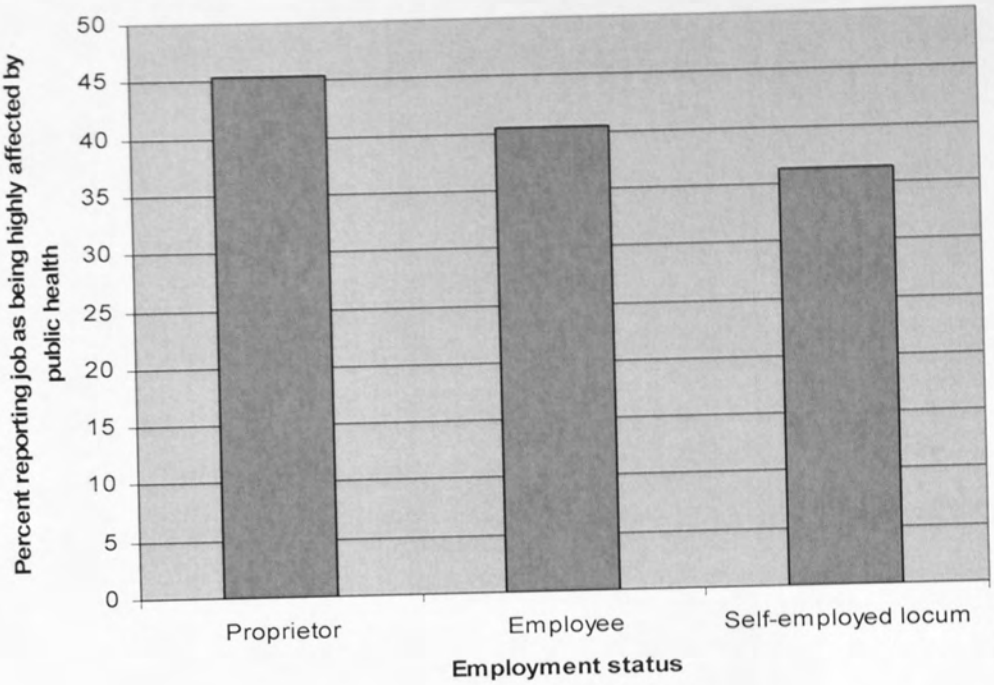
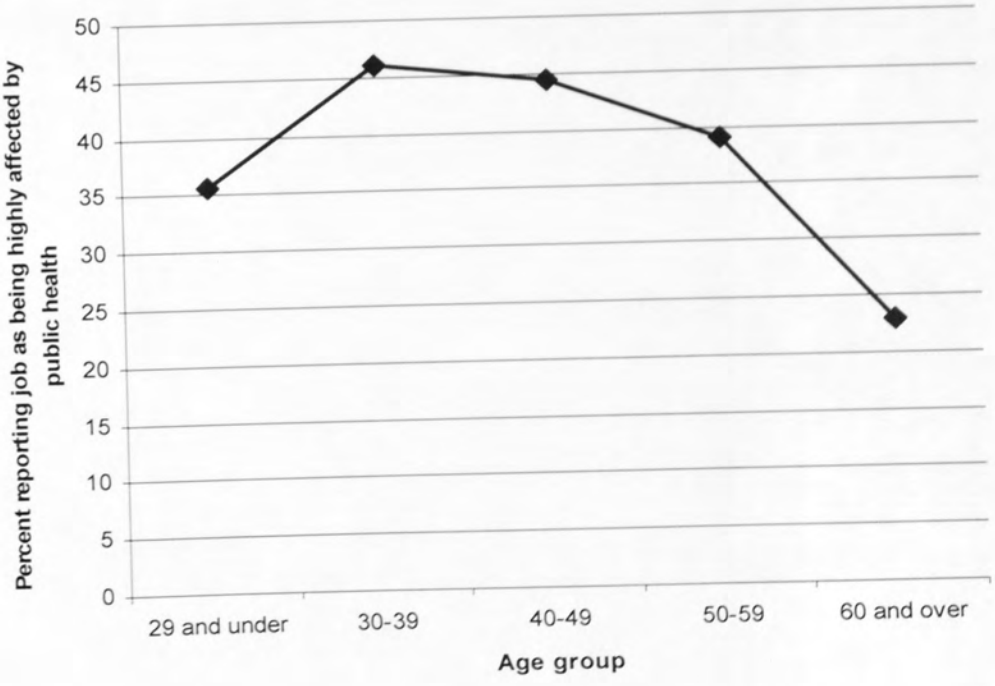


Figure 4.8 The proportion of actively employed community pharmacists reporting their job as being highly affected by public health



4.5 *Health professional versus businessman/woman*

Data presented in this section are from community pharmacist respondents (n=1023) only.

Community pharmacists were asked to make a subjective judgement, using a five-point scale, as to whether they considered themselves as purely a businessman/woman at one extreme to purely a health professional at the other extreme. Almost a third of community pharmacists (32%, n=309/959) considered themselves to be purely a health professional with less than 1% (n=4/959) classing themselves as being purely a businessman/woman (see Table 4.9).

Table 4.9 Where community pharmacists placed themselves on the health professional to businessman/woman scale

	Percent
Purely a health professional	32.2
More health professional than businessman/woman	43.9
Half health professional, half businessman/woman	20.2
More businessman/woman than health professional	3.2
Purely a businessman/woman	0.4
Total (n)	959

Very few community pharmacists considered their commercial responsibilities to predominate over their professional practice. Therefore, to enable suitable statistical analysis, for the remainder of this section the top two and bottom two categories in the five-point scale above were recoded to create a three-point scale (more health professional than businessman/woman; half health professional, half businessman/woman; and, more businessman/woman than health professional).

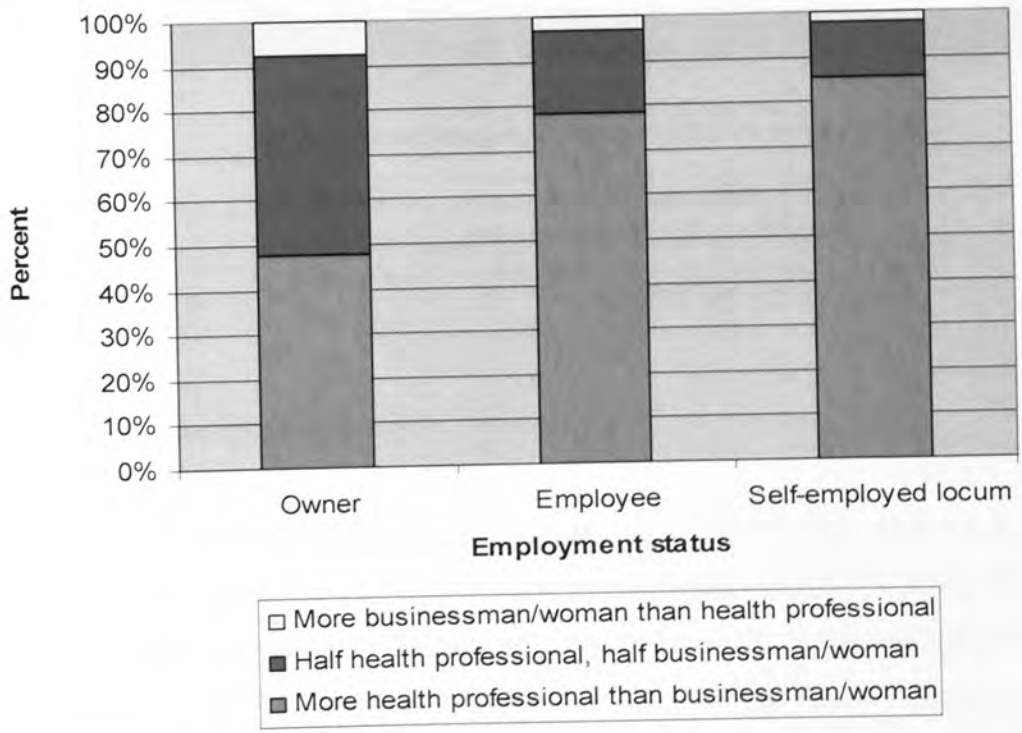
A relationship was observed between gender and whether a respondent placed themselves at the business or health professional end of the scale (χ^2=24.988, df=2, ρ=0.000). A higher proportion of female (82%, n=448/548) than male (68%, n=272/399) respondents believed that their job made them more a health professional than a businesswoman (see Table 4.10).

Table 4.10 Where survey pharmacists placed themselves on the health professional to businessman/woman scale

	Sex	
	Male (%)	Female (%)
More health professional than businessman/woman	68.2	81.8
Half health professional, half businessman/woman	26.1	16.1
More businessman/woman than health professional	5.8	2.2
Total (n)	399	548

There was also a relationship (χ^2=77.203, df=4, ρ=0.000) between where a pharmacist placed themselves on the health professional to businessman/woman scale and employment status with around four-fifths (86%, n=282/330) of locums and employee pharmacists (78%, n=347/444) considering themselves as more health professional than businessman/woman compared to less than half (48%, n=65/136) of pharmacy owners (see Figure 4.9).

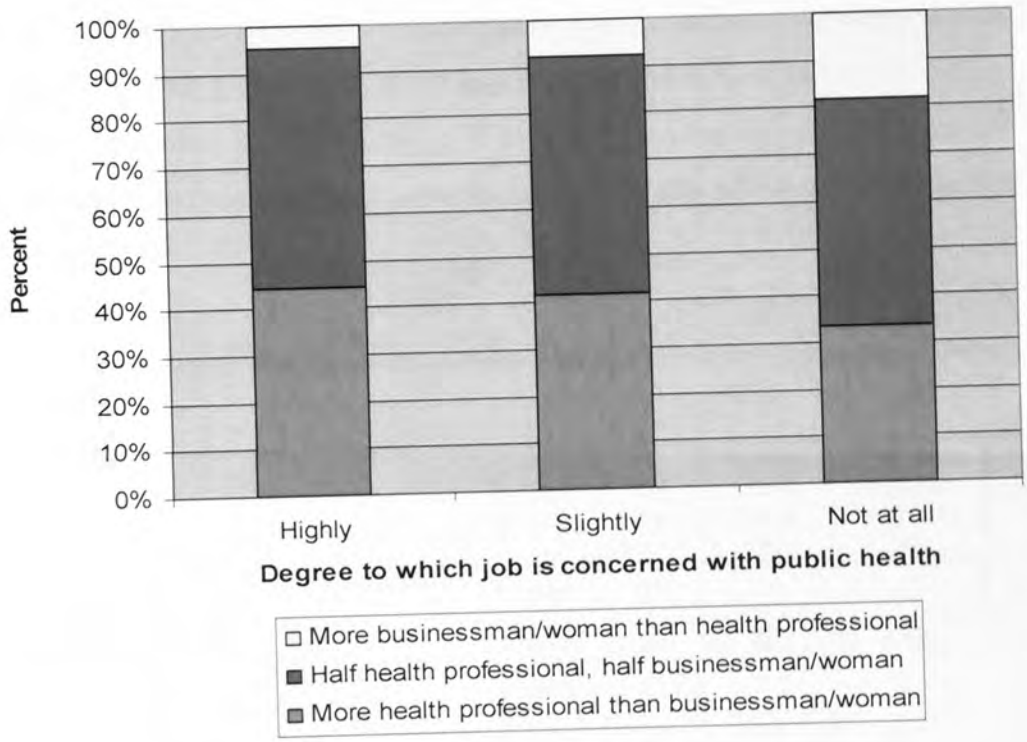
Figure 4.9 How employment status influenced where survey pharmacists placed themselves on the health professional to businessman/woman scale



Cross-tabulation and statistical analysis confirmed an association between the degree to which a pharmacist believed their job to be concerned with public health and where a pharmacist placed themselves on the business to health professional scale (χ^2=12.440, df=4, ρ=0.014). Of those reporting that their

job was highly concerned with public health, 44% (n=316/715) considered themselves more health professional than businessman/woman. Whereas only a third (33%, n=11/33) of those reporting that their job was not at all concerned with public health were more health professional than businessman/woman (see Figure 4.10).

Figure 4.10 The relationship between the degree to which survey pharmacists considered their jobs to be concerned with public health and where survey pharmacists placed themselves on the health professional to businessman/woman scale



4.6 *Public health activity*

The reporting of the provision of public health services through community pharmacy varied significantly between the three groups studied (DPHs, CPs and community pharmacists). However, direct comparison between the PCO respondents (DPHs and CPs) and community pharmacist respondents was not possible as DPHs and CPs were reporting provision through pharmacies in their localities (i.e. provision of the service through one pharmacy out of 20 within the PCO would have elicited a "yes" response) whereas community pharmacists were reporting provision through the single pharmacy in which they had worked most regularly during the preceding six months. As direct

comparison was not possible the data are presented in two subsections, the first presenting data from the survey of DPHs and CPs, and the second presenting data from the survey of community pharmacists.

4.6.1 The public health activity of community pharmacy according to Directors of Public Health and Chief Pharmacists

Respondents were asked to report the provision of a series of 'public health services' through community pharmacies in their localities – whether these were currently being provided, were planned for the future, were not being provided or planned for the future, or if they felt that the service was not a public health role (respondents were instructed to tick all boxes that applied – see Table 4.11).

Table 4.11 The provision of public health services through community pharmacy (DPH and CP respondents)

	Yes (%)	No (%)	Planned for the future (%)	This is not a public health role (%)	Total (n)
The sale of emergency hormonal contraception (EHC) over the counter (OTC)	94.9	3.1	1.0	1.0	292*
Health promotion (HP) on premises	94.8	1.7	3.5	0.0	288*
Services for drug misusers (i.e. supervised administration, needle exchange scheme etc.)	94.5	3.1	2.1	0.3	292*
Collection of waste medicines	90.4	7.1	0.4	2.1	280*
Smoking cessation services	80.8	3.6	15.2	0.3	302*
Domiciliary visits (including home delivery of medicines)	74.6	16.5	3.1	5.8	260*
The supply of EHC on a patient group direction (PGD)	71.9	6.6	21.2	0.3	288*
Out of hours services	70.7	19.6	6.2	3.6	276*
Minor ailments scheme	53.3	16.1	27.4	3.3	274*
Blood pressure testing	48.8	38.4	11.2	1.6	258*
Cholesterol testing	44.5	43.4	10.2	2.0	256*
Diabetes testing and monitoring	35.4	44.9	19.3	0.4	254*
Sexually transmitted infection (STI) testing (e.g. Chlamydia screening)	15.2	38.3	46.5	0.0	269*
Cardiovascular screening	15.1	67.2	17.6	0.0	238*
HP off premises	6.9	86.6	6.1	0.4	231*

Notes on Table 4.11:

*some missing values

4.6.1.1 Current service provision

The most commonly provided service, was the sale of emergency hormonal contraception (EHC) over the counter (OTC). At the time of writing (February 2007), there is little financial burden on pharmacies from OTC sales and such a sale requires minimal additional training. Indeed to not sell EHC OTC could mean missing out on additional profits.

The next two most regularly provided services were services for drug misusers and health promotion on the pharmacy premises – two relatively uncomplicated tasks that have traditionally been provided through community pharmacy for a number of years. Of the more novel of the listed pharmacy-based services, around half of respondents reported that minor ailments schemes, blood pressure testing and cholesterol testing were being provided by pharmacies in their localities.

The least regularly provided service was health promotion by a pharmacist away from the pharmacy premises. At the time of the study, this was a very recent innovation that had only occurred in a handful of PCOs, perhaps most notably in Northern Ireland under the direction of the "Building the Community – Pharmacy Partnership"[278]. This sought to reposition pharmacy as a resource for community development – helping to increase social connectedness within the local community and tackle health inequalities. One example of this approach had seen a pharmacy involved in weight management in conjunction with a local women's group[279].

There were a total of 68 PCOs (22%, n=68/315) where responses were received from both the DPH and CP (n=136: DPH=68, CP=68). For these cases comparisons were made between the responses of DPHs and CPs. Table 4.12 (below) shows the reporting of the current provision of the listed services by both DPHs and CPs.

Table 4.12 Reporting of the services being provided through community pharmacies in the UK at the time of the study: comparison of DPH and CP data

	DPHs		CPs		Total (%)
	%	n	%	n	
Health promotion (HP) on premises	93.4	57/61	98.5	65/66	96.1
Services for drug misusers (i.e. supervised administration, needle exchange scheme etc.)	92.2	59/64	98.5	66/67	95.4
The sale of emergency hormonal contraception (EHC) over the counter (OTC)	95.2	60/63	95.5	64/67	95.4
Collection of waste medicines	91.9	57/62	87.9	58/66	89.8
Smoking cessation services	83.6	56/67	77.3	51/66	80.5
Domiciliary visits (including home delivery of medicines)	75.9	41/54	80.0	52/65	78.2
Out of hours services	74.2	46/62	69.2	45/65	71.7
The supply of EHC on a patient group direction (PGD)	74.2	46/62	59.7	40/67	66.7
Blood pressure testing	60.0	33/55	50.8	31/61	55.2
Minor ailments scheme	60.0	33/55	40.3	27/67	49.2
Cholesterol testing	56.4	31/55	37.7	23/61	46.6
Diabetes testing and monitoring	42.6	23/54	31.7	20/63	36.8
Cardiovascular screening	28.3	15/53	10.7	6/56	19.3
Sexually transmitted infection (STI) testing (e.g. Chlamydia screening)	15.0	9/60	9.4	6/64	12.1
HP off premises	9.8	5/51	6.7	4/60	8.1

There was a relationship between the reporting of the provision of the supply of EHC on a PGD and job title (χ^2=7.179, df=2, ρ=0.028) with DPHs more likely to report provision of this service than their CP colleagues. The relationships between the reporting of the provision of cholesterol testing (χ^2=10.583, df=3, ρ=0.014) and a minor ailments scheme (χ^2=14.478, df=3, ρ=0.002) also appeared statistically significant. However, in both instances, greater than 20% of expected frequencies were less than five and one expected frequency had an expected value of less than one, so the conditions of the test statistic were not met. While the test conditions may not have been met, the results of the Chi square tests provide an indication of an underlying association between the reporting of the provision of cholesterol testing and minor ailments schemes, and professional group (DPH/CP).

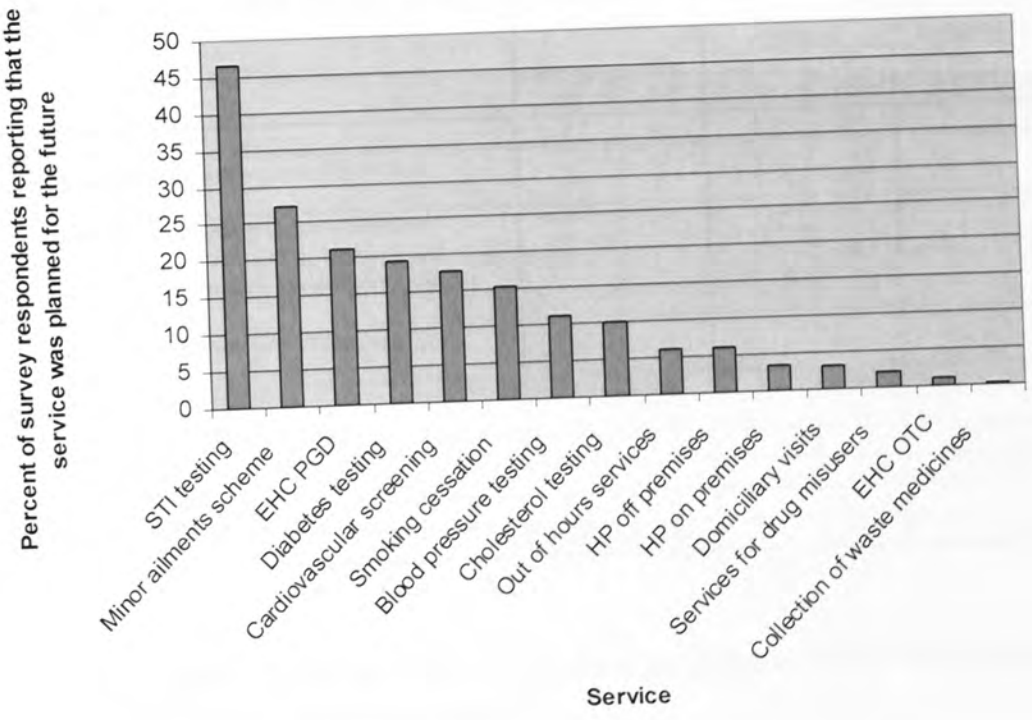
For the services where the discrepancy between the proportions of DPHs and CPs reporting provision of the service was greatest, a higher proportion of DPHs than CPs reported provision of these novel pharmacy-based services. For the more traditional pharmacy based services listed above, such as services for drug misusers and health promotion on the premises, the

proportion of CPs reporting provision of the services was higher than the proportion of DPHs reporting provision of the services.

4.6.1.2 Future service provision

Almost half (47%, n=125/269) of respondents (max n=307) reported that sexually transmitted infection testing through community pharmacies was being planned within their localities and over a quarter (27%, n=75/274) that a minor ailments scheme was being planned. The only other service being planned for the future by over one-fifth of responding DPHs and CPs (see Figure 4.11) was the supply of emergency hormonal contraception on a patient group direction (21%, n=61/288).

Figure 4.11 The reporting of services planned for the future by DPHs and CPs



4.6.1.3 Other roles

Respondents were also asked to list any other services being provided through community pharmacy that they considered a public health service. They were also asked to list any other services being planned for the future, or being considered for provision but not currently being planned, that they considered a public health service. 31 different types of service that were being provided at the time of the study were highlighted. In addition, 30 different types of service were specified as being planned for the future and 32 different types of service were highlighted as being considered for future provision but not, at the time of the study, in the planning stages. The most regularly highlighted services are shown in Table 4.13.

Table 4.13 "Other" pharmacy-based public health services reported by DPHs and CPs

	Current		Future			
			Planned		Unplanned	
	DPHs (n)	CPs (n)	DPHs (n)	CPs (n)	DPHs (n)	CPs (n)
Weight management schemes	4	3	5	24	7	11
Influenza campaigns (including pandemic flu planning)	3	3	2	3	3	6
Screening services (including blood pressure, diabetes, cholesterol, International Normalised Ratio (INR) testing for patients on anti-coagulants and osteoporosis)			1	4	5	8
Six health promotion campaigns in line with new pharmacy contract	3	3			4	4
Medicines Use Reviews (MURs)	1	5	4	2		
PGDs for prescription only medicines	1	5	1	4		
Antibiotic campaigns	1	7				
Advice to care homes		6				
Palliative care services		5				
Signposting	2	3				

4.6.2 The public health activity of community pharmacy according to community pharmacists

Community pharmacists were asked to report the provision of 'public health services' through their most regular place of work (see Table 4.14).

Table 4.14 Reporting of the provision of public health services through community pharmacy by community pharmacists

	Yes (%)	No (%)	Planned for the future (%)	I do not think that this is a public health role (%)	Total (n)
Collection of waste medicines	93.1	6.0	0.5	0.4	938*
The supply of emergency hormonal contraception (EHC) over the counter (OTC)	93.0	4.5	1.2	1.3	948*
Health promotion (HP) on premises	86.2	11.3	2.3	0.2	923*
Home delivery of medicines	80.3	17.0	1.5	1.2	914*
Supervised administration of medicines	70.4	23.1	5.9	0.7	922*
Smoking cessation	69.1	19.0	11.5	0.3	936*
Medicines Use Reviews (MURs)	66.9	13.9	18.7	0.5	916*
The supply of EHC on a patient group direction (PGD)	49.0	36.7	13.3	0.9	879*
Minor ailments scheme	45.3	40.2	14.0	0.6	866*
Blood Pressure (BP) testing	43.5	40.4	15.6	0.6	886*
Needle exchange	31.1	59.9	7.9	1.0	871*
Palliative care services	27.9	65.7	5.5	0.9	823*
Domiciliary visits	25.8	68.2	4.9	1.2	823*
Out of hours services	25.2	70.6	2.8	1.4	834*
Diabetes testing	24.0	56.4	18.9	0.6	845*
Cholesterol testing	23.4	53.3	22.7	0.7	852*
HP off premises	11.0	83.6	4.4	1.0	792*
Sexually transmitted infection (STI) testing	6.2	70.5	21.5	1.7	817*

Notes on Table 4.14:

*some missing values

4.6.2.1 Current service provision

Community pharmacists reported that the collection of waste medicines was the most commonly provided service (93% of respondents (n=873/938) reporting the provision of this service in the pharmacy that they had worked in most regularly during the preceding six months). Over half of respondents reported the provision of the supply of EHC OTC (93%, n=882/948), health promotion on the pharmacy premises (86%, n=796/923), the home delivery of medicines (80%, n=734/914), supervised administration of medicines (70%, n=649/922), a smoking cessation service (69%, n=647/936) and medicines use reviews (67%, n=613/916). STI testing (6%, n=51/817), health promotion off of the pharmacy premises (11%, n=87/792) and cholesterol testing (23%, n=199/852) were the three least regularly provided services.

Owing to the small numbers of respondents describing the listed services as not being public health roles (never more than 2%), subsequent analysis only used the three categories "yes" (i.e. currently provided), "no" (i.e. not provided or planned for the future), and "planned for the future".

The listed services were cross-tabulated with the type of pharmacy most regularly worked in during the preceding six months to see if the type of pharmacy worked in was related to the provision, or non-provision, of the listed services. Analysis showed relationships (χ^2 with $\rho \leq 0.05$) between the provision of 14 out of the 18 listed services (see Table 4.15) and the type of community pharmacy most regularly worked in.

Table 4.15 Reporting of the provision of public health services through the different types of community pharmacy by survey pharmacists

	Percentage of respondents working most regularly in each type of pharmacy who reported provision of the service					Total (%)	ρ
	Supermarket (max n=65)	Multiple (max n=360)	Large chain (max n=97)	Small chain (max n=59)	Independent (max n=346)		
Home delivery	28.8	75.4	93.6	92.9	88.4	80.7	0.000
Supervised admin.	54.4	78.1	76.1	77.2	61.4	70.3	0.000
Smoking cessation	60.7	66.2	64.9	64.9	75.3	69.1	0.035
MURs	75.0	78.1	68.1	50.0	55.7	66.9	0.000
EHC PGD	36.4	50.0	43.8	52.7	50.8	48.8	0.050
BP testing	64.4	44.3	39.1	26.4	42.9	43.5	0.000
Needle exchange	5.7	30.4	33.3	38.5	32.4	30.9	0.021
Palliative care	19.2	21.0	32.9	30.4	33.6	27.7	0.000
Out of hours	28.3	22.1	17.9	20.8	30.0	25.6	0.000
Domiciliary visits	5.9	19.1	19.5	33.3	37.4	25.0	0.032
Diabetes testing	23.1	31.0	19.8	13.7	20.3	24.0	0.000
Cholesterol testing	3.8	36.5	13.8	15.1	15.6	23.5	0.000
HP off premises	7.8	9.0	8.6	6.4	14.5	10.9	0.016
STI testing	2.0	11.0	1.3	6.1	3.1	6.3	0.001

In the case of both the provision of a home delivery service (29%, n=15/52, of respondents working in supermarket pharmacies indicated that the service was being provided) and domiciliary visits (6%, n=3/51), supermarkets appeared less likely to provide these services, particularly when compared to

independents (88%, n=297/336 and 37%, n=113/302, respectively) and small chains (93%, n=52/56 and 33%, n=16/48, respectively). Supermarkets were also less likely to provide emergency hormonal contraception (EHC) on a patient group direction (PGD), needle exchange schemes and the supervised administration of medicines (e.g. methadone).

Other services where there appears a particularly marked difference in levels of provision between the different types of pharmacy outlets are screening services – cholesterol, diabetes and STI testing – where the multiples were predominant. Additionally Medicines Use Reviews (MURs) were most likely to be provided by the supermarkets and the multiples.

Each listed service (see Table 4.14) was cross-tabulated with the country of residence (England, Scotland and Wales) of community pharmacists. There was a statistical association between the country in which a pharmacist lived and the provision of eight of the eighteen listed public health services (see Table 4.16 below). However, the "crossover" of pharmacists from one country to another (i.e. a pharmacist resident in England may work in a pharmacy in Wales or Scotland and vice versa) cannot be ruled out – although the number of respondents "crossing over" was likely to be very small – and may have had a slight, undetectable effect on the results.

The relationships highlighted in Table 4.16 are summarised in Figure 4.12 (below). For six of the eight services, levels of provision were higher in Scotland than in England and Wales. This is illustrated most markedly by the variations in provision of MURs and minor ailments schemes observed between the administrations.

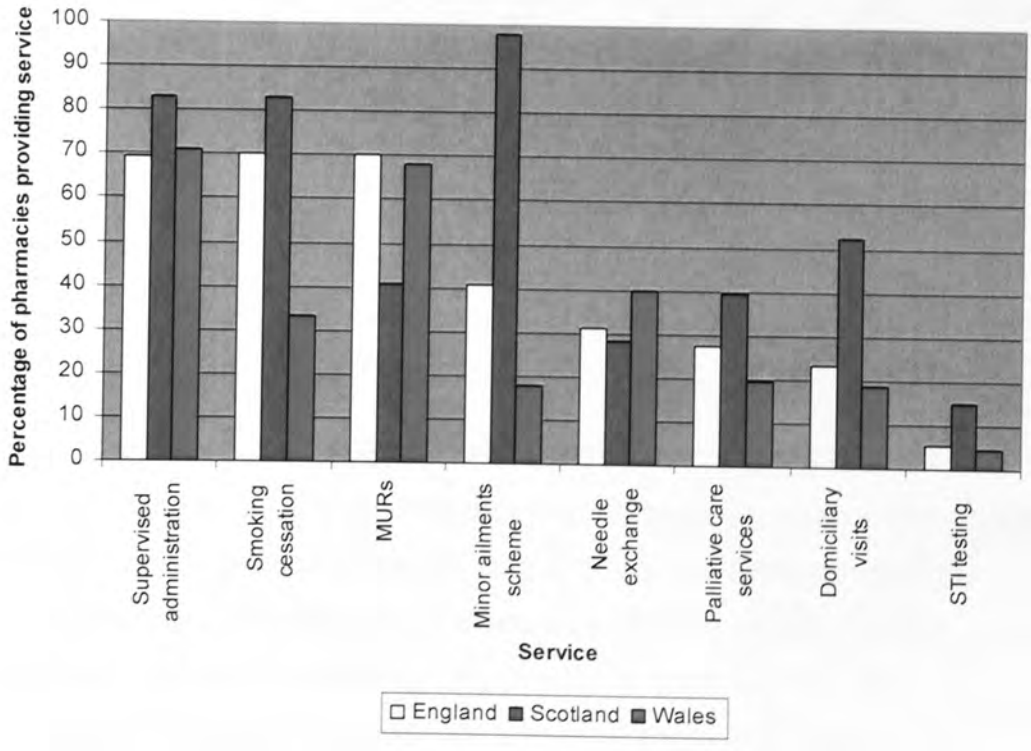
Table 4.16 Results of Chi-square tests between service and community pharmacist's country of residence and accompanying ρ values where a statistically significant relationship existed between the two variables

Relationship (χ^2 with $\rho \leq 0.05$) between...	
Service provision	Country of residence
Collection of waste medicines	
The supply of emergency hormonal contraception (EHC) over the counter (OTC)	
Health promotion (HP) on premises	
Home delivery of medicines	
Supervised administration of medicines	<0.05
Smoking cessation	<0.001
Medicines Use Reviews (MURs)	<0.001
The supply of EHC on a patient group direction (PGD)	
Minor ailments scheme	<0.001
Blood Pressure (BP) testing	
Needle exchange	<0.05
Palliative care services	<0.05*
Domiciliary visits	<0.001*
Out of hours services	
Diabetes testing	
Cholesterol testing	
HP off premises	
Sexually transmitted infection (STI) testing	<0.001*

Notes on Table 4.16:

*> 20% of expected values < 5 therefore conditions of Chi-square not met

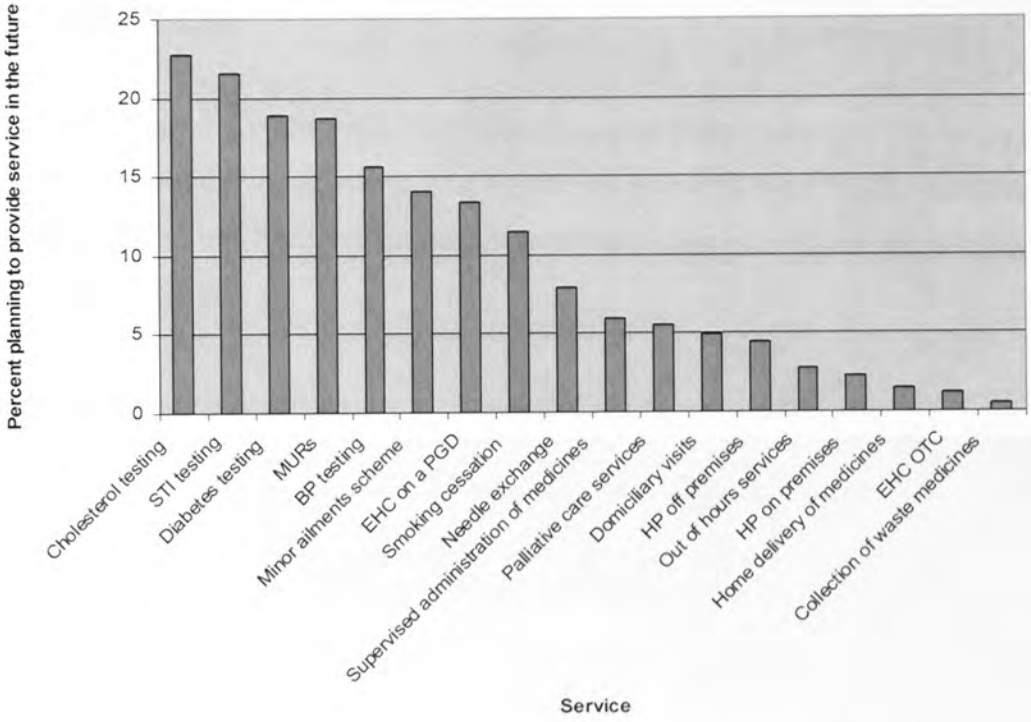
Figure 4.12 Reporting of the provision of community pharmacy based public health services by community pharmacists in England, Scotland and Wales.



4.6.2.2 Future service provision

Cholesterol testing (23%, n=193/852) and STI testing (22%, n=176/817) were among the most popular services being planned for the future (see Figure 4.13). Indeed, screening services occupy four of the top five slots in this classification with STI and cholesterol testing being joined by diabetes testing (19%, n=160/845) and blood pressure testing (16%, n=138/886).

Figure 4.13 The services community pharmacists are planning to provide in the future



4.6.2.3 Other roles

The most prominent "other" (i.e. unlisted) health improving measures being provided through community pharmacies at the time of the study were weight management services (n=32) and the supply of various Prescription Only Medicines (POMs) on Patient Group Directions (PGDs) (n=25). Other prominent services being provided, or planned, through community pharmacies at the time of the study are shown in Table 4.17 below.

Table 4.17 "Other" pharmacy-based public health services reported by community pharmacists

Other roles	Provision		
	Current (n)	Planned (n)	Total (n)
Obesity	32	11	43
PGDs	25		25
Nursing home services	18		18
Monitored Dosage Systems	12		12
INR monitoring	4	7	11
Head lice	6		6
Other screening	4	2	6

4.7 *Pharmaceutical input into public health planning within UK PCOs*

DPH (n=127) and CP (n=180) respondents were asked whether there was any pharmaceutical input into public health planning in their PCO. Almost four-fifths (78%, n=236/301) indicated that there was pharmaceutical input (see Table 4.18).

Table 4.18 Pharmaceutical input into public health planning within UK PCOs

	DPHs (%)	CPs (%)	Total (%)
Yes	83.2	75.0	78.4
No	16.8	25.0	21.6
Total (n)	125	176	301*

Notes on Table 4.18:

*some missing values

The proportion of DPH respondents indicating pharmaceutical input into public health planning (83%, n=104/125) was slightly higher than the proportion of CP respondents reporting pharmaceutical input (75%, n=132/176). As the Faculty of Public Health has defined the public health approach as *"multi-disciplinary"* and *"emphasising partnerships with all those who contribute to the health of the population"*[15], a degree of social desirability response bias may have been responsible for the increased proportion of DPHs who reported pharmaceutical input into public health planning within their PCOs. However, the relationship between job title and the reporting of pharmaceutical input into public health planning was not statistically significant (χ^2=2.439, df=1, ρ=0.118).

4.7.1 The nature of pharmaceutical input into public health planning within UK PCOs

While almost four-fifths of respondents indicated pharmaceutical input, the nature of the inputs varied considerably. Inputs ranged from a high-level – the full-time employment of strategic level Pharmaceutical Public Health Specialists and Consultants (mainly in Scotland and Wales) – through to low-level – *"If we are remembered we get invited [to meetings]...We are often forgotten"* (English CP). Only 7% (n=16/224) of responses reported the employment of specialist public health pharmacists (as specialists, consultants or DPHs). A further 16% (n=35/224) of responses indicated that the pharmacy team, or members of the pharmacy team, came under the remit of the DPH. The inputs described outside of this formalised input were varied with many respondents reporting close working relationships or input into "relevant" initiatives (such as smoking cessation, EHC schemes etc.). Only 2% (n=4/224) reported the input of community pharmacists into public health planning within their PCOs.

At the time of the study, the majority of pharmaceutical input into public health planning, particularly in England, appeared to be limited to infrequent, often informal, conversations between staff in pharmacy departments and public health departments. Pharmaceutical input into public health planning appeared to be largely *ad hoc*, often at the behest of others.

4.7.2 Is pharmaceutical input into public health planning within UK PCOs welcomed?

All members of the sample were asked if they welcomed, or would welcome, pharmaceutical input into public health planning. 95% (n=218/229: DPHs 96%, n=100/104; CPs 94%, n=118/125) of respondents indicated that they welcome, or would welcome, such input. The remaining respondents were "unsure" if they did, or would, welcome pharmaceutical input.

While 95% of respondents indicated that they either do, or would, welcome pharmaceutical input into public health planning, 78% of respondents reported input at the time of the study. This may suggest that a number of PCO Public Health Directorates who would like pharmaceutical input were unable, for reason(s) unknown, to access pharmaceutical expertise relevant to public health.

