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INFLUENCES ON GENERAL PRACTITIONER PRESCRIBING

WITH PARTICULAR REFERENCE

TO

COMMUNITY PHARMACY

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Doctor of Philosophy

THE UNIVERSITY OF ASTON IN BIRMINGHAM

July 1992

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THE UNIVERSITY OF ASTON IN BIRMINGHAM

SUMMARY

**INFLUENCES ON GENERAL PRACTITIONER PRESCRIBING
WITH PARTICULAR REFERENCE TO COMMUNITY PHARMACY**

Michael Harrop Jepson

Submitted for the degree of Doctor of Philosophy, 1992

Influences on general practitioner prescribing of drugs continue to be of interest and importance as cost containment becomes central to Government health policy.

This thesis employs a plurality of research methods including quantitative and qualitative survey techniques for example, questionnaires, interviews and prescription analyses to investigate some of the factors which may influence GP prescribing such as information sources, hospital consultants and in particular the community pharmacist.

When the use and influence of drug information sources by GPs was examined, the community pharmacist was given a relatively low rating as a source but a high rating, similar to that of the consultant, for helpfulness.

Influences are needed to improve prescribing and reduce the incidence of iatrogenic disease for the benefit of the patient. The education and expertise of pharmacists and their familiarity with local prescribing habits places them in a unique position to meet the needs of local GPs. As 96.5% of the public always or nearly always take their prescriptions to the same pharmacy, patient medication records, now kept by 77.5% of pharmacies, provide a valuable check on the appropriateness and safety of patients' medication.

The barriers to the pharmacist's greater involvement were shown to be suspicion by GPs of pharmacists' motivation, isolation of many community pharmacists, difficulties in leaving the pharmacy for domiciliary visits, residential home care and GP practice meetings. These barriers must be lowered if the pharmacist is to have a greater influence and involvement.

It was concluded that changes are necessary in pharmaceutical education, staff training, organisation and remuneration.

Some changes in the targeting of remuneration to the pharmaceutical care services provided and registration of patients with pharmacies would contribute greatly to these aims.

Keywords: Influences on prescribing, community pharmacists, pharmaceutical care, pharmacy patient registration, liaison.

To Jean
without whom this study
would never have been concluded
and my parents
who always recognised
the real value of education

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And ever thanks ...

I can no other answer make, but thanks,

And thanks, and ever thanks.

William Shakespeare, Twelfth Night III iii

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"The role of the community pharmacist is arguably central to successful primary health care delivery in modern society"

National Audit Office Report
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ABBREVIATIONS USED IN THE TEXT

ADR	Adverse Drug Reaction
BMA	British Medical Association
BNF	British National Formulary
CPP	College of Pharmacy Practice
CPPE	Centre for Pharmacy Postgraduate Education
CSM	Committee on the Safety of Medicines
DHSS	Department of Health and Social Security
DoH	Department of Health
FHSA	Family Health Services Authority
FPC	Family Practitioner Committee
GP	General practitioner
GSL	General Sales List (Medicine)
MIMS	Monthly Index of Medical Specialities
NAO	National Audit Office
NHI	National Health Insurance
NHS	National Health Service
OECD	Organisation for Economic Co-operation and Development
OPCS	Office of Population, Censuses and Surveys
OTC	Over The Counter (Medicine)
P	Pharmacy medicine
PACT	Prescribing Analysis and Cost
PG	postgraduate
PMR	Patient Medication Record
PPA	Prescription Pricing Authority
POM	Prescription Only Medicine
PSNC	Pharmaceutical Services Negotiating Committee
RCGP	Royal College of General Practitioners
RPSGB	Royal Pharmaceutical Society of Great Britain
SPSS	Statistical Package for Social Sciences
UG	undergraduate
UK	United Kingdom
USA	United States of America
VPRS	Voluntary Price Regulation Scheme
Reference to ' his ' includes ' her '.	

INFLUENCES ON GP PRESCRIBING - WITH PARTICULAR REFERENCE TO
COMMUNITY PHARMACY

CHAPTER 1 INFLUENCES ON GENERAL PRACTITIONER PRESCRIBING

1.1 INTRODUCTION

Prescribing is one of the central functions of the doctor and a major clinical responsibility.¹ A doctor selects and prescribes a drug in response to a patient's condition and the nature of any disease. Bush considers that prescribing is determined more by social factors than by morbidity factors and that among the more important influences on prescribing are individual physician characteristics, the practice setting, the pharmaceutical industry, doctor-patient roles and relationships and patient expectations.²

When it is considered that about 70% of a general practitioner's (GP's) prescriptions (and many hospital prescriptions) are issued in response to patients' symptoms rather than to actual diagnosis³ it is not surprising that the complexity and interplay of the influences on prescribing by GPs has been the inspiration for much research and study. Even so there is still much which warrants further research.

The main groups of actual and potential influencing factors may be summarised under the following headings, which start with the education of the medical undergraduate. Progressively the

medical student is exposed to influences which have been summarised in Figure 1.2, many of which recur throughout a doctor's professional career. The influencing factors will be separately reviewed in detail:

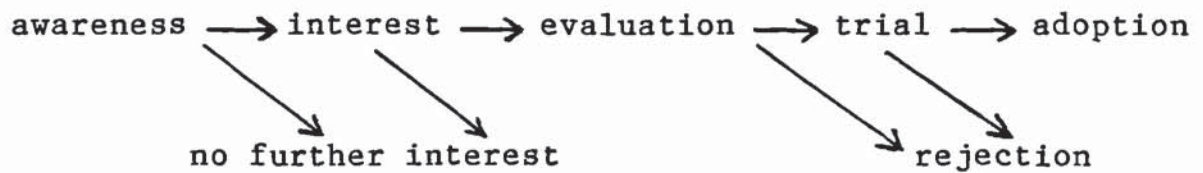
- a) **Educational influence** - including the initial influence of undergraduate medical education, and later vocational, postgraduate and continuing education (1.4)
- b) **Hospital influence** - medical staff, consultants in particular, the input by hospital pharmacists, especially those in drug information and drug and therapeutics committees (1.5)
- c) **Peer group influence** - colleagues in the same and other practices, leading or eminent physicians, District Medical Officers, Family Health Service Authority Medical and Pharmaceutical Advisers, and innovative prescribers (1.6)
- d) **Drug regulation influence** - ranges over the influence and controls effected through *statutory* bodies, the Department of Health (DoH) and the National Health Service (NHS), the Medicines Control Agency (MCA), the Committee on Safety of Medicines (CSM), the Regional Medical Service, the Family Health Services Authorities (FHSA) and the GP Contract and Terms of Service; the restricted prescribing list; Prescribing Analysis and Cost (PACT) data; formularies; medical audit, 'fund-holding' practices, and the 'indicative prescribing scheme' (1.7)
- e) **Information systems and services, their influence** -

including the British National Formulary (BNF) Drug and Therapeutics Bulletin, medical journals, Monthly Index of Medical Specialities (MIMS), Prescribers' Journal, and the more recently introduced MeReC Bulletin. Of particular importance are those sources which provide independent evaluated information (1.7)

- f) **Pharmaceutical industry influence** - including the various aspects of drug promotion especially advertising, medical representation and sponsored meetings (1.7.4)
- g) **Influence of patients** - in their own right as a consequence of their expectations, education and the doctor-patient relationship (1.8)
- h) **Influence of personal factors** - such as ethics, attitudes, motivation, relationship with practice colleagues, style and organisation of practice, prescribing habits (1.9)
Other influences can include - changes in medical practice, as affected by factors such as the hospice movement, rest homes for the elderly, dispensing practice, attitude to alternative medicine and practitioners
- i) **Pharmacists' influence** - the community pharmacists' influence as a specialist information resource (1.10).

Potential influences on a doctor's prescribing occur at all stages of progression in the adoption or rejection of a new drug by a prescriber and as an influence on the continued or discontinued prescribing of a previously adopted drug. Figure 1.1 shows in simplified form the stages in adoption.

Figure 1.1 STAGES IN ADOPTION OF A NEW DRUG BY A PRESCRIBER

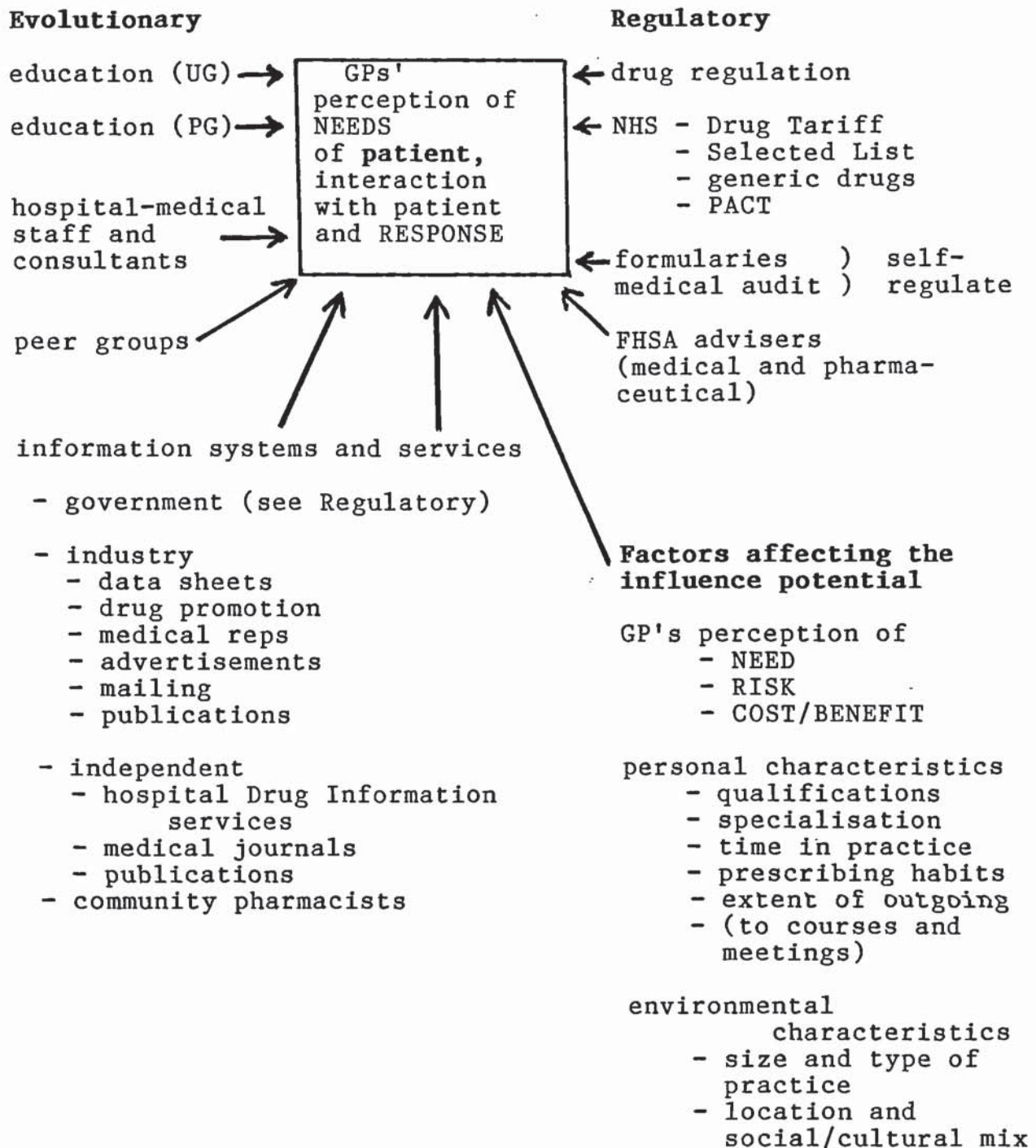


(after Miller ⁴)

Figure 1.2 summaries the potential influences on GP prescribing under the two main headings of 'evolutionary' and 'regulatory'. The former tends to have a developing influence as a doctor's career progresses, while the latter tends to be set by current legislation, NHS contract, professionally imposed restraints or other arrangements to modify and rationalise prescribing. In Figure 1.2 are also listed a range of factors likely to affect the influence potential, which include personal and practice characteristics.

Many of the sources of information and influence have been variously labelled as active or passive, direct or indirect, professional or industrial.^{5,6} The descriptions are useful when considering such matters as the extent of bias in the information source and influence and the extent to which either the information is freely supplied to a GP without any effort required, or the information requires to be sought by a GP.

Figure 1.2 POTENTIAL INFLUENCES ON GP PRESCRIBING



(after Miller⁴ and Strickland-Hodge⁵)

1.2 THE ADOPTION OF A NEW DRUG

1.2.1 Concept of adoption

Winkler et al postulated that the clinical acceptance of a recommended change in practice depends in part on the way it is communicated to practitioners.⁷ Furthermore recommendations may be most likely to be accepted when they are delivered personally by a respected source.

The concept of adoption stages in the prescribing of a new drug is important because it suggests that some communication variables may play a more influential role than others at a given stage. Investigators have found that the most crucial distinction of several adoption stages is that between **first awareness of** and **decision to use** a medical innovation.⁸ This implies an important distinction between communication variables that **inform** physicians of new developments and those that **persuade** physicians to implement them.

Strickland-Hodge found that 'industrial' information was used more at the **awareness** stage of the adoption process while 'professional' sources of information such as articles in medical journals were used more to **evaluate** a new drug. Furthermore, industrial information seemed to be preferred by older, single practice doctors who did not specialise and had a first degree only.⁵

Weinberg et al considered the most potent legitimising force for influencing medical practice to be professional face-to-face contact.⁹

While the general direction of a recommendation may determine its acceptance, whether for example, the primary recommendation is to add a new medical practice, drop a current practice, or alter the use of an existing practice, evidence suggests that new practices may be adopted by physicians more rapidly than old practices are discarded. Winkler et al concluded that whereas various factors may heighten physicians' awareness of assessment information, a restricted set of influences may actually lead them to alter their practices.⁷

Williamson postulated that the expansion of group practices and the corresponding reduction in the number of single-handed practices has increased the rate of the adoption of pharmaceutical innovations, perhaps because this arrangement facilitates exposure to information and colleague interaction.¹⁰ The coming together of GPs to share and jointly run larger practices has potentially created many more lines of communication, mainly between those practice doctors, but also with a wider range of other health care professionals and additional practice personnel. Such a group practice becomes a better target for the attention of drug manufacturers and their medical representatives. The sharing of patients, appointments, visits and special clinics results in a much more

complex management of prescriptions including repeat prescriptions.

Group practices, though variable in management style, generally give doctors the chance to learn from the clinical experience and anecdotes of their peers and their prescribing practices. It is this latter aspect which can be effectively exploited by the Government through the Prescription Analysis and Cost (PACT) data now supplied to all GPs in England and Wales to contain prescribing costs. A similar system exists in Scotland called Scottish Prescribing Analysis (SPA). (Section 1.7)

Denig et al in the Netherlands hypothesised that prescribing behaviour can be viewed as reasoned action.¹¹ In order to explore this, a drug choice model for the treatment of irritable bowel syndrome (IBS) and of renal colic was tested on 169 physicians. Personal experiences with drugs and subjective professional norms appear to be valuable predictors of the drugs chosen. The authors concluded that *their findings may be useful when trying to change prescribing behaviour as the importance of the professional environment implies that educational programmes in groups might be more effective than individual approaches.*

When patients are no longer the responsibility of a single-handed doctor, problems about the sharing of information and other aspects of practice management arise. The growth of

group practice also provides an opportunity for doctors, and other members of the primary health care team, to learn from each other. In a study which describes how a group of GPs were made aware of their own prescribing habits, a BMA report on medical audit by peer review stated that: "any system (of audit) must have the confidence of the doctors in active practice, must avoid the legal pitfalls of allegations of negligence, and avoid too the dangers of defensive medicine."¹²

In an illuminating study focusing on the adoption process for the introduction of a specific new drug (Temazepam), Peay and Peay interviewed 124 Australian specialists and GPs.¹³ The authors were prompted by the apparent failure of various studies including those of Christensen et al¹⁴ and Weitz¹⁵ to support the findings of Coleman et al that the 'medical innovator' is a highly professional, central and respected member of the medical community.¹⁶

The authors concede that there are a number of differences between the seminal Coleman et al study¹⁶ as well as matters like the changing attitudes of the medical community towards innovation, environmental differences and a variety of practice settings. Within about thirteen months of the drug's release 71% were familiar with temazepam, 48% had prescribed it and 27% now preferred it to the alternatives. The most consistent predictor of the favourable reception of Temazepam at the various points in the adoption process was contact with the

medical representative. The results suggest that the adoption of the new drug was related to commercial forces rather than to a doctor's professional involvement. The data are more consistent with influences on individual doctors by sources external to the medical community.

Williamson had earlier suggested that where the adoption of a drug represents little risk, the prescribing doctor is often willing to prescribe on the basis of the information provided by the manufacturer, thereby initially relinquishing his personal evaluation.¹⁷

Strickland-Hodge divided doctors into **early** (top quartile of first-time prescribers) and **late** (last quartile to prescribe) prescribers. The early prescribers issued slightly more prescriptions per month, had a larger list size, read fewer journals and generally rated industrial sources of information more highly than the late prescribers.⁵

Peay and Peay¹³ record that Coleman et al¹⁶ contended that the pattern of innovation would be expected to vary with the characteristics of the particular drug. Factors such as perceived risk, whether the drug was a relatively undramatic pharmaceutical innovation or a drug with a potential for use by a wide range of doctors, were noted and taken into account in the selection of Temazepam for the study.

1.3 SEQUENTIAL POTENTIAL INFLUENCES ON A DOCTOR'S PRESCRIBING

Prescribing is invariably the consequence and culmination of a doctor's diagnosis or response to symptoms. It is concern about this decision-making process leading to a prescription or not which attracts so much attention. It can be an emotive as well as a rational issue because the decision-making involves expenditure by or on behalf of a large proportion of a doctor's patients. The quality of any decision depends on good and reliable information and good prescribing is no exception.

Although health delivery differs considerably in detail on both sides of the Atlantic, the influences on prescribers have much in common world-wide. As the North American literature on the subject is very extensive, this study will draw widely from it as well as from other countries principally in the Western world and the UK in particular.

Potential influences on a doctor's prescribing start during undergraduate medical education when tutors convey information, opinion and bias in discussing the action and use of drugs in pharmacology and therapeutics. (Figure 1.3) Clinical tutors especially can become an important influence as the undergraduate course progresses. However, the influence on the prescribing of new drugs is more problematic.

During the later stages of undergraduate clinical practice and subsequently during the year's work as a house officer before

full registration, the influence of peer group colleagues, especially consultants is likely to rise. In spite of the increased recognition of the importance of teamwork in medical care, in practice, limited involvement with other health care professionals with the exception of nurses, seems to occur. In the UK the opportunity for interaction and influence between medical undergraduates and undergraduates in other health care disciplines, including pharmacy, is practically non-existent. Hospital pharmacists have increased their contact at the clinical stage of medical education with the development of drug information pharmacists and ward pharmacists.

Subsequently a GP trainee is most likely to come under some influence from his immediate medical colleagues, especially from within the group practice and possibly from those local hospital medical colleagues known to the group practice and to whom patients are regularly referred.

Other influences which are likely to have begun to have an effect include those from pharmaceutical industry's medical representatives and from patients' expectations.

It is at the stage of becoming a GP assistant or junior partner, that personal attributes such as innovativeness, attitude to risk, age and the number of partners in the practice are likely to be more recognisable internal influences.

Figure 1.3 SEQUENTIAL INFLUENCE ON PRESCRIBING

medical student	→	house officer	→	GP
UG course		clinicians		partners,
tutors		consultants		colleagues and
				peers;
fellow students		nurses		practice
(medical and dental				characteristics;
only)		hospital pharmacists		personal
				characteristics;
medical journals		medical journals		cultural
(adverts, articles				environment;
leader)		D&Th. Bulletin		patients;
		Prescribers' Journal		drug firm
				representatives
NHS policies		BNF		medical
				journals;
personal attributes		drug industry		D&Th. Bulletin;
drug industry		Drug and Therapeutics		Prescribers'
		Committee		Journal;
BNF and textbooks		information units		BNF;
		systems and services		MeReC Bulletin;
				MIMS;
				FHSA medical
				and
				pharmaceutical
				advisers;
				pharmaceutical
				industry;
				PACT data;
				drug regulation
				medical audit;
				information
				units, systems
				and services;
				Drug Tariff;
				NHS Contract;
				symposia and
				meetings;
				postgraduate
				education;
				community
				pharmacists;

The opportunity for pharmacists to be involved with aspects of prescribing beyond the querying of doses and their frequency, and potential drug interactions, can in theory occur at all the career stages discussed above. It does depend considerably upon the ability and willingness of the parties involved to be aware of, and respond to the opportunities to work together for the ultimate improvement of prescribing which is in a patient's best interest.

Pervasively Government as an influence is manifested through various bodies, services and actions. The comprehensive nature of the NHS and its integration with medical education provide a considerable degree of continuity to influencing a doctor's attitudes and prescribing habits. For GPs', their contract with the FHSAs exerts an influence whether a GP's practice is a fund-holding practice or not. PACT data distributed to all GPs from the Prescription Pricing Authority (PPA) in association with FHSAs and their recently appointed medical and pharmaceutical advisers are further influencing factors.

The NHS and Community Care Act 1990, Section 35¹⁸ which provides for 'indicative amounts for doctors' practices', represents another Government influence, especially relating to prescribing costs.

A very different potential influence is the pharmaceutical industry whose dynamics are mostly based on high research

investment which in turn need to be matched by sustainably high levels of medical sales, especially of prescription only brand-name products. The industry's influence is already present when a medical student reads a medical journal. Advertisements, reports of clinical trials, editorial items are all potential influences, much of which emanates from the pharmaceutical industry.

It is important to recognise that a doctor's prescribing will modify and change as his career progresses. (Figure 1.3) Much of the challenge and objective of this thesis is to study those influences which from the literature and previous research, could perhaps most readily lead to improvements in prescribing habits for the principal benefit of the patients.

1.3.1 The decision not to prescribe

The BNF states that: "Medicines should be prescribed only when they are essential and in all cases the benefit of administering the medicine should be considered in relation to the risk involved."¹⁹ Much as this statement may appear to be stating the obvious it is a useful and constant reminder for rational prescribing, against most of the pressures on a GP which are for him to prescribe.

The decision by a doctor not to prescribe is not an easy one to make and it incurs its own risks. A GP may subsequently be accused of failing to act and the increased ease with which a

patient may now change GPs may be prompted if a patient is dissatisfied because a prescription has not been written. What is probable, is that if a GP decides not to issue a prescription more of his time will be required to explain adequately to the patient the reason why. Bradley noted that the option of not prescribing is only occasionally considered in prescribing research, partly because a prescription gives something tangible to study.²⁰

The annually rising financial costs incurred from prescribing in most countries, through a variety of health and social support schemes, are now widely perceived, by politicians and governments worldwide, to need to be contained. This has happened against the backcloth of a rapidly expanding and at times explosive therapeutic revolution which has so markedly affected the UK National Health Service since 1948.

The main objectives in this research are:

- a) To examine how influences on GP prescribing are changing with particular regard to the wide range of sources of information available.
- b) To investigate what changes are necessary for community pharmacists to influence prescribing more effectively through closer co-operation with GPs.

1.4 EDUCATION

1.4.1 Undergraduate

Considerable attention has been and is being paid to influencing and changing the prescribing habits of medical practitioners. It would seem that relatively less attention is paid to establishing a sound foundation for prescribing practice in the first place, that is during undergraduate medical education. Brodie et al has criticised undergraduate medical education for placing too little emphasis on clinical pharmacology and the evaluation of scientific papers and advertising material.²¹

The Health and Public Policy Committee of the American College of Physicians in 1987 accepted a paper by Meyer which reported that: "modern medical education has not dealt as effectively as it should with education of physicians in therapeutics. A traditional emphasis on the critical importance of correct diagnosis has not been followed by appropriate concern with the problems of therapeutics."²² Early essential training in pharmacology should be followed in clinical medicine with greater attention to inculcating the basic principles and important facts necessary for rational prescribing.

In many well-established medical schools, chairs in therapeutics and general practice have been established only in relatively recent time. Much seems to be passively left to an

emergent physician to heed the excellent advice included in the introductory pages of the BNF.¹⁹

As Hemminki said in 1975 "education should provide basic therapeutics skills and maintain them".²³ For a GP trainee at the end of his three year training, five years may have elapsed since the completion of his course in pharmacology. Reviews of the prescribing habits of doctors suggest that the time at which they completed their speciality courses can be a critical factor in predicting their subsequent selection of therapeutic agents.²⁴

American physicians are reported to prescribe four times more medication than their Scottish counterparts, with no evidence that Americans are healthier as a consequence. There is also no evidence that they might actually be less healthy as a result. Two to four times as many prescriptions are also issued per person in France, Italy and West Germany as compared with the UK. (OECD 1987) As there seems little evidence of under prescribing in the UK, these generalised comparisons do nevertheless suggest that British GPs do apply some restraint to their prescribing and perhaps need to be compared with that in other countries rather than only between themselves.

It is important nevertheless to keep the problems of education in perspective. One of the most important criteria for undergraduate education must be to aim at 'educating to cope

with change'. Keeping up-to-date needs to have its foundation in establishing the right attitude in the emergent graduate and to strive to that end for the prime benefit of the patient. Any profession can only justify its continuing existence if it provides a service which the client/patient continues to need and expect.

If the objectives of the Government's consultative document 'The Health of the Nation' are to be realised, in relation to recognising the opportunities and responsibilities to improve health, the need for greater co-operation, the best possible use of available resources and of information,²⁵ then undergraduate education should be the starting force.

Attention should be given to the considerable benefit which could accrue from linking some of the medical undergraduate course with those of some other health care disciplines, such as pharmacy, nursing and possibly *physiotherapy*. *At present in the UK it is only courses in medicine and dentistry which are considered together.*

In November 1987, the UK Ministers of Health and Education and Science set up 'The Steering Group on Undergraduate Medical Education "to consider how the current arrangements for undergraduate medical education can be improved"²⁶ In April 1988, the remit was widened to include dental education. The Steering Group reported in 1989 and in 1990.²⁶ Reference

is made in the recommendations to: "educating medical and dental students, both in terms of promotion of good health and treatment of illness to meet the future needs of health services and to maintain the standards of their professions." Also that: "the partnership between medical and dental schools and health authorities requires reciprocity in their dealings and planning with an appreciation of the other's needs." The Steering Group paid attention to the issues of educational funding and latterly to the implication of NHS reorganisation and purchaser and provider separation.

The Report also refers to the future need for medical students to spend more time in the primary and community care setting, and the impact of the increasing number of elderly people requiring more care to enable them to continue to live at home.

The Group is of the opinion that teaching in general practice is an integral and important part of the education of all medical students and recognises that arrangements for funding academic general practice are more complex than for other academic disciplines. There is no reference to the evolving needs of the primary health care team and how this might be initiated by some course links at undergraduate level.

Initiatives, along such lines seem to be more readily accepted in Developing Countries such as India and Thailand where common

undergraduate courses involving medical, nursing, pharmacy and physiotherapy students are currently being evaluated.^{27,28}

In a report on the need for change in medical education, it is noted that there has been little reduction in the factual load imposed on students and that the job of the undergraduate course is no longer to produce doctors who are ready to enter single-handed general practice.²⁹ What is required is to produce doctors who have attitudes to medicine and learning that will fit them for their professional careers and commit them to a lifetime of self-education. Recognition is made of the growing knowledge and demands of patients who wish to understand the nature of their complaints. Topics such as communication skills, man in society, aspects of psychology and sociology, ethics, health education and health promotion in the context of the whole individual in his or her place in the family and society are considered essential for patient care. It is major changes in attitude to the educational needs of all health care professionals like these which offer the opportunity, as never before, for co-operation with other health care disciplines.

1.4.2 Postgraduate

Postgraduate education does not seem to have followed a clear set of objectives but has provided a variable ad hoc mixture of lectures and courses including new drug and therapeutics information, reappraising established knowledge and practice,

introducing new skills along with an admixture of informal, case study presentations.

Although it is assumed by many that education changes behaviour, there is little convincing evidence that vocational training or continuing education changes the behaviour of GPs for more than a limited time without regular reinforcement.

That is not to deny that some useful material such as audio visual presentations for vocational trainees in general practice has been prepared which in a very professional and questioning manner focus on the continuing need to apply critical faculties to what is read or heard.³⁰

Various attempts have been made to evaluate continuing medical education programmes and Evered and Williams reviewed 51 papers on the subject published between 1960 and 1979.³¹ Objective data was found in only eleven papers of which only four included adequate control data. The review authors were able to conclude that knowledge acquired from postgraduate courses was only likely to be retained if subjected to periodic reinforcement.

In Britain, Horder et al in a review of the ways of influencing the behaviour of GPs confirmed that reinforcement of new learning is essential and that active involvement of the learner through seminar teaching for example, is more

successful than passive listening.³² Most importantly, if behaviour is to be changed, the learner must be convinced as to why there is a need for change.

In what is considered to be the first objective study of the efficacy of continuing education over fifty years ago, Youmans evaluated a four month course by observing the GP participants in their surgeries.³³ He concluded that practical work or working with patients under supervision was the most valuable learning experience.

Horder's overall main conclusion was that teamwork is most effective in changing patterns of activity through relationships between GPs and nursing staff, and between GPs and other professionals such as pharmacists. This most important concept has to be the crucial common link between the various influencing factors being considered and has to be the channel through which influences to improve prescribing can be sustained.

It is disappointing that in spite of the encouragement given to pharmacists in the Nuffield Report³⁴ and in subsequent Government Green and White Papers^{35,36} relatively few pharmacists would seem to be involved with their local GPs in developing new pharmacy services or in GP practice matters.

Brodie et al in 1983 considered that organisers of postgraduate training in both the medical and pharmaceutical professions should **together** consider how to educate doctors about medicines.²¹

1.4.3 Educational influences

A considerable amount of contradiction is to be found in the literature where various studies have reported associations between personal characteristics by physicians, such as years' of experience and the level of their prescribing. However Joyce identified an association between GPs with higher educational qualifications and a tendency by them to prescribe fewer drugs of all types.³⁷ These GPs also had more contacts with hospitals and consultants. What is not reported is how these associations were and may be sustained.

Strickland-Hodge found no significant difference between GPs with further qualifications or specialisation and those without when measuring their prescribing level of new drugs, although the former category of GPs did make more use of evaluated sources of information such as Drug and Therapeutics Bulletin.⁵

Klein et al responded to doubts expressed in the literature about the efficacy of educational interventions in modifying practice patterns of physicians, and designed a prospective controlled trial of two groups of physicians, one group of whom was given a short tutorial to improve antibiotic prescribing.³⁸

A statistically significant improvement was achieved with increased prescribing of the encouraged antibiotics and a decrease in the prescribing of the discouraged antibiotics. Inui and colleagues concluded that careful **targeting** of an educational intervention can modify prescribing practices.³⁹ The paper concluded that the permanence of the change in prescribing behaviour was still under study as was the degree of diffusion of the educational intervention to the physicians in the control group.

It is surprising that studies of educational interventions do not seem to have been preceded by investigations into the reasons for prescribers' inappropriate prescribing, otherwise than to accept that therapeutic information learnt during training is soon out-dated.

A programme of continuous education is needed for all physicians.⁴⁰ The general availability of postgraduate courses is not sufficient. Until recently only a minority of GPs took part in continuing education in either the USA or UK, despite various incentives, including those associated with the British NHS. The GP contract currently provides for a payment of £2,000 to GPs who undertake 20-25 hours of postgraduate education, approved distance learning or its equivalent.^{41,42}

Murray et al found that almost 95% (1,700/1,802) of the GPs in the Glasgow region had qualified for the Postgraduate Education Allowance (PGEA) in the first year of the new scheme, which they deemed a success.⁴³ Practice policy, and not distance from an education centre, appeared to have influenced and restricted the 102 GPs who had attended only one or two accredited sessions at most, compared to the ten sessions required.

Sibley found that family physicians underwent behavioural change in their patterns of practice only if they participated in continuing education programmes that they did not choose themselves.⁴⁴ This implies that physicians may not be able to perceive their own educational needs, but if a gap in their knowledge is demonstrated to them, they will respond and change their behaviour after appropriate educational programmes.

In order to clarify the issue of physicians' self-assessment of practice patterns, Rosser studied the estimated rates of prescribing by thirty physicians and compared them with their actual prescribing rates.⁴⁵ After the physicians were informed of the gap between perceived and actual prescribing, significant changes in prescribing behaviour occurred. Rosser concluded that awareness of a 'perception-reality' gap in primary care practice prescribing offers a method of continuing medical education that may significantly alter prescribing behaviour in ways beneficial to patient care.

Personal educational visits by clinical pharmacists to GPs is described by Avorn et al as 'educational outreach'.⁴⁶ Experiments have been carried out in both North America⁴⁶ and in Great Britain⁴⁷ in which educational clinical pharmacists have adapted the style of pharmaceutical manufacturers' medical representatives and visited GPs taking with them their own high quality literature on targeted generic medicinal products. Follow-up visits were made and comparative product information was supplied where appropriate. The aim of the literature prepared with the guidance of a panel of experts was to influence and reduce the cost of prescribing and to further rational prescribing. Face-to-face education of the practising doctor was shown to be an effective means of reducing irrational prescribing. Important changes in the nature and cost of drug use can also be effected.

In a study of 'antibiotic prescribing in a family medicine residency program' Robinson et al found that the rate of appropriate antibiotic prescribing practices among the residents was found to decrease as the level of supervision decreased.⁴⁸ A review panel judged the appropriateness of prescribing by a number of groups including first, second and third year family medicine residents. The review panel agreed most frequently (80%) with the least experienced but most supervised group, the first year residents. They agreed least frequently (50%) with the third year residents' prescribing habits. The authors conclude that the same peer review

supervision in operation for first year residents should be extended to the second and third year residents.

Once more regular professional interaction and peer group review (Section 1.6) seems to be the most important and effective influencing factor to improve rational prescribing.

Soumerai and Avorn in the USA used a sample of 435 doctors randomised to control and experimental groups.⁴⁹ Interventions consisted of printed educational materials and face-to-face visits by clinical pharmacists. Three drug categories were targeted (dextro)propoxyphene, peripheral/cerebral vasodilators and cephalixin. The aims of the study were to determine whether physician background characteristics and the quality or number of educational exposures influenced the rate of relinquishment of inappropriate prescribing. Results showed that the rate of prescribing change was independent of most of the physicians' background characteristics including age, locality, where qualified, previous level of prescribing and practice size.

A follow up reinforcement visit was a strong independent predictor of prescribing change ($P < 0.05$). An increase from one visit to two visits was associated with an approximate doubling in the effect of the programme.

The following conclusions were drawn that:

- a) face-to-face pharmaceutical education is an effective quality-assurance and cost-containment strategy for a wide variety of physicians,
- b) physicians with relatively high levels of inappropriate drug use are, in general, not resistant to change,
- c) reinforcement visits (or some other method of follow-up) may be necessary to achieve economically or clinically important improvements in physician drug prescribing patterns,
- d) long visits with physicians (more than 10-15 minutes) do not appear to increase prescribing improvements,
- e) cost-containment can be significant.

Other studies have shown how suboptimal prescribing can lead to excess costs and morbidity, for example as a consequence of wasted or unnecessary medication and hospitalisation for iatrogenic illness.^{50,51}

Difficulties in and shortages of funding for education have led to the wider use and attractiveness of pharmaceutical industry supported continuing medical education. Sponsorship can be in various forms. Goldfinger cites three, which are:

- a) unrestricted donations to providers,
- b) directed programmes for lectures, meetings and symposia and
- c) directed programmes combined with non-educational gifts.⁵²

Ethical and moral difficulties can arise, as often there can be a 'company-drug' bias. This issue is not limited to medical education. (Section 1.8) The philosophy of recent Governments in the UK and USA to encourage universities to attract an ever larger proportion of their annual budgets from industrial and commercial sponsorship may inevitably be accompanied by a reduction in independence.

A question which is being ever more widely debated is that perhaps competency requirements are not only needed post-qualification, but should be required for the continuation of registration or licensing purposes, at for example a three, five or ten-yearly interval.

It is worth noting that improved teaching about the treatment of gastro-enteritis has emphasised the importance of treating and preventing dehydration and not relying on gastro-intestinal antibiotics as formerly. This is a direct response to the relatively recent identification in the mid 1970's of the rota virus as a common cause of gastro-enteritis.⁵³

For some years pressures on academic staff to publish research would seem to have had a detrimental influence on the priority, time and energy given to improving teaching methods. The high dependence on non-participating didactic lectures and their relative economy in staff time may leave the introduction and

development of student-centred learning to the most committed lecturers and teacher-practitioners.⁵⁴

After an extensive review of educational programmes to influence and improve standards of prescribing Raisch attempted to develop a model of methods used to influence prescribing.⁵⁵ The model can be used to develop and test methods designed to influence prescribing as well as to help explain their success or failure.⁶

Drawing from theories of human inference which have been researched in the psychology literature, Raisch relates the need for frequent feedback in educational programmes to the availability heuristic, because repetition makes information more accessible. Similarly the need for an authority figure is related to availability because information from an expert can have greater impact and therefore be more retrievable from memory. The use of clinical examples and one-to-one recommendations relate to the vividness principle in that interesting, concrete events are more readily recalled and incorporated into judgements. Printed information or group educational sessions are generally less vivid and less well remembered.

One form of judgemental heuristic anchoring is the resistance to change from an initial decision, and seems to explain the failure of some educational efforts to influence prescribing

and persuade a prescriber to modify his decision to use a particular drug. Repeated educational interventions may eventually produce change.

The model of methods for influencing prescribing can give an indication of how various influences can contribute to more rational prescribing, which are considered in subsequent sections.

1.4.4 Direct and Indirect influences on prescribing

The methods of influencing prescribing and factors that affect prescribing can be classified as direct and indirect. The latter cause change through changing the thought process affecting the prescriber's drug decision. Direct and indirect methods often complement each other. A formulary, which limits the choice of alternatives acts directly, but as a consequence of a formulary change, a pharmacy bulletin discussing the rationale for the change, may be distributed. The indirect educational influences then of the pharmacy, drug and therapeutics committee and pharmacists may all be involved as well as through possible contact with the practitioner.

1.4.5 Conclusion

From the model of methods for influencing prescribing and the literature, educational programmes are seen to prompt long-term changes in prescribing but repetition is essential to achieve and maintain any improvement.⁶ Improved patient education and

understanding about their illnesses, where there is opportunity for the pharmacist's involvement, can make a positive contribution to developing and implementing these programmes.

With few exceptions, the postgraduate educational programmes, parallel the undergraduate programmes in seeming to make little attempt to promote joint courses, where appropriate, with associated health care professionals, especially pharmacists.

In Birmingham a postgraduate course for community pharmacists and GPs was arranged jointly by the postgraduate medical and pharmacy course tutors at East Birmingham Hospital Postgraduate Medical Centre, in 1985. After an initial success for the first few meetings, attendance declined especially by GPs and the programme was concluded. No attempt seems to have been made to assess why the course failed to attract more participants, or to organise any further courses.

In 1989 one of the DoH's six priority areas for target funding was 'professional interface development'. A joint continuing education programme for community pharmacists and GPs was organised and a trial course held in the West Midlands in June 1990. Six subject areas were selected and included guidelines between doctors and pharmacists which would facilitate cross referral, and the contribution pharmacists could make to developing formularies and analysing PACT data. A second and successful phase of the project has now been funded and awaits

implementation into the programme of the English Centre for Pharmacy Postgraduate Education (CPPE).⁵⁶

This would seem to be a most important development which requires perseverance to convince all pharmacists and GPs of the many facets of their own professional practices which impinge on each other.

From the literature the evidence points to the value of face-to-face interactive education, with adequate reinforcement if improvements in doctor prescribing are to be maintained. The association of pharmacists with GPs at the postgraduate level could be of mutual benefit where relevant topics are chosen. This issue will be considered in the research which follows.

1.5 HOSPITAL MEDICAL STAFF

There are many aspects to the influences possible on GP prescribing from hospital medical staff. The Greenfield Report in 1982 categorically stated that: "the hospital consultant has a great influence on the prescribing of general practitioners".⁵⁶

Only a limited amount of research has been published in an attempt to quantify this claim which as a general influence largely remains unproven.^{58,59,60} It is more verifiable to suggest that peer group influence is significant. All medical students spend a major part of their training, working under

the educating guidance of hospital medical staff. The continuing influence of more senior and more experienced physicians is profound where personal contact is involved and maintained. Traditionally it is the 'master craftsman-apprentice' relationship.

'Having time to specialise' is an attribute which many GPs give to their hospital colleagues. It is quite natural that the latter are then seen by many, to be important sources of information about new drug treatment and about the medical value of a new drug.⁵⁸ (Chapter 2.2) Where a professional link is maintained between GPs and their hospital colleagues, awareness and knowledge about any hospital-based clinical trials on new drugs or comparative trials with established drugs, can be expected to diffuse through to general practice, although it may not be of major significance.

Coleman, Katz & Menzel in their now classic diffusion study of medical innovation, examined the influence of hospital affiliation on community physicians.¹⁶ They recorded a strong positive relationship between attendance at hospital meetings and drug introduction, that is, the prescribing of a new drug. In the early months after a drug introduction they recorded a higher level of prescribing amongst those community physicians who held regular hospital appointments.

Hemminki and Pesonen studied the relationship in Finland of key physicians important in the formation of medical habits, especially with regard to drug therapy.⁶¹ These key physicians were to be found in any sphere of the medical profession and included medical school professors and leading members of scientific societies as well as some fellow GPs.

It is a common phenomenon for members of a professional group to respond to the natural empathy and influence of their peers within that profession and much less frequently with members of an associated profession and only then when mutual professional confidence exists or has been developed or cultivated.

The natural wariness in many towards members of another professional group has to be overcome. For advice from pharmacists to be immediately accepted by GPs in general, requires a degree of familiarity and a level of understanding between the two professions which the current patterns of education and pre-registration training do little to encourage.

The interaction and potential for influence on GP prescribing by consultants are issues which will be considered in the research which follows.

1.6 PEER GROUP INFLUENCE

1.6.1 Peer review

In the UK there has been a big change during the 44 years of

the NHS from a situation where most GPs were in single-handed or two partner practices to one in which most GPs are now in practices of four or more partners. The opportunities for colleagues to have an influence have increased considerably as have the wider aspects of peer group influence with the expansion of postgraduate education.

An intensive structured programme of peer review on the behaviour of 43 GPs included a comparison of their prescribing behaviour with a control group.⁶² Afterwards the work of the GPs conformed more closely to a number of criteria for good general practice care. During peer review, participants in the project prescribed fewer drugs such as analgesics, tranquillizers and antibiotics than before peer review while non-participants prescribed more. The more important features of the carefully structured peer review programme included the creation of a confidential atmosphere, teaching audit skills and methods of audit, and giving and receiving feedback.

The authors reported that the study had provided not only the basis for long-term development of quality control in general practice, but some very positive and changed attitudes in the participating GPs. In turn the GPs reported a greater degree of consciousness about their profession, and less fear of being criticised and judged.

During the past two decades it has been suggested that economy rather than safety has prompted the sampling of prescriptions for audit purposes in the UK. In an audit of prescribing study, carbon copies of all prescriptions issued during one week were analysed and the results reported at a regular informal practice meeting.¹² The experiment was repeated after several weeks and the effects of the audit on subsequent prescribing was monitored to test whether those changes observed in the interim were being maintained.

The researchers concluded that each group's potential is influenced and limited by the clinical experience of its members. Of equal importance are the dynamics, that is the pre-existing pattern of leadership, competitiveness and dependence within the group which will influence the way in which individuals will work together.

A study involving 94 practising physicians split into two groups, to assess the benefit of feedback on practice performance is reported by Manning et al.⁶³ The group of doctors who received feedback derived from an analysis of their prescriptions were reported to have changed their prescribing practices 30% of the time in accordance with the recommendations supplied. Those in the group given no educational feedback changed in only 3% of the cases. Of added interest was the observation that change actually occurred only 50% of the time a physician stated his intention to change.

De Silva et al also describe a study in which antibiotic use is subject to peer review.⁶⁴ The data generated show that ongoing peer review significantly reduced inappropriate prescribing as well as rapidly identifying unusual increases in antibiotic use which in turn permitted prompt evaluation and corrective measures.

A decade earlier Czapek reviewed the manner in which consultation with colleagues can influence a physician's prescribing habits.⁶⁵ In order to make such interchange as scientifically honest as possible, the author concluded that **every physician should receive some training in the fundamental designs of clinical trials**, in order to assess the quality of any study. Secondly and of most importance, the physician supplying information to colleagues whether written or conveyed informally by word of mouth, must make sure that the information is as accurate as possible and its origin or basis is clear.

The increasingly wide interest shown over the past decade in peer review is in part the result of its use as one of several strategies aimed at improving physicians' awareness of the costs of health care and to reduce medical expenditure. Eisenberg and Williams include 'peer review with feedback' along with education, administrative changes, participation, penalties and rewards as the six different strategies that have been used for this purpose.⁶⁶ This is most interesting as the

authors who were working in Philadelphia USA could equally well have listed the same strategies in the very different circumstances of the British NHS. In a review of over sixty papers the authors comment that none of the six strategies have been shown to reduce costs in all situations when used alone. **Impressive** reductions have been observed for example, in the use of diagnostic procedures **when peer review and feedback are combined with education.** The concern and need to contain burgeoning health service costs is evident in most countries irrespective of the way in which health care is organised.

Comber et al⁶⁷ reported a study of the psychotropic drug prescribing habits of thirty Irish GPs. The main purpose of the study was to help doctors to get to know and thereby control their prescribing as part of a peer group continuing education programme.

Regional Medical Officers and their deputies have had the potential to influence prescribing as a consequence of their visits to high cost GP prescribers on behalf of FPCs and the PPA pre-PACT data.⁶⁸ However their recognition as an influence on prescribing by GPs seems insignificant.

If it is recognised that interaction with colleagues and peer group review can influence and improve the quality of prescribing, then too, it ought to be apparent that interaction with other health care professionals, pharmacists in particular, could give beneficial results.

1.7 INFORMATION SYSTEMS AND SERVICES

Under this broad heading are brought together the contributions to the prescribing process which are made by **Government**, (1.7.2) including various regulatory influences, by the **pharmaceutical industry** (1.7.4) and by various **independent sources** (1.7.5) including hospital drug information services (run principally by pharmacists) and publications.

1.7.1 Information needs

In addition to the broad coverage of medical knowledge acquired during training, the GP needs current information about the wide range of medicinal products which are the basis of prescribing choice.

Some ten years after pharmaceutical manufacturers' product data sheets were first published, Brodie et al considered that the information which should be available to the prescriber for each drug used is:²¹

- a) the pharmacological effects and mechanism of action,
- b) the value of the drug in the condition under treatment compared with other available drugs,
- c) the pharmacokinetic data on absorption, protein binding, metabolism and excretion,
- d) caveats for use in patients who are breast feeding or are in renal failure,
- e) common adverse effects,
- f) relative cost of various formulations of drugs.

This spectrum of information differs considerably from that which is required in a data sheet, (1.7.2) and though it is complimentary to it, it better reflects current needs. It is the comparative information which is not included on data sheets and would be unlikely to be included, as the latter are compiled by manufacturers. It is also to be noted that for two decades pharmacy undergraduates in the UK have studied pharmacokinetics and ought to be particularly able to discuss such matters with prescribers.

The two year study of two GP practices involved prescription analysis, seminars on clinical pharmacological topics, peer review and decision-making about drug treatment.²¹ The authors came to the conclusion that although the BNF is excellent, to prescribe drugs rationally and cost effectively, GPs need more comparative data on which to base decisions about prescribing. Information on treatment policies, best buys and clinical pharmacology, together with summaries of adverse effects should be included in postgraduate education and be provided by drug information pharmacists and clinical pharmacologists working at local level.

1.7.2 Governmental influences

The Government's involvement, essentially through the DoH, with prescribing and the influences which affect GP prescribing has mainly to do with the pressing need to contain NHS expenditure wherever possible, while recognising a doctor's freedom to

prescribe.

The wide range of influences on prescribing which have developed throughout the 44 years of the NHS, include various arrangements to try to improve the appropriateness of prescribing, to lead to more rational and effective prescribing and to contain prescribing costs.

This is an ongoing issue, as although the general health of the British population is improving when measured objectively by life expectation and mortality ratios, there is an increase in the number of prescriptions issued per head of population each year.^{69,25}

Nevertheless the wide variations in drug costs' by as much as 85% from one part of the UK to another and which range from £26 to £48 per head of population in different localities, is not entirely explained by differences in population structure and morbidity. The Government's view seems to be that the differences reflect the varying attitudes of doctors to prescribing who have no direct interest in the cost of drugs which they prescribe.

The number of prescription items dispensed per year also show regional variation and has increased over the years:

in England	in 1980, 6.8 prescription items, in 1990, 8.1;
in Oxford	in 1980, 5.7 prescription items, in 1990, 6.6;
in Wales	in 1980, 8.9 prescription items, in 1990, 10.5

There is an 84% variation between Oxford in 1980 and Wales in 1990.⁷⁰

Various enquiries into aspects and influences on prescribing and consequent reports have been commissioned by Government over the years including the Hinchcliffe Report in 1959⁷¹ through to the Greenfield Report 1982.⁵⁷ One of the Hinchcliffe recommendations gave rise to Prescribers' Journal, while Greenfield included the recommendation (not implemented to date) that community pharmacists should substitute generic drugs for proprietary products on prescriptions, as hospital pharmacists do. Following opposition, particularly from the medical profession, the Government imposed some limitations on prescribing in certain therapeutic categories in April 1985. As referred to later, this measure was largely a cost-saving one with the additional aim of gradually persuading people to take more direct personal responsibility for their own health and the purchase of medicines for the relief of self-limiting conditions.⁷²

The form of the Government's influences include legal restrictions applicable to all medicinal products and

narcotics, NHS regulations, prescribing advice through publications and information from prescription data.

1.7.2.1 Drug regulation

The influence from drug regulation is largely punitive and is centred on the Medicines Act 1968⁷³ which is an enabling act. The Act is primarily concerned with the safety, quality and efficacy of medicinal products and covers the licensing of manufacturers, of products and of wholesalers. Medicinal products which are not considered to be sufficiently safe for classifying for general sale, may be restricted and classified as prescription only. All other medicinal products are only available through pharmacies. Classification has an influence on prescribing, few prescriptions are written for general sale medicines and 84% of all prescriptions in 1991 were for prescription only medicines.⁷⁰

1.7.2.2 National Health Service regulation

1.7.2.2.1 The Drug Tariff⁷²

Historically a doctor's freedom to prescribe medicinal products for his patients has in general been respected and left unchallenged in the UK until very recently. The National Health Insurance Act (NHI) scheme introduced in 1912 provided a limited and restricted formulary (forerunner of the BNF) for prescriptions for lower paid workers entitled to NHI. Within the context of the British NHS, a GP's prescribing of dressings, including medicated dressings, appliances, and

reagents which includes serological test injectables, was restricted to those approved items listed in the Drug Tariff. These restrictions applied principally to prescription forms FP10 in England and Wales and forms GP10 in Scotland. If a disallowed item is inadvertently dispensed, only the pharmacist and not the prescriber is penalised, as no reimbursement is made.

Even items in the grey area of 'borderline substances', which includes some special foods and cosmetics could be prescribed but might be subject to justification by the prescriber depending on the detailed guidelines on 'borderline substances'. The sanction against a prescriber if the prescribing is not considered to be justified is the withholding of the value of the item(s) from that doctor's remuneration and the dispensing pharmacist now loses the professional fee. This seemingly inappropriate pressure on the pharmacist may result in more instances of pharmacists refusing to dispense certain items, but it could also encourage closer liaison between the GP and the pharmacist.

1.7.2.2.2 The Selected List

The introduction of the 'Selected List' better known as the 'Limited List' in April 1985 by the Secretary of State for Health was of much significance as it created a precedent of a kind not previously found in the NHS. Prescribing of any of

the items 'black-listed' would mean no payment to the pharmacist supplying if inadvertently dispensed.

The classes of medicines affected were cough and cold remedies, bitters and tonics, analgesics for mild or moderate pain, vitamins, laxatives, indigestion remedies and benzodiazepine tranquillisers and sedatives. The intention was to eliminate many heavily prescribed over-the-counter (OTC) medicines from GP prescriptions and encourage the public to purchase them instead.