4.8 Most important public health challenge

All survey respondents (DPHs, CPs and community pharmacists) were asked to select what they considered to be the five most important public health challenges facing the UK from a list of 12 different health areas (see Panel 4.2). Respondents were also given the option of selecting up to five "other" options where they could write in other challenges not described by the 12 health areas. The results are shown in Table 4.19 below.

Panel 4.2 The 12 health areas assessed in the questionnaire

- Obesity
- Sexually transmitted infections (inc. HIV/AIDS)
- Teenage pregnancy
- Cardiovascular disease
- Diabetes
- Smoking
- Drug abuse
- Mental illness
- Antibiotic resistance
- Respiratory illnesses
- Cancer
- Alcohol abuse

Table 4.19 The relative importance of different public health challenges

Challenge	Professional Group						Total	
	DPHs		CPs		Community pharmacists			
	n	%	n	%	n	%	n	%
Obesity	96	15.4	122	14.2	890	17.6	1108	17.0
Smoking	114	18.3	144	16.7	723	14.3	981	15.0
Cardiovascular disease	76	12.2	121	14.1	668	13.2	865	13.2
Diabetes	48	7.7	110	12.8	674	13.4	832	12.7
Drug abuse	24	3.9	42	4.9	414	8.2	480	7.3
STIs	62	10.0	56	6.5	353	7.0	471	7.2
Teenage pregnancy	33	5.3	101	11.7	336	6.7	470	7.2
Alcohol abuse	47	7.5	20	2.3	248	4.9	315	4.8
Cancer	38	6.1	30	3.5	240	4.8	308	4.7
Mental illness	42	6.7	44	5.1	204	4.0	290	4.4
Respiratory illnesses	18	2.9	48	5.6	183	3.6	249	3.8
Antibiotic resistance	4	0.6	18	2.1	86	1.7	108	1.7
Other	21	3.4	5	0.6	29	0.6	55	0.8
Total	623	100	861	100	5048	100	6532*	100

Notes on Table 4.19:

*some missing values – potential total was 6650 (i.e. 1330 respondents each selecting five challenges)

Survey respondents believed that obesity was the most important public health challenge, followed by smoking, cardiovascular disease and diabetes.

Comparisons were made between the responses of DPHs, CPs and community pharmacists. There was a relationship (χ^2=190.804, df=24, ρ<0.001) between professional group (DPH/CP/community pharmacist) and the rankings given to the listed challenges.

DPHs, CPs and community pharmacists all considered obesity and smoking to be the two most important challenges. However, there was considerable variance in opinion over the rankings of the majority of the remaining challenges. Considerable differences in opinion between the professional groups were observed in the reporting of diabetes (DPHs 8%, n=48/623; CPs 13%, n=110/861; community pharmacists 13%, n=674/5048), drug abuse (DPHs 4%, n=24/623; CPs 5%, n=42/861; community pharmacists 8%, n=414/5048), STIs (DPHs 10%, n=62/623; CPs 7%, n=56/861; community pharmacists 7%, n=353/5048), teenage pregnancy (DPHs 5%, n=33/623; CPs 12%, n=101/861; community pharmacists 7%, n=336/5048) and alcohol abuse (DPHs 8%, n=47/623; CPs 2%, n=20/861; community pharmacists 5%,

n=248/5048) as being amongst the five most important public health challenges in the respondent's localities.

4.9 The contribution of community pharmacy in tackling public health challenges

All respondents (DPHs, CPs and community pharmacists) were asked to report how useful they believed pharmacy could be in tackling the 12 health topics in Panel 4.2 on a four-point scale ("very useful", "useful", "of limited use", and "of no use"). Respondents believed that community pharmacy could be most useful in tackling smoking (77% very useful (VU), n=1014/1318), diabetes (53% VU, n=700/1312), and obesity (47% VU, n=614/1319) (see Table 4.20 below). Conversely, the three health topics that respondents believed community pharmacy could be least effective in combating were cancer (6% NU, n=80/1309), mental illness (6% of no use (NU), n=75/1305) and alcohol abuse (4% NU, 58/1314).

Table 4.20 The usefulness of pharmacy in tackling various public health challenges

			Challenge[1]											
			Smo	Dia	Obe	Dru	Car	Tee	Res	Ant	STI	Alc	Can	Men
Very useful	DPHs	%	73.0	46.0	32.0	47.6	44.0	47.6	27.2	47.6	46.0	15.9	15.4	9.7
		n	92	58	40	59	55	59	34	60	57	20	19	12
	CPs	%	86.7	39.7	47.5	65.0	35.2	65.9	26.7	30.6	30.3	6.1	7.3	7.3
		n	156	71	85	117	63	116	48	55	54	11	13	13
	Com	%	75.7	56.7	48.2	40.2	42.6	30.2	30.3	26.3	22.7	10.9	7.1	7.4
		n	766	571	489	404	430	298	305	265	227	110	72	74
	Total	%	**76.9**	**53.4**	**46.6**	**44.3**	**41.7**	**36.7**	**29.5**	**28.9**	**26.0**	**10.7**	**7.9**	**7.6**
		n	1014	700	614	580	548	473	387	380	338	141	104	99
Useful	DPHs	%	26.2	48.4	48.8	43.5	48.0	41.9	63.2	38.1	44.4	43.7	42.3	50.8
		n	33	61	61	54	60	52	79	48	55	55	52	63
	CPs	%	12.2	53.6	47.5	30.6	55.9	30.1	60.6	46.7	56.7	49.4	41.3	52.0
		n	22	96	85	55	100	53	109	84	101	89	74	92
	Com	%	23.2	39.5	41.1	42.7	49.8	41.2	53.4	43.0	47.9	43.1	37.8	36.9
		n	235	398	417	430	502	407	538	433	479	434	381	370
	Total	%	**22.0**	**42.3**	**42.7**	**41.1**	**50.4**	**39.8**	**55.3**	**43.0**	**48.8**	**44.0**	**38.7**	**40.2**
		n	290	555	563	539	662	512	726	565	635	578	507	525
Of limited use	DPHs	%	0.8	5.6	17.6	8.9	8.0	10.5	9.6	14.3	9.7	39.7	38.2	39.5
		n	1	7	22	11	10	13	12	18	12	50	47	49
	CPs	%	1.1	6.7	5.0	4.4	8.9	4.0	12.8	20.6	12.9	41.1	49.7	39.0
		n	2	12	9	8	16	7	23	37	23	74	89	69
	Com	%	1.0	3.7	10.3	15.8	7.2	26.3	15.6	27.2	27.6	41.0	47.9	48.6
		n	10	37	105	159	73	260	157	274	276	413	482	488
	Total	%	**1.0**	**4.3**	**10.3**	**13.6**	**7.5**	**21.7**	**14.6**	**25.1**	**23.9**	**40.9**	**47.2**	**46.4**
		n	13	56	136	178	99	280	192	329	311	537	618	606
Of no use	DPHs	%	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.8	4.1	0.0
		n	0	0	2	0	0	0	0	0	0	1	5	0
	CPs	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	3.3	1.7	1.7
		n	0	0	0	0	0	0	0	4	0	6	3	3
	Com	%	0.1	0.1	0.4	1.3	0.4	2.3	0.8	3.6	1.7	5.1	7.1	7.2
		n	1	1	4	13	4	23	8	35	17	51	72	72
	Total	%	**0.1**	**0.1**	**0.5**	**1.0**	**0.3**	**1.8**	**0.6**	**3.0**	**1.3**	**4.4**	**6.1**	**5.7**
		n	1	1	6	13	4	23	8	39	17	58	80	75
Total		n	1318[$]	1312[$]	1319[$]	1310[$]	1313[$]	1288[$]	1313[$]	1313[$]	1301[$]	1314[$]	1309[$]	1305[$]
ρ-value			0.015*^	0.000*	0.000*	0.000	0.434*	0.000	0.089*	0.000	0.000	0.038	0.002	0.000

Notes on Table 4.20:

[1]Smo=smoking; Dru=drug misuse; Car=cardiovascular disease; Tee=teenage pregnancy; Res=respiratory illnesses; Ant=antibiotic resistance; Dia=diabetes; STI=sexually transmitted infections; Obe=obesity; Alc=alcohol abuse; Can=cancer; Men=mental illness

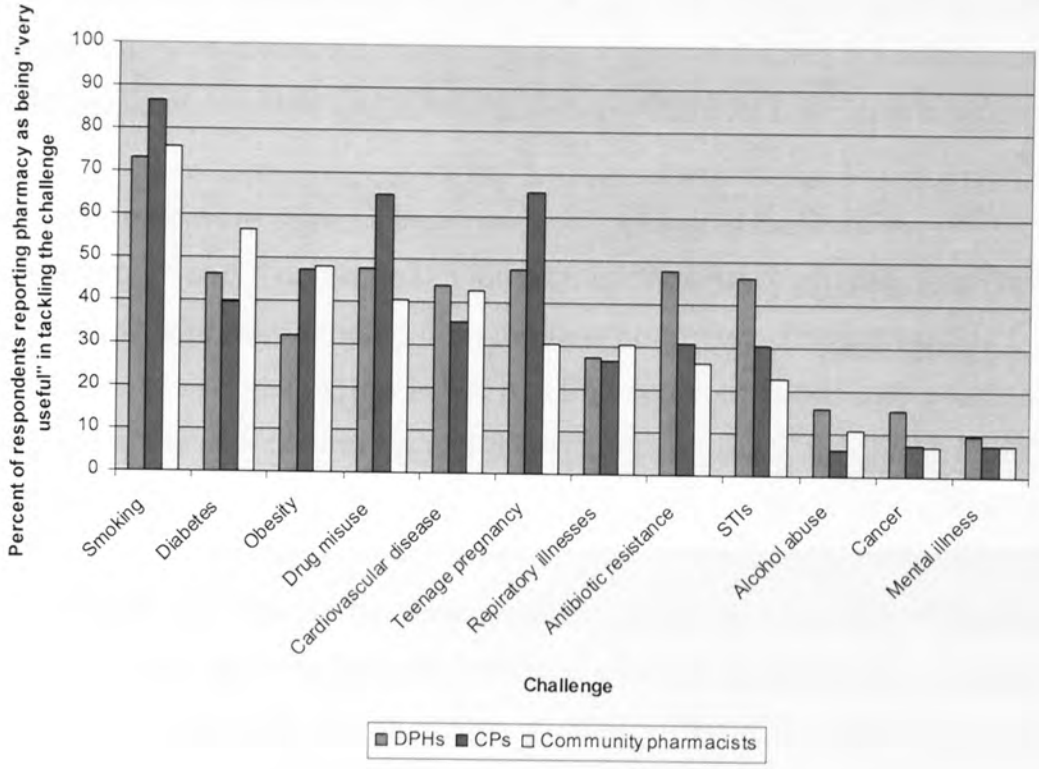
[$]some missing values

*to allow for statistical analysis, "of limited use" and "of no use" categories combined to form one new category (i.e. the Chi square tests for these challenges had 4 degrees of freedom (df) instead of 6df)

^greater than 20% of expected values less than 5 therefore conditions of Chi square test not met

There were statistical associations (Chi-square test with $\rho \leq 0.05$) between the reporting of the usefulness of pharmacy in tackling ten of the twelve listed challenges and professional group (DPH/CP/community pharmacist). An illustration of these associations is shown in Figure 4.14 (below).

Figure 4.14 Opinions of DPHs, CPs and community pharmacists on the usefulness of pharmacy in tackling various public health challenges



4.10 *Developing the public health function of community pharmacy*

All respondents were asked for their opinions regarding a number of factors, both policy-based and from within the practice of pharmacy, that could either facilitate or impede the development of the public health function of community pharmacists.

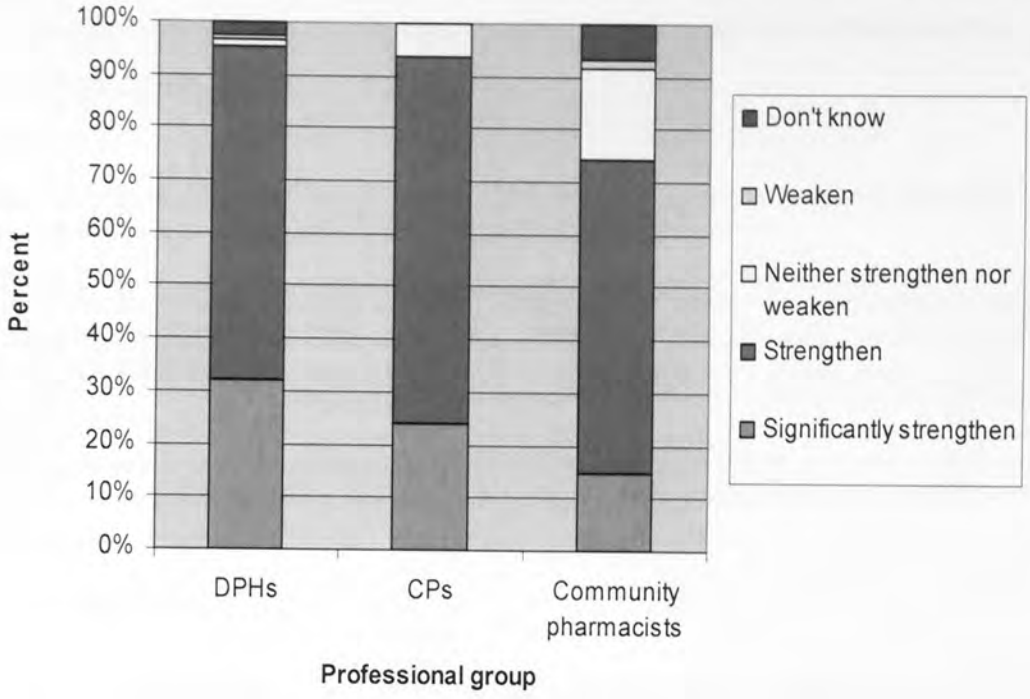
4.10.1 The new pharmaceutical services contract

A new contract for the provision of pharmaceutical services in England and Wales was implemented from April 2005. Additionally, a new contractual framework for pharmaceutical services in Scotland, with a different structure to the new contract for England and Wales, was introduced from April 2006 (see Chapter 2, Section 2.4.1 for an overview of the structures of the new contracts). The contracts govern the way that pharmacies are reimbursed for NHS services provided including the remuneration for the dispensing process.

Respondents were asked if their new contract would facilitate the development of the public health function of community pharmacists. A five-point scale was used ranging from the new pharmacy contract would "significantly strengthen" the public health function of community pharmacists through to the new contract would "significantly weaken" the public health function

Opinions on the effect of the new contracts on the development of the public health function of community pharmacists showed considerable variation across the three professional groups studied (DPHs, CPs and community pharmacists). Owing to the small numbers of respondents who believed that the new contracts would "weaken" or "significantly weaken" the public health function, the two categories were combined into one "weaken" category to allow for suitable statistical analysis. There was a significant relationship between opinions on the ability of the new contracts to strengthen the public health function and professional group (χ^2=73.466, df=8, ρ<0.001). DPHs appeared to be the most positive about the ability of the contracts to strengthen the public health function (32%, n=40/125), significantly strengthen), followed by CPs (24%, n=43/179) with community pharmacists (15%, n=152/1015) somewhat less positive (see Figure 4.15).

Figure 4.15 Opinions of survey respondents on the ability of the new pharmaceutical services contracts to facilitate the development of the public health function of community pharmacists



Data from the survey of DPHs and CPs tentatively suggested that Scottish respondents felt that their new pharmacy contract would be more effective at strengthening the public health function than English respondents believed their new contract to be. However, the small numbers of Scottish respondents (n=15) meant that tests for statistical associations could not be conducted and firm inferences could not be drawn from the data. The larger sample employed in the community pharmacy survey meant that statistical tests could be conducted to establish if there was any association between the country a community pharmacist resided in their opinions on the ability of their new contract to strengthen the public health function.

Slightly higher proportions of community pharmacists resident in Scotland believed that their new contract would significantly strengthen the public health function than pharmacists resident in England and Wales (see Table 4.21). However, the proportions of respondents who felt that the net effect of the contract would be a strengthening (i.e. significantly strengthen plus strengthen) of the public health function were almost identical. There was no

relationship between the country a community pharmacist respondent resided in and opinions on the effect of the new pharmaceutical services contract on the development of the public health function of community pharmacists (χ^2=0.659, df=3, ρ>0.1).

Table 4.21 Opinions of community pharmacists on the effect of the new pharmaceutical services contract on the development of their public health function

Effect of the new contract on the public health function of community pharmacists	Pharmacists resident in England & Wales (%)	Pharmacists resident in Scotland (%)
Significantly strengthen	15.8	18.7
Strengthen	63.8	60.4
Neither strengthen nor weaken	18.6	18.7
Weaken	1.8	2.2
Total (n)	854*	91*

Notes on Table 4.21:

*some missing values

Within the community pharmacist subset, there was a relationship (χ^2=20.003, df=8, ρ=0.010) between employment status and opinions on the effect of the new pharmacy contract on the development of the public health function of community pharmacists (see Table 4.22). Employee pharmacists (81%, n=360/446, of whom believed the new contract would either strengthen or significantly strengthen the public health function) appeared more positive about the beneficial effects of the new pharmacy contract on the public heath function than both pharmacy owners (69%, n=94/136) and locums (68%, n=222/325).

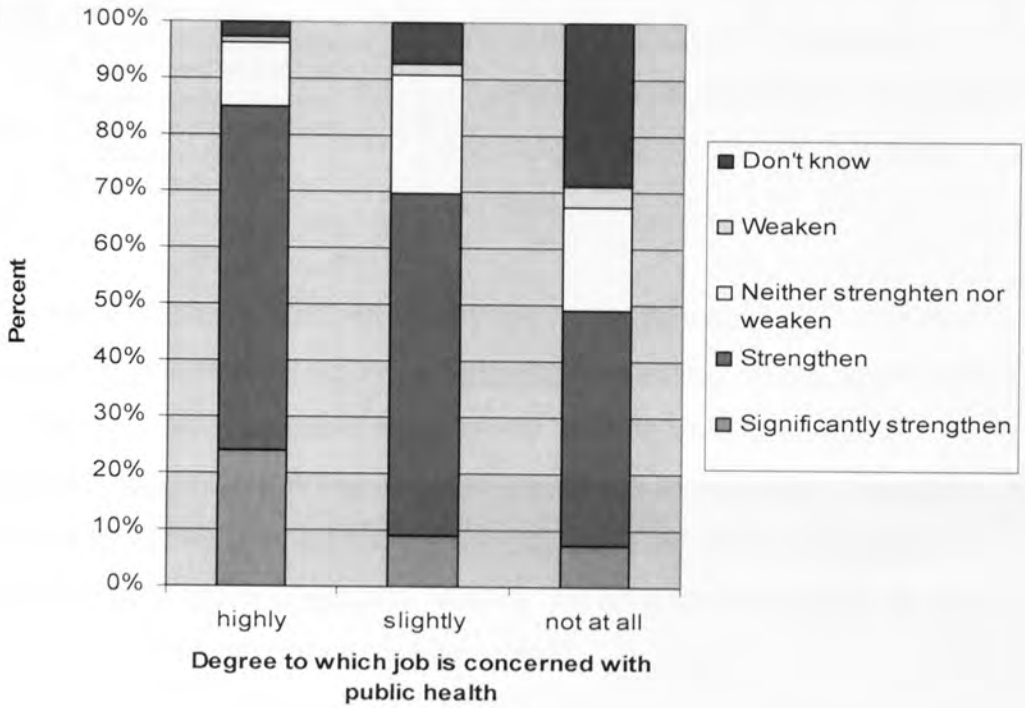
Table 4.22 The opinions of community pharmacy owners, employees and locums on the effect of the new pharmacy contract on the public health function of community pharmacists

	Employment status			Total (n)
	Owner (%)	Employee (%)	Self-employed locum (%)	
Significantly strengthen	16.9	16.6	12.6	138
Strengthen	52.2	64.1	55.7	538
Neither strengthen nor weaken	22.1	12.6	20.6	153
Weaken	2.2	1.3	2.2	16
Don't know	6.6	5.4	8.9	62
Total (n)	136	446	325	907

The degree to which a community pharmacists' job was concerned with public health also had an influence on their attitude towards the effect of the new contract on the public health function. Those community pharmacists

reporting that their job was highly concerned with public health were significantly more likely to believe that the new contract would strengthen or significantly strengthen (85%, n=345/406) than those who reported that their job was slightly concerned (70%, n=331/474) and those whose job was not at all concerned with public health (49%, n=27/55) (see Figure 4.16).

Figure 4.16 The relationship between the degree to which a community pharmacists' job is concerned with public health and their belief on the effect of the new pharmacy contract on the public health function of community pharmacists



Although this finding was statistically significant (χ^2=105.264, df=8, ρ=0.000), the conditions of the test statistic were not met, since one cell had an expected count of less than one.

The same pattern as is observed in Figure 4.16 is replicated almost identically for the degree to which a community pharmacists' job is affected by public health (the corresponding figures were highly 85% (n=311/368), slightly 71% (n=357/502), not at all 49% (n=19/39)). Once more this was statistically significant (χ^2=78.629, df=8, ρ=0.000). However, as above, the conditions of the Chi-square test were not met as one cell had an expected count of less than one.

4.10.2 Pharmacy's ability to compete for funding

Under the terms of the new pharmaceutical services contract for England and Wales, three levels of service were introduced[229] (see Panel 4.3). Enhanced services were commissioned by PCTs effectively meaning that pharmacies would have to compete, both with other pharmacies and other healthcare professionals, to obtain the remuneration required to be able to provide these services.

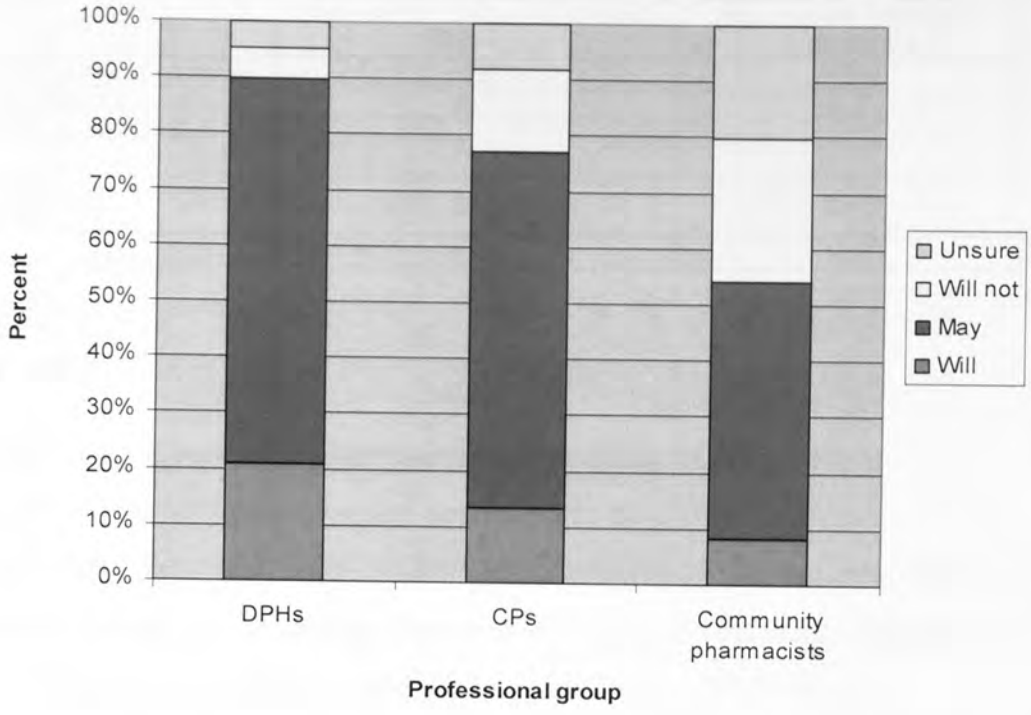
Panel 4.3 The three levels of service of the new pharmacy contract

- **Essential:** offered by all contractors
- **Advanced:** these services are optional and require accreditation of both pharmacies and pharmacists
- **Enhanced:** the specification and value of these services is agreed nationally, however, they are commissioned locally by PCTs

With this background in mind, all survey respondents were asked to report their beliefs on pharmacy's ability to compete for funding. Responses were recorded on a three-point scale – pharmacy "will" be able to compete effectively for additional funding to provide services that address a public health need identified by the PCO, pharmacy "may" be able to compete effectively for funding, or pharmacy "will not" be able to compete for funding. Additionally, an "unsure" option was provided.

When asked about their opinions on pharmacy's ability to compete effectively for access to funding to develop services that would meet an identified public health need, opinions varied significantly between the professional groups (χ^2=89.239, df=6, ρ<0.001). DPHs (21%, n=26/125) were much more confident than CPs (13%, n=24/180) and community pharmacists (8%, n=84/1009) that pharmacy would be able to compete effectively. Furthermore, only one-in-twenty DPHs (5%, n=6/125) believed that pharmacy would not be able to compete effectively for access to funding compared to more than one-in-four (20%, n=204/1009) community pharmacists (see Figure 4.17).

Figure 4.17 Opinions of survey respondents on pharmacy's ability to compete effectively for funding to develop services



Primary care respondents (i.e. DPHs and CPs) in Scotland, where different policy and contractual arrangements governed pharmacy remuneration, appeared to be more confident in pharmacy's ability to compete for funding than their English and Welsh counterparts. However, owing to the small number of respondents form PCOs in Scotland (n=15), little weight could be placed on this finding. However, when the views of community pharmacists residing in Scotland and those in England and Wales were compared, a relationship (χ^2=8.611, df=3, ρ<0.05) was observed between the country of residence of the community pharmacist and opinions on the ability of pharmacy to compete effectively for access to funding to develop services (see Table 4.23) with community pharmacist respondents in England and Wales appearing to be less confident in pharmacy's ability to compete for funding than their colleagues residing in Scotland.

Table 4.23 Opinions of community pharmacists on the ability of community pharmacy to compete effectively for access to additional funding to develop public health services

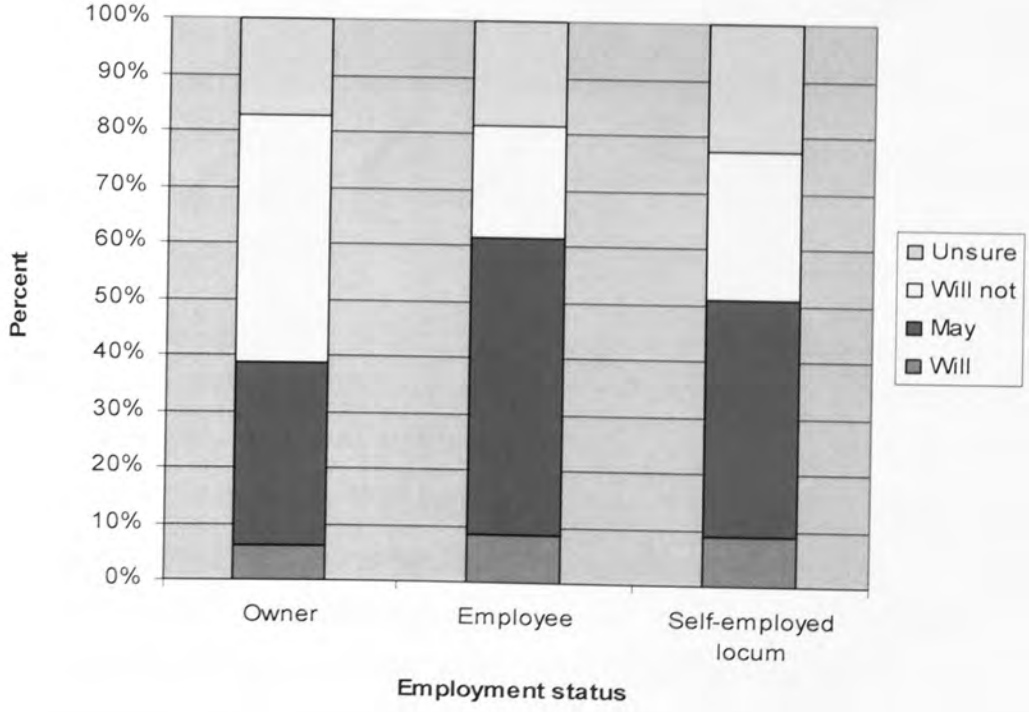
	Pharmacists resident in England & Wales (%)	Pharmacists resident in Scotland (%)
Pharmacy **will** be able to compete	7.8	12.1
Pharmacy **may** be able to compete	44.9	51.7
Pharmacy **will not** be able to compete	27.1	15.5
I am **unsure** if pharmacy will be able to compete	20.2	20.7
Total (n)	893*	116*

Notes on Table 4.23:

*some missing values

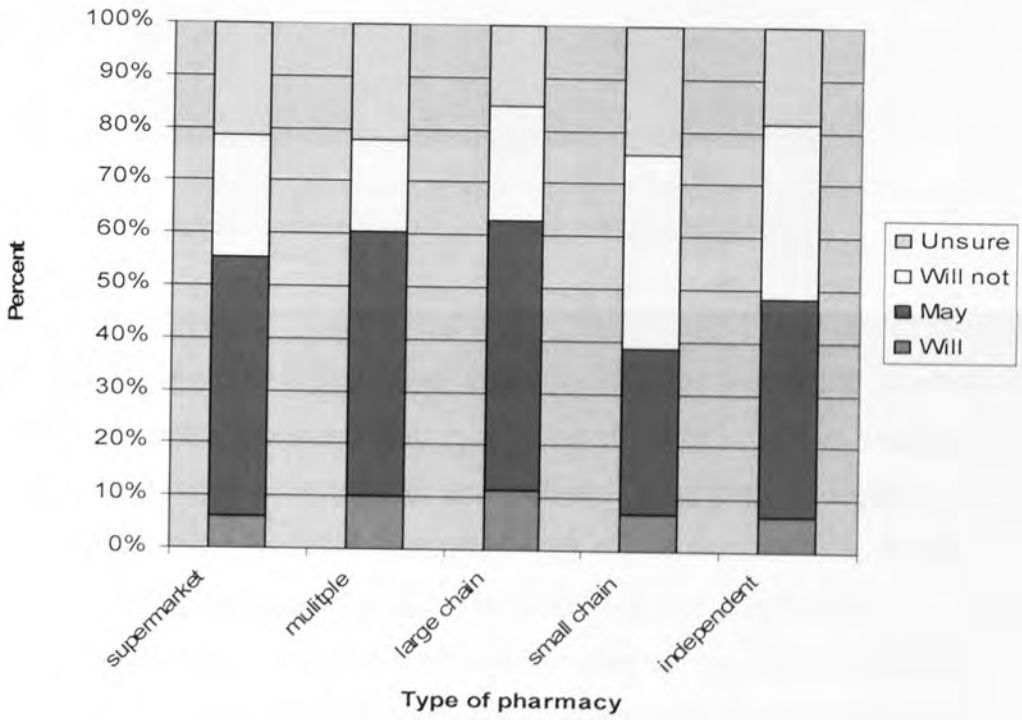
The confidence of community pharmacists in the ability of pharmacy to compete effectively for funding varied according to employment status (χ^2=36.960, df=6, ρ=0.000). 44% (n=59/134) of pharmacy owners believed that pharmacy would not be able to compete effectively for funding compared to 27% (n=87/327) of locums and just 20% (n=88/441) of employee pharmacists (see Figure 4.18).

Figure 4.18 The relationship between the employment status of community pharmacists' and their attitudes towards pharmacy's ability to compete effectively for funding



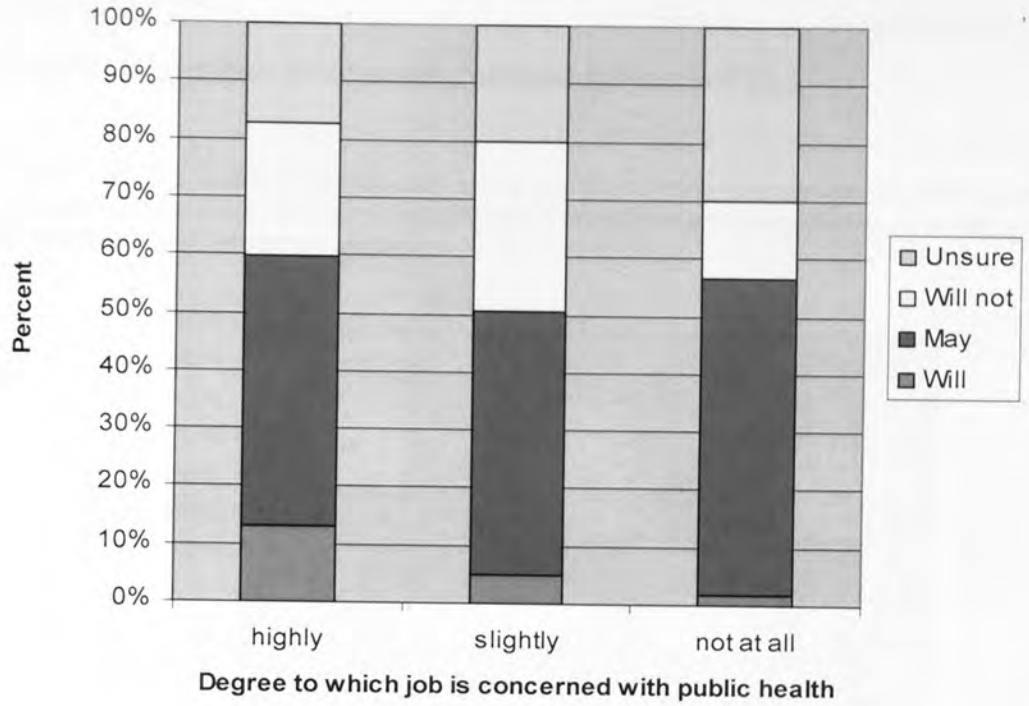
The type of pharmacy worked in most regularly during the preceding six months also influenced the attitudes of community pharmacists towards pharmacy's ability to compete effectively for funding (χ^2=32.847, df=12, ρ=0.001). Over a third of survey pharmacists working in small chains and independents (37% (n=21/57) and 33% (n=113/341) respectively) believed that pharmacy would not be able to compete effectively for funding. This figure falls to just 18% (n=62/353) for pharmacists employed most regularly in multiples (see Figure 4.19).

Figure 4.19 The relationship between the type of pharmacy most regularly worked in by community pharmacists and attitudes towards pharmacy's ability to compete effectively for funding



The degree to which a community pharmacists' job was concerned with public health was also related to attitudes concerning pharmacy's ability to compete effectively for funding (χ^2=31.341, df=6, ρ=0.000). Community pharmacists who considered their job to be highly concerned with public health (13% (n=53/404) believed pharmacy would be able to compete effectively) were more confident of pharmacy's ability to compete than those who reported their job as being slightly concerned (5%, n=24/473) and not at all (2%, n=1/53) concerned with public health (see Figure 4.20).

Figure 4.20 The relationship between the degree to which a community pharmacists' job is concerned with public health and attitudes towards pharmacy's ability to compete effectively for funding

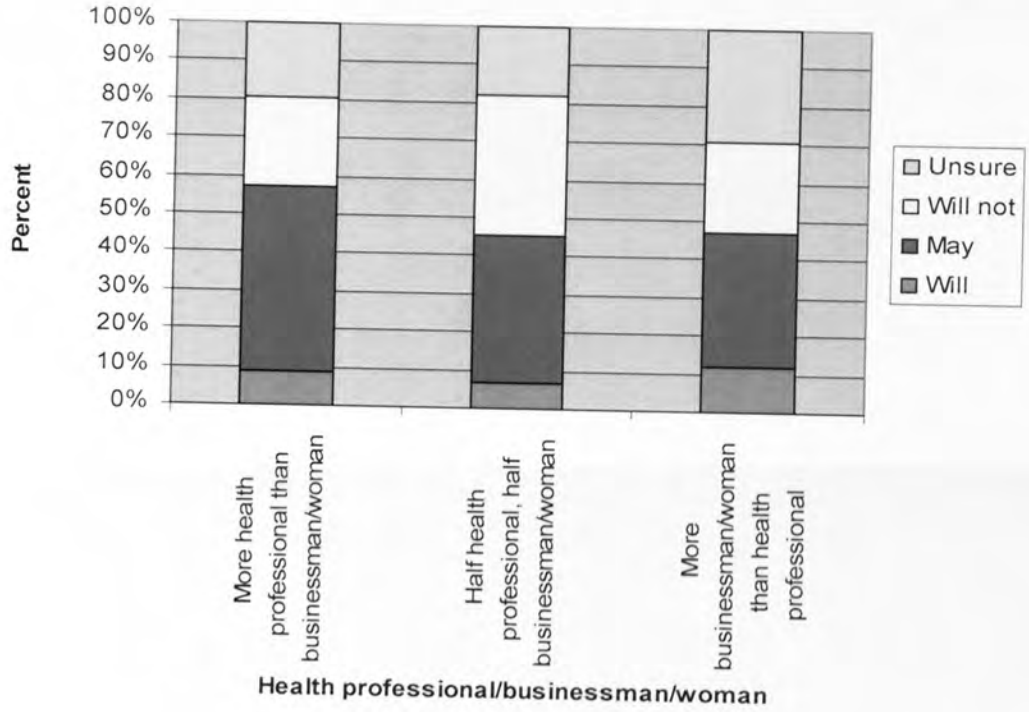


An almost identical pattern is observed when considering the extent to which community pharmacists believed their jobs to be affected by public health. 12% (n=44/366) of those pharmacists who believed their job was highly affected by public health believed that pharmacy would be able to compete effectively for funding compared to just 7% (n=33/499) of community pharmacists who believed their job was slightly affected by public health and 0% (n=0/39) of community pharmacists whose roles were not at all affected by public health (χ^2=20.002, df=6, ρ=0.003).

While a relationship existed between where community pharmacist respondents placed themselves on the health professional – business scale (χ^2=17.586, df=6, ρ=0.007), and beliefs around pharmacy's ability to compete for funding, the nature of the relationship was unclear. While over half (57%, n=411/721) of those pharmacists who considered themselves more a health professional than a businessman/woman believed pharmacy had the potential to compete ("will" and "may") compared to 47% (n=16/34) of pharmacists who

considered themselves more business people than health professionals, similar proportions of both subsets committed themselves to "will" (9% (n=64/721) heath professionals, 12% (n=4/34) business people) and "will not" (23% (n=167/721) health professionals, 24% (n=8/34) business people) options. The relationship is summarised in Figure 4.21.

Figure 4.21 The relationship between where community pharmacists placed themselves on the health professional to businessman/woman scale and attitudes towards pharmacy's ability to compete effectively for funding



4.10.2.1 Reasons given by respondents for pharmacy being able/unable to compete effectively

After indicating their answer regarding pharmacy's ability, or inability, to compete for funding, respondents were asked to briefly describe the reasons for their answer. Respondents were free to give any answer they wished and a wide range of reasons were given. A total of 876 respondents (strategic level=223: DPHs=74, CPs=149; practice level (community pharmacists)=653) provided open statements, 81 (strategic=33; practice=48) of whom believed that pharmacy would be able to compete effectively and 232 (strategic=30;

practice=202) of whom believed that pharmacy would not be able to compete effectively. Emerging themes from this qualitative data are detailed below with illustrative comments. Owing to the large differences in the number of respondents providing reasons, data from strategic-level respondents (DPHs and CPs – Table 4.24 below) are presented separately to data from practice-level respondents (community pharmacists – Table 4.25 below).

Table 4.24 Reasons given by DPHs and CPs for pharmacy being able/unable to compete effectively for access to funding to develop services

Option	Reasons	Illustrative comment (DPH/CP, questionnaire number)
Will	No one type of provider preferred (n=4)	"All tender specifications for services will be made available to all primary care contractors." (CP, 488)
	Accessibility (n=4)	"Reach wide groups of people with flexible opening hours and provide value for money." (DPH, 75)
	Geographical location (n=3)	"Pharmacies are ideally placed in the community to enhance easy access for patients to PH advice." (CP, 670)
	Strong pharmacy representation (n=3)	"Pharmacy is represented at the highest levels within our PCO and has always been able to access funding for sources other than direct pharmacy funding." (CP, 650)
	Strong evidence base to support pharmacy (n=3)	"We have also evaluated most of our services commissioned from community pharmacy, so have a clear evidence base from which to further develop services." (CP, 635)
	Support within PCO or Directorate of Public Health (n=2)	"Strong champions for pharmacy within PCO." (CP, 584)
	Cost effectiveness (n=2)	"Usually cost effective, cheaper than other services and once committed - known to deliver!" (CP, 470)
	New contract (n=2)	"I believe the new contract is giving community pharmacists the opportunity to develop services." (DPH, 42)
	Collaboration between PCO pharmacists and contractors (n=2)	"The PCT Pharmacy Department works closely with local pharmacists to identify areas where the local pharmacies would be keen to participate in and then develop a business plan." (CP, 1270)
Will not	Power of GP lobby (n=8)	"Developments in future will be dominated by GPs under practice based commissioning." (CP, 419)
	Poor pharmacy representation within PCO (n=3)	"Still a lack of adequate community pharmacy input on decision making bodies." (CP, 596)
	Local Pharmaceutical Committee (n=3)	"LPCs do not appear to be very effective negotiating with PCTs." (CP, 491)
	Lack of kudos in PCO (n=2)	"Influence small - will rely on advocates within PCT teams." (CP, 392)
	Out of planning loop (n=2)	"Not an integral part of planning processes." (CP, 593)

Table 4.25 Reasons given by community pharmacists for pharmacy being able/unable to compete effectively for access to funding to develop services

Option	Reasons	Illustrative comment (questionnaire number)
Will	Accessibility (n=24)	"Pharmacy is often the first port of call for patients. They find us easily accessible." (646)
	Knowledge/training/qualifications/skills (n=11)	"Pharmacists have the knowledge, expertise and now the incentive to provide the help and care required to support their local community." (133)
	Moves to reduce the workload of GPs (n=3)	"The NHS is...keen to remove burden from doctors so they will invest in pharmacies." (338)
	Funding/resources available (n=2)	"Funding is usually available for new services." (3780)
	New contract enables pharmacy to compete more effectively (n=2)	"For too long the profession has been "discussing", the new contract gives us the opportunity to 'do'." (1921)
Will not	Power of GP lobby (n=36)	"PCTs are run by GPs for the benefit of GPs." (1360)
	NHS financial constraints (n=35)	"PCT have no funds available to pay for extra services." (1023)
	Inability of the national pharmacy organisations (RPSGB, NPA etc.) to represent the interests of community pharmacy effectively (n=33)	"We do not have a national body with enough clout or backbone to fight for us." (1468)
	PCOs' failure to recognise the potential of community pharmacy as a force for health improvement, most often due to a lack of high level pharmaceutical representation (n=24)	"PCTs don't seem to value the importance of pharmacy." (225)
	Time constraints (n=18)	"Pharmacists don't have time to eat lunch let alone develop services." (1751)
	The move to practice based commissioning further minimising pharmacy's ability to compete by concentrating power in the hands of GPs (n=16)	"GPs will use overwhelming influence (via PBC) to control primary care commissioning for their own benefit. [This is] already happening - pharmacy deliberately excluded." (3620)
	Lack of cohesion within the community pharmacy sector (n=15)	"Lack of cohesion in the profession and a lack of strong leadership." (279)
	Internal (pharmacy) funding problems (e.g. no money available for extra staff etc.) (n=14)	"In the organisation that I work [in], I find it impossible to provide extra services, staffing levels are managed by non-pharmacists and not even enough to carry out the basic dispensing". (1641)
	Retail aspects of practice impact negatively on reputation as healthcare professionals (n=12)	"We are still seen purely as 'shopkeepers' by a lot of PCOs." (1)

4.10.3 Advantages in the development of the public health function of community pharmacists

A number of aspects of community pharmacy practice are potential advantages in the development of its public health role. DPHs and CPs were asked to report whether they considered each of six factors (see Table 4.26) to be a "major" advantage, a "minor" advantage or "not an advantage". A "no opinion" option was also available for selection. Similarly, community pharmacists were asked to report whether they considered each of eight factors (see Table 4.27) to be an advantage in the development of the public health function.

Table 4.26 Attitudes of survey DPHs and CPs on various factors as potential advantages in the development of the community pharmacist's public health function

Factor	Major advantage (%)	Minor advantage (%)	Not an advantage (%)	No opinion (%)	Total (n)
Accessibility	93.4	5.9	0.7	0.0	303*
High levels of patient contact	93.1	6.9	0.0	0.0	304*
Geographical location	86.4	11.0	1.3	1.3	301*
High levels of patient trust	54.2	39.2	3.0	3.7	301*
Knowledge	32.3	55.8	8.8	3.1	294*
Freedom from the NHS	5.9	19.9	64.1	10.1	287*

Notes on Table 4.26:

*some missing values

Accessibility (93%, n=283/303), high levels of patient contact (93%, n=283/304) and geographical location (86%, n=260/301) were considered to be major advantages to community pharmacy in the development of its public health role. Conversely, only 6% (n=17/287) of respondents believed that freedom from the NHS was a major advantage. There were no significant differences between the views of DPHs and CPs.

Table 4.27 Attitudes of community pharmacists on various factors as potential advantages in the development of the community pharmacist's public health function

Factor	Major advantage (%)	Minor advantage (%)	Not an advantage (%)	No opinion (%)	Total (n)
Accessibility	91.9	6.3	1.5	0.3	1008*
High levels of patient contact	90.4	8.7	0.4	0.5	1006*
Knowledge	78.6	18.8	1.6	1.0	985*
High levels of patient trust	74.5	21.5	1.8	2.2	995*
Informal nature of pharmacist/patient interaction	71.2	23.5	4.0	1.3	997*
High Street location	69.4	23.0	5.8	1.7	994*
Opportunity to provide services outside of the traditional clinical setting (e.g. away from GP's surgeries, clinics etc.)	60.9	29.8	7.1	2.1	982*
Freedom from NHS control	18.3	37.0	26.6	18.1	957*

Notes on Table 4.27:

*some missing values

Like DPHs and CPs, community pharmacists considered accessibility and high levels of patient contact to be major advantages in the development of the public health function of community pharmacists with approximately 9-in-10 (92% (n=926/1008) & 90% (n=909/1006) respectively) community pharmacists believing these to be major advantages. Indeed, all but one of the listed factors were considered to be major advantages by over 60% of community pharmacists with only freedom from NHS control (18%, n=175/957) not being deemed advantageous.

Direct comparisons between the opinions of DPHs, CPs and community pharmacists were undertaken where possible (namely in the case of accessibility, high levels of patient contact, knowledge and high levels of patient trust). Although there were no relationships observed between the reporting of various factors as advantages to the development of the public health function of community pharmacy, and professional group amongst DPHs and CPs, significant associations did exist between the reporting of community pharmacists (operating at practice level) and the pooled responses of DPHs and CPs (operating at a strategic level) when considering pharmacist knowledge (χ^2=223.292, df=2, ρ=0.000) and high levels of patient trust (χ^2=43.771, df=2, ρ=0.000) as advantages (the "no opinion" option was excluded to allow for suitable analysis). A third of strategic level respondents

(33%, n=95/285) considered knowledge to be a major advantage compared to four-fifths (79%, n=774/973) of practice level respondents. Similarly, a higher proportion of respondents operating at practice level (76%, n=741/973) than strategic level respondents (56%, n=904/1263) considered high levels of patient trust to be a major advantage in the development of the public health function of community pharmacists (see Table 4.28).

Table 4.28 Attitudes of practice level respondents (community pharmacists) and strategic level respondents (DPHs and CPs) on pharmacist knowledge and high levels of patient trust as advantages in the development of the community pharmacist's public health function

Factor		Practice level		Strategic level		Total		ρ-value
		n	%	n	%	n	%	
Knowledge	Major advantage	774	79.4	95	33.3	869	69.0	0.000
	Minor advantage	185	19.0	164	57.5	349	27.7	
	Not an advantage	16	1.6	26	9.1	42	3.3	
	Total (n)	975	100.0	285	100	1260	100.0	
Patient trust	Major advantage	741	76.2	163	56.2	904	71.6	0.000
	Minor advantage	214	22.0	118	40.7	332	26.3	
	Not an advantage	18	1.8	9	3.1	27	2.1	
	Total (n)	973	100.0	290	100.0	1263	100.0	

Amongst the community pharmacist subset, each potential advantage (dependent variable) was cross-tabulated with the variables employment status, type of pharmacy worked in most regularly during the preceding six months, positioning on the health professional to businessman/woman scale, the degree to which the individual's job was concerned with public health, and the degree to which the individual's job was affected by public health (independent variables). Statistically significant relationships between any two variables are highlighted in Table 4.29 below (grey cells indicate the absence of a significant relationship).

As can be seen in Table 4.29 below, employment status was related to survey pharmacists' opinions on the High Street location of pharmacies, high levels of patient trust and the informal nature of the pharmacist-patient interaction as advantages in the development of the public health function of community pharmacists (see Figure 4.22 below).

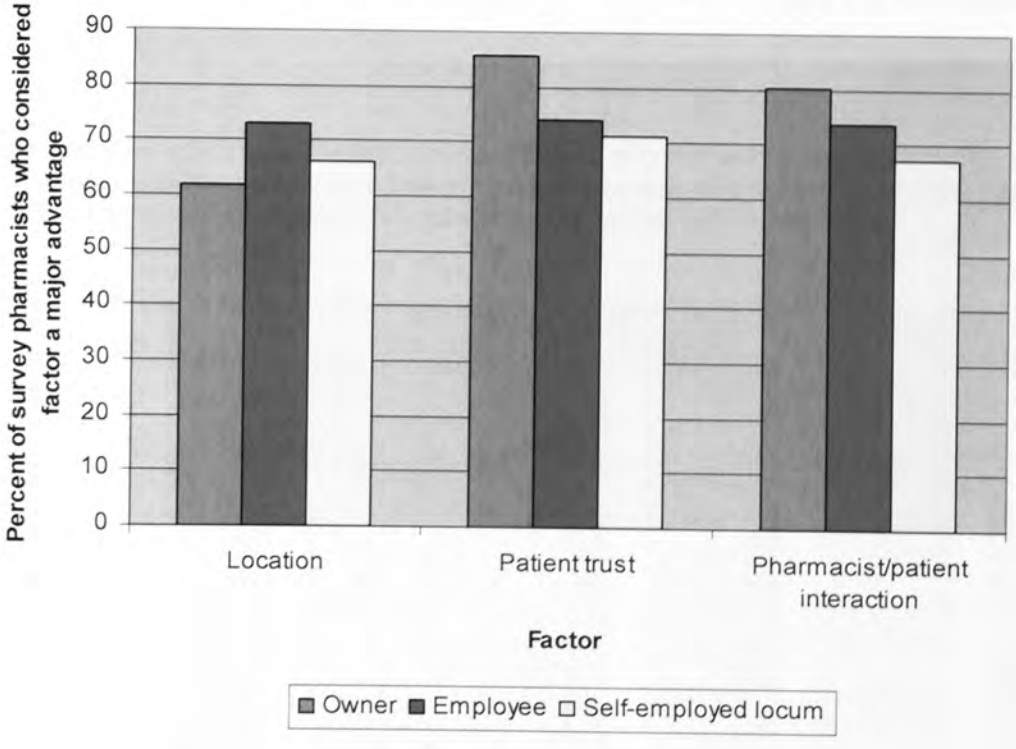
Table 4.29 Summary of cross-tabulations conducted and accompanying ρ values where a statistically significant relationship existed between the two variables

Relationship (χ^2 with $\rho \leq 0.05$) between...					
	Other factor				
Barrier	Employment status	Type of pharm	Health pro. vs business	Conc. with PH	Aff. by PH
Accessibility				0.000^	0.000^
High levels of patient contact				0.001^	0.010^
Knowledge			0.011^	0.002^	0.003^
High levels of patient trust	0.024			0.004^	0.032^
Informal nature of pharmacist/patient interaction	0.026				
High Street location	0.011		0.017^		0.003^
Outside traditional clinical setting					
Outside of NHS				0.039	

Notes on Table 4.29:

^minimum expected value less than 1 or >20% of expected values <5, or both, therefore conditions of Chi-square not met

Figure 4.22 The relationship between employment status and the proportions of survey pharmacists' who believed that a High Street location, high levels of patient trust and the informal nature of the pharmacist-patient interaction were a major advantage



For both patient trust and the pharmacist/patient interaction pharmacy owners (86% (n=113/132) and 80% (n=106/132) respectively) were most likely to consider the factor a major advantage. In both instances self-employed

locums (71% (n=229/321) and 67% (n=217/323)) were least likely to believe the factor was a major advantage with the proportion of employee pharmacists (74% (n=326/440) and 74% (n=322/437)) who believed the factor was a major advantage being midway between the two. However, pharmacy owners (62%, n=81/131) were the least likely to consider High Street location as an advantage in terms of the development of the public health function of community pharmacists. The proportions of both locums (66%, n=211/319) and employee (73%, n=321/439) pharmacists who believed that location was a major advantage were higher than for pharmacy owners.

As previously, the degree to which a respondent believed their job to be both concerned with, and affected by, public health had an influence on attitudes towards advantageous factors in the development of community pharmacy's public health function. The more an individual believed their job to be concerned with/affected by public health the more likely he/she was to consider the factor(s) a major advantage (these relationships are summarised in Figure 4.23 and Figure 4.24).

Figure 4.23 The relationships between various factors of community pharmacy practice which are potentially advantageous in the development of the public health function and the degree to which respondents' considered their jobs to be concerned with public health

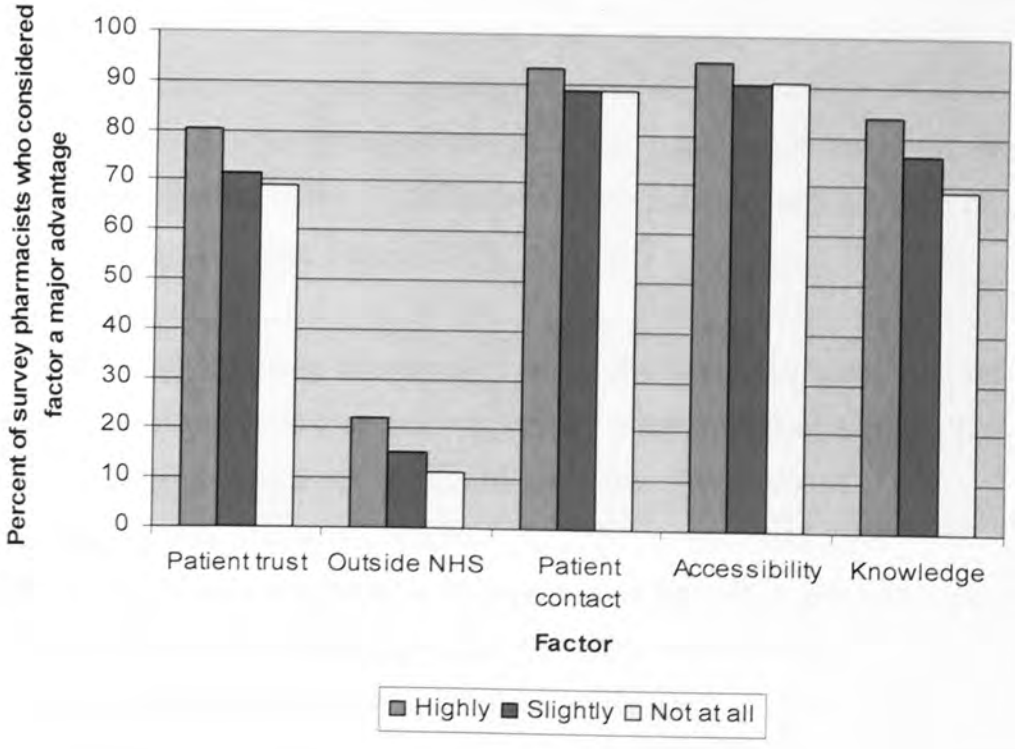
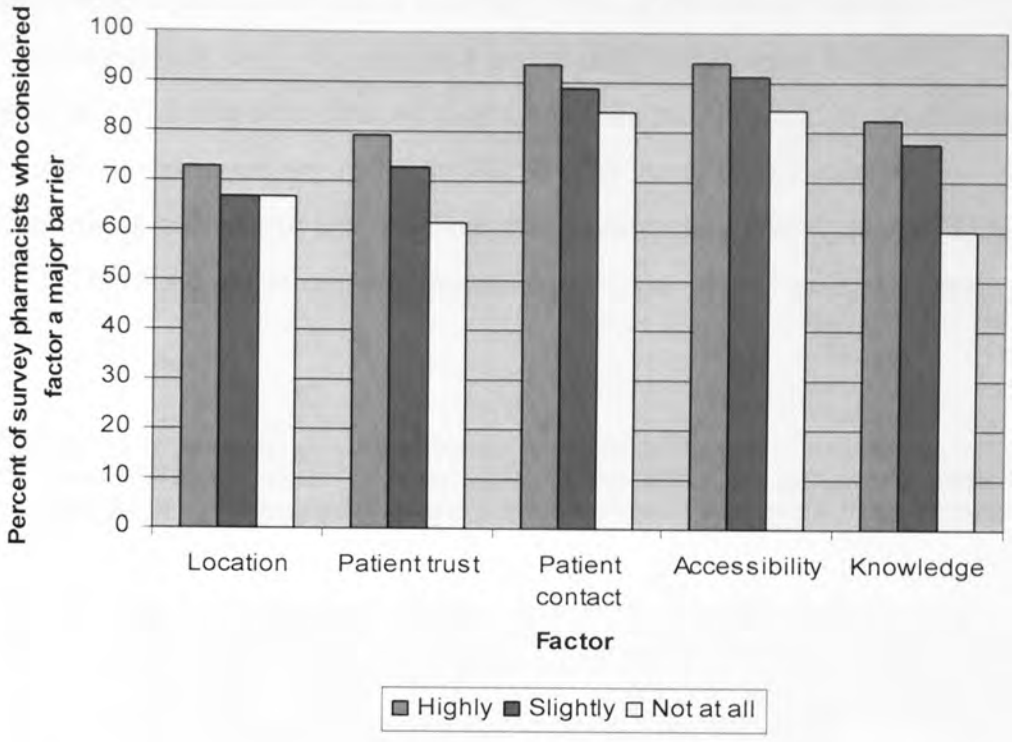


Figure 4.24 The relationships between various factors of community pharmacy practice which are potentially advantageous in the development of the public health function and the degree to which respondents' considered their jobs to be affected by public health

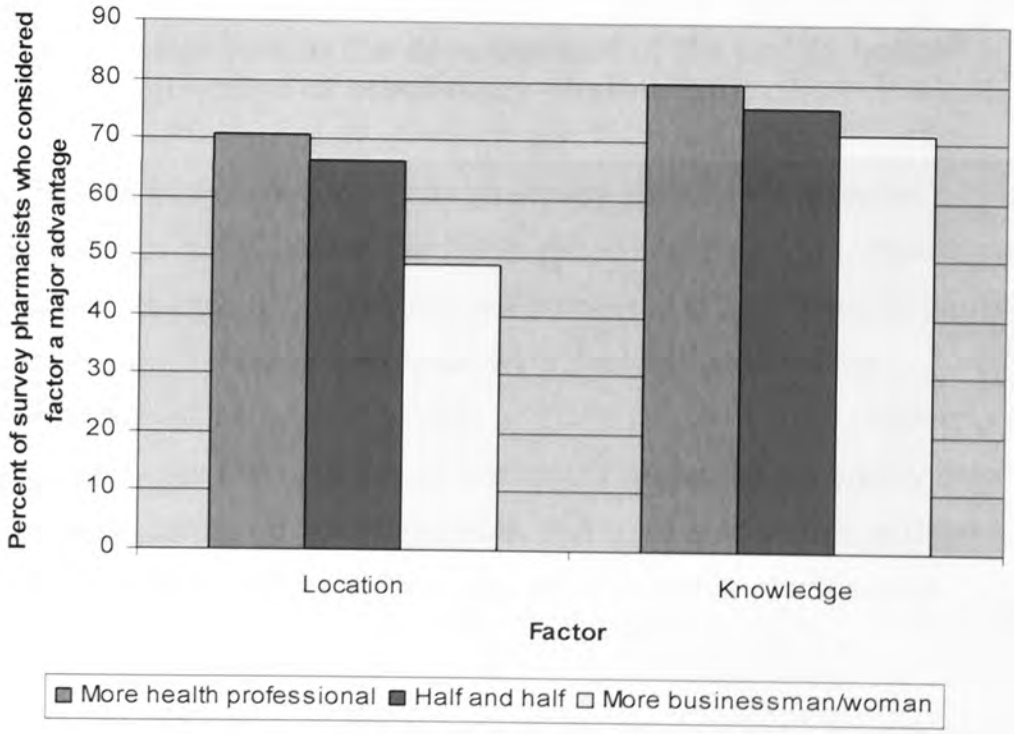


Attitudes on where survey pharmacists felt their job sat on the health professional to businessman/woman scale (more health professional than businessman/woman; half health professional, half businessman/woman; more businessman/woman than health professional) also had an influence on beliefs towards how advantageous a High Street location and the knowledge of the pharmacist were in the development of the public health function of community pharmacy (see Figure 4.25).

71% (n=501/710) of survey pharmacists who considered themselves to be more health professionals than businessmen/women reported a belief that a High Street location was a major advantage in the development of the community pharmacist's public health role. This compares to 66% (n=124/187) of those who considered themselves as half health professional, half businessman/woman and just 49% (n=17/35) of the more businessman/woman than health professional subset.

A similar pattern was observed when it came to the consideration of pharmacist knowledge as a potentially advantageous factor in the development of the public health function. The proportion of survey pharmacists considering knowledge a major advantage were 80% (n=565/708) of those who classed themselves as more health professional than businessman/woman, 76% (n=138/182) of those who classed themselves as half health professional, half businessman/woman and 71% (n=25/35) of those in the more businessman/woman than health professional group.

Figure 4.25 The relationship between where survey pharmacists placed themselves on the health professional to businessman/woman scale and the proportions of survey pharmacists' who believed that a High Street location and pharmacist knowledge were a major advantage



4.10.3.1 Other advantages

In addition to the advantages listed above, 62 respondents (DPHs=2, CPs=8, community pharmacists=52) noted other advantageous factors that they believed could be exploited in the development of the public health function of

community pharmacists. The most frequently mentioned of these factors are shown in Table 4.30 (below).

Table 4.30 Other advantages in the development of the public health function of community pharmacists reported by respondents

Factor	Number of respondents reporting factor as an advantage			
	DPHs (n)	CPs (n)	Community pharmacists (n)	Total (n)
Extended opening hours	0	3	11	14
Other factors that increase accessibility (e.g. community-based)	0	0	6	6
Knowledge of client-base and locality	0	0	5	5
Attitudes of pharmacists/pharmacy staff	1	2	1	4
Pharmacists cheap/free	0	0	3	3
Respected by other healthcare professionals	0	0	3	3
More time for patient consultations than GPs	0	0	2	2
Anonymity/lack of stigma in using a pharmacy	0	0	2	2
Access to both sick and healthy populations	0	2	0	2
Communications skills	1	1	0	2

4.10.4 Barriers to the development of the public health function of community pharmacists

A number of aspects of community pharmacy practice are potential disadvantages in the development of its public health function. Respondents were asked to assess the potential of a number of factors to act as barriers to development. The factors assessed were modified between the administration of the survey of DPHs and CPs and the survey of community pharmacists. For that reason they are initially presented separately here before being combined, where possible, and compared across all three population groups studied (DPHs, CPs and community pharmacists).

4.10.4.1 Barriers to the development of the public health function of community pharmacists – DPH and CP assessment

Respondents were asked to report whether they considered each factor (see Table 4.31) to be a "major" barrier, a "minor" barrier or "not a barrier". A "no opinion" option was also available for selection.

Table 4.31 Attitudes of survey DPHs and CPs on various factors as potential barriers to the development of community pharmacist's public health function

Factor	Major barrier (%)	Minor barrier (%)	Not a barrier (%)	No opinion (%)	Total (n)
Lack of available funding	67.8	25.9	5.3	1.0	301*
Time constraints	64.5	32.1	1.6	1.6	299*
Pharmacy's inexperience of the commissioning process	51.2	37.5	8.6	2.7	301*
Unsuitable premises	40.3	55.7	3.4	0.7	298*
Unwilling to leave 'comfort zone' of dispensary	34.7	48.7	12.7	4.0	300*
Conflicts arising from commercial interests	32.9	42.5	21.3	3.3	301*
Lack of communication between pharmacy + HPs^/PCOs	29.4	51.5	18.5	0.7	303*
Lack of awareness of the social model of health	22.4	54.8	17.2	5.6	303*
Positioned outside of the NHS	19.8	44.4	33.1	2.7	293*
Lack of understanding of public health	18.1	63.2	17.4	1.3	299*
Lack of knowledge	16.2	61.3	21.5	1.0	302*
Lack of training opportunities	15.8	58.7	22.8	2.7	298*

Notes on Table 4.31:

^health professionals

*some missing values

A lack of available funding was judged to be the most significant barrier with almost seven-out-of-ten respondents (68%, n=204/301) of the sample considering this a "major barrier". This was closely followed by time constraints (65%, n=193/299). Pharmacy's inexperience of the commissioning process was also considered a significant barrier with over half of respondents (51%, n=154/301) designating it a "major barrier".

Owing to the small numbers of respondents selecting the "no opinion" option, these responses were excluded from the subsequent analysis so as to allow for suitable statistical analysis. The proportion of each subset reporting each listed factor as a "major" barrier to the development of the public health function of community pharmacists is shown in Figure 4.26 (p217).

Figure 4.26 highlights some significant differences in opinion between DPHs and CPs from matched PCOs for certain "barriers". The most noticeable of these were the discrepancies in the proportion of DPHs and CPs reporting a belief that "pharmacy's inexperience of the commissioning process" and

"unsuitable premises" were major barriers to the development of community pharmacy's public health function. There was also significant differences of opinion concerning "time constraints", "an unwillingness on the part of pharmacists to leave the dispensary", and "conflicts arising from commercial interests". The Chi-square test revealed associations between respondent's job title and opinions concerning the severity of five of the factors to act as barriers to the development of pharmacy's public health function. However, for one of the factors the conditions of the test statistic were not met as greater than 20% of the expected frequencies were less than five (see Table 4.32).

Table 4.32 ρ values of Chi-square tests conducted on the two variables "job title" and "barriers to the development of the public health function of community pharmacy"

Relationship (χ^2 with $\rho \leq 0.05$) between reporting of various factors as barriers to the development of the public health function of community pharmacists and job title	
Factor	ρ-value
Lack of available funding	0.181
Time constraints	0.002^
Pharmacy's inexperience of the commissioning process	0.000
Unsuitable premises	0.000
Unwilling to leave 'comfort zone' of dispensary	0.000
Conflicts arising from commercial interests	0.000
Lack of communication between pharmacy + HPs*/PCOs	0.132
Lack of awareness of the social model of health	0.417
Positioned outside of the NHS	0.175
Lack of understanding of public health	0.709
Lack of knowledge	0.631
Lack of training opportunities	0.356

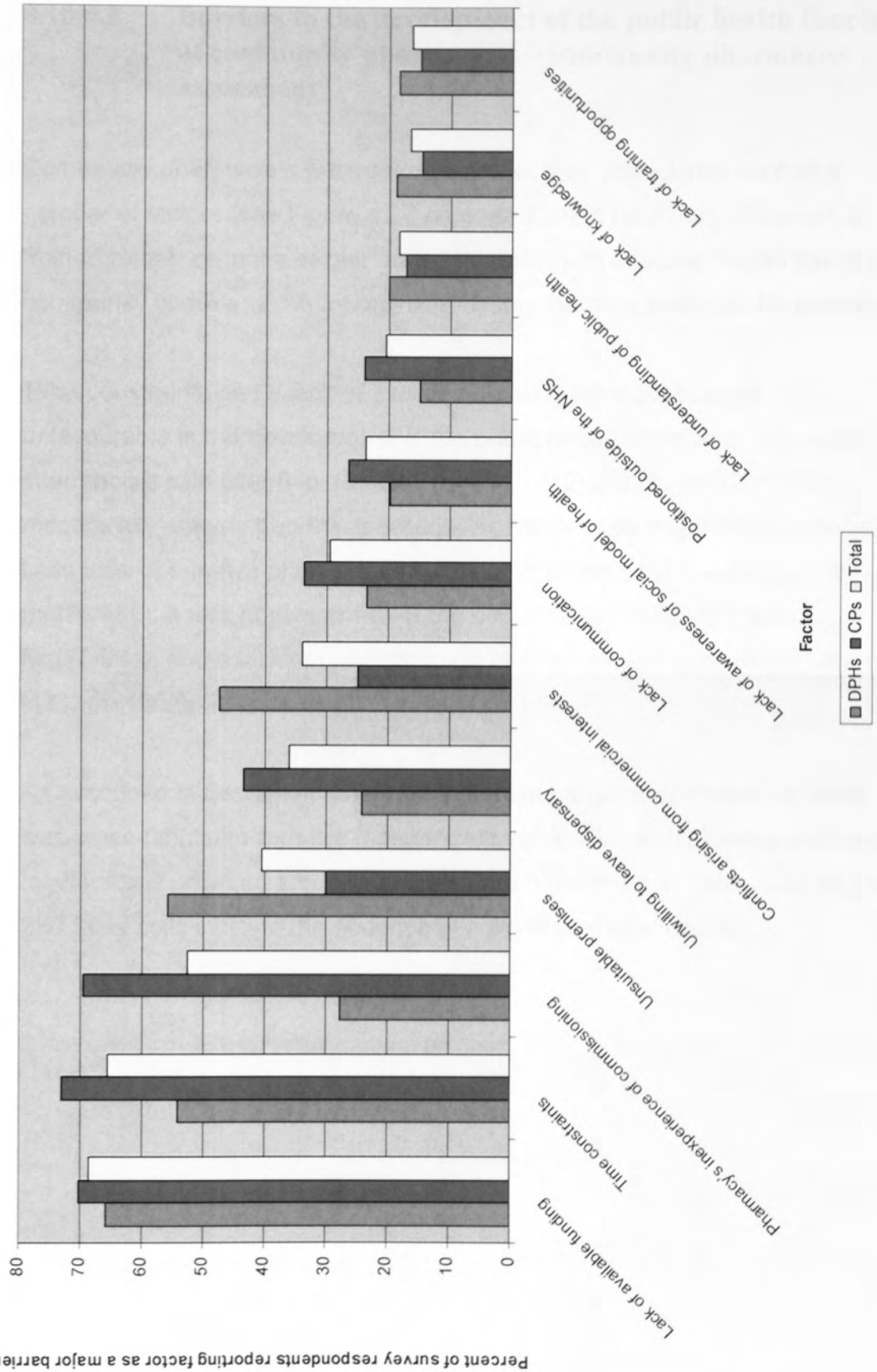
Notes on Table 4.32:

*health professionals

^> 20% of expected values < 5 therefore conditions of Chi-square not met

Cells highlighted in yellow indicate statistical significance ($\rho \leq 0.05$)

Figure 4.26 Major barriers to the development of the public health function of community pharmacists (DPHs and CPs)



4.10.4.2 Barriers to the development of the public health function of community pharmacists – community pharmacist assessment

Community pharmacists were asked whether they considered each of a number of factors (see Figure 4.27 on page 219) to be a "major" barrier, a "minor" barrier or "not a barrier" to the development of public health function in community pharmacy.. A "no opinion" option was also available for selection.

Time constraints and a lack of available funding were considered unfavourable in the development of the public health function of community pharmacists with over 8-in-10 (85% (n=858/1012) & 82% (n=823/1008) respectively) survey pharmacists believing these to be major disadvantages. Less than one-in-five pharmacists considered pharmacist knowledge (18%, n=176/986), a lack of awareness of the social model of health (18%, n=175/984), and a lack of understanding of public health to be major barriers (17%, n=165/989).

As described in Section 4.10.3, each potential barrier (dependent variable) was cross-tabulated with five independent variables. Statistically significant relationships between any two variables are highlighted in Table 4.33 on page 220 (grey cells indicate the absence of a significant relationship).

Figure 4.27 Major barriers to the development of the public health function of community pharmacists (community pharmacist reporting)

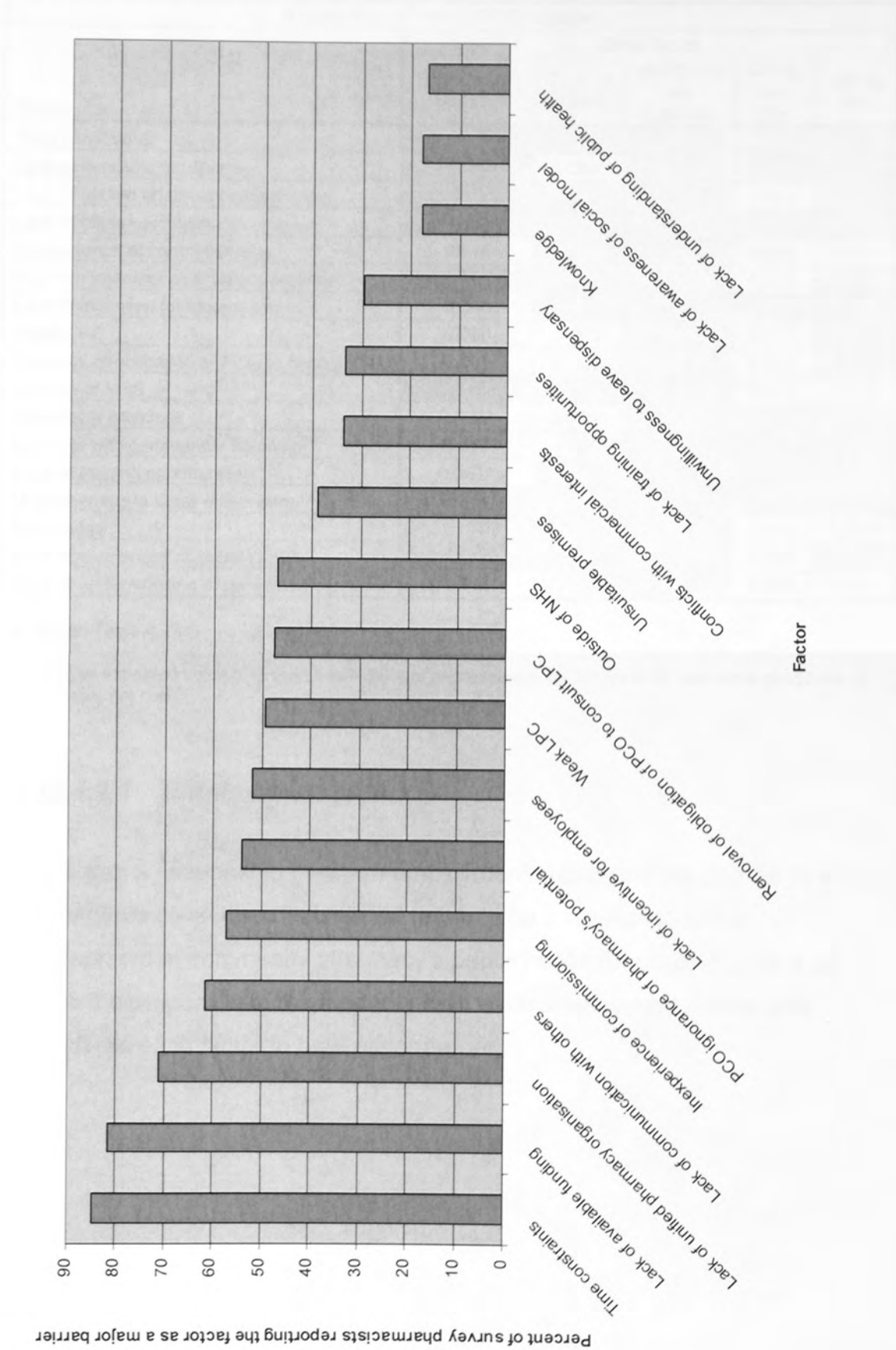


Table 4.33 Summary of cross-tabulations conducted and accompanying ρ values where a statistically significant relationship existed between the two variables

Relationship (χ^2 with $\rho \leq 0.05$) between...					
	Other factor				
Barrier	Employment status	Type of pharm.	Health pro vs business	Conc. with PH	Aff. by PH
Time constraints					
Lack of available funding		0.042^			
Lack of unified pharmacy organisation				0.019	
Lack of communication with others					
Inexperience of commissioning	0.015			0.007	0.021
PCO ignorance of pharmacy's potential				0.001	
Lack of incentive for employees	0.000				
Weak LPC	0.000	0.003		0.032	
Removal of obligation of PCO to consult LPC	0.009	0.035		0.008	
Outside of NHS				0.017	0.016
Unsuitable premises	0.004^	0.010^			
Conflicts with commercial interests	0.040	0.000			
Lack of training opportunities	0.001^				
Unwillingness to leave dispensary					
Knowledge				0.024	0.021^
Lack of awareness of social model				0.009	
Lack of understanding of public health	0.042			0.001	0.013

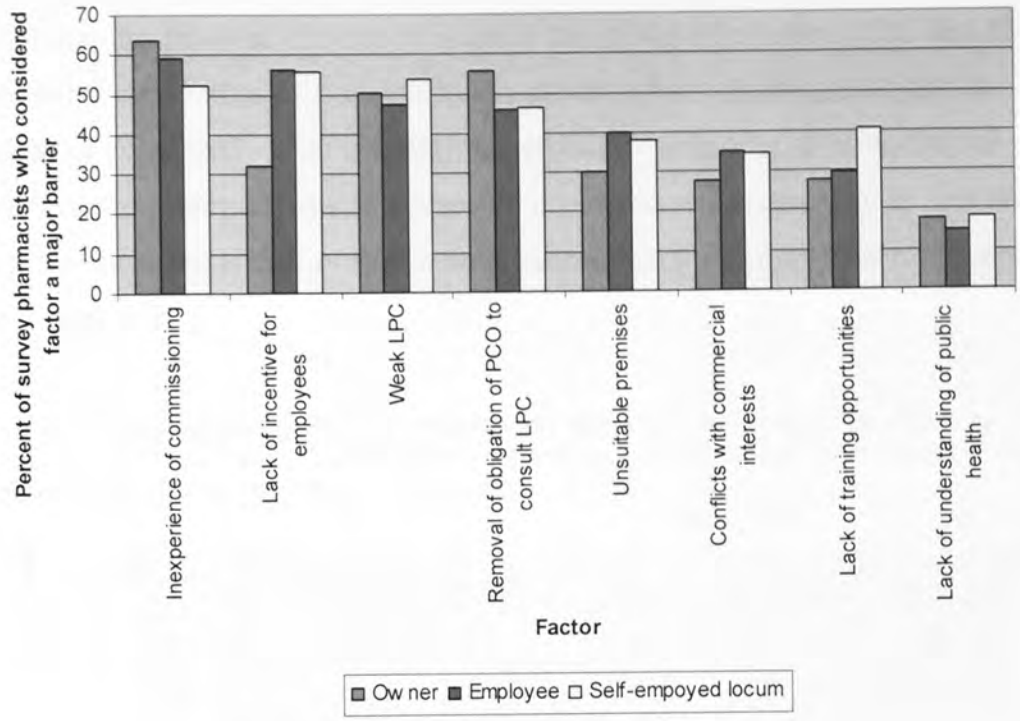
Notes on Table 4.33:

^minimum expected value less than 1 or > 20% of expected values < 5, or both, therefore conditions of Chi-square not met

4.10.4.2.1 Employment status

There was a relationship between employment status and the degree to which respondents considered each listed factor to be a hindrance to the development of community pharmacy's public health function. Figure 4.28 shows the proportion of respondents from each employment subset who considered each factor to be a major barrier.