As a consequence of the list a very large number of proprietary named preparations for relief of cough and indigestion in particular, were restricted although as most of the products were not restricted to prescription they could be purchased over the counter. In this way the UK Government claimed and reported saving over £75 million in the first year which followed the introduction of the Limited List.⁷⁴ The effect of the Limited List on prescribing was partly obscured by a concurrent increase in the prescription charge on 1 April 1985.^{75,76}

Gilleghan⁷⁷ stated that although produced for economic reasons, the Limited List has not been shown to have lowered drug costs overall. Following the List's precipitate introduction, community pharmacists had to spend much time advising GPs about what they could not prescribe and respond to frustrated

patients. A considerable amount of consternation and concern was generated by the introduction of the List, much of it unnecessarily and involved both GPs and pharmacists in reassuring anxious patients.⁷⁸

Pharmacists are invariably at the centre of any Government and DoH interventions of this kind and their advice to GPs on such matters has certainly confirmed the recognition that most GPs give them for the help they receive and is readily forthcoming on such matters. (Chapter 2.3) The Drug Tariff with its unsympathetic format, seems to be invariably poorly understood by many GPs who rely on pharmacists to avoid the pitfalls of disallowed items.

These areas for meaningful liaison between pharmacists and GPs are unfortunately often prompted by telephone calls from a busy pharmacist advising a GP that there is something he cannot do. It is not the ideal way to promote a relationship or be accepted as an invaluable influence on prescribing.

1.7.2.2.3 Prescription charges

NHS prescription charges have also been used to curtail prescribing. The early years and original philosophy of the NHS that medicines should be available free to everyone regardless of financial means, age, sex, employment or place of residence have long passed.⁷⁹

The modest charge of 5p per form introduced originally in 1952 was intended to make a contribution towards health service costs, encourage people to value more what was supplied and also to inhibit, unofficially, surgery malingerers. From 20p in 1971 the charge per item has risen to £3.75p in 1992 and although 84% of people receiving prescriptions are exempt from charges,⁷⁰ many medicines available for self-medication are perhaps not surprisingly priced somewhat below the prescription charge.

As an influence on prescribing, prescription charges can encourage the prescribing of and the patient to expect, larger quantities. The charges should also act as a disincentive to prescribe medicines which can be bought without a prescription and which may well cost the patient less than the NHS charge.

1.7.2.2.4 The prescribing of drugs by their generic name

The DoH's encouragement of generic name prescribing is finance motivated in order to effect financial savings. The Government's position is complicated by the nation's need to maintain its thriving pharmaceutical industry. (Section 1.7.4)

Generic drug name prescribing has been increasingly encouraged by Government agencies, the hospital service and in medical education. The products have almost no supportive advertising, other than the indirect promotion from evaluated sources of

information like the BNF, Drug and Therapeutics Bulletin and Prescribers' Journal and in continuing education.

The British Pharmacopoeia Commission has provided guidelines for devising names for new chemical entities destined to be used as drugs. These British Approved Names (BAN) or generic names have syllables characteristic of the particular class of drug but the names are invariably longer and not as easily remembered as many brand names.⁸⁰

A postal questionnaire survey of a sample of family physicians attitudes and prescribing of generic drugs was carried out by Bower et al in the USA.⁸¹ The results are at best only indicative of what might be found outside the USA but it is interesting to note that 62.5% of the respondents said that they had enough confidence in generic drugs to prescribe them in their practice, but only 27% said that they actually prescribed mostly generics. In general it was the younger physicians who indicated their greater confidence in generic drugs and that they relied less on medical representatives as sources of information. Those who said they read the New England Journal of Medicine regularly were also more likely to recognise generic prescription names. It was recognised that drug trade names can be remembered with comparative ease compared with the more complex and sometimes apparently obscure generic designations.

In the UK, encouragement to prescribers to use generic names on prescriptions has resulted in an increase of generic prescribing on NHS prescriptions. In England and Wales it has risen from 26% in 1973 to 35% in 1989 and 41% in 1990.⁶⁹ Unfortunately these figures are rather misleading as they do not distinguish between prescribed drugs and dispensed as generics, and drugs prescribed as generics but only available as a proprietary product, usually because they are still under patent. A more accurate figure is probably about 36% at the present time.^{82,83} The Joint Working Party Report⁸⁴ quotes figures for 1990 in Great Britain of 43% and 30% respectively. In answer to a question in Parliament on 14 July 1992, 35.2% of prescriptions were dispensed generically in 1991, and generic prescribing has risen to 43.2% in the first quarter of 1992.

The extent to which financial savings can be made from generic prescribing is often poorly understood by GPs. This is another area in which pharmacists can co-operate with and advise GPs especially with regard to drugs where significant savings can be made. Some issues of MeReC Bulletin have provided excellent practical information in this respect.⁸⁵ Pharmacists should also be in a position to advise about the significance or otherwise of bio-inequivalence. At present generic substitution is not allowed on NHS prescriptions in general practice. Prescribers have expressed concern that their clinical judgement might be overruled to the detriment of the

patient. This need not be an issue where there is close liaison between GP and pharmacist.

1.7.2.2.5 FHSA Medical and Pharmaceutical Advisers

FHSAs have a legitimate interest in the question of cost and quality which arise from the prescribing of drugs, and in order to increase the professional advice available to GPs, pharmacists and to FHSAs themselves, medical and pharmaceutical advisers have been appointed by FHSAs.⁸⁶ The FHSA medical adviser, who should have a special expertise in prescribing matters, is expected to visit GP practices to discuss prescribing habits, as part of the indicative prescribing scheme. From an assessment of practice demography and factors such as the number of patients with medical disorders requiring expensive medication, both the practice and the FHSA will be advised on indicative prescribing amounts. The cost of drugs will be the single largest element of about one-third of the budget for fund-holders.

The medical adviser will hold discussions with those practices where over-prescribing is considered to occur as well as with practices where he considers that under-prescribing may be occurring so as to ensure that patients are receiving all the drugs they may need.

Any FHSA incentive schemes to help reduce prescribing costs are subject to ensuring that they do not result in under-prescribing for which the LMC also has a responsibility.

Professional pharmaceutical advice is also needed by FHSAs, which was confirmed during the Government's PACT trials, the aim of which was to assist FHSAs in developing an educational role and in investigating 'high cost' prescribing. 'Improving Prescribing'⁸⁶ states that: "pharmacists also have a role in advising about use of medicines in the context of the indicative prescribing scheme" and many FHSAs have appointed pharmaceutical advisers.

Areas which are recognised as benefiting from pharmaceutical advice include formulary development at practice level, reinforcing confidence in generic products, advising on individual prescribing problems, offering advice to GPs on product choice, providing feedback to the Medicines Resource Centre and maintaining links with drug usage and prescribing policies in local DHAs and hospitals.⁸⁶

These are important developments and provide opportunities for closer liaison between the medical and pharmaceutical advisers, and GPs and community pharmacists. The pharmaceutical adviser should act as a facilitator or gatekeeper, to bring about greater co-operation between pharmacists and their local GPs.

In Scotland the pharmaceutical adviser is called the pharmaceutical facilitator.

The Scottish version of Improving Prescribing recognises the "sometimes overlooked" contribution which the community pharmacist can make as "a first line source of pharmaceutical advice to GPs."⁸⁷ These are aspects of the pharmacists' role which are considered in the research in this thesis.

1.7.2.2.6 Practice Formularies

Formularies have been a part of medicine and pharmacy for five hundred years.⁸⁸

In general practice the current emphasis on a formulary is that it is primarily an educational document produced by GPs for GPs.⁸⁹ It can also be a useful aid to cost-effective prescribing.

The local formularies of medicines for the local insurance schemes of the NHI were replaced by a national formulary in the late 1920's which was the precursor to the BNF of today. Hospital formularies usually controlled by drug and therapeutics committees have evolved, since being revitalised in the late 1960's by hospital pharmacists to rationalise pharmacy drug stocks and effect financial savings, into educational tools.

With the incentive of auditing personal prescribing habits, general practice formularies were developed in the 1980's preceding the availability of PACT data. Grant et al⁹⁰ who published the first edition of their formulary in 1986, listed nine guiding criteria, the aim of which was to produce a list of drugs based on their efficacy, safety, acceptability and economy.⁹¹ Others have listed similar advantages and indicated the importance of checking the local hospitals formularies.⁹²

A health centre research pharmacist described a project in Runcorn, Cheshire in which a 'voluntary preferred prescribing list', or a practice formulary, was created, implemented and monitored.⁴⁰ Co-operation was necessary and achieved between the pharmacist with knowledge of drug information, who had access to specialist advice, including clinical pharmacologists' and evaluated information available from drug information centres, while working with the group of five GPs and trainees. The acceptance of the formulary choices grew as it became clear to the GPs that they could use these products to the same effect as the drugs previously selected. It was concluded that **the critical appraisal of prescribing rationale had been enhanced, that the needs of prescriber and patient had been taken into account and that costs had been reduced.**

Two years after initial consideration, the first edition of the Lothian (SE Scotland) Formulary was published in 1987 by which time the formulary development team included two drug

information pharmacists.⁸⁹ Gillegghan reports that following the second edition in 1989, all of the twenty-five doctor participants who prepared the formulary agreed that they had learned a great deal about drugs and prescribing both from each other in the peer group and from the drug information pharmacists. Such formularies can be most useful when analysing PACT or in Scotland SPA data.

Field showed that over a two year period GPs increased their prescribing within a practice formulary, from 72% to 81% and the GPs in the practice which devised it were significantly more positive towards formularies.⁹³ Beardon also recorded a significant increase in formulary usage associated with a financial saving of approximately 10% both per patient and per prescription.⁹⁴

Following the publication of the White Paper 'Working for Patients' in January 1989⁷⁴ and the Working Paper 4 on the 'Indicative Prescribing Scheme' the DoH issued in 1990 'Improving Prescribing: the implementation of the GP indicative prescribing scheme'. The document took account of the views expressed to the Government by interested parties, including the Royal Pharmaceutical Society, and a section is devoted to 'Formularies'.⁸⁶

The development of local formularies, preferably at practice level, is encouraged as it provides an excellent focus for

discussion about good prescribing practice and personal preferences. It enables GPs to concentrate on the principles as well as the practicalities of prescribing. It is clearly stated that they must be voluntary which with the usual emphasis in formularies of generic names, has been a major concern to the Association of the British Pharmaceutical Industry (ABPI). The assistance of a pharmacist for pharmaceutical advice is mentioned, but unlike the more progressive Scottish version⁸⁷ reference is only made to District Pharmaceutical Officers and their staff, rather than to the assistance which a GP's local community pharmacist could give.

1.7.2.2.7 Prescribing Analysis and Cost (PACT) and Scottish Prescribing Analysis (SPA)

PACT was introduced in 1988, and routinely provides GPs with information about their prescribing. The information is sent quarterly from the NHS Prescription Pricing Authority (PPA). It is available at three levels of complexity:

Level 1 reports - compare practice prescribing with that of their FHSA and of England or Wales as a whole. Level 1 is produced quarterly for every GP. A rolling quarter is used which provides one third of all GPs with PACT data each month.

Level 2 reports - are produced for GP practices with above average costs and can also be requested. High cost practices, which receive Level 2 automatically are defined as those exceeding FHSA costs by 25% overall or in any one therapeutic

class.

Level 3 reports - are available only on request. They list all items prescribed by the general practitioner grouped into the BNF therapeutic categories giving detailed cost information. A full or part catalogue can be requested.

The Government's major investment in PACT is stated to be to improve prescribing by supplying the data regularly to encourage GPs to review their own prescribing and provide some comparative data. It also has the effect of bringing pressure to bear on prescribers to contain the cost of their prescribing and that of the escalating NHS drug bill.

As Harris et al confirm, data from PACT, available since 1988, are a powerful tool for auditing prescribing especially at Level 3 which is only sent to GPs on request.⁹⁵ Level 3 is made available to FHSAs and certain Prescribing Units and so is available to FHSA medical and pharmaceutical advisers.

In the past prescribers have taken very little, if any interest in the cost of the drugs prescribed. Zelnio⁹⁶ described a survey to determine whether or not physicians were using a 'Guide to Prescription Drug Costs' distributed to all health care practitioners by the State Department of Health in the US. The survey showed that the Guide had not been implemented by the physicians in the sample and that it was probably not the best strategy for use in achieving cost savings because of the

lack of consideration prescribing physicians gave to cost. The author concluded that when the preference for the pharmacist as a source of drug information is combined with the high percentage of physicians who are unconcerned with cost, it would appear that an opportunity exists for pharmacists to assist physicians by assuming more responsibility for monitoring the cost of drug therapy.

In the UK where all GPs have been supplied regularly with the Drug Tariff, experience was much the same.⁷² GPs took little or no notice of drug costs. Gilleggan reported on the wide variation in prescription costs between doctors.⁷⁷ A doctor with high prescribing costs may have an average ingredient cost per patient over three times that of a doctor with low costs. Inter-regional variations are also significant. The average Lancastrian GP had a net ingredient cost of £5.50 per prescription against £6.58 for an Oxfordshire GP in 1990-91.⁶⁹

As cost of prescribing can be associated with the rate of prescribing, several authors have considered whether or not the length of consultation had an influence on the rate of GP prescribing.^{97,98} They found that there was little or no evidence that short consultations resulted in relatively more prescriptions.

The inclusion of more specific net drug costs in the BNF for either original packs or a unit of twenty has provided GPs with

more readily available information than previously and the community pharmacist's expertise could be much more widely applied by GPs in this and related aspects such as relative costs.

1.7.3 Medical audit as an influence on prescribing

1.7.3.1 Development of audit

Medical audit has been defined in Working Paper 6 of the White Paper 'Working for Patients' as: "the systematic, critical analysis of the quality of medical care, including the procedures used for diagnosis and treatment . . . and the resulting outcome and quality of life for the patient."^{99,74} A patient's primary concern is for a correct diagnosis to be made and for effective treatment to be given, and medical audit must be central to any programme to enhance the overall quality of care given to patients.

The relevance of audit as an influence on prescribing has been facilitated by the provision of PACT data and statistics. A practice formulary in association with the BNF and MeReC Bulletin can be used as standards against which to audit prescribing practice. It is more likely that regular audit will be maintained if it is done on a group basis and the involvement of a pharmacist can be advantageous.

Audit in medical practice has gradually, over two decades, become a well established feature today and owes much to its

development from the efforts of a nucleus of enthusiasts in the Royal College of General Practitioners (RCGP). Peer audit is probably more usual and more effective than self-audit and the increase in group rather than singleton practices has considerably helped the progress of peer audit.^{62,63} Peer review also helps to reduce the fear of being criticised, increases professional awareness and providing a stimulus to both continuing education and practice research. It is likely to make any professional practice more able to cope with external audit should the need arise.

Developments in the reorganisation and management of the UK NHS, concepts of total quality management (TQM), the marked change in the role of the former FPCs as administrators of the practitioner services to that of the FHSAs as managers of those services, all involve the need to reassess and apply audit in its various forms.

In a paper considering the acceptability of audit, Shaw refers to the objectives of audit as: "education, planning, evaluation, research and anticipatory diplomacy or the starting of internal audit before it is imposed from outside."¹⁰⁰ While education may be considered to be the main purpose of medical audit, in order to improve standards of care, any profession has a duty to review its own work. Shaw suggests that effective audit may be regarded as a three-part cycle of setting standards, evaluating care and modifying practice in

the light of the evaluation. The author concludes with a consideration of the cost of audit but reiterates that: **"a good system of medical audit is worth any number of postgraduate courses."**

Sheldon studied GP prescribing habits for three years using encounter forms. After the first year's forms were analysed, examples of inappropriate prescribing were found which prompted an audit on the treatment of fungal skin infections and coughs and colds in children.¹⁰¹ A year later after audit, analysis of encounter forms showed that more appropriate prescribing was reflected by a reduction in both the number of drugs prescribed and in the number of repeat consultations needed to resolve the presenting condition. Although a conscious effort was not made to reduce prescribing costs, Sheldon noted that this happened. He concluded that the continuous use of encounter forms can accurately reveal the prescribing habits of GPs. Self-audit can subsequently be performed on a continuing basis with little disruption, to a GP's normal routine, it is claimed. Sustained motivation and enthusiasm are presumed!

The encounter form design is of interest, as alongside a carbon copy of the FP10 prescription issued, is space to record the indication for the drug(s) prescribed. Both drug and indicating diagnosis are subsequently encoded. It is worthy of consideration to note that brief information on prescribing indication(s) available to a pharmacist would greatly

facilitate his responsibility to confirm the suitability and safety of drug dosage and frequency. This would be of particular value for many potent drugs which have more than one indication and often several very different dosage regimens. The need to inform and involve patients more fully in their own treatment, would also be helped by such prescribing information.

The impact and much of the importance of GPs being involved in any audit or practice activity analysis exercise, must be in the creation of a questioning climate focusing on the optimisation of practice efficiency and rational prescribing.¹⁰² It is crucial to maintain that climate.

Medical audit, although not obligatory for GPs forms a key part of the strategy of the White Paper 'Working for Patients'.⁷⁴ It states that medical audit locally should be based both on peer review and on self-audit by GPs and GP practices. In the Working Paper is the expectation that each FHSA should establish a medical audit advisory group, and that consideration should be given to the inclusion of: "other professional members with particular essential skills and expertise."⁹⁹ Although pharmacists are not mentioned by name their 'essential skills and expertise' ought to be utilised.

The influence on prescribing of formularies and medical audit is essentially one of self-regulation. It is voluntary and

self-imposed by GPs in a practice, possibly with some external advice which may be ongoing such as that from FHSA medical and pharmaceutical advisers or a local community pharmacist as well as by utilising PACT data. PACT provides objective data on which any GP in conjunction with colleagues, FHSA advisers and pharmacists can evaluate his prescribing effectively and use the outcome as a rational influence on not only his own prescribing, but also on that of any associates.

1.7.4 Commercial Information Sources as an influence:

The Influence of the Pharmaceutical Industry

1.7.4.1 The place of British pharmaceutical industry

The relationship of the British pharmaceutical industry with GPs, who are responsible for 85-90% of all prescribing, is a sensitive and sometimes controversial one.^{103,21}

The British pharmaceutical industry has had a more consistent record of success than probably any other manufacturing industry in the UK since the 1950's and it has made a regular and consistently large contribution from exports to the UK balance of payments. Approximately £2.26 billion of pharmaceuticals were exported in 1990, giving a trade surplus of £1.1 billion.¹⁰⁴ Three of the world's ten top selling branded products (and nine in the top fifty) in 1990 were the result of research, development and marketing by British companies.¹⁰⁴ The leading company for the introduction of new chemical entities (NCEs) was also British (Glaxo) with

three in 1990 and two in 1991.¹⁰⁵

It is against this dynamic background that the dual role of the medical representative as product information communicator and as salesman must be considered as well as the Government's and politicians' seemingly ambivalent attitude to the industry.

Pharmaceutical companies are placing increasing importance on the medical information services and on the expertise of the staff in their medical divisions. In a recent survey of the medical information departments of sixty-three pharmaceutical manufacturers, one-third of the 17,000 queries handled in four weeks came from hospital pharmacists.¹⁰⁶ Community pharmacist queries accounted for just over 13% which was about the same as the queries from GPs and from hospital doctors. Over 6% of enquiries came from the general public. The only sources of enquiries which significantly came through medical representatives were from GPs (5.2%) and hospital doctors (6.3%).

A major factor in the UK is that the Government through the Voluntary Price Regulation Scheme (VPRS) contains the prices of ethical prescription products purchased by the biggest single consumer, the UK NHS, and also restricts manufacturers' spending on drug promotion to a maximum of seventeen per cent of sales. For those companies whose annual sales rise to £300

million this can still be a very large sum of money. For example, Glaxo total sales in UK in 1990 was £322 million.¹⁰⁷

1.7.4.2 Data sheets

Since 1972 under the UK Medicines Act 1968 Regulations a manufacturer is required to supply an official data sheet on the particular product within the preceding fifteen months of any form of marketing promotion to all doctors and pharmacists likely to be targeted.¹⁰⁸ The Regulations detail the information required to be included on a data sheet as well as its physical dimensions. In practice many manufacturers supply a data sheet along with promotional material to ensure no default from any unreliability in mailing. The majority of major manufacturers also contribute to the Data Sheet Compendium which is supplied free to all GPs and pharmacists.¹⁰⁹

The current format of the BNF revised in 1981 abstracts information from manufacturers' data sheets but GPs still need to refer to the data sheets for more detailed information. In 1979 the Compendium was placed seventh in importance as a source of general information on pharmaceutical products by GPs.¹¹⁰ As an influence, it is an important standard source of licensed indications for medicinal products. Any prescriber who prescribes a drug for an indication which is not included in the data sheet and product licence does so entirely on his own responsibility.

1.7.4.3 ABPI Code of Practice

The industry also operates a 'Code of Practice' first published in 1958 and most recently revised in December 1988 and published in the Data Sheet Compendium. It is enforced by the ABPI on its members.

Following consultation with the British Medical Association (BMA) and the DoH, the Code claims to embody the basic principles and procedures which the industry believes essential for the conduct of its marketing activities and for the maintenance of standards which it states are in the interests of the public, the medical and allied professions and the industry alike.¹¹¹

Complaints about a pharmaceutical company's promotion of any of their products are considered by two BMA approved independent doctors and an independent chairman who is a QC. In recent time more complaints are made by other member companies and the DoH than by doctors. Although a copy of the briefing material used by medical representatives must be made available to the UK Medicines Control Agency (MCA) on request, it is more difficult to regulate the activities of medical representatives than for example, the content of printed matter.¹¹²

The ABPI also has a training programme for medical representatives in which it endeavours to maintain its own rigorous standards, placing particular emphasis on monitoring

new medicines and reporting adverse side-effects as part of a representative's contact with doctors.

Snell recognised that prescribers need information from a range of sources which will enable them to formulate a decision as to whether or not to integrate a new product into their therapeutic armamentarium.¹¹³ It is generally recognised that most GPs largely prescribe from a range of no more than 200 to 250 drugs and many from much less, even though the BNF contains some 4,500 products. Snell considered that the system ensures the survival of two important principles, namely the freedom to prescribe and the freedom to market safe and effective competing medicines.

1.7.4.4 Drug promotion

The drug industry was reputed to have spent £169 million on promoting its products to doctors in 1985, which is equal to £5,000 per GP per annum.¹¹⁴ Considerably larger amounts per GP are estimated to have been and continue to be spent in some other countries such as Finland and the USA.²³

The spearhead of drug promotion to doctors by the industry is the medical representative, supported by advertising in a variety of forms, from mailing literature to audio and video cassettes and through advertisements in medical journals. Some medical journals and publications which are distributed free to the medical profession depend entirely on their advertising

revenue. Others, usually considered to be more objective in their editorial, ensure their economic viability and sales by accepting advertising material subject to their own code of standards. All advertising and promotion in the UK is subject to legal restrictions as well as varying ethical standards depending upon the code of practice to which the advertising material is subject. As has been stated there are restrictions in the UK on the amount which manufacturers may spend on product promotion, nevertheless if the product becomes a world leader, the amount which may be spent is very considerable, for example, 'Zantac' (ranitidine) sales in 1990 totalled £1.4 billion.¹⁰⁷

Of no less concern than the amount of advertising, is the quality and reliability of the information provided, even though many countries such as the UK, USA and Australia have legislation and regulatory controls.

O'Malley et al distinguished between direct and indirect drug industry influence.¹¹² The former is effected by medical representatives, direct mail advertisements and medical journal advertisements. In general, indirect influence is through such things as the projection of the company image, interest in a particular area of therapy, research support, financing of medical journals and meetings. The authors suggest that indirect advertising is more difficult to identify and may be more important ethically. This is not new, as many old

established pharmaceutical manufacturers gained their reputation for quality and reliability by introducing quality control standards for their products before these became compulsory. Today, if a company contributes to the relief of a major world disaster it can only enhance the company's reputation.

An interesting question addressed by Mackowiak et al was: "Do changes in promotional expenditure cause changes in the size of the market (primary demand) or market share (selective demand)?"¹¹⁵ Medical representatives' visits to physicians and medical journal advertising were evaluated using autoregression integrated moving average (ARIMA) time series analysis to provide sales elasticities. The results showed no correlation between changes in the promotional expenditures and primary or selective demand. Although the investigation was limited to seven benzodiazepine and seven diuretic drugs, the authors suggest that drug manufacturers might gainfully evaluate the effects of reducing their promotion expenditures and maybe seek alternative methods of promotion which may have a higher sales elasticity and effectiveness. What is not clear is whether saturation promotion may apply or only apply to the two therapeutic categories of drug studied.

In the UK in the early 1980's specialist marketing agencies, acting on behalf of some major pharmaceutical manufacturers

selectively targeted GPs according to their personal and prescribing characteristics.

It is against this complex background that the impact of drug advertisements and other forms of medicinal product promotion must be examined. Stimson examined the question: "Do drug advertisements provide therapeutic information?" and concluded from an analysis of 591 different advertisements for 316 drugs, that they provide hardly any.¹¹⁶ The author postulated that may be the low level of information has arisen because companies now rely on the data sheet, but that without a comparison with *earlier practice this cannot be known*. Stimson also thought that it was hard to escape the conclusion that references cited in drug advertisements are included to try to give a respectable scientific appearance rather than be of much usefulness. In conclusion the author expresses surprise that the medical profession has not taken on the task of establishing the independent monitoring of drug advertisements in order to improve the quality of promotional material.

Stimson's conclusion does not seem to have produced much response, as pseudo-scientific advertisements are still very common. Drug and Therapeutics Bulletin continues to provide the main and most purposeful independent monitoring of drugs and counter to inappropriate drug promotion.

A consultant microbiologist reported on the contrast between the amount industry spent on drug promotion and the small amount spent to inform health professionals on how to use those drugs wisely. It was suggested that the solution would be for health professionals to promote their messages with the same vigour and professionalism as the industry promotes their's. The author suggested that a levy on the industry could finance such activities.¹¹⁷

1.7.4.5 Medical representatives

The work remit of medical representatives includes informing, educating, supplying technical data and information on relevant topics to doctors and reporting back to their employer, on doctors' experiences with their own company's and competitor companies drugs. It is clear that several of the aims are in conflict with the marketing role of the medical representative which may jeopardise the credibility of some of the information supplied.

Eaton and Parish reported that less than 8% of 200 GPs surveyed, saw the medical representative as an unbiased source of information¹¹⁸ and it is likely that this figure has declined further in the intervening period.

Although nearly twenty years ago, Worthen found that for one new product in six the medical representative was the only source of information and was regarded as a primary source of

information in 60% of cases.¹¹⁹ Much has changed since then. The rate at which new products are launched onto the market has reduced as a direct consequence of product licence requirements. In the UK, information on new drugs is much more readily available from independent sources such as the hospital pharmacy based drug information services. Nevertheless the position of the medical representative remains important.

In two studies, approximately ten years apart in 1979¹¹⁰ and 1990,(Chapter 2.3) GPs were asked to rate a list of sources of information on pharmaceutical products in rank order. The medical representative fell from seventh to eleventh place in the ten years. When asked about the sources most useful for finding out about the existence of a new drug, the medical representative had only dropped from first place in 1979 to second place in 1990.

Since 1979 manufacturers' medical representative *field forces* have undergone considerable changes which include marked contraction in numbers and the loss of almost all pharmacists from field forces which was confirmed at the ABPI medical representatives training managers conference 1991.

Current market forces seem to result in the recruitment of medical representatives with no previously relevant educational background from subjects allied to medicine. As a consequence there is no likelihood of any independent professional code of

ethics, such as that which applies to a pharmacist, doctor or veterinarian to act as a moderating influence on standards of professional responsibility. As manpower is extremely expensive, it is not surprising that the pharmaceutical industry invests in considerable market research in order to optimise the success of its sales. All feasible means are used to communicate and inform the prime target, the GP and encourage the potential prescriber.

It has gradually become more difficult for medical representatives to gain access to GPs. The improvements made to the BNF, to postgraduate education programmes, the free distribution of Drug and Therapeutics Bulletin and the introduction in June 1990 of the MeReC Bulletin, have all helped to make GPs potentially less reliant on medical representatives as a source of information. Patient appointment arrangements and other pressures on GPs including increased paper work, cost-consciousness and cost-containment have made the medical representatives' role more difficult.

The influence on prescribing following the supply of free product samples by medical representatives is discussed in the literature at regular intervals. Rawlins succinctly records that: "no drug company gives away its shareholders money in an act of disinterested generosity."¹²⁰

Storrs reports that market research data reveals that over 95% of all products used by dermatologists are initiated by samples.¹²¹ He concludes that when dermatologists openly acknowledge that drug sampling exists to sell drugs, there is more likelihood that the limitations of the drugs prescribed will be acknowledged. The attitude of GPs' to the persuasiveness of medical representatives and manufacturers' marketing strategies is closely related to the influence which representatives have on GPs' prescribing.

While there is unease among many GPs about the activities of representatives,⁷⁷ and some GPs refuse to see any, GPs do realise that they are an important source of information¹¹⁰ and some GPs see more than four a week.⁷⁷

What is needed is for GPs to apply a critical approach to the subject material being presented by representatives which has educational implications at undergraduate and postgraduate levels.

1.7.4.6 Alternatives to the medical representative

Marketing and sales departments within the pharmaceutical industry are alert to the need to utilise all alternative means of communicating with GPs.

Sponsored meetings, symposia, video cassettes, audio cassettes which mix music or general features on travel or motor cars may

be combined with medical features and product information. Audio-cassettes designed for car use to or from the surgery, or when visiting patients, can be a very economical and effective alternative to a medical representative's visit. The medical representative can often be used as a facilitator for or in conjunction with these alternatives. Access to a GP or arrangements for a practice meeting may be linked to the distribution and showing of a video cassette. Topics which are likely to be acceptable include CSM updates, computers in practice, and especially clinical updates.

Other alternatives include house journals, some of which are of very high quality and the long established direct mail which seems to be declining in volume at the present time. Direct mail fell from sixteenth to twenty-first place in the ten years to 1990 and fourth to eighth place as 'a source of information on pharmaceutical products' and as 'a source for finding out about the **existence** of a new drug'. (Chapter 2.3) Improvements in evaluative sources of drug information and their currency have helped to offset the previous domination of information from industry.

Avorn et al surveyed eighty-five physicians to determine whether they perceived scientific or commercial sources of information as the major influence on their prescribing.¹²² The vast majority perceived themselves as giving little attention to drug advertisements and medical representatives,

but their beliefs about the effectiveness of the drugs studied revealed quite the opposite. The predominant influence of non-scientific rather than scientific sources of drug information, is consistent with what would be predicted from communications theory and market research data. Drug advertisements are more visually arresting and conceptually accessible than are papers in the medical literature.

Stimson estimated that in the mid 1970s in the UK the average general practitioner was potentially exposed to 1,300 advertisements each month.¹¹⁶ No current comparative figure has been published but it is estimated that the number has declined.

After analysing prescription drug advertisements in two leading American medical journals at five yearly intervals between 1972 and 1982, Krupka et al discerned a relationship between the leading drugs advertised and the leading prescriptions dispensed.¹²³ The data suggest that high advertisement investment is necessary in order to achieve high levels of sales for such drugs as Valium (diazepam) which do not have clear-cut ameliorative effects on a specific physiological condition. However, the authors considered that saturation advertising would not significantly enhance the sales of such drugs as Dyazide (triamterene with thiazide) because of its well established therapeutic value in the control of hypertension.

In an extensive review of drug product advertising¹ and prescribing, Smith concluded that there is little hard evidence that **journal** advertising alone had adversely affected the quality of prescribing, although conversely there was no or little evidence that it had had any positive effect on prescribing.¹²⁴ The author considered that pharmacy should take positive steps to ensure that information supplied by industry was adequate in the belief that good information sells drugs.

One extremely important aspect to be recognised which has changed for the better in the UK in more recent time, has been the availability of alternative and independent sources of information. By the 1980's, several sources of **evaluated** information had become widely available such as the Drug and Therapeutics Bulletin, Prescriber's Journal and of particular significance the dramatically changed and present format of the BNF. Dependence on the pharmaceutical industry for product information and associated medical information has been considerably reduced, if prescribers wish to make use of the alternatives. Reference by GPs to Martindale: The Extra Pharmacopoeia, which covers information on 5,400 compounds appears to have declined, perhaps because it has to be purchased and costs £125, unlike the other three sources mentioned which are supplied free to all doctors in the NHS.¹²⁵

1.7.5 Independent Sources as an Influence

1.7.5.1 Hospital drug information services -

Since the early 1970's drug information pharmacy has developed in the UK as a speciality, with a principal pharmacist in post in England's fourteen health service Regions and a staff pharmacist drug information, in most district general hospitals. Their prime responsibility has been to serve the hospital service, medical staff and clinical pharmacists in particular.

Although these information services have always been available to GPs, their resources were rather limited in the past and had little influence on GP prescribing. Now the current BNF informs GPs that Regional and District Drug Information Services throughout the UK are available to supply information on any aspect of drug therapy free of charge. Twenty-two UK Regional telephone numbers are supplied to promote details of local services.

Hospital drug information pharmacists independently compile information on an expanding range of drugs using the resources of the National Drug Information Service for their telephone accessed viewdata drug information service (VADIS). VADIS provide updated comparative costs of drugs in the same class, and a graded assessment of new drugs. Information for each drug covers nine standard headings which include

pharmacokinetics, use in organ dysfunction, therapeutic comment, pharmaceutical information and costs.

The importance of the hospital drug information services is that they are independent of the pharmaceutical industry and have developed as an important source of evaluated information. They ought to be regarded as an essential back-up to any community pharmacist whose own information resources are inevitably limited.

1.7.5.2 Drug bulletins

The main essential influence on GP prescribing which has come from the hospital drug information services has been through newsletters and current awareness bulletins. Several regional centres produce bulletins specifically for GPs.

Since 1978 the Mersey Region Drug Information Service has produced a drug information letter which has been distributed to GPs and community pharmacists as well as to hospital doctors and pharmacists. Its success and recognition as a valuable educational aid contributed to the announcement in the White Paper 'Promoting Better Health' that a national co-ordination centre in relation to prescribing would be established.³⁶ The centrally funded national Medicines Resource Centre (MeReC) staffed by drug information pharmacists was the consequence.¹²⁶

MeReC Bulletin - first issued in June 1990.¹²⁷ A steering group of clinicians including GPs and clinical pharmacologists and an equal number of pharmacists experienced in drug information work, give advice and guidance. The aims are to keep material concise and practical, and to encourage rational, safe and cost-effective prescribing. The monthly bulletin is supplied free to all GPs and FHSA medical and pharmaceutical advisers. The FHSA advisers also receive 'MeReC Briefings' to facilitate discussions on prescribing matters with GPs. Liaison with Drug and Therapeutics Bulletin and Prescribers' Journal is intended to avoid unnecessary duplication.

MeReC Bulletin is now also supplied free to all pharmacist contractors in receipt of PSNC Newsletter and provides community pharmacists with an independent and evaluated source of information on the same basis as GPs for the first time. It will be some time before a meaningful evaluation of the influence on GP prescribing can be made. It provides a most useful source of topical, practical information on medicines which could contribute to advice given by pharmacists to GPs on prescribing. In conjunction with MeReC Briefing, which is available on request, these publications could provide a most useful approach to the regular scrutiny and review of PACT data in a practice by GPs assisted by a pharmacist.

Several surveys have confirmed the value of the UK Drug and Therapeutics Bulletin as an independent source of evaluated

drug information in which it has exceeded the rating of Prescribers' Journal.¹¹⁰ (Chapter 2.3.2)

The impact of several other drug bulletins on physician prescribing habits has also been tested. Fendler undertook the quantitative assessment of the impact of five separate drug bulletins on a group of health centre physicians' prescribing habits and measured the resultant savings in drug costs achieved from the statistically significant changes in the drugs prescribed.¹²⁸ In some cases the changes in prescribing habits were short lived for reasons which the authors were unable to determine.

Denig in a randomised controlled trial tested the impact of a drug bulletin on 186 family physicians. It was hypothesised that the printed information would influence prescribing behaviour by changing knowledge of drug efficacy, adverse effects and perceptions of drug utility.¹²⁹ The results were mixed and depended on the topic in the bulletin. Knowledge of treatment and costs of drugs for renal colic were significantly improved but information on irritable bowel syndrome apparently had no impact at all. The authors concluded that some information is sufficiently effected through written channels whereas other topics need more intensive strategies.

Other difficulties or shortcomings in the dissemination of information were focused on by Stross et al who surveyed

primary care physicians to determine their knowledge of an important clinical trial of photocoagulation in diabetic retinopathy.¹³⁰ In spite of acknowledging the relevance to their practice, only 28% of 137 family physicians and 46% of 91 internists were aware of the study. The authors concluded that more attention was needed to direct the findings from clinical trials to the attention of doctors.

The abstraction and independent interpretation of the results of the growing number of the many clinical trials undertaken world-wide continues to be a huge and difficult task. Publications which are few in number like Drug and Therapeutics Bulletin are only able to include a finite number of topics in each issue. Frequently their evaluations of drugs used in a particular therapy are from retrospective studies.

Wilson et al in Nottingham were able to show that in a controlled hospital situation, the publication of a Prescribers' Newsletter with clear recommendations as to choice between clinically similar alternative drugs had had a direct and measurable influence on prescribing with consequent financial savings.¹³¹ As the combined usage of each of the pairs of drugs remained similar it was assumed that the change was as a result of the Newsletter advice and not for instance, due to either prescribing other drugs or other influences.

It is interesting to record that in 1976, Rucker, Professor of Pharmacology Administration in Ohio USA, suggested the establishment of a neutral agency to provide drug information and related postgraduate educational supporting services.¹³² Rucker proposed that a 'National Drug Information Foundation' would:

- provide therapeutic consultants,
- subsidise professional journals and medical schools,
- produce a drug compendium,
- provide regional drug information centres and related professional information services,
- provide patient education,
- carry out research development and evaluation.

Such a quasi-governmental body, with US Treasury support would among other things ensure that the editorial policy of professional journals was independent of advertising revenue.

Rucker has confirmed that the New England Journal of Medicine and the Journal of the American Medical Association continue to be the principal independent professional medical journals in the USA.¹³³ The implication would seem to be that his proposal remains to be implemented and Kaplan has recorded the failure of most Western Governments to make any effort to generate or disseminate information on drugs, and to provide funding to review the pharmaceutical industry's promotional efforts.¹³⁴

The UK Government, through the DoH and the reorganised NHS has gone a considerable way to implementing to Rucker's proposals. Both medical and pharmaceutical advisers have been appointed by FHSAs to aid the compilation of practice formularies and to encourage rational and more economic prescribing, and funding has been provided for research development and evaluation of information and practice needs and services.

Drug and Therapeutics Bulletin and Prescribers' Journal are both subsidised, are free of advertising copy and widely distributed free of charge to doctors. The current style BNF has effectively challenged the well-established MIMS which is almost entirely supported by drug manufacturers advertising.

In addition the CSM distributes an occasional news-sheet 'Current Problems', to all doctors, pharmacists and dentists. It is an alerting service based on information received by the CSM's Adverse Drug Reaction Registry. The most recent additional source of independent drug information is the MeReC Bulletin, previously described.

1.7.5.3 Influence of Scientific Literature on Prescribing

Most journals are a source of drug advertising. Doctors and others are mailed with a number of free journals which depend entirely on their drug advertising revenue.

Most subscription journals or journals associated with professional bodies also depend on the revenue which they receive from drug advertising to varying degrees for their economic viability. The positioning of advertisements in the journal text can be extremely important although most leading UK medical journals no longer include advertisements on their front cover. Links between advertisements and text, especially where relevant clinical trials are involved can add considerably to the degree of potential influence.

1.7.5.4 Evaluation of information sources

Among various investigations into the role and influence of journals and other sources of information, are those of Strickland-Hodge⁵ and Avorn et al¹²² who studied the relative contributions and influence of scientific and commercial sources of information on prescribing practice. The results showed that although much previous research of physicians drug decision-making had been based on physicians' own assessments of what forces influence their prescribing behaviour, it was not a reliable measure.

It was no surprise to the authors that non-scientific rather than scientific sources of drug information were reported to be the predominant influence as it is consistent with what would be predicted from communications theory and marketing research. The authors concluded that there is a need for innovative means of communicating unbiased drug information to physicians in

practice. In this respect UK doctors now seem to be better provided for than probably anywhere.

A drawback noted by Kessner is that the coverage of major reports or important findings of clinical and prescribing significance is often very variable in primary general medical practice journals and may even be missed by those most in need of effecting or influencing changes in prescribing habits.¹³⁵ It cannot be overstated that all publications remain relatively passive sources of information and still require to be studied by doctors, pharmacists and everyone else to whom the information may be of importance.

In a study involving 124 GPs and specialists in Australia by Peay and Peay the prescribers evaluated their use of a number of potential sources of information about new drugs.¹³⁶ Overall commercial sources were cited more often than professional ones for providing first information about a new drug, but the reverse was the case when the doctor was considering prescribing it. Commercial sources included drug company representatives and advertising in journals and by direct mail. Professional sources included journals, other doctors and postgraduate education.

Although the primary professional sources received more favourable evaluation than any of the commercial sources, the results suggested that usage does not necessarily follow a

doctor's opinion of a source. The attempt of the study to relate patterns of information source preference and use to an individual and practice characteristics seems to be rather inconclusive.

Christensen and Wertheimer¹³⁷ studied the influence on new drug prescribing of various sources of information and the results provided evidence that physician colleagues were an important source of influence on innovative prescribing behaviour. It was difficult however to interpret the role of the interaction networks. In their conclusions, the authors recognise that changes in the nature of inter-personal relationships, in group practices, in communities, in medical and drug knowledge and practice patterns in the past twenty years (now thirty years) are all likely to have affected the manner in which drug information is used in decision-making processes.

Continuing education requires the use of the best sources of information and a critical attitude to information.

1.8 INFLUENCE OF PATIENTS ON PRESCRIBING

Patients can no longer be regarded as medical conditions requiring a response. Education and greater awareness throughout society of basic human rights is increasingly reflected in the demand for more information about the nature of a person's illness, the treatment, the likely outcome and about any medication required including details about any

possible side-effects. This is most desirable as it involves the patient in an active capacity. The introduction of the Citizen's Charter which incorporates the Patient's Charter is a most significant recognition of these changes.¹³⁸

Both the pattern and rate of prescribing can be influenced by the different age/sex groupings in a GP practice population. The variation in population distribution, ethnic origin of patients, socio-economic, cultural and educational factors of the patients as well as the different rates at which different sections of the patient population visit the surgery all affect the pattern of prescribing.⁴⁵

O'Hagan discussed the important interaction of doctor-patient feelings, attitudes and behaviour which is complex and poorly understood.¹³⁹ A GP may be responding to a patient's expectation but Sachs suggests that doctors over-estimate the patient's desire for a prescription.¹⁴⁰ Stimson concluded that 50% of patients wanted a prescription but the GPs perception was 80%.¹⁴¹

Other factors considered include the convenience of terminating a consultation by writing a prescription and the interface between doctor authority and patient autonomy. The latter ranges over paternalism, the GP's priestly role, informed consent, the autonomous patient and the collaborative relationship.

O'Hagan's perceptive comment about the desirable collaborative relationship is that while it is often the best approach, it requires time, experience and commitment, and some patients actually prefer paternalism because they cannot handle the alternative. In some cases neither can the GP.

The conclusion is challenging because it is a much more difficult decision for a GP not to prescribe or investigate than the reverse, as it demands a much greater understanding not only of the presenting condition, its prognosis and drug treatment but of the psychodynamics of the doctor/patient interaction as well.

For the 70-75% of the population who are exempt from paying prescription charges who account for 84% of all prescriptions,⁷⁰ the preference for a prescription rather than the option of purchasing medicine is obvious and is a prescribing influence. There is also a patient's resistance to a prescription being changed which may arise from long-standing repeat prescriptions. For the prescriber to prescribe drugs costing significantly less than the average, is also a prescribing influence. Furthermore since the introduction of the new GP contract it has been made easier for patients to change their GP if they feel dissatisfied with the service provided. This can also act as a potential influence on the prescriber to meet what he believes are a patient's expectations.

with the same diagnoses as patients who were younger, Linn and Linn compared over 12,000 patients of five physicians.¹⁴² The findings suggest remarkable similarity in symptoms for older patients seen by different doctors but that certain doctors treated older patients differently with regard to the use of tranquillisers and pain medication. The authors concluded that the inconsistent use of certain drugs for the old, raises questions about how the old are viewed as a group by some physicians.

The uniquely comprehensive NHS prescription statistics have shown marked regional and district differences in the number of prescription items per person and the average cost per item.⁶⁹

An examination of the differences in prescribing between Welsh and English GPs by Jones et al attempted to explain why a patient in Wales received an average 8.4 prescription items compared with an average of 6.4 in England.¹⁴³ Average cost per item in Wales was only marginally higher by 2 to 3%. The results showed that it was a higher number of surgery visits by Welsh women as compared with English women which was responsible for the differences and not differences in repeat prescriptions, rates of self-medication or any greater propensity for the Welsh GPs to prescribe. It was concluded that further studies were required to determine whether differences in prescribing were related more to morbidity or more to behavioural differences.

Cockburn has attempted to refute the widely promulgated belief that a patient's expectation of medication was a major influence on a doctor's prescribing habits.¹⁴⁴ An Australian survey showed that nearly 23% of a random sample of 260 people questioned about an emotional problem, would not want their GPs to prescribe medication. This is a marked increase in the proportion of those not wanting a prescription compared with the UK figures of about 5% in 1967 and 15% in 1977.^{145,146} However, as Hemming et al point out, presumably 77% of patients would want a prescription, which is still a sizeable majority. They considered that the figure might be higher still for patients with physical ailments.¹⁴⁶ The real significance of these data and interpretations are that they indicate a trend by patients away from expecting a prescription which it is important to recognise and to which prescribers must respond.

1.8.1 Patient participation

National publicity given to the adverse effects of certain drugs has made the general public increasingly aware of potential hazards, maybe overshadowing the advantages of much drug therapy. In response, the Patients' Liaison Group of the Royal College of General Practitioners set up a working party to identify patient concerns which included sending a questionnaire to Community Health Councils (CHCs) in Wales.¹⁴⁷

The results showed that patients wanted more verbal information from their doctor and where appropriate from their pharmacist,

to include the nature and cause(s) of their illness, its prognosis, the alternative therapies available, including possible non-drug, the nature of prescribed drug(s) and their predicted benefit as well as the method and frequency of administration of medication. Written information was already welcomed to reinforce or add to verbal information.

In addition to wanting clear labelling and information sheets, patients wanted brief information on side-effects both minor or common and significant. Patients expressed the need for details of how further information about drugs could be obtained, perhaps in the form of a layman's BNF or Data Sheet Compendium. Such additional information was in no way seen as removing any responsibility from the prescriber to seek out the existence of any possible contraindications to a drug being prescribed.

It is against this patient expressed information need that probably the most significant result of the inquiry was the extent to which many patients wanted to be actively involved in decisions about the course of treatment to be followed. It was a source of much dissatisfaction that far too frequently doctors chose a therapy without discussing available alternatives with the patient. Considerable dissatisfaction was also expressed about the prescribing and repeat prescribing without face-to-face consultation especially of drugs like tranquillisers and hypnotics. Related to this issue

respondents suggested that doctors should review their appointment systems to see if more time could be made available for discussion and counselling where appropriate.

Carpenter appropriately made the point that it is much more time consuming to see one patient on many occasions for a few minutes, never evaluating the condition thoroughly but simply practising therapeutic punctuation, than it is to give that patient one or two open-ended consultations where there is sufficient time for a patient's needs to be properly considered and perhaps no prescription issued at all.¹⁴⁸

Marsh described his very stringent prescribing in a general practice in N E England where the practice's policy is of self-care and not to prescribe for most minor self-limiting illnesses.¹⁴⁹ For depression and anxiety which are respectively the second and fifth commonest diagnoses in the practice, drugs inhibit the motivation for working through the problem. The author considers that the most important treatment is that the doctor is available, known (patients always see their own doctor in the group practice except in emergencies), interested, listens, advises, counsels (often in association with a health visitor or social worker) reassures and supports, before resorting to prescribing any psychotropic drugs.

Blackwell et al review the inappropriate use of prescribing sedative drugs that control behaviour.¹⁵⁰ Their conclusion centres around the sharing of responsibility in which counselling is associated with raised patient satisfaction, and the satisfied patient is more likely to comply with prescribed therapy. Self-help support groups, a variety of social agencies and pastoral counselling services are considered to be underutilised at present. The authors report that the use of nurse practitioners in family practice is claimed to reduce the use of minor tranquillisers and the **review of prescriptions by pharmacists can improve the quality and reduce the quantity of prescriptions** written for these drugs.

Anastasio and her clinical pharmacist colleagues affiliated with GP residency programmes would encourage GPs to accept the patient as a partner in the decision-making prescribing process, and to consider the impact of their prescribing on the family unit.¹⁵¹ The authors consider that treating the entire family applies to drug therapy as well, where the prior experience of a side-effect or sensitivity to a drug by another member of the family may suggest an alternative prescription. Patient compliance is another aspect referred to which often has implications for a family.

1.8.2 Differences in prescribing by male and female

Plowright et al in a study of the prescribing of oral contraceptives by 180 GPs and 56 community health doctors

involved in family planning work, noted that female doctors were consistently less likely to prescribe oral contraceptives.¹⁵² Various explanations were suggested including the notion that women doctors maybe naturally more cautious or that there maybe the potential for greater empathy between female patient and female doctor in the sphere of birth control, and a mutual reluctance to settle for what might appear superficially to be the easiest option.

In one of the case histories the woman involved was 'well informed' and enquired about the possible risks of oral contraception. The authors were puzzled to find that both groups of doctors were more reluctant to prescribe oral contraceptives for this patient than for any of the others, except the smokers. The doctors failed to recognise such a woman as more suitable for oral contraceptives, because she was likely to monitor her own health and report any symptoms promptly. Several explanations are suggested, but could it be that many members of the medical profession find it difficult to respond to knowledgeable patients?

Although not all patients would be prepared or willing to respond to active involvement in the prescribing process, insufficient attention has been paid to the changing attitudes and expectations of many patients. Patients have an influence on prescribing with which it is important to recognise and empathise. Both the doctor-patient and pharmacist-patient

relationships can contribute to the appropriateness of prescribing.

1.9 INFLUENCE OF PERSONAL FACTORS and SOME OTHER INFLUENCES ON PRESCRIBING

The importance of a GP's personal attitudes to patients, to colleagues, to work, to the need to keep up-to-date, to the upholding of ethical standards and to other health care professionals, cannot be underestimated. The essence of a professional must be the personal acceptance of responsibility and the need for self-motivation. As factors which can influence prescribing they may be quite significant. Some aspects of GPs attitudes to pharmacists and their potential influence on prescribing are considered in this thesis.

In considering some wider aspects of the sociology of prescribing, Melville investigated the hypothesis that low job satisfaction among GPs may be associated with poor quality prescribing.¹⁵³ Data from a questionnaire to 124 GPs in England and Wales were used to produce a reliable job satisfaction scale, the scores of which were then related to the prescribing of certain drugs selected as possible indicators of 'dysfunctional prescribing'. Prescription data were available from a record of all prescriptions written during a month. The hypothesis was confirmed as it was found that the prescribing of drugs liable to cause either adverse

reactions or deemed inappropriate by medical consensus¹ was associated with low job satisfaction as measured. The results also showed that those GPs with low levels of job satisfaction were more likely to permit ancillary staff to write prescriptions for potentially hazardous drugs.

Some of the problem is attributed to the pressure to prescribe and the enormous amount of information about drugs which it is necessary for the GP to evaluate. As a consequence it is too easy for the prescriber to overlook or pay inadequate attention to essential warnings. The prevalence of avoidable adverse reactions to drug therapy may thus be connected to personal frustration among GPs. The author fails to emphasise that these explanations cannot be condoned. Various supportive sources of drug information are available to GPs including that of the pharmacist.

The prescribing response of GPs towards the introduction of a major innovative new product was investigated by Strickland-Hodge et al.^{5,154} In a study designed initially to identify early and late prescribers of a new product innovation by analysing NHS prescriptions over a fifteen month period, the characteristics of prescribers were investigated by a questionnaire. Innovative or early prescribers of the new product, were found to have significantly larger list sizes than late prescribers, which suggested a number of possibilities. Firstly, that the doctor who sees or has the

opportunity to see more patients, has a greater chance of seeing patients with the condition for which any particular new drug may be indicated. Secondly, that the doctor who is generally perceived to be innovatory is probably more likely to attract a larger number of patients. Thirdly, that such early prescribers who are more rushed may be rather less critical of drug advertising than their colleagues. These two latter points reflect very different influences on prescribing and provide further evidence of the personal factors which can influence prescribing.