Figure 4.28 The relationship between employment status and the proportions of survey pharmacists' who believed that various factors were a major barrier in the development of the public health function of community pharmacists



Pharmacy owners were less likely than employee and locum pharmacists to consider the listed factor a major barrier with the exception of pharmacy's inexperience of the commissioning process and the removal of the obligation of PCOs to consult the LPC when developing potentially pharmacy-based services.

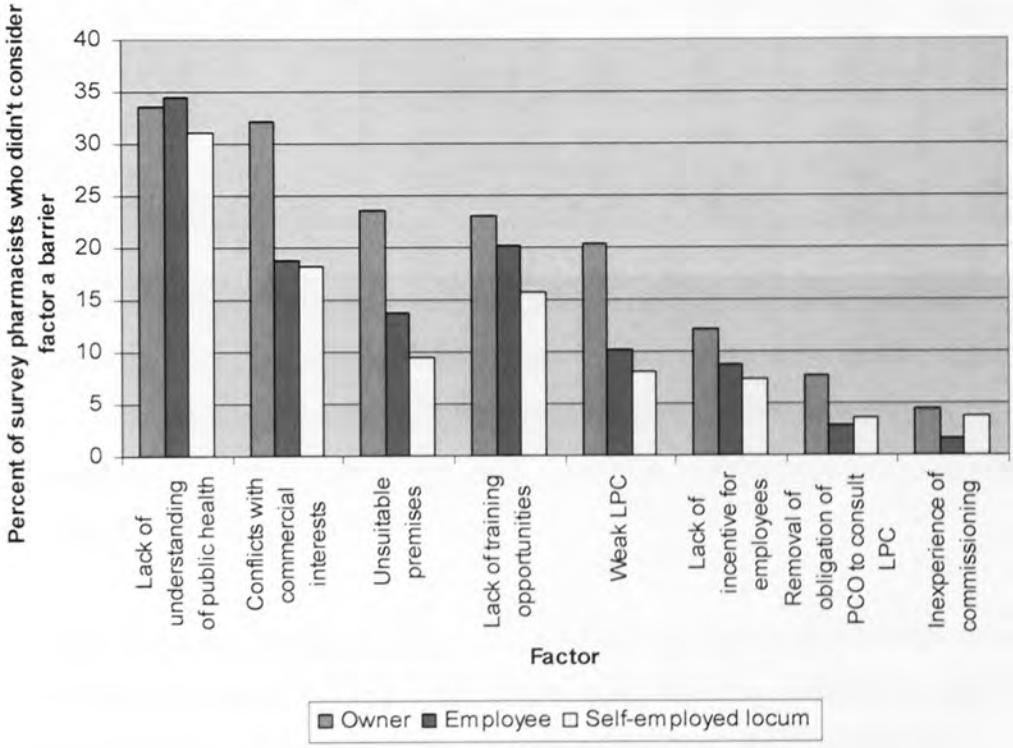
Perhaps not surprisingly, a significantly smaller proportion of pharmacy owners (32%, n=42/131) than employee pharmacists (56%, n=245/435) and locum pharmacists (56%, n=180/323) considered the lack of incentive for employee pharmacists to be a major barrier.

A further noticeable feature is the proportion of locum pharmacists who considered a lack of training opportunities to be a barrier. 40% (n=127/316) of self-employed locums believed that a lack of training opportunities were a major barrier in the development of the public health function of community pharmacists compared to only 30% (n=129/436) of employee pharmacists

and 28% (n=37/134) of pharmacy owners. This suggests that this issue is of particular concern to locums.

Continuing the trend of pharmacy owners being more "positive" (i.e. less likely to consider the factors as barriers to the development of the public health function of community pharmacists), for all but a "lack of understanding of public health" pharmacy owners showed an increased propensity to rate each factor as not being a barrier to the development of the public health function (see Figure 4.29).

Figure 4.29 The relationship between employment status and the proportions of survey pharmacists' who believed that various factors were not a barrier to the development of the public health function of community pharmacists



There were considerable disparities between the proportions of pharmacy owners and employee and locum pharmacists who considered the listed factors not to be barriers to development of the public health function. This was most acutely observed when considering conflicts with commercial interests (32% (n=42/131) versus 19% (n=83/441) & 18% (n=59/324)), unsuitable premises (24% (n=31/132) v 14% (n=61/441) & 9% (n=30/320)) and a weak LPC (20% (n=27/133) v 10% (n=45/442) & 8% (n=26/325)).

4.10.4.2.2 *Type of pharmacy*

The type of pharmacy worked in most regularly by community pharmacists during the 6 months preceding the administration of the questionnaire influenced respondents reporting of the severity of various factors as barriers to the development of the public health function of community pharmacists (see Table 4.34).

Table 4.34 The percentage of survey pharmacists reporting each listed factor as a major barrier to the development of the public health function of community pharmacists

	Type of pharmacy				
	Supermarket	Multiple	Large chain	Small chain	Independent
Lack of available funding	78.1	76.3	83.7	89.7	85.2
Weak LPC	46.9	48.6	42.7	48.1	52.5
Removal of the obligation of PCO to consult LPC	39.3	44.0	49.5	42.6	51.5
Unsuitable premises	40.6	45.6	31.5	26.8	32.2
Conflicts with commercial interests	34.4	41.4	33.7	23.2	26.5

For potential barriers that were an internal feature of pharmacy practice – unsuitable premises and conflicts with commercial interests – pharmacists working most regularly in supermarkets and multiple pharmacy chains considered these factors more important than their colleagues working within small chains and independents.

Conversely, for those factors external to everyday pharmacy practice, relating to representation and financing (lack of available funding, weak LPC and the removal of the obligation of PCO to consult LPC when developing new, potentially pharmacy-based, services), the opposite was observed. Survey pharmacists who had worked in small chains and independents most regularly in the six months preceding the study were more inclined to class these factors as major barriers than their counterparts in supermarkets and multiples.

4.10.4.2.3 Concerned with/affected by public health

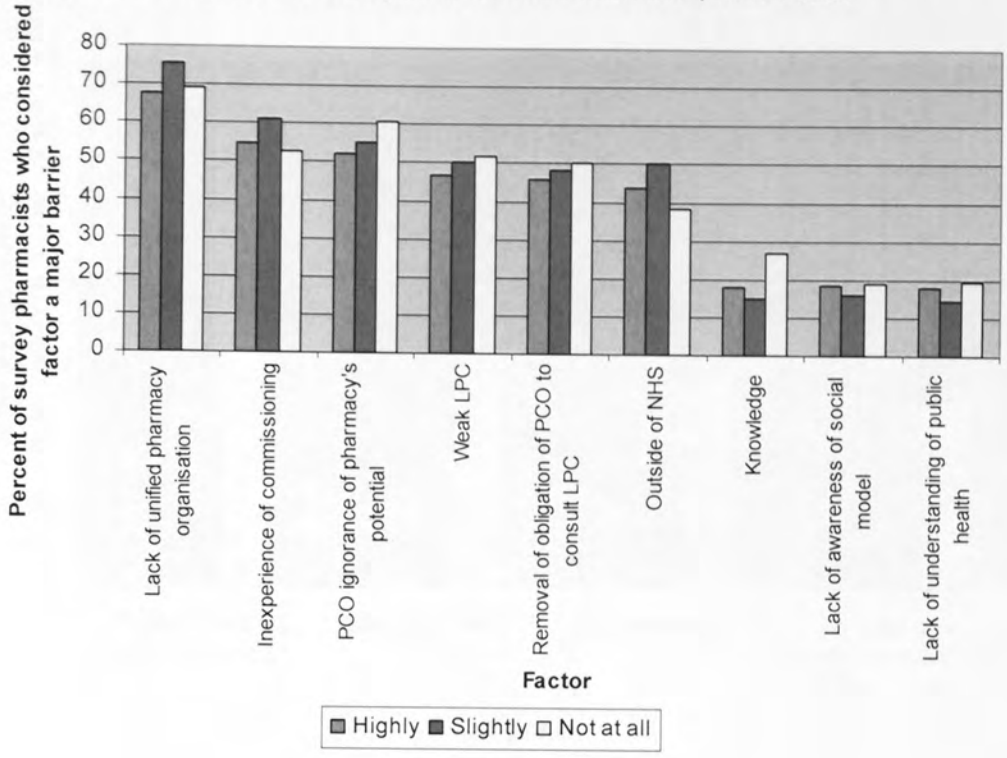
Relationships between the extent to which a respondent believed their job to be concerned with/affected by public health and their attitudes towards the belief of certain factors as barriers in the development of the public health function of community pharmacists were not as uniform as those observed in the "advantages" section.

When considering potential advantages in the development of the public health function of community pharmacists there was a clear correlation of an increasing propensity to consider a factor a major advantage the more an individual considered their job to be concerned with/affected by public health. It might have been expected to observe the opposite when considering potential barriers (i.e. the more an individual considered their job to be concerned with/affected by public health, the less likely they would be to consider the factor a major barrier). While this hypothesis stands for 3 of the factors where a relationship was observed between "concerned with" and the reporting of factors as "major barriers", overall the relationship between the two independent variables is slightly more complex (see Figure 4.30 below).

One general pattern appears to be that those who considered their job to be "not at all" concerned with public health were more likely to consider each factor a major barrier than those who reported their job as being "highly" or "slightly" concerned with public health.

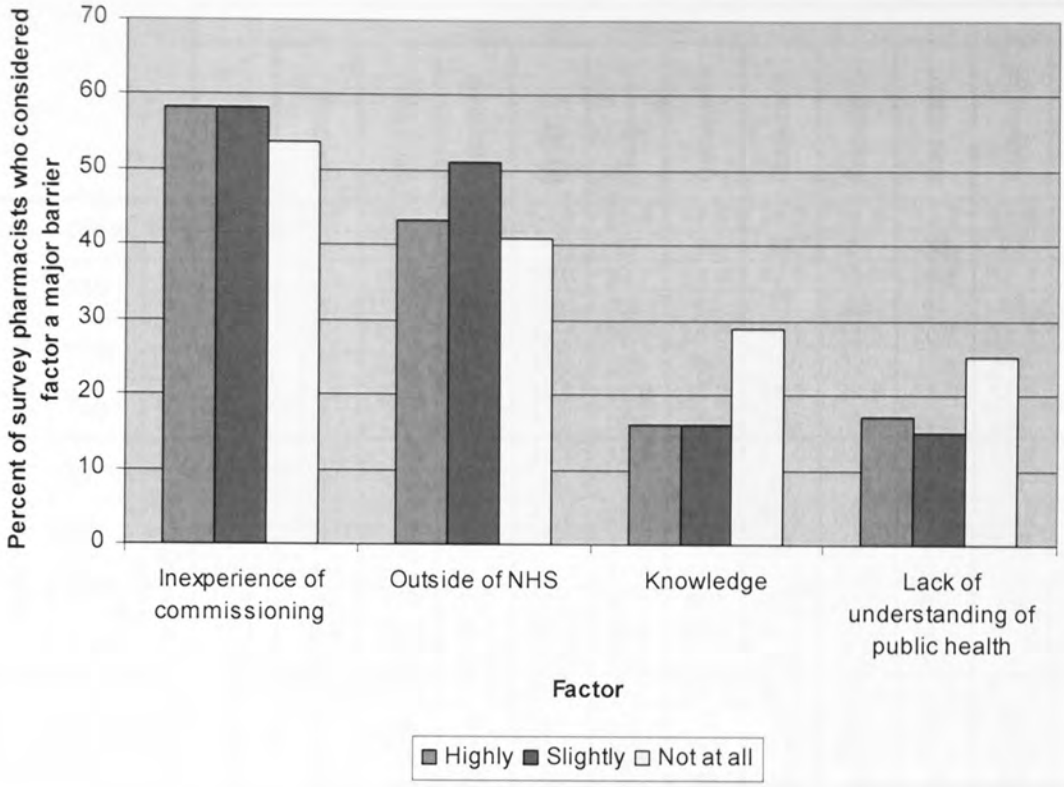
For relationships between the extent to which an individual's job was "affected by" public health and opinions on the severity of potential barriers, similar patterns to those seen in Figure 4.30 are observed (see Figure 4.31 on page 226).

Figure 4.30 The relationships between various factors of community pharmacy practice which are potentially barriers to the development of the public health function and the degree to which respondents' considered their jobs to be concerned with public health



One noticeable aspect of the relationships is the higher proportions of survey pharmacists who considered their job to be not at all affected by public health who believed that pharmacist knowledge (29% (n=11/38) versus 16% (n=57/356) and 16% (n=78/491) for "highly" and "slightly" pharmacists respectively) and a lack of understanding of public health (25% (n=9/36) versus 17% (n=61/354) and 15% (n=74/496)) were major barriers.

Figure 4.31 The relationships between various factors of community pharmacy practice which are potentially barriers to the development of the public health function and the degree to which respondents' considered their jobs to be affected by public health



4.10.4.3 A comparison between the opinions of DPHs, CPs and community pharmacists

Respondents were asked for their opinions on barriers to the development of the public health function of community pharmacists. Comparisons between the opinions of DPHs, CPs and community pharmacists were possible for twelve of the listed potential barriers (see Table 4.35). Relationships were observed between professional group (DPH/CP/community pharmacist) and opinions on all twelve of the listed barriers ("no opinion" responses excluded).

Table 4.35 Attitudes of respondents on the potential of various factors to act as barriers to the development of the community pharmacist's public health function

			Factor[1]											
			Time	Funding	Commiss.	Communi.	NHS	Premises	Commerce	Dispens.	Training	Soc mod.	Knowledge	Underst.
Major barrier	DPHs	%	54.3	65.8	27.7	23.6	14.9	55.8	47.5	24.3	18.4	19.8	18.9	20.0
		n	63	79	33	29	17	67	56	27	21	23	23	24
	CPs	%	73.0	70.2	69.5	33.7	24.0	30.1	24.9	43.5	14.8	26.5	14.7	17.1
		n	130	125	121	60	41	53	43	77	26	45	26	30
	Com	%	85.2	82.5	62.6	62.3	49.2	39.2	35.5	30.2	33.8	20.1	18.3	17.3
		n	858	823	574	619	469	389	337	295	329	175	176	165
	Total	%	**80.8**	**79.3**	**60.2**	**54.7**	**42.6**	**39.5**	**35.2**	**31.5**	**29.8**	**21.0**	**17.8**	**17.5**
		n	1051	1027	728	708	527	509	436	399	376	243	225	219
Minor barrier	DPHs	%	42.2	30.8	58.0	54.5	49.1	42.5	39.8	55.0	62.3	60.3	59.8	64.2
		n	49	37	69	67	56	51	47	61	71	70	73	77
	CPs	%	26.4	23.0	25.3	50.0	43.3	65.3	46.8	48.0	59.1	56.5	63.3	64.0
		n	47	41	44	89	74	115	81	85	104	96	112	112
	Com	%	13.4	16.6	34.1	32.1	38.3	47.6	42.5	43.1	47.0	53.0	51.5	48.5
		n	135	166	313	319	365	473	403	422	457	462	496	463
	Total	%	**17.8**	**18.8**	**35.2**	**36.7**	**40.0**	**49.6**	**42.8**	**44.9**	**50.0**	**54.2**	**54.0**	**52.2**
		n	231	244	426	475	495	639	531	568	632	628	681	652
Not a barrier	DPHs	%	3.4	3.3	14.3	22.0	36.0	1.7	12.7	20.7	19.3	19.8	21.3	15.8
		n	4	4	17	27	41	2	15	23	22	23	26	19
	CPs	%	0.6	6.7	5.2	16.3	32.7	4.5	28.3	8.5	26.1	17.1	22.0	18.9
		n	1	12	9	29	56	8	49	15	46	29	39	33
	Com	%	1.4	0.8	3.3	5.6	12.5	13.2	22.0	26.7	19.2	26.9	30.2	34.2
		n	14	8	30	56	119	131	209	261	187	235	291	327
	Total	%	**1.5**	**1.9**	**4.6**	**8.6**	**17.4**	**10.9**	**22.0**	**23.6**	**20.2**	**24.8**	**28.2**	**30.3**
		n	19	24	56	112	216	141	273	299	255	287	356	379
Total		n	1301*	1295*	1210*	1295*	1238*	1289*	1240*	1266*	1263*	1158*	1262*	1250*
ρ-value			0.000^	0.000^	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.027	0.020	0.000

Notes on Table 4.35:

[1]Time=time constraints; Funding=lack of available funding; Commiss.=inexperience of the commissioning process; Communi.=lack of communication between pharmacy and PCO/other healthcare professionals; NHS=external to NHS; Premises=unsuitable premises; Commerce=conflicts with commercial interests; Dispens.=unwillingness to leave the dispensary; Training=lack of training opportunities; Soc mod.=lack of awareness of social model of health; Knowledge=lack of knowledge; Underst.=lack of understanding of public health

*some missing values

^greater than 20% of expected values less than 5 therefore conditions of Chi square test not met

Some marked differences in opinion are observable in Table 4.35. Over half (56%, n=67/120) of DPHs consider unsuitable pharmacy premises to be a major barrier to the development of the public health function of community pharmacists compared to 30% (n=53/176) of CPs and 39% (n=389/993) of community pharmacists. Similarly, 48% (n=56/118) of DPHs believe that conflicts with commercial interests are a major barrier to development compared to 25% (n=43/174) of CPs and 36% (n=337/949) of community pharmacists. Conversely, 62% (n=619/994) of community pharmacists consider a lack of communication between pharmacy and the PCO/other healthcare professionals to be a major barrier to the development of their public health function compared to 34% (n=60/178) of CPs and just 24% (n=29/123) of DPHs. Furthermore, almost half of community pharmacists (49%, n=469/953) believe that a perception that pharmacy is external to the NHS is a major barrier compared to less than a fifth (24%, n=41/171) of CPs and only 15% (n=17/113) of DPHs.

4.10.4.4 Other barriers

In addition to the barriers discussed above, 86 respondents (DPHs=10, CPs=23, community pharmacists=53) noted other factors that they believed could impair the development of the public health function of community pharmacists. The most frequently mentioned of these factors are shown in Table 4.36 (below).

Table 4.36 Other barriers to the development of the public health function of community pharmacists reported by respondents

Factor	Number of respondents reporting factor as a barrier			
	DPHs (n)	CPs (n)	Community pharmacists (n)	Total (n)
Attitudes held by community pharmacists/LPC	2	6	3	11
Staffing pressures within pharmacy	0	0	7	7
Requirements (e.g. training) of locum pharmacists ignored	0	0	6	6
Poor interaction between pharmacists and GPs	2	0	3	5
Weak pharmacy leadership	0	2	3	5
Lack of patient awareness of pharmacy-based services	0	0	5	5
Remuneration insufficient	0	0	5	5
The attitudes of commissioner's within PCOs	0	4	0	4
The fragmentation of the community pharmacy sector	0	4	0	4
Commercial issues associated with pharmacy	1	3	0	4
Negative attitudes towards pharmacy held by the public	1	1	2	4
Confidentiality issues in relation to pharmacy premises	2	0	0	2
The reliance of some pharmacies on locum pharmacists	0	0	2	2
Target-driven culture within pharmacy	0	0	2	2
Pharmacist mental health problems (e.g. stress)	0	0	2	2
Commercial pressures placed on pharmacists by employers	0	0	2	2
Bureaucracy	0	0	2	2
The mismanagement of NHS resources	0	0	2	2

4.11 Summary

The findings presented in this chapter describe the attitudes of Directors of Public Health and Chief Pharmacists within primary care organisations, and practicing community pharmacists, to the involvement of community pharmacy in the public health movement.

Section 4.6 highlights the provision of emergency hormonal contraception over the counter and health promotion on the pharmacy premises as being the two most commonly provided services through community pharmacy. Community pharmacy based testing for sexually transmitted infections was being planned for future provision by a considerable number of respondents, and obesity services were also prominent in services that may be provided via community pharmacies in the future.

An assessment of the level of pharmaceutical input into public health planning revealed a discrepancy between the number of DPHs receiving pharmaceutical input and the number of DPHs who would welcome such input (Section 4.7). While 95% of DPHs and CPs stated they welcome, or would welcome, pharmaceutical input into public health planning, only 78% of DPHs and CPs reported pharmaceutical input into public health planning within their PCOs suggesting that some Public Health Departments may wish to have access to appropriate pharmaceutical input but may not be able to access such expertise.

Smoking, obesity and cardiovascular disease were identified as the three most important public health challenges (see Section 4.8) while it was felt that community pharmacy could be most useful in tackling smoking, obesity and diabetes (see Section 4.9). The fact that two out of the three areas where community pharmacy could be of most use are also two of the three most important challenges suggests community pharmacy has the potential to play a significant role in improving the health of the nation.

The development of the public health function of community pharmacy was considered in Section 4.10. Despite the belief of the majority of respondents that the new pharmaceutical contract will strengthen the public health function of community pharmacists, only small proportions of respondents believed that pharmacy would be able to compete effectively for funding to develop new services, with DPHs much more confident in pharmacy's ability to compete than community pharmacists.

Respondents considered accessibility and high levels of patient contact to be major advantages in the development of the public health function of community pharmacists. Conversely, time constraints, a lack of available funding, inexperience of the commissioning process and the lack of a unified pharmacy organisation were all highlighted as major barriers to the development of the public health function. However, there was widespread disagreement between the three professional groups (DPHs, CPs and

community pharmacists) on the potential of a number of factors to act as barriers to the development of the public health function of community pharmacists.

Chapter 4 of the thesis has described the practice of, and attitudes towards, community pharmacists in public health of key stakeholders. In the Discussion section of the thesis the findings of the research will be summarised and discussed, and recommendations for future development of the public heath function of community pharmacists will be made.

SECTION IV: SUMMARY, DISCUSSION AND CONCLUSIONS

Chapter 5 Summary and Discussion

5.1 Introduction

Chapter 4 presented the findings of the research conducted for this thesis. The main aim of this study was to investigate the public health function of primary care and community pharmacists. The public health activities of community pharmacists at the time of the study have been described and examples of innovative pharmacy-based service provision have been identified. The attitudes of both public health and pharmacy stakeholders were examined and described. In this way, this research will help to inform the ongoing debate about community pharmacy's position in the public health movement and how pharmacy can proceed, where possible, to maximise its potential in improving the health of the nation. The main findings resulting from this research are summarised and discussed in the following sections of this chapter:

- Section 5.2: Commerce, pharmacy and the public health function;
- Section 5.3: The pharmacy profession, medical dominance and the public health function;
- Section 5.4: The pharmacy workforce and public health; and,
- Section 5.5: Devolution and the public health function of community pharmacists.

The chapter ends (Section 5.6) with a resume of the research and suggested areas for further work.

5.2 Commerce, pharmacy and the public health function

The analysis of the community pharmacists' public health function reflected the fact that, to date, pharmacy's engagement with public health has been focused on the provision of services to individuals. This top-down, largely

health promotion based approach is rooted in the biomedical model of health, focusing on individual lifestyle factors at the expense of any consideration of the wider social and political causes of ill health. Such an approach, focusing on persuading individuals to change their behaviour, has clear limitations[280] particularly when it has been estimated that lifestyle choices account for only one-quarter of social class inequalities in health[281]. Pharmacy has been criticised for this *modus operandi* and for its failure to engage with the mainstream public health agenda (one focused on the wider determinants of health, health inequalities, inter-sectoral and partnership working etc.)[233].

5.2.1 The provision of "public health services" through community pharmacy

Within the provision of pharmacy-based "public health services", the relationship observed between the provision of services and the type of pharmacy outlet (supermarket, multiple, independent etc.) most regularly worked in by community pharmacist respondents (see Chapter 4, Section 4.6.2.1) could have important implications for future service provision through community pharmacy.

Based on the reporting of community pharmacist respondents, on the type of pharmacy they had most regularly worked in during the six months preceding the survey, supermarket pharmacies appeared to be less likely than small chains and independent pharmacies to provide a home delivery service and domiciliary visits. This may be a reflection of the wider geographical draw of most supermarkets but it is also notable that these services offer no direct, short-term financial return and are operated primarily to both benefit patients and, hopefully, retain business in the long-term.

Supermarkets also appeared to be less likely to provide emergency hormonal contraception (EHC) on a patient group direction (PGD), needle exchange schemes and the supervised administration of medicines (the most common medicines for which supervised administration is requested are used in the

withdrawal treatment of drug addiction). The provision of all three of the services mentioned is controversial to certain subsections of the UK population (not to mention pressure groups and the print media) and supermarkets are multinational corporations that generate huge profits (at the time of writing the UK's largest supermarket retailer, Tesco, made around £1billion every six months[282]). Commercial interests are not the only issue however. Needle exchange and supervised administration are classed as enhanced services under the new contractual framework for England and Wales, provision of which is controlled, via commissioning, by PCOs. However, these services have been provided through certain pharmacies for over twenty years – long preceding the major movement of supermarkets into pharmacy. Historically, most PCOs planned which outlets would provide these services geographically, based on need, and supermarkets are often not well located for these services as they are frequently not based in communities (unlike independents). The factors governing the decreased provision of these services by supermarkets are many and varied and the situation too complex to make any generalisations. The impact of this situation on pharmacists, consumers and patients is, however, real.

Nevertheless, the decreased level of provision of these services by supermarkets provides examples of the potential conflicts that can arise between operation in a commercial environment and the provision of professional services and adds weight to Denzin and Mettlin's criticism that the commercial interests of pharmacists are inconsistent with the altruistic attitude of the service ideal of professions[133]. The location of pharmacies within major retail environments, with their inherent commercial focus, may well make it difficult to claim that supermarket pharmacy puts the patient's interests first. One notable illustration of the commercial focus overriding the interests of patients was the decision of Tesco to stop supplying EHC to under-16s without a prescription in response to concerns expressed by some of their customers[283]. Tesco's decision highlights the fact that companies are answerable to their shareholders and the money markets *not* patients[237]. The increasing commercialisation of pharmacy raises important issues for – and arguably challenges – the professionalism of pharmacy.

Another area where there appeared to be a particularly marked difference in levels of provision between the different types of pharmacy outlets were the screening services – cholesterol, diabetes and STI testing. In terms of screening the multiple pharmacy chains were predominant. Lloydspharmacy, for example, vigorously promoted it's extensively provided diabetes testing programme. Small chains and independents appeared less likely to engage in the provision of screening services. Corporate pharmacies possess the financial power, by virtue of their large turnovers, to be able to subsidise provision of these services – which are unlikely to generate significant profits but may help to portray their pharmacies as "healthcare-based" – than small chain and independent pharmacies.

A larger proportion of supermarket and multiple pharmacies provided Medicines Use Reviews (MURs) than independents or small chains. It is arguable that the multiple pharmacy chains embraced MUR provision as a further route for profit generation. However, it is important to acknowledge that these were introduced as part of the new contract for England and Wales in April 2005, only shortly before the commencement of the research. The major multiples have the capacity to introduce rapid change and their management teams were in a position to exploit the new opportunity to its maximum. MURs were introduced, and the funding provided for them, by cutting remuneration for essential services (i.e. dispensing). The enthusiastic uptake of MURs by multiples is therefore not solely about profit maximisation. As commercial organisations, pharmacies have to adapt to the market, and the greater capacity of multiples allows them to adapt to the contractual changes much more rapidly than independent pharmacies. The introduction of MURs as an advanced service – one that is open to provision by all contractors, subject to accreditation – has seen the widespread provision of this service through the multiple pharmacy chains as a means of retrieving the funding that was cut from essential services. It is entirely reasonable to expect that further redistribution of funding from the dispensing process to other services (such as those currently classed as enhanced services which

may improve health or reduce harm) would see provision of such services increase as the pharmacy sector responds to the market.

The level of remuneration received for conducting MURs (400 per year maximum after October 2006 at £25 per MUR = £10,000 per annum; 250 per year maximum at £23 per MUR before this[284]) makes it likely that high volumes of MURs would have to be conducted to make the service profitable. Indeed, evidence is emerging of pharmacy companies pressuring pharmacists into conducting significant numbers of MURs, even threatening disciplinary action if employee pharmacists fail to achieve the targeted number of MURs[285]. This provides a further example of the low levels of professional autonomy afforded employee pharmacists[125]. The results presented in this thesis suggest that the eventual proposed transference of advanced services (MURs) to the essential services category envisaged under the new contractual framework for England and Wales may have implications for practicing pharmacists particularly within the independent pharmacy sector.

The results of this research suggest that the multiple pharmacy chains are more likely to provide certain services, such as MURs and the screening services, than independent and small chain pharmacies. At the time of the study (August – October 2006) the new contractual framework for community pharmacy was being introduced so service position was in a somewhat transitory phase between remuneration based on the old framework and the new framework. The increased level of provision observed in multiples is therefore possibly a reflection of their greater management capacity to respond to contractual changes and greater capacity to deliver any changes through their outlets. While change can be brought about rapidly in these organisations, the same cannot be said of independent pharmacies where such capacity does not exist. The "excess" capacity held by the pharmacy multiples allows them to operate more effectively than the independent sector in times of instability – such as in times of changing contractual or policy frameworks.

One of the realities of contemporary pharmacy practice is the corporatisation of the community pharmacy sector. Traditionally, LPCs negotiated for their local independent contractors but they have become increasingly ineffectual as they have become increasingly dominated by members from the large pharmacy multiples. Indeed, there no longer exists a requirement for the PCO to consult the LPC when developing pharmaceutical services that may be provided by contractors within the LPC's domain. In a similar fashion, the PSNC – as a result of the corporatisation of the community pharmacy market – is now dominated by the multiples and the supermarkets. As one contract equals one vote on PSNC matters, the corporate pharmacy chains have an effective veto over any motion brought forward which may benefit their independent colleagues. Furthermore, the Company Chemists' Association – which represents the major multiples and the supermarkets – has become an influential lobby group which, as their own website claims, "*is extensively consulted*" by government[286]. The playing field is becoming increasingly unequal with the result that the viability of independent contractors is further threatened.

While it is clear that service provision varies based on ownership, these variations have a number of possible explanations. The variation could be dependent on the willingness of the contractors to offer the service, the ability – particularly in terms of capacity – of contractors to offer the service, or the appropriateness of the service for the location served by the pharmacy (i.e. there may be little call for a needle exchange scheme at an out-of-town supermarket pharmacy). Regardless of the explanation(s), it does mean that changes in the balance and composition of the pharmacy market could impact upon service provision. The exemptions to the Control of Entry Regulations introduced as a result of the OFT inquiry are beginning to have an impact (as can be seen in Figure 2.1 on page 78). The exemptions effectively allow any number of supermarkets, provided they meet the exemption for floor space, extended opening hours or both, to automatically obtain a contract to provide NHS pharmaceutical services without the requirement to prove that the pharmacy is either necessary or desirable for a given community. The most

conspicuous implication of this is that less money is available for each contractor.

Furthermore, modern consumers are generally well-informed and actively choose to patronise supermarkets. Historically, consumers simply patronised stores which were closest to them geographically and many still desire a vibrant local economy. However, as transport infrastructure and consumer mobility improved, competition between outlets intensified. This intensification in competition leads to price-cutting which allows stores with lower prices to attract shoppers over greater distances, such that larger-scale retailing is favoured over smaller local stores[287]. Indeed, it has been argued that consumers are caught in a viscous circle where brands and advertising, work and travel patterns, choice and price, all conspire to undermine their desire for a vibrant local economy and drive their patronage of supermarkets[216]. Easier access to contracts for supermarkets, allied to the fact that consumers preferentially patronise supermarkets, often at the expense of independent retailers, makes change in the composition of the pharmacy market inevitable. This poses a major threat to the future distribution of the pharmacy network[141].

Independent and small chain pharmacies may be limited in the range of services they can provide by the willingness of their local PCO to provide the requisite funding. Larger corporations however, such as the supermarkets and the large pharmacy multiples, may be able to operate outside of this restriction and may choose to provide services for their customers without the financial backing of the local PCO. One example of this approach is the provision of diabetes and blood pressure testing through Lloydspharmacy's network of over 1500 outlets. The financial reserves of such corporations allow them to provide these services as "loss-leaders" in the hope that a diagnosis of diabetes or hypertension will lead to a degree of loyalty from the customer who will subsequently return to have his or her prescription filled. Such developments may be welcomed by local PCOs if they are able to pass on the costs of providing such services to the large pharmacy chains, particularly when the health service is being reconfigured around New Labour's prevailing ideology of allowing increased private sector involvement

in the NHS. Why would a PCO commission a diabetes testing service through local community pharmacies if some of the local community pharmacies are willing to provide the service free of charge? In such a context, corporate pharmacies may become, covertly rather than overtly, "preferred providers" of services to PCOs. This could have important implications for both service development and the viability of the independent pharmacy sector.

The services being planned for future provision through community pharmacies (see Chapter 4, Sections 4.6.1.2 and 4.6.2.2) served to reinforce the individual behavioural change, biomedical based approach to public health adopted by pharmacy. Future services described by respondents were principally in the area of clinical testing, most notably the development of pharmacy-based STI testing schemes. Over a fifth of DPHs and CPs indicated that a minor ailments scheme was being planned for future provision through community pharmacies in their PCOs. This finding corroborates that of Bradley et al[288] that around a fifth of English PCTs were committed to commissioning a minor ailments scheme within the twelve months succeeding the 2006 study. No responses suggested a change in the focus of pharmacy-based public health towards a more collective, social model of the causes of ill health.

Under the contractual framework, local enhanced services, commissioned by PCOs, will inevitably lead to variations in service provision between localities due to the differing health needs of local populations (although the impact of the new contract on enhanced service commissioning levels up to 2006 was modest[288]). However, the results from this study suggest that variation in service provision through community pharmacy will also be observed between pharmacy outlets based on their ownership (i.e. supermarkets, multiples, independents etc.). The implications of this finding could be far-reaching. Independent pharmacies may find their viability further threatened. Multiples may provide, free of charge – something which their independent colleagues are unable to do – a service which their local PCO consider there to be little need for. Perhaps most importantly, with the current economic climate favouring the larger pharmacy chains and the concentration of pharmacies in

affluent areas at the expense of areas of economic deprivation[289], variability in service provision between pharmacy outlets may further increase the inequalities in access identified by the Inverse Care Law[94]. This is an area which demands further research.

5.2.2 Commissioning and pharmacy's public health function

"*Commissioning is the process by which the health needs of a population are assessed, and responsibility is taken for ensuring that appropriate services are available which meet these needs*"[290]. The commissioning of services has been a core responsibility of English Primary Care Trusts (PCTs) since 2002[291]. PCOs in Scotland, Wales and Northern Ireland have also increased their commissioning activities but with, arguably, less fervour than their English counterparts. The commissioning function of English PCTs has been further reinforced by the introduction of new contractual frameworks across primary care – for medical services, dentistry and pharmacy. Additionally, since April 2005, general practices in England could hold a commissioning budget, from the PCT, to manage the delivery of services for their patients – this is Practice Based Commissioning (PBC). The logic is that, in managing their own budget, GPs will act more cost effectively, scrutinise demand for hospital care and redesign services around the hospital-community interface[292].

New Labour, consistent with its third way approach of avoiding socialist-style state intervention while ostensibly ameliorating the worst excesses of capitalism, has openly invited the private sector into the provision of NHS primary care services by virtue of the commissioning process[293]. Pharmacy, as a private provider of NHS services operating on the interface between commerce and healthcare, would seem to be ideally placed to exploit these reforms. Indeed, the seemingly unprecedented attention given to pharmacy in DH policy documents[1 174 230] would suggest that the government has identified pharmacy as a suitable partner. Furthermore, the multiples – with their capacity and responsiveness, allied to their widespread geographical

coverage – are attractive to partners (e.g. the government) because of their national scope (organising the provision of a service through a single partner provider with 1000 outlets across the country is considerably less complex than organising provision of the service through 1000 independent pharmacies). For example, Boots was selected as the Department of Health's preferred partner for Chlamydia screening through pharmacy which was piloted at all its London stores (over 200) from November 2005[294].