1.9 1 Influence of computers on GP prescribing

The increased use and availability of computers in GP practices and the need for security and ensuring confidentiality has been studied by Di Ponio.¹⁵⁵

Telling et al issued and recorded repeat prescriptions on computer and by studying a monthly print out, the frequency of prescribing drugs was noted in order to limit and update a practice formulary.¹⁵⁶ The ongoing development of the formulary was regarded as a by-product of the computer controlled repeat prescribing. As a consequence, the range of drugs in the formulary had been reduced by 10% and information on dose ranges, actions, interactions and side-effects of all the drugs used in the practice was available. Difford described a method in which for given diagnoses the computer can identify the appropriate drugs and systematically include

them in a detailed print out of the drug management in the practice.¹⁵⁷

It is possible for GPs to think that their computer facility to monitor dosage, directions, interactions and side-effects has obviated the need for pharmacists to advise either themselves or their patients on these topics. Closer liaison by pharmacists with GPs is probably the surest way of confirming the contribution that pharmacists can still make, while recognising the increasing usefulness of computer software.

1.9.2 Drug costs as an influence on prescribing

The BNF has refined the information it includes on prices. Basic net prices, normally for the unit of twenty tablets or capsules are believed to provide better indications of relative cost. The prices are calculated from the basic cost used in pricing NHS prescriptions but exclude professional fees and overhead allowances. Consequently the BNF emphasises that the prices are not suitable for quoting to patients either in relation to private prescriptions or OTC purchases.

In contrast, the impact of the Drug Tariff on GPs' awareness of NHS drug and appliance costs appears to have been negligible. This is perhaps primarily attributable to the extremely poor format over many years and a re-introduced index, neither of which are conducive to easy use. The distribution of PACT

data (Section 1.7.2.2.7) is, as expected making a much more significant impact on prescribers' cost awareness.

Baumgard et al found that overall prescribing costs among GPs may be influenced more by different types of patient than by different management of the same disorders.¹⁵⁸ For all the major therapeutic groups, repeat prescriptions were more expensive than new prescriptions. Repeat prescriptions which make up two-thirds of all prescriptions, are usually issued for relatively longer periods and in larger quantities to treat chronic conditions in the elderly.¹⁵⁹

To some extent PACT data attempt to offset the higher prescribing costs of the elderly by treating all patients over sixty-five years of age as 'three prescribing units' as compared to all below sixty-five years of age who are classed as 'one prescribing unit'. This distinction is based on the generality that those patients over sixty-five years of age have about three times as many prescriptions per year as those under sixty-five years of age.

The age profile of patients in a GP practice has an influence on prescribing costs which are not necessarily accurately reflected by the use in PACT data of 'prescribing units' (PUs), and which could have a marked effect on the interpretation of PACT reports and on the indicative prescribing scheme.¹⁶⁰

The criteria for rational prescribing are that it should be necessary, appropriate, effective, safe and economic as well as acceptable to the patient. The quality of medication should not be in question. Rational prescribing has been investigated from the point of view of physician characteristics¹⁶¹ and its relationship to cost savings which can be significant^{126,162} but a reduction in the number of prescriptions may not result.¹⁶³

The relative importance to prescribers of factors such as effectiveness, side-effects, cost, placebo effect, dosage form availability, frequency of administration, contra-indications, source of drug information, manufacturers' reputation, likelihood of compliance and a patient's perception of the doctor have all been the subject of experimental measurement, but few correlations have been found.^{164,165,166}

Segal and Hepler designed and tested a cognitive model of the drug prescribing process which incorporated prescribers' attitudes about treatment outcomes and beliefs about drug effects.¹⁶⁷ Both prescriber attitudes and beliefs appear important for predicting prescribing intention and it was concluded that the evidence supports the belief that face-to-face consultation maybe a more effective method of influencing prescribing than any other type of communication.

A further practical implication is that a doctor's drug choices can be influenced by changing his beliefs about the correlations between treatments and outcomes. Where this affects inappropriate or incorrect prescriber beliefs it may afford a pharmacist the opportunity to influence a change in prescribing.

1.10 THE PHARMACIST, A POTENTIAL INFLUENCE ON PRESCRIBING

The need for pharmacists to work closely with GPs has changed drastically as the skills and knowledge involved in the compounding of medicines has given way to a pharmaceutical emphasis on dosage regimens which avoid or minimise side-effects and drug interactions, pharmacokinetics and patient advice.

The trend for GPs to work in group practice and to be at the centre of primary health care teams has to some extent failed to involve the community pharmacist who has in turn remained as an isolated singleton.

The pharmacist's role in checking prescribing errors is well recognised, if not always appreciated by GPs. As Neville et al have confirmed, the number of errors may appear numerically small but they are significant and some are potentially serious.¹⁶⁸ The lowest rate recorded in the study was 2% of all prescriptions written.

The pharmacists' traditional role in advising and treating minor ailments has received much more attention in recent time. It has been affected by large increases in prescription charges and the transfer of drugs from prescription only to pharmacy only classification.

Phelan and Jepson confirmed that when pharmacists respond to patients' symptoms, 25% of the patients are either given general health advice or referred to their GP. This research refuted the view that pharmacists only respond for pecuniary advantage.^{169,170}

Morley et al studied the attitudes of GPs to the treating of minor ailments by pharmacists and found that most GPs were much in favour of the treatment of minor ailments by pharmacists and a majority of GPs were in favour of the role being extended.^{171,172,173} The design and use of a notification card for the referral of patients by pharmacists to GPs was also investigated and was well received by patients, GPs and the pharmacists initiating the referrals. The card improved communication, including the referral of adverse drug reactions and helped to ensure medical attention when necessary.^{171,174}

The pharmacist requires relevant and up-to-date information sources in order to respond satisfactorily to patients' symptoms and these were investigated by Stewart who was able

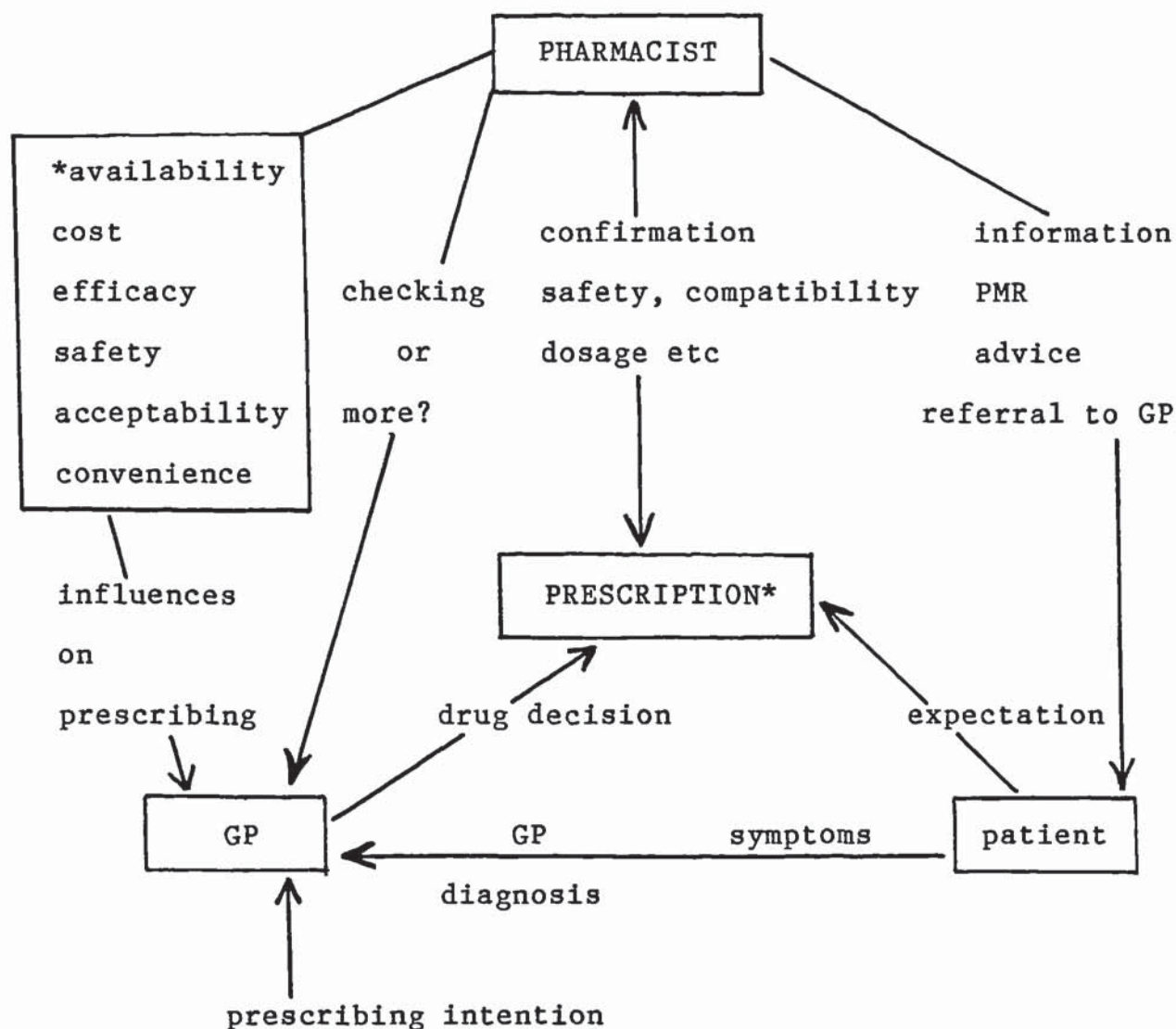
to utilise research data to help formulate postgraduate education programmes for community pharmacists.^{175,176}

Nearly three-quarters (73%) of the population have asked at their pharmacy for advice on what to take to treat a minor ailment,¹⁷⁷ and as more drugs are reclassified and cease to be restricted to prescription, the pharmacist's role in responding to symptoms is likely to expand. The greater the integration of the relationship between pharmacist, patient and GP, the better should be the quality of patient care.

There is some evidence that the involvement of pharmacists at the prescribing stage or beforehand can significantly improve the appropriateness of the prescribed drugs and the suitability of the dosage for a patient's overall benefit.^{178,179}

Figure 1.4 shows the position of potential influence of the pharmacist in relation to a patient, the patient's prescription and the prescriber. The sequence which links the GP's response to being presented with a patient's symptoms, the decision to write a prescription which is then presented to a pharmacist, is shown. Some of the areas of expertise in which a pharmacist may act as an influence on prescribing are included in the box with an asterisk.

Figure 1.4 GP, PATIENT, PHARMACIST INTERACTION



The increasingly important role of hospital based drug information and clinical pharmacists has already been noted, and the potential influence on GP prescribing of FHSA pharmaceutical advisers. Pharmacokinetics, can almost claim to have been invented by hospital ward and clinical pharmacists. After some initial suspicion from a sector of the medical profession, the contribution which the clinical

pharmacist can make to the prescribing and treatment process is now generally recognised.^{180,181} The pharmacists influence in a community primary care setting is less well documented.¹⁸²

Harding and Taylor have made an interesting and careful study of the interface between pharmacists and GPs in ten English health centres.^{183,184} Although the quantitative data is limited the GPs generally appreciated the pharmacists' potential contribution to health care, but pharmacists were often reticent to initiate their contribution.

Stergachis et al in a small study of the effect of clinical pharmacists on drug prescribing in a primary care clinic, reached the conclusion that the clinical pharmacist's intervention was not economically self-sustaining during the first six months of operation since operating costs exceeded anticipated savings.¹⁸⁵ This can represent a major difficulty if only cost savings are taken into account and the issue of improved patient care including a reduction in iatrogenic disease is left out of the equation. It must be recognised that improved patient care and well-being may not be measured so easily.

In the UK, where the GP, dentist and the community pharmacist (it is actually the pharmacy which is contracted) are contractors to the FHSA, contractor time is strictly accountable. By comparison the drug information pharmacists

based in the district general hospitals are salaried employees and they have been freer to develop drug information services.

Miller described a small pilot study of community pharmacists as drug information advisers in North Dakota USA.¹⁸⁶ Part of the study related to purported telephone enquiries from GPs and although the pharmacists responded willingly to answer questions, there was often a limit as to how much trouble they would take where the answer to the question was not easily available. Interestingly, the authors asked questions which could have been answered by reference to the RPSGB's Martindale: The Extra Pharmacopoeia.¹²⁵ It was concluded that the pharmacists' reference libraries were inadequate to that extent. Many of the pharmacists referred the caller to the local drug information centre but few called it themselves, which disappointed the authors. It is probably not surprising, as the callers were not personally known to the community pharmacists who were unlikely to have the time to run a free information service. Time can act as a barrier in pharmacy to the development of professional relationships and is probably affected by the method of community pharmacy remuneration which is primarily based on item of service payments for dispensing.

An important matter for this research is to question whether the present form of community pharmacy remuneration is acting as a barrier to the development of the pharmacist's role, and does it need to be changed?

Prompted by the Nuffield Report,³⁴ a community pharmacist arranged regular evening meetings for GPs and pharmacists in a market town in Oxfordshire to encourage increased co-operation between the two professions.¹⁸⁷ Fifteen GPs and four community pharmacists were involved. Average attendance at six meetings spread over twenty months was six GPs and three pharmacists. The meetings were considered to have lead to greater mutual understanding and respect brought about by regular face-to-face meetings and eased the frustrations created by individual shortcomings. Future meetings were only expected to take place on an ad hoc basis whenever a topic of mutual interest arose. It would seem doubtful whether such a casual arrangement with no infra-structure is really sufficient to sustain what was a commendable initiative and which occurred without waiting for any national body to organise.

A sociologist observer of preliminary workshops for a continuing education programme for community pharmacists and GPs, noted that the pharmacists tended to defer to the GPs, while the latter were more assertive and the emphasis was placed on how the pharmacist could help the doctor rather than the other way round. Both groups had a poor understanding of each other's training and competencies particularly with regard to the pharmacist's advisory role.¹⁸⁸

The pharmacists' potential for influencing and improving the quality of prescribing would seem to be in little doubt.

Professional isolation and lack of communication especially with GPs, GPs' ignorance and suspicion of pharmacists' motives are all serious barriers to closer co-operation for the purpose of providing better health care for patients.

One of the most relevant and important recommendations in the Nuffield Report³⁴ is that: "systematic arrangements are needed to enable community pharmacists to co-operate with GPs to increase the effectiveness and reduce the costs of prescribing." Taylor and Harding¹⁸⁹ hope that other health professionals will respond positively to changes in pharmacy and will not see any changes as an erosion of professional boundaries or of an attempt by pharmacy to raise its profile at the expense of others.

Much depends on the desire of pharmacists to become involved and a willingness to do so. In order to effect change, it is necessary for pharmacy to influence the perception of GPs and others, of the need for the pharmacist, and in turn to convince Government with regard to appropriate resource allocation and policy. Resource allocation is not going to come first and pharmacy has to be seen to take the initiative.

1.11 SUMMARY

This Chapter has identified and reviewed the influences on doctors' prescribing and considered some of the implications for education and training.

Those influences which can improve and rationalise prescribing to ensure that when a prescription is necessary, it is appropriate to the needs of the patient have been considered. The importance of the availability of independent sources of information, especially of those which can provide evaluated information, have been noted.

The influence of colleagues, peer groups, patients and the pharmacist as an independent health care professional have been discussed.

The overall aim of the Government and the DoH to achieve more rational and economic prescribing within the evolving framework of the NHS has been described and seen as generally supportive.

From the review of the literature a number of hypotheses have been formulated to examine the extent to which high prescribers in one therapeutic category are high prescribers in other therapeutic categories and the nature and extent of the influence of hospital consultants on GP prescribing compared with that of practice colleagues. (Chapter 2)

Changes in the influence of sources of information with particular reference to that of the pharmacist are also considered in Chapter 2.

The main research then concentrates on the potential for influence of the community pharmacist. Hypotheses have been formulated (Chapters 3, 4, 5 and 6), to examine the association of contact between pharmacist and GP and the pharmacist's influence on prescribing. The importance of pharmaceutical services meeting the needs of patients is examined. The association of complete patient medication records which include OTC medicine information, with patient registration as of principal benefit to patients, is investigated from the perspective of patient, GP and pharmacist.

The importance and potential of the community pharmacists' interaction and influence on GP prescribing through professional co-operation are then related to the attitudes needs and expectations of the public.

CHAPTER 2 PRESCRIBING INFLUENCES -

PRESCRIPTION DATA AND SOURCES OF INFORMATION

2.1 INTRODUCTION

In Chapter 1 the wide range of influences which can affect the prescribing process and GPs has been reviewed. Many of the influences are inter-dependent and are difficult to separate and evaluate. Of the various methods of data gathering which have been used and discussed in Chapter 1, one of the most dynamic and objective, involves the capture of dispensed prescription information.

A dispensed prescription is the firm evidence of what the prescriber has decided is most appropriate for a particular patient at a particular time. It is not always what a GP thinks he would prescribe if asked a question or presented with a simulated case study. The prescription will include information as to whether the item prescribed has been described by a brand name or a generic name, whether the quantity is for a longer or shorter period of time which may be associated with repeat prescribing and whether the dose, frequency and course of treatment conforms to the product data sheet or BNF guidance. The prescription may give information about the age of the patient, as well as the patient's sex. As most prescriptions include more than one item, information is included about associated prescribing. The patient's address

may have significance for example, for analysis of a prescribing practice population. Additional patient information may also be available on the reverse of an FP10 NHS prescription if the patient has indicated that he is exempt prescription charges.

Prescriptions are therefore the most objective record of a doctor's prescribing once dispensed.²⁴² A patient's medical record should include information whether or not the decision was to prescribe, as well as details of any prescriptions written. This is not a confirmation that the prescription was actually dispensed.

2.1.1 OBJECTIVES

Three research objectives were set which were developed from the work of Strickland-Hodge.⁵ They were:

- a) to confirm whether or not early prescribers in one therapeutic class of drug were also early prescribers in other unrelated therapeutic classes, (2.1)
- b) to investigate aspects of the medical consultants' influence on GP prescribing, (2.2)
- c) to investigate the position of the community pharmacist as a source of information and an influence on GP prescribing, (2.3).

2.1.2 PRESCRIPTION ANALYSIS

Coleman, Katz and Menzel suggested that each doctor can be

characterised by an overall tendency to try out new drugs quickly or slowly, but their study involved relatively few doctors and was based on interview statements and not on objective prescription data.¹⁶

Strickland-Hodge et al had found that early-prescribers of one drug had prescribed slightly more than was estimated of up to five other new drugs but the differences were not statistically significant.¹⁵⁴

The consultant considers that he has an influence on GP prescribing and many GPs seem to believe that this is true. The Greenfield Report on effective prescribing in 1982 went so far as to state that: "the hospital consultant has a great influence on the prescribing of GPs."⁵⁷ Strickland-Hodge analysed a month's prescriptions for rheumatological preparations of about three hundred GPs in one Area Health Authority.⁵ The hospital prescriptions written by the three consultants in rheumatology in the Area on or before the sample month were also analysed. GPs were grouped according to their referral preference if any. The data were subject to extensive analysis and several statistical tests. Low correlation was found between each consultant and each GP group (not significant at the 5% level) which was considered to imply that the consultant had little if any influence on the long term prescribing patterns of the GPs. There was a significant correlation between the three groups of GPs, implying that the

influences within general practice are probably greater than those coming from consultants.

2.1.2.1 HYPOTHESIS

The following hypothesis is postulated.

Hypothesis 1: "High prescribers in one therapeutic category are high prescribers in other therapeutic categories."

2.1.3 METHODOLOGY

Approval by the Prescription Pricing Authority (PPA) was given for a continuation of the prescription analysis at one of the PPA Pricing Offices. The protocol allowed for the recording of the drug name, strength and quantity and a code for the prescriber to ensure confidentiality. No record of the details of any patient was permitted.

Independent prescription analysis at this time, prior to computerisation was extremely time consuming because of the enormous numbers of prescriptions written each month. In the area concerned around 444,000 prescriptions were written each month by five hundred and eighty GPs. The prescription bundles were available after they had been processed and priced by the clerical staff of the PPA Pricing Office and were kept as correctly classified by the pharmacy which had submitted them.

MIMS and new product information published in the Pharmaceutical Journal was monitored for details of new product

introductions. Those drugs which were available and relevant to general practice were identified and confirmed for analysis with the PPA.

Data on the frequency with which GPs prescribed the drugs: sucralfate (Antepsin) introduced May 1982, indoprofen (Flosint), bromazepam (Lexotan), and flunitrazepam (Rohypnol) all three introduced October 1982, and alprazolam (Xanax) introduced January 1983, were recorded. Prescriptions for ranitidine (Zantac) introduced in November 1981 were also recorded. Flosint was subsequently suspended in December 1983.

As new drugs are introduced at irregular time intervals an attempt was made to categorise a prescriber as a high prescriber of a particular drug if the prescriber remained in the upper quartile of high prescribers during two consecutive months of data collection. It was hoped that such a measure of prescribing consistency would enable comparisons to be made with other new drugs which might be monitored several months apart.

2.1.4 RESULTS AND DISCUSSION

The data were processed to identify the high prescribers, who were those doctors listed in the upper quartile of prescribing frequencies for a particular month. An attempt was made to compare the doctors in the upper quartile of prescribing frequency for each drug.

Correlation of high prescribers (upper quartile) of 'Lexotan' (a short-term anxiolytic) in September (531 script items) and in October (506 script items) 1984 was **73.6%**. (GPs who had prescribed Lexotan four or more times per month).

A comparison was made with two H₂ antagonists, one newly introduced, one established. When compared with Zantac data for July 1982, eight months after the drug's introduction, correlation of prescribing rate by high prescribers (three or more scripts per month) with Lexotan high prescribers was **11.1%**.

Similar analysis with Tagamet prescribing data for December 1982, which was first marketed five years earlier and well established, gave a correlation of **13.3%** with the Lexotan high prescribers. This result indicates as much correlation between prescribing a relatively new drug in a different therapeutic category as that obtained with a well established drug in a different therapeutic category.

A comparison of the prescribing of two drugs in the same therapeutic class was possible with data collected on both Tagamet and Zantac for December 1982. A correlation of **15.9%** was obtained, which suggests that a high prescriber of one particular H₂ antagonist was not necessarily a high prescriber of another. There are several possible factors involved: Tagamet was an established drug, Zantac still relatively new; both drugs and especially Zantac were expensive;

Tagamet had already been extremely successful and become well established, whereas prescriptions for Zantac were still relatively few;

the widely publicised advantages of Zantac's fewer side-effects had yet to swing prescribing in its favour.

'Zantac' (ranitidine) which had been introduced in November 1981, was classed as a major innovation and after six months was being prescribed very frequently. There was a correlation of **43%** of the high prescribers for two consecutive months in (July and August) 1982.

No meaningful correlations of high prescribers between therapeutic classes were found.

Corrections were made for changes in the FPC List of Doctors, which had occurred during the time involved in the research programme.

Experimental difficulties: Among the variables which it was not possible to control, or in some cases identify were:

- a) the effect of a GP's patient list size,
- b) the number of patient consultations,
- c) reliable data on the number of different patients a GP had under treatment with a particular drug for which it would have been necessary to record patient details from prescriptions,

- d) differences in the duration of treatment - the need to standardise each script item recorded in terms like the 'defined daily doses' (DDD) as developed for Drug Utilisation Studies by the Norwegian Medicinal Depot, Oslo, Norway,
- e) frequency of repeat prescriptions,
- f) absence of a GP from his practice thereby reducing all prescribing for a particular period.

The problem of fluctuations in a GP's prescribing as a result of absence on holiday or for any other reason can render monthly comparisons unreliable.

A further problem was the rate of uptake of a new drug which proved to be dependent upon many factors but especially whether it was a 'me-too' drug or a significant and much needed contribution to the prescribers' armamentarium. The frequency with which some of the new drugs were prescribed was very low. This did not diminish the very time consuming meticulous task of sorting through all the 220 pharmacy contractors bundles of scripts totalling between 393,000 and 405,000 each month.

The preliminary results summarised in this Section were inconclusive and the data flawed.

Hypothesis 1: "High prescribers in one therapeutic category are high prescribers in other therapeutic categories."

The hypothesis is neither confirmed nor rejected.

Increasing restraints have been put on the collection of prescription data in order to protect patient and prescriber confidentiality. This is understandable but it has restricted research based on prescription data, especially if undertaken by non-medically qualified researchers, including pharmacists.

The exploratory work described above was abandoned as among other issues it would have been necessary to get the experimental protocol approved of all Local Medical Committees in whose areas any prescriptions which were likely to be included in data collection, had been written, and to write to all GPs. The probability of some refusals, added restrictions and the time delay which would be involved contributed significantly to the suspension of this work.

2.1.5 THE MONITORING OF PRESCRIPTIONS OF A NEWLY INTRODUCED DRUG FOR THE TREATMENT OF ASTHMA - A PILOT STUDY

2.1.5.1 INTRODUCTION

Nedocromil sodium (Tilade) was introduced onto the UK market by Fison's initially for use in hospitals, in October 1986. It was to be launched three months later for prescribing in general practice in January 1987.

Nedocromil is indicated in the prophylactic treatment of asthma, has a pharmacological action similar to that of sodium cromoglycate and is formulated for aerosol inhalation.

The introduction of a new drug which had a wide potential for use in general practice, but was initially restricted to hospital prescribing, was a unique opportunity which could be monitored. If initial prescribing by hospital medical staff and especially by consultants, was subsequently copied and expanded by GPs it could be as a consequence of consultant influence. The monitoring of GP prescriptions for Tilade immediately following the introduction of the drug could provide a useful diffusion study model.

It has frequently been stated over many years that hospital medical consultants and colleagues have a marked influence on GP prescribing^{190,30} and the Greenfield Report⁵⁷ reference to consultants has been quoted previously in Section 2.1.2. Coleman et al in their classic study concluded that colleagues tend to function only as legitimising sources of information for questions on drug therapy.¹⁶

In a study by Strickland-Hodge^{5,110} on the influences on prescribing, a questionnaire mailed to 500 GPs in five Family Practitioner Committee (FPC) areas of one NHS Region achieved a 52% response. Responders ranked sources of information on pharmaceutical products in order of importance and placed 'consultant recommendations' third after MIMS and Prescribers' Journal. 'Consultant recommendations' was ranked second, after MIMS as an information source of 'most general usefulness'.

When asked about 'awareness' sources - considered most useful for finding out about the existence of a new drug, consultants were placed fifth after representatives, MIMS, articles in medical journals and direct mail.

Less surprising, 'consultant recommendations' were placed second (after papers in medical journals) as an 'evaluation' source considered most useful for finding out about the medical value of a new drug. The consultant remained in this position in a follow up survey in 1990 which is detailed later in this Chapter, Section 2.3 and Table 2.10.

When Strickland-Hodge^{5,59} analysed three hundred GPs prescriptions for drugs used in rheumatology and compared them with those used by three local consultants to whom the GPs referred patients, the level of correlation was too low to be statistically significant. (Section 2.1.2)

When looking for differences between 'early' and 'late' prescribers of new drugs, Strickland-Hodge⁵ asked GPs on a questionnaire:

"If a patient has been referred to hospital and returns with a consultant recommendation for a new product which you have not previously prescribed, have you subsequently prescribed the new product for other patients when indicated?"

93% of the GPs (83/89) indicated 'yes'. and there was no significant difference between the response from the two relatively small groups of early and late prescribers.

It is reasonable to expect that if a GP refers a patient to a consultant then the consultant's prescription for that patient is accepted subsequently by the GP on the patient's return. The greater the GP-consultant relationship, the more ready, one would expect, the GP to be to accept the consultant's prescribing. In most areas of the country GPs, have a choice of consultants in most specialities from whom to choose. If the consultant's expertise is not well regarded, he is not likely to normally receive any referrals.

What is less certain is whether or not a consultant's prescription is subsequently added to and absorbed into the GP's usual prescribing repertoire.

2.1.5.2 CHOICE OF METHOD

Permission to monitor the incidence of prescribing in the Birmingham Family Practitioner Committee area followed the acceptance of an experimental protocol submitted to the PPA in Newcastle-upon-Tyne. A monthly record was made of each prescription for Tilade which included the date and quantity prescribed, the number of inhalers. In order to respect patient confidentiality, no personal details of the prescriptions were recorded other than the discrete number

representing the identity of the prescriber. Associated prescription items were also noted initially, but as the great majority of prescriptions for nedocromil were written with other anti-asthmatic drugs on multiple item prescriptions, such recording was soon discontinued.

2.1.5.3 OBJECTIVES

- 1 To monitor the prescriptions for Tilade to study how far and how rapidly the initial prescribing by hospital doctors might diffuse into general practice.
- 2 To examine GP prescribing of Tilade prior to the drug's launch into general practice, to see whether these 'initial' prescribers had a significant influence on the drugs later prescribing.
- 3 To determine whether the diffusion of Tilade into general practice differed between single practice and group practice doctors.

2.1.5.4 HYPOTHESES

The following hypotheses were postulated from previous research and the literature.

Hypothesis 2a: "Consultants prescriptions are only copied by GPs when prescribing for the patients who were referred and not for their other patients."

It was not possible to test this hypothesis in the absence of

patient information.

Hypothesis 2b: "GPs who have been influenced by consultant prescribing will subsequently prescribe the product(s) involved, more frequently than other GPs."

Hypothesis 3: "GP colleagues in larger group practices where one GP has prescribed a new drug are more likely to also prescribe the drug than GPs in two-doctor practices."

2.1.5.5 METHOD

All NHS FP10 prescriptions written by Birmingham GPs for Tilade which were dispensed in the Birmingham FPC area were identified and recorded at the PPA Pricing Office each month. The prescription forms analysed between November 1986 and July 1987 varied in number from 392,028 (698,512 items) to 447,040 (790,856 items) per month. GP prescriptions (on FP10s) for Tilade were first written in November and December 1986, prior to the drugs launch in general practice in January 1987.

Over the experimental period of nine months an analysis was made of the extent to which prescribers of Tilade might have been particularly influenced by either consultants or by practice colleagues. They were compared with the number of GPs and their practice colleagues in the FPC area who had not prescribed the drug in the period under scrutiny. After 1st January 1987, any prescription for nedocromil issued by a GP could have been written solely on the GP's own initiative or as a result of the many influences, including promotional

literature and patients to which GPs are subjected and as discussed in Chapter 1.

A continuous record of new prescribers was made and the extent to which they could possibly have influenced their GP colleagues to subsequently prescribe the new drug. It was important to try to ensure that new prescribers in a group practice were not just writing repeat prescriptions for patients already initiated on the new treatment by their colleagues, the initial prescribers. As the total number of prescriptions was low, it was possible to ignore any repeat prescriptions, and none have been included in the study. No records of individual patients were permitted, by the PPA agreed protocol which made it impossible to confirm which, if any, patients in any month had been referred by their GP to a hospital consultant.

There were very few prescriptions for nedocromil alone, and the majority of prescriptions included several other drugs used for the relief of chronic asthma. Most prescribers seemed to introduce the drug cautiously and prescribe it in addition to, rather than in place of, other anti-asthmatic drugs. The overall pattern of prescribing of nedocromil suggested that prescribers did not see it as a replacement for their current anti-asthmatic prescriptions but rather as a supplement. This to some extent reflects the prophylactic indication for nedocromil. It did seem that the pattern of multiple item

prescriptions, for asthmatics did reduce the likelihood of prescriptions for Tilade being written but not dispensed.

The GP practices which had prescribed Tilade, were found to be evenly scattered throughout Birmingham and showed no concentration in one or more districts near to any of the District General Hospitals in the city. There were no dispensing doctor practices in the area under examination.

2.1.5.6 RESULTS AND DISCUSSION

SUMMARY (see Tables 2.1, 2.2 and 2.3)

Total number of GPs in FPC area:	579
Number of GPs in single practice:	125
Number of two-doctor practices = 58, no. of GPs:	116
Number of group practices	
with 3 to 12 GPs = 83, no. of GPs:	338

Nedocromil prescribers in nine months (Nov 1986 - July 1987):

Total number of nedocromil prescriptions in the nine months monitored: (see Figure 2.1):	334
Total number of GPs who prescribed: (see Figure 2.1)	140 (24%)
Singleton GPs who prescribed:	14 (11%)
Number of GPs in 20 two-doctor practices who prescribed: - in only five practices, did the second GP prescribe.	25 (21.5%)
Number of GPs in 47 practices with three or more GPs who prescribed:	101 (30%)
None of the 120 GPs in the remaining 36 practices with three or more GPs prescribed nedocromil.	

In 68% (32/47) of the 'group practices' involved additional GP colleagues prescribed nedocromil within the seven months following the drugs launch.

Of the 14 singleton GPs who prescribed nedocromil, four were first time prescribers in the last of the nine months monitored, see Table 2.1

The data were examined from two perspectives:

- a) the GPs who wrote prescriptions written in November and December prior to the drugs general launch may be considered to be under the direct influence of consultant prescribing,
- b) the diffusion influence of initial prescribers who may influence the prescribing of practice colleagues.

Figure 2.1 summarises cumulative nedocromil prescribing data over the nine month period.

Table 2.1 gives the numbers of GPs who prescribed nedocromil in each of the nine months studied. The GPs are listed according to whether they are in singleton practice, two-partner practice or in a larger practice.

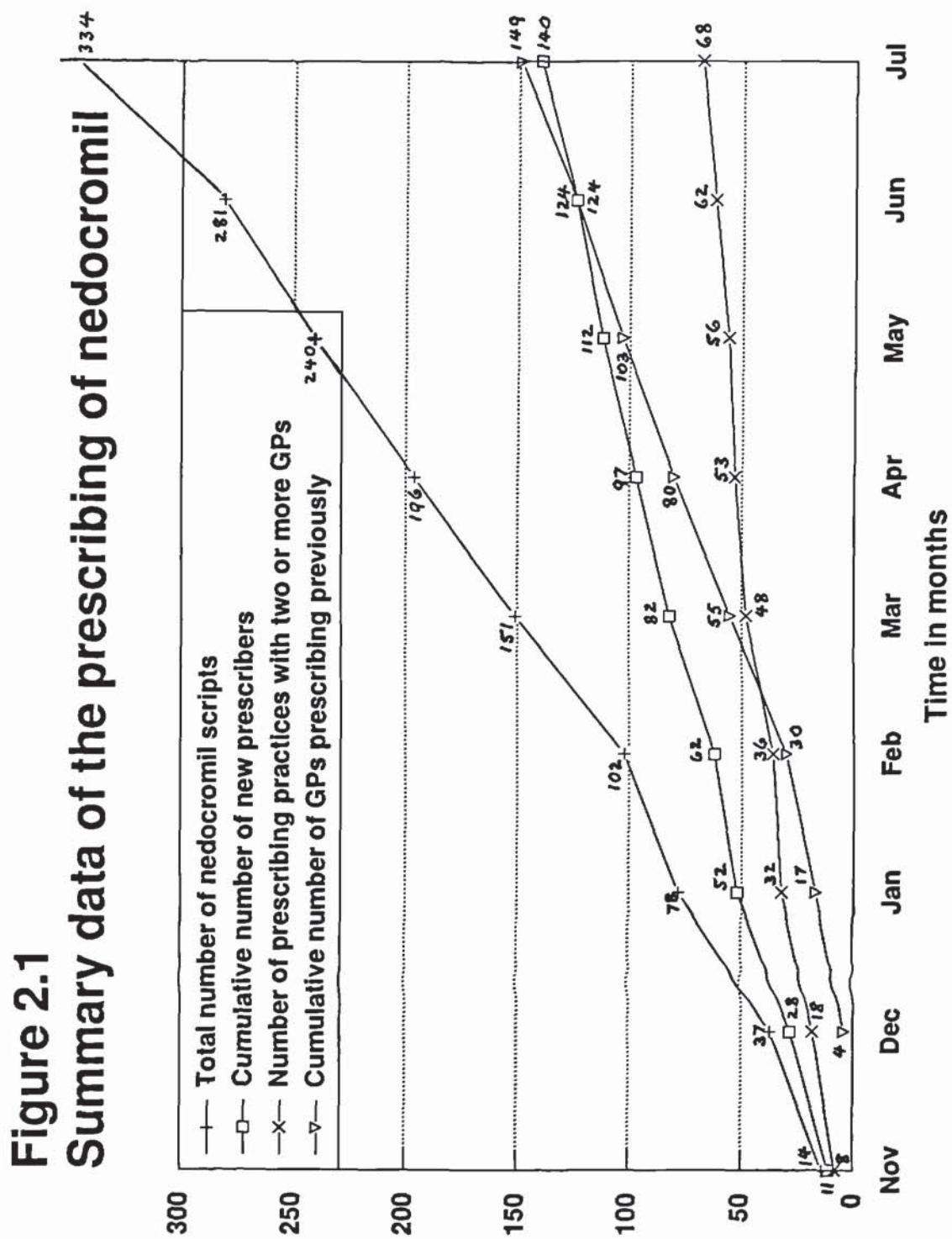


Table 2.1 NEW GP PRESCRIBERS OF NEDOCROMIL

	1 GP	2 GP	3 ⁺ GPs	TOTAL	CUMULATIVE*
NOV	2	4	5	11	11
DEC	2	3	12	17	28
JAN	4	2	18	24	52
FEB	-	2	8	10	62
MAR	2	2	16	20	82
APR	-	2	13	15	97
MAY	-	2	13	15	112
JUNE	-	3	9	12	124
JULY	4	5	7	16	140
TOTAL	14	25	101	140	

No. of practices
involved: 20 47 * see Figure 2.1

GP prescribers before general launch of nedocromil: 28
- referred to as the 'initial' prescribers.

- 1 24% (140/579) of GPs had prescribed nedocromil in the nine months monitored and a five fold increase on the number of prescribers (28 to 140) in the seven months, January to July.
- 2 Eighteen practices with two or more GPs were involved with prescribing nedocromil prior to the general launch in January, as shown in Figure 2.1.
- 3 In three of the six, two-doctor practices in which one GP had prescribed initially, the second GP also prescribed within six months.

4 24 (67%) of the 36 'group practice' colleagues of the 'initial' 17 November and December prescribers had prescribed nedocromil within six months. (Table 2.2)

It seemed probable that the 28 'initial' prescribers during November and December were responding to hospital consultant influence. (Table 2.1) Unfortunately without access to both patient records because of the experimental protocol restrictions and consultants to whom patients may have previously been referred, this supposition cannot be reliably confirmed.

The data showed that the 'initial' or 'seed' prescribers in group practices had relatively more potential influence on their own practice colleagues than prescribers first prescribing in January or February.

No other one or two months combination over any comparative time period reached a similar level of 'diffusion' influence, if such is the principal factor.

Although asthma is not strictly a seasonal condition, extrinsic asthma is triggered by allergens, some of which may be seasonal. The numbers of prescribers and of prescriptions are relatively small and it would be inappropriate to attempt to interpret too much into the data available.

**Table 2.2 DIFFUSION OF PRESCRIBING THROUGH GP PRACTICES
WITH THREE OR MORE DOCTORS**

	New prescribers in group practices	No. of practices	No. of GPs in practices	Colleagues newly exposed each month (cumulative No.)	No. of practice colleagues who prescribed by July following 'SEED' prescriber
NOV	5	4	16	11	8)
DEC	12	8	37	25 (36)	16) 24/36
JAN	18	13	60	47 (83)	12)
FEB	8	2	8	5 (88)	4) 16/52
MAR	16	9	43	32 (120)	8)
APR	13	4	18	14 (134)	3) 11/46
MAY	13	1	4	3 (137)	0
JUNE	9	3	11	6 (143)	3
JULY	7	3	11	8 (151)*	-
TOTAL	101	47			54

Forty-seven GPs (one per practice) were considered to act as 'seed' prescribers.

* on eleven occasions a second GP in the same practice first prescribed in the same month.
(151 + 11 + 47) = 209, the total no of GPs in the forty-seven prescribing practices.

The expectation of the prescribing uptake of nedocromil after its launch for use in general practice did not materialise which was a further unforeseen limitation on the experiment.

Nedocromil has a pharmacological action similar to that of sodium cromoglycate, which is not completely understood. Both drugs are of particular value in asthma with an allergic basis, but in practice, it is difficult to predict whether a patient will benefit, which may be the reason why the back up prescribing of nedocromil as an additional item to patients' previous therapy was noted during the prescription monitoring. Alternately it may have obscured the appropriateness of the prescribing to both patient and doctor.

Further analysis of the data which is in Table 2.3 showed that:

- 1 The incidence of prescribing nedocromil by single practice GPs was very much lower than that by those in practice with one or more colleagues,
- 2 relatively fewer GPs in two-doctor practices prescribed nedocromil when compared with those in practice with two or more doctors,
- 3 of the 47 practices (three or more GPs) in which GPs prescribed nedocromil, less than a quarter (11) were three-doctor practices. In comparison, of the 36 group practices

in which no GP prescribed nedocromil, 26 or over two thirds, were three-doctor practices.

**Table 2.3 COMPARATIVE PRESCRIBING INFLUENCE
WITHIN GP PRACTICES**

	Total No. of practices	No. of GPs	No. of GPs prescribing nedocromil	No. of prescribing practices	Maximum diffusion within practice
Single GP practices	125	125	14 (11%)	14	--
2-GP practices	58	116	25 (21.5%)	20 (40 GPs)	20 -- 25. 25% penetration (5/20)
3 or more GP practices	83	338	101 (30%)	47 (209 GPs)	47 -- 101. 33% penetration (54/162)
TOTAL		579			

As only 20 of the 58, two-doctor practices were involved with prescribing nedocromil, it may suggest that the group practices with four, five or six doctors were more likely to disseminate their prescribing experience between each other than may happen in many smaller practices.

Much must depend on practice organisation and was beyond the scope of this pilot study.

- 4 The measure of penetration of prescribing influence in two-doctor practices and practices with three or more GPs, as shown in Table 2.3 is a potential indicator of the diffusion process.

The results appear to suggest that the GPs in practice with two or more colleagues were more interactive, if the diffusion of prescribing was attributable to the initial or 'seed' prescribers in the group practices. It was not possible to be sure to what extent any other unidentified factors might have influenced the data.

- 5 An analysis of differences in prescribing rate is shown in Table 2.4. The initial prescribers in November and December who were presumed to have initiated prescribing as a consequence of involvement, were more frequent prescribers over the next five months respectively than were the first time prescribers in January and February over their subsequent five month periods following their initial prescribing.

Although this could be a further measure of consultant influence the limitations of the experimental protocol made it impossible to verify. More detailed data on individual patient dosage instructions would be necessary to rationalise any variations in intended prescription duration of supply time.

**Table 2.4 PRESCRIBING RATE DIFFERENCE -
A POSSIBLE INDICATOR OF INFLUENCE**

	'INITIAL' PRESCRIBERS		FIRST TIME PRESCRIBERS	
	NOV	DEC	JAN	FEB
No. of prescribers	11	17	24	10
No. of prescriptions dispensed in 6 months	30 (to May)	53 (to June)	31 (to July)	-
Average	2.7	3.1	1.3	-
No. of prescriptions dispensed in 5 months	28 (to April)	38 (to May)	27 (to June)	17 (to July)
Average	2.5	2.9	1.1	1.7

6 In a more complete study, other factors in addition to those already referred to, which would need to be taken into account include:

- a) GP referral rates to one or more consultants in their relevant specialities,
- b) the level of interaction between GP colleagues, particularly within a group practice or health centre,
- c) the timing and influence of any new drug promotion and publicity.

2.1.5.7 CONCLUSION

Hypothesis 2b: "GPs who have been influenced by consultant prescribing will subsequently prescribe the product(s) involved, more frequently than other GPs."

The data in this pilot study and the prescribing rate differences recorded in Table 2.4 seem to give some support to this hypothesis but are insufficient for statistical analysis.

Hypothesis 3: "GP colleagues in larger group practices where one GP has prescribed a new drug are more likely to also prescribe the drug than GPs in two-doctor practices."

There was a marked difference between the larger proportion of colleagues in GP practices with three or more GPs who prescribed nedocromil when compared with the relative proportion of GP colleagues in two-doctor practices, who prescribed. To substantiate this it would be necessary to have much more detailed information about the constitution and organisation of the group practices concerned.

This pilot study has given some indication as to how hospital consultant influence could be evaluated if a carefully planned experimental protocol was accepted by all the doctors, medical and administrative bodies involved. Meaningful prescription analysis studies now require lengthy forward planning and considerable resources^{68,191,160}.

The study has not revealed any clear significant influence on the initial prescribers in November and December, whom it was reasonably considered were prescribing nedocromil in response

to consultant advice, probably following patient referral. The GPs continue to be frequent prescribers of nedocromil.

What has been shown was that the uptake of nedocromil prescribing was greatest in GP practices with three or more doctors, was less so in two-doctor practices and least in single doctor practices.

Consequently, it is postulated that the diffusion of new product information and prescribing may be more likely to occur in group practices with three or more doctors than in two-doctor practices or with single doctor practices.

The study has raised and highlighted a number of unresolved aspects and influences on prescribing which would warrant further study. At present it is not feasible to plan and effect prescription analysis studies satisfactorily. They are extremely demanding in terms of time and manpower to separate and collate prescription data. The requirements for patient and prescriber confidentiality have become more stringent and the necessary arrangements more protracted. The potential advantages of the computerisation of the PPA data bank are offset by the restrictive research protocols which are required. It would only seem worthwhile to attempt further research with prescriptions at the PPA if it were possible to obtain permission first from all GPs and Local Medical Committees likely to be involved.

2.2 SURVEY OF GENERAL PRACTITIONERS ON THE ROLE OF THE HOSPITAL CONSULTANT IN GP PRESCRIBING

2.2.1 INTRODUCTION

The study was designed to examine how GPs perceived the hospital consultant as a potential influence on their prescribing.

Previous work by Strickland-Hodge looked at the usage of drug information in general practice.^{5,110} One of the sources respondent GPs stated that they most used, as a means for evaluating a new drug, was the consultant. Reference has been made to this in some detail in Section 2.1.5 of this Chapter. The results of a pilot study in which the prescriptions of three hundred GPs in one area were analysed together with the prescriptions of three consultants in the same area, showed no association that might have implied significant influence on the GPs' prescribing by the consultants.⁵⁹

The claim, already referred to, in the Greenfield Report that the hospital consultant has a great influence on GP prescribing, remained to be substantiated.⁵⁷

2.2.2 CHOICE OF METHOD

A postal questionnaire accompanied by a carefully worded covering letter and reply paid envelope was sent to 600 GPs in the West Midlands Region in July 1986. GPs' names and addresses were selected by the use of random number tables.

A postal questionnaire rather than an interview questionnaire was chosen for the survey in order to obtain a substantial amount of quantitative data for analysis commensurate with the time, manpower and budget available.

2.2.3 OBJECTIVES

- 1 To determine the extent to which GPs consider that consultants influence their prescribing.
- 2 To determine whether GPs were restricted to one consultant per speciality when referring patients.
- 3 To examine the GP-consultant interface, GPs' perception of their responsibility for their patients, and the circumstances under which consultants' recommendations are accepted.
- 4 To examine the areas of therapy in which GPs are most likely to refer their patients and the significance which this may have on influencing a GP's prescribing.
- 5 To examine the extent to which a list of relatively recently introduced drugs in the BNF are known and have been prescribed by GPs and if that has been as a consequence of being introduced by a consultant.

2.2.4 HYPOTHESES

The following hypotheses were postulated from previous research and the literature:

Hypothesis 4: "The consultant is no more important than the

hospital medical team."

Hypothesis 5: "The consultants' influence on prescribing depends on the level of communication between GP and consultant."

Hypothesis 6: "The influence of consultants on GP prescribing is affected by referral rates and therapy areas."

2.2.5 METHOD

In addition to the closed questions which made up most of the questionnaire, several opportunities were given for additional comments.

GP responders were presented with a list of nine areas of therapy and subdivisions for them to indicate whether they referred patients 'always', 'often', 'rarely' or 'never'. The table of therapy areas was constructed along the lines of that of Williamson's 'risk' table.¹⁷

A major part of the questionnaire consisted of a list of 21 new medicinal products. Each GP was asked to state by circling a number if he had 'never heard of', 'heard of but not prescribed', 'prescribed on his own initiative', or 'prescribed only after introduction by a consultant', each product in turn.

The questionnaire was modified to a minor extent following a pilot mailing to 36 GPs in the West Midlands. The principal

mailing was sent out to 600 GPs in the West Midlands Region in July 1986.

240 completed questionnaires were returned which represented a 40% response rate on a single mailing. A sample of the responders and non-responders were compared using accessible data from the Medical Directory and FPC Doctors Lists, such as age, sex, qualifications and practice size. No significant differences were noted.

Data from the returned questionnaires were entered into a software package for data entry, Data Entry II¹⁹² and then analysed using the Statistical Package for Social Sciences (SPSSX) programme.¹⁹³

2.2.6 RESULTS AND DISCUSSION

As not all questions were answered by all 240 responders, both percentages and the numbers of responders to which they relate are included in the results which follow.

GP response to the statement from the Greenfield Report: "The hospital consultant has a great influence on the prescribing of GPs"

32% (75/232) answered 'yes';

23% (54/232) answered 'no';

44% (103/232) answered 'sometimes'.

Only one-third of the respondents gave an unreserved 'yes', and nearly one in four rejected the statement.

In response to the question: "Are you generally limited to one consultant per speciality?"

91% (212/234) said 'no';

9% (22/234) said 'yes'.

For most GP respondents there was a choice of several consultants and several hospitals.

Six statements followed which required the GPs to give their measure of agreement or disagreement on a five point Likert scale of 'strongly agree', 'agree', 'unsure', 'disagree', 'strongly disagree':¹⁹⁴

- a) **"The consultant has more time to study his specific area of therapy therefore he is the best person to advise on new drugs used in that speciality",**

81% (189/233) agreed or strongly agreed with this statement.

- b) **"As I am primarily responsible for my patients I make the decisions as to whether a new medicinal product should be given if recommended by a consultant or not",**

61% (142/233) agreed or strongly agreed with this statement.

The majority of the respondent GPs accept their professional responsibility and maintain their own independence from the consultant when deciding to prescribe a new product.

c) **"I would never ignore the recommendations of a hospital consultant",**

49% (114/233) agreed or strongly agreed;

41% (96/233) disagreed or strongly disagreed;

10% (23/233) were unsure.

This response also seems to suggest a marked degree of independence by at least two out of five responding GPs.

d) **"The consultant's role is to aid diagnosis in difficult cases but it is my role to prescribe an appropriate treatment",**

49% (113/231) agreed or strongly agreed that it was the GP's role to prescribe, based on the consultant's diagnosis.

e) **"Only when the prescription is written by a consultant rather than by a member of his firm do I accept and prescribe the product",**

75% (169/225) disagreed or strongly disagreed;

16% (36/225) agreed or strongly agreed.

As only 16% agreed that they would insist on the prescription being written by the consultant personally, it can be concluded that for 75% it is the perception of the hospital medical team's recommended treatment which is the important aspect of this potential prescribing influence.

f) **"When a patient comes to me with a recommendation for a new product from a consultant, this reassures me in the**

use of that product",

54% (124/230) agreed or strongly agreed.

When the responses to the related statements a) and f) are compared, the lower percentage of those who agree with f) could indicate that the confidence in the consultant is not necessarily maintained into a general reassurance for the product recommended.

The responses to these statements show that the GP respondents are generally reassured by the consultant and agree that he has more time and is the best person to advise on new products appropriate to his specialisation. The majority of prescribers maintain their independence from the consultant as is clearly shown in the response to statement b), by making the final decision as to whether or not to prescribe the product.

From many of the additional details which were added by responders and analysed manually, the majority, 91%, of GPs throughout the West Midlands were not limited to only one consultant per speciality. Referral is frequently influenced by the length of waiting lists, by the professional standing or reputation of the consultant or by the personality likely to have most empathy with a particular patient.

This latter point, implies a greater level of personal knowledge and relationship between a GP and a consultant and suggests the conscious decision made by the referring GP to

strike a balance to meet the individual patient's needs where possible.

Hypothesis 4: "The consultant is no more important than the hospital medical team."

Data from the six statements tend to point to the recognition of the hospital medical team for its expertise, rather than solely to the consultant. The hypothesis is supported.

In more populous areas of the country, it could be that movement of professional personnel is greater than in the past, such that fewer GPs know consultants personally. Whatever the most significant factor, the respondents have convincingly indicated that following a referral they will not automatically accept a consultant's recommendation and consciously reserve their own professional responsibility for their patient.

The next section of the questionnaire related to nine areas of specialist therapy with a total of 25 subdivisions. Responders were required to indicate, by simply circling a number, whether they referred their patients 'always', 'often', 'rarely' or 'never' in each area listed.

It was surmised that those areas which receive most 'always' and 'often' responses will be those in which the GPs felt most in need of specialist expertise.