The greater management capacity of the multiple pharmacy chains has implications for the commissioning of pharmaceutical services. For corporations, the responsibility for negotiations does not fall on its pharmacists in the shops yet for independent pharmacist-proprietors it does. Large corporations have professional development teams providing them with a substantial capacity to negotiate. As the results of this study have demonstrated, there is a lack of confidence amongst community pharmacists in the ability of independent contractors to compete for funding and this may be a reflection of the realities of contemporary pharmacy practice.

The movement of PCOs from providers to commissioners of healthcare, allied to the further devolvement of revenue streams to GPs and the harsh financial climate in the NHS at the time of the study meant that access to funding for the development of enhanced pharmacy services was difficult. Competition for access to funding for the development of services existed, and still exists at the time of writing, between health professions and between providers within the same profession (i.e. in the case of pharmacy, competition could exist between numerous contractors within a PCO). As the NHS continues its transformation from a provider to a commissioner of healthcare, the ability of pharmacy to compete effectively for funding is likely to become increasingly important.

It is noteworthy that community pharmacists were much less confident of pharmacy's ability to compete for funding than either DPHs or CPs. Community pharmacist respondents spent the majority of their time in community pharmacy and were therefore, arguably, the group most grounded

in the realities of pharmacy practice. This, as with opinions on the new contract, may have engendered a degree of scepticism in pharmacy's ability to attract any additional funding. Furthermore, the majority of community pharmacists are employees of corporations and therefore have little professional autonomy[125]. In this context, they have little or no control over the decisions necessary (e.g. the decision to compile bids) to access funding for the development of innovative services: such decisions will be made by the employing corporation and will be strongly influenced by the responsibility of the corporation to its shareholders (i.e. successful operation allied to profit generation). DPHs and CPs may have had some degree of vested interest in the ability of pharmacy to compete effectively for funding, resulting in a positive "spin" being placed in their answers or they may have been less aware of the realities of everyday pharmacy practice. However, this is conjecture which needs further, in-depth research to establish the motives lying behind the answers given in the surveys.

Within the community pharmacist population studied, a relationship was observed between employment status and beliefs surrounding pharmacy's ability to compete effectively for funding. Almost half of community pharmacist respondents who were pharmacy owners felt that pharmacy would not be able to compete effectively compared to just one-in-five employee pharmacists. It is difficult to hypothesise an explanation for these beliefs but it may be attributable to a degree of naivety on the part of employee pharmacists, with their secure employment status leading to some sheltering from the impact of policy developments.

Perhaps the most interesting finding from this section of the community pharmacist questionnaire was the correlation between the type of pharmacy worked in and opinions on pharmacy's ability to compete effectively for funding. Respondents who had worked most regularly in pharmacy chains of more than twenty outlets were less likely to report a belief that pharmacy would not be able to compete than their colleagues working in independents or chains of twenty or fewer outlets. This finding may well be linked to the relatively high proportion of pharmacy owners (i.e. the owners of

independents and small chains of pharmacies) who believed that pharmacy would not be able to compete. However, it would appear that community pharmacists believed that the larger pharmacy chains and supermarkets, in effect corporations with significant turnovers, would occupy a propitious position in terms of attracting finance to develop services.

Anecdotally, it would appear that the scepticism of non-corporate pharmacists may be justified. As mentioned previously, Boots won a contract to provide chlamydia screening through its pharmacies in London (on a two year pilot basis)[294] and also moved into the provision of outpatient services for PCTs (including the positioning of a GP in one pharmacy)[295]. While this may be down to the ability of an organisation to court media attention rather than being indicative of corporate pharmacy being more successful in attracting finance through the commissioning process, logic suggests that large corporations, with their financial muscle, widespread geographical coverage and efficient marketing and public relations departments, may attract a disproportionate amount of income through commissioning processes. As chains of five pharmacies or less made up 43.2% of the retail pharmacy sector in 2005/2006[143] this could have severe implications for service provision across the sector. If corporate pharmacy chains were to monopolise commissioning monies then the proportion of the global sum (total NHS funding for pharmacy) available to independents will be diminished; arguably further hastening their demise. Additionally, an inability to attract funding threatens to stifle the professional development of community pharmacists employed within independent pharmacies who may find themselves providing only a limited range of routine services in comparison to their corporate colleagues.

5.2.3 The impact of commerce on the health professionalism of pharmacists

Links can be made between the commercial aspects of pharmacy practice, employment status and the attitudes of pharmacists towards their business

and health professional roles. Less than half of the pharmacy owners surveyed reported that they were more health professional than businessman/woman. This compares to over four-fifths of locum pharmacist respondents and three-quarters of employee pharmacists.

The association between employment status and position on the health professional – businessman/woman scale is not unexpected. Pharmacy owners are naturally more inclined to be concerned with the business elements of pharmacy practice as their livelihood is dependent on profits generated by the pharmacy. Conversely, locum pharmacists are, theoretically, free from the responsibility of profit-generation allowing their health professional mindset to dominate. Employee pharmacists, dependent on their position within the employing organisation, occupy a halfway house between the stance of owners and locums. The relationship can be summed up thus – the higher the level of responsibility and accountability for the operation of the pharmacy that the pharmacist holds, the less likely he/she is to describe him/herself as being more health professional than businessman/woman.

Indeed, despite the greater than ever demand for staff to fill managerial pharmacy positions created by the corporatisation of community pharmacy in the UK, many locum pharmacists actively avoid employment by a pharmacy or pharmacy chain, finding these "commercially-orientated" employment opportunities unappealing. As Shann and Hassell[183] noted, it is the fundamental aspects of working as a healthcare professional, such as patient contact, that are of most importance to locums. As the results of this research demonstrate, the health professional mindset is predominant amongst locum pharmacists.

Greater numbers of community pharmacists are choosing to work as self-employed locums, and, at first glance, this increase could be expected to have a professionalising effect on pharmacy. Not only do these pharmacists possess a greater degree of professional autonomy than their employee colleagues, but their outlook is also more focussed on the health professional

aspects of their job. However, the largely transient nature of their work offers them little chance to influence the day-to-day operation of any pharmacy in which they are, temporarily, employed and both the interests and functions of locum pharmacists are marginalised with the pharmacy profession, leaving them with little influence on the pharmacy agenda. Furthermore, the nature of economics and the laws of supply and demand dictate that the proportion of locum pharmacists will only be permitted to rise to a certain level until the remuneration packages offered by employers rise sufficiently to entice locums into regular, paid employment (with all its additional benefits such as sick pay, holiday pay etc.). Any excess in numbers of locums will be drawn into employment, with a subsequent reduction in professional autonomy and increased responsibility for profit-generation, until equilibrium is reaffirmed.

The health professional – business dichotomy of the community pharmacist's function also has implications for consumers. In a study based in Northern Ireland[296], almost one third of consumers thought of pharmacists primarily as business people. Commenting on this article, and building on the argument, Hassell *et al*[297] suggested that the entrepreneurial aspect of community pharmacy may deter the public from perceiving pharmacy as a primary health care resource. The disparities between the perception of community pharmacists, less than 5% of whom, according to this study, consider themselves to be primarily business people, and the general public, much greater numbers of whom consider pharmacists as primarily business people, are pronounced. A public that does not perceive community pharmacy as a primary health care resource is unlikely to actively access either the health improving services provided by community pharmacy or seek advice from community pharmacists. This has the potential to severely impair the development of the public health function of community pharmacists.

5.2.4 Links between commerce and opinions on the barriers to the development of community pharmacy's public health function

Respondents to both surveys were asked their opinions on the potential of various factors of community pharmacy practice to act as barriers to the development of the public health function of community pharmacists (see Chapter 4, Section 4.10.4).

A lack of awareness of community pharmacy practice may be a factor in the comparatively large number of DPHs who believed that unsuitable pharmacy premises were a major barrier to development. However, the possibility that DPHs actually consider pharmacies as unsuitable venues for the delivery of health improvement messages cannot be discounted. Such attitudes may also be related to the fact that a higher proportion of DPHs than CPs and community pharmacists felt that conflicts with commercial interest were a major barrier to the development of the public health function of community pharmacists thus highlighting the tensions that surround the provision of professional services in a retail environment. The majority of DPH respondents to the survey were initially trained in medicine and a perception of the pharmacist as shop keeper has emerged in numerous studies of the attitudes of physicians[164-167]. While no evidence exists that DPHs, as a professional grouping, share this standpoint, such attitudes may help to explain why conflicts with commercial interests and the unsuitability of pharmacies as delivery routes for public health measures were considered major barriers by relatively large numbers of DPHs. Further research into the attitudes of policy-makers and strategic-level NHS employees towards pharmacies as a delivery route for public health measures may be merited.

Relationships were observed between the employment status of community pharmacists and their considerations of the potential of various factors to act as barriers to the development of their public health function. Significant differences in opinion were observed when considering the lack of an incentive for employee pharmacists as a barrier to development with pharmacy owners considerably less likely to consider this a major barrier than employee and locum pharmacists. As pharmacy owners are the paymasters of employee pharmacists, and therefore increased incentives for employee pharmacists would increase their overheads, this is perhaps unsurprising.

However, owners were considerably more likely than employees or locums to consider pharmacy's inexperience of the commissioning process and the removal of the obligation of PCOs to consult LPCs when developing new services to be major barriers. This may be explained by consideration of the financial implications to pharmacy owners. Pharmacy's inexperience of the commissioning process is likely to be disadvantageous when seeking to secure funding for the provision of pharmacy-based services and the removal of the obligation of a pharmacy owner's local PCO to consult his/her LPC is also likely, through fostering disunity among local contractors, to impact negatively on the ability of independent pharmacy owners to attract funding. As these factors have the potential to equate to pharmacy owners failing to attract maximal levels of remuneration it is of little surprise that they would assign greater significance to these factors to act as barriers than their employee and locum pharmacist counterparts.

Furthermore, the type of pharmacy most regularly worked in by community pharmacist respondents influenced opinions on the potential of certain factors to act as barriers to the development of the public health function. When considering financial constraints and the removal of the obligation of PCOs to consult LPCs when developing pharmacy-based services, larger proportions of pharmacists working in smaller chains of pharmacies than in multiples and supermarkets considered these as major barriers to development. This suggests that community pharmacists feel that these factors will disproportionately affect smaller chains (i.e. smaller chains will find it more difficult to access funding, perhaps in part because of the inability to bargain collectively brought about by removing the obligation of PCOs to consult LPCs). Should the views of pharmacy owners and those working most regularly in small chain and independent pharmacy prove to be correct, the most salient implication of this is that, as highlighted previously, independent pharmacies will not be able to provide as comprehensive a range of services (including those services currently classified by the profession as "pharmacy-based public health services") as the multiple chains and supermarket pharmacies.

The opposite pattern was observed (i.e. larger proportions of pharmacists working in large chains of pharmacies than those working in smaller chains considered the factors as major barriers to development) when considering unsuitable pharmacy premises and conflicts with commercial interests suggesting that community pharmacists consider multiple pharmacy chains to have proportionally more outlets unsuitable for the provision of services specified by the new contract and that multiples have an increased commercial focus, possibly at the expense of patient care.

Amid this discussion it is worthy of note that independent pharmacies tend to be located in the heart of communities whereas supermarkets are more often found in out-of-town retail developments which are difficult to access without a car. Independent pharmacies are more accessible to those without private transport, disproportionately those with lower incomes. Commissioning may therefore lead to inequities in access to pharmacy-based services with those without access to a car, predominantly the socio-economically disadvantaged, unable to visit supermarket pharmacies without considerable difficulty and/or expense. Furthermore, the corporatisation of pharmacy is likely to further reinforce these inequities by decreasing the numbers of independent pharmacies. As the accessibility of community pharmacy is frequently highlighted as a major advantage (as indeed it was in this research) any reduction in the accessibility of both pharmacies and pharmacists may make it even more difficult to portray the pharmacy as a health resource for the community.

5.3 The pharmacy profession, medical dominance and the public health function

While this section of the discussion is focussed on professions theory, it is important to acknowledge that much of the discussion in this section has connections to community (retail) pharmacy's commercial aspects. For this reason, it should not be considered in isolation but in conjunction with the

earlier discussions on the impact of commerce on the public health function of community pharmacists.

When asked about their opinions on pharmacy's ability to compete effectively for access to funding to develop services that would meet an identified public health need, DPHs were much more confident than CPs and community pharmacists that pharmacy would be able to compete effectively. Furthermore, only one-in-twenty DPHs felt that pharmacy would not be able to compete effectively for access to funding compared to more than one-in-four community pharmacists (see Chapter 4, Section 4.10.2).

The disparity between the proportions of DPHs and community pharmacists who believe pharmacy will/will not be able to compete is marked. The confidence of DPHs in pharmacy's ability to compete for funding may indicate a lack of understanding of the new pharmacy contract and the community pharmacy sector in general or it may be a reflection that DPHs believe that pharmacy is conservative and slow to engage with new services. The fact that physicians were predominant amongst DPH respondents (only 6% of whom were pharmacists) may also be significant. As the move of the NHS from a provider to a commissioner of services appears likely to benefit their GP colleagues in terms of both professional power and remuneration, by enabling them to directly commission services for their own patients, a degree of bias may have influenced the reporting of DPHs regarding pharmacy's ability to compete. Indeed, commissioning, by concentrating power in the hands of GPs, enhances the medical professions' dominance of the healthcare sector[123], preventing any 'boundary encroachment'[137] by the paramedical professions and pharmacy in particular. A lack of support from GPs has been identified as a barrier to the commissioning of services from community pharmacy by PCTs[298].

The reasons given by DPHs and CPs for a lack of confidence in pharmacy's ability to compete effectively hinted at a marginalisation of pharmacy due to fragmentation within the pharmacy sector and the lack of a common voice. All of the reasons highlighted by DPHs and CPs were echoed by the community

pharmacist respondents with a particular focus being given to a perceived dominance of NHS decision-making and resources by GPs, NHS financial constraints and the inability of the national pharmacy organisations (by far the most regularly mentioned organisation being the RPSGB) to represent the interests of community pharmacy effectively. Other prominent reasons behind a belief that pharmacy would not be able to compete effectively included:

- A perception that PCOs didn't recognise the potential of community pharmacy as a force for health improvement, most often due to a lack of high level pharmaceutical representation;
- A lack of available time to either bid for, or provide, additional services;
- The move to practice based commissioning further minimising pharmacy's ability to compete by concentrating power in the hands of GPs; and,
- The fragmentation and lack of cohesion within the community pharmacy sector.

There are close links between many of the reasons postulated by survey respondents, commercial concerns and wider professions theory – in particular professional power. As Friedson[123] identified, medicine is the dominant profession in the healthcare sector and the power that it is afforded allows medicine the freedom to control the activities of the paramedical professions (e.g. nursing, pharmacy etc.). Medicine is sensitive to boundary encroachment by other healthcare occupations, with physicians fiercely resistant to any perceived encroachment onto both their professional and economic turf[137].

Furthermore, the deprofessionalisation of pharmacy in the twentieth century, at least partly fuelled by the corporatisation of the community pharmacy sector – resulting in a greater number of employee pharmacists at the expense of independent pharmacist-proprietors with a concomitant decrease in professional autonomy[152] – lowers the standing of the profession in the eyes

of those external to pharmacy. Denzin and Mettlin (1968)[133] argue that the commercial interests of pharmacy owners are inconsistent with the altruistic attitude of the service ideal of professions. It has to be acknowledged however, that all professions are paid – some, such as lawyers and physicians, are generally paid handsomely. What distinguishes these professions from pharmacy is that a pharmacist-proprietors' remuneration is based on trading as opposed to the levy of a fee. Community pharmacists operate in a commercial environment and, as traders, their *raison d'être* is to sell – not whether the customer requires or is in anyway poorly served by the sale. This commercial focus leads to competition between pharmacies, forcing large corporate pharmacy chains to rationalise products and services in order to operate economically and competitively[148], and fragmenting the profession between employees and owners, multiples and independents and between individual contractors. The need to seek a competitive advantage is omnipresent and, in this context, it is unsurprising that physicians have a relatively low regard for the clinical contribution that can be made by pharmacists, and tend to view them as "shop keepers" rather than health professionals[164-167]. All of these factors further reduce pharmacy's claims to professional status leaving pharmacy as an occupation which has "*a low profile and little political influence*"[125].

5.4 The pharmacy workforce and public health

This research suggests, unsurprisingly, that community pharmacists are not, to coin a phrase from Derek Wanless[101], "*fully engaged*" with public health. Only 43% of community pharmacists considered their role to be highly concerned with public health. This figure compares unfavourably with Chief Pharmacists in PCOs, 65% of whom believed their role to be highly concerned with public health. The reasons behind this difference are unclear and, to some degree depend on the respondents' perception of what public health is. As no definition of "public health" was given on the questionnaire, this can be considered a limitation of the research apparatus.

The higher proportion of CPs than community pharmacists who believed that their job was highly concerned with public health may, however, be explained by the interaction of primary care pharmacists with public health practitioners within their PCOs and the adoption of a "public health" mindset. While community pharmacists may improve the health of their clientele daily, their professional isolation may militate against the adoption of a "public health" mindset. As argued by Walker[197], there is a low level of cooperation between the different sectors of the profession and there is a uniprofessional culture that understates the value of partnership. Such an approach is anathema to the wider public health approach which emphasises partnerships with all those who contribute to the health of the population[15]. This long-standing criticism of pharmacy culture has become more salient as the policy agenda has sought to develop the public health function of pharmacists. Yet the culture remains largely unaltered and limits the advancement of pharmacy as a public health resource.

5.4.1 Opinions on the community pharmacy contractual framework

Opinions on the effect of the new pharmaceutical services contract on the development of the public health function of community pharmacists showed considerable variation across the three population groups studied. DPHs appeared to be the most positive about the ability of the contracts to strengthen the public health function, followed by CPs with community pharmacists somewhat less positive (see Chapter 4, Section 4.10.1).

The fact that community pharmacists were less positive about the contract's ability to strengthen their public health function may, amongst numerous other factors, be indicative of a sceptical workforce. Historically, pharmacy has failed to secure control of the social object of its practice (namely medicines) and pharmacists are, to a large degree, dependent on the actions of the dominant profession in the healthcare division of labour – medicine[133]. As previously highlighted, this position of dominance allows the medical

profession the freedom to define the domains of practice of other occupations, including pharmacy[123]. Many pharmacists further the dominance of the medical profession by attributing ultimate authority to doctors[160]. It can be argued therefore, that the ability of pharmacy to determine its own purpose and functions is limited. The low level of professional autonomy afforded most pharmacists[125] further heightens the level of scepticism within the pharmacy workforce.

As has been stated elsewhere in this thesis, pledges to develop the community pharmacist's public health function have been made by successive governments. However, progress towards this goal has been halting at best. It may be that community pharmacists had "heard it all before" and were sceptical, maybe unduly in the light of the opinions of their colleagues in primary care, about the impact the new contract would have on their day-to-day activities. Survey respondents from primary care (DPHs and CPs) may have been more positive as they believed that the new contract would allow them greater flexibility in their engagement with community pharmacy. Regardless of the explanations behind the observations, the results indicate a schism between the opinions of practice-level and strategic-level stakeholders.

Owing to a number of factors (i.e. the failure to secure the control of medicines, corporatisation, medical power), the community pharmacists' position is increasingly one of minimal professional autonomy essentially meaning that, with the exception of a small number of independent practitioners, they are practically powerless to institute fundamental changes in practice, relying on any new initiatives to be made sufficiently attractive, financially, for their paymasters to embrace them. Despite the development of the extended role as a means of reprofessionalisation[138 158], the everyday practice of community pharmacists remains dominated by the "traditional" dispensing function. Indeed the number of prescription items dispensed by community pharmacists in England increased by 55% between 1996 and 2006 to 752 million[299].

Imposing greater demands on pharmacists (i.e. any demands additional to their dispensing workload such as the public health involvement envisaged under the new contractual framework and Choosing Health through Pharmacy[230]) is likely to be both unpopular and impractical without investment in suitable support staff to ease the burden of the dispensing load. However, as Harding and Taylor[125] argue, medicine must remain at the centre of the pharmacist's function and, by focussing on activities other than dispensing, the centrality to pharmacy of the dispensing process is not recognised. If the dispensing function is allowed to become the domain of technicians, then pharmacists will be deprofessionalised. Community pharmacy may become a generic health occupation that could rapidly find itself marginalised from the primary care agenda and effectively consigned to the annals of history. Conversely, it would appear that both the government[1 230] and the RPSGB[173 300] view further role extension, albeit while retaining a medicines focus, as a path to reprofessionalisation. It is within this uncertain microcosm that the public health function of community pharmacists must be developed – presenting a challenge to both the profession and policy-makers alike.

Similar proportions of both self-employed pharmacy owners and self-employed locum pharmacists believed that the new contract would strengthen or significantly strengthen the public health function. However, the proportion of employee pharmacists who felt that the new contract would strengthen or significantly strengthen the public health function was considerably higher. This could possibly be a reflection of the fact that large organisations are better equipped to adapt promptly to changes in the market. Secure employment may lead to some sheltering from the impact of policy developments – employed pharmacists are, after all, recipients of diktats from their paymasters.

These results however, may further reflect issues of capacity and capability. Proprietors and locums are individual practitioners who do not have access to the support structures available to employee pharmacists. They also have the added burden of being personally responsible for implementing the changes expected of them by the policy agenda. The effects of this are enhanced by

the failure of contractor organisations, like the NPA and LPCs, to effectively represent independent contractors – which contributes to the professional isolation of independent pharmacist practitioners. The increased workload demanded of pharmacy polarises the distinctions between the independent practitioners and employees further.

5.4.2 The feminisation of the community pharmacy workforce

When considering the community pharmacist responses, a number of relationships were observed between the sex of the respondent and employment status:

- Pharmacy owners were three times more likely to be male than female.
- Female pharmacists were almost twice as likely to be an employee as their male counterparts.
- Women were disproportionately employed in corporate pharmacies (i.e. pharmacies in chains of over twenty outlets) with men over-represented in the independent sector.

These findings augment previous work on the feminisation of pharmacy[188 190] which have iterated that pharmacy is an example of an occupation that has become less attractive for males. As the independent pharmacy sector has declined, the opportunities for pharmacy ownership have become increasingly scarce. It has been postulated that this has resulted in men looking to alternative careers that will satisfy their entrepreneurial ambitions[188]. This is further supported by the data gathered in this research which show that only 11% of pharmacy owners are under the age of 40 compared to 43% of employee pharmacists.

The results show that women have rapidly moved into the corporate pharmacy sector where community pharmacy jobs are increasingly likely to be found. The availability of a large pool of pharmacists for employment within multiple pharmacy chains and supermarkets facilitates the corporatisation of

community pharmacy and hastens the demise of the independent pharmacy sector. As others have suggested[125 191], the implication of an increased number of pharmacists in the employ of large, bureaucratic corporations, performing rationalised and routinised procedures, is a net decrease in professional autonomy for pharmacists.

However, despite being more likely than their male counterparts to be corporate pharmacists, female pharmacy students are more likely than males to prioritise patient care (the health professional role) over business opportunities as reasons for entering the profession[193]. This finding is supported by the results of this study which show that over four-fifths (82%) of female community pharmacists consider themselves to be more health professional than businesswoman compared to 68% of male community pharmacists. It would therefore appear paradoxical that women employed in community pharmacy disproportionately choose employment in an environment (corporate pharmacy) which limits their ability to focus on the health professional element of their practice[125 148 152 157]. The data presented in this thesis would appear to suggest that the professional ambitions of female community pharmacists are overridden by the necessities of their everyday lives. Female pharmacy students anticipate both taking a career break and working fewer hours per week than their male contemporaries[301]. Therefore, the greater flexibility that can be offered by major corporations (i.e. the supermarkets, Boots, Lloydspharmacy etc.) in terms of working hours disproportionately attracts women, on whom the childcare burden still predominantly falls. This flexibility provides the female pharmacist with greater scope to tailor her working hours around her duties of care. Thus, while the increasing feminisation of community pharmacy may be expected to create a profession more focussed on healthcare than the successful operation of businesses, any gains in professional standing may be negated by the decreased professional autonomy afforded these women in the corporate pharmacy sector.

5.4.3 Locum pharmacists and the public health function

Amongst the community pharmacist subset, proprietor pharmacists were more likely to describe their job as being highly concerned with public health than employees who, in turn, were more likely to describe their job as being highly concerned with public health than locum pharmacists. The reasons behind this observation are unclear but could depend to a considerable degree on the respondents' definition of "public health". Assuming that the majority of respondents associated public health with the individualistic, service-based approach most commonly adopted by pharmacy, the possibility exists that pharmacy owners may feel more enfranchised in the public health movement than their employees and locums. Practicing as an independent pharmacy owner maximises professional autonomy, allowing the pharmacy owner more freedom to tackle a particular health problem within his or her clientele – a clientele for which, he/she may feel a degree of responsibility for. Employee pharmacists are suppliant to the wishes of their employers (the pharmacy owners) and this decrease in autonomy may equate to a relative disenfranchisement from public health. Locum pharmacists, while theoretically possessing a greater level of professional autonomy than employee pharmacists, have little or no power to influence the operation of the pharmacy (including the provision of services) leading to an even greater degree of disenfranchisement than that suffered by employees (who at least have a modicum of influence in the operation of their outlets).

Furthermore, the usual duties undertaken by locum pharmacists are predominantly dispensary related[183], i.e. those functions rooted in the traditional paradigm of community pharmacy practice. As many of the functions that pharmacists view as being "public health", i.e. the service-based health promotion/harm reduction activities, are situated in the contemporary "patient-focussed" paradigm, locum pharmacists' exposure to "pharmacy public health" may be minimal. Indeed, one-in-ten locums reported that their job was "not at all" concerned with public health which, as locum pharmacists constitute over a third of actively employed community pharmacists[175], could be a limiting factor in any drive to strengthen the public health function of

community pharmacists. However, this "disenfranchisement hypothesis" is not based on firm evidence and further in-depth research would be needed to establish the reasons behind the relationship observed.

Opinions on the level of barrier posed by a lack of training opportunities differed significantly between pharmacy owners, employee pharmacists and locums. Over 40% of locum pharmacist respondents considered this a major barrier compared to less than 30% of both employee pharmacists and pharmacy owners. At the time of the introduction of the new pharmacy contract (April 2005), concerns were expressed that it was becoming increasingly difficult for locum pharmacists to access training and education that would meet their needs and enable them to play a full role under the auspices of the new framework[302 303]. This concern also emerged from the qualitative work of Shann and Hassell[183]. The findings of the survey of community pharmacists appear to confirm that a lack of training opportunities disproportionately affected locum pharmacists.

This finding is significant. As the qualitative work of Shann and Hassell[183] identified, locum pharmacists do not want the business-based responsibilities (e.g. staff management, the pressure of meeting company targets etc.) that come with pharmacy management. Indeed, the work of Shann and Hassell suggested that locum pharmacists derived great satisfaction from the health professional aspects of the pharmacists' role (e.g. patient contact, the provision of advice etc.), a finding confirmed by this research which showed that locum pharmacists were more likely than pharmacy owners or employees to define themselves as a health professional.

Pharmacy may not be able to provide the services required of it by the primary care policy agenda if pharmacists are unable to be involved in extended role activities through a lack of training opportunities. As this research has highlighted, locum pharmacists appear to focus primarily on their health professional functions and so are arguably more likely to embrace "professionalising", patient care-based roles. Therefore, the paradox that needs to be addressed is that they are also the group least likely to be able to

access the necessary training to fulfil such roles as well as potentially being the group most disenfranchised from the public health movement. The training needs of this large and growing subset of the pharmacist population need to be assessed and met, and their participation in "pharmacy public health" encouraged, if the whole community pharmacy workforce is going to maximise its contribution to public health under the auspices of the new contractual framework.

5.5 Devolution and the public health function of community pharmacists

Community pharmacist respondents in England and Wales were less confident in pharmacy's ability to compete for funding than their colleagues residing in Scotland. This may be a reflection of the divergent policy in the different administrations. The new Scottish pharmaceutical services contract has a different structure to the concurrent English version with four core services as opposed to the differing levels of service of the English contract. Furthermore, less emphasis had been placed on moving Scottish PCOs from service providers to commissioners of services than their English counterparts.

The different make up of the Scottish community pharmacy sector may also be of relevance in considerations of the differences in confidence observed between Scottish respondents and respondents in England and Wales. While the proportion of independent pharmacies in England and Wales is nearing a historic low of 40%, independent pharmacies constituted nearly 60% of the Scottish pharmacy market in 2004[304]. Therefore independent pharmacy has a significant power base in Scotland that is absent England and this may foster a more collegiate attitude amongst Scottish community pharmacy contractors within an, arguably, less competitive market place. It is, of course, also significant that public health is one of the four core components of the Scottish contract – a contract without the differing levels of service observed in the contract for England and Wales.

There were relationships between the provision of eight services and the country of residence of community pharmacists (see Chapter 4, Section 4.6.2.1). For six of the eight services, levels of provision were higher in Scotland than in England and Wales. As alluded to previously, the different framework of the Scottish community pharmacy contract to its counterpart in England and Wales would appear to be the primary causative factor behind these observations. This is illustrated most markedly by the variations in provision of minor ailments schemes observed between the administrations. A minor ailments service was one of the four core components of the Scottish contract but only an enhanced service under the framework in England and Wales. The result of this policy was almost blanket provision in Scotland (98% of respondents resident in Scotland indicated provision of the service) compared to much less widespread provision in England (41%) and Wales (18%).

The increased proportions, in comparison to their English and Welsh colleagues, of community pharmacists resident in Scotland reporting the provision of supervised administration of medicines, smoking cessation, palliative care services, domiciliary visits and sexually transmitted infection testing may also be explained by divergent Scottish policy. The Right Medicine[225] stated that the Scottish Executive Health Department would:

- Explore ways of maximising the contribution of pharmacists in the provision of services to substance misusers;
- Work (through the Health Education Board for Scotland) with the Profession to introduce campaigns aimed at younger people and targeted through pharmacies for...improved sexual health and smoking cessation;
- Explore ways of maximising the contribution of pharmacists in the provision of services to substance misusers; and,

- Negotiate terms of service (as part of the new contract) to enable community pharmacists to provide more outreach services such as domiciliary visiting to patients who cannot access a pharmacy.

The results presented would suggest that the Scottish Executive Health Department have enjoyed some success in meeting these objectives. Conversely, while the equivalent pharmacy strategy for England – *Choosing Health through Pharmacy*[230] – suggests a number of similar objectives, it never commits the Department of Health, or the NHS, to helping to realise these objectives, rather it merely provides guidance for the profession and PCTs on how to develop these services and, with this, develop the public health function of pharmacists. By abdicating responsibility for developing such pharmacy-based services on a national level, it effectively passes on this responsibility to already cash-strapped PCTs whom, having recently experienced a funding crisis, appear reluctant to commission enhanced services from pharmacy. The end result of these two differing approaches would appear to be advanced levels of provision of the services highlighted above, in Scotland compared to England.

The observed differences in service provision may not be attributable directly to divergent policy between the three administrations. The aim of the devolvement of healthcare budgets is that services can be tailored to reflect the needs of the population. It cannot therefore, be discounted that the observed differences in service provision are a reflection of the differing needs of the populations within each of the three administrations (although these needs should be reflected in policy and therefore policy is still viewed as the prime causative factor). This may explain, for example, why the provision of pharmacy-based needle exchange schemes is more common in largely rural Wales, where access to health services is a comparatively more serious issue, than in England and Scotland (although large areas of both countries are rural of course).

What is clear is that the devolvement of healthcare budgets to the national assemblies has led to the differential development of the public health function

of community pharmacists across the UK. In Scotland, where community pharmacists operate under both a different policy agenda and a different contractual framework than their colleagues in England, public health has been enshrined as one of the four core components of the remuneration framework for community pharmacy. This allows for potential development of the community pharmacist's contribution to public health and directly links this to remuneration. In England, where the contractual framework consists of three differing levels of service, the development of community pharmacy's public health function – certainly in terms of the current, service-based approach – is dependent on the commissioning of local enhanced services by PCTs. It would therefore appear that developments within the field of pharmaceutical public health since devolution have mirrored the differences observed by Greer (2003)[105] in his analysis of the effect of devolution on the wider healthcare system, with developments in England reflecting a market-based approach with Scotland taking a near opposite stance with service integration and a commitment to new public health. It will be of interest to see how the pharmacist's public health function develops in the two administrations over the course of the next decade.

5.6 Conclusions

The roots of modern day pharmacists can be traced back to the apothecaries who emerged in the mid-sixteenth century and both practiced medicine and dealt with the preparation and sale of substances for medicinal purposes[114]. Following the apothecaries, the Chemists and Druggists were responsible for the preparation, quality assurance and supply of medicines. The loss of their preparation and quality assurance functions to the pharmaceutical industry, the advance of technology and the commercialisation of community pharmacy, reduced the mystique of the pharmacists' practice and reduced the social distance between pharmacists and the general public[117]. By the late 1970s community pharmacy was in crisis having been largely deprofessionalised[138]. Pharmacy's response to this threat was to embrace the "extended role" as a reprofessionalisation strategy[138 158]. Health

promotion activities were formalised as part of the extended role and have formed the basis of the community pharmacist's public health function ever since. Public health has therefore never been viewed as a "core" activity by the majority of community pharmacists. Despite being involved in the provision of lifestyle advice throughout the 20th century[134 135], only since the development of the extended role – at around the same time that Western governments renewed their interest in public health[14 26 76 80] – has pharmacy "reclaimed" this function as its "public health" function. The focus on lifestyle advice means that pharmacy has developed an individualistic, service-based approach to public health.

The public health interventions with which pharmacy is involved are located toward the micro extremity of the biopsychosocial model of health[10] – that is targeted towards individuals and the modification of individual health. While it is clear that upstream, macro-level interventions have the greatest impact on population level health[11], it should also be noted that if the behaviour of enough individuals is modified then population-level benefits will be observable. Furthermore, many of these 'public health services' have additional benefits to communities. For example, the collection and safe disposal of waste medicines prevents the entry of pharmaceutical compounds into the water table; a needle exchange scheme has the potential to reduce the burden of blood-borne disease within a locality by allowing intravenous drug users access to sterile injecting apparatus; and the supply of EHC free-of-charge to teenagers and young adults helps to reduce the incidence of unwanted pregnancies with benefits for potential mother, health services and tax payers alike.

As community pharmacists have sought to develop an extended role through the provision of such services, there has been some opposition from their community physician colleagues (GPs). GPs have countered what they perceive to be encroachment from pharmacists onto both their economic and professional turf, viewing this as a threat to their status as the predominant profession in the medical division of labour. This perception, as others[160] have noted, is surely misguided. Pharmacists are in no position to threaten

medical hegemony. They would appear to be members of a weak, fragmented and corporatised profession – far removed from the supremely powerful, largely united and autonomous medical profession. Some indication of the balance of power is provided by the new contractual frameworks agreed between the NHS and the two professions within the last few years. While the new pharmacy contract offered little in terms of increased autonomy or remuneration to individual pharmacists, the new medical contract reinforced medical domination and rewarded GPs with a pay rise in excess of 30% in the first year alone. As Edmunds and Calnan[160] outlined, the role extension of community pharmacists is more accurately interpreted as a bid for survival rather than any threat to the dominance of GPs.

However, opposition to the extended role as a reprofessionalisation strategy is in some part fuelled by the corporatisation of the community pharmacy sector. As highlighted previously, this had led to a decrease in professional autonomy for pharmacists. The routinised nature of the corporate pharmacists' work, as well as the environment in which these pharmacists operate, adversely affects the standing of the pharmacy profession in the eyes of other health professionals further reinforcing their professional isolation. Physicians are likely to be unwilling to work in partnership with individuals who they believe have a focus on profit-generation: a focus which may possibly be detrimental to 'their' patients[164-167]. A further implication of the corporatisation of community pharmacy is the fact that increased power is concentrated in the hands of the large corporations by their acquisition of an increasing number of pharmacies. As the Governments of each UK administration have little control over such corporations – interference in the "free market" is avoided wherever possible – this presents a challenge for policy makers and the NHS.

The way pharmacy contractors in England and Wales are remunerated for NHS services also contributes towards limiting the advancement of the pharmacists' public health function. As the public health elements of community pharmacy practice have been subsumed into the extended role, thus forcing them somewhat to the periphery of everyday practice, so the contractual framework formalises the trivialisation of the public health function

by defining the majority of the roles that pharmacists, rightly or wrongly, perceive to be public health related to the enhanced services category. These services then have to be commissioned by local PCOs; many of which, at the time of the study, showed a reluctance to do so amid a climate of swingeing financial constraints. The effectiveness of the commissioning process as a whole is dependent on the willingness of local contractors to bid for funding, and in a climate where cost is likely to be the primary concern of PCOs, many contractors, and independent contractors in particular, may consider the preparation of suitable bids to be of little importance amid a heavy and growing dispensing workload. Thus, a key problem when attempting to develop the public health function of pharmacists remains the centrality afforded the dispensing process by the contractual framework.

The dispensing process, with its focus on pharmacy's *raison d'être* – medicines – appropriately remains at the heart of current community pharmacy practice and with the number of prescriptions dispensed increasing year-on-year, without staffing levels or remuneration rates for pharmacists rising accordingly, it would appear that it will remain so for the foreseeable future. The benefits, to pharmacy, the NHS and the population as a whole, of any alternative services (be they classed as public health or not) would have to be proven before any move away from the dispensing process and, at the time of writing, a robust body of evidence to support such moves from pharmacy does not exist. Again, attention is refocused on the centrality of the problem of how pharmacy can contribute to public health at any level higher than the current microscopic focus.

However, if the focus of the community pharmacists' activities was to move away from the dispensing process, it is worth highlighting that any time spent away from the dispensary by the pharmacist would need to be covered. This would mean either employing additional pharmacists or accredited checking technicians (ACTs). As ACTs' salaries are lower than those of pharmacists it is highly unlikely, unless the employment of further pharmacists is subsidised by Government (which is even more unlikely), that contractors (most usually corporations) will employ more pharmacists to cover the dispensing workload.