Table 2.5 shows the ranked referral rates from collating the GPs' responses. In order to do this, scoring points were allotted, six points for 'always', four points for 'often', two points for 'rarely' and nil points for 'never'. This enables the differences in response to be suitably weighted.

Table 2.5 REFERRAL RATE AND THERAPY AREAS

Score	Therapy areas
High referral	
1038	Psychoses
1016	Infertility
868	Arrhythmias
788	Child psychiatry
744	General endocrinology
696	Acute GI tract
Medium referral	
610	Arthritis
606	General cardiology
576	Angina
572	Respiratory illness
562	General GI tract
538	General rheumatology
532	General chest
524	Genito/urinary infections
522	General dermatology
516	General psychiatry
512	Skin infections
504	Hypertension
Low referral	
436	Anxiety states
408	Skin topical
390	Non-seasonal allergy
Very low referral	
276	Family planning
274	Seasonal allergy

Table 2.5 has been divided at naturally occurring break points where large differences in the total scores were noted and categories of high, medium, low and very low referral, respectively were noted.

The referral scores and categories would imply that the potential for consultants to influence GP prescribing consequent to referral is greater for those areas of therapy with high referral rates. Conversely those areas of low or very low referral rates offer much less opportunity for consultant influences.

Hypothesis 5: "The consultants' influence on prescribing depends on the level of communication between GP and consultant." The hypothesis is supported and accepted.

The scoring method would seem to have effectively confirmed the areas of high referral. In practice it could be that the therapy areas of medium referral, by their characteristics present a greater opportunity for GPs to adopt the use of a new product, initially recommended by a consultant for one patient, for other patients.

The adoption process would seem less likely in many of the high referral, more critically acute areas. It would also seem that a consultant's influence was much less likely and self-limiting

in the areas of low referral and especially in the areas of very low referral.

Hypothesis 6: "The influence of consultants on GP prescribing is affected by referral rates and therapy areas." The hypothesis is accepted.

The final section of the questionnaire listed 21 brand name new drugs from the BNF which had been introduced between three and fifteen months prior to the mailing. All of the drugs had indications in the nine main therapeutic areas of the previous section of the questionnaire. GPs were asked to circle the most appropriate response as described under Method.

Previous work by Strickland-Hodge had shown that it was possible to divide GPs into three groups using general characteristics only.^{5,154} The three groups comprised those who were more likely to prescribe a new drug early in its market life, those who follow these 'innovators' and those who prescribed the products significantly later than their colleagues, if at all. The three groups were named 'early', 'middle' and 'late' prescribers.

In order to make most use of the data from the questionnaire listing of 21 drugs, the responding GPs were divided into three groups as above, based on characteristics obtained from DocPAL Systems Ltd. DocPAL had been sending questionnaires to GPs in

the UK for six years, on behalf of the pharmaceutical industry. GPs had been characterised for prescribing purposes based on factors used previously such as number of partners, qualifications, number of years qualified and medical interests.¹¹⁰

A comparison was then made between the groups of GP responders characterised as 'early' and 'late'.

The results for each of the drugs were tested using the chi-square test followed by the proportions test. Significant differences were noted for five out of the 21 products when treated individually, as shown in Table 2.6.

Table 2.6 GPs' AWARENESS AND USE OF 'NEW' PRODUCTS

Product name	Never heard of		Heard of but not prescribed		Prescribed		Introduced by consultant	
	E	L	E	L	E	L	E	L
Erymax (erythromycin - infections)	10	26	17	16	24	8	-	-
Innovace (enalapril - antihypertensive)	1	3	16	17	28	17	6	13
Colven (mebeverine - irritable bowel syndrome)	12	33	22	12	13	5	2	-
Lodine (etvdolac - antirheumatic)	10	28	28	16	12	6	-	2
Gamanil (lofepramine - antidepressive)	4	14	14	10	16	16	16	13
E = early prescribers; L = late prescribers								

The total responses to all the products were then tested using the chi-square test as shown in Table 2.7

The differences between early and late prescriber groups were mainly in the 'never heard of' and 'prescribed' categories. The 'prescribed' category was also analysed using the proportions test. The result of 9.6 was statistically significant, and showed that significantly more of the responders in the 'early' prescriber group prescribed the new products than those in the 'late' prescriber group.

All five of the new drugs which resulted in statistically significant different levels of prescribing between 'early' and 'late' prescribers were in the medium or high referral therapy areas shown in Table 2.5. This coincides with the opportunity for optimum communication between GP and consultant and the greatest possibility for a consultant's influence on a GP's prescribing.

Table 2.7 TOTAL RESPONSES TO ALL PRODUCTS

	Never heard of	Heard of but not prescribed	Prescribed	Consultant	Total
Early prescribers	718	346	263	94	1421
Middle 1/3 prescribers	850	360	235	112	1557
Late prescribers	1073	399	245	115	1832
TOTAL	2641	1105	743	321	4810

chi-square = 25.6; df = 6; $p < 0.01$

2.2.7 CONCLUSION

The survey has shown that GPs were reassured by the hospital consultant and in general highly regard the advice which they receive. GPs maintain a considerable measure of independence and accept that their's is the final responsibility and

decision as to whether or not a new product should be prescribed.

The quantitative and qualitative data show that nine out of ten GPs have at least two consultants in any speciality from whom to choose.

In practice, logistical influences often determine to which consultant a patient may be referred, such as the length of a waiting list. It was reassuring to note that a considerable number of GPs took into account which consultant would be most suitable for a particular patient.

The generalised influence of the consultant as implied by the Greenfield Report remains unproven. Any influence which occurs would seem to be much more specific and dependent on the therapy area, the consultant's speciality, the standing of the hospital medical team and the GP's effort to meet the needs of individual patients.

The data from this survey was published in a paper in the Journal of the Royal Society of Medicine 1988 81: 207-209 which is included in the Appendices.

2.3 INFORMATION SOURCES AND THE GENERAL PRACTITIONER: THE PLACE OF THE COMMUNITY PHARMACIST AS AN INFORMATION SOURCE AND AS AN INFLUENCE ON GP PRESCRIBING

2.3.1 INTRODUCTION

The objective of this study, which was carried out in July and August 1990 in the West Midlands, was to see how GPs currently used information sources. It was an update of a study completed in 1979 and published in 1980¹¹⁰. On that occasion the community pharmacist was ranked as fifteenth when rated as a source of information on pharmaceutical products. In the intervening decade the Nuffield Report on Pharmacy and several Government White Papers had emphasised the changing role of the pharmacist and the need for closer co-operation between pharmacists and GPs. In order to find out whether or not the community pharmacist had become better recognised as a source of information and potential influence the questions had to mirror those in the 1979 study.

2.3.2 METHOD

600 questionnaires were sent to a random sample of GPs in the West Midlands. The initial return was 235 representing a 39% response. A second mailing achieved a total of 330 returned questionnaires, a response rate of 55%. Thirty five questionnaires were incomplete or in some other way unusable which left 295 (49%) for analysis.

Data from the returned questionnaires were entered into a software package for data entry called Data Entry II and then analysed using the SPSSX programme.^{192,193}

2.3.3 RESULTS AND DISCUSSION

The 295 usable questionnaires were analysed and collated for comparison with the 1979 data.

Question 1 asked GPs to rate on a five point Likert scale¹⁹⁴, the general usefulness of 24 potential sources of information on pharmaceutical products. A table was created from the responses using the same simple mathematical technique as used previously. Each 'very good' response was scored 5, each 'good', 4; each 'average' 3 each 'poor' 2 and each 'very poor' 1. If the source was not circled, no score was given. Summing the various scores produced the rank order as shown in Table 2.8. The rank order is for this study, the position of each source of information ten years ago is in brackets.

Of the sources which have improved their position, Drug and Therapeutics Bulletin has jumped from eleventh to second place. In 1980, Drug and Therapeutics Bulletin was made available, free of charge to final year medical students and all doctors in the NHS. From October 1990 it has been available to FHSA medical and pharmaceutical advisers and FHSA general managers.

Table 2.8.

Q1 "Would you please indicate by circling the appropriate number, how in general you rate the following as sources of information on pharmaceutical products?"

RANKED ORDER OF INFORMATION SOURCES FOR GENERAL USE

Rank order 1990	1970 order
1 British National Formulary	(5)
2 Drug and Therapeutics Bulletin	(11)
3 Prescribers' Journal	(2)
4 Monthly Index of Medical Specialities (MIMS)	(1)
5 Postgraduate refresher courses	(*)
6 Recommendations from consultants	(3)
7 Articles in medical journals	(4)
8 Data Sheet Compendium	(7=)
9 Professional contacts	(6)
10 Drug firm representatives	(7=)
11 Controlled circulation journals	(10)
12 Textbooks	(9)
13 Drug Information Units (hospital based)	(19)
14 Drug firm symposia	(12)
15 Drug firm exhibitions	(14)
16 Adverts in medical journals	(17)
17 Community pharmacists	(15)
18 Drug firm medical information units	(18)
19 Medical school of graduation	(*)
20 Direct mail	(16)
21 Martindale: The Extra Pharmacopoeia	(13)
22 Medicine Now (BBC)	(*)
23 Regional medical adviser	(*)
24 The media	(20)

* Not included on the 1979 questionnaire.

The BNF has moved from fifth to first. In 1979, the BNF was only published every two and a half years and was largely based on British Pharmacopoeia and British Pharmaceutical Codex monographs with a limited number of branded and new product entries. Its relevance to current prescribing was increasingly limited and MIMS was filling the gap. Since 1981 it has been published six monthly in a greatly changed format which

incorporates information on most current and new products. It is this which most likely explains its present prime position.

Most other sources have remained very much the same although the use of drug information units in hospital has improved from nineteenth to thirteenth place, as they raise their profile and become better known. The three sources which show the greatest improvement in rating provide relatively unbiased and evaluated information. Nevertheless, they are unable to disseminate information about new drugs as early as the drug firm representative or manufacturers' literature.

As a general source of information the community pharmacist has not improved and has declined from fifteenth to seventeenth. Other falls in ratings include MIMS from first place to fourth and the drug firm representative from seventh to tenth. Similarly direct mail has slipped from sixteenth to twentieth position. All three of these sources have an industry bias and their decline must reflect the increased emphasis given to independent and evaluated sources of information as referred to above. More surprisingly, Martindale, a new edition of which was published in 1989, has dropped from thirteenth to twenty-first place. As an outstanding reference book of world renown, it was probably of greatest value in the home market when alternative sources of evaluated information like the BNF and Drug and Therapeutics Bulletin were less developed or less well

distributed. Martindale also now costs £125, whereas the other two sources just referred to are supplied free to all GPs.

The next three questions on the questionnaire considered which sources were used at specific points within the drug adoption process. Each time a source from the given list was cited by a respondent it was counted and the rank order calculated from a simple addition of citations (see Tables 2.9 and 2.10). This was the same technique which had been used in the earlier study.

Table 2.9

Q2 "Which of the above sources do you find most useful for finding out about the existence of a new drug?"

RANKED ORDER OF INFORMATION SOURCES FOR THE EXISTENCE OF A NEW DRUG

Rank order 1990		1979 ranking	No. of citations
1	Drug firm representatives	(1)	93
2	MIMS	(2)	82
3	Adverts in medical journals	(6)	60
4	Articles in medical journals	(3)	50
5	Direct mail	(4)	31
6	Controlled circulation journals	(8)	29
7	Recommendations from consultants	(5)	28
8	BNF	(-)	26
9	Drug and Therapeutics Bulletin	(-)	17
10	The media	(11)	14
16	Community pharmacists	(10)	6

Here again the community pharmacist seems to have dropped several places. This may be explained in part by the great improvement of the BNF and Drug and Therapeutics Bulletin, both

of which were previously unplaced and now occupy eighth and ninth positions respectively.

Advertisements in medical journals were cited more often in this survey and improved their position from sixth to third thereby displacing 'recommendations from consultants' from the top five. As a consequence, four of the top five sources for awareness of a new product are of industrial origin, leaving only articles in medical journals as a professional source. The company representative has maintained his premier position in a less favourable climate of pressure to reduce prescribing costs and prescribe generically.

Table 2.10

Q3 "Which of the above sources do you find most useful for finding out about the medical value of a new drug?"

RANKED ORDER OF INFORMATION SOURCES FOR THE MEDICAL VALUE OF A NEW DRUG

Rank order 1990		1979 order	No. of citations
1	Drug and Therapeutics Bulletin	(5)	104
2	Consultants	(2)	73
3	Articles in medical journals	(1)	59
4	British National Formulary	(8=)	51
5	Prescribers' Journal	(4)	37
6	Professional contacts	(3)	30
7	Postgraduate refresher courses	(*)	29
8	Drug firm representatives	(6)	21
9	MIMS	(7)	20
10	Controlled circulation journals	(8=)	16
17	Community pharmacists	(-)	2

Of the professionals, consultants have retained their second position and pharmacists have appeared on the list this time at seventeenth. The position is low and the number of citations very small when compared with those at the top of the list but it may be a pointer to the recognition of the pharmacists' changing role.

Here again Drug and Therapeutics Bulletin and the BNF have moved up significantly in the ranking displacing less independent or authoritative sources, such as representatives and professional contacts. In this context, the representative is the only industrial source, where his role as an 'interactive source' following up queries from GPs is well respected. Representatives are having to be increasingly aware of the cost-effectiveness of products in relevant therapeutic groups.

Table 2.11

Q4 "When you require advice about a new drug treatment, which of the above sources do you usually turn to first?"

RANKED ORDER OF INFORMATION SOURCES FOR ADVICE ABOUT A NEW DRUG TREATMENT

Rank order 1990	1979 order	No. of citations
1 British National Formulary	(-)	96
2 MIMS	(1)	58
3 Consultants	(3=)	52
4 Professional contacts	(3=)	43
5 Data Sheet Compendium	(2)	36
6 Drug and Therapeutics Bulletin	(9=)	30
7 Hospital drug information units	(-)	25
8= Articles in medical journals	(5)	21
8= Drug firm representatives	(6)	21
10 Drug firm medical information units	(-)	15
11 Prescribers' Journal	(6)	12
12 the media	(7=)	9
13 Community pharmacists	(7=)	8

Again the BNF has moved up from no position ten years ago to first and Drug and Therapeutics Bulletin is now sixth. Both hospital and drug firm information units have come into the top ten this time from nowhere, which reflects the fact that they have become much more established and recognised in the intervening decade. Articles in medical journals have fallen as has the Data Sheet Compendium. The latter has been supplanted by the BNF which as an official publication is much more up-to-date. The community pharmacist has again fallen, principally as a consequence of the new entries which are either more easily to hand or more specialised for answering queries about a new drug treatment.

Changes in the way information is perceived can be seen in all four tables. The major differences are that the BNF and Drug and Therapeutics Bulletin have become prime sources for GPs which must be seen as a success by the DoH. A new edition of the BNF is published every six months and distributed free to all GPs, as has already been described. Its currency and relevance as well as its authority (published jointly by the BMA and RPSGB) have made the BNF an outstanding and comprehensive source of drug information. In August 1988, PACT data was first distributed to GPs. This data is arranged in the order of the BNF Chapters and Sections, which has added to the usefulness of the BNF.

Currently, 90,000 copies of the Drug and Therapeutics Bulletin are distributed free to all NHS doctors. It has always been a respected source of evaluated information and in more recent time it has included topics such as economic prescribing, constructing a practice formulary and implementing a local prescribing policy, all of which are of particular importance to GPs.^{159,195,196} The Bulletin includes 'cost-effective' prescribing aspects of the drugs under scrutiny which is a particularly useful additional feature for GPs at the present time.

The position of the community pharmacist in the context surveyed is not prominent. As a source of general information he is ranked after drug firm symposia and textbooks. For the

existence of a new drug, the pharmacist is after the media and controlled circulation journals; for the medical value of a new drug, after MIMS and drug firm representatives; and for advice about a new drug treatment, after Prescribers' Journal and articles in medical journals. The impression given is that the pharmacist is not included in the professional contact category and is perhaps more in the nature of a useful(?) reserve if more specific sources are not available or unable to help.

One feature which is common to 20 of the 24 sources listed in this questionnaire is that they are free of charge to GPs. In some cases, such as drug firm medical information units, telephone calls are free. The four sources which may involve some expense to gain access are medical journals, textbooks, Martindale and community pharmacists. It may be coincidence that all four have lost some ranking since the earlier survey. A more likely explanation is that with the possible exception of pharmacists, they are passive sources. A GP with a query has to take the initiative to access them. It may also be true of pharmacists unless a local pharmacist has taken the initiative to have regular meetings with a GP.

This apparent ambiguity, especially in the light of the pharmacists' changing role focused on by the Nuffield Report and Government White Papers coupled with the lack of published research on the pharmacists' influence has largely prompted this research programme.

In a more recent survey in June 1991¹⁹⁷ in which 500 GPs were mailed with a short questionnaire primarily concerned with some more recent influences on GP prescribing such as PACT and generic prescribing, two questions included reference to the community pharmacist. The GP was presented with a list of twelve sources to be numbered in ranked order of importance in answer to the following question:

"Thinking about the most recent new product which you introduced into your prescribing, which of the following list of sources were the most helpful to you in making your decision to prescribe?"

The results are given in Table 2.3.5 in ranked order (based on the frequency of being ranked first, second, or third).

The community pharmacist is in the ninth position but the scoring is more revealing and shows what a large difference exists between the top three sources, those ranked fourth to sixth, and the rest.

Table 2.12 INFORMATION SOURCES OF MOST HELP WHEN DECIDING TO PRESCRIBE A NEW DRUG

Rank order 1991		Score
1	Drug firm representatives	160/196
2	Hospital consultant	130/166
3	Drug and Therapeutics Bulletin	122/158
4	BNF	82/126
5	Colleagues in the practice	79/115
6	Drug firm medical information units	35/67
7	Practice formulary	12/34
8	Hospital drug information units	10/35
9	Community pharmacists	9/35
10	Hospital, drug and therapeutics committee	7/23
11	Practice computer	4/31
12	Regional Medical Adviser	2/24

When asked:

"In your day to day prescribing, how much help do you expect to receive from the following. Please mark the (15 cm) line in the appropriate place from 'of no help' to 'a great deal of help'. Ignore if you have never used that source."

Table 2.13 RATING OF INFORMATION SOURCES USED IN DAY TO DAY PRESCRIBING

	No help	Little help (low third)	Some help (middle third)	Most help (high third)
Medical adviser n = 162	25% (40)	55% (89)	12% (20)	8% (13)
Pharmaceutical adviser n = 161	25% (40)	63% (101)	7% (11)	6% (9)
Local pharmacist n = 233	5% (11)	36% (83)	30% (69)	30% (70)
Hospital consultant n = 235	3% (8)	29% (69)	40% (95)	27% (63)

The results were collated into three bands, each one third of the line length between the two extremes and labelled 'little help' (low third), 'some help' (middle third), and 'most help' (high third). A fourth category was formed from those who had marked the line at zero and was labelled 'no help'. Table 2.13 summarises the data.

When compared with the three alternative information sources used in day-to-day prescribing, the local pharmacist has been rated of 'some help' or 'most help' by 60% of respondents which compares with a rating of 67% for consultants. At the top end of the rating scale, with marks in the 13-15 cm band, on or near 'a great deal of help':

16% (37/233) of respondents rated the local pharmacist;

11.5% (27/235) of respondents rated the hospital consultant.

It is recognised that the roles of these four experts differ considerably, but they are all used as information sources and their comparative ratings are a useful indicator of their influence on prescribing. The FHSA medical and pharmaceutical advisers would seem to have to make much progress before establishing comparable ratings although some may have only been appointed recently.

2.3.4 CONCLUSION

From these results it would again seem to suggest that the community pharmacist is recognised as both a source of information and as a significant help in day to day prescribing. In practice, ready access to a number of more specialised information sources may often take precedence.

These data have contributed to the questions and issues raised which relate to the professional relationship between community pharmacist and GP which is at the centre of the research which follows.

CHAPTER 3 THE ISSUES

"FHSAs need to ... encourage and support multi-disciplinary team working and training in primary health care".

'The Health of the Nation'.²⁵

3.1 INTRODUCTION

Pharmacy and orthodox medicine in general will only continue to exist as professions if they provide their patients and customers with a specialist service which is wanted, needed, and continues to be sufficiently satisfactory.

In the Government's consultative document 'The Health of the Nation',²⁵ which was presented to Parliament in June 1991, the chapter headed - 'The NHS role is a strategy for health' states:

"Family doctors and dentists, community nursing staff, high street pharmacists and opticians have an equally important role to play in the delivery of high quality health care services. For the majority of people they are the most frequent point of contact with the NHS and where they turn to first for treatment and advice. They also have a key role in promoting better health and preventing sickness. Their commitment - and that of their staff - will therefore be central to achieving the aims of the strategy."

This most important and encouraging statement is to be welcomed even if it seems to be the only direct reference in the 112 page document to pharmacists. FHSAs which have a key part to play within an integrated local health strategy, "need to encourage and support **multi-disciplinary team working and training** in primary health care, as well as support **family health practitioners** in developing high quality, consumer-responsive services which meet local needs."

In the Government White Paper 'Promoting Better Health',³⁶ the underutilised knowledge base, training and skills of pharmacists which are capable of being applied in multi-disciplinary teams with other family health practitioners is recognised. Multi-disciplinary courses to promote teamwork are also referred to in the White Paper and from this more recent reference to 'training' it would appear that joint courses involving pharmacists and GPs could be envisaged.

Even the reference to **high street** pharmacists is a recognition not just of historical evolution and free market forces but of the special potential which exists in all those pharmacies so frequently to be found in busy shopping centres and high streets where the vast majority of customers do not have prescriptions and are relatively healthy. It has been estimated that there are six million people visiting the 11,700 pharmacies in Great Britain each day. While there are over one million prescription items dispensed in pharmacies daily,⁶⁹

many other aspects of health care, health promotion and health education are available to the public in those 'high street pharmacies'.

In Chapter 2 of 'The Health of the Nation',²⁵ the question is asked: 'why a strategy for health?' In answer, it states that the aim is simple: 'it is to improve the span of healthy life', but that a number of key strategic policy objectives are needed. One very relevant objective listed is the need "to recognise that the concerted action needed calls for **greater co-operation** between those involved, at national and local level, within and outside the NHS."

Once more this Government publication recognises, invites and encourages the way forward for health care professionals to work together more closely to improve the quality of health care primarily for the patient but also to give greater satisfaction to those working in the NHS.⁷⁴

What are the factors which seem to keep the community pharmacist from fulfilling his potential? If the factors are other than a matter of human inertia, what might be done to effect progress towards the greater co-operation needed to improve the quality of health care?

3.2 SHORTCOMINGS IN THE INHERITED SYSTEM

Some of the tensions and problems of professional co-operation

which exist today in the NHS owe their origins to the historical development of the groups concerned, especially in the nineteenth century. The 1815 Apothecaries Act recognised chemists and druggists and set the way forward for the majority of apothecaries to evolve into the GP of today.

It is fair to record that the GP remained of relatively low status within the UK medical profession not only throughout the nineteenth century but through the first half of the twentieth century. This coincided with the control of medical education remaining exclusively in and with hospital based specialists until sometime after the formation of the NHS in 1948.¹⁹⁸ A major financial boost was given to general practice when GPs succeeded in obtaining nearly double their estimated costs for the per capita rate for NHI patients when the scheme was introduced in 1912. GPs received seven shillings and sixpence rather than four shillings per capita per annum (two shillings, or ten pence in decimal coinage, was allowed for medicines).¹⁹⁹

The evolution of pharmacy in Great Britain has been mainly subject to market forces over the past 150 years, since the establishment of the Pharmaceutical Society of Great Britain in 1841. This is the main reason for the concentration of pharmacies in high streets and town centres and a rather uneven distribution elsewhere.²⁰⁰ There has understandably always been a tendency for pharmacies to be located near to doctors'

surgeries which were in the past also more likely to be located in or near high streets and town centres.

It has not been economically possible for the vast majority of pharmacies to depend exclusively or even nearly so, on dispensing. A proliferation of trading activity, frequently with little pharmaceutical association has resulted, especially in more recent time. The association of more overt business activities in British pharmacy need not imply that professionalism is compromised, provided that the pharmacist and staff behave in a professional responsible manner.³⁴

Attitudes towards the concept of trading are often ambivalent. One judge in the Dickson case²⁰¹ described pharmacy as a 'trading profession' which seemed to imply that it was of a lower standing than non-trading professions. Yet most professionals are involved in running businesses whether they are self-employed or employees. The major exceptions apply to those who are salaried employees of public utilities such as hospital pharmacists in the NHS.

A professional snobbishness has developed since the time when Dr William Withering, reputedly the most successful physician outside London and the discoverer of Digitalis, would write in his diary: "trading accounts for the year 1777." Recent changes in the NHS especially with the introduction of 'Fund-holding GP practices', which are very much in the business

idiom, may be producing a more pragmatic attitude and a more open acceptance of pharmacy as it is.

While the NHS in 1948 and its forerunner the NHI in 1912, both resulted in enormous increases in the number of prescriptions to be dispensed, competition ensured that the profitability was well contained. Efficiency in the dispensing service tended to be measured by the speed of the dispensing process.

Community pharmacists, irrespective of whether they run their own pharmacies or are employees of company pharmacies seem to remain isolated from pharmacist colleagues. The number of pharmacies in Great Britain with more than one full-time pharmacist are still relatively few. In Europe there are some countries such as France, with laws which require an additional pharmacist if the turnover exceeds a particular figure. In France an additional pharmacist is required when the turnover exceeds £680,000.²⁰²

In contrast there has been a big shift from single practice GPs to form group practices, which may vary greatly in the extent to which integration has taken place but isolation has been considerably reduced. There are now only about 12% singleton GPs and about 15% practices with two partners. These figures have roughly halved in twenty years, during which time there has been a dramatic growth of practices with five partners or more, from about 13% to around 40%.¹⁹⁸

This has also happened in dentistry to a lesser extent, as well as with other professionals such as solicitors, accountants, and consulting engineers.

Among the advantages attributed to group practices which is probably reflected by their apparent popularity are:

- the opportunity to share out of hours services,
- the opportunity to share facilities, ancillary staff and equipment which would not be economically possible in single-handed practices,
- the encouragement and mental stimulation possible from group-interaction,
- holiday and sickness cover,
- the ready availability of a second opinion,
- the scope for including a wider range of services and specialisation.

Many of the advantages referred to can be applied to other professions within the context of *their discipline*.

In a recent study low attenders at GP postgraduate courses were more frequently in single practice or two person practices. Mutual encouragement and the easier arrangement of time-off are probably of particular significance in the much higher attendance recorded by GPs in group practices.²⁰³

Nevertheless some group practices may be groups in name only, where the individuals involved continue to practice in relative isolation from each other.

If pharmacy was able to adapt in a similar way it would be much more able to respond to the recommendations in the Nuffield Report and Government White Papers. Pharmacists are invited to take up the challenge and opportunities open to them in an expanded role which would take them out more into the community.

In pharmacy, placements for pre-registration graduates have tended to polarise to the large multiple companies and the hospital service. Although the balance has been redressed to a limited extent recently with more graduates finding placements in private pharmacy. This also contains and perpetuates an 'isolation factor' when compared with the experience of a GP trainee joining a large group practice for three years with perhaps as many as twelve or more GPs.

British pharmacy has not responded well to the need to employ trained technicians to dispense under supervision. This would release the pharmacist to relate more effectively with patients, prescribers and customers requiring advice associated with self-medication, diet, other health care matters and illness prevention. Where technicians are employed, it is

estimated that about fifty percent have received little or no formal training, which in turn limits their usefulness.

How far some of these aspects of British pharmacy are a direct consequence of too much competition, especially the inherent rivalry between the private sector and pharmacies run by large public companies is difficult to know.

The consequence is very clear which is that many community pharmacists have limited contact with GPs. They are not free to leave their pharmacies by law and the NHS contract, during normal opening hours. Some give the impression that running a business is much more important to them than their professional role. This is understandable as a pharmacy has to be economically viable if it is to survive and in some cases the volume of prescriptions may not be great. As has been stated previously, running a business efficiently and well is most important and appropriate but there is no necessity for professionalism to appear to be of little importance or to be compromised.

The failure of many pharmacists to inform and educate GPs and the public in an appropriate manner, about the expertise which they have to offer further exacerbates the problem. It is hardly surprising that those GPs who have no professional relationship with a pharmacist, tend to see him as primarily a high street businessman while patients with specialist needs

such as ostomy patients for example see him as lacking in specialist knowledge about their condition.

Further barriers to the recognition of the pharmacist's commitment to his specialist professional role are caused by the unprofessional appearance of too many pharmacies, especially when compared with those in much of Western Europe, and the lack of a pharmaceutical service which properly covers the twenty-four hours of every day. This latter aspect seriously undermines the pharmacists' self-claimed role and expertise as far as many doctors are concerned.

For those who are familiar with the system, the fact that it is normally possible to get an urgent prescription dispensed even if it means involving the police to contact a pharmacist willing to open up his pharmacy, may seem satisfactory. For most people who are unaware that such informal arrangements exist, it could appear as though the pharmacist was only willing to accept responsibility for dispensing and being the expert on drugs between 9.00 am and 6.00 pm.

In too many pharmacies, the area devoted to the prescription service and even the sale of medicines is relegated to the rear of the premises and frequently with a much smaller area than its income generating capacity would justify. Too often, little or no space is allocated to enable patients to sit and wait for their prescriptions. This too may in part be due to

the over competitiveness of British pharmacy and the perceived need to attract customers for a range of goods, prominently displayed in the front of the premises. The image created by this shop atmosphere, by unprofessional and undistinctive attire by the pharmacist, compounds the belief that the professional side of pharmacy is something of a side-line.

If the customers' eye sight is good, they may be able to read the name badges worn today by an increasing number of pharmacists. The anonymity of the community pharmacist is maintained in the NHS Contract with the FHSA which is with the pharmacy and not the pharmacist.

It must be recognised that the informal atmosphere of the British pharmacy is most important and can encourage people to consult the pharmacist on health matters in what is seen by many people as an unthreatening environment when compared with many surgeries or hospital departments.

Many of the potential barriers to improving inter-professional working between GPs and community pharmacists, including those discussed, are inevitably closely linked to each other.

3.3 SYSTEM OF REMUNERATION

Since the inception of the NHS in 1948, the pharmacy contractor has been remunerated for items of service not dissimilar to the method of payment under the earlier NHI system. Although the

volume of prescriptions written and dispensed rose dramatically with the introduction of the NHS, the efficiency of dispensing through-put increased steadily. Efficiency of dispensing became equated with speed of dispensing as the manipulative skills required, slowly declined. In the 1950s, the majority of prescriptions for other than tablets or capsules, were increasingly for standard BNF liquid preparations. Pharmacy, Government paymaster, and patients all seemed to equate efficiency almost exclusively with speed of dispensing. Little attempt was made to give patients additional advice about taking or using the medicine. Drug interactions were still largely a matter of physico-chemical incompatibility and were not very common.

GPs' surgeries were usually full to overflowing and regularly over-ran their allotted time. As a consequence of free prescriptions, the *pharmacists' traditional role responding to patients' symptoms on request* declined considerably.

The Executive Councils (ECs) forerunners of the FPCs and now reorganised as the FHSAs, established out-of-hours rota services on statutory half-day closing, Sundays, Bank holidays and weekday evenings, normally between 6.00 pm and 7.00 pm. The service, which was inadequately remunerated, was expected to be profitable on the basis of the pharmacy business as a whole rather than from the prescriptions dispensed.

Although the pharmacy contract required the pharmacy to be open normally between 9.00 am and 6.00 pm on five weekdays and between 9.00 am and 1.00 pm on the statutory half-day, remuneration was related to the actuarial principle that as only 40% for example, of the average pharmacy income came from NHS activity, (now on average over 70%) the NHS was only responsible for that portion of the income irrespective of the commitment to provide a pharmaceutical service for 45-50 hours a week. Consequently much depended on pharmacists' goodwill and professional attitude if prescriptions issued after 7.00 pm by late running surgeries were then dispensed after the rota hour. For patients to obtain prescriptions endorsed 'urgent' which qualify for dispensing outside normal opening hours and carry an additional fee for the pharmacy, the police may have to assist in contacting a pharmacist who is available to dispense and in recent time to providing a security escort.

There is a need for a properly structured twenty-four hour service for that 'uneconomical' number of prescriptions which are urgently required and may be life saving. To many GPs it must seem to be a shirking of professional responsibility for pharmacy to imply that GPs need pharmacists expertise on drugs, but not outside normal hours. While this may be a shortcoming in the inherited system, as a professional barrier it is one which must be addressed.

It may be appropriate to note the way in which hospital pharmacy has responded. Some night-duty pharmacists have been employed but have not always been considered to be cost-effective. The most common arrangement today makes use of modern technology in the form of on-call beepers which operate within a specified radius of the hospital.

A potentially greater barrier is that of the GPs' suspicion of some pharmacists' motivation for giving advice about prescription matters when pharmacy remuneration is directly linked to prescription numbers. Queries and advice which relate to generic versus brand name products, quantities prescribed for one, two or three months, alternative preparations, advice about PACT data or a practice formulary, all could conceivably be influenced by the effect that advice could have on NHS pharmacy remuneration.

This is surely a matter which deserves reappraisal. It should be noted that the 'on-cost' allowance (profit margin) on NHS agreed basic prices for drugs has, in England and Wales, already been reduced to 5%. which has largely eliminated much financial significance in the dispensing of drugs of widely varying cost.⁷² In Scotland it has been eliminated completely. On the average prescription in 1990-91 'on-cost' represented about 30 pence on ingredient cost of £5.86 and an average total item cost of £6.74.⁶⁹

The main remuneration for the pharmacy contractor comes from the average £1.06 fee per prescription.⁷² Apart from payments to some pharmacy contractors for providing a domiciliary oxygen service, for PMRs for patients receiving medication on a regular basis, and for a residential home service, there are no payments at present for any other professional service. Advice to patients, compliance matters, delivery services, health promotion and response to symptoms of minor ailments form part of the pharmacists' regular professional activities for which they receive no NHS remuneration.

3.4 PROFESSIONAL ORGANISATIONS

Before considering this situation further some reference must be made to some of the pharmaceutical organisations which are involved with the professional and regulatory control of pharmacists, and pharmacy and the NHS. It is necessary within a structured and often complex society to have organisations whose responsibility is to look after the interests of and act for a group of people with a common purpose or role.

The establishment of fraternities and guilds concerned to support the role, training, activities and protection of those involved in various trades, skills and crafts has been a common feature of civilisations down the centuries. Pharmacy, like medicine and surgery, is no exception. The organisations represent and wield power and are expected by the membership to

achieve the maximum recognition and best arrangements possible for the exercise of the professional role.

Within most professions, especially the health care professions, there are usually several organisations which specialise in various ways. They usually include a major commitment to education and the standards required for graduate entry into the particular profession; continuing education; the maintenance of a professional register; a system of self-regulation and discipline in relation to professional conduct; the safety of the public and the maintenance of the public's confidence in the service provided; the production of standards. Aspects of remuneration, especially if associated with national or government funding, as with the NHS, may well be the prime responsibility of a separate organisation, which may bear a close resemblance to a trade union. Other organisations may concentrate on the interests of specialist groups within the wider professional umbrella.

It would seem inevitable that there is always the risk that a representative organisation is obliged to make compromises in order to retain the support of its membership who may hold divergent views. This can be a formula for maintaining the status quo, especially where this involves negotiation with another body, such as a Government Department. Under these circumstances, the failure to effect change can frustrate all concerned. Unfortunately it can also inhibit individuals, even

though many major advances throughout history have been initiated and effected not by organisations, but by committed individuals.

The Royal Pharmaceutical Society of Great Britain (RPSGB) has primary responsibility under statute and delegation by Government for the registration and regulation of the profession. Through the objectives, as stated in its Charter it has the duty to advance chemistry and pharmacy and promote pharmaceutical education. It also has the responsibility to honour, safeguard and promote the interests of the members in the exercising of their profession.²⁰⁴ Members are required to uphold a 'Code of Ethics' which puts the pharmacist's prime concern to be for the welfare of both patients and public. Members are also charged with respecting patient confidentiality and with co-operating at all times with professional colleagues and members of other health care professions for the benefit of patients and the public.

Since the Society's foundation in 1840 much has been achieved, but seemingly as with all national bodies, the consequence of vying and often opposing interests amongst interested parties has resulted in compromise and stalemate in some directions. Attempts to physically separate professional aspects of pharmacy have been frustrated at law, by the limitations of the Charter and the power of business interests.

The Jenkin case in 1920 confirmed that the Society did not have the power, amongst other things, to regulate pharmacy hours or insure members against professional negligence, errors, and misconduct of employees.²⁰⁵

The Society's Council in 1965, following wide discussion in the Pharmaceutical Journal and through Branch meetings, proposed that: "new pharmacies should be situated only in premises which are physically distinct and be devoted solely to professional services and non-professional services as defined ...". A special general meeting supported the motion by 5,020 votes to 1,336 but the issue became the subject of an action in the High Court which ultimately went on Appeal to the House of Lords. The Society's appeal was dismissed on the grounds that: "it is not within the powers, purposes or objects of the Pharmaceutical Society of Great Britain ... to enforce or carry out ... the provisions of the motion ... on the ground that the said provisions are in restraint of trade."²⁰¹

This was the first occasion that the legal principle of 'restraint of trade' had been applied to a profession and is now of 'leading case' status.

This last major legal confrontation was twenty-five years ago in 1968, and there are those who question whether the Society through its Council should reconsider the situation as much has changed during the interval.

The Society has a generally effective Professional Code of Ethics, which some believe is more rigorously enforced than other health care professions codes of ethics.²⁰³ It is perhaps worth noting that professions such as those in engineering, do not have an enforceable code of ethics. Any code depends not only upon its mandate but on the enthusiastic and willing support of those to whom it applies. In practice, when running a business, professional attitudes can succumb to business pressures. The apparent inability of the Society's own inspectorate by persuasion and voluntary co-operation to raise the standards of all premises to an adequate level has resulted in several requests to Government to issue appropriate Regulations under the Medicines Act 1968. Most recently, the Joint Working Party Report also made a similar proposal.⁸⁴

In education much has been achieved. The foresight of the Society's founding fathers ensured the early establishment of examination prior to registration as a pharmacist. For many years, there was no requirement to attend a recognised educational course. As a consequence pharmacy undergraduate education in the twentieth century has largely developed in technological universities and polytechnics remote from medical schools.⁸⁸

Pharmacy degree courses provide a broad based scientific education to meet and enable the graduate to adapt to the rapidly changing technologies of today and tomorrow. The

integrated scientific and vocational courses are unique in their combination of drug design synthesis, manufacture, testing control, formulation, pharmacology, therapeutics, toxicology, clinical effects and use of drugs as well as microbiology, biochemistry, pathology and professional studies. All pharmacy degrees have to be accredited by the Society for registration purposes.

The main shortcomings of current pharmaceutical education have been highlighted in Chapter 1 and tend to reflect the lack of involvement with patients and an educational programme which at a sufficiently early stage, does not bring health care professionals together who are expected to work together once qualified. It is not surprising that medical students and doctors are in general, badly informed about pharmacy and about the role and potential of the graduate pharmacist.

The importance of both medical and pharmaceutical undergraduate education to include a sufficiently sound relevant scientific basis in order that graduate practitioners are equipped to cope with the many and most likely, unpredictable and unforeseen changes which will occur during the three or four decades of their professional careers is paramount. At the same time the emergent graduate practitioner must have had a sufficiently broad based introduction to all the most important aspects of current progressive professional practice. An appreciation of the interaction between other health care professionals, which

society at large increasingly expects is necessary in order to work efficiently together as a team for the public's benefit. The undergraduate formative years are crucial and this foundation and philosophy must not be deferred and delayed to the pre-registration training year or to subsequent continuing education.

The National Pharmaceutical Association (NPA) is an organisation which primarily represents the interests of proprietor pharmacists. It makes a major contribution to continuing education, mainly through its Bulletin and other publications but also by organising short specialist courses and a number of distance learning courses.

It plays a leading role in technician training and provides the most prompt high quality general pharmaceutical information service available in the UK. The NPA's campaigns to encourage and inform the public about the advisory role of the pharmacist in response to symptoms have been hugely successful, even if on occasions more adequate postgraduate education beforehand would have been beneficial.

For any of the NPA's professional activities to contribute successfully to the improvement of the pharmaceutical service a sufficient number of pharmacists must actively participate. Technician training has a long way to go in this respect and it is disturbing to hear of technicians in the middle of a

training course being made redundant as a consequence of a company take-over.²⁰⁶

In 1990 the NPA introduced a patient referral card for use by pharmacists based on that of Morley and Jepson.¹⁷⁴ Disappointingly very few community pharmacists have introduced the card into their practices and most seem unaware of its existence.

The Pharmaceutical Services Negotiating Committee (PSNC) is the organisation which represents the interests of all pharmacy contractors in the NHS, particularly in relation to the payment for dispensing prescriptions and changes in the NHS contract.

It is within the NHS Terms of Service for Chemists²⁰⁷ that many aspects of the standards of prescription service are detailed. They include the requirement to "supply with reasonable promptness...", arrangements for telephoned prescriptions required in emergencies, and hours of service.

The organisation is also involved with most other day-to-day aspects of the pharmaceutical service within the NHS such as the Drug Tariff, PMRs, prescription monitoring to matters of relocation of premises, nursing home services, collection and delivery services and domiciliary services. They have also been instrumental in organising research projects in diagnostic

testing services in community pharmacies, which are at present not within the NHS.

In attempting to represent a wide range of contractor interests, from the singleton pharmacist proprietor to the large multiple, compromise is inevitable. It raises the question, whether or not such compromise is a formula for inertia and whether or not PSNC can be truly representative and progressive in the interests of the consumer and of pharmacy?

Should professional practitioners like pharmacists wait or be dependent upon national organisations to effect changes in improving health care delivery?

Anecdotal evidence is to the contrary and suggests that much valuable progress in developing high quality, consumer responsive health services which meet local needs (one of the stated objectives of FHSAs) has come from well motivated pharmacists, taking and acting upon their own initiative. Initiatives being taken in relation to matters such as domiciliary care, prescription collection and delivery services, practice formulary involvement and the disposal of unwanted medicines.

PSNC believes strongly in central co-ordination as local initiatives run the risk of producing a multitude of different poorly remunerated local schemes. This may well be true but

unfortunately not everyone is prepared to wait for the time it seems to take to get national schemes set up and running.

The College of Pharmacy Practice (CPP) was founded in 1981 to advance education, training and practice research in all branches of pharmacy. The expectation that it might emulate the impressive achievements of the Royal College of General Practitioners over a similar time-scale shows little sign of being met.

Its impact to date has largely been in hospital pharmacy and although support is growing it does not yet seem to have attracted major support from the body of community pharmacy.

The Centre for Pharmacy Postgraduate Education (CPPE) was established in 1991 to recognise and develop a structured plan for continuing education in pharmacy for the whole of England.

DoH funded, Section 63 courses had previously been organised on a Regional basis with considerable variability.²⁰⁸ Participation by community pharmacists had varied from less than 10% to about 25% in some regions.²⁰⁹

It is encouraging that almost 4,000 booking forms from community pharmacists for participation in the Centre's current programme were reported to have been received recently.²¹⁰

This could represent nearly 25% of those engaged in community pharmacy.

Other organisations

Brief mention should be made of some other organisations which have an indirect involvement with the place and role of community pharmacy. Pharmacy cannot be considered in isolation and that complexity is affected by many variables.

The role of the pharmaceutical industry as an influence on prescribing has been discussed in Chapter 1. **The Association of the British Pharmaceutical Industry (ABPI)** and the **Proprietary Association of Great Britain (PAGB)** represent the interests of prescription product manufacturers and proprietary PTC products manufacturers respectively. The dissemination of product information, such as by data sheets and the Data Sheet Compendium, the change to original pack dispensing, patient information leaflets, and the reclassification of prescription only products to pharmacy products are all aspects of the industry's impact and involvement with community pharmacy.

In the highly developed system of distribution of manufacturers' products, the pharmaceutical wholesaler who is subject to licensing, has created a vital position. In a very competitive field, most pharmacies have the benefit of a delivery service at least twice a day. This has a great bearing on stock control and cash flow and especially in the

past thirty years, the pharmaceutical wholesaler has created an essential place in the pharmaceutical distribution network.

Medicines are the only commodities, other than books, which are still subject to resale price maintenance, and the **Proprietary Articles Trade Association (PATA)** was founded in 1896 by William, later Sir William Glyn Jones who in 1918 became Secretary and Registrar of the Pharmaceutical Society. Medicines were granted an exemption order by the Restrictive Practices Court in 1970 which decided that because medicines can damage health when used to excess or for the wrong condition, the public should not be encouraged by cut-price and special offers to buy more than they need.

The Court also considered that it was important for the proper functioning of the NHS that there should be an adequate and efficient supply of household remedies available to the public, especially through pharmacies. A plentiful and well distributed supply of pharmacies was also very much in the public interest.²¹¹

Professional organisations representing the interests of other health care professionals, especially of those in primary health care, have an impact on community pharmacy to varying degrees. In this respect the most important body in medicine is the **British Medical Association (BMA)** which, is possibly the most powerful professional organisation in the UK and zealously

looks after the interests of all doctors. Currently the relationship between the BMA and pharmacy is relatively good except with regard to dispensing doctors and the definition of 'rural area'.

Organisations which represent dentists, optometrists and nurses may all have some influence. Dentists are subject to prescribing restrictions within the NHS, optomotrists may order for individual named patients a limited number of drugs and recently legislation has been passed to permit some prescribing by medical practice nurses.

This list is not exhaustive but is included to illustrate the complexity of the prescribing and dispensing pharmaceutical service environment.

3.5 BARRIERS WHICH REQUIRE ADDRESSING

The literature survey, the review of UK Government Reports and White Papers, the role and activities of various pharmaceutical organisations and most importantly the state of the pharmacy profession in community pharmacy all provide pointers to the issues which should be addressed.

There are about 10,460 registered pharmacies throughout England and Wales with about 18,000 pharmacists, not all of whom work full-time. There is approximately one pharmacy for every GP practice with an average of three GPs.^{84,212}

In 1990 the community pharmacist was still ranked at a lowly sixteenth by GPs as a source of information on pharmaceutical products. This position had not really changed in over ten years when rated fifteenth by GPs in 1979. (Chapter 2 Section 2.3)

Many contributory factors can be suggested for this situation including possible deficiencies in education at undergraduate and postgraduate levels, the pharmacy environment, legal and NHS restraints, form of NHS remuneration, partial economic dependence on non-pharmacy business and professional and geographical isolation both between pharmacists and from GPs. The geographical isolation factor exacerbates the lack of a perceived need by many GPs to contact or consult outside sources.

In practice, due in part to the pressure of time on both GPs and pharmacists, for many pharmacists their main contact with GPs has to do with resolving prescription queries, most of which are dealt with by telephone. Frequently the pharmacist does not talk directly with the GP either.

Inter-professional relationships may remain minimal or even non-existent. Prescription queries from the pharmacy are mostly frustrating omissions or ambiguities or a matter of incorrect dosage or frequency of use or of possible drug interactions, incompatibilities, product availability,

disallowed items or combinations of any of these. It is not surprising therefore, if the GP's or receptionist's response is mildly defensive, impatient or worse. In any case, it is not a positive foundation for a good working relationship even if there is an acceptance on the part of some GPs that the pharmacist has a significant value as a safeguard against serious prescription errors.

Probably due to their tied situation, not many pharmacists seem to have ever taken the initiative to arrange to meet their local GPs to discuss problems, such as incomplete prescriptions and NHS changes. Such regular meetings could form the basis of a very constructive dialogue of mutual advantage, and to the patients' ultimate benefit.

Although professional organisations with enlightened, energetic leadership can achieve much, it may ultimately be a matter of political will on the part of Government, encouraged by the public's perception of the quality of a service provided which can effect major changes in the role of a profession by negotiating a drastically changed contract. This has happened with both GPs and more recently with dentists.

It does seem surprising that Government, through the DoH and Treasury seem to make so little attempt to raise the level of mutual understanding and trust with the health care professions. The negotiating position of the DoH with pharmacy

is largely publicised through the PSNC Newsletter, which quite understandably cannot be described as an independent or unbiased source.

Major changes for the community pharmacist, whose undervalue within primary health care has been recognised by the UK Government and DoH for some time, should be considered.

The Government White Paper 'Promoting Better Health'³⁶ in 1987 refers to making: "extended use of the pharmacist's skills". In the discussion document 'Primary Health Care' which preceded the White Paper, and was published a year earlier in 1986, under the heading 'Training', recognition is given to the need to provide suitable training prior to some major changes in the role of pharmacists and especially to balance their scientific training with skills in communications, counselling and behavioural science. It is appropriate to note that the Royal Pharmaceutical Society's Working Party Report on teaching social sciences to pharmacy students was published in 1989 and many of the recommendations have been implemented.²⁴³

Of more detailed significance in "Promoting Better Health"³⁶ are the particular recommendations which were taken from the Nuffield Report³⁴ and include: **"the keeping by pharmacists of records of medicines prescribed for or purchased by individual patients."** This would facilitate the detection of adverse reactions and interactions for individual patients and help

both patients and their doctors. It would be of particular use for elderly patients, who tend to take a number of different medicines and regularly use the same pharmacy. The suggestion included from the Nuffield inquiry is: **"that patients with such special needs might register with a particular pharmacy."**

Other recommendations which have a bearing on the pharmacists' role and GP prescribing are:

- the encouragement of some pharmacists to specialise in advising GPs on the administration and handling of particularly complex substances eg cancer treatment and intravenous feeding for patients returned home following their discharge from hospital;
- the offering of advice by pharmacists to doctors on economic and effective prescribing generally and more specifically on the effect of medicines, their interactions with each other and ways of encouraging patients to gain the maximum benefit from drugs, through pharmacist membership of drug and therapeutics committees or other agreed local arrangements.

The Health Ministers were careful to emphasise that neither the professions nor the Government would wish to see an extension of the pharmacists' role result in confusion over responsibilities to the patient, although the Government is anxious to ensure that the skill and knowledge of all

professions are used to their best advantage.³⁵ The message is clear that effective primary health care needs active co-operation and teamwork between the different professions.

More recently, in the Government White Paper 'Working for Patients',⁷⁴ the emphasis has shifted to give greater recognition to the prime importance of the patient. The White Paper presents a programme of action to secure two objectives:

- to give patients, wherever they live in the UK, better health care and greater choice of the services available and
- to give greater satisfaction and rewards for those working in the NHS who successfully respond to local needs and preferences.

Disappointingly it is only in some of the Working Papers published in conjunction with the White Paper that pharmacists are actually mentioned.

In Working Paper 6 'Medical audit', reference is made to medical audit advisory groups (MAAGs) to be established by FPCs now FHSAs. Guidance given on group membership refers to: "other professional members with particular essential skills and expertise" which could appropriately include pharmacists, though they are not mentioned by name.⁹⁹

In contrast the Scottish Office published a Working Paper entitled 'Improving Prescribing in Scotland'.⁸⁷ Encouragement

is given aimed at improving the doctor's knowledge of drugs and their efficient use. Where appropriate the Medical Prescribing Adviser (MPA) is expected to arrange for pharmaceutical advice to be given to a practice where appropriate by the Chief Administrative Pharmaceutical Officer (CAPO) or Pharmacist Facilitator.

The appointment and role of pharmacist facilitators is well summarised as a source of help in developing formularies, rationalising prescribing, analysing Scottish Prescribing Analysis (SPA) data - the equivalent of PACT data in England and Wales - and generally supplying pharmaceutical advice. Available to work with GPs by invitation, they can attend practice meetings and discussions.

Of most significance is the Section 7.1 headed '**The Community Pharmacist**', which succinctly summarises the expertise available: "For the vast majority of patients the community pharmacist is the final link in the chain between a consultation with their GP and their treatment. **Although sometimes overlooked, the community pharmacist is an important source of professional expertise and advice.** Increasingly the hospital service is recognising the part to be played by pharmacists as a source of professional advice on a wide range of pharmaceutical matters and as result in many hospitals pharmacists are becoming part of the **clinical team**, complementing the work of doctors and nursing staff in respect

of the use of medicines. **There is a similar role to be played by community pharmacists who can be a first line source of pharmaceutical advice to GPs.** Pharmacists can offer advice on the properties of drugs, dosages, generic equivalents, side effects, drug interactions, etc, and can help practices who are drawing up their own formularies. **GPs may find it helpful to seek the assistance of their local pharmacist when considering their SPA data."** (bold print has been added for emphasis in this discussion).

The Chapter concludes with an invitation to GPs to make use of the advisory role of hospital based drug information pharmacists and Drug Information Network. This follows the recommendation in the White Paper 'Promoting Better Health': "that the advice which doctors received from pharmacists should be more widely available in the community."

It is disappointing that no similar statement has been made in the general version for England and Wales.⁸⁶ Although in Section 8 on 'Pharmaceutical advice' the word 'pharmacist' appears just once, with the somewhat vague indication that: "pharmacists also have a role in advising about use of medicines in the context of the indicative prescribing scheme," the reference ends. The fact that MeReC is staffed by three drug information pharmacists and that Regional Drug Information Centres are run by pharmacists is only found by reference back to Section 2. It appears to be an opportunity missed. The

document as far as pharmacy is concerned lacks the practical and informative approach of its Scottish counterpart.

The Nuffield Report recommendations,³⁴ recent Government discussion documents and White Papers all seem to have drawn attention to the underutilisation of the pharmacists' skills which are available for use in primary health care.

As governments world-wide grapple with the increasing public demands for and ensuing expense of health care, so too has there been an increased interest in encouraging the public to take more responsibility for its own health. More resources have been diverted towards health education, health promotion, self-help and where national health services exist, towards the public taking responsibility for treating minor ailments and symptoms utilising the pharmacists' expertise.¹⁷³

Jepson et al¹⁴⁷ have shown that pharmacists are perceived as 'the experts on medicine' by 80% of the public sampled, but at the same time they are seen as not just there to supply (80% also believed this). This conjoint view is consistent with the perceived role of the pharmacist as both a provider of medical products (wider meaning than medicinal product) and a source of advice.

About two-thirds of consumers had asked for advice about minor ailments, rising to three-quarters who have asked for advice on how to treat a minor ailment.

The need to remove barriers which inhibit closer working between GPs and pharmacists are of great importance if: "the need to encourage and support multi-disciplinary team working and training in primary health care" is to be achieved.²⁵

The opportunities for the community pharmacist at present are considerable and if account is taken of the dramatic changes taking place in medical general practice as a consequence of NHS reorganisation and reforms, PACT data etc, many barriers previously set by GPs are probably lower than for some time. The reforms have left some GPs feeling quite vulnerable especially to perceived financial pressure on over-prescribing. Even the BMA which is divided over the issue of 'fund-holding' practices is seen by Government to be less powerful than for some time. GPs' willingness to accept help for example, to operate their practice computers, evaluate PACT data, plan a strategy for residential homes for the elderly, all represent opportunities for the community pharmacist to co-operate and contribute with his expertise.

If a simple comparison is made of the physician's general drug armamentarium a few years after the inception of the British NHS in 1948 with that of today, but within a GP's working

life, the changes are very dramatic. The small pocket-book sized National Formulary of 1952 consisted of 196 pages of generic formulations compared with the current BNF (March 1992) of nearly 600 pages closely formatted information, on several thousand products.

A simple tally of the number of preparations prescriptible gives only a limited picture, as the major changes are from mostly palliative drugs of natural origin to a predominance of chemotherapeutic synthetic compounds now. There were only 36 synthetic drugs in the British Pharmacopoeia of 1932 which was still in use up to 1948.

It is hardly surprising that it has become increasingly difficult for practitioners to keep up-to-date with new developments in pharmaceuticals in spite of the much improved and new systems and services for disseminating drug information.

The following hypothesis is to be tested:

Hypothesis 7: "GPs are suspicious of pharmacists' motives when offering prescribing advice because pharmacists are remunerated on the basis of prescription numbers."

An average GP with a patient list of just under 2,000 patients, sees each one on average four times a year and prescribes about 7.6 items per patient per year.³⁶ 363 million prescription

items prescribed by over 30,000 GPs, were dispensed by pharmacists at a cost of £2.4 billion.⁶⁹

It is estimated that there are about 1,300 active medicinal chemical substances available in the UK of which the 300 most frequently prescribed currently account for about 80% of the prescription market. As referred to previously, GP prescribing costs show a wide variation from between £37 to £65 per person⁶⁹ compared with £26 to £48 per person in 1989 in different localities.⁷⁴ The current average cost per patient is £52 per year.⁶⁹

When related to the £2.6 billion total cost of medicines in 1990-91 (which includes 3,500 dispensing doctors in 1,100 practices and drugs personally administered by GPs)⁶⁹ and that the drugs bill is the largest single element, representing more than a third of the total expenditure on the FHSA family practitioner services, it is understandable that influences on prescribing continue to receive so much attention.

3.6 CHANGES WHICH COULD BENEFIT THE PATIENT, THE COMMUNITY PHARMACIST AND INTER-PROFESSIONAL RELATIONSHIPS

There appears to be a number of inter-related factors which if considered in association would seem to be capable of producing a sufficient shift in the emphasis and expectations of the community pharmaceutical service such that the needs of patients and their ability to benefit, would be better met.²¹³

The factors involved have to do with the following:

a) In the dispensing process:

- the impact of patient medication records and the enhancement that this can give to the checking of suspected adverse drug reactions, possible drug interactions and contra-indications for all types of NHS prescription,
- the resolution of prescription queries by liaising with prescribers and patients. The BNF's former directions, included up to 1976, to supply for example 0.5 mg Stilboestrol Tablets in the absence of any strength being given on a prescription, seemingly irrespective of indication, would be totally unacceptable today,²¹⁴
- the increased emphasis given to advising patients about their medication and the increased expectations of patients for information especially about possible side-effects.

The following hypotheses are to be tested:

Hypothesis 8: "The public see no advantage in a chemist having complete PMRs."

Hypothesis 9: "Pharmacists who consider that they have an influence on GP prescribing have regular contact with GPs."

Hypothesis 10: "GPs consider that community pharmacists have no influence on their prescribing."

b) Co-operation with GPs:

- the increasing opportunity to give advice to prescribers on drug therapy, economic prescribing, practice formularies and PACT data,
- patient referral to GPs as a consequence of advising patients about symptoms of minor ailments.

c) Services outside the pharmacy:

- in response to the changing profile of the population, the need for extending domiciliary services and the supervision of medicines in residential homes.

d) Patient health care:

- responding to the increased emphasis given both in and extra to the NHS on health education, health promotion and preventive medicine,
- the pharmacists' role in responding to symptoms by giving advice and treatment have implications for the NHS and the completeness of PMRs.

e) Education:

- the importance of pharmacy postgraduate education is clear, but needs to be more closely associated where appropriate, with that of GPs and other health care professionals,
- community pharmacy should not only be involved with the pre-registration training of pharmacy graduates but with that of GP trainees.

The following hypotheses are to be tested:

Hypothesis 11: "Pharmacists want remuneration to be linked to targets such as attendance at postgraduate courses."

Hypothesis 12: "GPs are not in favour of joint courses for pharmacy and medical undergraduates."

Hypothesis 13: "Pharmacists recognise the need for some joint courses for pharmacy and medical undergraduates."

The common link throughout this list is the increased attention given to the patient and the need for closer inter-professional co-operation and understanding.

3.6.1 PATIENT REGISTRATION

The most fundamental factor to be considered which is not limited to just a shift in emphasis would be the registration of patients with a pharmacy of the patient's choice for prescription supplies but with adequate provision in emergency or absence from home.

This in principle would be no different from patient registration with a GP or with a dentist where flexibility exists for emergency situations or absence away.

The most important advantage and benefit of registration with a pharmacy is that the patient's medication record will be so much more reliable and complete. It would also include information on self-medication and contribute more effectively

to the patients safety and continuity of care. Complete PMRs will enable the pharmacist to check on the appropriateness and safety of a patient's medication with much greater efficiency and reliability.

Registration would facilitate closer co-operation and teamwork by GP and pharmacist, reducing the risk of prescribing errors. It would enable pharmacists to make a greater contribution to rational prescribing and thereby be more involved with patient care. Patients' trust in pharmacy and their medication would be enhanced.

In any registration scheme it will be important to ensure that there is sufficient flexibility to avoid any unnecessary concern about an apparent loss of freedom of choice every time a patient is given a prescription.

For most people this is not likely to be a problem, as previous research¹⁷⁷ has shown that between 50-60 per cent of patients use only one pharmacy for the dispensing of their prescriptions. Research reported in this thesis shows that 96 per cent of patients use the same pharmacy or nearly always use the same pharmacy for their prescriptions (Chapter 6). There will remain a small minority who will need to be accommodated, possibly by improved domiciliary services.

What is essential is that any registration arrangements would have to be at least as flexible as they are now in relation to registration with GPs. There must be sufficient freedom to go to any GP or pharmacy in an emergency or for example when away on business or holiday.

Patient registration with a GP is now cited as one of the seven existing rights of every citizen in the Patient's Charter.¹³⁸

FHSA reform has now made it much easier for every citizen to change their registration with a GP if they desire to do so.⁴²

It may be that pharmacy registration would need to have rather more flexibility than is usual with GP registration. If pharmacy hours of service were not concurrently revised to coincide with surgery hours patients requiring prescriptions to be dispensed would need to be free to take them to any pharmacy which was open. Similar flexibility would need to apply to the dispensing of 'emergency' prescriptions issued for example on a Sunday, Bank Holiday or during the night. It is to be remembered that patients requiring a GP at such times are often unlikely to be attended to by their own GP but either by another doctor in a group practice or by a locum service doctor.

In the Netherlands, where patients are registered with a pharmacy, details of and prescriptions dispensed at another

pharmacy are transferable to the patient's registered pharmacy for record purposes. Providing the advantages of having a complete medication record at the pharmacy of their own choice are properly explained to patients, they are able to recognise the advantages to themselves which registration represents.

Patient registration with a pharmacy of the patient's choice is obligatory in the Netherlands for over 70% of the population who are in the sick fund scheme.²¹⁵ Similar arrangements apply in New Zealand²¹⁶ and in Switzerland where registration is not compulsory but is the norm.^{217,218} The main advantages are considered to be the better control of medication and less likelihood of mistakes. The only disadvantage could be to do with privacy, but in the Netherlands it is extremely rare to hear any criticism about that, as patients recognise that the quality of control has improved greatly because of registration.

One interesting feature of Dutch computerised PMRs is that in some localities, the doctors have the same computer system and on-line link is maintained throughout the day. At night, all prescription records are down loaded onto the doctors' computer(s) so that their medication records can be checked and kept up-to-date.²¹⁵

The small proportion of people who may wish to retain their perceived anonymity from PMRs can be accommodated, but they

should not detract from the clear advantages which registration can offer to the overwhelming majority.

In the UK, probably the first time patient registration was considered and rejected by pharmacy was in 1911 during the protracted progress of Lloyd George's National Insurance bill. The medical profession argued that a per capita system of remuneration and patient registration would encourage the doctor to practice preventive medicine. The pharmacists wanted an item of service system of payment as they felt that no one could say in advance what medicines and appliances would be required and a per capita system of payment could deprive a patient from receiving necessary and effective treatment.¹⁹⁹ While patient registration is essential for a per capita system of payment, the converse is not necessarily so. It would be inappropriate to link all remuneration on a per capita basis to registration and since the early days of the NHI Scheme, doctors' remuneration has not been limited in that way.

The Joint Working Party Report included a brief reference to having received some evidence arguing for patient registration but gave no details of that evidence.⁸⁴ Instead the Joint Working Party seems to have been persuaded by the Consumers' Association, who argued strongly for the freedom of choice of patients not to be restricted. The Consumers' Association produced no evidence that their case was supported by any

research and it seemed to be based upon one of their set of five consumer principles.²¹⁹

Patient registration with dentists was introduced in the new Dentists' Contract with FHSAs which came into effect in October 1990.²²⁰ Registration is taking place gradually as patients attend a dentist for treatment and will still take some time to complete. Registration is part of the shift away from conservation dentistry, with its emphasis on treating caries, to the maintenance of dental health and hygiene which has been so dramatically affected by the fluoridation of drinking water. The DoH was in favour of patient registration with dentists and the Consumers' Association apparently made no objection.

Registration with pharmacy, if accepted, would be likely to be implemented relatively rapidly for most people who on average receive seven prescribed items per year. Acceptability of any scheme by patients would depend on the benefit which they recognised. Registration would as stated previously only apply to the dispensing of NHS prescriptions.

The following hypotheses are to be tested:

Hypothesis 14: "Pharmacists are in favour of patient registration with a pharmacy of the patient's choice."

Hypothesis 15: "GPs want patients to be registered with a pharmacy of their choice for continuity of care."

Hypothesis 16: "The public see no advantage in being registered with GPs, dentists and chemists."

An alternative option is that unofficial registration infiltrates as a consequence of PMRs. Such unofficial registration could extend throughout a multiple company's pharmacies as information technology applications continue to develop. This would appear to be an insidiously less appropriate or equable development not necessarily in the patient's best interests as it could preclude the patient's conscious choice.

In this study, patient registration with a pharmacy of choice is at the centre of a number of interconnected changes. To introduce a component of remuneration which was linked to patient registration, thereby reducing the almost total emphasis on item of service payment could only improve the GPs' perception of the pharmacist. Any tendency for a GP to suspect the impartiality of a pharmacist's professional advice must be avoided.

The result could give patients more complete health care, improve co-operation between pharmacists and GPs and give greater professional satisfaction and rewards to community pharmacists. It would go a long way towards meeting the two objectives put forward in 'Working for Patients' and quoted earlier in this Chapter.⁷⁴

The research plan which has been developed from considering these issues and factors, focuses on the following:

3.7 FACTORS WHICH COULD CONTRIBUTE TO THE CHANGES REQUIRED

- 1 Some realignment of NHS contract remuneration, to give less emphasis to piece work payment.
- 2 Recognition of the importance of a second pharmacist and trained dispensing technician to enable implementation of the extended role especially external to the pharmacy; eligibility for locum payments for attendance at approved postgraduate courses by a second pharmacist.
- 3 The national distribution of patient referral cards, possibly through FHSAs.
- 4 Patient registration with a pharmacy of the patient's choice, for their NHS prescription services.
- 5 A partial link of pharmacy remuneration with patient registration and less emphasis on prescription numbers.
- 6 A proportion of pharmacy remuneration to be linked to targets, in the first instance to involvement with or attendance at approved postgraduate education courses annually. Other targets might be related to a second pharmacist allowance, participation in a 24 hour service scheme, essential collection and delivery service associated with a domiciliary service.

In consequence, the aims of the research plan are:

3.7.1 AIMS

- 1 To examine the extent and nature of inter-professional contact between community pharmacists and GPs from both the perspective of the pharmacist and of the GP.
- 2 To determine the extent to which community pharmacists consider that they influence GP prescribing and how this occurs.
- 3 To determine the extent to which GPs consider that their prescribing is influenced by community pharmacists and how this occurs.
- 4 To examine whether or not the registration of patients with a pharmacy of their choice is perceived as contributing to improved patient care by community pharmacists, patients and GPs.
- 5 To examine whether community pharmacists and GPs consider that it would be advantageous to combine some aspects of medical and pharmaceutical undergraduate education.
- 6 To examine whether or not the close association of pharmacy contractor remuneration with prescription numbers militates against the pharmacists' acceptability by GPs as a source of drug information and whether or not pharmacists would like to see the basis of their remuneration modified.

Summary: These aims are concerned with the nature of communication between pharmacists and GPs, the influence of pharmacists on GPs, and the changes necessary to meet the needs of patients more effectively through closer co-operation.

3.7.2 HYPOTHESES:

The following hypotheses are postulated from the situations addressed in this Chapter and the literature cited. They are tested in Chapters 4, 5, and 6.

Hypothesis 7: "GPs are suspicious of pharmacists motives when offering prescribing advice because pharmacists are remunerated on the basis of prescription numbers."

Hypothesis 8: "The public see no advantage in a chemist having complete PMRs."

Hypothesis 9: "Pharmacists who consider that they have an influence on GP prescribing have regular contact with GPs."

Hypothesis 10: "GPs consider that community pharmacists have no influence on their prescribing."

Hypothesis 11: "Pharmacists want remuneration to be linked to targets such as attendance at postgraduate courses."

Hypothesis 12: "GPs are not in favour of joint courses for pharmacy and medical undergraduates."

Hypothesis 13: "Pharmacists recognise the need for some joint courses for pharmacy and medical undergraduates."

Hypothesis 14: "Pharmacists are in favour of patient registration with a pharmacy of the patient's choice."

Hypothesis 15: "GPs want patients to be registered with a pharmacy of their choice for continuity of care."

Hypothesis 16: "The public see no advantage in being registered with GPs, dentists and chemists."

These hypotheses form the basis of the research in Chapters 4, 5, and 6.

CHAPTER 4 SURVEY OF COMMUNITY PHARMACISTS AND COMMUNICATION WITH GENERAL PRACTITIONERS

4.1 INTRODUCTION

Recognition of the under-utilisation of pharmacists in the NHS has received increased attention, especially since the Nuffield Report³⁴ in a number of Government White Papers and in the consultative document, 'The Health of the Nation'.²⁵

As has been discussed in Chapter 3, the contribution which community pharmacists are making or could make to the continuity of care involves greater co-operation with all primary health care practitioners, especially GPs and greater regard to the particular needs of individual patients.

In order to determine the current extent of communication and interaction between community pharmacists and GPs, a survey was planned.²²¹ Questions were included to measure the incidence and frequency of professional contact initiated by both pharmacists and GPs. A number of attitude questions were included to find out whether pharmacists considered that they had any influence on GPs' prescribing and whether certain changes in NHS arrangements would find support. The changes included were patient registration with a pharmacy of the patient's choice, changes in remuneration linked in part to

patient registration and 'targets' such as attendance at postgraduate courses.

4.2 CHOICE OF METHOD

A postal questionnaire with a carefully worded covering letter and reply paid envelope was sent to 506 pharmacies in Great Britain. The pharmacies were selected by equal interval random sampling²²² using an up-to-date set of address labels of all registered pharmacy premises in Great Britain obtained from the Royal Pharmaceutical Society. The sample of 506 pharmacies represented about 4% of the total.

Distribution by mail rather than by the use of interviewers was chosen in order to achieve national coverage and sufficient quantitative data for statistical analysis where appropriate. An interview survey was also impractical on the grounds of cost and time scale.

4.3 OBJECTIVES

This survey had several of the objectives listed in the **Section 3.7.1 Aims in Chapter 3**, as follows:

- 1 To examine the extent and nature of inter-professional contact between community pharmacists and GPs as recorded by pharmacists.
- 2 To determine the extent to which community pharmacists consider that they influence GP prescribing and the form that this takes.

- 3 To examine whether or not patient registration and other NHS contract changes are perceived by pharmacists as contributing to improved patient care.
- 4 To examine some factors, including current education, which may inhibit the acceptability of the pharmacist as a source of drug information.

4.4 HYPOTHESES

The relevant hypotheses drawn from **Section 3.7.2 of Chapter 3** are hypotheses 9, 11, 13 and 14, renumbered for this Chapter, and supplemented by several additional hypotheses postulated during the design of the questionnaire and in the text:

Hypothesis 4.1: "Pharmacists who consider that they have an influence on GP prescribing have regular contact with GPs."

Hypothesis 4.2: "Pharmacists want remuneration to be linked to targets such as attendance at postgraduate courses."

Hypothesis 4.3: "Pharmacists recognise the need for education of pharmacy undergraduates to be partly undertaken alongside medical students."

Hypothesis 4.4: "Pharmacists are in favour of patient registration with a pharmacy of the patient's choice."

4.5 METHOD

The questionnaire was slightly modified in response to feedback from a small group of community pharmacists and the initial mailing was made at the end of November 1991. The timing was not considered ideal but a serious influenza epidemic had been

forecast for January 1992 but which did not occur. Approximately six weeks later a second copy of the questionnaire, with a follow-up letter and a reply paid envelope were sent to those pharmacies from which no reply had been received.

Data from the returned questionnaires were entered into a software package for data entry called Data Entry II¹⁹² and then analysed using the SPSSX programme.¹⁹³

4.6 RESULTS AND DISCUSSION

A copy of the questionnaire with all the numerical results added and with the additional qualitative comments, is included in Appendix 1.

A total of 301 questionnaires (60%) were returned of which it was possible to finally analyse 293 (58%). An initial analysis was made of the first 186 questionnaires returned, which represented most of those received after the first mailing. When the analysis was compared with that from the final number, no significant differences were noted in either the type or location of pharmacy response or in the pattern of answers to any of the categories of questions.

The profile of the respondents and their location give no reason to suggest that the replies are seriously

unrepresentative of community pharmacy throughout Great Britain.

Table 4.1 PROFILE OF RESPONDENTS

	Number	Percentage
Pharmacy type	n = 286	
Private independent	138	48.3
Small multiple 1 - 5 branches	75	26.2
Large multiple	73	25.5
Location of pharmacy	n = 285	
Suburban	127	44.6
City / Town centre	78	27.4
Inner city	40	14
Rural	34	11.9
Other	6	2.2
Job description	n = 288	
Proprietor	139	48.3
Manager	125	43.4
Locum	10	3.5
Other	14	4.9

4.6.1 PHARMACISTS' PROFESSIONAL CONTACT WITH GPs:

Several questions were designed to quantify the frequency with which the pharmacist had spoken contact with GPs, the number of different GPs with whom the pharmacist was in regular contact, the frequency with which GPs initiated contact, the frequency of pharmacist visits to GP surgeries and the frequency of GP visits to a pharmacy.

The questions were worded to focus on contact and communication between pharmacist and GP and to exclude indirect contact through dispenser and or GP receptionist intermediaries.

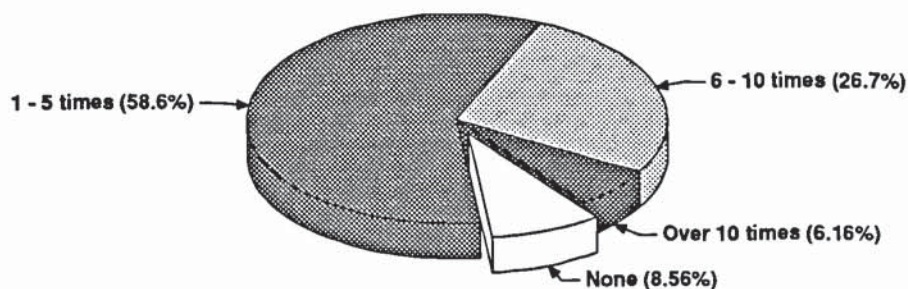
Over half of the pharmacists (59%, 171/292) stated that they had spoken contact with a GP on average between one to five times in the past week and a further one third (96/292) more frequently than that. 8.6%, (25/292) indicated that they had had no spoken contact with any GP in the past week. (Q1)

As there are approximately three times as many GPs in practice as there are pharmacies in Great Britain, a considerable variation in the number of GPs with whom a pharmacist is in contact more than once a week is to be expected. 38%, (101/265) of the responders stated that they were in regular contact with two or three GPs and a further 37% (98/265) were in regular contact with four or more GPs. (Q2, Appendix 1)

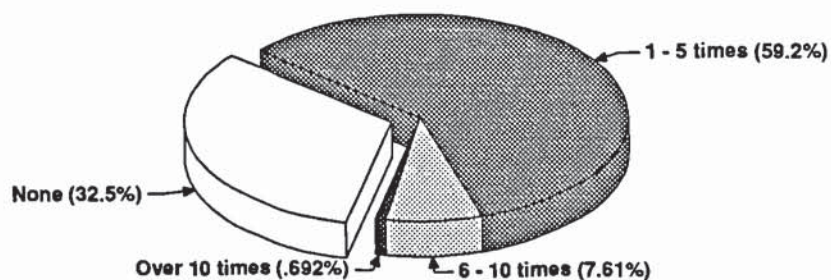
Less than one in five pharmacist responders (18.1%, 48/265) reported limited contact only, that is having no contact with GPs more frequently than once a week.

The extent of contact was also shown by the times that GPs had initiated contact in the past week (Q3). Almost 60% (171/289) of the pharmacists had heard from at least one GP from between one to five times in the past week. 94 (32.5%) responders reported no GP initiated contact in the past week.

**Figure 4.1a Professional contact with GPs:
Frequency of spoken contact with GPs
in the past week**
(n = 292)



**Figure 4.1b Professional contact with GPs:
Times that GPs have made contact
with the pharmacist in the past week**
(n = 289)



Figures 4.1a and 4.1b illustrate the frequency of contact between respondent pharmacists and GPs 'in the past week'. These first three questions which mainly concern spoken contact between pharmacists and GPs focus in many cases on telephone communication. Over 90% of pharmacists had spoken to several GPs in the past week and over 75% were in contact with two or more GPs more than once a week. The frequency of contact recorded varies considerably which is hardly surprising when the diversity of community pharmacies and their location is taken into account.

The lack of contact with GPs by some pharmacists reinforces the hypothesis that pharmacists have no influence on GP prescribing. It is necessary to recognise that the delegation of dispensing to assistants or technicians distances some pharmacists from prescribers. Delegation for other than the most routine prescription checks with a surgery may not always be appropriate.

The data does imply that 60-75% of community pharmacists have regular contact with two or more GPs at least once a week which seems a reasonably realistic basis on which to develop inter-professional relationships.

No association was found from cross-tabulation and chi-square tests between type of pharmacy or pharmacy location or status

of pharmacist respondent and level of spoken contact. (Q16, 17 and 19 with Q1)

4.6.2 VISITS TO SURGERIES AND TO PHARMACIES

The number of visits which pharmacists make to GP surgeries was presumed to imply a more active level of contact than the more frequent verbal exchange on a telephone.

Relative location of surgery and pharmacy, repeat prescription collection arrangements and medicine deliveries to a surgery are all common reasons for surgery visits and affect the significance of such visits. Nevertheless 60% (174/293) of pharmacists reported visits to GP surgeries in the past month, numbering from one to over forty, of whom 43% (74/174) recorded more than five visits in the month.

Although responders confirmed that about 70% of the visits were primarily for the routine collection of prescriptions, it was the pharmacist and not an assistant who had made these visits. This would give the opportunity for the pharmacist to deal with other professional matters should the need arise.

Two out of five pharmacists (40.6%, 119/293) reported making no visits to any GP surgery. (Q4a)

Space was provided for giving details of other visits and a total of 143 reasons were added. The most frequently mentioned

reasons were:

- prescription amendment (79 of the 143 added reasons);
- to deliver stock to surgery (18);
- to discuss patients' treatments (14);
- to discuss general service matters and new
pharmacy services (12);
- courtesy/social calls (9).

Some of these reasons require comment. Although prescription amendment by the prescriber is understandably important in some circumstances such as for Controlled Drug prescriptions (two visits noted were for dealing with suspected prescription forgeries), there remain an unnecessary number of situations, many involving dressings where the pharmacist's endorsement on an FP10 prescription cannot be accepted by the PPA. This is a frustrating, intolerable and unnecessary situation and visits to GPs in this respect are unlikely to be conducive to improving relationships.

It is of some significance that a number of pharmacists noted courtesy and social calls. The numbers are not significant as these were added reasons but they are important as recognition of factors which contribute to inter-professional working.

A few respondents referred to assisting with computer records which is an area of information technology in which pharmacy and pharmacists have a distinct lead. It must be to the mutual

advantage of GPs and pharmacists, for pharmacists to give assistance with practice computers. The initiative is largely with the pharmacist and represents an ideal opportunity if grasped, to develop a sympathetic and mutual professional understanding.

The next question (Q5) asked about the number of professional visits made by GPs to the respondent's pharmacy in the past month.

The pattern of frequency of visit is similar to that made by pharmacists in the previous question.

Over half the pharmacies (52.4%, 153/292) had had a visit from at least one GP for professional purposes in the last month. 5% (15/292) of pharmacies had had over ten visits some of which approximate to a daily visit. 47.6% (139/292) of the pharmacies had had no visit by a GP. This latter figure may include many town and city centre pharmacies which are now less likely to be near a GP surgery as many surgeries are now relocated out of main shopping areas.

Further analysis of this data was made to verify whether or not the one third to 40% of responders who record no contact with GPs in the past week or visits in the past month are the same pharmacists.

Table 4.2 VISITS BY PHARMACIST TO GP SURGERIES AND BY GPs TO PHARMACY

FREQUENCY LAST MONTH	TO GP SURGERIES n = 293	TO PHARMACY n = 292
0	40.6% (119)	47.6% (139)
1 - 5	34.2% (100)	39% (114)
6 - 10	9.2% (27)	8.2% (24)
11 - 20	7.8% (23)	3.4% (10)
21 - 40	6.4% (19)	1.7% (5)
>40	1.6% (5)	0

A comparison of the responses to questions 4 and 5, (Table 4.2) indicate a considerable level of visiting in both directions between pharmacy and surgery by the professionals.

Only more detailed information would reveal how productive many of the visits are to developing a constructive degree of professional co-operation, as distinct from merely contributing to the smooth running of the dispensing supply service.

These data confirm that a foundation for much greater co-operation does exist.

Hypothesis 4.5: "Pharmacists who do not visit GPs surgeries, do not have any GPs visit their pharmacies."

Cross-tabulation on Q4 and Q5 using the chi-square test, gave a correlation which was significant.

(chi-square with Yates correction = 32.896; df = 1; $p < 0.0005$)

58% (79/137) of respondents who did not visit a GP surgery in the last month had not had a GP visit their pharmacy, whereas 76% (113/148) of the pharmacists who had visited GP surgeries, had also had GPs visit their pharmacies. The hypothesis is accepted.

The data do not reveal whether pharmacist visits to surgeries prompted GPs to visit pharmacies or vice versa, but the association is confirmed, which is an indicator for the continuing development of co-operation.

The nature of the contact with local GPs was the subject of the next question (Q6) which provided a list of seven specific activities, with space for any additions, as well as a 'no contact' response.

Table 4.3 PURPOSE OF CONTACT WITH LOCAL GPs

	Number	Percentage
n = 293		
No contact	129	44
GP practice meetings	18	6.1
Asthma clinics	8	2.7
Compliance issues	39	13.3
Diagnostic testings	12	4.1
Medical rep presentations	13	4.4
PACT data	19	6.5
Practice formulary	20	6.8
Please list 'other'...	n = 79	(Appendix 1)

About 5% of pharmacists reported some involvement with GPs either at practice meetings, with PACT data and practice formularies, at medical representative presentations or with diagnostic testings. The most frequently recorded reason for contact had to do with compliance issues which is an area where professional co-operation can be particularly vital and successful. It may seem all the more surprising therefore, to record a level of only 3% involvement of pharmacists with GP asthma clinics. Two significant explanations may be that many GP surgeries have yet to arrange asthma clinics and of those that have, the timing is likely to be such that it would be unlikely that most community pharmacists would be free to attend.

Involvement by pharmacists in these various activities was not mutually exclusive and the summary in Table 4.3 does not show the extent to which some pharmacists were involved with several activities. At this level of activity only a limited number of pharmacists seem to be involved. Without further questioning, which would be most effective by interview, it is only possible to suggest what may be deterring more pharmacists from being so involved as discussed in Chapter 3.

Chief among the 79 other reasons given for contact with local GPs were:

dealing with prescription queries and replacement prescriptions (43);

product information and availability and Drug Tariff matters (25). (Appendix 1).

A close association was found between the number of times GPs had contacted the respondents and whether or not respondents were involved with the activities in Q6.

68% (59/87) of respondents who had not been contacted by any GP in the past week, were also not involved with local GPs in any activities listed in question 6, compared with 32.5% overall who had had no GP contact them.

The more frequently GPs contacted pharmacists, the greater the proportion of pharmacists who were involved in GP practice activities (Q6), as shown in Table 4.4.

Table 4.4 NUMBER OF TIMES GPs HAVE CONTACTED PHARMACIST AND PHARMACIST INVOLVEMENT WITH GP PRACTICE ACTIVITIES

Times in past week GP contacted pharmacist	Proportion of pharmacist respondents involved	
none	32%	(28/87)
1 - 5	58%	(92/158)
6 or more	90.5%	(19/21)

This analysis is evidence of the importance of two-way communication in the development of an active inter-professional relationship.

4.6.3 INFLUENCES ON GP PRESCRIBING

One aspect of co-operation between community pharmacist and GP is the extent to which pharmacists may contribute their expertise and knowledge to prescribing practice and may, as a consequence, be an influence on prescribing.

When asked: "Do you consider that you have any influence on any of your local GPs' prescribing at the present time in addition to correcting incomplete prescriptions?". (Q7)

27% (79/290) answered 'yes',

73% (211/290) 'no'.

The 79 who answered 'yes', represent about 50% of those who from the earlier questions stated that they did have contact and were involved with local GPs. Were the responders very candid or too reticent? Question 7 is an attitudinal question and as such will make an interesting comparison with the similar question included in the questionnaire sent to GPs which is discussed later in Chapter 5.

It is reasonable to expect the pharmacists who claim to have an influence on prescribing to be those who have regular contact with GPs and vice versa.

Hypothesis 4.1: "Pharmacists who consider they have an influence on GP prescribing have regular contact with GPs."

Cross-tabulation of questions 1, 2 and 3 with question 7 using the chi-square test showed that there was a correlation between influence and the extent of contact as shown in Table 4.5 and Figure 4.2.

Table 4.5 PERCENTAGES OF PHARMACISTS WHO CONSIDER THEY HAVE AN INFLUENCE ON PRESCRIBING COMPARED WITH THE EXTENT OF CONTACT WITH GPs

(27%, 79/290 was the overall proportion recorded)

Spoken contact in the past week (Q1)	n = 79	%
none	0	(0/25)
1 - 5 times	23.1	(39/169)
6 - 10 times	37.2	(29/78)
more than 10 times	61.1	(11/18)

(chi-square = 25.144; df = 3; p<0.001)

Number of GPs who contacted pharmacist in past week (Q3)	n = 78	%
none	9.6	(9/94)
1 - 5 GPs	33.1	(56/169)
6 or more GPs	54.2	(13/24)

(chi-square = 26.582; df = 2; p<0.001)

The Table 4.5 shows the significant correlation between the pharmacist's contact with GPs and the pharmacist's perception of influence on GPs prescribing.

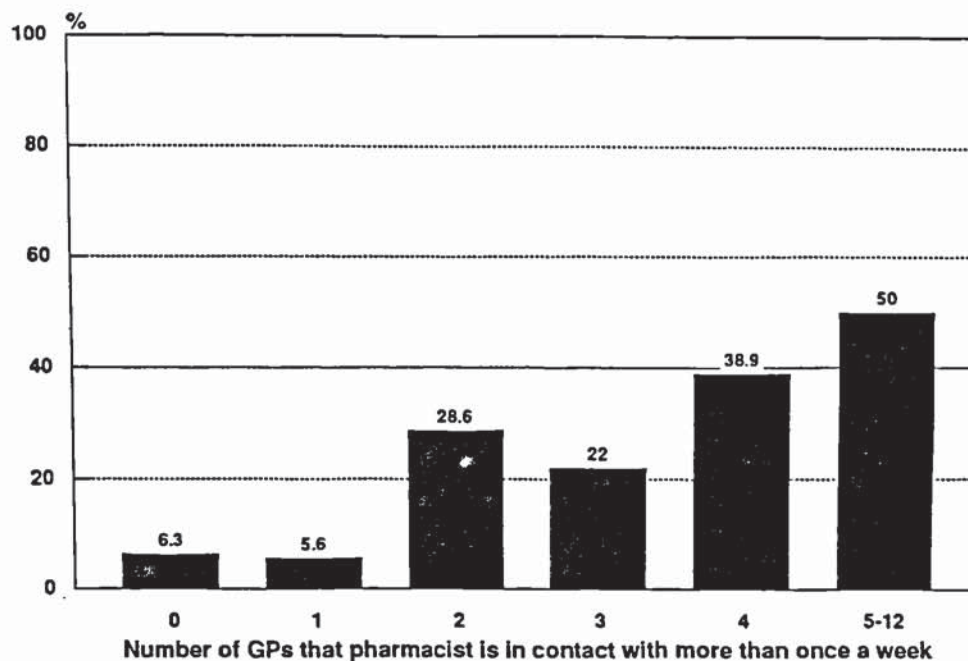
There is a marked percentage increase in the proportion of those pharmacists who consider that they have an influence on prescribing, who also have more regular contact with a larger number of GPs. While this could be surmised, quantitative data provide objective evidence.

Hypothesis 4.1 is accepted.

Figure 4.2

n = 74

Percentage of pharmacists who consider they have an influence on GP prescribing



(chi-square = 33.5618; df = 5; $p < 0.0005$)

A statistically significant correlation was found when the chi-square test was applied to the cross-tabulation of Q2 (number of GPs with whom pharmacist is in contact) and Q7 (pharmacist's influence on prescribing), as shown in Figure 4.2.

As seen in Table 4.5 and Figure 4.2, the proportion of respondent pharmacists who consider that they have an influence on prescribing approximately doubles between the overall 27% and those who have more contact and involvement with GPs.

Correlation of statistical significance was found between both visits by pharmacists to GP surgeries (Q4) and GP visits to pharmacies when cross-tabulated with respondents who considered that they had an influence on prescribing.

Table 4.6 PROFESSIONAL VISITS IN LAST MONTH

	Frequency of visits				
	0	1-5	6-10	11-20	21+
Pharmacist Visits (Q4):					
Pharmacist Influence:	17.5%	26%	35%	57%	45%
n = 283	20/114	26/100	9/26	13/23	9/20
(chi-square = 19.345; df = 4; p<0.0001)					
GP Visits (Q5):					
Pharmacist Influence:	9.5%	40%	42%	67%	
n = 290	13/137	46/114	10/24	10/15	
(chi-square = 45.951; df = 3; p<0.0005)					
Influence overall = 27.2%					

Influence requires contact and these results shown in Table 4.6 confirm that there is also an association between the frequency of contact and the level of perception of influence. There are approximately twice as many respondents as a percentage, who consider they have an influence among those who are involved with visits eleven or more times a month compared with those involved with one to five visits a month.

Significant correlation was also found for the pharmacists who arranged meetings with GPs (Q8) of whom 44% (18/41) also considered that they had an influence on GP prescribing,

compared with 27% of respondents overall who considered that they had an influence.

(chi-square 5.891 (with Yates correction); df = 1; $p < 0.025$)

When asked to add details about the form of influence, the most frequent of the 85 positive reasons added related to:

alternatives to unobtainable or more expensive products, and including cost containment (43);

the suitability of products, products designed to improve compliance and compliance aids (20);

new drug information and products for practice formulary (11);

and a response from one pharmacist who had been invited to give a presentation at a practice formulary meeting.

Of the 211 (73%) responders who had answered 'no' only five gave any reasons, four of whom stated that they only gave advice occasionally and the other that the pharmacy was near to a dispensing doctors' practice.

From the attitudinal question on influence, the next question, (Q8), asked whether the pharmacist respondent had: "ever arranged to meet GPs in a practice to discuss problems associated with incomplete prescriptions including incomplete directions for use?" 86% (248/289) of the respondents had not and offered few details as to why not. Six referred to queries being sorted by telephone, which may again reflect on the pressure of time felt by both GPs and pharmacists but which

does little for building up inter-professional relationships. The telephone is vital today for the speedy smooth running of the prescription dispensing and supply service. It is no substitute though for initiating a face-to-face professional relationship, although it can subsequently compliment it.

Of the 14% (41/289) who had taken the initiative to arrange meetings, among the matters involved were:

legal changes, including those applicable to controlled drug prescriptions and Drug Tariff specifications (8);
computer prescription errors and dosage directions (8).

It seems likely that the one pharmacist pharmacy and pharmacy contract hours could be two significant factors which have inhibited this particular measure of pharmacist activated co-operation, apart from apathy.

All pharmacies have some contact with GPs' surgeries as far as the regular clarification of prescription details are concerned. The extent to which this form of contact is dealt with, at least in part through dispensers and surgery receptionists, was not the substance of this survey.

The questions to the pharmacists were framed to probe the form of contact between pharmacist and GP as and if it existed. Consequently the 'none' responses within the first six questions are not the same and cannot be compared meaningfully.

By merging all the respondents to questions one to five who answered other than 'none', a maximum count of 280 was achieved. As the total number of respondents was 293, the implication is that **there remains a small group of 13 (4.4%) respondents who were devoid of all forms of contact with GPs as covered by the questionnaire.**

The statistical analysis of the 'professional contact' questions when cross-tabulated with whether or not the pharmacist considers he has any influence on a GP's prescribing, convincingly show a graded correlation. The greater the contact with GPs, the larger the proportion of pharmacists who consider that they have an influence.

This would seem to be strong evidence on which to build a closer professional relationship and greater co-operation between pharmacist and GP.

4.6.4 PATIENT MEDICATION RECORDS

One major change that has taken place in British community pharmacy in recent years is the keeping of patient medication records. This has been greatly facilitated by information technology.^{223,224} In response to several questions about PMRs, (Q9 and Q10) responders confirmed that more than three out of four pharmacies (77.5%, 227/293) now keep PMRs of which 85% (188/222) are on computer and 15% are manual records. Of all those who keep PMRs 41% (94/228) keep them for all

patients. Most (109/134) of the 59% (134/228) who do not keep PMRs for all their patients, have relatively limited exclusions as they indicated that they included:

all regulars on medication including children and the elderly (58 out of 134);

over 60's and chronic, oxygen, stoma etc (30);

all except visitors (21).

Relatively limited PMRs were kept by only 25 (11%) of the pharmacies in the computerised PMR sample of 228. (Appendix 1)

Computerisation in community pharmacy has had no financial support unlike medical general practice yet by 1989 95% of pharmacies were reported to have computer systems.²²¹

The proportion of pharmacy computers capable of and being used for maintaining PMRs has escalated extremely rapidly. In 1985 Stevens and Crabbe²²⁵ quoted 5%, a Pharmaceutical Society's inspectorate survey in 1988 quoted 11% and Boakes in 1989 reported a figure of 23% later rising to over 50% in 1990.²²⁴ In 1992 this survey has found that the figure has risen to 77.5%.

Most pharmacists have come to recognise the many advantages of computerised PMRs which provide the pharmacist with a source of information about patients' previous medication, drug sensitivities, prescriber details and previous medication labelling details. The speed with which this information can

be accessed during the dispensing process is of enormous benefit to a pharmacist's check on the safety and suitability of a patient's current medication. The system is even more effective where the PMR software includes the monitoring of potential drug interactions, contra-indications and unusual dosage.

The importance of including OTC medication on PMRs will increase, as more medicinal products cease to be restricted to prescription and become available through pharmacies. When GPs advise patients to buy medicines which are either on the limited list or cost less than the prescription charge, these too should be included in the PMRs. Marriott reported a case of unexplained hypercalcaemia in a patient with chronic renal failure who did not respond to treatment. It was subsequently found that she had been taking Crampex tablets for night cramps.²²⁶

The majority of pharmacists have accepted that pharmacy computer systems require updating at regular intervals, together with the investment that this incurs. The nominal payments through the NHS for setting up and maintaining a system with a minimum of 100 patients who must be on long term medication is hardly an incentive on its own.⁷² For setting up a PMR system, the fee is £180 with an annual maintenance fee of £120, both subject to the pharmacist having completed a recognised training course.

A significantly higher proportion of those pharmacists who kept PMRs that is 32%, considered that they had an influence on GP prescribing compared with the overall proportion of 27%.

(chi-square = 10.868 with Yates correction; df = 1; $p < 0.001$)

The most serious disadvantage of current PMR systems is that they are not reliably complete. Although the majority of patients regularly use only one pharmacy for dispensing purposes¹⁷⁷ there is no guarantee. If PMRs are to be used optimally for the benefit of patients and prescribers as well as pharmacists, some way of increasing the reliability of PMRs must be found. The use of patient held medication records, such as 'smart cards'²²⁷ or access to centrally held PMRs are possibilities but capital investment would be likely to be considerably less if patient registration with a pharmacy of the patient's choice was seen as an acceptable option.

The very wide extent to which PMRs are now kept in pharmacy, the increasingly obvious need to give patients more complete care and the opportunity for the pharmacist to make a greater contribution to primary health care, lead into the next question.

4.6.5 PATIENT REGISTRATION

A change which could contribute to a pharmacist's increased acceptability and usefulness to both patient and GP would

involve patient registration with a pharmacy of the patient's choice as previously discussed in Chapter 3.

For registration to be possible or even considered it would need to be acceptable to a significant majority of pharmacists and patients and preferably to GPs.

Community pharmacists were asked: "do you think that it would be an advantage to have patients registered with a pharmacy, as with doctors and now with dentists? (provided that adequate arrangements were available for any emergency situation)."

60% (171/286) answered 'yes' and the most frequently added supportive reasons were:

- for the completeness of PMRs and continuity (88);

- for improved patient care, quality of service and trust, reliability of stock and convenience to patients (86).

Of the 40% answering 'no' to the question, the most frequent of the 81 additional comments supplied was that:

- it did not give the patient freedom of choice (53);

- it was not practical (5);

- it was against a free market and a barrier to building a business (5).

Those against registration, seem to have been prompted by predominantly business rather than professional reasons.

Any scheme of registration would have to be subject to a patient's freedom of choice of a preferred pharmacy and, include adequate flexibility for prescriptions to be dispensed when absent from home and in emergency situations. Such arrangements would parallel and be as flexible as those which apply to registration with GPs with the increased facility for change as emphasised in the 'Patient's Charter'.¹³⁸

Registration would need to include PMR details of all dental prescriptions (FP14), hospital out-patient prescriptions (FP10 (HP)) and in future prescriptions issued as a consequence of nurse prescribing. Patient registration would place no formal limitation on a person to always use the same pharmacy for non-prescription pharmaceutical or non-pharmaceutical services, as discussed in Chapter 3.

In order to determine whether or not a significant association existed between those pharmacists who reported little or limited contact with GPs and those who were not in favour of registration, a series of cross-tabulations were made. No correlation was found between the frequency or form of contact between pharmacist and GP as indicated in Q1, 2, 3 and 6a) and preference for patient registration; nor between those pharmacists who consider that they have an influence on GPs (Q7) or who arranged to meet GPs (Q8) when cross-tabulated with preference for patient registration.

A difference was seen in the cross-tabulation of Q1 with Q11 where 42% (10/24) of the pharmacists who had had no spoken contact with a GP, were in support of patient registration compared with the overall 60%, but the difference was not statistically significant.

Respondents views on registration were independent of 'no contact' with GPs as recorded in question 6a), and with the number of times the pharmacist had spoken to any GPs in the past week. (Q1)

No association was found between those pharmacists who considered that they have an influence on GP prescribing (Q7) and patient registration or between those who had arranged meetings with GPs (Q8) and patient registration.

When it is recognised that the major large multiple pharmacies are officially not in favour of patient registration and that that is currently also PSNC policy, this result of 60% in favour deserves to be considered seriously. Although it seemed to have no noticeable effect on the pattern of respondent answers, one large multiple advised its pharmacists to ignore several questions on the questionnaire including question 11.

Cross-tabulation and chi-square tests were also applied to data on type of pharmacy, location and status of pharmacist in

relation to preference for patient registration. (Q16, 17 and 19 with 11).

No statistical significance was found between location of pharmacy or status of pharmacist and patient registration, although the small category of locum pharmacists and others were more in favour of patient registration.

(78%, 18/23 compared with an overall figure of 60%)

A major reason for not being in favour of patient registration, put forward by the largest multiple pharmacy (personal interview, Chapter 7) was that their town and city centre 'high street' pharmacies would be disadvantaged because of their alleged dependence on passing trade. Analysis of these data show that 60% (44/74) pharmacist responders in town/city centre pharmacies were in favour of patient registration, which equals the overall figure.

An association was found between respondents in different types of pharmacy classified by ownership (Q16), and preference to patient registration.

75% of respondents in small-multiple pharmacies (1-5 branches) were in favour of patient registration compared with the overall figure of 60%. Pharmacist responders in large multiples were no less in favour (57%, 40/70) than those in private pharmacies (54%, 74/137).

(chi-square 9.457; df = 2; $p < 0.01$)

This unexpected result, raises a number of questions which may focus on some apprehension about the financial consequences of patient registration. Would smaller pharmacies with below average prescription numbers be worse off? Would such pharmacies tend to lose patients in the event of patient registration? Do pharmacist responders in small multiples see patient registration as a possible stabilising factor perhaps against what are perceived as the risk of being absorbed by a large multiple?

Patient registration with a pharmacy has to be fully supported by pharmacy computer PMRs to be justified and realised. No significant correlation was found between those respondents who either kept PMRs or kept PMRs for all their patients and their preference for patient registration. Although this may seem surprising, account must be taken of the fact that 78% of pharmacies now keep PMRs, 85% Of which are on computer.

Since replies have been received to the questionnaire, the Joint Working Party Report on the Future for Community Pharmacy has been published.⁸⁴ The benefits of patient registration with a pharmacy are noted: "particularly if supported by PMRs... one pharmacist would have an overview of the patient's whole medication, and be able to advise on safety and efficacy accordingly," but no recommendation for patient registration was made. The Report records that the Consumers' Association: "argued strongly that the freedom of choice of the patient

should not be restricted." The Consumers' Association appears to base its case on one of their basic principles rather than on any substantive evidence. This basic principle does not seem to have been raised when patient registration with dentists was considered.²¹⁹ The British Dental Association apparently received no comment at all about the restriction of patients' freedom of choice when patient registration was introduced in their new contract in October 1990.

The Working Party Report noted that in only one of the seven countries visited, the Netherlands, were patients registered with a pharmacy and that even there the patient *was able to* obtain prescribed medication from other pharmacies. This is misleading and an incomplete argument for deciding against registration, as such flexibility is necessary not only in relation to pharmacy but for medical or dental treatment in certain circumstances. The flexibility of the system in the Netherlands is to cover emergency situations and holidays. Private patients are not required to register but they are normally loyal to one pharmacy.²¹⁵

In France, patients are not registered with doctors and they are free to go from one GP to another or to a specialist. It is unlikely that a doctor will necessarily have a complete or reliable patient record. In 1989-90 the number of prescription items per person in France was 38, compared with 7.6 in the UK. It is quite possible that the absence of patient registration

in France is a significant factor in this five-fold higher level of prescription items per person per year.²²⁸

It is inappropriate to consider patient registration in isolation as it must be linked to other factors, as discussed in Chapter 3, which could collectively result in improved patient care and a more effective pharmaceutical service.

4.6.6 CHANGES IN NHS CONTRACT REMUNERATION

If the nature and quality of today's prescription pharmaceutical service, which properly involves advice to patients and a counselling facility, is to be recognised, some changes in the remuneration formula seem necessary. Three questions attempted to relate issues which impinge on inter-professional relationships to give a reduced emphasis of payment by prescription numbers.

Pharmacists were asked if they would prefer less overall reliance on prescription fees (Q12), whether they would welcome **partial** remuneration linked to patient registration (Q13) and whether they would welcome a proportion of community pharmacy remuneration linked to targets such as attendance at postgraduate courses, as for GPs. (Q14)

Respondents were consistently in favour of all three proposals: 60% (162/268) for less overall reliance on prescription fees; 57% (151/267) for remuneration partly linked to patient

registration;

71% (192/271) for remuneration partly linked to targets.

Hypothesis 4.6: "Pharmacists who think that patient registration would be an advantage, would also prefer less overall reliance on prescription fees."

Cross-tabulation of questions 11 and 12 using the chi-square test showed that there was a correlation between the two attributes.

chi-square with Yates correction = 14.717; df = 1; $p < 0.0005$

There is a significantly larger proportion of pharmacists 70.4% (112/159), in favour of patient registration who would prefer less overall reliance on prescription fees. The hypothesis is accepted.

Hypothesis 4.7: "Pharmacists who would prefer less overall reliance on prescription fees would welcome partial remuneration linked to patient registration."

Cross-tabulation of questions 13 and 12 using the chi-square test showed that there was a correlation between the two attributes.

chi-square = 24.962 with Yates correction; df = 1; $p < 0.0005$

There is a significantly larger proportion of pharmacists 73.5% (108/147), who would prefer less overall reliance on

prescription fees who would welcome partial remuneration linked to patient registration. The hypothesis is accepted.

Hypothesis 4.8: "Pharmacists who are in agreement that patient registration would be an advantage would welcome a proportion of community pharmacy remuneration linked to certain 'targets' such as attendance at postgraduate courses."

Cross-tabulation of questions 11 and 14 using the chi-square test showed that there was a correlation between the two attributes.

(chi-square with Yates correction = 7.042; df = 1; $p < 0.01$)

There is a significantly larger proportion of pharmacists 77% (125/162), who think that patient registration would be an advantage, who would welcome some remuneration linked to 'targets' such as postgraduate education. The hypothesis is accepted.

A consistently significant three out of four respondents who considered patient registration to be an advantage are also in favour of a partial shift in emphasis of NHS remuneration; a move away from the predominant prescription fees, to include some recognition of patient registration and the extra commitment that it could involve; and a link with certain targets of which attendance at approved postgraduate courses was a pre-eminent example.

4.6.6.1 PROPOSED CHANGES - QUALITATIVE COMMENTS

Respondents were asked to give reasons for and against these changes. The 149 added reasons are included in Appendix 1.