Just as GPs have been fiercely resistant to boundary encroachment by community pharmacists, so community pharmacists are likely to be similarly resistant to any boundary encroachment by ACTs. As dispensing is still the core function of community pharmacists, the threat to pharmacists posed by encroachment by ACTs is arguably more pronounced than any threat to physicians posed by pharmacists (although independent pharmacist prescribers may come to be viewed by physicians in the same light as ACTs may be by pharmacists). As others have argued[125], if pharmacists relinquish the dispensing function then their role, as currently defined, may cease to exist – in effect, they may deprofessionalise themselves.

Therefore, in some respects, pharmacists are currently trapped in a hinterland between their traditional and putative future roles – with some willing to embrace the extended role yet reluctant to forgo the dispensing function for fear of rendering themselves obsolete. This *status quo* is maintained by the weak, fragmented nature of the profession and by the corporatisation of the community pharmacy sector. Without a strong, unified voice and with minimal professional autonomy, pharmacists are unable, or unwilling, to seek assurances that the development of the extended role – and the concomitant, at least partial, relinquishing of the dispensing function – will not lead to the destruction of the profession. Indeed, it is pharmacy contractors and their umbrella organisations (PSNC, NPA etc.) that hold the most powerful hand in negotiations with Government concerning the future of pharmacy and remuneration arrangements. The interests of pharmacists are not the same as the interests of pharmacy contractors and individual pharmacists feel ignored and to some extent betrayed by their membership organisation – the RPSGB – which has serially failed to present the arguments of its members effectively (although its ability to do so was seriously curtailed by defeat in the Jenkins Case of 1920 which, to a significant extent, prohibited it from representing the interests of its members[305]). It would be a naïve pharmacist who believed that large corporations, always searching for ways to rationalise, increase efficiency and cut overheads, would not replace a pharmacist with an ACT wherever possible within regulatory frameworks. So, there is a genuine and rational fear amongst the community pharmacy workforce of any

significant move away from the dispensary jeopardising their very existence. This point is one that is frequently ignored in contemporary pharmacy practice literature concerning the development of the pharmacists' public health function.

Similarly, despite acknowledgement of the fragmented nature of the pharmacy profession[197], there is a tendency within contemporary discussion of pharmacy and public health to criticise a generic "pharmacy profession". The term has most commonly been used, almost exclusively in discussions of community pharmacy, to describe pharmacists and pharmacy contractors as a homogenous grouping. This may have been appropriate for pharmacy in the mid-20th century, the age of the independent pharmacist-proprietor, however, it is anachronistic when considering the nature of today's community pharmacy sector – a sector typified by a huge and growing corporate influence, where pharmacy contractors are divided by the need to seek competitive advantage and where almost seven-in-ten pharmacists are employees and less than one-in-ten pharmacists are pharmacy owners[175]. As has been discussed previously, this has reduced the professional autonomy of pharmacists who are largely unable to influence the pharmacy agenda. It is pharmacy contractors who hold the ability to influence the agenda and it is most often their views that are uniformly presented as the "voice" of the profession. This fails to take account of the views of individual pharmacists, which are often incongruous with the views of their employers.

This is not to say that the views of pharmacists and pharmacy contractors are fundamentally incompatible. It is more the case that contemporary criticisms fail to acknowledge the structural differences between the justifications proffered by pharmacists and contractors for the same stance. For example, a recent critique of pharmacy and public health stated that the pharmacy profession showed "*a reluctance to engage with the arguments regarding the wider structural and political causes of ill health in communities*"[233]. While this may well be true, the likely reasons for a lack of engagement by pharmacists are entirely different to the likely reasons for a lack of engagement by contractors. Engagement from individual pharmacists is unlikely because

they are largely ignorant to such causes owing to the historic lack of public health teaching on undergraduate pharmacy programmes. Even setting the lack of knowledge aside, the only pharmacists who would have the power to rectify this situation are independent pharmacy owners who are a rare and increasingly threatened breed. So, while individual pharmacists may wish to engage with the arguments, employee and locum pharmacists have little or no influence on either corporate or government policy and, as the results of this study demonstrate, this leaves the vast majority of pharmacists disenfranchised from public health.

If we examine the issue from the point of view of contractors then, again, it could be argued that there is indeed a clear reluctance to engage in the arguments regarding the wider causes of ill health. However, in the case of contractors this is likely to be because, ultimately, they don't exist to reduce ill health and health inequalities. Their primary concern is profit-generation and to engage in the debate they (primarily corporations) would have to acknowledge their role in creating and maintaining such inequalities (i.e. an unwillingness to cater specifically for low income groups as these groups are generally poor consumers, the artificial depression of wage levels etc.). Furthermore, combating inequality and its causes is highly unlikely to be profitable. In a corporatised community pharmacy sector, the "bottom line" is usually the predominant factor in the activities of the pharmacist.

The same authors go on to express their belief that, for them, "*the contradictions of attempting to graft a public health mindset onto a commercial environment remain*"[233]. These contradictions are central to the pharmacy and public health debate and, again, this is a contention that is inadequately addressed by consideration of a generic "community pharmacy profession". As highlighted, the "bottom line" (i.e. profit-generation) is the prime concern for pharmacy corporations and, however unpalatable it may be, contractors are unlikely to engage with the public health agenda unless engagement in public health is profitable to them. However, as the results of this study suggest, commercial concerns are very much secondary to the health professional function for the clear majority of employee and locum pharmacists. The fact

that community pharmacists, by way of necessity, have to operate in a commercial environment does not mean that pharmacists' primary concern is profit-generation. Indeed, it is reasonable to argue that the majority of community pharmacists would be delighted to be able work without the pressure of commercially driven targets.

Pharmacy, in its engagement with public health, has been criticised for operating at a downstream level[233 234]. However, it is difficult to envisage how pharmacy, as an occupation historically rooted in the realm of supply and commerce, could possibly act at any higher, more population-focussed, level – which may go some way to explaining why practical suggestions as to how pharmacy can contribute in a more macroscopic fashion are conspicuous by their absence. Pharmacists, even the ever-dwindling number of independent pharmacist-proprietors, do not have the power to introduce redistributive fiscal policies, improve the quality of social housing stock, reduce air pollution or increase taxation on alcohol. This is the job of the state. However, since the dominant political orthodoxies of the last 30 years – namely Thatcherite neo-liberalism and Tony Blair's "third way" – have stressed a decrease role for the state allied to an unwillingness to make any interventions that may interfere with the operation of the free market, such policy developments have been almost non-existent. While this may make it legitimate to criticise certain governments for inaction at the macro-level, criticism of pharmacy for a failure to act at such a level borders on unjustifiable.

Critics of pharmacy's engagement with public health, in fact, fail to acknowledge the key issues controlling where and how pharmacy engages with public health. The problem is not that pharmacy's downstream, micro-level focus limits the development of its public health function. The problem is that history, free-market capitalism and a largely neo-liberal policy agenda all necessitate such a focus. The central focus of pharmacy is, and always has been, medicines. Medicines, by their very nature, are designed to be consumed by individuals in order to alleviate a medical complaint. This focus on medicines and medical technology necessitates the adoption of the biomedical model of health (i.e. the unhealthy body as a malfunctioning

machine which can be 'fixed' by the correct medication) by those responsible for both the prescription and supply of these medicines; i.e. medical general practitioners are no more free from the criticisms of Jesson and Bissell[233] than pharmacists are (however, the fact that GPs are part of a powerful profession which is ensconced within the NHS and not practicing in a retail environment would appear to shield them from such criticisms).

As was stated previously the criticisms of pharmacy's downstream engagement with the public health agenda would have more validity if the authors proffered some practical solutions as to how pharmacy could contribute in a more upstream fashion. Pharmacy, by its very nature and the nature of its remuneration framework, is reactive rather than proactive. Its adherence to the biomedical model of health is simply a function of the service provided – with an inherent focus on medicines. While it is undoubtedly true that pharmacists interface with the public everyday, pharmacy is not, nor has it ever been, a "hands-on", clinical profession. The uncomfortable fact that proponents of a more upstream, population-level approach invariably fail to address is that for pharmacy to adopt such a focus would necessitate a move away from its historical purpose of over 500 years – the timely and safe delivery of medicines. Pharmacy would no longer be pharmacy. It would have nothing to distinguish itself from several other professions allied to medicine. The prevailing consensus amongst pharmacists[125], physicians[158-160] and government[1 230], appears to be for pharmacists to retain their focus primarily on medicines. It is ultimately therefore, a shallow criticism.

If pharmacy is to move beyond its current narrow focus on public health (i.e. an individualistic, service-based approach) towards a more comprehensive, population-level outlook that addresses, among other things, health inequalities, then practical suggestions as to how pharmacy can make this move need to be heard. This research has failed to highlight any real engagement with the upstream, public health agenda and critics[233] of the downstream nature of pharmacy's engagement also fail to outline any method(s) that would facilitate the involvement of pharmacy at a more macroscopic level. The most salient conclusion that can be drawn is that

pharmacy cannot engage with public health at anything other than a downstream level.

5.6.1 Implications for policy

The public health function of community pharmacists comprises a service-based approach with a focus on individuals. This research suggests that this is out of necessity rather than choice and that practical suggestions as to how pharmacy's engagement with public health can be shifted upstream are lacking. The research has also highlighted a number of barriers to the development of the public health function of community pharmacists. The provision of pharmaceutical services by contractors based on the ability to generate profit rather than genuine need is not only possible but likely within current policy and regulatory frameworks. This is fuelled by the corporatisation of the community pharmacy sector which also decreases the professional autonomy of pharmacists and lowers the standing of the profession in both the eyes of other healthcare professionals and the general public. The nationalisation of community pharmacy would overcome a number of these problems. Such a move would afford total control over pharmaceutical services to the NHS, enabling service provision on the basis of need rather than on the ability to generate profit. Nationalisation would also counter the "image problems" encountered by pharmacy because of corporatisation. Public perceptions such as the pharmacist as a business person and pharmacies being businesses external to the NHS could be altered, encouraging the use of the pharmacy as a healthcare resource. Furthermore, this may go some way to fostering closer working relationships with other healthcare professionals, allowing pharmacists to break out of their professional isolation.

While the nationalisation of community pharmacy is, at least in the present political context, not plausible, a strengthened partnership between pharmacy and the NHS – an entirely realistic proposal amid moves towards increased private sector involvement in the NHS – may be achievable. Pharmacy would

appear to be ideally placed – as a private sector provider with clear links to healthcare, operating on the fringes of the NHS – to benefit from New Labour's third way reconfiguration of health services. Indeed, as the commissioning function of the NHS, and PCTs in particular, continues to develop, pharmacy may become much more heavily involved in the provision of NHS services. Whether this could be construed as a "good thing" is open to debate, and may well depend on an individual's ideological viewpoint, but it could help to further the use of pharmacies as a health resource by the general public.

Cooperation between PCOs and pharmacists is becoming increasingly essential amid the changes made to the NHS. There is little pharmacy representation within PCOs and very little communication between pharmacists and PCOs often leaving pharmacists feeling that they are ignored. Indeed, with many PCOs operating without specific pharmacy departments it can be difficult to identify an appropriate individual with whom to communicate regarding community pharmacy matters. The lack of clear lines of communication between community pharmacists and PCOs is particularly salient when considering locum pharmacists, a significant proportion of whom considered a lack of training opportunities to constitute a significant barrier to the development of the public health function of community pharmacists. Indeed, even within pharmacy, there is a tendency for locums to be somewhat marginalised; perceived and treated negatively by their peers[306]. Such perceptions, i.e. that locum pharmacists are lazy/selfish/have little regard for a pharmacy's clientele, may be unjustified. For example, the results of this study highlight that locum pharmacists were more likely to describe themselves as health professionals than employee and proprietor-pharmacists – less than half of whom considered themselves to be more health professional than business person. With over a third of actively employed community pharmacists operating as locums[175], it is essential that their concerns, particularly those centred around access to training, are addressed if the public health contribution of the entire pharmacy workforce is to be maximised.

The limited public health function of community pharmacists is unlikely to develop further without a change of focus within the sector. The centrality of the dispensing process to the pharmacists' everyday work needs to be carefully addressed. The concerns held by pharmacists surrounding any relinquishment of the dispensing function and subsequent boundary encroachment by ACTs, need to be discussed openly and honestly. In effect, pharmacists need to decide whether they want their future role to be dispensary-based or truly community-based. However, convincing pharmacists to change their focus would appear to be the easy argument to win. Much more difficult to convince will be pharmacy contractors. As the remuneration of contractors is likely to be the prime factor in changing the activities of pharmacists then the "public health services" with which pharmacy can be involved need to be given more prominence in the contractual framework (i.e. moved from the enhanced services category to the advanced or essential services category). Policy-makers need to be in no doubt that, in the current policy context, with a corporatised retail pharmacy sector; engagement with public health will be seriously limited unless it is, in some way, made profitable (i.e. money is diverted from dispensing activities to involvement in health improvement/harm reduction etc.).

5.6.2 Resume of work: contribution to new knowledge and areas for further research

The results presented in this thesis have been outlined and their implications discussed in the preceding sections of this chapter. This section delivers a resume of the research findings and illustrates how this study has advanced knowledge in this emerging field. Areas for future research, based on these main research findings, are also suggested in this section.

Community pharmacy has adopted a service-based approach to its engagement with public health. The health-improving services provided by community pharmacists have been explored in this research. The level of provision has also been quantified. The strength of the assessment of the

public health activity of community pharmacy lies in the empirical evidence which was drawn from large proportions of DPHs and CPs, and large numbers of practicing community pharmacists, and constitutes the first large scale study of health improving service provision across all the administrations of the UK. Furthermore, planned future service provision has also been identified. The assessment of levels of service provision, allied to plans for future provision, constitutes a major contribution to the pharmacy practice literature on the engagement of community pharmacy in public health.

The effects of recent policy developments, such as devolution, the new pharmaceutical services contracts and primary care commissioning, on community pharmacy's involvement in the provision of health-improving services have been studied. The differing contractual frameworks, allied to divergent policy streams, have affected the levels and range of service provision in each administration of the UK. While the recent publication of a pharmaceutical public health strategy for England (Choosing Health through Pharmacy[230]) is timely, the lack of any obligations or targets for the development of the public health function of community pharmacists contrasts sharply with similar strategies in Scotland and Wales and, in a climate of financial restrictions imposed on PCT expenditure, may not lead to a substantial development of community pharmacy involvement in public health in England.

The results presented have identified variations in service provision across the pharmacy network according to pharmacy ownership (i.e. supermarkets, multiples, independents etc.). This may be attributable to, amongst other possibilities, the "ethos" of the pharmacy owners (the relative focus on profit generation or healthcare) but, regardless of the explanation, this is likely to lead to increasing diversity in service provision from community pharmacies. The implications of this observation could be manifold and have been discussed in Section 5.2.

The large-scale study of the attitudes of stakeholders, both from within PCOs and practicing community pharmacists, constitutes a significant advance in

the understanding of pharmacy's interplay with public health. The attitudes of survey respondents, particularly community pharmacist respondents, to the involvement of pharmacy in public health could have a major influence on how community pharmacy's public health function develops. The findings of this research suggest that the professional isolation of community pharmacists may militate against the adoption of a public health mindset. This has the potential to act as a barrier to the development of the public health function. Other major barriers identified by the stakeholders surveyed for this research include time constraints within the community pharmacy environment and an overriding lack of available funding. While relatively small proportions of CPs and community pharmacists didn't consider unsuitable pharmacy premises and conflicts with commercial interests to be major barriers, a large proportion of DPHs did suggesting that DPHs may share the public's view of community pharmacists as primarily business people. Despite the continuing priority given to maximising pharmacy's contribution to health improvement in Government policy[1 107 230], the views of DPHs have the potential to negate proposed increases in pharmacy involvement in local public health strategies.

The findings from the attitudinal elements of the surveys emphasise the fragmented nature of the pharmacy profession, particularly in the community sector. The type of pharmacy worked in and employment status both influence the views of community pharmacists and render a "one-size-fits-all" approach to the development of the pharmacist's professional role ineffectual. Future policy developments in this field will need to take account of the corporatised nature of the community pharmacy sector and the often divergent interests of pharmacists and pharmacy contractors. Policy will also have to engage the whole community pharmacy workforce, including locums, if community pharmacy's public health contribution is to be maximised.

To support and promote the development of the public health function of community pharmacists, further research is recommended in a number of areas highlighted by this research.

While, the data collected on service provision are robust, further research is recommended, in particular:

- The longitudinal monitoring of service provision through community pharmacy to assess:
    - The effects of increased levels of primary care commissioning on service provision (particularly amongst the independent pharmacy sector); and,
    - Variations in service provision between the different types of pharmacy to ensure that service provision is adequate across the pharmacy network so as to avoid any inequities in access for the general public.

The results of the study suggested several areas where further qualitative research is justified in order to provide a more nuanced understanding of the phenomena observed. With commissioning being forced to the forefront of NHS reforms, in-depth study of the attitudes of stakeholders to pharmacy's ability to compete for funding is merited. While the survey data revealed considerable differences in opinion between DPHs, CPs and community pharmacists on pharmacy's ability to compete for funding, the reasons why community pharmacists were much less confident than DPHs (with CPs occupying the middle-ground) were not examined. Identification of such concerns may enable commissioning bodies to address these and promote greater engagement in the commissioning process by pharmacists.

The survey data also suggested that a significant proportion of DPHs may not consider community pharmacies to be suitable venues for the delivery of public health messages and measures. If such opinions are widely held by strategic-level NHS staff then the public health function of community pharmacists is likely to be stifled as a result. Again, identification of the justifications behind such opinions may provide pharmacy with the opportunity to address any concerns and promote greater cooperation between the local NHS and community pharmacy. A further finding which emerged from the research was that employee pharmacists and, in particular, locum

pharmacists, considered themselves to be disenfranchised from public health in comparison to their proprietor-pharmacist colleagues. Again, the research design, alongside time constraints, meant that a qualitative follow-up of community pharmacists to explore the reasons behind this phenomenon was not conducted. These are areas which are ripe for suitable qualitative investigation.

The impact of devolution on the public health function was considered in this research and differences between the function in Scotland and England in particular were highlighted. The differing political orthodoxies, policy contexts and remuneration frameworks for community pharmacy were identified as key factors in determining the public health function of community pharmacists. As the contractual frameworks were both introduced within the last 3 years, it remains too early to establish how they have impacted on the everyday function of the pharmacist. However, with public health forming a core component of the Scottish framework and many of the services which are currently viewed as "public health" by the majority of pharmacists in England confined to the enhanced services category of their contract, longitudinal monitoring over the proceeding years of the development of the pharmacist's public health function in England and Scotland is warranted.

List of References

1. Department of Health. A Vision for Pharmacy in the New NHS, 2003.

2. Rennison SM, Portlock JC. Is it time to stop dispensing extemporaneously in community pharmacy? *International Journal of Pharmacy Practice* 2003;11:R68.

3. Moore SR. Pharmacy's contribution to public health in the 20th century. *J Am Pharm Assoc (Wash)* 1999;39(6):744-5.

4. Health promotion - moving beyond leaflets. *Pharmaceutical Journal* 2001;266:727.

5. World Health Organisation. 2004. http://www.who.int/about/en Accessed: 20th September 2004.

6. Salole E. Are the 'Medical' and 'Social' Models of Health Fundamentally Incompatible in Pharmacy Practice? A Critique. *Journal of Social and Administrative Pharmacy* 1994;11(1):1-6.

7. McKeown T. *The Role of Medicine*. 2nd ed. Oxford: Basil Blackwell, 1979.

8. Illich I. *Medical nemesis: the expropriation of health*. London: Calder and Boyars, 1975.

9. Dahlgren G, Whitehead M. Policies and strategies to promote social equity in health. Stockholm: Institute for Futures Studies, 1991.

10. Engel GL. The need for a new medical model: a challenge for biomedicine. *Science* 1977;196:129-136.

11. Turrell G. Reducing socioeconomic health inequalities: issues of relevance for policy. *N S W Public Health Bull* 2002;13(3):47-9.

12. Baggott R. *Public Health. Policy and Politics*. Basingstoke: Palgrave, 2000.

13. Peterson A, Lupton D. *The new public health; health and self in the age of risk*. London: Sage, 1996.

14. Acheson D. Public Health in England. Report of the Committee of the Inquiry into the Future Development of the Public Health function. London: Department of Health, 1988.

15. Faculty of Public Health. 2006. What is Public Health? http://www.fphm.org.uk/about_faculty/what_public_health/default.asp Accessed: 3rd March 2006.

16. Berridge V. History in public health: who needs it? *Lancet* 2000;356(9245):1923-5.

17. Birmingham City Council. 2006. Historic Population of Birmingham. http://www.birmingham.gov.uk/GenerateContent?CONTENT_ITEM_ID=1558&CONTENT_ITEM_TYPE=0&MENU_ID=10277 Accessed: 4th December 2006.

18. Chadwick. E. *Report on the Sanitary Condition of the Labouring Population of Great Britain 1842*. Edinburgh: Edinburgh University Press, 1965.

19. Hamlin C. Could you starve to death in England in 1839? The Chadwick-Farr controversy and the loss of the "social" in public health. *Am J Public Health* 1995;85(6):856-66.

20. Hamlin C, Sheard S. Revolutions in public health: 1848, and 1998? *BMJ* 1998;317(7158):587-91.

21. Calman K. The 1848 Public Health Act and its relevance to improving public health in England now. *BMJ* 1998;317(7158):596-8.

22. Dictionary.com. 2006. Epidemiology. http://dictionary.reference.com/browse/epidemiology Accessed: 4th December 2006.

23. Snow J. *On the mode of communication of cholera*. London: John Churchill, 1855.

24. Watterson A. *Public Health in Practice*. Basingstoke: Palgrave, 2003.

25. Hunter DJ. *Public Health Policy*. Cambridge: Polity, 2003.

26. Lalonde M. A new perspective on the health of Canadians. Ottawa: Ministry of National Health and Welfare, 1974.

27. Szreter S. The Importance of Social Intervention in Britain's Mortality Decline c. 1850-1914: a Re-interpretation of the Role of Public Health. *Social History of Medicine* 1988;1:1-38.

28. Johansson R. Food for Thought: Rhetoric and Reality in Modern Mortality History. *Historical Methods* 1994;27(3):101-125.

29. Colgrove J. The McKeown thesis: a historical controversy and its enduring influence. *Am J Public Health* 2002;92(5):725-9.

30. National Statistics. 2006. Life expectancy. http://www.statistics.gov.uk/CCI/nugget.asp?ID=168&Pos=1&ColRank=1&Rank=374 Accessed: 30th March 2007.

31. Hicks J, Allen G. A Century of Change: Trends in UK statistics since 1900. London: House of Commons Library, 1999.

32. Phillimore P, Beattie A, Townsend P. Widening inequality of health in northern England, 1981-1991. *BMJ* 1994;308:1125-28.

33. Shaw M, Dorling D, Gordon D, Davey Smith G. *The widening gap: Health inequalities and policy in Britain*. Bristol: Policy Press, 1999.

34. United Nations Development Program. Human development report, 1999.

35. Wilkinson R. *Unhealthy Societies: The Afflictions of Inequality*. London: Routledge, 1996.

36. van Doorslaer E, Wagstaff A, Bleichrodt H, Calonge S, Gerdtham UG, Gerfin M, et al. Income-related inequalities in health: some international comparisons. *J Health Econ* 1997;16(1):93-112.

37. Kawachi I, Kennedy BP, Lochner K, Prothrow-Stith D. Social capital, income inequality, and mortality. *Am J Public Health* 1997;87(9):1491-8.

38. Putnam RD. *Making democracy work: Civic traditions in modern Italy*. Princeton, New Jersey: Princeton University Press, 1993.

39. Putnam RD. *Bowling Alone: the collapse and revival of American community*. New York: Simon and Schuster, 2000.

40. Wilkinson RG. Comment: Social capital, income inequality and mortality. *Am J Public Health* 1997;87(9):1504-1506.

41. Wilkinson RG. Socioeconomic determinants of health: Health inequalities: relative or absolute material standards? *BMJ* 1997;314:591-5.

42. Lynch JW, Smith GD, Kaplan GA, House JS. Income inequality and mortality: importance to health of individual income, psychosocial environment, or material conditions. *BMJ* 2000;320(7243):1200-4.

43. Marmot M, Wilkinson RG. Psychosocial and material pathways in the relation between income and health: a response to Lynch et al. *BMJ* 2001;322(7296):1233-6.

44. Lynch J, Due P, Muntaner C, Smith GD. Social capital--is it a good investment strategy for public health? *J Epidemiol Community Health* 2000;54(6):404-8.

45. Pearce N, Davey Smith G. Is social capital the key to inequalities in health? *Am J Public Health* 2003;93(1):122-9.

46. Muntaner C, Lynch J, Davey Smith G. Social capital, disorganized communities and the third way: understanding the retreat from structural inequalities in epidemiology and public health. *Int J Health Serv* 2001;31(2):213-37.

47. Labonte R. Social capital and community development: practitioner emptor. *Aust N Z J Public Health* 1999;23(4):430-3.

48. Leeder S, Dominello A. Social capital and its relevance to health and family policy. *Aust N Z J Public Health* 1999;23(4):424-9.

49. Muntaner C, Lynch J. Income inequality, social cohesion, and class relations: a critique of Wilkinson's neo-Durkheimian research program. *Int J Health Serv* 1999;29(1):59-81.

50. Coburn D. Income inequality, social cohesion and the health status of populations: the role of neo-liberalism. *Soc Sci Med* 2000;51(1):135-46.

51. Coburn D. Beyond the income inequality hypothesis: class, neo-liberalism, and health inequalities. *Soc Sci Med* 2004;58(1):41-56.

52. Wilkinson RG. Deeper than "neoliberalism". A reply to David Coburn. *Soc Sci Med* 2000;51(7):997-1000; discussion 1009-10.

53. Coburn D. A brief response. *Social Science & Medicine* 2000;51(7):1009-1010.

54. Lynch J. Income inequality and health: expanding the debate. *Soc Sci Med* 2000;51(7):1001-5; discussion 1009-10.

55. Scambler G, Higgs P. Stratification, class and health: Class relations and health inequalities in high modernity. *Sociology* 1999;33(2):275-296.

56. Davey Smith G, Dorling D. "I'm all right John": voting patterns and mortality in England and Wales, 1981-92. *BMJ* 1996;313:1573-1577.

57. Hofrichter R. The Politics of Health Inequities; Contested Terrain. In: Hofrichter R, editor. *Health and Social Justice: Politics, Ideology, and Inequality in the Distribution of Disease*. Hoboken: Jossey Bass Wiley, 2003.

58. Muntaner C, Gomez MB. Anti-egalitarianism, legitimizing myths, racism and "neo-McCarthyism" in social epidemiology and public health: A review of Sally Satel's PC, M.D. *Int J Health Serv* 2002;32(1):1-17.

59. Muntaner C. Power, politics and social class. *Journal of Epidemiology and Community Health* 2002;56:562.

60. Stott R. The World Bank; Friend or foe to the poor? *BMJ* 1999;318:822-823.

61. Leon DA, Walt G, Gilson L. Recent advances: International perspectives on health inequalities and policy. *BMJ* 2001;322(7286):591-4.

62. Navarro V, Shi L. The political context of social inequalities and health. *Soc Sci Med* 2001;52(3):481-91.

63. Powell M. New Labour and the third way in the British welfare state: a new and distinctive approach? *Critical Social Policy* 2000;20(1):39-60.

64. The Labour Party. 2004. About Labour. http://www.labour.org.uk/aboutlabour/ Accessed: 30th July 2004.

65. Krieger N, Birn AE. A vision of social justice as the foundation of public health: commemorating 150 years of the spirit of 1848. *Am J Public Health* 1998;88(11):1603-6.

66. Acheson D. Independent inquiry into inequalities in health. London: HMSO, 1998.

67. Macintyre S, Chalmers I, Horton R, Smith R. Using evidence to inform health policy: case study. *BMJ* 2001;322(7280):222-5.

68. Davey Smith G, Ebrahim S, Frankel S. How policy informs the evidence. *BMJ* 2001;322(7280):184-5.

69. Nutbeam D. Getting evidence into policy and practice to address health inequalities. *Health Promot Int* 2004;19(2):137-40.

70. Black N. Evidence based policy: proceed with care. *BMJ* 2001;323(7307):275-9.

71. Davey Smith G, Hart C, Blane D, Gillis C, Hawthorne V. Lifetime socioeconomic position and mortality: prospective observational study. *BMJ* 1997;314:547-52.

72. Davey Smith G, Hart C, Blane D, Hole D. Adverse socioeconomic circumstances in childhood and mortality: prospective observational study. *BMJ* 1998;316:1631-5.

73. The health of the nation, a strategy for health in England. London: HMSO, 1992.

74. Prevention and Health: Everybody's Business; a reassessment of public and personal health. London: HMSO, 1976.

75. Prevention and Health. London: HMSO, 1977.

76. Black D. Black Report. In: Townsend P, Davidson N, editors. *Inequalities in Health*. London: Penguin, 1988.

77. Baggott R. From Sickness to Health? Public Health in England. *Public Money and Management* 2005;25(4):229-236.

78. Szreter S. Rethinking McKeown: the relationship between public health and social change. *Am J Public Health* 2002;92(5):722-5.

79. Ham C. *Health Policy in Britain*. 5th ed. Basingstoke: Palgrave Macmillan, 2004.

80. Whitehead M. The Health Divide. In: Townsend P, Davidson N, editors. *Inequalities in Health*. London: Penguin, 1988.

81. Appleby J. Health promotion. Feelgood factors. *Health Serv J* 1997;107(5560):24-7.

82. Davey Smith G, Morris JN, Shaw M. The independent inquiry into inequalities in health; Is welcome, but its recommendations are too cautious and vague. *BMJ* 1998;317:1465-66.

83. Illsley R. Reducing health inequalities: Britain's latest attempt. *Health Aff (Millwood)* 1999;18(3):45-6.

84. Acheson D. Report on inequalities in health did give priority for steps to be tackled. *BMJ* 1998;317:1659.

85. Department of Health. Saving Lives: Our Healthier Nation, 1999.

86. Department of Health. Our Healthier Nation: Reducing health inequalities: an action report. London, 1999.

87. Davey Smith G, Shaw M, Mitchell R, Dorling D, Gordon D. Inequalities in health continue to grow despite government's pledges. *BMJ* 2000;320:582.

88. Yamey G. Study shows growing inequalities in health in Britain. *BMJ* 1999;319:1453.

89. 'The widening gap' Townsend Centre of International Poverty Research - Department of Health Statement. London: Department of Health, 1999.

90. Hinsliff G. Milburn targets £120m to end lifespan lottery. *Observer* 2000 Sunday November 12.

91. Ashraf H. UK government pledges support for health workers to tackle health inequalities. *Lancet* 2001;358(9293):1621.

92. Horton R. What the UK government is (not) doing about health inequalities. *Lancet* 2002;360(9328):186.

93. Raine R, Basnett I. UK government's response to health inequalities. *Lancet* 2002;360(9348):1891-2.

94. Hart JT. The inverse care law. *Lancet* 1971;i:405-12.

95. Noyce J, Smith AH, Trickey AJ. Regional variations in the allocation of financial resources to the community health services. *Lancet* 1974;i:554-7.

96. Pell JP, Pell ACH, Norrie J, Ford I, Cobbe SM. Effect of socioeconomic deprivation on waiting time for cardiac surgery: retrospective cohort study. *Lancet* 2000;320:15-19.

97. Department of Health. The NHS Plan: A plan for investment, a plan for reform, 2000.

98. HM Treasury/Department of Health. Tackling Health Inequalities: Summary of the 2002 Cross Cutting Review. London: Department of Heatlth, 2002.

99. Tackling Health Inequalities: A Programme for Action. London: Department of Health, 2003.

100. Boomla K. The NHS plan. Plan represents considerable privatisation. *BMJ* 2000;321(7267):1015.

101. Wanless D. Securing our Future Health: Taking a Long-Term View: Final Report. London: HM Treasury, 2002.

102. Hunter DJ. Wanless with a pinch of salt. *Health Serv J* 2002.

103. Wanless D. Securing Good Health for the Whole Population: Final Report. London: HM Treasury, 2004.

104. Harrison A. Health Policy Review 13 (May - July 2003). London: RPSGB, 2003.

105. Greer S. Policy Divergence: 'Will it Change Something at Greenock?'. In: Hazell R, editor. *The State of the Nations 2003: The Third Year of Devolution in the United Kingdom*. Exeter: Imprint Academic, 2003.

106. Choosing Health? A consultation on action to improve people's health. London: Department of Health, 2004.

107. Department of Health. Choosing Health: Making healthy choices easier. London: Department of Health, 2004.

108. Portman Group. 2006. Who we are. http://www.portmangroup.org.uk/about/131.asp Accessed: 5th December 2006.

109. United Kingdom Public Health Association (UKPHA). Choosing health or losing health? A response from the UKPHA to the white paper choosing health. London: UKPHA, 2005.

110. Hunter DJ. Choosing or losing health? *J Epidemiol Community Health* 2005;59(12):1010-2.

111. McKee M, Raine R. Choosing health? First choose your philosophy. *Lancet* 2005;365(9457):369-71.

112. Crowley P, Hunter DJ. Putting the public back into public health. *J Epidemiol Community Health* 2005;59(4):265-7.

113. James O. *The Selfish Capitalist: Origins of Affluenza*. London: Vermilion, 2008.

114. Matthews LG. *History of Pharmacy in Britain*. London: E & S Livingstone Ltd., 1962.

115. The Worshipful Society of Apothecaries of London. 2007. The Society: Origins and History. http://www.apothecaries.org.uk/index.php?page=6 Accessed: 10th July 2007.

116. Carr-Saunders AM, Wilson PA. *The Professions*. London: Cass, 1964.

117. Mrtek RG, Catizone C. Pharmacy and the Professions. In: Wertheimer AI, Smith MC, editors. *Pharmacy Practice: Social and Behavioural Aspects*. Third ed. Baltimore: Williams and Wilkins, 1989:23-57.

118. Goode WJ. The Theoretical Limits of Professionalization. In: Etzioni A, editor. *The Semi-Professions and their Organisation*. London: Collier-Macmillan, 1969.

119. Bissell P, Traulsen JM. *Sociology and Pharmacy Practice*. London: Pharmaceutical Press, 2005.

120. Hughes EC. *Men and their Work*. Glencoe, Illinois: The Free Press, 1958.

121. Johnson TJ. *Professions and Power*. London: MacMillan, 1972.

122. Harding G, Taylor KMG. Power, status and pharmacy. *Pharmaceutical Journal* 2002;269(7217):440-442.

123. Friedson E. *Profession of Medicince: A Study of the Sociology of Applied Knowledge*. New York: Dodd, Mead and Company, 1970.

124. Kenny DT, Adamson B. Medicine and the health professions: Issues of dominance, autonomy and authority. *Australian Health Review* 1992;15(3):319-334.

125. Harding G, Taylor K. Responding to change: the case of community pharmacy in Great Britain. *Sociology of Health & Illness* 1997;19(5):547-560.

126. Drislane R, Parkinson G. 2007. Online Dictionary of the Social Sciences. http://bitbucket.icaap.org/dict.pl Accessed: 5th July 2007.

127. McKinlay JB. The business of good doctoring or doctoring as good business: reflections on Freidson's view of the medical game. *Int J Health Serv* 1977;7(3):459-88.

128. McKinlay JB, Arches J. Towards the proletarianization of physicians. *Int J Health Serv* 1985;15(2):161-95.

129. Weber M. *The Protestant Ethic and the Spirit of Capitalism*. London: Routledge, 2001.

130. Ritzer G. Professionalization, Bureaucratization and Rationalization: The Views of Max Weber. *Social Forces*, 1975:627-634.

131. Haug M. Deprofessionalzation: an alternative hypothesis for the future. *Sociological Review Monograph* 1973;20:195-211.

132. Annandale E. *The Sociology of Health and Medicine: A Critical Introduction*. Cambridge: Polity Press, 1998.

133. Denzin NK, Mettlin CJ. Incomplete professionalization: the case of pharmacy. *Social Forces* 1968;46(3):375-381.

134. Anderson S. The changing role of the community pharmacist in health promotion in Great Britain 1930 to 1995. *Pharm Hist (Lond)* 2002;32(1):7-10.

135. Anderson S, Berridge V. The role of the community pharmacist in health and welfare, 1911-1986. In: Bornat J, Perks R, Thompson P, Walmsley J, editors. *Oral History, Health and Welfare*. London: Routledge, 2000.

136. *Pharmaceutical Journal* 1981;227:300-301.

137. Eaton G, Webb B. Boundary encroachment: pharmacists in the clinical setting. *Sociology of Health & Illness* 1979;1(1):69-89.

138. Birenbaum A. Reprofessionalization in pharmacy. *Soc Sci Med* 1982;16(8):871-878.

139. Holloway SW, Jewson ND, Mason DJ. 'Reprofessionalization' or 'occupational imperialism'?: some reflections on pharmacy in Britain. *Soc Sci Med* 1986;23(3):323-32.

140. Harding G, Taylor KMG. Realising pharmacy's mandate. *Pharmaceutical Journal* 1996;257:236.

141. Conisbee M. Ghost Town Britain: A Lethal Prescription; the impact of deregulation on community pharmacies: New Economics Foundation, 2003.

142. Department of Health. General pharmaceutical services in England and Wales 1990-91 to 1999-2000. London, 2003.

143. The Information Centre. General Pharmaceutical Services in England and Wales 1996-97 to 2005-2006. London, 2006.

144. Office of Fair Trading. The control of entry regulations and retail pharmacy services in the UK. *A report of an OFT market investigation*. London, 2003.

145. Hewitt P. Parliamentary statement on community pharmacies. *House of Commons,*. London, 2003.

146. Buisson J. Deregulation of community pharmacy market receives little support from profession. *Pharmaceutical Journal* 2003;270:108-110.

147. Ritzer G. *The McDonaldization of society*. 2nd ed. California: Thousand Oaks, 2000.

148. Harding G, Taylor K. The McDonaldisation of pharmacy. *Pharmaceutical Journal* 2000;265:602.

149. Hibbert D, Bissell P, Ward P. Consumerism and professional work in the community pharmacy. *Sociology of Health and Illness* 2002;24(1):46-65.