The principal reasons, of the 115 added by respondents, for welcoming the linking of some remuneration to patient registration were:

to give fairer and more stable remuneration for professional responsibility and advice and offset the contentious issue of three and six monthly prescriptions (46);
increase commitment to and development of the NHS (34);
encourage better PMR service, higher standards, more patient oriented, more stability for patients and to the patients benefit (29).

There were 34 comments added by the 40% against, the chief of which were:

could lead to unethical canvassing for patients (9);
too subjective, the number of patients is not proportional to the workload or to quality of service (8);
free market is preferred and patients' freedom of choice (5).

Behind all these qualitative responses are sincerely held concerns which reflect the frequently precarious economics and apparent over competitiveness in community pharmacy which seems

capable of adversely affecting improvements in the professional service ultimately to the detriment of the patient.

The 71% (192/271) support for linking certain targets to a proportion of community pharmacy remuneration focused almost exclusively on the example of attendance at postgraduate courses which was included in the question.

The 179 reasons added in support were readily grouped into three categories which were:

- 'yes' - to keep the pharmacist up-to-date, a professional duty and raise standards (105);

- 'yes' - with adequate financing in working hours including full locum fees, an integral part of career development (56);

- 'yes' - for pharmacists to be more involved with patient care and effect closer working with GPs (16).

About half of those who said 'no' added reasons which were mainly concerned with not having time to leave the business, difficulties due to long business hours and distance from courses (31 of the 41 reasons added). (Appendix 1)

The high incidence of additional comments which recognised the professional responsibility to keep up-to-date is both revealing and encouraging. A matter which seemed to evoke strong feelings was the question of adequate financing,

especially for locum pharmacists to enable pharmacists to be responsibly and reliably free to attend courses during normal working hours. It is a major concern commented upon by a large number of respondents both those in favour of remuneration linked targets for attendance at postgraduate courses and also by many of those who are against the idea.

The impression is given that additional finance should be made available. Present arrangements show little regard for either current locum rates, or that irrespective of the pharmacy income derived from non-NHS business, the pharmacy is contractually open from usually 9.00 am to 6.00 pm and a pharmacist or locum pharmacist must normally be present throughout.

In this context ironically two-pharmacist pharmacies seem to be at a disadvantage as they are at present not eligible for locum pharmacist expenses irrespective of the work load or organisation of the pharmacy. This must be counter to the extended service potential of two-pharmacist pharmacies.

In making these responses, practising community pharmacists, have had the opportunity to note the recommendations of the Nuffield Report, and various Government White Papers, the aspirations and policies of the RPSGB, NPA and PSNC, as well as being directly associated with various changes at FHSA level. From these data there appear to be sufficient evidence for a

much wider airing and consideration of patient registration and associated changes in the system of remuneration, whether in the context of the chemist contract and discussions on remuneration or discussions consequent on the Working Party's Report⁸⁴ and the consultation document, 'The Health of the Nation'.²⁵

4.6.7 TECHNICIANS IN PHARMACY

Table 4.7 DISPENSING TECHNICIANS EMPLOYED IN COMMUNITY PHARMACIES
n = 293

Pharmacies with:	Number	%	Proportion trained
NO dispenser	114	38.9	-
ONE FULL-TIME dispenser	82	28	41%
TWO FULL-TIME dispensers	52	17.7	52%
ONE PART-TIME dispenser	11	3.8	64%
TWO PART-TIME dispensers	6	2	20%
'OTHER' - included pre-reg pharmacy graduates	28	9.6	46%
(43% overall)			

Among the data collected about the respondents' pharmacies were details of dispensers (Q22) and how many had received any recognised training. 39% of responders stated that no dispenser was employed, which must reflect adversely on many pharmacists ability to respond to changing role opportunities. The results probably reflect the great variation in the volume of dispensing between many pharmacies as nearly one in five pharmacies employ two full-time dispensers. By comparison the proportion of part-time dispensers is not very significant.

43% (76/175) of the dispensers had received recognised training such as that provided by the NPA, Boots, the Society of Apothecaries or B.Tech. 4% (7/175) of pharmacies with technicians had both trained and untrained dispensers but 53% (92/175) of dispensers had had no recognised training. This is not a satisfactory situation and limits any responsible delegation of more routine aspects of dispensing, which in turn restricts the pharmacist from developing the advisory and counselling role both within and beyond the pharmacy.

Table 4.7 also shows the distribution of trained dispensing technicians. Statistical analysis showed no significance in the distribution of trained dispensers in pharmacies with one or more dispensers. Correlation was found between pharmacies without a dispenser 14% of which had had no spoken contact with a GP in the past week (Q1). This compares with an overall figure of 8.6%.

(chi-square with Yates correction = 6.271; df = 1; $p < 0.025$)

No correlation was found between pharmacies with trained or untrained dispensers and the level of spoken contact (Q1), when cross-tabulated with respondents' preference for patient registration. (Q11).

4.6.8 CHANGES OF PHARMACIST IN A PHARMACY

One factor which may affect the degree of co-operation between

pharmacists and GPs is the frequency with which changes in personnel take place.

Working relationships require time to develop and if a pharmacist or a GP is only in a locality for a relatively short time, it may be insufficient for much co-operation to have become established. This time factor is independent of any clashes of personality which are always a possibility.

The responses to the question (Q20): "Approximately how long have you worked in this pharmacy?" are summarised as follows:

- 13.6% (39/286) less than 1 year,
- 15.4% (44/286) over 1 year up to 3 years,
- 21.7% (62/286) over 3 years up to 6 years,
- 16.4% (47/286) over 6 years up to 10 years,
- 19% (55/286) over 10 years up to 20 years,
- 13.6% (39/286) over 20 years.

Half of the pharmacist responders had worked in their pharmacies for less than six years (145/286) which included 13.6% for less than a year and a further 15.4% for between one to three years. One third of the pharmacists had worked in the same pharmacy for over ten years including 13.6% who had worked for over twenty years in the same pharmacy.

Cross-tabulations and statistical tests were made to determine whether there was any correlation between time of working in

their pharmacy and responders contact with GPs as well as their attitude to patient registration. Respondents were grouped into the six time bands as above. No significant association was found between respondent duration of work at their pharmacy and the level of spoken contact with GPs, (Q1). Although all 39 of those who had worked for less than one year in their pharmacy, had had contact with local GPs, this was not statistically significant.

Limited correlation was found between respondents' duration of work at their pharmacy and preference for patient registration. 77% (30/39) of the respondents who had worked in their pharmacy for up to one year were also in favour of patient registration, (Q11) compared with the overall 60%.

(chi-square = 4.62; df = 1; $p < 0.05$)

The analysis of this data suggest that the length of time a pharmacist has worked in a particular pharmacy seems to be largely independent of the level of contact he has with local GPs and with his preference for patient registration.

It would seem that a pharmacist's attitude to inter-professional relationships and involvement with local GPs is the influencing factor, rather than the length of time he has worked in a particular pharmacy.

4.6.9 PHARMACISTS PER PHARMACY

Question 21 asked for details if there was more than one pharmacist normally working in the pharmacy at any one time.

80% (228/286) of respondents reported that they were the sole pharmacist in their pharmacy. 9% (23/286) reported that their pharmacy had two full-time pharmacists and the remaining 12% of pharmacies had one or sometimes two part-time pharmacists.

Compared with the move to group practices which has taken place in medicine and many other professions, pharmacy has remained relatively static. One-pharmacist pharmacies are not so well placed to provide an extended service beyond the physical limits of the pharmacy or outside normal hours.

If a second pharmacist is involved in any aspect of the extended role outside the pharmacy during normal hours, then only 8% of pharmacies all of the time and up to 20% of pharmacies for part of the time, are in a position to comply with the full legal requirements, that is, of always having a pharmacist in personal control and capable of meeting supervision requirements. This situation can only delay the wider implementation of the extended role.

It is not entirely clear whether this is as a consequence of too much competition within pharmacy, or whether too many employers have a restricted perspective of the pharmacist's

current and evolving role. Is it inertia within pharmacy, a reluctance to invest in pharmacy for the future, a perceived lack of profitability or commercial viability in many of the aspects of the pharmacists' changing role? It is true that where additional payments are available for new services, such as for specified PMR systems, they are nominal, some have said derisory. (Section 4.6.4) Or is there a manpower shortage?

What does seem to be necessary is that some changes within pharmacy are now overdue. The automatic protection by NKS contracts of existing pharmacies clustered close together in a High Street does not contribute towards a more rational distribution of pharmacies. A form of compensation could be made to work in such situations. The extent and quality of the service from an existing pharmacy should be properly taken into account before the granting of a new pharmacy contract or the approval of a relocation. Pharmacists need some encouragement, like that given to GPs, to come together to provide a better and more comprehensive service to patients with better geographical coverage.

Cross-tabulation and chi-square tests were done to determine whether there was any association between the number of pharmacists' regularly in a pharmacy and the pharmacist respondents preference for patient registration or their opinion of their influence on GP prescribing.

Correlation was found in both cases. Respondents in two full-time pharmacist pharmacies were significantly more in support of patient registration (83% compared with 60%) and also considered that they had an influence on GP prescribing (50% compared with 27%).

(Q11: chi-square = 8.113; df = 2; $p < 0.025$)

(Q7: chi-square = 7.752; df = 2; $p < 0.025$)

This analysis provided additional evidence supporting the view that a two-pharmacist pharmacy is more appropriate to the development of co-operation with GPs and the feasibility of extending the scope and quality of community pharmacy services.

4.6.10 EDUCATION FOR THE PHARMACIST'S CHANGING ROLE

Question 15 was designed to try to elicit which major sources of information pharmacists were finding to be of most value for their changing role. The sources listed varied very greatly from educational establishment, including undergraduate course and/or postgraduate education, to various publications, to RPSGB Branch meetings and Section 63 continuing education courses.²⁰⁸ The responses on a five point Likert scale enable some comparative observations to be made, which can be summarised as shown in Table 4.8.

Table 4.8 THE RATING OF SOURCES FOR PREPARING PHARMACISTS FOR THE CHANGING ROLE (in ranked order)

	<u>RATING BY USERS</u> <u>GOOD/VERY GOOD</u>	<u>NON-USERS</u>
Pharmaceutical Journal,	79% (214/271)	1% (3/271)
Section 63 PG courses,	75.5% (157/208)	33% (82/248)
Chemist & Druggist,	62% (158/256)	5% (14/270)
Drug & Therapeutics		
Bulletin,	59% (103/175)	32% (84/259)
University/college,	58% (97/166)	33% (82/248)
Pharmaceutical Press		
text-books,	57% (116/203)	21% (55/258)
Local RPSGB Branch		
Meetings,	53% (102/194)	27% (71/265)
College of Pharmacy		
Practice,	33% (35/107)	57% (141/248)

n varies between 248 and 274 overall and between 107 and 271 for users. Appendix 1 includes 'very poor' or 'unsure' ratings.

The **Pharmaceutical Journal** received the highest rating overall as seen in Table 4.5, with just 1% stating that they do not use it. The **Chemist and Druggist** was also well rated (62%) and only 5% of respondents were non-users, even though the weekly publication requires a subscription.

Although **Section 63 courses**²²⁷ received a high rating, 20% of the respondents admitted to not participating.

Murray et al⁴³ has reported that almost 95% of GPs in a Scottish region had qualified for the new Postgraduate Education allowance (PGEA) under the terms of their new contract by attending a minimum of ten accredited sessions.⁴³

It was judged a successful introduction to the GP's contract. A similar arrangement for pharmacy would most probably result in a sharp reduction in the number of pharmacists who have not participated in Section 63 courses.

Drug and Therapeutics Bulletin is obtained by 1,400 community pharmacists through the NPA reduced subscription scheme. It was well rated (59%) but not used by a third of respondents. There was a similar proportion of non-users of 'university/college' facilities.

Pharmaceutical text-books were similarly well rated and by implication, widely used by four out of five respondents.

Local Branch meetings have a lot of potential and could make a much greater contribution to the pharmacists changing needs if the programmes only attracted more members and proved to be more relevant. Some branches in large conurbations often attract as few as ten per cent of the membership to a meeting.

Of the eight potential 'sources' listed, it is most disappointing and disturbing to see the **College of Pharmacy Practice** at the bottom of the list. For a majority of respondents it appears to have no place or relevance, and of those who have considered it or been involved in some way, only 33% rated it as 'good' or 'very good'.

Unless there is a dramatic change, it would seem improbable that the College could make anything like the impact on community pharmacy that the now Royal College of General Practitioners made on medical general practice over a similar time span.

Is part of the problem to do with the difficulty that community pharmacists have to sustain study over a prolonged period or has the promotion of the College been poorly targeted or made to appear too exclusive? Is the College seen to be relevant or irrelevant to community pharmacy?

It is unlikely that it is primarily the former suggestion as many community pharmacists have studied one or more master's degree course modules, sometimes over several years and obtained postgraduate diplomas or masters degrees. Such commitment by community pharmacists is not recognised in terms of salary or promotion or for any type of NHS seniority payment. Self-motivation has been the principal driving force which is to be greatly admired. The CPP study groups, of predominantly hospital pharmacists, studying for the College's membership examinations perhaps ought to offer a more supportive environment for community pharmacists.

More research needs to be done to establish how the College's educational and professional objectives might find greater acceptance and response within community pharmacy.

One change in education which could provide a foundation for closer professional co-operation between pharmacists and GPs was the subject of the final question (Q23). "For the future how would you rate the education of pharmacy undergraduates to be partly undertaken alongside medical students?" Responders were asked to rate their answers on a five-point Likert scale¹⁹⁴:

- 23% (65/286) of the respondents stated 'essential';
- 58% (167/286) stated 'useful', which combined gives a significant 81% in favour of some joint education;
- 6% (17/286) stated 'unsure';
- 11% (31/286) stated 'of limited use';
- 2% (6 respondents) stated 'irrelevant'.

These responses seem to indicate that a large majority of practising community pharmacists recognise both the need and value of closer working and understanding between pharmacists and GPs. As a consequence this would seem to be another area which warrants further and more detailed investigation. More detailed questions were included in the questionnaire to GPs which is discussed in Chapter 5.

The data supports the hypothesis postulated from Chapter 3.

Hypothesis 4.3: "Pharmacists recognise the need for some joint courses for pharmacy and medical undergraduates."

No correlation was found between respondents' attitude to the question of joint undergraduate courses and the involvement or otherwise with GPs as included in Q6.

Additional comment was requested at the end of the questionnaire, much of which was directed towards the last question.

There were several respondents who had experienced some joint classes with medical students as well as several who had first studied medicine for a year and all referred to the value of their experience. The most frequently made comment (14/37) was that such joint courses would improve inter-professional relationships. Other comments included the need to make pharmacy degree courses *more community pharmacy* oriented and include subjects from first aid to diagnosis. (Appendix 1)

It is disappointing that the literature seems devoid of references to joint courses. Manasse placed a high priority on curricular reforms in schools of pharmacy world-wide but made no reference to joint education and neither did Alexander in reviewing the challenges facing postgraduate pharmacy education.^{229,230}

4.7 SUMMARY

The survey described in this Chapter has assessed the extent to which community pharmacists are in communication with GPs for other than the correction and clarification of prescription queries. The principal reasons for contact are identified and in some areas quantified and their importance in increased co-operation between the two professions has been considered.

More positive aspects of communication include professional visits by pharmacists to GPs practices and vice versa, the level of which affects the extent to which pharmacists consider that they have any influence on GP prescribing.

As part of the consequences of the attention given to the changing role of the pharmacist, the question of patient registration with a pharmacy of the patient's choice has been assessed in conjunction with some possible modification to the piece-work method of NHS contract payment for prescriptions. The need for changes in pharmacy seems to be widely recognised as the pharmacist's role becomes more patient oriented.

Some of the other implications, associated with joint undergraduate courses and some aspects of continuing education, have also been given preliminary consideration.

4.8 CONCLUSIONS

Hypothesis 4.1: "Pharmacists who consider that they have an influence on GP prescribing have regular contact with GPs."

A significant correlation has been confirmed between pharmacists perceived influence on prescribing and contact with GPs. A very direct correlation was shown with the question which asked how many times in the past week have you spoken to any GPs? (Table 4.5). Figure 4.2 shows the significant correlation between the increase in the percentage of

pharmacists who consider that they have an influence on GP prescribing and the number of GPs with whom the pharmacists are in contact more than once a week. Significant correlation was also found with the frequency of visits between pharmacists and GPs and the perception of influence as shown in Table 4.6. The revised hypothesis is accepted.

If community pharmacy is to achieve the potential which the profession and many in the DoH and Government believe, the lowest quartile of pharmacists who have little or no contact with GPs must either be given help and guidance or be shaken out of their complacency.

Hypothesis 4.4: "Pharmacists are in favour of patient registration with a pharmacy of the patient's choice."

A significant proportion (60%) of respondents were in favour of both patient registration and would prefer less reliance on prescription fees for remuneration.

These responses and attitudes are at considerable variance to the stance taken by PSNC and suggest that a significant proportion of practising community pharmacists may be looking further ahead than their negotiating leadership. As has been discussed in Chapter 3 pharmacy negotiators are subject to compromise brought about by differing interests of sections within community pharmacy. This survey, as far as possible,

reflects the direct views of a representative cohort of community pharmacists irrespective of sectional interests. The hypothesis is accepted.

Hypothesis 4.2: "Pharmacists want remuneration to be linked to targets such as attendance at postgraduate courses."

71% of respondents were in favour of a proportion of remuneration to be linked to 'targets' and 77% (125/162) of those pharmacists who were in favour of patient registration want some remuneration to be linked to targets such as postgraduate course attendance. The hypothesis is accepted.

These responses together with other related responses discussed in this Chapter, seem to reflect a marked shift in pharmacists' attitudes and an appreciation that the more patient oriented interactive advisory role which is now part of the dispensing function, should be recognised. Greater demands are put on the pharmacist to keep up-to-date and these too should be recognised and not left only to occasional evening courses and one or two pharmacy journals.

Many of the issues raised and discussed earlier in Chapter 3 have been investigated from the position of community pharmacists. Some questions have been answered, new ones raised, but the basic contention that some changes are needed in pharmacy has been sustained.

CHAPTER 5 SURVEY OF GENERAL PRACTITIONERS AND COMMUNICATION WITH COMMUNITY PHARMACISTS

5.1 INTRODUCTION

A national survey of GPs was planned to assess the incidence and frequency of professional contact with community pharmacists, to investigate the GPs' perception of the pharmacists' influence on prescribing, and complement the range of questions concerning the pharmacists' changing role which were included in the survey of community pharmacists (Chapter 4).

From the data, answers to some of the hypotheses raised in Chapter 3, are given. A copy of the questionnaire is included in Appendix 2 together with a summary of the data collected.

A mail survey was again chosen for quantitative data collection in preference to an interview survey because of the widely scattered survey population, the cost and the impracticality of arranging and conducting a sufficient number of interviews. It was also reasonable to assume that there would be no serious difficulty with the questions in the questionnaire being understood by the GP recipients.²²¹

Questions were included to measure the incidence frequency and nature of professional contact initiated by both GPs and pharmacists. The questionnaire was constructed so that

analysis of the data would ascertain whether there was any correlation between the extent of contact with GPs and the pharmacists' influence on prescribing.

The possible value and acceptability of the education of pharmacy undergraduates being partly linked to that of medical undergraduates was examined in some detail by offering responders a number of subject areas to rate on a five point Likert scale ranging from strongly agree to strongly disagree.

Patient registration with GPs has been an established feature of national health care in the UK for eighty years. A number of attitude questions were asked which attempted to probe the issue of patient registration with a pharmacy, with consideration for freedom of choice and the possible advantages of complete PMRs to both GP and patient.

No previous investigation of this kind was found in the literature, other than for example, the survey of GPs' attitudes to the pharmacists' response to symptoms role.^{171,172}

5.2 CHOICE OF METHOD

A postal questionnaire with a carefully worded covering letter and reply paid envelope was sent to a randomly allocated list of 500 GPs in the UK. The GP names and addresses were selected by the use of random number tables.

5.3 OBJECTIVES

The survey had several of the objectives listed in the **Section 3.7.1 Aims in Chapter 3** from the perspective of the GP. They were:

- 1 To examine the extent and nature of inter-professional contact between community pharmacists and GPs as perceived by GPs.
- 2 To examine the extent to which GPs consider that community pharmacists have any influence on prescribing and if so, in what way?
- 3 To examine whether GPs perceive any advantage to themselves or patients if patients had the choice of registering with a pharmacy for the dispensing of medicines under the NHS.
- 4 To examine the acceptability and advantage of some joint courses in medical and pharmaceutical undergraduate education as seen from the GP's point of view.
- 5 To examine if GPs are inhibited from utilising a pharmacist's expertise by some aspects of pharmacy practice.

5.4 HYPOTHESES

The following hypotheses are drawn from the discussion in Chapter 3 including hypotheses 7, 10, 12 and 15 from Section 3.7.2 and renumbered for this Chapter. Several additional hypotheses were postulated during the design of the survey.

Hypothesis 5.1: "GPs contact with community pharmacists is only in response to queries about prescriptions."

Hypothesis 5.2: "GPs consider that community pharmacists have no influence on their prescribing."

Hypothesis 5.3: "GPs are not in favour of joint courses with pharmacists at undergraduate level."

Hypothesis 5.4: "GPs do not want patients to be registered with a pharmacy of the patient's choice."

Hypothesis 5.5: "GPs are suspicious of pharmacists motives when offering prescribing advice because pharmacists are remunerated on the basis of prescription numbers."

Hypothesis 5.6: "GPs do not want community pharmacists to work within a health centre."

5.5 METHOD

The initial mailing of the questionnaire was made in mid-February 1992, after finalising the format following a small pilot distribution. A second mailing was made four weeks later in mid-March accompanied by a suitably modified covering letter and a reply paid envelope, to those GPs who had not replied to the first questionnaire.

Data from the returned questionnaires were entered into a software package for data entry and analysis using SPSSX programme as with the questionnaire to pharmacies in Chapter 4.^{192,193}

5.6 RESULTS AND DISCUSSION

A copy of the questionnaire with all the numerical results

included and a listing of additional qualitative comments supplied is reproduced in Appendix 2.

A total of 288 questionnaires (57.6%) were returned of which 271 (54.2%) were completed and available for analysis.

An initial analysis was made of the first 140 replies received. When the analysis was compared with that from the second mailing no significant differences were found in the pattern of response. This was considered to be somewhat reassuring, as there is always some doubt whether those who respond are sufficiently representative of the whole population sampled. From experience, the second mailing can be expected to increase the initial response by about 50%. On this occasion it gave a slightly better return with an increase from 34% to 54%.

The results have been analysed to focus on five aspects:

- a) inter-professional communication,
- b) influence on prescribing,
- c) patient registration,
- d) inter-professional barriers,
- e) education.

As there are approximately three times as many GPs as there are community pharmacies in Great Britain, it may explain some differences which occur in the numbers of GPs or pharmacists contacted during the past week or month which have been

reported between the two surveys of pharmacists and GPs in Chapters 4 and 5.

5.6.1 GPs PROFESSIONAL CONTACT WITH COMMUNITY PHARMACISTS

Table 5.1 PROFESSIONAL CONTACT BETWEEN GPs AND COMMUNITY PHARMACISTS IN THE PAST WEEK

(Questions 1 and 2)

n = 271	NUMBER OF TIMES			
	NONE	1 - 5	6 - 10	<10
GP SPOKEN TO PHARMACIST(S)	67 27.7%	193 71.2%	10 3.7%	1 0.4%
n = 270				
PHARMACISTS CONTACTED GP	70 25.9%	190 70.4%	10 3.7%	-

Three out of four GPs had spoken at least once to a pharmacist 'professionally in the past week' (Q1) and a similar proportion of GPs reported that community pharmacists had contacted them at least once in the past week. (Q2) Taking these two sets of results together does suggest that the initiation of the contact had been only from the pharmacist. There remain about one in four GPs who have not spoken to a pharmacist professionally and who reported that they have not been contacted by a pharmacist in the past week. It would seem unlikely that a meaningful professional relationship can be developed or maintained with a level of contact less frequent than once a week.

Cross-tabulation of Q1 (GP spoken to a pharmacist) and Q2 (pharmacist contacted GP) showed a high correlation. 89.7% of those GPs who had spoken to a pharmacist in the past week had been contacted by a pharmacist in that time.

(chi-square = 100.17 with Yates correction; df = 1; $p < 0.0001$)

TABLE 5.2 VISITS BY GP TO PHARMACIES AND BY PHARMACISTS TO GP'S SURGERY

(Questions 3 & 4)

FREQUENCY IN AN AVERAGE WEEK	TO PHARMACIES n = 259	TO GPs SURGERIES n = 267
0	58.7% (152)	65.5% (175)
1	30.5% (79))
2	6.2% (16)) 30% (80)
3	1.5% (4))
4-5	0.8% (2))
6-10	1.8% (5)	4.1% (11)
>10	0.4% (1)	0.4% (1)

When asked how many visits in an average week the respondent GP makes to a pharmacy, almost one third stated that they did so once a week and a further 11% did so more frequently. 58.7% stated that they did not do so at all. (Q3)

Just over one third of GPs indicated that community pharmacists visited their surgeries for professional purposes at least once in an average week. Comparison of the two sets of figures in Table 5.2 would suggest that GPs visit pharmacies more frequently than pharmacists visit GP surgeries. This is at

some variance with the data in Table 4.2 which recorded similar data 'in the last month' from pharmacists. The most likely explanation is that as about 70% of the pharmacists' visits were for the routine collection of prescriptions (Chapter 4 Section 4.6.2)) the GP was frequently unlikely to be aware of the pharmacist's visit. 59% of GPs reported no visits to a pharmacy in an average week. Further analysis was made to see if those who made no visits were also not visited because if so, it does imply a relationship limited to the telephone.

Cross-tabulation of data from questions 3 (GP visits to pharmacy) and 4 (pharmacist visits to surgery), showed that 44.5% (114/256) GP respondents did not visit pharmacies and were not visited by pharmacists in an average week.

20% (52/256) of GP respondents both visited community pharmacies and were visited by pharmacists while the remaining 35.2% (90/256) of GPs either visited pharmacies or were visited by pharmacists. This analysis puts the data into a more meaningful perspective.

When asked which location GPs preferred for discussing professional matters, 26% GPs (70/265) favoured their surgery, only 6% (17/265) preferred a pharmacy, the remaining two-thirds having no preference. (Q5)

71 responders added comments and reasons for their answers:

23 made particular reference to the telephone and its convenience;

12 emphasised that: "time was of the essence".

It is not clear whether these comments reflect dismissively on the pharmacist as a source of information or as a prospective member of the primary health care team or not. It may reveal more about the pressures, real or otherwise, within the NHS or the efficient application of telephone technology. The importance of the telephone in inter-professional communication has been recognised and reported upon in more sparsely populated countries like North America and Australia.^{186,117} The telephone can at best complement personal contact for the development of inter-professional relationships.

Of those who showed a preference for the surgery, the principal reasons given by 19 responders were that it was quiet, free of interruptions, more private, patient records were to hand, convenient, time saving, more space, no parking difficulties and a pharmacist can be seen between patients. Of the minority who preferred a pharmacy to meet, was the recognition of the difficulty for the pharmacist to leave the pharmacy and that it was easier for GPs to call "while on visits" and that prescription queries can be sorted out quickly on the spot.

Among those who expressed 'no preference' were a number (11) who volunteered some very positive comments which included: "it doesn't matter so long as the environment is conducive to uninterrupted private discussion"; "no preference (except home!) as I have a good relationship with all four local pharmacists"; "depends on who is approaching whom"; "no preference, pharmacist next door and we have a good liaison"; "local pharmacist always very helpful" (comment by two dispensing doctors).

Attitude and relationships are evidently much more important than location. What the data do reveal and confirm are that too many pharmacies are ill-equipped for meetings with adequate privacy and staffing structure to minimise interruption. The importance of pharmacists having a modest office facility has long been ignored.

It is recognised that space is relatively more costly in the average pharmacy than in the average surgery, mainly because of the location of most pharmacies. Under present legislation, there are an increasing number of pharmacy activities which are inappropriate to the dispensary and separate facilities are now required for pregnancy testing and cholesterol measurement.²³³ Adequate privacy is also seriously lacking in most pharmacies for confidential consultation with patients. More attention must be paid to redesigning and to redistributing space in

pharmacies, if many of the current criticisms are to be answered.

The next question (Q6) was designed to probe the nature of GPs' contact with local pharmacists and gave a list of 18 possible aspects of involvement, as well as space for additions and the statement: 'I have no contact'.

Table 5.3 PURPOSE OF PHARMACIST(S) CONTACT WITH GP

(Question 6) n = 271

RANKED ORDER	PERCENT	NUMBER
- discussion of patients drug therapy	65	176
- delivery of stock to surgery	44.3	120
- courtesy or social calls	36.5	99
- patient referrals from a pharmacist	32.8	89
- discussion of general service matters eg Drug Tariff, Limited List etc	32.1	87
- residential home prescribing	23	62
- new drug information	17	46
- assistance with computer records and computer prescriptions	12.9	35
- discussion of new pharmacy services	8.9	24
- compliance issues	8.5	23
- prescribing cost containment	6.6	18
- diagnostic testing	6.3	17
- medical representative presentations	4.8	13
- patient information leaflets	4.8	13
- discussion of practice formulary	3.7	10
- GP practice meetings	3.3	9
- discussion of PACT data	2.6	7
- asthma clinics	1.8	5

10.7% (29/271) of GPs ticked 'I have no contact' which seems to indicate the proportion of GPs who practice virtually without

reference to any local pharmacist. This will include some, but not all dispensing doctors.

Four of the five most highly ranked purposes for pharmacists to have had contact with respondent GPs involve a relatively high degree of interaction and could imply the existence of an established relationship. The exception is the delivery of stock. For two out of three GPs to be in discussion with pharmacists about patients' drug therapy is significant, and for a third to have social calls would seem to be indicative of a co-operative relationship.

In Table 5.3 the fact that nearly one in four GPs are involved with pharmacists over residential home prescribing is a pertinent indicator of a most important current issue. The involvement of pharmacists with GP computers may reflect the greater and longer experience many pharmacists have had with their own practice computers. It can be a most effective route for the pharmacist to achieve closer co-operation with local GPs. In a properly planned programme for the computerisation of GP practices and pharmacies, much could have been gained if the computer systems used by both professionals had been compatible. This is a matter which should receive attention before the next generation of practice computers are required.

Discussion by pharmacists of new pharmacy services with almost one in ten GPs is probably an important indicator of the extent

to which some aspects of the pharmacists' changing role are being implemented in a spirit of professional co-operation with GPs. It is probable that compliance issues (8.5% involved) are in many cases linked to the discussion of patients' drug therapy referred to earlier.

The bottom eight topics in Table 5.3 which involved fewer local pharmacists being in contact with respondent GPs included a number of relatively newer issues with the exception of medical representatives' presentations. It may be that the low level of involvement is affected either by the timing of presentations, often at lunch-time, or by some curtailment in drug promotion budgets.

What does seem surprising and has been commented upon in Chapter 4, is the limited involvement of pharmacists in asthma clinics. Is this because many GPs do not yet run asthma clinics or is it because clinics which exist, are run at a time when the local pharmacist is not free? Alternately is it a failure on the part of pharmacists and GPs to recognise that the pharmacist can make a worthwhile contribution to the work of an asthma clinic?

The list of other areas of pharmacist involvement which 29 responders noted is included in Appendix 2. The most interesting addition came from two respondents who reported on the considerable benefit derived from the 'teaching' of GP

trainees for two to four hours per year by the local pharmacist.

From the first group of questions designed to assess various aspects of professional contact a picture emerges of a core of GPs who apparently have virtually no regular contact with pharmacists. This minority vary according to the type of contact investigated and the time scale.

About one in four GPs recorded that they had not spoken to a pharmacist in the past week and a similar proportion had not had a pharmacist contact them. In an average week about 44% did not visit a community pharmacy nor did they receive a professional visit from a pharmacist at their surgery. 10% stated that they had no contact with local pharmacists, and this figure included several dispensing doctors.

What is revealed by this data is that apart from resolving prescription queries many of which may be done by ancillary staff, the majority of GPs do have regular professional contact with local community pharmacists but the frequency varies greatly.

If closer co-operation between the vast majority of pharmacists and GPs is to occur a higher frequency of contact is necessary.

5.6.2 INFLUENCE ON PRESCRIBING

The next question (Q7) related to the pharmacists' advisory role in treating minor ailments and asked: "When a patient has been referred to you, after they have first asked a pharmacist for advice, have you ever been supplied with details of symptoms etc on a referral card or form?"

99.2% of responders (263/265) answered 'no' and only two answered 'yes'. The attempt in the other parts to the question to assess the usefulness of such a card and whether or not the GP had given the pharmacist any feedback information was aborted.

It was an extremely disappointing response as the NPA has made a card available based on that of Blenkinsopp, Jepson and Drury¹⁷⁴ for over two years. Although a referral card is best used selectively by the pharmacist it would seem to represent a seriously missed opportunity by pharmacists to co-operate with GPs. It is all the more important when the responses to an earlier question indicated that 33% (89/271) of GPs recorded and recognised that local pharmacists did refer patients to them (Table 5.3). One reason for designing and researching the use of a referral card was to ensure that GPs were more aware of pharmacists' referrals. Many patients are unlikely to mention to their GP that they have made a prior visit to a pharmacist or give details of the pharmacist's advice which could have included the urgency to see their doctor.

When GPs were asked if they considered that pharmacists had any influence on any aspect of their prescribing **apart from** confirming or correcting incomplete prescriptions 29.8% (78/262) of respondents answered 'yes', 71 of whom gave further details. (Q8) This result would seem to be a useful measure of GPs' attitudes towards pharmacists, unless some respondent GPs have been unwilling to recognise any contribution made to their prescribing behaviour by local community pharmacists.

In Chapter 4, are recorded the data from a similar question asked of pharmacists. In the discussion section, the question was asked: "Were the respondent pharmacists either very candid or too reticent?" Comparison of the data is interesting. 27% (79/290) of pharmacists considered they had an influence, apart from correcting incomplete prescriptions. The response of GPs is slightly higher at 30%. The closeness of these two results would seem to provide a reasonably accurate assessment of the actual relationship. It may even be that pharmacists have again been over deferential in their attitude as previously reported by Stewart and Drury.¹⁸⁰

Data from several of the questions which concerned professional contact were cross-tabulated with the perception of the pharmacists' influence and the chi-square test applied to determine whether there was any association. Correlation was found with both the incidence of spoken contact (Q1) and the frequency with which the pharmacist had contacted the GP (Q2)

when compared with the pharmacists' influence. (Q8) 87.2% of the GPs who considered that pharmacists had an influence on their prescribing had had spoken contact with one or more pharmacists in the past week compared with an overall figure of 75.3%.

(chi-square with Yates correction = 7.547; df = 1; $p < 0.01$)

The proportion of GPs who considered that pharmacists had an influence on their prescribing increased significantly with the number of times pharmacists contacted them: (Q2 and Q8)

From 16% (11/68) no contact in the past week;

to 34% (62/184) 1 - 5 times;

to 50% (5/10) 6 times or more.

29% overall, (chi-square = 9.323; df = 2; $p < 0.01$)

Although 37% (38/102) of GPs who visited pharmacies (Q3) believed pharmacists influenced their prescribing compared with 26% (39/149) of those who had not visited a pharmacy, the difference from the overall figure of 29.8%, just fails to be statistically significant at the 5% level.

No association was found between GP surgery visits by pharmacists (Q4) and the belief that pharmacists influenced prescribing.

Details of the most frequently cited forms of influence which respondents reported were: (n = 88)

- information on new drugs and their availability and side effects (16);
- notification of drug interactions and dosage (16);
- availability on NHS, especially re appliances and black-listed items; pack sizes; formulations (14);
- alternatives to products not available (11);
- appropriateness of generic prescribing, consistency of generic manufacture of acceptable origin (8);
- appropriate prescribing/pharmacology, cost containment (4);
- offering advice to patients re appropriateness of OTCs, if symptomatic remedies not indicated, patients referred (3);
- aiding patient compliance with treatment (3);
- issuing patient information leaflets (3);
- educational role re effectiveness of therapies (3).

There were also several more comprehensive comments supplied, which clearly indicate the awareness of some GPs to the contribution which pharmacists can make.

"Yes, on a quantity of issues, advice on areas we are not familiar with";

"I always welcome advice from fellow health professionals";

"Practice formulary and prescribing policies drawn up and revised in consultation with pharmacist";

"Watch-dog over all drugs used; knowledge of our prescribing habits" (2);

"Yes, a very important advisory role" (from a dispensing doctor).

As already stated, 50% of the group of GPs who had most regular contact with pharmacists considered that pharmacists influenced their prescribing, compared with 30% overall, which is a large increase. The evidence is that there are a wide range of activities over which GPs and pharmacists are co-operating and it is perceived to be worthwhile by both parties, otherwise it would not continue. Co-operation must contribute to more effective use of the resources available to the NHS and add to the safety and quality of care for the patient.

The next question (Q9) asked the GP: "Have you ever arranged to meet local pharmacists to discuss any problems, such as those associated with prescriptions including labelling directions or additional information to be given to the patient?"

13% (35/267) of GP respondents stated 'yes'. Data from the pharmacist questionnaire in Chapter 4 indicated that 14% of pharmacists had arranged similar meetings. The closeness of these results from the two separate questionnaire surveys gives added confidence in the quality of the data. 27 respondents gave additional details of meetings which were very varied in content and purpose. 12 respondents referred variously to meeting to discuss: labelling directions and information leaflets; the setting up of a system of weekly 'wallets' of

drugs for patients in local residential homes; amending the duration of repeat prescriptions; to establishing a practice policy for generic prescribing; problems with drug addicts and to discuss 'items of mutual interest'.

More unusually two GPs reported arranging regular weekly meetings with key members of the primary health care team and community pharmacist and monthly management meetings at a health centre. Another respondent arranges a six monthly meeting in a health centre of thirteen GPs with all three local pharmacists invited, which has resulted in very useful discussions. One GP's comment to the question was: "No, but a good idea".

This qualitative data gives a better perspective of the wide-ranging nature and usefulness of many meetings taking place between GPs and pharmacists which offer great potential for the future. They also show that it is important for individuals to act on their own initiative and develop inter-professional relationships from working together.

Applying cross-tabulation and using the chi-square test showed that there was an association between the 13% of GPs who had arranged meetings with pharmacists (Q9) and the 30% who considered that pharmacists influenced their prescribing (Q8). The proportion of those GPs who arranged meetings with pharmacists who consider that pharmacists influence their

prescribing increased to 44% (15/34).

(chi-square = 3.914; df = 1; $p < 0.05$)

It is additional confirmation of the benefit to be gained from working together as previously discussed.

5.6.3 PATIENT REGISTRATION

The questionnaire progressed to the central issue of patient registration with a pharmacy. It was presumed that many, if not most GPs would never have had any occasion to give the concept any thought, for as has already been explained it has not been a subject for debate and it is not common in the countries of Western Europe. Patient registration with a GP has applied to almost all of the UK population since 1948 prior to which it applied only to lower paid workers who had contributed to the NHI introduced in 1912. Patient registration with a dentist was only sixteen months old at the time of the mailed questionnaire.

The question (Q10) was preceded by an introductory sentence suggesting that some changes are needed in pharmacy to assist closer professional working between GPs and community pharmacists **for the primary benefit of patients**. GPs were asked: "Do you think that it would be an overall advantage to have patients registered with a pharmacy, as they are with doctors and more recently, with dentists? (providing of course that there were adequate arrangements for dispensing when a patient was away or in an emergency)".

Only one respondent ignored this question.

29% (78/270) said 'yes' to patient registration;

52% (141/270) said 'no';

19% (51/270) said 'don't know'.

Those who responded 'yes', were relatively more forthcoming with their reasons. Of 120 respondents who added 147 reasons 73 were for, 68 against, and 6 'don't know's'. (Appendix 2)

The main reasons offered by GPs in support of patient registration show a considerable awareness of the pharmacists' role and a positive and enlightened attitude which gives encouragement that current barriers to team working can be overcome. Of the 73 supportive reasons put forward, the most common were:

"yes - or continuity of care, better liaison and consistency of prescribing, less risk of prescribing errors, PMRs all in one place" (41/73 respondents added reasons);

"yes - giving less chance of fraud and drug misuse and abuse" (8);

"yes - for prevention of drug interaction, check on side-effect information including with OTCs" (5);

"yes - giving the patient trust and confidence in advice and information from the pharmacist they know in the pharmacy of their choice, and helps spot problems" (7);

"yes - better liaison leading to better treatment, GP knows who to contact if any problems" (5).

Almost all of the respondents who said 'yes', added a very definite reason for their decision, as seen above. The most frequently cited reason, 56% of those added was succinctly expressed as: "for the continuity of care" and a majority of the other supportive reasons given, relate closely to that concept.

Few of the 'don't know' respondents added a reason (6/51), but here again although the data is qualitative it has importance. The 'don't knows' who added reasons, especially confirmed the suggestion that GPs have not really had occasion to consider the matter previously. They hesitate and allow doubts, sometimes of an emotive nature, to cloud any recognition of the potential advantage in patient registration.

Such comments as:

"don't know - but possible advantage for regular prescription users and relationship built-up";

"don't know - excellent idea in principle but concerned about forming pacts between GPs and pharmacists, but perhaps not a bad idea anyway!";

"don't know - can see advantage, familiarity with patient, comprehensive re drug interaction, helps stock control, but freedom?";

"don't know - would hold complete drug record but lacks patient flexibility".

The main reasons offered against patient registration totalled 68 from 141 respondents, were:

"no - limits the patients' freedom, patients like to choose, lack of flexibility" (27);

"no - no clear advantage, could be inconvenient to patients, many not on continual medication, patients tend to use the same pharmacy anyway" (8);

"not practicable because of patient mobility, but may be for the elderly" (5);

"no - local pharmacists inconsistent with stock, so patients have to shop around" (4);

"no - out-of-hours and emergency needs" (3);

"no - because pharmacists make money directly out of the public unlike doctors and dentists" (3);

"no - prevents internal competition between pharmacists" (1).

These responses range from the detached to the predictably patronising. Many are inconsistent and subjective. Patients must have freedom of choice because they like to choose but as far as doctors are concerned it is different. Some of the comments which relate to inconvenience, emergency needs, not being on continual medication, patient mobility, and even competition can also be applied to medical general practice. Most of these comments are a direct reflection of the communication and information gap which exists between many GPs and pharmacists.

Among the aspects which are of significance is the patient's choice of a pharmacy, or pharmacist, in the first place, which does not get mentioned. The fact that prescribed items are not in stock, is one problem which could be drastically reduced if pharmacists could predict that registered patients' repeat prescriptions would come to them. The issue of out-of-hours and emergency needs, as discussed in Chapters 3 and 4, is a matter which requires attention to at least regularise and make the existing arrangements better known to all concerned.

52% of respondents answered 'no' and although this is only a very small majority, together with the 19% 'don't knows', it does suggest that before any major changes, there is an urgent need for better information about the pharmacists' role, to be actively disseminated among doctors. From the earlier quantitative data from this questionnaire, it would seem that most of the GPs who are not in favour of patient registration, must have some regular contact with pharmacists. How far are GPs aware of the pharmacist's role and how far does their contact with pharmacists remain relatively superficial? These are questions which remain unanswered. It must also be recognised that 40% of pharmacist respondents were against patient registration (Chapter 4).

Hypothesis 5.7: "GPs who have little or no contact with pharmacists are not in favour of patient registration with a pharmacy of the patient's choice."

Several cross-tabulations and chi-square tests were performed on data from earlier questions 1, 2, 3, 4, and 6a with question 10 and the following associations were found:

(note: 29% agreed to registration, 19% 'don't know', 52% 'disagreed').

There was an association between the 24.7% who had not spoken to a pharmacist in the past week (Q1) and the 52% who were against patient registration. 66% (44/67) of those GPs who had not spoken to a pharmacist also said 'no' to patient registration.

(chi-square = 6.462; df = 2; $p < 0.05$)

A similar association was found between the 26% who had not been contacted by a community pharmacist in the past week (Q2) and the 52% who were against patient registration. 66% (46/70) of those GPs not contacted by a pharmacist also said 'no' to patient registration.

(chi-square = 7.128; df = 2; $p < 0.05$)

Cross-tabulation of questions 6a and 10 using the chi-square test showed that there were two distinct but complimentary correlations. 76% (22/29) of the GPs who recorded 'no contact' with local pharmacists, were against patient registration, compared with an overall 52%. The other correlation is described later.

(chi-square = 7.295; df = 2; $p < 0.05$)

It is not surprising to find that minimal professional contact between GPs and pharmacists is associated with the rejection of patient registration by GPs. The hypothesis is confirmed.

No statistically significant association was found between GPs who visit pharmacies (Q3); GPs whose surgeries are visited by pharmacists (Q4); GPs who consider that pharmacists influence their prescribing (Q8) or GPs who have arranged meetings with pharmacists (Q9) when cross-tabulated with GPs' attitude to patient registration and the chi-square test applied. (Q10).

The cross-tabulation of data from questions 6a and 10 also showed an association between those GPs with whom pharmacists were involved with practice matters (89%) and with GPs' attitude to patient registration, (29% overall). 95% (74/78) of those GPs who were in favour of patient registration also had contact with pharmacists involved with various practice activities.

(chi-square = 7.295; df = 2; $p < 0.05$)

This represents the strongest quantitative association of the importance of pharmacist-GP involvement with various activities of mutual professional importance and a perception of enhancing the completeness of care of patients by the introduction of patient registration. Furthermore it is based on the experience of inter-professional working and co-operation.

There is a considerable empathy and reality among many GPs who, if they have not already done so, do seem to be ready and willing to respond to co-operative initiatives taken by pharmacists to improve patient care.

5.6.4 INTER-PROFESSIONAL BARRIERS

Question 11 consisted of ten statements which required a tick for a preferred response in one of the boxes on a five point Likert scale.¹⁹⁴ Like all attitude statements used in surveys it is necessary to keep statements as short, unambiguous and as uncomplicated as possible in order to minimise over sophisticated interpretation by the respondents. The sequence of the statements was made to be as logical as possible, as shown in Table 5.4, which includes the total response numbers. The pattern of the responses is indicated in Table 5.4 by the underlined majority trend for each of the ten statements. In five statements, the 'unsures' are more than 20% and in two cases, exceed 30% and a 'majority' trend of less than 50%. Five of the statements refer to PMRs, their current incompleteness and their greater potential if complete. Two statements refer to patient registration but leave the respondent to make the association between registration and the completeness of PMRs.

Table 5.4 RESPONSES TO STATEMENT RELATING TO INTERACTION WITH PHARMACY

SA = strongly agree; A = agree; U = unsure;
D = disagree; SD = strongly disagree.

Underline = majority trend; % to nearest whole number.

n varies between = 264 - 270		Nos. of GPs' RESPONSES				
Question 11 Statements:		SA	A	U	D	SD
a)	As patients can go to any pharmacy, PMRs are not complete, so warnings about drug inter-actions involving previous medication can be missed	<u>33</u> 12%	<u>186</u> 69%	31 12%	18 7%	1 0.4%
b)	If pharmacy held patient medication records were complete, GPs could be alerted, via the pharmacist, to patient compliance problems	<u>20</u> 7%	<u>172</u> 64%	45 17%	28 10%	4 1.5%
c)	The patient's freedom of choice of a pharmacy to dispense a prescription is more important than the pharmacist having a complete record of the patient's medication	<u>32</u> 12%	<u>120</u> 44%	67 25%	47 17%	4 1.5%
d)	Complete patient medication records held at a pharmacy chosen by the patient are to a patient's advantage	<u>18</u> 7%	<u>159</u> 59%	58 22%	30 11%	5 2%
e)	The patient's freedom of choice at all times in health care is paramount and there should be no registration with any health care professionals (as in France)	9 3%	26 10%	34 13%	<u>137</u> 51%	<u>63</u> 23%

continued ...

Table 5.4 continued:

n varies between = 264 - 270

Nos. of GPs' RESPONSES

Question 11 Statements:	SA	A	U	D	SD
f) If a patient's complete medication record was held at the pharmacy of their choice, GPs would have fewer queries from pharmacists about missing prescription details	<u>9</u> 3%	<u>142</u> 53%	63 24%	45 17%	9 3%
g) Patient registration with a pharmacy would help me, as a GP, to know that patients were given the most appropriate additional information about their medication	<u>11</u> 4%	<u>107</u> 40%	80 30%	62 23%	10 4%
h) The emphasis given to prescriptions in pharmacy remuneration makes me, as a GP, rather suspicious of advice offered by pharmacists about prescribed drugs	8 3%	43 16%	93 35%	<u>115</u> 43%	<u>7</u> 3%
i) As a GP, I think that all community pharmacists should work within a health centre where GPs practice	13 5%	34 13%	42 16%	<u>150</u> 57%	<u>25</u> 10%
j) As a GP, I find it a great help that pharmacists are always available when their pharmacies are open	<u>31</u> 12%	<u>188</u> 71%	22 8%	20 8%	5 2%

Decisive majorities of 81% and 71% respectively recognised the way in which drug interactions can be missed because PMRs are incomplete, and how GPs could be alerted by pharmacists about patient compliance problems if PMRs were complete. (Statements a) and b)

Four GPs 'added unsolicited comment that they know about compliance from their own computers and do not really need pharmacist assistance in that respect, while another GP stated that: "it's the patient's responsibility to comply with instructions". This latter comment though rather dogmatic in its dismissiveness still reflects the views and attitudes of a minority who seem unwilling to recognise the reality of some non-compliance problems nor perhaps of the 'Migril' case.^{231,232}

Statement c) resulted in a small majority of 56% agreeing that patient's freedom of choice is more important than PMRs which are complete. It is questionable whether this is a truly objective response as the next statement d) produced a 66% response agreeing that complete PMRs are to a patient's advantage.

Patient's freedom of choice at all times without registration with any health care professionals was the substance of the next statement e) which had been deliberately separated from the earlier reference to patient freedom of choice. A decisive majority of 74% dismissed the statement and only 13% either agreed or strongly agreed.

The impression given is that patient freedom of choice is no longer the overriding issue if patient registration with GPs is questioned. Freedom of choice at all times without any form of

registration as in France is largely dismissed as seemingly irrelevant. In the UK, patient registration with a GP is classed as an original right under the NHS.

Correlation was found between the 19% who disagreed that patient's freedom of choice was more important than complete PMRs (Q11c) and 74% who disagreed with no registration with any health care professional. 92% (47/51) of those GPs who disagreed that a patient's freedom of choice was more important than complete PMRs also disagreed with no registration with any health care professional.

(chi-square = 17.418; df = 4; $p < 0.005$)

56% agreed that complete PMRs would result in fewer queries for GPs and just 20% disagreed. This is recognition of the role and function of pharmacy held PMRs, which are relatively new. 44% were convinced that patient registration with a pharmacy would help a GP to know that patients were given the most appropriate additional information about their medication, but as many as 30% were unsure. (Q11g) This statement had been carefully worded to be as concise as possible but to recognise that a pharmacist's advice and additional information to a patient may on occasion, not be what the prescriber would prefer. This issue has taken on a new significance since the availability of pharmacy computer systems capable of producing additional A4 sheets of information about a patient's medication. It is what an increasing number of the public and consumer organisations

are demanding and is in line with European Community Directives. If communication between GPs and pharmacists is limited, it is hardly surprising if misunderstandings occur.

It would seem that the 44% who agreed or strongly agreed that patient registration would help the GP to know that patients were given the most appropriate additional information, are also implying that they now agree with patient registration. The information provided in the preceding statements has possibly contributed to the increase from 29% of GPs in question 10 to 44% in question 11g) who agree with patient registration.

Cross-tabulation and the chi-square test confirmed that there was an association between the respondents in favour of patient registration, 76% (59/78) of whom also agreed that patients who are registered with a pharmacy would get the most appropriate additional information about their medication. Conversely 85% (61/72) of those who disagreed that patient registration would help them to know that patients would be given the most appropriate additional information about their medication were also not in favour of patient registration. (Q10 and Q11g) (chi-square = 70.942; df = 4; $p < 0.0005$)

It would seem to confirm that where pharmacists introduce or are using labelling systems which supply additional patient information leaflets, all GPs must be properly informed and

kept informed. It is necessary, not only to introduce and explain the extension of the supply of information to patients to all GPs likely to be affected, but to ensure that GPs are kept up-to-date with subsequent changes in the system. Pharmacists seem to be careful to inform GPs initially but less likely to remember to keep the practice updated.

19% of GP respondents did agree that the item of service prescription fee system of pharmacy remuneration made them rather suspicious of a pharmacist's advice about prescribed drugs. This statement (11h) prompted the highest percentage, of 'unsures' at 35%, leaving 46% who disagreed with the statement. The result suggests that about half of the GP respondents had some reservations about the objectivity of pharmacists' advice.

No significant association was found between the 30% who considered that pharmacists had an influence on their prescribing (Q8) and the 46% who disagreed that pharmacy prescription remuneration made them suspicious of pharmacists' advice. (Q11h)

Correlation was found between the 29% of GPs who agreed with patient registration (Q10) and the 46% who disagreed that pharmacy prescription remuneration made them suspicious of pharmacists' advice, (Q11h). 56% (43/77) of those GPs who agreed with patient registration also disagreed that they were

suspicious of pharmacists' advice because of the prescription fee method of pharmacy payment.

(chi-square = 11.559; df = 4; $p < 0.025$)

One GP who disagreed with the statement added that: "there are exceptions to every rule" and one who was unsure, added: "it depends on the pharmacist". The overall aim to effect closer co-operation between pharmacists and GPs must mean that any hidden influence on GPs of the system of remuneration for pharmacists, cannot be ignored. Any restructuring of remuneration must avoid the inclusion of any 'barrier' factors.

This is a matter which the DoH must recognise in relation to both professions. From the pharmacists' position, the dispensing doctor issue is one which rouses deep suspicion, the more so because a dispensing doctor's pension is enhanced by his dispensing. GP pensions should be independent of dispensing and not designed to encourage GPs to take on dispensing.

Community pharmacists in health centres. As a consequence of the questions about such matters as professional contact, meetings, value of complete PMRs and changes in pharmacy for closer professional working it was thought possible that the next statement 11i) might result in a preference for community pharmacists to be in health centres. This was not so, with 67% of respondents disagreeing and just 18% agreeing.

No association was found between those who agreed with patient registration (Q10) and the issue of community pharmacists working in health centres (Q11i).

One possible interpretation of the clear majority who disagreed with the statement, including the ten per cent who strongly disagreed, is that they recognise the wider aspects of community pharmaceutical services needed and expected by the public and which are not necessarily best located in GP group practice health centres. This is not necessarily incompatible with the almost one in four GPs who agreed or strongly agreed with the statement. A later question (Q12), showed that 62% of respondents were within 200 metres of a pharmacy.

Attitudinal responses usually strongly reflect personal experience of those responding and here the actual location of a GP's health centre may have been significant. Many GP practices in the past have been located with little geographical regard to be convenient to other services.

The alternative possibility that a majority of GPs do not want pharmacists to be too closely associated with their practice location, does not seem to be reflected in the overall pattern of response. Closer co-operation between GP and pharmacist need not imply closer physical location. Harding has shown that where pharmacists work in health centres, GPs appreciate their contribution to the prescribing process.¹⁸⁴

No association was found, from cross-tabulation and the chi-square test, between either those GPs who consider pharmacists influence their prescribing or those GPs who have arranged meetings with local pharmacists and GPs who agree with pharmacists working in health centres. (Q8 and 9 v Q11i)

The concluding statement in this section was concerned with the availability of a pharmacist whenever a pharmacy is open and whether this was seen by GP respondents as a great help. 82% of the respondents acknowledged the fact.

Of those who disagreed, some added comments showing frustration about pharmacies closing before surgeries had finished, which although not irrelevant, goes a little beyond the substance of the statement.

The large majority who agreed with the statement and the small number who were unsure, seems to imply wide recognition of the ready availability of pharmacists between 9.00 am and 6.00 pm.

It was considered that the question (Q12), which followed might throw some light on the responses to the two last statements. In response to how close the respondent was to the nearest pharmacy: 62% (164/265) stated they were within 200 metres;

30.6% (81/265) stated they were within one mile;

7.5% (20/265) were more than a mile away.

This result seems to confirm the historical location of most pharmacies to be relatively close to GP surgeries. If over 90% of GP surgeries have at least one pharmacy within a mile, this could have influenced the decision of the majority not to prefer having a community pharmacist actually within a GP practice health centre, (Q11i). Whatever may be considered to be a reasonable distance for the public to have to travel from a surgery to a pharmacy, for most people 'up to a mile' is probably accepted as reasonable. For the increasing numbers of elderly people and others who would have difficulty with much less than a mile, an improved and properly recognised domiciliary service is essential.

No correlation was found between GP preference for pharmacists in health centres and the distance between surgery and pharmacy of respondents, when data from questions 11i) and 12 were cross-tabulated.

5.6.5 EDUCATION

Before the question about possible links between the education of pharmacy and medical undergraduates, respondents were asked to consider the following statement (Q13):

"My professional contact with pharmacists is at a disadvantage because I know little of the pharmacy degree course content."

A small majority of 51.5% (137/266) disagreed, 19.5% (52/266) were unsure and 29% (77/266) agreed.

These figures may be an underestimate as many may hesitate to admit that their ignorance could put them at a disadvantage. Nevertheless for nearly half of the respondents to state that they agree or were unsure with the statement must imply that some attempt to redress the situation would be worthwhile. This is a matter for both the individual pharmacist, who may be reticent to respond, and for pharmaceutical organisations.

The failure to convey to the public and others involved with health care what pharmacy is all about is a very serious problem which seems to have been given inadequate attention. Descriptions of what pharmacy encompasses and involves are frequently grossly inadequate and seriously dated in dictionaries, including many medical dictionaries and in general reference books. Too much seems to have been left to the NPA's 'health in the high street campaign'.

No association was found between the issue of pharmacy remuneration affecting advice (Q11h) and whether GPs felt at a disadvantage because they know little of the pharmacists' education. (Q13)

The final question concerned the suggestion that for the future the education of pharmacy undergraduates be partly linked to that of medical undergraduates in the subject areas shown in Table 5.5.

**Table 5.5 RESPONSES RE FUTURE EDUCATION (Q14) SUBJECTS FOR
JOINT CLASSES OF PHARMACY AND MEDICAL UNDERGRADUATES**

(Question 14) n = 265

SA = strongly agree; A = agree; U = unsure;
D = disagree; SD = strongly disagree.

underline = majority trend; % to nearest whole number.

Joint classes in:	SA	A	U	D	SD
a) physiology	1% 3	34% 90	39% 102	22% 60	4% 10
b) pharmacology	3% <u>7</u>	61% <u>161</u>	22% 58	12% 32	3% 7
c) prescription legislation and NHS matters	5% <u>14</u>	72% <u>191</u>	13% 34	8% 20	2% 6
d) ethics and professional codes of ethics	5% <u>12</u>	61% <u>162</u>	19% 50	12% 33	3% 7
e) first-aid	2% 6	42% 110	23% 62	28% 74	5% 13

Respondents gave a clear mandate with regard to pharmacology 64%, to prescription legislation and NHS matters 77% and to ethics and professional codes of ethics 66%.

Although there was a majority trend in favour of physiology and first-aid, physiology in particular had a very large 'unsure' response. This may in part be a matter of definition, especially if associated with anatomy, most of which has not the same significance to pharmacy as it has to medicine.

The response to first-aid was the least expected where nearly one in four were unsure. Medical schools like schools of pharmacy, have tended to ignore the teaching of first-aid, in many cases considering it to have insufficient academic content. Its importance in both medical and pharmaceutical practice has tended to be ignored. Several GPs added comments such as: "GPs don't know any first-aid." A strange dichotomy seems to exist. Pharmacy students regularly request first-aid instruction but this is often arranged outside the formal undergraduate course. In practice many doctors and pharmacists are involved with the voluntary first-aid organisations.

The first-aid topic was mainly included in the question in the expectation that if the other subjects were considered by respondents to have limited overlap between the two disciplines of medicine and pharmacy, first-aid would be uncontroversial and seen to be of practical importance. Although some useful suggestions were made under the heading 'other please specify', none related to first-aid.

No association was found between the responses regarding any of the proposed subjects and the level of spoken contact with pharmacists. (Q1)

The full list of 15 additional and mostly very constructive suggestions are included in Appendix 2. The most important and especially worthy of further consideration were:

"joint classes on common symptoms and the primary approach to them";

"joint clinical sessions with patients";

"joint classes in basic sciences can be extended to include nursing and paramedical colleagues too - and perhaps physiotherapists etc.";

"pharmacy students would enjoy attachments to general practice and be of more use than attending joint physiology lectures";

"joint classes needed at GP vocational training level";

"I spent one day with a local pharmacist as a GP trainee and appreciate the professional relationship that has developed between us".

All these suggestions are sufficiently worthwhile and of potential importance to justify consideration. The recent criticism by the Consumers' Association²³⁴ about the quality of some pharmacists response to symptoms adds timely emphasis to the value of the suggestion to hold joint classes on common symptoms and the primary approach to them.

At the undergraduate level this is surely something for all those responsible for the teaching of pharmacy practice and clinical pharmacy to investigate, where possible with medical professors of general practice in local medical schools.

At postgraduate level, this is something for the CPPE to pursue. Multi-disciplinary courses and seminars designed to promote team work and make all health professionals aware of their responsibilities and skills, was a recommendation of the White Paper, 'Promoting Better Health'.³⁶ The Government saw it as a supplement to, not as a replacement for, uni-disciplinary training and education and it seems to have received little if any attention by the family practitioner services. In a paper in July 1992 on courses accredited for the GP postgraduate allowance, there is no inclusion or reference to any joint courses.²³⁵ One month earlier, the President of the RCGP asked: "Is inter-professional education and multi-disciplinary vocational training ever going to be more than an aspiration?"²³⁶ Appropriate treatment of patients involves liaising with other health professionals to achieve improved quality of patient care.

The extension of joint classes in basic sciences to other health care disciplines is an admirable suggestion, which has been implemented in some other parts of the world such as the prestigious Christian Medical College, Vellore, South India and Khon Kaen University, Thailand.^{27,28} Attitudes will need to change considerably in the UK before any similar integration takes place. The logistics are considerable. The obvious benefit in some Developing Countries of sending a medical, a pharmacy, a nursing and a physiotherapy student to live and

work as a team for several weeks in a rural village may be more immediate.

Several schools of pharmacy have for a number of years arranged for short-term attachment of final year students to GP practices. How influential this has been on the attitudes of either GPs or pharmacy students is difficult to know. It can be relatively time consuming and may give unpredictable and limited experience. The same may also be said about students joining hospital ward rounds. Within the serious restraints of the overcrowded three year undergraduate course in pharmacy, the cost-benefit balance may not be entirely favourable.

Much could be done more readily and no less appropriately during both the pre-registration pharmacy and medical house officers year. A programme of joint seminars with all graduates being required to give at least one presentation as a pre-requisite for registration, might be one way of formally recognising the importance of professional co-operation.

It should be nationally recognised that all GP trainees should spend a specified minimum amount of time with one or more appropriate community pharmacists. Humphreys reported the success of a workshop, subsequently to be run annually, for trainee GPs and pre-registration pharmacists.²³⁷

At least one FHSA Local Pharmaceutical Committee is investigating the feasibility of arranging for all pre-registration pharmacy graduates in their area to spend some time with a GP.²³⁸

A further 66 additional comments were made at the end of the questionnaire by 58 of the respondents and are listed in Appendix 2. As qualitative data the comments must not be assumed to represent the views of a majority. Nevertheless they do provide an invaluable source of in depth information and concerns, prompted by the questionnaire. What they may also be considered to provide is some confirmation of overall attitudes to the substance of the questionnaire.

Many volunteered very positive comments such as:

"I consider a well qualified pharmacist to be on-a-par with myself and most of my colleagues." (GP in large city).

"Relationships with pharmacists depend very much on personality and approach of both GPs and pharmacists."

Several GPs expressed preference for PMRs held on a 'smart card'.²²⁷ Others referred to soured relationships because of the rural dispensing issue, although several self-declared dispensing doctors were most complimentary about the help they received from pharmacists.

- Some respondents expressed reservations such as the tendency of a minority of pharmacists to give unhelpful gratuitous

advice (apparently about the action and use of prescribed medication);

- that the greatest problem is that pharmacy is little better than the average shop;
- concern with the variation of professional competence and motivation in pharmacies;
- that registration would have implications for opening hours, especially in evenings.

More constructively were comments by several GPs who said that:

"I'd welcome closer co-operation between the pharmacy and medical professions";

"I feel that the problem is the lack of communication between GPs and pharmacists, we are probably unaware of the advice given to patients by pharmacists and how much our work-load is reduced by them. We are probably also unaware of the full range of services provided - is the fault ours, or theirs for not promoting themselves?"

Many of the concerns expressed are individual but most relate to misconceptions, fears, unfortunate experiences as well as prejudices. A concerted effort from pharmacists and all pharmaceutical organisations, working in unison, could do so much to resolve many of the issues raised.

One GP stated that he dealt with the FHSA independent pharmaceutical adviser in preference to individual pharmacists.

They should not be seen as alternatives, but complement each other. Another in a cathedral city practice stated that he had no contact with pharmacy and wondered why any meeting as implied by question 5 was required? One wonders if the GP concerned is entirely to blame for what appears to be such ignorance? What of the concern expressed by one respondent who stated that: "GPs are small independent contractors who, do not have to compete with multi-million pound businesses..." and the GP who said that he: "was very wary about data held by pharmacists especially in remote areas - confidentiality is a big problem." Should the problem really be any different to that in a GP practice?

The opportunity also exists however to build on comments such as the GP who said: "Both GPs and pharmacists are professionals and both should behave and relate as such. There is room for interaction but doctors are *trained to diagnose* and determine the most suitable drug for therapy. Alternatives could be in the pharmacist's province but he is less aware of possible variations in patients' reactions to their illnesses." One may not entirely agree with the sentiment expressed but there is much which is positive for further dialogue in such a comment.

What seems to emerge collectively is that there is much goodwill and a willingness on the part of many GPs to recognise and welcome the contribution which pharmacists can give to the greater and better continuity of care of the patient. Much

close co-operation between pharmacists and GPs exists but there are too many GPs who have no meaningful contact with pharmacists which needs addressing. Old stereo-type images and suspicions continue to exist which inhibit professional relationships. There is considerable ignorance of the pharmacists' current and evolving role.

One GP added the comment: "I have a good relationship with the local pharmacist but the doctor is responsible for PMRs and for drug interactions - it is a waste of time for the pharmacist to check as well." Here is another GP who is unaware of the pharmacist's civil liability for the patient's safety. Presumably the GP's local pharmacist has never informed the GP at an appropriate time about his own professional and legal responsibility?²³²

Qualitative research data of this kind provide a deep insight into people's ideas and beliefs which can be of great value in the evaluation of the educational needs of GPs and of pharmacists.

5.7 SUMMARY

The incidence and frequency of professional communication between GPs and pharmacists has been surveyed and assessed.

A wide range of inter-professional matters involving contact between GP and pharmacist have been quantified and has shown a

high incidence of discussion of patients' drug therapy, a low involvement with asthma clinics and a 10% minority of GPs who recorded no contact with their local pharmacist.

Reference to the pharmacists' advisory role and possible influence on prescribing has shown that 29% of GPs do consider that the pharmacist has an influence.

The suggestion that there could be an overall advantage to patients if they were registered with a pharmacy of their own choice was supported by about 30% of GPs. A further 20% were unsure.

The perspective of many GPs was influenced by concepts of the importance of the patient's freedom, problems associated with out-of-hours service and items out of stock which may lead to patients' shopping around.

The attitudinal statements show a considerable awareness by GPs of the value of pharmacy held patient medication records as a safeguard to their prescribing.

There is an ambivalence by some GPs who see patient registration as unquestionably appropriate for GPs (response to Q11e) but patient registration with a pharmacy of the patient's choice which would ensure the completeness of PMRs, is less important than their perception of a patient's freedom.

The idea of linking some subjects to be taught jointly to medical and pharmacy students was largely supported and constructive additional comments were made.

5.8 CONCLUSIONS

Hypothesis 5.1: "GPs' contact with community pharmacists is only in response to queries about prescriptions."

The data collected from the questionnaire show that all but 10.7% of GPs surveyed had contact with pharmacists concerning a wide range of topics and activities which were not limited to prescription queries (Q6). Most of the topics have some connection with prescribing as might be expected. There is considerable evidence that many GPs and pharmacists are involved with activities which are relatively new developments within the NHS. Such topics as residential home prescribing and patient information leaflets are not new, but have come into considerable prominence and importance in recent time. The hypothesis is rejected.

Hypothesis 5.2: "GPs consider that community pharmacists have no influence on prescribing."

Analysis of the questionnaire has shown that 30% of responding GPs agree and recognise that pharmacists have an influence. That proportion increases up to 50% among the GPs who have most regular contact with pharmacists.

There is some way to go before an overwhelming majority of GPs would agree that pharmacists have an influence on their prescribing. The hypothesis cannot be completely rejected at present.

Hypothesis 5.3: "GPs are not in favour of joint courses with pharmacists at undergraduate level."

Data presented in Table 5.5 convincingly refutes the hypothesis, which is rejected. All five of the suggested topics for joint courses received more responses in favour than against, including three topics with majorities of 64-77%. The ways and means by which joint courses could be educationally efficient both from the point of view of the subject material and from developing a rapport between emergent prescribers and pharmacists will require to be carefully planned.

Hypothesis 5.4: "GPs want patients to be registered with a pharmacy of the patient's choice."

At present, a minority of GP respondents (29%) indicated that they were in favour of patient registration. 44% of respondents later agreed that patient registration would help them to know that patients were given the most appropriate additional information about their medication. 95% (74/78) of the GPs who have contact with pharmacists involved with various GP practice activities agreed with patient registration which

emphasises the great importance of inter-professional co-operation.

The link between complete and reliable PMRs, and patient registration is one which needs to be carefully assessed and explained. The benefits particularly to the patient must be convincing. The hypothesis is neither accepted or rejected at present.

Hypothesis 5.5: "GPs are suspicious of pharmacists' motives when offering prescribing advice because pharmacists are remunerated on the basis of prescription numbers."

Reference to Table 5.4 (Q11h) confirms that while 46% of respondents reject the substance of the hypothesis and a minority of 19% support it, a third (35%) of respondent GPs are unsure.

The form and emphasis of community pharmacy remuneration based as it is on a fee per prescription item does seem to have an adverse influence on up to 54% (19%+35%) of GPs as far as their confidence in pharmacists' advice is concerned. The hypothesis cannot be rejected.

Hypothesis 5.6: "GPs do not want community pharmacists to work within a health centre."

Less than one in five (18%) of GP respondents wanted community pharmacists working within health centres, as seen in Table 5.4. (Q111)

From the overall pattern of response to the questionnaire, the most likely interpretation of this data has to do with the recognition by most GPs of the much wider role of the community pharmacist, than one limited to dispensing. The fact that 92.5% of respondent GPs had a pharmacy less than a mile away and that almost two out of three (62%) had a pharmacy within 200 metres seems to suggest that effective co-operation and inter-professional relationships do not necessarily depend upon working under the same roof. The hypothesis is not rejected.

It seems reasonable to suggest that the respondents to this questionnaire are representative of GPs in practice throughout the UK. Their experience with, and attitudes towards pharmacists indicates that the majority of GPs clearly recognise that the service which community pharmacists give is much wider than the dispensing of prescriptions. The diversity of the involvement of many pharmacists with GPs and their practices points to the usefulness of the pharmacist's expertise in contributing to the better continuity of patient care.

A receptiveness by GPs can be seen towards those pharmacists who have become involved with many aspects of professional practice which is supportive of each other's role.

Some of the suspected barriers to better team-working have been confirmed. The quantitative and qualitative data produced, make it possible to formulate and suggest how progress towards greater co-operation between pharmacists and GPs can be achieved, in order to meet the challenge spelled out in 'The Health of the Nation'.²⁵

CHAPTER 6 SURVEY OF THE PUBLIC - THEIR NEEDS AND ATTITUDES TO THE PHARMACEUTICAL PRESCRIPTION SERVICE

6.1 INTRODUCTION

Previous research at Aston University with which I was involved, has focused on:

6.1.1 'CONSUMER NEEDS AND EXPECTATIONS OF COMMUNITY PHARMACY SERVICES'

This included the patterns of use, loyalty and patronage, consumer satisfaction with provisions of medical goods, and the perceived role of the community pharmacist.

Consideration was given to the concepts of 'need' derived from the work of Bradshaw²³⁹ which includes four distinct perspectives of 'felt need', 'expressed need', 'comparative need' and 'normative need'. The perspectives of felt and expressed need were considered relevant to the study and the consumer's perspective of need.

This research, commissioned by the DoH between 1989 and 1991, was undertaken by a multi-disciplinary team of four of which I was a member.

Much of the emphasis of the research was qualitative and explored aspects of consumer attitudes and perceptions. One of the most important features was the investigation of the

reasons consumers give for choosing their preferred pharmacy. Some aspects of the results of the investigation influenced the direction of the research in this thesis.

6.1.2 OBJECTIVES

The aims and objectives of the research included:

- a) identifying patterns of consumer behaviour, perceptions of the role and function of community pharmacy services, satisfaction and specific areas of unmet need or dissatisfaction;
- b) examining the potential for developing the extended role of the community pharmacist to meet perceived consumer needs;
- c) identifying the perceived value and implications for developing and extending community pharmacy services.

The survey was based in the West Midlands which was considered to be a microcosm of the country as a whole and would provide a reasonable basis for a national benchmark.

Six localities were chosen to encompass contrasting social-demographic environments:

Three metropolitan districts -

Birmingham (west), Sandwell, Wolverhampton;

three shire districts -

Leominster is rural, Worcester, a county market town, and Stoke-on-Trent is a distinctive industrial town.

Two distinct groups of consumers were studied, a 'high-user' group and a general population sample. The former included ostomists, diabetics, asthmatics and coeliacs who were so classified principally because their prescribing costs were high. They were mostly recruited through pharmacies. The general population was selected at random from the electoral registers which provided 600 names of individuals aged over 17 years old and stratified as sub-samples of 100 in each of the six geographical districts selected.

6.1.3 METHODOLOGY

The research methodology used qualitative methods and social science approaches as well as quantitative survey techniques which enabled the research to create a 'consumer oriented' picture of current and prospective future community pharmaceutical services.

6.1.4 KEY FINDINGS

The key findings contributed to the basis of the survey to be detailed in this Chapter:

- 1 **Consumer profile** - Most consumers (60% in both general population and high-user groups) are 'loyal' to one pharmacy. While convenience factors are the most important in determining the chosen pharmacy (proximity to home, the GP surgery, and to other shops), service-related factors become important in creating competitive advantage where a choice of convenient pharmacies exists, as in many urban

areas.

- 2 The 'positive drivers' in creating competitive advantage are speedy dispensing, good stocks and friendly counter assistants. 'Negative drivers' deterring people from using certain pharmacies focus strongly on poor personal service, such as inattentive counter assistants.
- 3 The role of counter assistants in influencing consumer perceptions of the community pharmacy is greater than appears to have been recognised in other pharmacy consumer studies. Their importance has significance in terms of recruitment, training and rewards offered by pharmacists to these key employees.
- 4 **Instructions** - Over 90% of consumers are satisfied with the instructions on prescribed medication. Beneath this general expression of satisfaction lies a felt need for better clarification of instructions (for example, does 'one dose every four hours' include time when sleeping?), and a perception that there are occasional disparities between instructions given by the prescriber and subsequently at the pharmacy. This can lead to unnecessary confusion and an erosion of confidence in the prescribing and dispensing 'system'.
- 5 **Views on existing services** - Most consumers are satisfied with the services currently received at the pharmacy. A convenient and speedy dispensing service suffices for most consumers. For key groups of high-users there are areas of unmet need and if satisfaction is not unduly low this is

basically because of limited expectations.

- 6 Existing out-of-hours services appear largely to be meeting consumer demand, although a minority have experienced considerable difficulty in finding a pharmacy open when out-of-hours services have been needed. It is possible that the level of public expectation may be unduly low and conditioned by the experience of a limited service.
- 7 **Market segmentation** - Women demonstrate a higher expressed demand for community pharmacy services, and make better and broader use of the pharmacist than men.
- 8 Ethnic minority communities appear to rely particularly strongly on the GP services. (A further research grant has been awarded to identify why this is so and what is the role of the community pharmacist).
- 9 **Implications for extending the pharmacist's role** - Pharmacists are perceived as: 'the experts on medicine' (80% believe this), but at the same time are seen as **not** just there to hand medicines out (80% also believe this). This conjoint view is consistent with the perceived role of the pharmacist as both a supplier of medical goods and a source of advice.
- 10 The research has highlighted this currently perceived **dual role** for the community pharmacist. It has implications for the current debate on the future role of community pharmaceutical services and the professional role of the pharmacist, suggesting that it should be based on a strategy of **consolidation and extension**.

- 11 Consolidation should be based on the key features distinguishing the pharmacist from other members of the primary care team:
- accessible and consumer-friendly (easy to get to, more available than the GP);
 - the expert on medicines and on advising about and treating minor ailments.
- 12 Extension involves moving outward from these strengths. In the former, the principal opportunities lie in developing the consumer relations side of the 'high street health shop' as part of a recognised professional role. The need for better communications skills and consumer relations is now becoming recognised in relation to GP services, but pharmacy has a 'head start' by virtue of the current perceived image of 'being approachable' and also from the 'open-door' accessibility of the service to the consumer.

Although the surveys described mainly achieved the objectives set, some questions remained incompletely answered and new questions were raised. In order to study public needs and attitudes to the pharmaceutical prescription service linked to the surveys of community pharmacists and GPs, (Chapters 4 and 5) it was considered appropriate to build on the surveys summarised above and send a follow-up questionnaire to the cohort of respondents.

6.2 CHOICE OF METHOD

A postal questionnaire with a suitably worded covering letter and reply paid envelope was sent to 604 people distributed across the six districts of the West Midlands as described previously.

6.3 OBJECTIVES

- 1 To confirm the extent to which the public use one or more pharmacies for prescription services;
- 2 To confirm the reasons for choosing the pharmacy which they usually or always patronise for prescription services;
- 3 To examine the factors which are considered by patients if a pharmacist keeps a complete record of all their prescriptions;
- 4 To examine the attitudes of patients towards registration with health care professionals in primary care.

6.4 HYPOTHESES

The relevant hypotheses 8 and 16 from Section 3.7.2 of the discussion in Chapter 3 are renumbered for this Chapter. They are supplemented by several additional hypotheses postulated during the design of the survey.

Hypothesis 6.1: "The most important reasons for choosing a pharmacy are that the staff are friendly and that 'I don't have to wait long'."

Hypothesis 6.2: "Patients do not find it necessary to ask pharmacists about drug side-effects."

Hypothesis 6.3: "The public do not want to take their prescriptions to the same pharmacy."

Hypothesis 6.4: "The public see no advantage in a chemist having complete PMRs."

Hypothesis 6.5: "The public see no advantage in being registered with GPs, dentists and chemists."

6.5 METHOD

A social science research technique of using investigative group discussion was used to test a draft questionnaire. A group of people drawn at random from those attending a mid-week afternoon social club meeting in a large city centre church hall was asked to respond to the questions and discuss any points about which they were unsure.

It was important to verify that terms such as chemist or pharmacist, and registration were clearly understood and would not be misinterpreted or found ambiguous to recipients. The session was recorded for reference purposes after prior agreement.

The final version of the questionnaire was mailed to the 604 respondents, as explained in Section 6.1, at the beginning of February 1992 and produced a response rate of 47% (284).

To minimise non-response bias, a second mailing was sent to non-responders, with a modified covering letter and reply paid envelope at the end of the month. The overall response rate increased to 72.7% (439 questionnaires returned).

As with previous questionnaires, data were entered into a computer software package, Data Entry II and then analysed using the SPSSX programme.^{192,193}

6.6 RESULTS AND DISCUSSION

A copy of the questionnaire with all the numerical data added is included in Appendix 3.

It was possible to analyse 399 questionnaires, equivalent to a 66% response. Of the remaining 40 questionnaires returned some were endorsed 'gone away' or 'deceased', several were too late for analysis and three were duplicated returns. An analysis was made of the first 231 questionnaires returned and these showed no significant differences in the pattern of response to those in the final analysis.

Many of the questions were designed to confirm and extrapolate responses received to the previous questionnaires mailed to the general public sample across the West Midlands. In order to keep the questionnaire as short as possible, personal details of respondents were not asked for again. The questionnaire was

designed to produce a general pattern of response to the objectives previously listed.

6.6.1 LOCATION AND CHOICE OF PHARMACY FOR DISPENSING OF PRESCRIPTIONS

95% (374/395) of respondents stated that their prescriptions were dispensed at a pharmacy (a chemist);

5% at a doctor's surgery (dispensing doctors);

none at a hospital;

one at an appliance supplier. (Q1)

When asked: "Do YOU take your prescriptions to the same chemist?"

51.3% (203/395) stated 'always';

45.2% (179/395) stated 'nearly always';

2.5% (10/395) stated 'rarely';

1% (4/395) stated 'never'. (Q2)

The wording of this question was different from that in the interview and postal questionnaires in the DoH project.¹⁷⁷ The data again showed that a majority patronised or were loyal to one pharmacy for their prescriptions.

The significance of these responses is that 96.5% of the respondents either always use or nearly always use the same pharmacy for the dispensing of their prescriptions. Only 14 out of 396 respondents (3.5%) stated that they rarely or never

used the same pharmacy which included several who apparently have not had a prescription dispensed for many years.

These results suggest that if the reasons why up to 45% of the public who do not always use the same pharmacy for their prescriptions are identified, it is probable that unrecognised difficulties which they have had can be readily resolved. For many people the reasons for not always going to the same pharmacy may be relatively trivial but that must not be presumed. Two major factors which were confirmed and which caused some people to use more than one pharmacy were:

- a) meeting an urgent need for dispensing a prescription or in an actual emergency,
- b) to suit other factors of convenience.

There is the need to examine the hours that dispensing services are available and whether there are any limitations to the service such as at lunch-time, if surgery hours go beyond pharmacy hours or when a pharmacist is temporarily not available. Where house-bound patients are dependent on several other people to get their prescriptions dispensed, this can result in the use of several different pharmacies. A recognised and publicised pharmaceutical domiciliary service would be more efficient under these circumstances for which patient registration would be an asset.

If patient registration with a pharmacy of the patient's choice is to be acceptable to the public, the patient's reasons for choosing the chemist where they usually or always have their prescriptions dispensed could be critical factor(s) affecting registration. Question 3 probed this issue.

Table 6.1 first ranks the top six reasons which were ticked by over 50% of respondents, followed by the remaining six reasons in ranked order.

Table 6.1 TOP SIX REASONS FOR CHOICE OF PHARMACY FOR DISPENSING PRESCRIPTIONS

(Question 3) Ranked order	n = 399	Percent	Number
the staff are friendly		66.4	(265)
I don't have to wait long		65.2	(260)
it is easy to get to from home		59.6	(238)
it is close to my doctor's surgery		57	(227)
the medicines I need are kept in stock		53	(212)
the pharmacist spends time to give advice		51.4	(205)
REMAINING SIX REASONS FOR CHOICE OF PHARMACY:			
it is handy for other shopping		47	(187)
the pharmacist knows me		36	(143)
I know the pharmacist		33	(132)
the pharmacist keeps a full record of my medicines		32	(128)
it is open after other shops have closed		14	(56)
I get free information leaflets about my medicines		11	(43)

These results reaffirm the importance of personal service factors which were given marginally more emphasis than those of convenience such as proximity to home. Geographical

convenience factors have usually been thought to be the predominant influence and some other factors such as: 'the pharmacist spends time to give advice', possibly ignored. The emphasis that the public give to the speed of service has been largely created by pharmacists as an indicator of their own efficiency. With the increased need to explain carefully to patients how their medicines should be used this emphasis may need to be modified. Adequate seating and consulting areas in pharmacies must be provided to meet the rising expectations of the public. The high ranking of 'the pharmacist spends time to give advice' suggests that pharmacists are responding well in this way and that the public's rising expectations in this respect are being met.

To know and be known by the pharmacist was rated to be a reason for choice by one in three respondents and implies a much greater personal relationship than the other reasons listed. This ranking is not as low as it may appear to be when account is taken of the fact that at least one in five people visit a pharmacy less frequently than once in six months and 6% of a general population sample have stated that they have not visited a pharmacy in the past three years.¹⁷⁷ It is unlikely that those people would either be known by or know their local community pharmacist.

57% of the respondents (228/399) added a second tick against what they considered to be the **ONE** most important reason for

their choice of pharmacist. The three most frequently cited reasons (representing 65% of those given) throw further light on the complexity and inter-relationship of the factors involved. (n = 228)

- it is close to my doctor's surgery: 69 times (30%)
- it is easy to get to from home: 42 times (18%)
- the pharmacist spends time to give advice: 37 times (16%)

Although geographical convenience is the single most important factor, the inclusion of the pharmacist spending time to give advice is an indication of the importance that many patients attach to the patient-pharmacist relationship.

Hypothesis 6.1: "The most important reasons for choosing a pharmacy are that the staff are friendly and that 'I don't have to wait long'."

The results shown in Table 6.1 indicate that the service factors rank highly when people choose a pharmacy for dispensing their prescriptions. Convenience of location remains the single most important factor for many people (see 6.1.5) but the reasons for choice are not easily separated. The hypothesis cannot be fully accepted on the evidence.

Convenience of access and efficiency of service which includes staff attitudes, were rated twice as often as: 'the pharmacist keeps a full record of my medicine' and about six times as

often as: 'I get free information leaflets about my medicines'. The public may have such confidence in the safety role of the pharmacist in protecting them from prescription hazards that any associated PMRs are taken for granted. Or perhaps many people are still unaware of the existence and value of such records and have yet to be the recipients of more detailed information leaflets about their medication. There is some evidence to suggest that some patients do not seem to have properly understood what is the objective of PMRs. It is possible that insufficient time has been given in explanation.

The data point to the need to pay more attention to the public-counter staff interface. Do those pharmacy staff who are most likely to be the first point of public contact and have prescriptions handed to them, appear sufficiently professional, efficient and aware of the need to respect patient confidentiality?

In general the reputation of pharmacy staff for being friendly and helpful is good and they are not seen as a forbidding barrier in the way that many GP receptionists are still perceived.

We previously reported that 24% of counter assistants were involved in speaking to patients about the instructions for using their prescribed medication.¹⁷⁷ We also reported that 5% of the general population sample and 13% of the high-user

groups were adversely influenced in their choice of a pharmacy by unsatisfactory staff. Nationally more is now being done to raise the general standard of counter assistants. The NPA and most large companies offer training courses and both the Pharmaceutical Journal and the Chemist and Druggist issue educational supplements periodically, specifically for assistants.

The importance of the active supervision of staff by the pharmacist is crucial and adequate staff training facilities are essential if pharmacy is to be recognised as a professional service in which the public can have confidence.

6.6.2 MEDICATION RECORDS AND DRUG INFORMATION

Several questions were included to assess the extent to which the public had had any experience of:

- pharmacies which issued confirmatory medication record cards;
- situations in which the public thought that they had been supplied with the wrong tablets or capsules just because they looked different from those on a previous prescription, (this was intended to be an indicator of situations which could be avoided with PMRs);
- the extent to which pharmacists had volunteered information about side-effects as well as whether such information had been requested by the respondent.

Two different medication record cards were illustrated to help respondents.(Q4) One card included the word 'registration', presumably as an encouragement for patients to continue to patronise the pharmacy which issued the card for all their prescriptions.

The response to question 4: "Does your chemist give out cards which look like or are similar to those shown?", was fairly evenly divided:

- 37% (140/382) answered 'yes';
- 33% (126/382) answered 'no';
- 30% (116/382) answered 'don't know'.

Two out of three (69% 254/370) thought that that kind of information card was a good idea. If publicised in the right way with the main advantages clearly identified, the public are mostly open to and appreciative of things which can give them additional confidence in their medication.

100 respondents added their personal comments about the cards. Of the 80 supportive comments the most frequently cited were:

- 'yes' - because the pharmacist can check all medication at a glance at the computer, any extra or second check is good, it provides a back-up to doctor's records, a check on compatibility and future prescriptions (49);
- 'yes' - a ready check of allergies etc and speeds dispensing, increases efficiency (12);
- 'yes' - of value in case of emergencies (4).

Other individual respondents mentioned improved service by cutting waiting time; a check on the compatibility and suitability of an OTC medicine; very important for continuity when pharmacist changes; and improved stock control. These qualitative data again confirm the in-depth value of such comments which include details which could not be adequately covered by closed questions only.

Most of these reasons show that there is a receptive, well informed and frequently very perceptive public who recognise the value to themselves as well as to the pharmacist of personal pharmacy held medication records.

20 respondents gave dismissive or questioning comments, which may be summarised as:

- 'no' - because never seen one, don't know what it's for,
- 'don't know' why a pharmacist needs to keep records (9);
- 'no' - of no help to me personally, not unless have regular prescriptions (4). (Appendix 3)

The acceptability of pharmacy medication record cards and the issue of cards such as those illustrated in the questionnaire provide support for investigating the transition from informal registration with a pharmacy to a nationally recognised system of registration.

The next question asked respondents how many times patients thought that they might have received the wrong tablets or capsules just because they looked different from those on a previous prescription. (Q6) The reasoning behind this question was to obtain data on an issue which causes patients both irritation and suspicion of pharmacists' motives and which could be reduced with reliably complete PMRs. The results were:

88.5% (339/383) of respondents said 'no';

1.8% (7/383) 'didn't know';

9.7% (37/383) said 'yes'.

Of the latter, three out of four stated that they were dealing with the same pharmacy. It was originally thought that this problem might be exacerbated where patients were using more than one pharmacy for their prescriptions to be dispensed. As over 95% of patients always or nearly always use the same pharmacy, the incidence of such problems at present will mostly occur at the same pharmacy. Unfortunately patients frequently classify all such incidents as dispensing mistakes, which tends to reflect adversely on the pharmacist. Comprehensive PMRs and patient registration are capable of minimising these occurrences and misunderstandings, which should also improve the patient's confidence in their medication and in the pharmacist.

Pharmacists had given warnings about possible side-effects from some medicines to 68% (258/379) of respondents, (Q7) while 22% (82/374) of respondents indicated that they had asked a

pharmacist whether or not there were any possible side-effects from their prescribed medicine. (Q8)

This evidence gives some indication of the extent to which pharmacists are anticipating and responding to the concerns of patients to be better informed about possible side-effects. What is important for professional closer co-operation, is that the prescribing GP is not left in ignorance about what information has been given to the patient irrespective of whether or not it was requested. If patients were registered with a pharmacy it ought to facilitate pharmacists agreeing with GPs about the additional information which is appropriately supplied to patients. Where pharmacists become involved in practice meetings information could be more closely matched to the needs of the individual patient.

Hypothesis 6.2: "Patients do not find it necessary to ask pharmacists about drug side-effects."

Responses to questions 7 and 8 indicate that 22% of respondents have considered it necessary to ask a pharmacist about possible drug side-effects, whereas for 68% of respondents pharmacists had already given advice. On the evidence of this majority the hypothesis could be supported. In practice, the needs of the minority are important and here it is nearly one in four.

The question which followed sought to quantify how many of a list of seven reasons, were seen by the public to be

advantageous or otherwise, if a chemist of the patient's choice kept a **complete** record of all his prescriptions. Space was given for adding further reasons. (Q9)

Over 50% of the 383 respondents ticked at least four reasons as shown in Table 6.2 and illustrated in Figure 6.1. Between 56% and 65% of the respondents ticked four distinct, important and practical reasons in support of individual complete PMRs being held at a pharmacy of their choice. It affirms the level of awareness of what could be achieved with patient registration.

Table 6.2 PUBLIC'S PERCEPTION OF PMRs

(Question 9)		n = 383
Percent.	Number of respondent ticks to statements	
<hr/>		
a) 65.3	(250)	'my regular medicine would always be in stock'
b) 55.9	(214)	'I would always get the same make of medicine..'
c) 57.2	(219)	'the chemist would be able to spot any changes.'
d) 59.3	(227)	'the chemist would be able to advise me . . .'
e) 11.2	(43)	'I don't want to feel restricted in any way'
f) 4.2	(16)	'I prefer not to be recognised . . .'
g) 29.2	(112)	'I don't have prescriptions often enough . .'

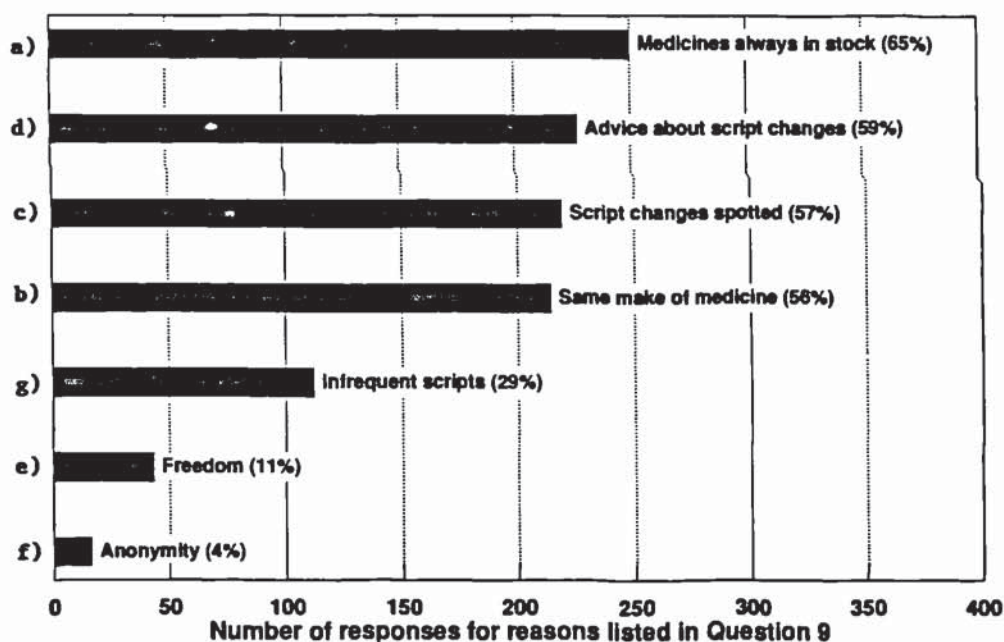
Patient registration with a pharmacy involves a partnership with the pharmacist who is then in a better position to respond to the patient's needs because of the greater reliability and continuity of the PMRs. The patient with a regular repeat prescription would rightly expect their medication to be adequately in stock and to be of the same manufacture if relevant.

Changes in dosage, strength, frequency of administration of a prescription when compared with a previous supply could be more reliably checked and be immediately evident. This would be of added reassurance to the patient. The awareness of the pharmacist to what may have preceded a new prescription and the informed advice which could then be given to a patient, if necessary after consultation with the prescriber, would also be more satisfactory. The whole concept of continuity of care would take on a new dimension capable of meeting the rising levels of expectation.

The three statements which attracted low responses all have an element of non-commitment as seen in Figure 6.1.

Figure 6.1

The public's perception of complete PMRs



Whatever improvements may be possible to enhance the completeness of care or to effect closer co-operation between pharmacist and GP or any other health care professionals, it has to be recognised that for various reasons there is likely to be a minority of people who prefer to remain free if possible, of any new arrangements. It is quite probable that a sizeable minority of the public will not register with a dentist and there are some people (estimated at one per cent³⁶) who are not registered with a GP, even after 44 years of the NHS. People have many different attitudes to the concept of freedom as for example, with the resistance to the wearing of car-seat belts until required by legislation.

Table 6.3 PUBLIC'S PERCEPTION OF COMPLETE PMRs

(Question 9)

n = 383

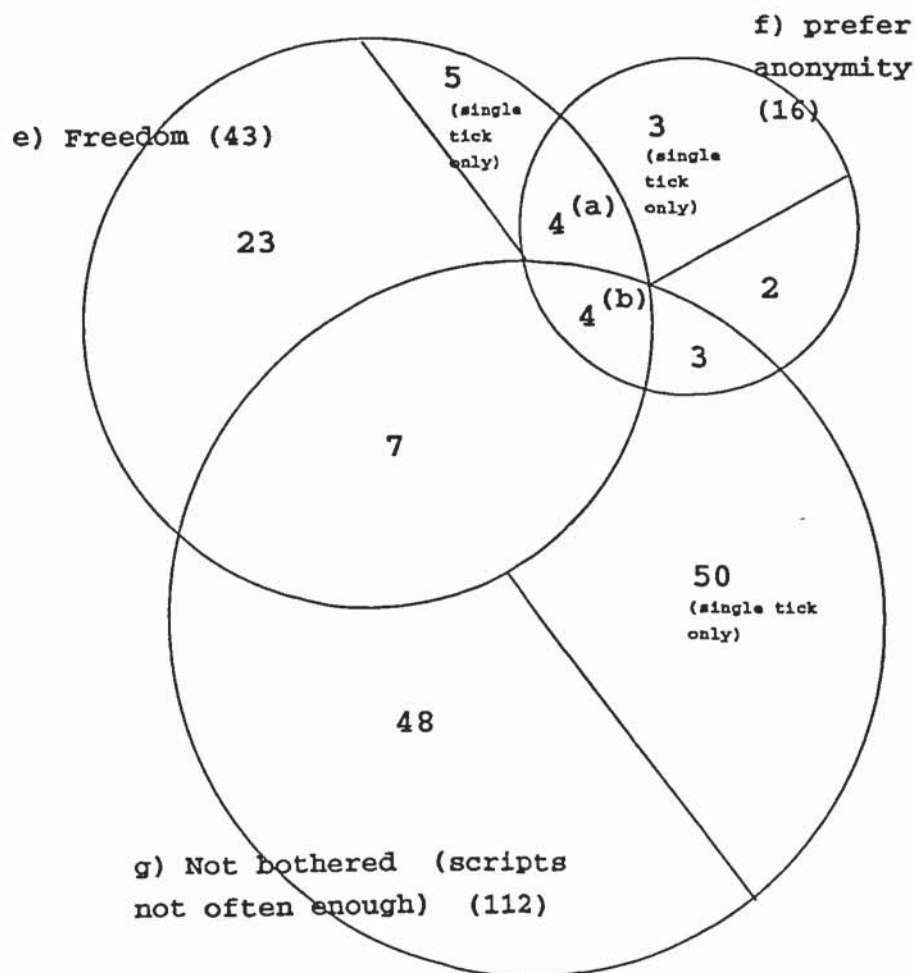
- | | |
|-------------------------------|----------------------------------|
| a) -medicine always in stock; | b) -same make of medicine; |
| c) -script changes spotted; | d) -advice about script changes; |
| e) -freedom; | f) -anonymity; |
| g) -infrequent scripts | |

Frequency of combinations of reasons ticked by respondents:

96 respondents ticked	a)	b)	c)	d)
22 respondents ticked	a)		c)	d)
21 respondents ticked	a)	b)		
16 respondents ticked			c)	d)
16 respondents ticked	a)			
13 respondents ticked	a)	b)	c)	
11 respondents ticked	a)	b)		d)
8 respondents ticked		b)	c)	d)
7 respondents ticked	a)			d)
7 respondents ticked			c)	
6 respondents ticked	a)		c)	
4 respondents ticked				d)
3 respondents ticked		b)	c)	
3 respondents ticked		b)		
1 respondents ticked		b)		d)

As respondents were asked to tick as many statements as they thought appropriate, further analysis of the various combinations of reasons which respondents had ticked was necessary in order to determine how many people had ticked the non-committed options. 61.1% (234/383) respondents ticked one or more of only a), b), c) or d). The analysis of the data is shown in Table 6.3 and Figure 6.2.

Figure 6.2 RESPONDENT UNCERTAINTY ABOUT THE ADVANTAGES OF COMPLETE PMRs IN PERSPECTIVE



From Figure 6.2, 19.1% (73/383) of respondents who have ticked one of the non-committed statements e) or f) or g) (23+2+48), have also ticked one or more of the four positive statements a), b), c) or d). Together with those who are listed in Table 6.3, this gives a total of 80.2% who have recognised the advantages to themselves of complete PMRs.

19.8% (76/383) of respondents remain unconvinced and consist of 58 people who only ticked one of the three statements e), f) or g) (5+3+50), and another 18 who ticked combinations of those three statements (4+4+3+7). As two thirds (50/76) of this group only ticked: 'I don't have prescriptions often enough for it to bother me', the number who may have serious reservations is much reduced. Four people (1%) each ticked e), f) and g) and those who ticked combinations of e), f) and g) referred to above represent 4.7% (18/383) of the respondents.

A reasoned interpretation of the analysis illustrated in Figure 6.2 is that 5-10% of the respondents have still to be convinced that a complete PMR is advantageous to them.

It may be that those who prefer not to be recognised in a pharmacy have a genuine concern about the confidentiality of the information on a prescription. Pharmacy assistants may appear to some patients to be less discrete than GPs' receptionists. There is a legal requirement that all patients must be asked if they are willing for their PMR to be kept in

computerised form, and only if the patient agrees may they be retained.²³³ It is quite probable that this requirement and the protection of patients' rights is not well understood by many members of the public. There is a widely held suspicion that computerised records may be accessible to various official authorities.

The issue of patient confidentiality should not be taken for granted and needs to be more closely addressed. Similarly the legal duty at common law to keep health records confidential which applies to all those working in the NHS including those in community pharmacy does not seem to be fully understood by the public.¹³⁸ There appears to be a need to ensure that all staff working in pharmacies who have direct contact with members of the public over health matters are fully conversant with both the law and ethics of patient confidentiality. Maybe the importance of this issue would be enhanced and the public reassured if a simple document was required to be signed by dispensers and medicine-counter assistants.

14 of the 22 additional reasons given were in support of complete prescription records. (Appendix 3) They all relate to the advantages derived from an enhanced relationship between patient and pharmacist. Two respondents said that they: "would feel safer, it helps to build-up a relationship with the pharmacist who understands medicines, so that like the doctor he knows about illnesses and what's prescribed."

Eight respondents (2%) who saw no advantage in having complete records of all prescriptions, referred to their doctor giving them the medication advice they needed, saw no advantage for the chemist to keep a record and that it represented an increased work load for the pharmacist.

One respondent who was 'not sure' referred to the embarrassment felt when her name was called out to say that: "the stoma bags are here." This experience would seem to have little to do with the keeping of PMRs as such but more to do with the insensitivity of pharmacist and staff and the failure to treat patients as people rather than as prescription numbers. Strengthening of the patient-pharmacist relationship could help to avoid such situations and a note on the individual's PMR should ensure greater discretion.

There are still many in the community who are not well informed about the pharmacists' expertise and many who should be treated with more professional sensitivity. Recognition of individual patient needs and idiosyncrasies would be made much easier for the pharmacist with the reliability of complete PMRs.

6.6.3 ASSESSMENT OF ATTITUDES

The remainder of the questionnaire, apart from the request for additional comment, consisted of seven attitudinal statements requesting a response on a five point Likert scale.¹⁹⁴

Table 6.4 RESPONDENTS' AGREEMENT WITH STATEMENTS ABOUT PATIENT REGISTRATION AND CHEMISTS

Q10 STATEMENTS	NUMBER OF RESPONSES				
SA = strongly agree; A = agree; U = unsure; D = disagree; SD = strongly disagree. underline = majority trend; % to nearest whole number.					
	SA	A	U	D	SD
a) Being registered with one doctors practice is no problem because if I'm ill when away from home I can see any doctor in the UK (n = 385)	104 <u>27%</u>	193 <u>50%</u>	73 19%	8 2%	7 2%
b) Now that I am registered with my NHS dentist I am getting better dental service (n = 323)	20 6%	93 29%	151 47%	46 14%	13 4%
c) I think that there are many advantages in taking my prescriptions to the same chemist (n = 381)	107 <u>28%</u>	211 <u>55%</u>	47 12%	15 4%	1 0.3%
d) I think that there are no advantages in being registered with GPs, dentists or chemists (n = 369)	12 3%	40 11%	72 20%	149 <u>40%</u>	96 <u>26%</u>
e) Registration with GPs, dentists or chemists is best for me providing that I can change easily if I'm not satisfied (n = 379)	85 <u>22%</u>	257 <u>68%</u>	31 8%	5 1%	1 0.3%
f) If I was registered with one chemist I think that I would get a better quality of service (n = 377)	44 12%	125 33%	117 31%	83 22%	8 2%
g) It would be very inconvenient to me to always take my prescription to the same chemist (n = 368)	14 4%	104 28%	44 12%	169 <u>46%</u>	37 <u>10%</u>

Statement 10a) 'Being registered . . .' attempted to establish that registration was reasonably flexible. The results showed that the concept of registration with a doctor was widely accepted by 77% of the respondents, with only 4% disagreeing.

No correlation was found between those in Q9e) who did not want to feel restricted in any way with regard to complete PMRs, and those in Q10a) who disagree that there was no problem with being registered with one doctors' practice.