150. Tapster JV. Supermarkets are not the right places to practise pharmacy. *Pharmaceutical Journal* 2003;270:332-333.

151. Brunt M. Pharmacy image not enhanced by supermarkets. *Pharmaceutical Journal* 2003;270:333.

152. Taylor K, Harding G. Corporate Pharmacy: Implications for the Pharmacy Profession, Researchers and Teachers. *Pharmacy Education* 2003;3(3):141-147.

153. Banks PJ. Proud to be a supermarket pharmacist. *Pharmaceutical Journal* 2003;270:437.

154. Wilson J. Supermarket pharmacy provides time for proper discussion with patients. *Pharmaceutical Journal* 2003;270:184.

155. Selfe RW. Local pharmacies will always be more accessible. *Pharmaceutical Journal* 2003;270:437.

156. Schultz RM, Baldwin HJ. Chain Pharmacist Turnover. *Journal of Social and Administrative Pharmacy* 1990;7(1):26-33.

157. Sidhu A. Glorified shelf stackers? *Pharmaceutical Journal* 2003;270:153.

158. Gilbert L. Pharmacy's attempts to extend its roles: A case study in South Africa. *Soc Sci Med* 1998;47(2):153.

159. Lambert RL, Wertheimer AI, Dobbert DJ, Church TR. The pharmacist's clinical role as seen by other health workers. *Am J Public Health* 1977;67(3):252-3.

160. Edmunds J, Calnan MW. The reprofessionalisation of community pharmacy? An exploration of attitudes to extended roles for community pharmacists amongst pharmacists and General Practioners in the United Kingdom. *Soc Sci Med* 2001;53(7):943-55.

161. McGhan WF. Pharmacy. In: Wertheimer AI, Smith MC, editors. *Pharmacy Practice: Social and Behavioral Aspects*. Third ed. Baltimore: Williams & Wilkins, 1989.

162. Halperin JA. Pharmacists Of The Future. In: Wertheimer AI, Smith MC, editors. *Pharmacy Practice: Social and Behavioral Aspects.* Third ed. Baltimore: Williams & Wilkins, 1989.

163. Gilbert L. The Pharmacist's Traditional and New Roles - A Study of Community Pharmacists in Johannesburg, South Africa. *Journal of Social and Administrative Pharmacy* 1995;12(3):125-131.

164. Hughes CM, McCann S. Perceived interprofessional barriers between community pharmacists and general practitioners: a qualitative assessment. *Br J Gen Pract* 2003;53(493):600-6.

165. Chen J, Britten N. 'Strong medicine': an analysis of pharmacist consultations in primary care. *Fam Pract* 2000;17(6):480-3.

166. Sheppard CP, Hunt A, Lupton C, Begley S. Community pharmacists in primary care: Prospects for pharmacist-doctor collaboration. *Journal of Social and Administrative Pharmacy* 1995;12:181-189.

167. Sutter CA, Nathan A. The community pharmacist's extended role: GPs' and pharmacists' attitudes toward collaboration. *Journal of Social and Administrative Pharmacy* 1993;10:70-83.

168. Dobson RT, Henry CJ, Taylor JG, Zello GA, Lachaine J, Forbes DA, et al. Interprofessional health care teams: attitudes and environmental factors associated with participation by community pharmacists. *J Interprof Care* 2006;20(2):119-32.

169. The Nuffield Foundation. Pharmacy: The Report of a Committee of Inquiry Appointed by the Nuffield Foundation. London: The Nuffield Foundation, 1986.

170. Secrataries of State for Social Services, Wales, Northern Ireland, Scotland. Promoting better health: the Government's programme for improving primary health care. London: HMSO, 1987.

171. Turner P. The Nuffield report: a signpost for pharmacy. *BMJ* 1986;292(6527):1031-3.

172. Longley M. Pharmacy in a New Age: start of a new era? *Pharmaceutical Journal* 2006;277:256-257.

173. Royal Pharmaceutical Society of Great Britain. Pharmacy in a New Age: building the future - a strategy for a 21st century pharmaceutical service. London, 1997.

174. Department of Health. Pharmacy in the Future - Implementing the NHS Plan, 2000.

175. Hassell K, Seston L, Eden M. Pharmacy workforce census 2005: Main findings. London: Royal Pharmaceutical Society of Great Britain, 2006.

176. Hassell K, Shann P. The National Workforce Census: (1) Locum pharmacists and the pharmacy workforce in Britain. *Pharmaceutical Journal* 2003;270:659-659.

177. Shann P, Hassell K. The National Workforce Census: (2) Older pharmacists and the pharmacy workforce in Britain. *Pharmaceutical Journal* 2003;270:833-834.

178. Hassell K, Shann P. The National Workforce Census: (3) The part-time pharmacy workforce in Britain. *Pharmaceutical Journal* 2003;271:58-59.

179. Hassell K, Nichols L. The National Workforce Census: (4) Overseas pharmacists - does the "globalisation" of pharmacy affect workforce supply? *Pharmaceutical Journal* 2003;271:183-185.

180. Mullen R, Hassell K. The National Workforce Census: (5) The primary care pharmacy workforce in Britain. *Pharmaceutical Journal* 2003;271:326-327.

181. Hassell K. The National Workforce Census: (6) The gendered nature of pharmacy employment in Britain. *Pharmaceutical Journal* 2003;271:550-552.

182. Hassell K. Pharmacy workforce census 2003: Main findings. London: Royal Pharmaceutical Society of Great Britain, 2004.

183. Shann P, Hassell K. An exploration of the diversity and complexity of the pharmacy locum workforce. London: Royal Pharmaceutical Society of Great Britain, 2004.

184. Bottero W. The Changing Face of the Professions? Gender and Explanations of Women's Entry to Pharmacy. *Work Employment Society* 1992;6(3):329-346.

185. Reskin B. Sex segregation in the workplace. *Annual Review of Sociology* 1993;19(1):241-270.

186. Adams TL. Feminization of Professions: The Case of Women in Dentistry. *Canadian Journal of Sociology* 2005;30(1):71-94.

187. Cartwright L. Feminized fields: A study of education, social work and pharmacy. *Australian Journal of Pharmacy* 1988;69:59-63.

188. Tanner J, Cockerill R. Gender, Social Change, and the Professions: The Case of Pharmacy. *Sociological Forum* 1996;11(4):643.

189. Willis S, Shann P, Hassell K. Studying Pharmacy: who, when, how, why? Report 4: Analysis of the questionnaire. London: Royal Pharmaceutical Society of Great Britain, 2006.

190. Tanner J, Cockerill R, Barnsley J, Williams AP. Flight paths and revolving doors: a case study of gender desegregation in pharmacy. *Work, Employment & Society* 1999;13(2):275-293.

191. Muzzin LJ, Brown GP, Hornosty RW. Consequences of feminization of a profession: the case of Canadian pharmacy. *Women Health* 1994;21(2-3):39-56.

192. Shepherd M, Kirk K, Stahl S. An Examination into the Employment, Opinions and Pharmacy Employment Plans of Nonpracticing Pharmacy School Graduates. 1982;46(3):218-23.

193. Ferguson JA, Roller L, Wertheimer AJ. Social factors motivating students toward a career in pharmacy. An international study. *Journal of Social and Administrative Pharmacy* 1986;3:127-135.

194. Jones C, Armstrong M, King MJ, Pruce D. How pharmacy can help public health. *Pharmaceutical Journal* 2004;272:672-674.

195. Anderson C, Blenkinsopp A, Armstrong M. The contribution of community pharmacy to improving the public's health. Report 1: evidence from the peer-reviewed literature 1990 - 2001. London: PharmacyHealthLink, 2003.

196. Blenkinsopp A, Anderson C, Armstrong M. The contribution of community pharmacy to improving the public's health. Report 2: evidence from the UK non peer-reviewed literature 1990-2002. London: PharmacyHealthLink, 2003.

197. Walker R. Pharmaceutical public health: the end of pharmaceutical care? *Pharmaceutical Journal* 2000;264(7085):340-341.

198. Royal Pharmaceutical Society of Great Britain, BMRB International Limited. Community Pharmacy: The choice is yours; baseline mapping study to define access to and usage of community pharmacy. London: RPSGB, 1996.

199. Department of Health. The Report of the Chief Medical Officer's Project to Strengthen the Public Health Function, 2001.

200. Royal Pharmaceutical Society of Great Britain. A Vision for Pharmacy in the New NHS. *Responses to consultations*. London, 2003.

201. National Pharmaceutical Association. Response to "A Vision for Pharmacy in the New NHS". St. Albans, 2003.

202. Royal Pharmaceutical Society of Great Britain. Primary Care Trusts: will they deliver on public health? (first inquiry of the All Party Parliamentary Group on Primary Care and Public Health). *Responses to consultations*, 2001.

203. Royal Pharmaceutical Society of Great Britain. Tackling Health Inequalities: a consultation on a plan for delivery. *Responses to consultations*, 2001.

204. Royal Pharmaceutical Society of Great Britain. National standards for specialist practice in public health. *Responses to Consultations*, 2001.

205. Asghar MNJ, Jackson C, Corbett J. Specialist pharmacists in public health: are they the missing link in England? *Pharmaceutical Journal* 2002;268:22-25.

206. Pharmaceutical Services Negotiating Committee, National Pharmaceutical Association, Royal Pharmaceutical Society of Great Britain, PharmacyHealthLink. Public Health: a practical guide for community pharmacists, 2004.

207. NHS Scotland, Scottish Specialists in Pharmaceutical Public Health. Specialists in pharmaceutical public health: a discussion document, 2001.

208. NHS Executive. Public health practice resource pack. Leeds: NHS Executive, 1999.

209. Pharmacy launches translation service. *Pharmaceutical Journal* 2001;267:75-79.

210. Lloyds opens its fourth "CHAT" centre in Derbyshire. *Pharmaceutical Journal* 1999;263:510.

211. Jesson J, Perry R. The public health role of community pharmacies. *Health Watch: Centre for Health Action Research and Training*, 2002.

212. Anderson C, Blenkinsopp A. Community pharmacy's contribution to improving public health: learning from local initiatives. *Pharmaceutical Journal* 2003;271:623-625.

213. Bissell P, Anderson C, Blenkinsopp A. Has community pharmacy a role in dealing with health inequalities. *Pharmaceutical Journal* 2001;267(7179):880.

214. Bissell P. Responding to health inequalities and social capital agenda; in The challenges of shaping pharmacy practice in the future. *Pharmaceutical Journal* 2002;269:406.

215. Ghalamkari H, Jenkins D. Can pharmacists be social entrepreneurs? *Pharmaceutical Journal* 2002;268:358.

216. New Economics Foundation. Ghost Town Britain. London: New Economics Foundation, 2002.

217. Experian for Lloyds Pharmacy. (In) Ghost Town Britain: A lethal prescription. London: New Economics Foundation, 2003.

218. Community Pharmacy Conference. *Pharmaceutical Journal* 2003;271:786-789.

219. Health Authority finds lack of equity in rural health services. *Pharmaceutical Journal* 2000;265:256.

220. NPA Board: Frustration at pharmacy's low profile in Government White Papers. *Pharmaceutical Journal* 1999;263:191.

221. Patel J, Boorman G. An open letter to the Secretary of State for Health. *Pharmaceutical Journal* 1999;263:361-362.

222. Boorman G, Kalsi S, Khan I, Patel H. Developing public health pharmacy. *Pharmaceutical Journal* 2001;266(7145):572.

223. Neilson E. Securing good health for the whole population: the 'Wanless 2' review. Submission by the Royal Pharmaceutical Society of Great Britain. London: RPSGB, 2003.

224. Pharmacy needs to be more fully integrated into public health plans. *Pharmaceutical Journal* 2003;271:733.

225. Scottish Executive. The Right Medicine: A Strategy for Pharmaceutical Care in Scotland, 2002.

226. Public Health Institute for Scotland. Pharmacy for health: the way forward for pharmaceutical public health in Scotland. Glasgow: Public Health Institute for Scotland, 2002.

227. Welsh Assembly Government. Remedies for Success: A Strategy for Pharmacy in Wales. Cardiff, 2002.

228. Department of Health Social Services and Public Safety. Making it Better: A Strategy for Pharmacy in the Community. Belfast, 2003.

229. Pharmaceutical Services Negotiating Committee. 2006. Pharmacy contract. http://www.psnc.org.uk/index.php?type=page&pid=68&k=2 Accessed: 5th December 2006.

230. Department of Health. Choosing Health through pharmacy - a programme for pharmaceutical public health 2005 - 2015. London, 2005.

231. Jesson J. Improving public health and well-being - building national and local capacities. *Pharmaceutical Journal* 2002;269:725.

232. Maguire T. Helping community pharmacists in their emerging public health roles. *Pharmaceutical Journal* 2002;269:808.

233. Jesson J, Bissell P. Public health and pharmacy: a critical review. *Critical Public Health* 2006;16(2):159-169.

234. Bissell P, Jesson J. Health inequalities - a neglected area of pharmacy policy and practice. *Pharmaceutical Journal* 2002;269:819-821.

235. Armstrong P. Inequalities in Health. *Pharmaceutical Journal* 1999;263(7057):197.

236. Super market "criticised" for patient group direction. *Pharmaceutical Journal* 2002;268:385.

237. Gray NJ, O'Brien KL. Sad example of profits before patients. *Pharmaceutical Journal* 2002;269:247.

238. Jukes AJ. Work breaks and adequate numbers of support staff required. *Pharmaceutical Journal* 2005;275:225.

239. Kellett CG. Work breaks should be mandatory for pharmacists. *Pharmaceutical Journal* 2005;275:225.

240. MPs say market must not control pharmacy services. *Pharmaceutical Journal* 2003;270:849.

241. Bowling A. *Research Methods in Health: Investigating Health and Health Services*. Buckingham: Open University Press, 1997.

242. Popper KR. *The Logic of Scientific Discovery*. London: Hutchinson, 1959.

243. Smith F. *Research Methods in Pharmacy Practice*. London: Pharmaceutical Press, 2002.

244. Hammersley M, Atkinson P. *Ethnography: principles in practice*. 2nd ed. London: Routledge, 1995.

245. Denzin NK, Lincoln YS. *The SAGE handbook of qualitative research*. 3rd ed. London: Sage Publications, 2005.

246. Krantz DL. Sustaining vs. resolving the quantitative-qualitative debate. *Evaluation and Program Planning* 1995;18(1):89-96.

247. Kuhn TS. *The structure of scientific revolutions*. 2nd ed. Chicago: Chicago University Press, 1970.

248. Pope C, Mays N. Reaching the parts other methods cannot reach: an introduction to qualitative methods in health and health services research. *BMJ* 1995;311(6996):42-5.

249. Mathers N, Fox N, Hunn A. Using interviews in a research project. In: Wilson A, Williams M, Hancock B, editors. *Research Approaches in Primary Care*. London: Radcliffe Medical Press, 2000.

250. Britten N. Qualitative Research: Qualitative interviews in medical research. *BMJ* 1995;311:251-253.

251. Cohen L, Manion L. *Research Methods in Education*. 4th ed. London: Routledge, 1994.

252. Smith F. Health services research methods in pharmacy: Qualitative interviews. *International Journal of Pharmacy Practice* 1998;6:97-108.

253. Robson C. *Real World Research*. Oxford: Blackwells, 1993.

254. Morse JM, Field PA. *Qualitative Research Methods for Health Professionals*. 2nd ed. London: Sage, 1995.

255. Patton MQ. *How to Use Qualitative Methods in Evaluation*. London: Sage, 1987.

256. Curtis S, Gesler W, Smith G, Washburn S. Approaches to sampling and case selection in qualitative research: examples in the geography of health. *Soc Sci Med* 2000;50:1001-1014.

257. Glaser BG, Strauss AL. *The Discovery of Grounded Theory*. London: Wiedenfeld and Nicolson, 1968.

258. Strauss AL. *Qualitative Analysis For Social Scientists*. Cambridge: Cambridge University Press, 1987.

259. UK Medicines Information. 2007. Study Design. http://www.ukmi.nhs.uk/activities/Research/default.asp?pageRef=24 Accessed: 23rd October 2007.

260. Miles M, Huberman A. *Qualitative data analysis*. 2nd ed. London: Sage, 1994.

261. Pope C, Ziebland S, Mays N. Qualitative research in health care: Analysing qualitative data. *BMJ* 2000;320(7227):114-116.

262. UK Medicines Information. 2007. Data analysis and statistics. http://www.ukmi.nhs.uk/activities/Research/default.asp?pageRef=27 Accessed: 23rd October 2007.

263. *Using Nvivo in Qualitative Research*. Melbourne: QSR International, 2002.

264. Ritchie J, Spencer L. Qualitative data analysis for applied policy research. In: Bryman A, Burgess R, editors. *Analyzing qualitative data*. London: Routledge, 1994.

265. Gillham B. *Developing a questionnaire*. London: Continuum, 2000.

266. Department of Health. Raising Standards: Improving Performance in the NHS. London, 2003.

267. Central Office of Research Ethics Committees. Governance Arrangements for NHS Research Ethics Committees. London: COREC, 2001.

268. Department of Health. Research Governance Framework For Health and Social Care. London, 2001.

269. Department of Health. Research Governance Framework for Health and Social Care. London, 2005.

270. The Royal Liverpool Children's Inquiry Report, 2001.

271. Kennedy I. The report of the public inquiry into children's heart surgery at the Bristol Royal Infirmary 1984-1995: learning from Bristol, 2001.

272. Salisbury C, Leese B, McManus RJ. Ensuring that Research Governance supports rather than stifles research. *Br J Gen Pract* 2005;55:4-5.

273. Brace N, Kemp R, Snelgar R. *SPSS for Psychologists: A Guide to Data Analysis using SPSS for Windows.* 2nd ed. Basingstoke: Palgrave Macmillan, 2003.

274. Pallant J. *SPSS Survival Manual: a step by step guide to data analysis using SPSS version 12.* 2nd ed. Maidenhead: Open University Press, 2005.

275. Pharmaceutical Society of Northern Ireland. 2005. Mission Statement of the PSNI. http://www.dhsspsni.gov.uk/pgroups/pharmaceutical/pharmacy.asp Accessed: 13th July 2005 2005.

276. Johansson A, Halling A, Hermansson G, Ludvigsson J. Assessment of smoking behaviors in the home and their influence on children's passive smoking: development of a questionnaire. *Ann Epidemiol* 2005;15(6):453-9.

277. Oppenheim AN. *Questionnaire Design, Interviewing and Attitude Measurement.* 2nd ed. London: Pinter Publishers, 1992.

278. Community Development and Health Network, Department of Health Social Services and Public Safety. 2006. Building the Community-Pharmacy Partnership. http://www.cdhn.org/bcpp/index.asp Accessed: 5th June 2006.

279. British Pharmaceutical Conference 2004: Build links with local community. *Pharmaceutical Journal* 2004;273:615.

280. Crossley ML. Introduction to the Symposium 'Health Resistance': The limits of contemporary health promotion. *Health Education Journal* 2002;61(2):101-112.

281. Barry A, Yuill C. *Understanding health: a sociological introduction.* London: Sage, 2002.

282. Mathiason N. Tesco profits juggernaut thunders on. *Observer* 2006 1st October.

283. Tesco stops supply of EHC to under 16s. *Pharmaceutical Journal* 2002;269(7208):124.

284. Pharmaceutical Services Negotiating Committee. 2007. Funding: Essential and Advanced Services. http://www.psnc.org.uk/index.php?type=more_news&id=1580 Accessed: 20th February 2007.

285. Murphy JA. Employers applying pressure to conduct MURs. *Pharmaceutical Journal* 2007;279(7468):258.

286. Company Chemists' Association. 2008. About the CCA. www.thecca.org.uk Accessed: 14th May 2008.

287. Clarke I. Retail power, competition and local consumer choice in the UK grocery sector. *European Journal of Marketing* 2000;34(8):975-1002.

288. Bradley F, Elvey R, Ashcroft D, Noyce P. Commissioning services and the new community pharmacy contract: (3) Uptake of enhanced services. *Pharmaceutical Journal* 2006;277(7414):224-226.

289. Departments of General Practice and Primary Care and Management Studies University of Aberdeen. Community Pharmacy Service Delivery and Organisation R and D Programme: Evolution and Change in Community Pharmacy. London: Royal Pharmaceutical Society of Great Britain, 2003.

290. Mannion R. Practice based commissioning: a summary of the evidence. *Health Policy Matters* 2005(11).

291. Department of Health. Shifting the balance of power within the NHS: Securing delivery. London, 2001.

292. Smith J, Dixon J, Mays N, McLeod H, Goodwin N, McClelland S, et al. Practice based commissioning: applying the research evidence. *BMJ* 2005;331(7529):1397-9.

293. Pollock AM, Price D, Viebrock E, Miller E, Watt G. The market in primary care. *BMJ* 2007;335(7618):475-7.

294. Minister launches Boots chlamydia service. *Pharmaceutical Journal* 2005;275:596.

295. Boots plans to house outpatient services for primary care trusts. *Pharmaceutical Journal* 2006;277:123.

296. Hargie O, Morrow N, Woodman C. Consumer perceptions of attitudes to community pharmacy services. *Pharmaceutical Journal* 1992;249:688-691.

297. Hassell K, Rogers A, Noyce P. Community pharmacy as a primary health and self-care resource: a framework for understanding pharmacy utilization. *Health Soc Care Community* 2000;8(1):40-49.

298. Bradley F, Elvey R, Ashcroft D, Noyce P. Commissioning services and the new pharmacy contract: (2) Drivers, barriers and approaches to commissioning. *Pharmaceutical Journal* 2006;277:189-192.

299. The Information Centre. Prescriptions Dispensed in the Community - Statistics for 1996 to 2006: England. London, 2007.

300. Royal Pharmaceutical Society of Great Britain. Pharmacy: The new healthcare solution. London: RPSGB, 2007.

301. Wilson KA, Jesson J, Langley CA, Hatfield K, Clarke L. Pharmacy Undergraduate Students: Career Choices & Expectations Across A Four-Year Degree Programme. London: Royal Pharmaceutical Society of Great Britain, 2006.

302. Almond M. Locums - key players in workforce - cast adrift as contract launched. *Pharmaceutical Journal* 2005;274:420.

303. Bishop DH. A lack of appreciation of what really happens. *Pharmaceutical Journal* 2005;274:451.

304. Scottish Executive. Modernising NHS community pharmacy in Scotland. Edinburgh, 2004.

305. Anderson S. The burdens of history. *Pharmaceutical Journal* 2000;264:93.

306. Shann P, Hassell K. Flexible working: understanding the locum pharmacist in Great Britain. *Res Social Adm Pharm* 2006;2(3):388-407.

307. Carvel J. NHS crisis deepens as trusts forecast £1.2bn shortfall. *Guardian* 2006 Friday November 10th.

Appendix 1 – Indicative preliminary interview theme plan

Intro.

- Explain that this is part of a wider research project on pharmaceutical public health. What I would like to do today is to explore this topic in the () context. It would help me if you agreed to the interview being tape-recorded - is this acceptable.

Role

I would like to begin with a number of questions about your own role.

1. It is clear that you work in a wide variety of environments. Could you talk me through your roles?

- Government
- Pharmacy owner
- Charity
- Academia
- Others

2. Are there Specialists in Pharmaceutical Public Health within () and to what extent it there a national agenda for pharmaceutical public health?

- Specialists
- Network throughout ()?
- Communication
- Collabarative working?
- Any link into wider () or () PPH specialists?

What is Pharmaceutical Public Health?

Now I would like to explore the concept of pharmaceutical public health.

5. One of the English Chief Pharmaceutical Officers 10 key roles for pharmacy is - "to be a public health resource and provide health promotion, health improvement and harm reduction services." Is there an articulated PH policy in ()?

- Yes/No

If Yes

- How is this being developed?

- What has been the involvement of pharmacy bodies/organisations?

- How does this map to wider UK agenda?

6. Could you outline for me the current pharmaceutical public health services in ().

Cf Check list for ()

- Methadone supervision
- Needle exchange
- EHC
- Leaflets etc.

Are there any schemes currently in development?

7. In order for pharmacy ..."to be a public health resource and provide health promotion, health improvement and harm reduction services."... do you envisage a strengthening of the current role played by pharmacists or do you believe we will see novel developments in response to the policy agenda?

- Current

- Novel

- Developments already underway in ()?

8. From your own experiences, what do you think are the major issues in developing the pharmaceutical public health role within community pharmacy?

- Barriers?

- Advantages?

9 Looking to the future, I am interested in your views of how pubic health may evolve. There have been a plethora of public health policy documents - most relevant to pharmacy and public health in () are probably *()* and *()*. What are your views on the pubic health aspiration in these documents and at what stage is the implementation within ()?

Included in the *()* document is reference to the *()* initiative. Could you outline the details of this scheme?

- Operation
- Scope
- Multi-disciplinary?
- Funding

11. Do you think that the nature of community pharmacy sector on the boundary of the NHS and the commercial sector with disparate ownership will impede the development and roll out of a national strategy or do you see contractual or funding changes that would move the activity more centre stage?

- Community pharmacy is viewed by many as being external to the NHS. Does this limit the potential public health contribution of pharmacists?
- Are we going to see wholesale changes in the remuneration of community pharmacy services?
- Will the new contract enable the development of the public health function of community pharmacists?
- Alternative funding routes?

12. The situation in () may be different, but in () most primary care funding is to the () which by nature are focussed upon local service delivery. Do you think that this poses a difficulty for the implementation of public health services from community pharmacies, many of which will only show benefits in the long-term,?

- Situation in () Different structure?
- Differential development *cf.* ()?

13. How are pharmaceutical public health measures funded in ()? (With respect to devolvement of healthcare funding to regional assembly?)

- ()-based
- ()-based
- National fund

Health inequalities

14. Since 1997, a fundamental focus of government policy has been upon the reduction of health inequalities. There appears to have been little engagement of this issue by the pharmacy community. Is this the situation in ()?

15. Do you have any ideas on how can community pharmacists could help to reduce health inequalities?

- UK-wide
- () specifically

16. Finally, the accessibility of community pharmacy is considered one of its major advantages. While community pharmacy services are regularly

accessed, the populations that use community pharmacies tend to be heavily skewed (i.e. towards the elderly, young mothers etc.).

Do you think that this is a barrier to a contribution by community pharmacy to reducing health inequality?

Is a concerted effort by the pharmacy community to reduce health inequalities going to necessitate "outreach" work by pharmacists to target populations not ordinarily contactable via the pharmacy network?

- as advocated in *()*

That is the end of my questions. Can I thank you for your time.

Appendix 2 – Results from the preliminary interviews

The interviews generated a considerable amount of qualitative data. Comparative analysis of the transcripts revealed several recurring themes as well as noticeable differences of opinion between respondents. Presented below are themes that influenced the subsequent study design, illustrated by characteristic examples of data.

Differential development of the public health function

The interview data (n=4 interviewees) suggested considerable differences in the public health function, particularly where pharmacy is concerned, in each of the devolved administrations. Scotland and Wales appeared to be more advanced in terms of the development of public health pharmacy than either England or Northern Ireland. Specialists in pharmaceutical public health were in place in both Scotland and Wales performing strategic leadership roles and driving the agenda forward. Community pharmacy in Northern Ireland had begun to explore how pharmacy could get involved in community development and move away from being an outlet to being an active part of the local community. No such developments were reported by interviewees in England.

It was argued that the differential development of the pharmaceutical public health function across the UK could be due to differing political approaches in each of the administrations:

> *"Scotland is a much more obviously left-wing, socialist country and..., therefore it's the idea of addressing issues around social justice, health inequalities...these issues are much more to the fore on a political level." (2-SiPPH and senior member of Scottish Executive of the RPSGB: Scotland)*

What is pharmaceutical public health?

It became clear in the interviews (n=3) that pharmaceutical public health (PPH) was perceived, by respondents operating within the domain, to be a specialism, while the everyday public health activities of frontline pharmacists made them 'generalists'. However, within the specialism, there appears to be an acknowledgement that pharmacists within multidisciplinary public health departments, have to prove their worth:

> *"...everybody's pursuing the issue of, almost, credibility, you know, we've gone for a title and we are going to show that we're...fit for that title..." (4-SiPPH: Wales)*

Indeed, the specialism appears to generate confusion within the wider pharmacy community:

"... I think there needs to be clarity around what we mean by specialism in pharmaceutical public health." (5-Community pharmacist and key advisor to DHSSPS: NI)

"I think we need to...try to define the role of pharmaceutical public health specialists..." (5-Community pharmacist and key advisor to DHSSPS: NI)

One respondent opined that pharmaceutical public health is not the service-based approach practiced by pharmacy outlets and a key plank of PPH focuses on community empowerment:

"...in order to improve health you've got to empower communities and you've got to work with people in those communities so they can take responsibility for their own health..." (2-SiPPH and senior member of Scottish Executive of the RPSGB: Scotland)

Barriers to the development of the public health role of community pharmacists

The interviews identified several barriers to the development of the public health function of community pharmacists. Perhaps the most notable of these were:

- A lack of understanding of public health by community pharmacists, probably due to the lack of suitable training at undergraduate level (n=4):
    - *"...not all community pharmacists understand what public health is." (2-SiPPH and senior member of Scottish Executive of the RPSGB: Scotland)*
    - *"...this is something which is alien to pharmacy by the fact that pharmacists don't already have public health...as part of their training." (3-Pharmacy public health advocator: England)*
- A lack of consideration of pharmacy as a public health resource by policy makers (n=2), as exemplified by this interviewee who, when asked if the use of pharmacy as a public health resource is fully considered by policy makers, replied:
    - *"No. Absolutely not at all. Categorically no." (6 - Chief Pharmacist of a large university hospital trust and a member of the Council of the Royal Pharmaceutical Society of Great Britain: England)*
- The commercial conflicts within community pharmacy (n=4):
    - *"...the conflict with commercial interest...I think that's the main barrier that we've got to overcome..." (4-SiPPH: Wales)*

- *"...the nature of community pharmacy and the dominance of multiples, I think, may impede progression of pharmaceutical public health through community pharmacies in Scotland." (2-SiPPH and senior member of Scottish Executive of the RPSGB: Scotland)*

- The perception that pharmacy is external to the NHS (n=4):

  - *"...as long as we can overcome the...view...at the PCT and GP level that...we're not a grocer then that...should be fine but we've still got some of those elements to overcome..." (1-Superintendent Pharmacist of a transnational pharmacy multiple: England)*

- The restrictive financial climate within the NHS (n=2):

  - *"So some of the public health roles in the hospital are not necessarily done by pharmacists but they're done by, by other staff – dieticians, nurses – who are cheaper." (6 – Chief Pharmacist of a large university hospital trust and a member of the Council of the Royal Pharmaceutical Society of Great Britain: England)*

Summary – emerging themes from the interviews

It is clear from Chapter 2 that pharmacy has claimed a role to play in public health. Despite an increasing awareness of public health within pharmacy, little progress has been made in advancing the provision of public health measures through pharmacy. While there may be an apathy or ignorance to public health from within pharmacy, this does not adequately explain the lack of progress in including pharmacy in public health strategies. The reasons for this have to be identified if pharmacy is to fulfil its abilities in the public health field.

An emerging theme from the interviews was a belief that policy-makers, such as Directors of Public Health (DPHs), may not fully consider pharmacy when devising strategies. A lack of appreciation of the potential public health contribution of pharmacy from the DPH could help to explain the continual side-lining of pharmacy in public health matters and merited further investigation. Additionally, certainly within England, there is little cross-over of primary care pharmacists into public health directorates. The two sectors are clearly not incompatible and identification of the possible reasons behind their mutual exclusivity may aid a more collaborative approach in the future, and to an increased prominence for pharmacy in local public health strategies.

Potential barriers to community pharmacy involvement in improving the health of the public were recurrent in all the interviews including:

- a lack of suitable training and knowledge;

- the commercial interests of community pharmacy impeding development of, largely non-profitable, health improving measures;
- a belief that senior managers in the NHS view pharmacy purely as a private enterprise external to the NHS, and anathema to its ideals; and,
- a harsh financial climate within NHS trusts.

Despite the small sample size studied, the frequency and veracity of the views expressed made these perceived barriers worthy of more comprehensive investigation. If such beliefs were commonplace within the senior management of NHS primary care organisations (PCOs) then, whilst the links between attitudes and behaviour are sometimes questionable, this may contribute to the low standing of community pharmacy within health improvement plans.

It is also clear that devolution, including the devolution of healthcare budgets, has led to differential development of the public health function within each of the new administrations. For example, both Scotland and Wales have a number of Specialists in Pharmaceutical Public Health who work closely with other professionals and decision-makers to influence public health policy and promote the role of pharmacy. Northern Ireland and England have not chosen to go down this route possibly to the detriment of pharmaceutical public health within those two countries. Although difficult to quantify, any major differences in development may be identified by assaying current provision. To further examine the effects of devolution on the provision of public health services through pharmacy, it was decided that a UK-wide focus should be maintained in future phases of the research.

As stated previously, qualitative interviews are not suitable for generating generalisable and quantifiable results, however, the data generated by the interviews narrowed the breadth of the project and suggested several areas for further investigation by more quantitative research methodology (see panel below).

Emerging themes from the interviews meriting further investigation

- An assessment of current provision of health improving measures through community pharmacy
- Identification of possible future contributions of community pharmacy for improving the public's health
- An analysis of the degree and extent of pharmaceutical input into public health planning
- An assessment of the perception of strategic decision makers with NHS PCOs on pharmacy's 'usefulness' in combating public health problems
- The effects of NHS budgets on the development of pharmacy's public health function
- The discovery and measurement of perceived barriers and advantages to the development of pharmacy's public health function

Appendix 3 – Questionnaire distributed to Directors of Public Health and Chief Pharmacists in UK primary care organisations

ASTON UNIVERSITY

IN THE HEART OF BIRMINGHAM

Pharmacy and Public Health

This survey is part of a national study on the public health role of pharmacy. The survey has been designed to investigate: (a) the current public health activities and functions of community pharmacy within Primary Care Organisations (PCOs) across the UK; and (b) the attitudes of lead stakeholders within PCOs on the current and future potential for pharmacy involvement. Your answers will inform the ongoing debate surrounding the development of pharmacy's public health function and we hope that you will be willing to assist in this important study.

Completing the Questionnaire

The questionnaire should take around 15 minutes to complete. The majority of questions require you to indicate your chosen answer(s) by placing a ✓ clearly inside one of the boxes. Other questions require you to indicate your answer on a scale. This can be done by the use of a ✓ in the appropriate box on the scale. Don't worry if you make a mistake; simply cross out the mistake and put a ✓ in the appropriate place.

Section 1 – Occupational details

Q1a) What is your job title?

Public Health	Pharmacy
Director of Public Health ☐	Director of Pharmaceutical Services ☐
Consultant in Public Health ☐	Chief Pharmacist ☐
Public Health Specialist ☐	Head of Medicines Management ☐
Public Health Other (please state) ☐	Prescribing Advisor ☐
	Pharmacist Other (please state) ☐
_____	_____
(go to question 1b)	**(go to question 1c)**

Q1b) In which field of healthcare was your initial training?

Medicine	☐
Pharmacy	☐
Nursing	☐
Dentistry	☐
Optometry	☐
Other (please state)	☐ _____

Go to question 2

Q1c) To what extent is your present job:

	Highly	Slightly	Not at all
Concerned with local public health issues?	☐	☐	☐
Affected by national and local public health issues?	☐	☐	☐

Section 2 – Pharmacy public health activity

Q2) What public health roles are community pharmacists currently fulfilling in your Primary Care Organisation (PCO)? (Tick all boxes that apply)

	Yes	No	Planned for the future	This is not a public health role
Smoking cessation services	☐	☐	☐	☐
The sale of Emergency Hormonal Contraception over the counter (OTC)	☐	☐	☐	☐
The supply of Emergency Hormonal Contraception on a patient group direction (PGD)	☐	☐	☐	☐
Blood Pressure testing	☐	☐	☐	☐
Cholesterol testing	☐	☐	☐	☐
Minor ailments scheme	☐	☐	☐	☐
Diabetes testing and monitoring	☐	☐	☐	☐
Cardiovascular screening	☐	☐	☐	☐
Sexually transmitted infection (STI) testing (e.g. Chlamydia screening)	☐	☐	☐	☐
Services for drug misusers (i.e. supervised administration, needle exchange scheme etc.)	☐	☐	☐	☐
Health promotion on premises	☐	☐	☐	☐
Health promotion off premises	☐	☐	☐	☐
Out of hours services	☐	☐	☐	☐
Domiciliary visits (including home delivery of medicines)	☐	☐	☐	☐
Collection of waste medicines	☐	☐	☐	☐

Other(s) – please give details below:

Current roles: _____

_____

_____

Roles planned for the future: _____

_____

_____

Q3) Are there any other potential future public health activities for pharmacy within your PCO that are not currently being undertaken or planned?

_____

_____

_____

Section 3 – Public health planning/strategy

Q4) Is there any pharmaceutical input to public health planning within your organisation?

Yes ☐ **(go to question 4a)**
No ☐ **(go to question 4b)**

Q4a) Please describe the pharmaceutical input.

_____
_____
_____
_____
_____

(go to question 4b)

Q4b) Do/would you welcome such input?

Yes ☐
No ☐
Unsure ☐

Q5) In your opinion, what are the five most important public health challenges within your locality? From the list below, select five challenges and rank them 1 to 5, where 1 is the most important challenge. Additional rows have been included if you wish to add topics not included in the list.

Challenge	Rank (1 to 5)
Obesity	
Sexually transmitted infections (inc. HIV/AIDS)	
Teenage pregnancy	
Cardiovascular disease	
Diabetes	
Smoking	
Drug abuse	
Mental illness	
Antibiotic resistance	
Respiratory illnesses	
Cancer	
Alcohol abuse	
Other (please state): _____	
Other (please state): _____	
Other (please state): _____	
Other (please state): _____	
Other (please state): _____	

Q6) Indicate how useful pharmacy could be in tackling the following challenges.

Challenge	Very useful	Useful	Of limited use	Of no use
Obesity	☐	☐	☐	☐
Sexually transmitted infections (inc. HIV/AIDS)	☐	☐	☐	☐
Teenage pregnancy	☐	☐	☐	☐
Cardiovascular disease	☐	☐	☐	☐
Diabetes	☐	☐	☐	☐
Smoking	☐	☐	☐	☐
Drug misuse	☐	☐	☐	☐
Mental illness	☐	☐	☐	☐
Antibiotic resistance	☐	☐	☐	☐
Respiratory illnesses	☐	☐	☐	☐
Cancer	☐	☐	☐	☐
Alcohol abuse	☐	☐	☐	☐

Section 4 – Views on pharmacy's role in public health

Q7) Do you consider that the new pharmacy contract will facilitate the development of the public health role of community pharmacists? (Tick one box only)

It will **significantly strengthen** the public health role	☐
It will **strengthen** the public health role	☐
It will **neither strengthen nor weaken** the public health role	☐
It will **weaken** the public health role	☐
It will **significantly weaken** the public health role	☐
Don't know	☐

Q8) **Do you believe that pharmacy will be able to compete effectively with other healthcare providers for access to additional funding to develop services that address a public health need identified by the PCO? (tick one box only)**

Pharmacy **will** be able to compete effectively	☐
Pharmacy **may** be able to compete effectively	☐
Pharmacy **will not** be able to compete effectively	☐
I am **unsure** if pharmacy will be able to compete effectively	☐

Briefly outline your reasons for the answer given above:

_____

_____

_____

_____

_____

_____

Q9) **Which of the following do you consider to be barriers to the development of the public health role of community pharmacists? (tick the appropriate boxes)**

	Major barrier	Minor barrier	Not a barrier	No opinion
Time constraints	☐	☐	☐	☐
Lack of available funding	☐	☐	☐	☐
Unsuitable premises	☐	☐	☐	☐
Lack of knowledge	☐	☐	☐	☐
Lack of training opportunities	☐	☐	☐	☐
Lack of understanding of public health	☐	☐	☐	☐
Lack of awareness of the social model of health	☐	☐	☐	☐
Conflicts arising from commercial interests	☐	☐	☐	☐
Positioned outside of the NHS	☐	☐	☐	☐
Lack of communication between pharmacy and other health professionals/PCTs	☐	☐	☐	☐
Pharmacy's inexperience of the commissioning process	☐	☐	☐	☐
Unwilling to leave 'comfort zone' of dispensary	☐	☐	☐	☐
Other (please state): _____	☐	☐		
Other (please state): _____	☐	☐		
Other (please state): _____	☐	☐		

Q10) Which of the following do you consider to be advantages in the development of the public health role of community pharmacists? (tick the appropriate boxes)

	Major advantage	Minor advantage	Not an advantage	No opinion
Freedom from the NHS	☐	☐	☐	☐
Geographical location	☐	☐	☐	☐
High levels of patient contact	☐	☐	☐	☐
Accessibility	☐	☐	☐	☐
Knowledge	☐	☐	☐	☐
High levels of patient trust	☐	☐	☐	☐
Other (please state): _____	☐	☐		
Other (please state): _____	☐	☐		
Other (please state): _____	☐	☐		

Section 5 – About you

Q11) Are you?

Male ☐
Female ☐
Do not want to say ☐

Q12) Are you?

25 and under	☐
26-35	☐
36-45	☐
46-55	☐
56-65	☐
66 and over	☐
Do not want to say	☐

Q13) Which of the following best describes your religion?

Buddhism	☐
Christianity	☐
Hinduism	☐
Islam	☐
Judaism	☐
Sikhism	☐
None	☐
Other	☐ please specify: _____
Do not want to say	☐

Q14) How would you best describe your ethnic background? Tick one box only.

White	
British	☐
Irish	☐
Other White background (please state)	☐ _____
Black or Black British	
Black Caribbean	☐
Black African	☐
Any other Black background (please state)	☐ _____
Dual Heritage	
White and Black Caribbean	☐
White and Black African	☐
White Asian	☐
Any other mixed background (please state)	☐ _____
Asian	
British Asian	☐
Indian	☐
Pakistani	☐
Bangladeshi	☐
Any other Asian background (please state)	☐ _____
Chinese or Other Ethnic Group	
Chinese	☐
Any other background (please state)	☐ _____
Do not want to say	☐

Future research

In the next phase of this research, I plan to undertake short interviews with PCO staff to further explore the issues affecting public health and pharmacy within their localities. I anticipate this work will commence in Autumn/Winter 2005. I would be grateful if you could indicate below whether, **in principle**, you would be willing to consider participating in this phase of the research. Agreement in principle means only that you will be considered as part of the overall sample for the next phase. Should you be selected from this sample, I would like to contact you to discuss further what your participation would mean. In principal agreement to participate further at this point will not be binding in the future and you will be free to withdraw at any stage.

I would be willing to take part in the research study ☐

I am not willing to take part ☐

If you are interested in taking part or in discussing this further, please complete the following details, which will aid me in sampling for phase two and will help me to contact you at a convenient time (your answers to the questionnaire will remain anonymous and unidentifiable):

Please give the name of the primary care organisation in which you work:

_____

Your name: _____

Your telephone number: _____

Your email address: _____

Best times to contact you are: _____

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. Please complete and return the questionnaire in the enclosed SAE.

Mr Joseph Bush MRPharmS

[Address]

[Tel]

[Email]

Appendix 4 – Covering letter sent with questionnaire to Directors of Public Health and Chief Pharmacists

Mr Joseph Bush MRPharmS
[Address]
[Email]
[Tel]

31st October 2005

Dear Chief Pharmacist/DPH (put name if known):

Re: Pharmacy and Public Health

I am writing to you to invite you to take part in a study investigating the public health role of primary care and community pharmacists.

The study is designed in two phases:

- Phase one is a survey of current and future practice of, and attitudes towards, pharmacy's public health role, by postal questionnaire
- Phase two will involve more in-depth exploration of the issues arising from the questionnaire by qualitative interview.

I would like you to take part in this important study and give me your views on public health and pharmacy by completing the enclosed questionnaire. Your answers will be used to inform the ongoing debate surrounding the development of pharmacy's public health function. The questionnaire should only take around fifteen minutes to complete and an SAE is enclosed for you to return it to me. I would be grateful if you would respond by **18th November 2005**. Your participation in this study is entirely voluntary, and data from your responses will be anonymised.

If you have any questions or queries do not hesitate to contact me using the details given above. I look forward to receiving your completed questionnaire.

Thank you for your participation.

Yours sincerely,

Joe Bush

Appendix 5 – Reminder letter sent to Directors of Public Health and Chief Pharmacists

Mr Joseph Bush MRPharmS
[Address]
[Email]
[Tel]

21st November 2005

Dear ,

Re: Pharmacy and Public Health

I recently wrote to you to invite you to take part in a study investigating the public health role of primary care and community pharmacists.

The study is designed in two phases:

- Phase one is a survey of current and future practice of, and attitudes towards, pharmacy's public health role, by postal questionnaire to the Director of Public Health and the Chief Pharmacist within each Primary Care Organisation in the UK.

- Phase two will involve more in-depth exploration of the issues arising from the questionnaire by qualitative interview.

As I am yet to receive a completed questionnaire from yourself, I would be very grateful if you could give me your views on public health and pharmacy by completing either the original or the newly enclosed questionnaire. If you have completed and returned the questionnaire within the last few days, please disregard this letter. Your answers will be used to inform the ongoing debate surrounding the development of pharmacy's public health function. The questionnaire should only take around fifteen minutes to complete and an SAE is enclosed for you to return it to me. I would be grateful if you would respond by **2nd December 2005**. Your participation in this study is entirely voluntary, and data from your responses will be anonymised. The study has both ethical and organisational research governance approval.

Your participation in this study would be highly valued. If you have any questions or queries do not hesitate to contact me using the details given above. I look forward to receiving your completed questionnaire.

Thank you for your participation.

Yours sincerely,

Joe Bush

Appendix 6 – Indicative follow-up interview theme plan

Interview Schedule

Introduction

Explain that this is part of a wider research project on public health and pharmacy. What I would like to do today is to explore your views on the role of pharmacy within public health in your locality. It would help me if you agreed to the interview being tape-recorded – is this acceptable?

Innovative service(s)

1) In your returned questionnaire you indicated that pharmacies within () are involved in providing (). Could you briefly describe this service?

- Is the service commissioned by ()?
    - Yes – commissioned by ()
        - What was the origin of this service?
        - What are the aims and objectives of the service?
        - How is the service delivered?
        - What are the outcome measures of the service?
        - To what extent do you consider this scheme has been successful in achieving the desired outcomes?
        - What features of the scheme could you identify that made the policy a) a success; or b) otherwise?
        - What problems did you encounter during implementation?
        - If you were to implement a similar service in the future, is there anything you would do differently?
    - No – not commissioned by ()
        - How many pharmacies are involved?
        - How is it funded?
        - What are the drivers behind the service?

- Commercial?
- Other?

- What are your feelings towards this scheme?
  - Positive
    - Why?
  - Negative
    - Why?

2) Has this service changed your views on the role of community pharmacists?

3) Has this service influenced (the PCO's) future public health plans?
   - Which features?
   - And why?

4) Has this service changed working practices within ()?
   - For example, has it increased interaction between PH and pharmacy?

Pharmacy representation within the PCO

5) Is pharmacy represented on your PEC/Board?

- Yes
  - Who by?
- No

6) Do you feel the PEC/Board is broadly supportive of a strengthening of the public health function of community pharmacists?

7) Are there any (other) pharmacists employed within the Public Health Directorate of your organisation?

- Yes
  - Description
    - Specialists
    - Others
  - What roles do they perform?

- How do you liaise with these individuals?

- No
  - Has such an appointment been considered?
    - Yes
      - Why?
    - No
      - Why?

Links with community pharmacy

8) Has pharmacy been engaged in the development of your public health programmes?

- How did the (PCO) engage pharmacy?
- How did pharmacy engage with the (PCO)?
  - LPC?
  - Individual contractors?
- Did pharmacy representatives advocate a greater role for pharmacy in public health?
  - Pharmacy lead
  - Other (PCO) pharmacists
  - LPC
  - Contractors
  - Any other pharmacy bodies

9) Is pharmacy (i.e. the Local Pharmaceutical Committee, Contractors etc.) consulted in the strategic planning of public health issues with the PCO?

- Are you personally involved? YES / NO
- LPC YES / NO
- Other contractors YES / NO
- Examples?
- If not, do you believe there would be any advantage in involvement?

Yes – and why?

No – why not?

10) Is there **any** communication between () and local community pharmacists regarding public health matters? How do you communicate, is it through the LPC, contactors or others?

- YES / NO
    - LPC
    - Contractors
    - Others

Policy issues

11a) Forgive my ignorance but () highlighted the need for a new contractual framework. Has a new contract been implemented yet and, if not, at what stage are negotiations at?

- New contract implemented
    - YES
        - How is this structured?
    - NO
        - Has a framework been agreed?
            - YES
                - How is this structured?
            - NO
                - At what stage are negotiations at?
                - Any problems?

11b) What will the new pharmaceutical contract's impact (when implemented) be upon community pharmacy involvement in public health in ()?

12) How do you feel the new pharmacy contract will influence the development and delivery of pharmacy-based public health services?

13) Has (), the strategy for pharmacy in () had any influence on:

a) your thinking regarding pharmacy and public health?

b) the way you deliver frontline services?

14a) Have any projects been provided in your area under () funding?

- YES
  - Examples
- NO
  - Reasons

14b) What are your feelings towards ()?

POSITIVE NEGATIVE

15) Over several years it has become apparent that obesity, and associated disease states, are going to represent a significant burden on the health services, both in the present and for the foreseeable future. What role do you envisage pharmacy playing in the drive to combat obesity?

- Nationally
- Locally
  - Plans?

Funding

16) Do financial constraints limit the development of pharmacy-based public health measures within ()?

17) How have the public health measures you deliver through pharmacy been funded?

- Internal
  - Ring-fenced
  - Open
- External
  - Regeneration (NRF etc.)
  - DH
  - Others

18) In terms of the provision of services commissioned by (), do/can pharmacists provide 'value-for-money' in comparison to other service providers?

- GPs
- Nurses
- Others

19) Does the nature of your population influence your ability to commission public health services through pharmacy?

- i.e. Does your population create a 'niche' for the provision of public health services through pharmacy?
    - Student population
    - Focus on the elderly

20) Have you got any plans to site/relocate any pharmacies in areas of socioeconomic deprivation?

    - Yes/No

    - Do you feel pharmacists in such areas can help to reduce health inequalities?

21) Are there any other points concerning pharmacy and public health that you would like to make?

That is the end of my questions. Can I thank you for your time.

Appendix 7 – Results from the follow-up interviews of Directors of Public Health and Chief Pharmacists

For details of methodology, sample selection and administration of the interviews see Chapter 3. The interviews generated a considerable amount of qualitative data. Thematic analysis of the transcripts revealed several commonalities in approach between respondents. Presented below are the emerging themes illustrated by characteristic examples of data.

Success factors in the development of community pharmacy-based public health services

The interviewees were selected, at least partially, on their reporting of the provision of health improving services through community pharmacies in their PCOs. During the interviews, respondents were asked for more specific detail about the innovative services that were being provided in their localities with a particular focus on the factors that made the service a success.

The interview data suggested a range of contributory factors that made a given service successful within a given PCO. These factors could be grouped under two headings:

- PCO-based success factors (internal success factors); and,
- Pharmacy-based success factors (external success factors).

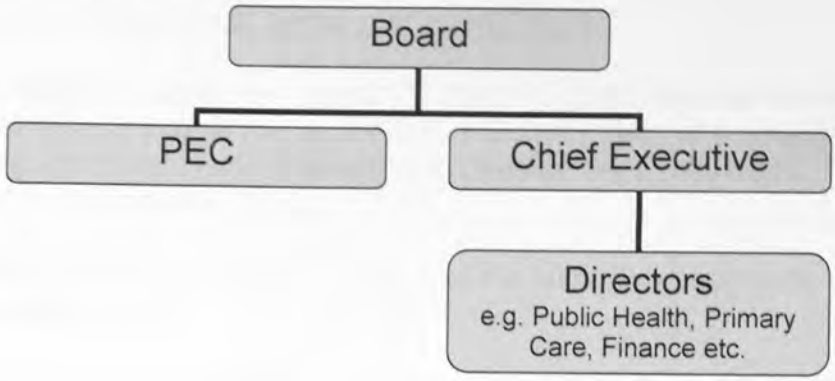
PCO-based success factors

The interview data suggested that a number of internal factors within the respondents PCOs were of importance when attempting to develop innovative pharmacy-based public health services. These factors are summarised, with illustrative comments, below.

<u>Senior management supportive of pharmacy</u>

All interviewees (n=6) indicated that the senior management structures within their PCOs (see diagram below) were supportive of the development of the public health function of community pharmacy.

Typical organisational structure of management at PCOs



Such support could come from the Board itself (the overall decision making body of a PCO) or the Professional Executive Committee (PEC) which seeks to provide clinical direction to the Board and deals with service developments (PEC is the term used in England – in the devolved administrations these committees are known by different titles):

> *"[our] Professional Advisory Committee [the equivalent of a PEC in England], which advises the Board…and to which I service that committee, would be very supportive of the public health function, the Chair and the members would be advocating to the Board, broadening… the public health function." (CP, Scottish PCO)*

> *"Very supportive. It's [the PCO Board] very supportive of a strengthening of the public health function." (DPH, Welsh PCO)*

Pharmaceutical input into strategic planning

The direct input of pharmacists into the planning of strategies was highlighted (n=3) as a success factor in developing successful pharmacy-based public health interventions. This input could be from within the PCO itself (i.e. from the PCO pharmacists) or from community pharmacists within the local communities:

> *"I was tasked with putting together the [obesity] strategy, and so, to make sure it was comprehensive, the group that I got together involved the usual suspects. So we had people like dieticians, health visitors, school nurses, GPs – we actually had a Consultant Endocrinologist – and as part of that group I bought in [the Head of Medicines Management] because, obviously there is an issue around drugs and weight management." (DPH, English PCO)*

> *"Yes pharmacy is one of the stakeholders and it would be consulted when we're doing strategic planning in public health." (DPH, Welsh PCO)*

Pharmacy representation at senior managerial level

As well as having a supportive senior managerial team, representation from a pharmacist at such a level (i.e. a Board or PEC member) was also viewed by interviewees as beneficial in attempting to develop the public health function of community pharmacists (n=3):

> *"We have a, a good high profile... at the levels we need to be at." (CP, Scottish PCO)*

> *"Now, I'm not sure that he's actually a member of the PEC, my guess is that he's an observer, so potentially he doesn't have a voting right, but he...attends the meetings and, obviously, influences the debate." (CP, English PCO1)*

Close interaction between public health and pharmacy

All interviewees (n=6) reported that good working relationships and close interaction between PCO pharmacists and Public Health Directorates were important in attempting to develop community pharmacy's public health function:

> *"I suppose in our organisation we work across departments in a, sort of, matrix organisation in that, where we require a particular function then it's, it's pulled in and I have great relationships with the Public Health Consultants." (CP, Northern Irish PCO)*

> *"I started involving her in my... public health, pharmaceutical public health agenda...and, you know, and [the DPH] has become a very strong supporter of community pharmacy within public health...I think you, you do need a strong relationship with, with public health." (CP, English PCO1)*

"Champions" within the PCO

The importance of individuals "championing" the public health function of community pharmacy was also highlighted (n=2). Two interviewees intimated that they fulfilled this role within their PCOs:

> *"I suppose I have tried to, to raise the awareness of the public health function of community pharmacy." (CP, Northern Irish PCO)*

> *"I'm keen to, to see [that] pharm...community pharmacy's engaged because I come from that background." (CP, English PCO1)*

Ability to attract external funding

The financial climate within the NHS at the time of the study (see, for example, an article in the Guardian of 10th November 2006[307]) meant that an

ability to access finance from alternative funding streams gained increased prominence as a success factor in the development of services (n=3):

> *"I mean...we've tried to be...innovative in our thinking around getting these things pump-primed, I mean, you know, we've worked with [Pharmaceutical Company X], we've worked with...possibly going to be working with [Pharmaceutical Company Y] or [Pharmaceutical Company Z] around finding undiagnosed diabetics" (CP, English PCO1)*

Pharmacy-based success factors

In addition to the internal (PCO) success factors highlighted by the interview data, several external (pharmacy-based) success factors were also apparent. These factors are summarised, with illustrative comments, below.

The predominant type of pharmacy within the PCO

It was suggested (n=2) that a predominance of independent pharmacy contractors, as opposed to multiples, was advantageous when attempting to deliver pharmacy-based public health services:

> *"I mean, you know, one of the reasons that we've done so well in [X PCO] is that we have a high proportion of independents." (CP, English PCO1)*

> *"And I think the environment was probably amenable to patients feeling they could go along [Minor Ailments Service through community pharmacy], because these were independent pharmacies involved, they weren't part of a chain...so, the independent contractors themselves had a good relationship with the public and they knew their customer base very well." (DPH, Welsh PCO)*

Value for money in comparison to other healthcare professionals

Another potential success factor for the development of innovative pharmacy-based public health interventions was a feeling amongst interviewees (n=4) that pharmacists could provide value for money, for the service in question, in comparison to other healthcare professionals (GPs, nurses etc.):

> *"I do think pharmacists can provide value for money, ok, they might not be as cheap as nurses but they're far more aware of the clinical issues and the prescribing costs [and] I think that's the bottom line." (DPH, Welsh PCO)*

> *"I...think so and...we've seen it. I mean probably our most successful one [pharmacy-based service] has been the smoking cessation service...and we had a medical model before...which definitely didn't provide value for money." (CP, Scottish PCO)*

Access

The improved access to healthcare provided by community pharmacy was viewed (n=4), as it had been in the survey (see Chapter 5, Section 5.10.3), as a major advantage in developing certain pharmacy-based public health schemes, particularly in rural areas or for services targeting specific groups (e.g. men, drug users):

> *"I mean for us [X PCO] it's all about this...to enable people in the peripheral areas to readily access the service because the actual sexual health service is located centrally and therefore if you're in some of the rural areas which can be an...hours drive away...and...some of the clients...might well not have access to transport." (CP, Scottish PCO)*

> *"I think your pharmacist is accessible. We have an ageing population... that's helpful because again older people can often get to a pharmacist that's just down the road or on the corner or whatever. We have...quite a small black and ethnic minority population, and again I think they can find it easier sometimes to access a pharmacist...We do have quite a high proportion of asylum seekers and refugees, and again, I think going into a pharmacy is much less threatening because, you know, people are here illegally and they're worried about registering with a GP because they know they're going to be asked for all sorts of details that they don't have, whereas with a pharmacist you can just walk in, point to some tablets, buy them and walk out." (DPH, English PCO)*

Advantages over GPs

Two interviewees believed that pharmacists possessed features that place the profession above GPs as a delivery route for certain health improving interventions:

> *"You see...that for me is the beauty of pharmacy because [pharmacists are] often much better trained than the medics, they're...out there in the community and in that lifestyle, they see it happening and...they're in touch with it and when people come into...your shop...you can tell all sorts of things about the person from that, whereas with a GP you walk in, you've got eight minutes to tell them three things and...on the way out the GP will say "can I just say on your way out that you could do with losing a bit of weight." That doesn't happen with a pharmacist." (DPH, English PCO)*

Enthusiasm from pharmacy organisations

In PCOs where innovative pharmacy-based services had been developed, the positive attitudes of the local pharmacy organisations, or their representatives, were important in the success of the schemes in question (n=2):

"He's [PSNC representative] really enthusiastic about all sorts of things." (CP, English PCO1)

"We've got a very, very proactive Local Pharmaceutical Committee here which is a dream to work with...they want to do all of this new stuff." (CP, English PCO1)

Problems encountered when developing innovative pharmacy-based public health services

As well as identifying a variety of success factors, the interview data also highlighted a number of problems that were encountered by interviewees when trying to develop innovative pharmacy-based public health services. As was the case with the success factors, these problems could be grouped under two headings:

- PCO-based problems (internal problems); and,
- Pharmacy-based problems (external problems).

PCO-based problems

The data highlighted a number of internal problems that interviewees encountered when trying to develop their respective innovative services. Recurrent problems from the interview data are detailed below.

Financial constraints

The survey data showed that the majority (68%, n=204/301) of DPH and CP respondents considered financial constraints a major barrier to the development of the public health function of community pharmacists (see Chapter 5, Section 5.10.4). The impact of financial constraints on the development of pharmacy-based public health services was also repeated in the interviews (n=5):

"What happens at the moment is that, if new money comes in we develop projects with the GPs...with the psychologists or whatever and if there are any crumbs left over at the end of it we kind of brush them aside and let pharmacists pick them up you know." (DPH, English PCO)

"Getting the pharmacy-based public health agenda funded is going to be difficult and, again, we're always begging [and] borrowing...to get the funding." (DPH, Welsh PCO)

Opposition from GPs

Opposition to the development of community pharmacy's public health function by GPs with roles within PCOs was recurrent in the interview data (n=2). It was suggested that, whilst complaining of an excessive workload,

GPs were reluctant to relinquish any possible service, and the concomitant funding, to community pharmacists:

> *"The GPs...were a little bit agitated...and in the end we said "no, it's for pharmacy because we're trying to keep them out of the GPs because you simply haven't got the time and the capacity to do that." (CP, English PCO1)*

Pharmacy-based problems

A number of pharmacy-based success factors accompanied the PCO-based success factors. Similarly, several pharmacy-based problems encountered when developing innovative pharmacy-based public health interventions were also identified from the interview data. However, only one problem was mentioned by more than one interviewee and this is detailed below.

Attitudes of pharmacists and pharmacy staff

A recurrent problem identified in the interview data (n=3) was the negative attitudes held by some pharmacists and pharmacy staff. These attitudes covered a diverse range of subjects including a resistance to change and perceptions of particular service users:

> *"There could be better organisation within pharmacy so that they focus on their professional issues...not necessarily the dispensing function – there's a lot of resistance to giving up the checking and all that" (CP, Northern Irish PCO)*

> *"The attitudes...of counter staff towards drug users "we can't have them coming in our shop". We still have that among a few pharmacies, especially independent contractors who can't afford the shoplifting if there is any and so on." (DPH, Welsh PCO)*

Summary

The follow-up interviews conducted with a purposive sample of DPHs and CPs from PCOs with innovative pharmaceutical public health agendas suggested several areas worthy of further investigation, particularly in the case of the success factors identified from the interview data (the most pertinent of which are displayed in the table below).

Success factors in the development of innovative pharmacy-based public health interventions identified from the interview data

Success factors in the development of pharmacy-based public health services	
Pharmacy	**PCO**
• A high proportion of independent contractors within the PCO • Increased value for money in comparison to other healthcare providers for the service in question • Increased access provided in certain geographical areas and for certain patient groups • Prominent local pharmacy organisations (e.g. LPC, PSNC), representatives of those organisations, or individual pharmacists	• Supportive senior management (i.e. PEC or Board) • Pharmacy representation on the Board or PEC • Individuals within the PCO "championing" the cause of community pharmacy • Close interaction between PCO pharmacists and public health teams with direct input by pharmacists when formulating plans • Ability to access alternative funding streams (e.g. pharmaceutical industry)

Appendix 8 – Questionnaire distributed to community pharmacists

ASTON
UNIVERSITY
IN THE HEART OF BIRMINGHAM

Pharmacy and Public Health

This survey is part of a national study on the public health role of pharmacy. The survey has been designed to investigate: (a) the current public health activities and functions of community pharmacy across the UK; and (b) the attitudes of community pharmacists on the current and future potential for pharmacy involvement. Your answers will inform the ongoing debate surrounding the development of pharmacy's public health function and we hope that you will be willing to assist in this important study.

Completing the Questionnaire

The questionnaire should take around 10 minutes to complete. The majority of questions require you to indicate your chosen answer(s) by placing a ✓ clearly inside one of the boxes. Other questions require you to indicate your answer on a scale. This can be done by the use of a ✓ in the appropriate box on the scale. Don't worry if you make a mistake; simply cross out the mistake and put a ✓ in the appropriate place.

Section 1 – Occupational details

Q1) Indicate which of the following applies to you (tick the one response that is most applicable):

I work entirely within community pharmacy	☐	**Go to Q2**
I work partly in community pharmacy and partly in (an)other area(s) of the pharmacy profession	☐	**Go to Q3**
I used to work in community pharmacy	☐	**Go to Q8**
I am a retired community pharmacist	☐	**Go to Q8**
I am not in active employment	☐	**Go to Q8**
I work entirely outside of community pharmacy	☐	**Go to Q8**

Q2) Do you work full-time or part-time? (Tick one box only)

Full-time	☐	**Go to Q3**
Part-time	☐	**Go to Q3**

Q3) Tick the box that most closely corresponds to the job you hold within community pharmacy (tick one box only):

Proprietor/Owner	☐	**Go to Q4**
Manager	☐	**Go to Q4**
Relief pharmacist	☐	**Go to Q4**
Second pharmacist	☐	**Go to Q4**
Locum	☐	**Go to Q4**
Non-store based pharmacist	☐	**Go to Q5**
Other (please specify):	☐	**Go to Q4**

_____

Q4) Indicate which type of pharmacy you have most regularly worked in during the last six months (tick one box only):

Supermarket	☐	**Go to Q5**
Multiple (200 outlets or more)	☐	**Go to Q5**
Large chain (more than 20 outlets but less than 200)	☐	**Go to Q5**
Small chain (20 outlets or less but more than 5)	☐	**Go to Q5**
Independent (5 outlets or less)	☐	**Go to Q5**

Q5) To what extent is your present job:

	Highly	**Slightly**	**Not at all**
Concerned with local public health issues?	☐	☐	☐
Affected by national and local public health issues?	☐	☐	☐

Q6) 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	☐

Section 2 – Pharmacy public health activity

Q7) Which of the following services are provided in the pharmacy in which you have worked most regularly during the last 6 months? (Tick all boxes that apply)

	Yes	No	Planned for the future	I do not think that this is a public health role
Smoking cessation services	☐	☐	☐	☐
The sale of Emergency Hormonal Contraception over the counter (OTC)	☐	☐	☐	☐
The supply of Emergency Hormonal Contraception on a patient group direction (PGD)	☐	☐	☐	☐
Blood Pressure testing	☐	☐	☐	☐
Cholesterol testing	☐	☐	☐	☐
Minor ailments scheme	☐	☐	☐	☐
Diabetes testing and monitoring	☐	☐	☐	☐
Sexually transmitted infection (STI) testing (e.g. Chlamydia screening)	☐	☐	☐	☐
Supervised administration of medicines (i.e. methadone, buprenorphine etc.)	☐	☐	☐	☐
Needle exchange scheme	☐	☐	☐	☐
Health promotion on premises	☐	☐	☐	☐
Health promotion off premises	☐	☐	☐	☐
Out of hours services	☐	☐	☐	☐
Domiciliary visits	☐	☐	☐	☐
Home delivery of medicines	☐	☐	☐	☐
Palliative care services	☐	☐	☐	☐
Medicines Use Reviews	☐	☐	☐	☐
Collection of waste medicines	☐	☐	☐	☐

Other(s) – please give details below:

Current role(s): _____
_____
_____
_____

Role(s) planned for the future: _____
_____
_____
_____

Section 3 – Views on pharmacy's role in public health

Q8) In your opinion, what are the five most important public health challenges facing the UK? From the list below, select the five challenges which you believe are most important. Additional rows have been included if you wish to add topics not included in the list.

Challenge	Select (☑) 5
Obesity	☐
Sexually transmitted infections (inc. HIV/AIDS)	☐
Teenage pregnancy	☐
Cardiovascular disease	☐
Diabetes	☐
Smoking	☐
Drug abuse	☐
Mental illness	☐
Antibiotic resistance	☐
Respiratory illnesses	☐
Cancer	☐
Alcohol abuse	☐
Other (please state): _____	☐
Other (please state): _____	☐
Other (please state): _____	☐
Other (please state): _____	☐
Other (please state): _____	☐

Q9) Indicate how useful pharmacy could be in tackling the following challenges.

Challenge	Very useful	Useful	Of limited use	Of no use
Obesity	☐	☐	☐	☐
Sexually transmitted infections (inc. HIV/AIDS)	☐	☐	☐	☐
Teenage pregnancy	☐	☐	☐	☐
Cardiovascular disease	☐	☐	☐	☐
Diabetes	☐	☐	☐	☐
Smoking	☐	☐	☐	☐
Drug misuse	☐	☐	☐	☐
Mental illness	☐	☐	☐	☐
Antibiotic resistance	☐	☐	☐	☐
Respiratory illnesses	☐	☐	☐	☐
Cancer	☐	☐	☐	☐
Alcohol abuse	☐	☐	☐	☐

Q10) Do you consider that the new pharmacy contract will facilitate the development of the public health role of community pharmacists? (Tick one box only)

It will **significantly strengthen** the public health role	☐
It will **strengthen** the public health role	☐
It will **neither strengthen nor weaken** the public health role	☐
It will **weaken** the public health role	☐
It will **significantly weaken** the public health role	☐
Don't know	☐

Q11) Do you believe that pharmacy will be able to compete effectively with other healthcare providers for access to additional funding to develop services that address a public health need identified by your local Primary Care Organisation (PCO), e.g. PCT/LHB etc.? (tick one box only)

Pharmacy **will** be able to compete effectively	☐
Pharmacy **may** be able to compete effectively	☐
Pharmacy **will not** be able to compete effectively	☐
I am **unsure** if pharmacy will be able to compete effectively	☐

Briefly outline your reasons for the answer given above:

_____

_____

_____

_____

_____

_____

Q12) Which of the following do you consider to be advantages in the development of the public health role of community pharmacists? (tick the appropriate boxes)

	Major advantage	Minor advantage	Not an advantage	No opinion
Freedom from NHS control	☐	☐	☐	☐
Opportunity to provide services outside of the traditional clinical setting (e.g. away from GP's surgeries, clinics etc.)	☐	☐	☐	☐
High Street location	☐	☐	☐	☐
High levels of patient contact	☐	☐	☐	☐
Accessibility of the pharmacist	☐	☐	☐	☐
Knowledge	☐	☐	☐	☐
High levels of patient trust	☐	☐	☐	☐
Informal nature of pharmacist/patient interaction	☐	☐	☐	☐
Other (please state): _____	☐	☐		
Other (please state): _____	☐	☐		
Other (please state): _____	☐	☐		

Q13) Which of the following do you consider to be barriers to the development of the public health role of community pharmacists? (tick the appropriate boxes)

	Major barrier	Minor barrier	Not a barrier	No opinion
Time constraints	☐	☐	☐	☐
Lack of available funding	☐	☐	☐	☐
Unsuitable premises	☐	☐	☐	☐
Lack of knowledge	☐	☐	☐	☐
Lack of training opportunities	☐	☐	☐	☐
Lack of understanding of public health	☐	☐	☐	☐
Lack of awareness of the social model of health	☐	☐	☐	☐
Unwillingness of pharmacists to leave the 'comfort zone' of dispensary	☐	☐	☐	☐
Conflicts arising from commercial interests	☐	☐	☐	☐
Pharmacy's position on the fringes of the NHS	☐	☐	☐	☐
Lack of communication between pharmacy and other health professionals/PCOs	☐	☐	☐	☐
Ignorance of community pharmacy's potential public health contribution at PCO level	☐	☐	☐	☐
Pharmacy's inexperience of the commissioning process	☐	☐	☐	☐
Lack of a local, unified pharmacy organisation to bargain collectively for funding	☐	☐	☐	☐
Inability of the Local Pharmaceutical Committee (LPC) to represent pharmacy effectively	☐	☐	☐	☐
The removal of the obligation of PCOs to consult LPCs	☐	☐	☐	☐
Lack of incentive for employee pharmacists	☐	☐	☐	☐
Other (please state): _____	☐	☐		
Other (please state): _____	☐	☐		
Other (please state): _____	☐	☐		

Section 5 – About you

Q14) Are you?

Male ☐
Female ☐
Do not want to say ☐

Q15) Are you?

Under 29 ☐
30 – 39 ☐
40 – 49 ☐
50 – 59 ☐
60 and over ☐
Do not want to say ☐

Q16) Which of the following best describes your religion?

Buddhism ☐
Christianity ☐
Hinduism ☐
Islam ☐
Judaism ☐
Sikhism ☐
None ☐
Other ☐ please specify: _____
Do not want to say ☐

Q17) **How would you best describe your ethnic background? Tick one box only.**

White	
British	☐
Irish	☐
Other White background	☐
Black or Black British	
Black Caribbean	☐
Black African	☐
Any other Black background	☐
Dual Heritage	
White and Black Caribbean	☐
White and Black African	☐
White Asian	☐
Any other mixed background	☐
Asian	
British Asian	☐
Indian	☐
Pakistani	☐
Bangladeshi	☐
Any other Asian background	☐
Chinese or Other Ethnic Group	
Chinese	☐
Any other background	☐
Do not want to say	☐

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. Please complete and return the questionnaire in the enclosed SAE.

Mr Joseph Bush MRPharmS

[Address]

[Tel]

[Email]

Appendix 9 – Covering letter sent with questionnaire to community pharmacists

Mr Joseph Bush MRPharmS

[Address]

[Email]

[Tel]

[Date]

Dear Pharmacist:

Re: Pharmacy and Public Health

I am writing to you to invite you to take part in a study investigating the public health role of community pharmacists.

The research aims to survey current and future practice of, and attitudes towards, pharmacy's public health role.

I would like you to take part in this important study and give me your views on public health and pharmacy by completing the enclosed questionnaire. Your answers will be used to inform the ongoing debate surrounding the development of pharmacy's public health function. The questionnaire should only take around ten minutes to complete and an SAE is enclosed for you to return it to me. I would be grateful if you would respond by **INSERT DATE**. Your participation in this study is entirely voluntary, and data from your responses will be anonymised.

The study has received a favourable ethical opinion from the Life and Health Sciences Research
Ethics Committee at Aston University and has been scrutinised by the Royal Pharmaceutical Society of Great Britain – from whom we obtained your details. If you have any questions or queries do not hesitate to contact me using the details given above. I look forward to receiving your completed questionnaire.

Thank you for your participation.

Yours sincerely,

Joe Bush

Appendix 10 – Reminder letter sent to community pharmacists

Mr Joseph Bush MRPharmS

[Address]

[Email]

[Tel]

[Date]

Dear Pharmacist:

Re: Pharmacy and Public Health

I recently wrote to you to invite you to take part in a study investigating the public health role of community pharmacists.

The research aims to survey current and future practice of, and attitudes towards, pharmacy's public health role.

As I am yet to receive a completed questionnaire from yourself, I would be very grateful if you could give me your views on public health and pharmacy by completing either the original or the newly enclosed questionnaire. If you have completed and returned the questionnaire within the last few days, please disregard this letter. Your answers will be used to inform the ongoing debate surrounding the development of pharmacy's public health function. The questionnaire should only take around ten minutes to complete and an SAE is enclosed for you to return it to me. I would be grateful if you would respond by **[INSERT DATE]**.

Your participation in this study is entirely voluntary, and data from your responses will be anonymised. The study has received a favourable ethical opinion from the Life and Health Sciences Research Ethics Committee at Aston University and has been scrutinised by the Royal Pharmaceutical Society of Great Britain – from whom we obtained your details.

Your participation in this study would be highly valued. If you have any questions or queries do not hesitate to contact me using the details given above. I look forward to receiving your completed questionnaire.

Thank you for your participation.

Yours sincerely,

Joe Bush

Appendix 11 – Presentations relating to research undertaken for this PhD

Bush, J., et al., *The new pharmacy contract and its effects on the public health contribution of community pharmacists.* International Journal of Pharmacy Practice, 2006. **14**(Supplement 1): p. A23.

Bush, J., et al., *Exploratory interviews with pharmacy-based public health "key players".* International Journal of Pharmacy Practice, 2006. **14**(Supplement 1): p. A24.

Bush, J., et al., *Pharmaceutical input into public health planning in UK primary care organisations.* International Journal of Pharmacy Practice, 2006. **14**(Supplement 1): p. A25.

Bush, J., et al., *Perceived barriers to the development of community pharmacy's public health function: a survey of the attitudes of Directors of Public Health and Chief Pharmacists in UK primary care organisations.* International Journal of Pharmacy Practice, 2006. **14**(Supplement 2): p. 68-69.

Bush, J., et al., *How useful can pharmacy be in improving the health of the public? A survey of the attitudes of Directors of Public Health and Chief Pharmacists in UK primary care organisations.* International Journal of Pharmacy Practice, 2006. **14**(Supplement 2): p. 69-70.

Bush, J., et al. *Implementing Choosing Health Through Pharmacy: The Development of Community Pharmacy's Public Health Activity.* in *United Kingdom Public Health Association 15th Annual Forum.* 2007. Edinburgh.

Bush J, Langley CA, Jesson JK, Wilson KA. Variations in public health provision: the mixed market of pharmacy ownership. *International Journal of Pharmacy Practice* 2007;**15**(Supplement 2):B53