The statement 10b) about dental registration, showed that nearly half of the responders (46.7%) were unsure. Unsolicited additional comments helped to clarify and explain these results. A large number of people have not been to a dentist since registration was introduced in the dentists' new contract with FHSAs in October 1990.

The statement had been included because of the recent introduction of registration with a dentist and the advantages of better health promotion which could be associated with and attributed to registration and the consequential improvement in care.²²⁰ An alternative or associated interpretation of these results would be that the respondents saw no reason to link registration with quality of service.

Statement 10c) resulted in 83.5% confirming that they recognised the advantages in taking their prescriptions to the same **chemist**.

These attitudinal responses related reasonably well with answers given in question 2 and again reflect the wide recognition that the patient can have more confidence in an arrangement which is capable of building up a professional relationship and the continuity of care.

The response to the next statement 10d), 'that there are no advantages in being registered ...', was rejected convincingly with as many as 26% who strongly disagreed. Registration with GPs and dentists has not been a controversial issue in the public domain, so that few people are likely to have seriously considered the advantages and the disadvantages. It seemed important to include a statement which questioned whether the individual felt, or was aware of any real advantages associated with registration, as distinct from any association with the structure of the NHS.

As one third of the respondents were unsure or agreed that they could think of no advantages, it would seem that some attention would be justified in helping people to a better understanding of what registration means and what to do if dissatisfied.

Correlation was found between those in Q10d) who disagreed that there was no advantage in being registered with GPs, dentists or chemists, 86% (208/242) of whom agreed that there were advantages in taking their prescriptions to the same chemists. (Q10c) (chi-square = 16.91, df = 4, $p < 0.005$)

From the next statement 10e), nine out of ten people accepted the concept of registration on the understanding that if dissatisfied with a practitioner, change of registration would be easy. Six respondents (1.6%) disagreed.

This is the most convincing result in support of extending registration to pharmacy. The data have shown that registration as experienced already in the NHS is acceptable to a large majority of people (77%). In this last statement each respondent has recognised the personal arrangement from the perspective of the individual. There is the reassurance and knowledge that a GP accepts responsibility on health matters for his patients. The GP can be called upon if the need arises or can be called out to visit the patient in an emergency. For the professional, registration does incur a more specific degree of responsibility to the individual patient.

No correlation was found between those who agreed with registration as in Q10e) and whether they always or nearly always took their prescriptions to the same chemist. (Q2)

In statement 10f), although the largest proportion of respondents, 45%, thought that registration would give them a better quality of service, the link between registration and quality of service is neither certain nor proven.

The concept of a better quality of service would be more likely to be recognised by those who have regular prescriptions and are familiar with various aspects of service, from medicines being reliably in stock or otherwise, to the avoidance of recurring queries on repeat prescriptions. For those who have prescriptions infrequently, who are a significant minority (Figure 6.2) it may not be within their experience or expectation to recognise how registration could result in a better quality of service. The association would also depend in practice on the response from pharmacists to the responsibility more precisely directed to the individual, than is always possible under the present system. The pharmacist's responsibility is currently no less than is implied with registration but he cannot anticipate a patient's needs so well under the present system.

No correlation was found between Q10f), registration with one chemist giving a better quality of service and with either not wanting to feel restricted in any way (Q9e) or with preferring not to be recognised when taking a prescription to a chemist. (Q9f)

Correlation was found between those in Q10f) who agree that registration with one chemist would result in getting a better quality of service, 95% of whom also agree that registration with GPs, dentists or chemists is best for me. (Q10e)
(chi-square = 11.29, df = 4, $p < 0.025$)

Correlation was also found between those in Q10f) who agree that registration with one chemist would result in getting a better quality of service, 65% of whom always take their prescriptions to the same chemist. (Q2)
(chi-square = 29.87, df = 4, $p < 0.0005$)

Further correlation was found between those agreeing with statement Q10f), 96% of whom think that there are many advantages in taking their prescriptions to the same chemists. (Q10c)
(chi-square 51.87, df = 4, $p < 0.0005$)

These statistically significant correlations greatly strengthen the data that 90% of public respondents agree with and would accept patient registration with a pharmacy of their choice, providing any arrangement has adequate flexibility for change.

The final statement in this question, 10g), was concerned with inconvenience associated with using the same chemist and 32% felt that they would be inconvenienced.

Correlation was found with those in Q2 who take all their prescriptions to the same chemist, 71.3% of whom disagreed with the statement.

(chi-square = 38.36, df = 4, $p < 0.0005$)

Cross-tabulation of Q10c) and Q10g) and application of the chi-square test gave a correlation between those who agreed that it was an advantage to use the same chemist, 62.3% (188/302) of whom disagreed that it would be very inconvenient to always use the same chemist.

(chi-square test = 29.201, df = 4, $p < 0.0005$)

A further correlation was found between Q10f) and Q10g). 75% of those in Q10f) who consider that they would get a better quality of service if registered with one chemist, disagreed with the statement in Q10g) too, compared with an overall 56%.

(chi-square = 54.20, df = 4, $p < 0.0005$)

The response of those who disagreed with this statement relates very closely to that from those in question 2 who stated that they always take their prescriptions to the same chemist. The statistical association enhances the reliability of the questionnaire responses.

For the 45% who nearly always take their prescriptions to the same chemist, inconvenience could be caused to many of them if there was no flexibility in any system of patient registration

with a pharmacy. Problems associated with such matters as the hours of opening, lunch-time suspension of dispensing, emergencies or items out of stock and the particular problems of those dependent on helpers of various sorts for their prescriptions, all need addressing and resolving if inconvenience is to be reduced to an acceptably low level.

Community pharmacy services do not routinely provide a national 24 hour service. Previous work reported that an out-of-hours service had been used by 41% of the general population (and 46% of high-users groups).¹⁷⁷

The situation is partly due to the requirement that GPs on call carry emergency supplies and starter courses as part of their NHS contract. Thus many prescriptions written as a result of night calls do not need to be dispensed until conventional opening hours. Nevertheless many prescriptions are urgently needed at the time they have been written. PSNC have estimated that some 100,000 prescriptions are dispensed by pharmacists every year between the hours of 11.00 pm and 8.00 am on a voluntary basis.^{240,241} This figure could represent a tip of an iceberg and masks the extent to which GPs supply medication to patients when called out. In many cases, prescriptions will not be dispensed until the following day and the patient may not have been caused any inconvenience, because of the GP's immediate supply. It has been estimated that a GP has 35 night time calls per 1,000 patients per year. If half the night

calls result in a prescription and the population of Great Britain is taken as 55 million, then over 960,000 prescriptions would be generated in a year between 11pm and 7am. For an average pharmacy serving 4,850 people this would represent 90 night time prescriptions per year.

It would seem that although the present economical arrangements do not cause much hardship, there is scope for regularising and adequately publicising an out-of-hours rota service which included a twenty-four hours on-call service. With modern information technology, beepers, portable telephones and closer liaison between pharmacists in an area and with GPs on call in that area, a much more satisfactory service could and should be provided. It is accepted that any out-of-hours services do have security implications.

Surgery hours should be properly notified to pharmacies, if necessary through the Local Medical Committee to ensure that if they do not fall within local pharmacy opening hours, then as a matter of routine the local pharmacy is notified when the last patient needing a prescription has been seen. One respondent suggested pharmacies should be open for 35-40 minutes after surgery closes. This may not be necessary if the suggestion above was adopted. Patient registration could facilitate prescription supply in these situations. A general extension of pharmacy hours is not very practical unless there is a planned move towards more two or even three pharmacist

pharmacies. There could be considerable opportunities for an increase in the number of regular part-time second-pharmacists.

The difficulties created by a pharmacist being absent from his pharmacy at lunch-time are not unsurmountable. The pharmacist should not be required to snatch a sandwich close to the dispensary and the pharmaceutical service would be enhanced by a more positive move towards two-pharmacist pharmacies.

Modification of the law on supervision coupled with properly and adequately trained technicians working to a carefully specified protocol, and the use of information technology developments as referred to above should make it possible responsibly and professionally to allow many types of prescription to be dispensed when necessary by remote control on the part of the pharmacist. The use of portable computers holding PMRs, portable telephones and fax machines could all find an application and have a role to play.

Shiftworkers and helpful neighbours taking and collecting prescriptions for house-bound patients at times and to places at their convenience are not all easily accommodated within a patient registration scheme. Their difficulties are probably most frequently resolved by recognised prescription collection and delivery services arranged by pharmacists. With an increasing proportion of elderly people in the population, many of whom preferably continue to live in their own home

environment, proper recognition and organisation of domiciliary community pharmacy services is due and will need careful financing. The Department of Environment projects a net increase of over 600,000 elderly single person households between 1986 and 2001.²⁴⁴

The community pharmacy service must embrace future difficulties and problems and maintain the well regarded and efficient dispensing service, to properly complement the GP services.

6.6.4 ADDITIONAL COMMENTS

There were 56 additional comments most of which were most complimentary about the community pharmaceutical service.

Over half made reference to the importance of getting to know and having a good personal relationship with the pharmacist; being able to telephone with any medication query; and getting advice on OTC products which can be checked against prescription records.

Three people referred to using two chemists each, both were very good and provided first class home services to pensioners.

Several (12/56) expressed various concerns about the pharmaceutical service, which included pharmacies not opening late; that pharmacies should be open 30-45 minutes after GP surgeries close; that shift workers need flexibility to go to

more than one pharmacy; that a problem exists if the pharmacist is at lunch and the patient wants to get home quickly; and the dependence of the house-bound or elderly on neighbours to take prescriptions to a pharmacy at their convenience.

All these issues need addressing irrespective of the way in which the pharmaceutical service is revised and reshaped. All of the issues raised here could be helped by a closer recognised professional relationship between patient and community pharmacist which would be brought about by patient registration. Many, though not all of the difficulties experienced by patients relate to regular medication, for which registration and closer links with one pharmacy and a recognised delivery services could go a long way to resolving.

Other respondents were extremely perceptive with their comments: "It is very important for a *neighbourhood* pharmacist to be in regular contact with local GPs and have an amicable relationship"; "pharmacists could play a larger role within the health care team by giving more advice and information to patients"; and "people should be educated so that their local chemist could help them rather than going to their GP."

The data show that there are those who are aware of the pharmacists' expertise and avail themselves of it. Nevertheless what is evident is that there are many who see the dispensing role mainly in terms of speed of delivery. They are

probably unaware of the amount of advice pharmacists can appropriately give to patients and the range of services such as prescription home care delivery which can be available on request. As one sympathetic GP put it (noted in Chapter 5): "is the fault with pharmacists for not promoting themselves?"

6.7 SUMMARY

An overwhelming majority of the sample population use the same pharmacy always or nearly always for the dispensing of their prescriptions.

Personal service is of no less importance than factors of convenience when choosing the pharmacy where prescriptions are usually or always dispensed.

A majority of patients have received advice from a pharmacist about possible side-effects from drugs.

The majority of the public are aware of the personal advantages which can be gained from a chemist of their choice keeping a complete record of their prescriptions.

Registration with GPs, dentists and chemists is an acceptable concept for 90% (342/379) of the general public providing adequate facilities exist for change if dissatisfied.

Any problems, which are the cause of the reservations a small minority of respondents have to patient registration with a pharmacy, must be investigated and resolved if possible.

Arrangements for patients when away from home on business or pleasure or in an emergency, should present no difficulty and can be dealt with in a similar way to those which apply to temporary or emergency access for medical attention.

Lunch-time facilities and temporary absence of a pharmacist could be accommodated where necessary by delivery services. Problems of this kind would diminish as a consequence of a better understanding between patient and pharmacist at the pharmacy where the patient is registered.

More difficult at the present time, is the subject of out of hours services. The volume of prescriptions between 6.00 pm and 11.00 pm has fallen sharply mainly as a consequence of GP appointment systems and it is no longer viable for most pharmacies, even in city centres, to open late for prescription business. The NHS payment of £8 per hour for week day rota service, where payment shall not be made for more than one hour on any one day, is considered to be quite derisory.⁷² By comparison, solicitors on call for those arrested by the police, receive £50 per hour, under the state legal aid scheme. For an efficient rota service it is normally necessary to have at least one assistant as well as a pharmacist on duty.

Proposed arrangements for an on-call pharmacist service to operate between 11.00 pm and 7.00 am, have so far failed to materialise in the West Midlands as the police are not able to supply manpower to ensure security.²³⁸ At present, the medical profession are attempting to delegate night calls (11.00 pm to 7.00 am) to deputising services and are demanding additional fees from patients for night calls. Traditional arrangements for out-of-hours services seem to be in jeopardy, with claims that many calls are frivolous, security has become a problem and payments are considered to be inadequate.

In large conurbations, perhaps consideration should be given to the New Zealand arrangement of having a pharmacy centrally which only provides a service when other pharmacies are closed and is manned on a rota basis.²¹⁶ For security reasons, prescriptions at night are presented through a grill to the pharmacist. A similar security arrangement has existed in pharmacies in Swiss towns for over forty years.

These examples are mentioned because it is possible to devise a system and service which at a reasonable cost to the NHS could meet most essential needs of patients. At the same time the commitment from pharmacy would be clearly demonstrated.

There is need for much better factual information about health service costs and practical limitations to be disseminated to the public. For example, many night calls could probably be

avoided if people were better informed about early evening GP and pharmacy services. It ought not to be necessary to introduce punitive charges for night calls which is what some GPs are demanding.

Patient registration could reduce the pharmacy security problem. The patient would normally be known. PMRs could be checked on a portable computer. If there were security risks connected with opening a pharmacy in the middle of the night, perhaps pharmacists should be allowed to hold a range of emergency medicines complementing those which a GP normally carries. A portable container of drugs, excluding narcotics, might be kept ready by the on-call pharmacist, which would avoid the necessity of opening the pharmacy.

6.8 CONCLUSION

Hypothesis 6.3: "The public do not want to take their prescriptions to the same pharmacy."

96.5% of the respondents took their prescriptions always or nearly always to the same chemist and 84% of the respondents confirmed that they were aware of many advantages in so doing. In response to a more demanding statement 10g), 56% disagreed that there would be inconvenience to always take their prescription to the same chemist. The hypothesis is rejected.

Hypothesis 6.4: "The public see no advantage in a chemist having complete PMRs."

The responses given to question 9 and the data analysis presented in Figure 6.2 support the rejection of this hypothesis.

80.2% of the respondents had each ticked between one and four advantages which they recognised would come from a pharmacy of their choice keeping a complete record of all their prescriptions. Less than 10% of the respondents seemed to be unconvinced about the personal advantages.

Hypothesis 6.5: "The public see no advantage in being registered with GPs, dentists and chemists."

The combined data from the statements in question 10 show that 77% of respondents saw no problem with being registered with a doctor (Q10a), 66% disagreed that there were no advantages of registration with GPs, dentists or chemists and just 14% agreed. 90% agreed that registration with GPs, dentists or chemists was best for them, providing that it was easy to change if unsatisfactory. The hypothesis is rejected.

The public are not to be underestimated in their perception of the pharmaceutical service. The outcome of this survey following on from the study of the consumer needs and expectations of community pharmacy services, shows that at least 90% of the public seem likely to accept and respond to the advantages which could come from complete and reliable PMRs associated with patient registration.

CHAPTER 7 PERSONAL INTERVIEW PROGRAMME

7.1 INTRODUCTION

Six interviews were conducted with key personnel in several organisations which play important roles in pharmacy affairs.

They were:

Dr Gordon Geddes	- Assistant Secretary PSNC
Mr Tim Astill	- Director NPA
Mr Roger Odd	- Head of Practice Division, RPSGB
Mr Jon Merrills	- Deputy Chief Pharmacist, DoH
Mrs Joy Wingfield	- Assistant Pharmacy Superintendent, Boots the Chemists
Mr Alan Smith	- Chief Executive, British Generic Manufacturers' Association (BGMA) and formerly Chief Executive PSNC

The aim of the interviews was to seek information and to be able to consider the views and perspectives of those closely involved in different ways with the practice of pharmacy.

The topics for discussion, which were particularly identified in a preliminary interview plan briefing paper were:

- a) The reasons for the limited or lack of professional contact between community pharmacists and GPs.
- b) Attitudes to PMRs and the need for keeping records for all patients and the inclusion of OTC medication.

- c) The pharmacists' influence or potential influence on GP prescribing.
- d) The 'barriers' which seem to be inhibiting developments in community pharmacy practice, including the suspicions of some GPs about pharmacists' motives with regard to prescribing advice.
- e) The changes required to produce improvements to patient health care by the greater integration and closer professional working of community pharmacists with GPs.
- f) The place, if any, of patient registration with a pharmacy of a patient's choice.
- g) The modifications to pharmacist contractor remuneration which appear to be necessary in order to achieve continuity of patient care and closer co-operation with GPs. The issues included, moving the emphasis of remuneration away from the numbers of prescription items to reflect the wider aspects of pharmaceutical care, the possibility of targets for participation in postgraduate education and in other areas, more than one pharmacist per pharmacy and the need for an improved out-of-hours service.

In addition various related aspects of, and changes occurring in, community pharmacy were discussed.

7.2 RESPONSES AND DISCUSSION

All interviewees expressed their wish to see the community pharmaceutical services develop and respond in general to the recommendations in the Nuffield Report.

7.2.1 PHARMACISTS CONTACT WITH GPs

There was unanimous recognition that the circumstances under which community pharmacists work, the rigor of the prescription throughput, increased stress, resolving prescription queries as expediently as possible, in addition to increased business pressures in many company pharmacies and others, left little time or incentive to foster professional relationships. Too many isolated single-handed pharmacists did not seem aware of the need or value of closer professional co-operation, which must reflect adversely on their education and training. It was thought that all too often, these rather isolated pharmacists were the ones who did not attend postgraduate courses and at least benefit from interaction with other pharmacists.

There was another perspective and several interviewees cited examples of pharmacists taking initiatives which had resulted in regular meetings with GPs at which patient cases were discussed. One example involved all pharmacists and GPs in a country town who hold monthly clinical meetings prompted originally by problems arising from the prescribing of black-listed items.

7.2.2 MOTIVATION OF PHARMACISTS

Early in most interviews, the importance of professional self-motivation was stressed but at the top of the list of motivational factors is money and it was emphasised that there is no difference from the situation with other professions such as doctors, dentists, solicitors or barristers. All interviewees, with the exception of the civil servant at the DoH, felt that much good will was lost when the Government seemed unduly niggardly and failed to reach agreement on remuneration within a reasonable time. Several interviewees were critical of the organisations in pharmacy which so often failed to speak with one voice. One person suggested that a new umbrella organisation was needed. Unlike the image of the medical profession as conveyed by the BMA, pharmacy seemed disunited and consequently was more easily subjugated: "Everyone knows that pharmacists wouldn't strike."

It was mentioned that many independent pharmacists are taking various initiatives, frequently with no immediate remuneration prospect but with concern to improve the professional service which they give. Some stimulus or action from the PSNC, the RPSGB, the NPA, the FHSAs or from competitors seems to be necessary in order to activate the majority.

There was a division of opinion about independent initiatives and PSNC is most concerned about the effect that fragmented action can have on any negotiations with the DoH to arrange

national schemes available throughout the NHS. There is invariably a financial component in any negotiations.

All interviewees were aware of and supported the contribution which referral cards can make to improving pharmacist-GP communication. Such cards can also provide feedback from the GP to the pharmacist which is something usually lacking in pharmacy referral situations. As the NPA has produced referral forms at a modest cost for members, it seems surprising that they have not been widely adopted. Interviewees agreed that there is a communication problem with pharmacists who fail to read circulated information.

7.2.3 PATIENT MEDICATION RECORDS

It was recognised that not all pharmacy computers were capable of holding PMRs and that many pharmacists only kept records for the elderly and the chronic sick. From the results of the survey in Chapter 4, it would seem that many pharmacists were keeping PMRs who had not claimed the small NHS payment for doing so (DoH interviewee). The advantages which would ensue from keeping complete PMRs which included advised OTC medication was accepted.

7.2.4 PHARMACISTS' INFLUENCE ON PRESCRIBING

The interviewees recognised the limited influence of most pharmacists and were agreed about the opportunities, extent, nature and potential of the pharmacist to influence GP

prescribing. Pharmaceutical education was criticised for failing to prepare undergraduates adequately for this increasingly important role. It was generally agreed that many GPs did regard pharmacists' advice with some suspicion and that it was important to address such barriers if better co-operation between pharmacists and GPs was to be realised.

7.2.5 BARRIERS

Considerable comment was made about the legal and NHS contract restraints which make it difficult for the majority of pharmacists to leave their pharmacy when it is open. Concern was also expressed about the inadequacies of the after-hours service. Initiatives with some FHSAs to scrap existing one hour rotas and use the money saved to properly constitute an on-call service with a minimum of two pharmacists, was cited as a useful development. As responsibility is devolved to FHSAs, such arrangements are likely to increase. Some FHSAs are supporting assistant training courses as a means of improving the quality of OTC advice. Self-medication by the public relieves the pressure on GP surgeries, on prescribing and on the NHS. PSNC do not agree with this fragmented development.

It was felt that the need to free the pharmacist is a very significant factor. Concern was expressed for the problems which arise from the isolation of many single-handed pharmacists and 'the four-walls syndrome' which it produces. As professionals they must be able to exercise discretion with

some delegated responsibility for prescription matters, when required, in order for example, to visit nursing homes. Remuneration and contract arrangements must recognise the need for and facilitate: "more than one full-time equivalent pharmacist per pharmacy."

7.2.6 REGISTRATION OF PATIENTS WITH A PHARMACY OF THE PATIENT'S CHOICE

Opinion was sharply divided, three were in favour, the official policy of PSNC is currently against, Boots are against and the DoH remains to be convinced. The reasons given in support were that for professional purposes patients should register with a pharmacist for exactly the same reason as they register with a GP. It must be easy to change registration and the arrangements must be flexible. If patients have difficulty in finding a pharmacy which would accept them, then the FHSA should be able to allocate patients to a pharmacy, as they would allocate patients to a GP. Those in support of registration agreed that it could have a stabilising effect on community pharmacy and contribute to both the continuity of patient health care and greater patient trust in pharmacists. It should also help to raise professional standards and the standing of the pharmacist in the community.

7.2.7 PHARMACIST CONTRACTOR REMUNERATION

In principle the interviewees did accept that the undue emphasis given to prescription items in the current remuneration arrangements ignored the wider role of the pharmacist. Most agreed that it was unlikely that the Government would significantly increase the total finance available which seems to be a sticking point for some. It was felt in general, that a redistribution of the total sum available was more likely but PSNC is unwilling to promote new activities without more finance being made available.

Some remained unconvinced about the inclusion in a new pay formula of targets for certain additional attainments, such as participation at postgraduate courses. Criticisms were made of a remuneration structure which penalises pharmacies with two pharmacists from receiving locum fees when one pharmacist is on a postgraduate course. In the past, when an additional pharmacist allowance was paid, it was paid to all pharmacies rather than to those which had a second pharmacist. Furthermore urgent prescription fees are not paid if a pharmacy is regularly open late when a prescription is presented. It was generally felt that such punitive arrangements are not only unreasonable but do little for morale or improving the service.

7.2.8 POSTGRADUATE EDUCATION

All the interviewees were persuaded that relevant joint courses could contribute to establishing a better understanding between pharmacists and GPs. The first priority was thought to be for joint courses for pharmacy graduates and GP trainees on topics where each had a contribution to make. However contact was necessary between pharmacy and medical undergraduates at the formative stage. Much responsibility rested on hospital pharmacists in teaching hospitals, to be fully involved and participate in ward rounds and seminars with prospective doctors: "First impressions are most important."

7.2.9 CONCLUSION

A consensus agreed that a new framework was required. The pharmacist had a positive contribution to make in association with the GP "to help the patient get better." There was an urgent need: "to develop the concept of pharmaceutical care."²⁴⁵

All interviewees agreed that pharmacy had a major educational problem as far as the public and GPs were concerned.

The interviews served their purpose in so far as they were an indication of the extent to which the results of the research and their interpretation provide a feasible case for a reorientation in pharmacy.

CHAPTER 8 GENERAL DISCUSSION

8.1 WHY IS AN INFLUENCE ON PRESCRIBING NECESSARY?

8.1.1 To improve prescribing

The importance of any influence on prescribing is to improve prescribing in the best interests of the patient. Any asset which can contribute to more effective prescribing by doctors must be recognised and utilised in any sphere of health care.

The incidence of iatrogenic disease is an indictment of that aspect of the quality of health care. An influence on prescribing which could help to reduce hospital admissions of patients with iatrogenic disease is of sufficient importance to be properly recognised.

Improvements in the quality of care which help to ensure that patients are given consistent advice, especially with regard to their concerns about any possible side-effects from their medication, must be desirable. Similarly, if and when a suspected adverse drug reaction occurs, it is promptly recognised and acted upon, (and reported to the CSM if necessary) not only will the individual patient benefit but so too will those treated subsequently.

8.2 WHY THE PHARMACIST?

8.2.1 Education and expertise

The pharmacist's education, training and expertise is now both

drug and patient oriented. Pharmaceutical education includes more pharmacology and pharmacokinetics than that of any other health care professional which is fundamentally essential in order to understand modern drugs and their therapeutic action.

The increasing complexity of modern prescribing, needs independent and current sources of information and advice. The pharmacist is an independent professional and can act and respond to these needs.

8.2.2 Same environment

The local community pharmacist is in a unique position to be familiar with the prescribing habits and preferences of local GPs as well as the particular needs of the local community.

8.3 WHAT INFLUENCE HAS THE PHARMACIST CURRENTLY?

8.3.1 As a passive source of information

The community pharmacist was given a low rating in both 1979 and 1990 as an information source even though he was considered to be as helpful as consultants and a large majority of GPs recognise that the availability of pharmacists' whenever their pharmacies are open is a great help to them. (Chapter 2.3.2) As a source of independent information, community pharmacy has been overtaken by some of the newer sources of evaluated information described in Chapter 1 and the modern BNF. In response, too few pharmacists have attempted to become more pro-active as an information channel or facilitator.

The minority of GPs who consider and recognise that the pharmacist has an influence on their prescribing are mostly those who are associated with the active involvement of pharmacists with GP practices. (Chapter 5.6.2)

8.3.2 As an active influence to change

A majority of GPs seem to have considerable empathy towards community pharmacists and an appreciation of their role and potential in responding to symptoms and treating minor ailments, albeit that empathy is tinged by a rather conservative perspective. This is reflected by the recognition that the pharmacist could do much more to help them, even if this recognition seems rather unidirectional.

8.3.3 Pharmacists' attitude to their influence

Many pharmacists do not seem to have recognised or accepted as a reality that they have a contribution to make as an influence on prescribing which would be to the patient's benefit and could only enhance their own professional liaison with GPs.

8.4 WHY IS THE PHARMACIST CONSIDERED SO LOW AS AN INFLUENCE?

8.4.1 Lack of perceived need for pharmaceutical advice by GPs

The transition in medical practice from a predominance of singleton practices to group practices has not been in any way paralleled in community pharmacy. Group GP practices have relatively more resources to call upon including ancillary staff, largely financed by the NHS. This has resulted in a

considerable feeling of self-sufficiency. It is very easy to ask a colleague a question or to share an opinion.

In contrast the one pharmacist pharmacy, busily dispensing one prescription every four to five minutes appears to neither have the time nor the resources to provide a more sophisticated pharmaceutical information service commensurate to present day needs. Some pharmacists are also perhaps lacking in confidence derived in part from the limited emphasis given to this role in the undergraduate course.

8.4.2 Lack of contact

The level of contact between many pharmacists and GPs is limited to sorting out prescription queries which centre around ambiguities of drug name and form, dosage magnitude and frequency. Such queries usually initiated by a pharmacist's telephone call to a GP tend to result in a defensive response to resolve the immediate query, rather than a discussion and confirmation of the appropriateness of the prescription. Such limited level of contact between the two professions inhibits meaningful professional co-operation and influence.

The failure of many pharmacists to have some involvement in GP practice matters militates further against any understanding by GPs of the pharmacists' underutilised expertise.

8.4.3 Lack of pharmacists' time

Much emphasis and effort goes into providing a speedy dispensing service which pharmacists have encouraged the public to expect. Anything which might slow down that process is likely to be seen as a hindrance. This also seems to act as a restraint on the pharmacist's advisory role, which like the GP's five minute appointment schedule is constrained by time.

In the single pharmacist pharmacy, especially in the absence of a dispensing technician, it is most unlikely that the pharmacist will be free and able to relate to GPs in a group practice at a time which is convenient for them. This is even the experience of many pharmacists in health-centre pharmacies, where separation by distance is not a significant factor.

8.4.4 Remuneration fixed to dispensing

The big emphasis on prescription numbers given in the NHS remuneration to pharmacist contractors does not encourage, and in a proportion of cases discourages GPs from having sufficient confidence in advice from pharmacists. Except where a trusting professional relationship has already developed, many GPs seem to feel that advice from a pharmacist may have an inappropriate bias influenced by financial considerations.

Doubts in the minds of some GPs who lack a meaningful professional relationship with a pharmacist about the pharmacist's commitment to their professional role is not

helped by pharmacy's apparent inability to provide a nationally recognisable out-of-hours service. From the GPs' perspective, and the public's, the pharmaceutical service often does not extend for even up to half an hour after surgery time. It is of no concern to GPs, that such matters are seriously affected by FHSA contracts and national remuneration agreements between the DoH and PSNC. Nor are doctors concerned that the pharmaceutical service receives no financial support for ancillary staff and premises in the way which GPs do.

8.5 WHAT ARE THE BARRIERS TO THE PHARMACIST'S INFLUENCE?

8.5.1 GPs' suspicion of pharmacists' motivation

In the absence or near absence of a meaningful professional relationship, some GPs and organisations like the BMA and the Dispensing Doctors' Association, view pharmacy, partly for historical reasons, either with sceptical reservation, or as a threat and in competition. This is evidenced every time it is suggested that a medicinal product classed as prescription-only (POM) should be reclassified as pharmacy-only (P). When pharmacists attempt to show initiative and offer blood pressure monitoring or cholesterol testing services or provide additional information to patients about their medication, such as the Hadley-Hutt A4 information sheets, a section of the medical profession and their union express their reservations. This is usually irrespective of the profession's own protocol and ethics which pharmacists apply to such services, and discussion with local GPs prior to their introduction. The

criticisms voiced invariably omit to mention public demand and preference or the appropriateness of the pharmacy for health promotion and diagnostic services, especially if compared with automatic machines in hypermarkets.

It is more understandable that many GPs seem to consider that the trading activities of pharmacists, especially with regard to non-pharmaceutical goods, divert many pharmacists away from their professional priority and commitment. Older GPs especially, seem to consider that this aspect has deteriorated and most pharmacies now employ relatively fewer staff than formerly as business pressures and competition have increased.

British pharmacy is patronised by relatively more people per day, estimated at six million, than happens in many countries where pharmacy is limited to a prescription service and the supply of some medicinal products. Many people including GPs seem unaware of the unique opportunity that this provides for the pharmacists' extended and new roles. Nevertheless for some GPs it is something of an anathema. For some the fact that about 20% of British pharmacies are owned and run by large public companies answerable primarily to shareholders and that such a large proportion of community pharmacists are employees, is seen to detract from their professional status.

There are also those doctors who consider dispensing to be a supply only function under their direction and one which is now in decline as it loses much of its remaining craft skill.

8.5.2 Pharmacist barriers

In many respects these are self-imposed and affected by the pharmacist's attitude to his chosen profession and role. Foremost is the extent of the limited professional relationship of many pharmacists with GPs, which has been identified.

Associated with the lack of a meaningful professional relationship is a lack of confidence that a pharmacist really has an expertise of significant value to be used alongside the GP's clinical experience. Reference has been made to the pharmacist's extensive pharmaceutical knowledge including pharmacokinetic and drug information resources. Such expertise requires relevant postgraduate education and up-dating. Nationally 15% of pharmacists (ranging from 10-25% in different NHS Regions) annually attend postgraduate courses and the proportion is now set to rise to 30% since the establishment of the CPPE. This is much below the percentage reported of almost 95% of GPs in the West of Scotland who had qualified for the ten session postgraduate allowance, since the introduction of 'targets' linked to significant financial incentives.

The pharmacist has still to be generally accepted as a member of the primary health care team. Government Reports emphasise

the value of a team of professionals working closely together under one roof to provide primary care services but no mention is made of the pharmacist in this context.

8.5.3 Legal and contractual constraints

For the single-handed pharmacist the laws relating to 'personal control' and 'supervision' as well as the NHS contract requirement to provide a pharmaceutical service usually between 9.00 am and 6.00 pm, severely restrict the pharmacist from leaving the pharmacy. It helps to create 'a four-walls mentality' and inhibits meeting and working with GPs or with any other health-care professionals, including fellow pharmacists. No other profession would seem to be subject to such restrictions. The apparent inability of pharmacy to stabilise the competitive environment to financially support many more two pharmacist pharmacies exacerbates these difficulties.

It is a matter for concern that where two pharmacist pharmacies exist, they sometimes appear to be particularly vulnerable to applications for new contracts nearby.

The growing expectations of the public for an area with privacy in a pharmacy in which a patient can receive advice and for GPs, when visiting a pharmacy, to be able to speak to the pharmacist in private are needs which have so far been inadequately met.

It is unfortunate that in many pharmacies a disproportionately small amount of space is allocated to the NHS part of the business, which generates an average 70% of the income. The perception of many GPs and to an increasingly questioning and better informed public, is that there is a greater commitment to general trade than to the NHS and the pharmaceutical service.

The research has given an objective indication of the importance attributed to the personal service factors, the time the pharmacist spends to give advice and the patient-pharmacist relationship (Chapter 6). It is disappointing that FHSA pharmacist contracts do not include the personal name of the pharmacist as they do for GPs, dentists and now for optometrists, whose individual names are now included in FHSA Lists. This issue is not just to do with names on lists but has to do with the perception of GPs, FHSA managers and the public and the apparent anonymity of pharmacists which maybe is thought to relegate any personal professional responsibility behind that of their employer.

8.5.4 Patient expectation

The high priority which a majority of the public place upon the speed of the dispensing service has largely been induced by pharmacists in endeavouring to achieve competitive advantage. Desirable and appropriate as this is, it has an element of an Achilles' heel. It militates against a full appreciation by

the public of the pharmacist's expertise and wide-ranging and far-reaching checks on the safety and appropriateness of each prescription and does little to encourage the giving, in a busily industrious environment, of adequate advice to each patient. Here again, the efficient throughput on average of one prescription item every four or five minutes does little to charge the limited expectation.

8.6 WHY SHOULD THERE BE A GREATER INFLUENCE?

The need for more continuity of care within primary health care is better recognised than previously and there is the opportunity for the pharmaceutical service to meet that need.

8.6.1 Government policy towards changes in Primary Care

Prime objectives of the Government's policy for FHSAs' are to encourage and support multi-disciplinary team-working and to develop high quality consumer responsive services which meet local needs.

The Government's continuing concern about the rising costs of primary health care and the drugs bill in particular, which are reflected in the introduction of PACT data, the indicative prescribing scheme and fund-holding are designed to make GPs increasingly aware and even vulnerable to Government pressure on prescribing.

The projections by OPCS for the increase in the proportion of those aged 65 or more in the population show a rise from 15.8% in 1991 (4.7% in 1901) to a peak of 21.6% in the year 2036. This will place increased demands on the NHS, including those for domiciliary services, which must be reconciled.

As a consequence of the public being better informed, their expectations continue to rise. The recent issue of the Citizen's Charter including the Patient's Charter have given added recognition and impetus to public expectations, which, where feasible and appropriate must be met. Increased awareness by the public of their 'rights' and demands for better care may also bring an increase in the incidence of litigation and claims for negligence.

All of these factors contribute to encourage most professionals to ensure that they keep up-to-date and where necessary consult others with relevant expertise.

8.6.2 Need for pharmaceutical expertise

For several years there has been an increase in the number of medicinal products which have been reclassified from prescription-only to pharmacy-only. The renewed interest and awareness of the Government in the traditional advisory role of the pharmacist in responding to patient symptoms has helped to relieve some pressures on GPs and the NHS. The encouragement given to the public to take more personal responsibility for

their own health has been associated with seeking advice from the pharmacist which frequently avoids the need for a prescription.

Where necessary pharmacists responsibly refer and encourage patients to see their GP, which enhances the recognition of the pharmacists' role in this respect. Any increase in the pharmacists' response to symptoms role as a consequence of more effective drugs being reclassified from POM to P, may also increase the relative number of patients who are referred to GPs. This too could influence prescribing.

Much of the need for GPs to interpret their quarterly PACT data is as an ongoing exercise in medical audit. For the data to continue to be regarded as a useful influence requires careful, regular analysis and the sustained motivation of those involved. External co-operation with a local pharmacist could be of help to maintain the momentum necessary and improve the appropriateness of prescribing and patient care to the benefit of all involved. There is a role for FHSA pharmaceutical advisers to assist in this aspect of co-operation between community pharmacists and GPs.

8.7 HOW MAY BARRIERS AND SUSPICIONS BE OVERCOME?

Barriers and suspicions do not exist or are lower where community pharmacists and GPs liaise effectively and have good professional relationships. Where pharmacists have taken the

initiative to be involved with GP practice activities and develop their own initiatives with the full knowledge of local GPs, pharmaceutical care seems to be properly recognised as an asset to both GPs and patients alike.

8.7.1 Changes in pharmaceutical orientation

Where barriers and suspicion seem to exist, pharmacists must take the initiative to communicate and be prepared to persevere until GPs' attitudes change. The importance of attending relevant postgraduate courses cannot be overemphasised and these must include joint courses with GPs.

No change will take place if pharmacists are not convinced and committed to the changes which seem to be required. However a majority of pharmacists do recognise and expressed a wish for changes to be made. (Chapter 4.6.5)

If it is only possible to be involved with GP practices during pharmacy contract hours then maybe the employment of an additional part-time pharmacist would facilitate matters. Although not eligible for additional funding at present, such action would strengthen the case for a second pharmacist allowance.

A reorientation of emphasis from the perception of dispensing as a supply function, to one of the continuity of pharmaceutical care for the individual patient, is called for

and must be conveyed to GPs and patients. The concept of total pharmaceutical care is one which is promoted in the Joint Working Party Report.

8.7.2 Remuneration changes

The research data confirm that a majority of pharmacists would favour modifying the system of remuneration to reduce the emphasis on prescription numbers which takes little or no account of the pharmacists' advisory role. (Chapter 4.6.5)

Serious consideration should be given to the support from a majority of pharmacists, for part of pharmacist contractor remuneration to be allocated to targets such as for participation in postgraduate education. Evidence from medical general practice does confirm that targets can act as effective encouragement and as a stimulus to pursue postgraduate education and improve health care services.

If some aspects of postgraduate education were linked to those of GPs, it would be more likely that GPs would be aware of and accept the contributing influence of pharmacists on their prescribing.

Whatever the formula which enables a shift in orientation towards the wider aspects of pharmaceutical care, it should have the effect of removing some of the reservations and suspicions of many GPs. (Chapter 5.6.4) Pharmacists would need

to take the responsibility to explain the changes and demonstrate the ways in which the continuity of patient care was enhanced. Encouragement and help for the pharmacist to make the first move must be forthcoming. All organisations within pharmacy have a contribution to make, which needs to be co-ordinated.

8.7.3 Practice changes

The need and importance to train all pharmacy staff adequately who are involved at the interface with the public and medicines and prescriptions is of no less importance than it is for GPs' receptionists, a large proportion of whom have received training. The Boots Company and the NPA have made considerable efforts in this direction. The Assistants' Supplement to the Pharmaceutical Journal provides all community pharmacists with relevant training material. All dispensing technicians and counter staff involved with patients must be seen to respect patient confidentiality and give the public confidence in the quality of the pharmaceutical service. The pharmacist would then be better able to provide advice more readily to all patients.

A pharmacy complement of more than one full-time equivalent pharmacist per pharmacy, would enable closer liaison with local GPs and facilitate such things as a full pharmaceutical domiciliary service. All of these developments would reduce existing barriers. (Chapter 4.6.6. - 4.6.9)

Community pharmacists should indicate their willingness to act as a channel for drug information. It may not be realistic to presume or expect a small pharmacy to have more reference book information sources than a three or four GP group practice. Yet part of the pharmacist's expertise should include an awareness of and a readiness to use relevant sources, such as those provided by the RPSGB, NPA, PSNC and by pharmaceutical manufacturers. It is for the pharmacist to publicise his expertise in this respect to GPs if recognition is to be gained and sustained. The community pharmacist has the unique advantage of being accessible and in the same locality. It is important to recognise that even the most modest pharmacy should have the same and essential core reference sources that GPs have (Chapter 2.3), which are the BNF, Drug and Therapeutics Bulletin, MeReC Bulletin and the Drug Tariff. It is imperative that the pharmacist is fully conversant with the contents of each.

Liaison with local GPs with regard to out-of-hours services and delivery services would also convey the desired impression of commitment to pharmaceutical care, and that pharmacy continues to have a changing but complementary role to that of medicine.

Changes in pharmacy practice must include consideration in some town and suburban areas of the relative isolation of small single-pharmacist pharmacies which restricts the ability of the pharmacist to make some of the changes in orientation which

have been discussed. It may be that this is a matter for the new managerial responsibilities of FHSAs to consider. A programme which would help to lower the real or perceived isolation of some community pharmacists must be in the public interest. Whether there should be financial compensation to encourage the merging of practices, as has been done for GPs, is beyond the scope of this thesis.

Small suburban and town centre clustered pharmacies, are relatively more costly for the NHS. Encouragement for pharmacist partnerships and two-pharmacist pharmacies would also help the establishment of specialist services as recommended in the Joint Working Party Report. Such arrangements would probably be best controlled by the FHSA as they are for domiciliary oxygen service.

A regularised out-of-hours service controlled through the FHSAs and FHSA contracts, would also help to convey to patients and GPs that the difficulties which some members of the public have experienced with emergency prescriptions are being addressed. (Chapter 6.1.5)

8.7.4 Improved patient orientation

The advantages which can accrue from computerised PMRs to which can be added medication supplied by the pharmacist in response to a patient's symptoms, needs to be explained properly to all patients.

When potential advantages from complete PMRs were suggested to the public, they were recognised by and accepted by a majority. (Chapter 6.6.2)

Changes in orientation will require pharmacists to demonstrate and communicate their interest in and commitment to pharmaceutical care to their patients. The need to confirm the measures taken to ensure patient confidentiality by pharmacy staff and the arrangements which are available for emergency needs, including if appropriate domiciliary services, must be recognised and properly explained to patients.

Referral cards should be used in all pharmacies, when it is necessary to refer to their GP a patient who presents with symptoms which require medical attention. Referral of a patient, maybe either urgent or the wisest action and precaution for the pharmacist to take. It can also provide the pharmacist with an ideal opportunity to liaise with the patient's GP and if appropriate, discuss the treatment. For the patient it is a positive indicator of the confidence and trust which they can have for their pharmacist and in the professional relationship between the pharmacist and their GP.

Used appropriately, referral cards need not affect the informality associated by many people when seeking a pharmacist's advice and which it is important to retain.

8.7.5 Patient registration

Analysis of the data from the surveys of pharmacists, GPs and patients (Chapters 4, 5 and 6) shows that the advantages of complete PMRs are recognised by a majority of those involved. The extensive use of computers in pharmacy, well beyond that of GPs, dentists, or optometrists has provided pharmacists with a facility capable of making a great contribution to primary health care for the principal benefit of the patient. If PMRs are not complete their value is severely limited. The data show that 95% of the public use the same or nearly always use the same pharmacy for their prescriptions and 83% of the public agreed with up to four personal advantages from complete PMRs.

For most people registration as already experienced with GPs is not resented or perceived as an invasion of freedom. There are people now who believe that they are registered with a pharmacy because they have received a PMR card from the pharmacy.

Hence it would seem that the advantages from patient registration with a pharmacy, providing that there was provision for emergencies and when away, are seen to outweigh any disadvantages by the vast majority of the public. Arrangements are well established for a patient to see any GP in an emergency or when away, and the new dental contract includes an extensive list of 'occasional treatments' which may be necessary in an emergency.

The 2% of the public who did not want to feel restricted and preferred anonymity, half of whom did not have a prescription often enough for it to bother them, possibly hold similar views about other parts of the health service. It has been estimated that 1% of the population are not registered with a GP.

8.8 DISCUSSION CONCLUSION

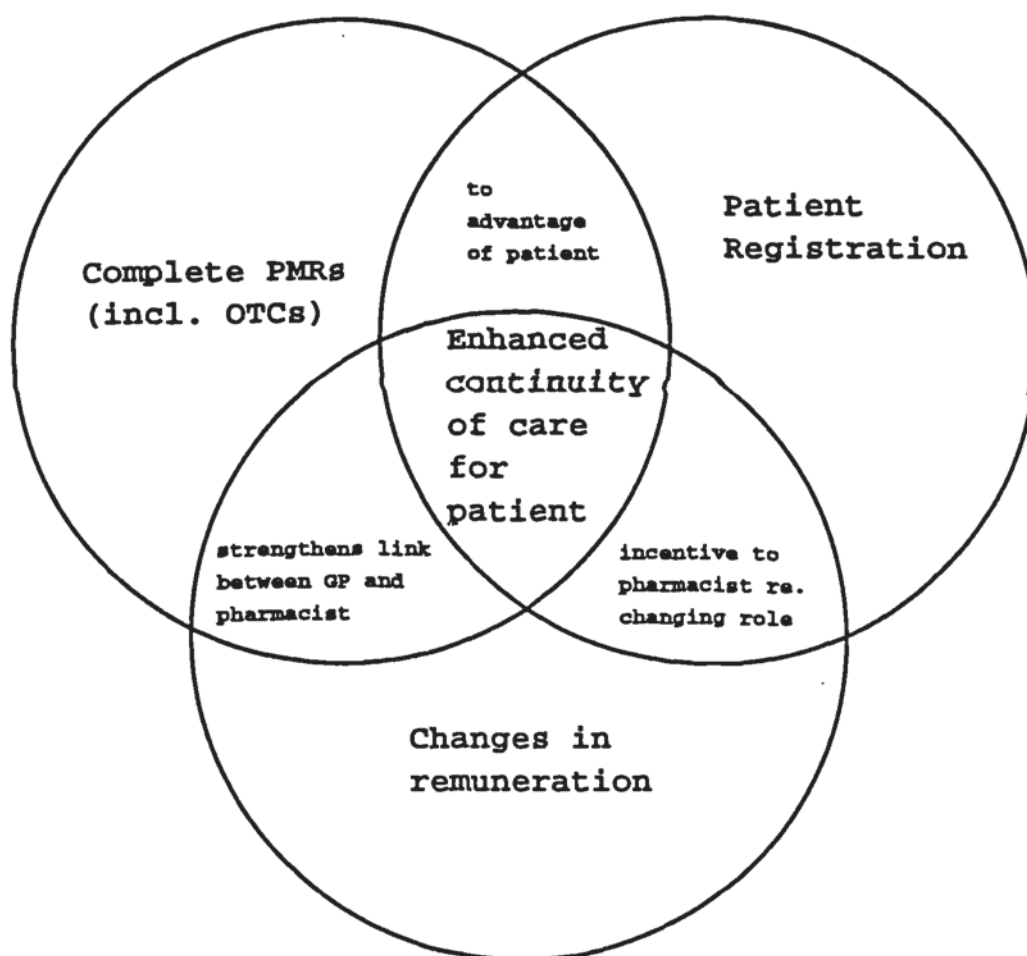
Reliably complete PMRs, which included any medication advised and supplied in response to symptoms, are capable of enhancing checks on drug interactions, providing relevant information to patients on possible side-effects and generally improving the continuity of care, and strengthening the patient-pharmacist relationship. If associated with patient registration and a change of emphasis in pharmacy remuneration away from payment per prescription item, the suspicion with which some GPs regard advice from pharmacists should be tempered. Barriers to co-operation between pharmacist and GP would be lowered. The pharmacist needs and would have more incentive to accept an increase in a shared responsibility with GPs for all patients.

A pharmaceutical reorientation which linked these three key components as illustrated in Figure 8.1, would make a promising foundation for responding to future changes and public needs. Domiciliary services require expansion to meet the needs of the increasing numbers of elderly people now and forecast for the future. This is especially so, as Government strategy is to maintain people in their own homes for as long as possible.

Incentives for all community pharmacists to take part in postgraduate education and particularly when linked to medical postgraduate education, would help to lower barriers due in part to the lack of contact between some pharmacists and GPs.

Pharmaceutical care for individual patients in the community, provided through community pharmacy could realise many of the recommendations of the Nuffield Report, the NAO Report and the Joint Working Party Report as well as enabling pharmacy to face the challenges of 'The Health of the Nation' into the twenty-first century with considerable confidence.

Figure 8.1 REORIENTATION IN PHARMACY



8.9 OVERALL CONCLUSIONS

These conclusions are based on the research data in this thesis and associated with the conclusions in the previous chapters.

- 1 Prescription analysis and survey research indicated that the hospital consultant's major influence on prescribing was still not proven as a generality. Much depends on the level of communication between the individual GP and consultant. The effect of the initial prescriber's influence on colleagues in their GP practice following the introduction of a anti-asthmatic drug, seemed to be significant. Future research of this kind is unpromising because of confidentiality restrictions on *prescriptions*.
- 2 The relatively low rating of the community pharmacist as a source of information used by GPs was in contrast to the relatively high rating the pharmacist was given for helpfulness. The changing needs of the public for community pharmacy services and the changes in the management of primary health care, influenced the subsequent direction of this research.
- 3 The use of the same pharmacy for prescriptions by most people provides the essential basis on which complete PMRs on pharmacy computers can be made. This is of increasing value to the patient, and to the pharmacist for checking the safety and suitability of prescriptions.

- 4 The importance of and advantages to the patient of reliably complete PMRs which include wherever possible details of self-medication, is recognised by the public and by GPs when the implications are properly explained.
- 5 The public recognises the importance of the personal service which it receives from both pharmacy assistants and the pharmacist. Patients with regular prescriptions recognise and value the personal relationship but this is not so for those who only occasionally use a pharmacy. Prescription services are heavily time-driven and for many people the lack of privacy and confidentiality militates against a more personalised professional service.
- 6 Where pharmacists have regular contact and involvement with their local GPs, there is a recognition and understanding by the GPs of the pharmacists' expertise and value. In these circumstances the pharmacist is recognised as having an influence on prescribing.
- 7 Most GP practices have a pharmacy within a distance apparently acceptable to them and the public. There seems to be a limited desire by GPs to have a pharmacy within their premises. This maybe a recognition of the wider pharmaceutical services which community pharmacies give to the public. Appropriate relocation of some GP practices in the community could facilitate physical integration which

is a barrier to the recognition of the community pharmacist as a member of the primary health care team.

- 8 From the additional qualitative comments, the differences between the pharmacy held PMR and the GPs medical record do not seem always to be well understood by GPs and the public. Their complimentary role in helping to ensure the appropriateness of patient medication, especially when OTC medication is included, will be of increasing importance as more prescription-only medicines are reclassified for supply by pharmacists. There is only limited evidence that the 'smart card' in its present form would be a feasible or economically viable alternative form of record.
- 9 Changes are necessary in pharmaceutical education at undergraduate and postgraduate levels if pharmacists are to be better recognised and accepted by the public and by GPs as experts in pharmaceutical care. There is wide recognition of the need for joint educational programmes on topics of mutual importance for both medical and pharmacy undergraduates and at postgraduate level the needs of GPs, pharmacists, GP trainees and pre-registration pharmacists.
- 10 Pharmacists would welcome the encouragement to participate in postgraduate education offered by a financial incentive target provided that proper recognition was given to the difficult circumstances of the one-pharmacist pharmacy.

- 11 Changes in remuneration to reduce the emphasis on payment for prescription items would reduce a major cause of suspicion felt by many GPs about pharmacists' motivation. A system which gave recognition to the wider role of pharmacists and their responsibilities associated with the continuity of pharmaceutical care would give the impetus and a better climate for closer professional co-operation. The targeting of resources to specific activities is acceptable to the majority of community pharmacists.
- 12 Patient registration with a pharmacy of the patient's choice is in the patient's interests and gives a continuity of pharmaceutical care *which contributes to primary health care*. The public recognise the advantages of patient registration as experienced with GPs. 29% of GPs supported patient registration with a pharmacy and the figure increased to 44% when some advantages were identified. As it has now become much easier for patients to change their GP and as patient registration has been introduced and accepted in dentistry, it is concluded that patient registration with a pharmacy is the next logical step.

The reorientation in pharmacy which the majority of pharmacists wish to see will meet the changing needs of the public. It will also provide the necessary continuity of pharmaceutical care to meet the targets of: "Health for all by the year 2000".

8.10 RECOMMENDATIONS

The following recommendations are based on the research and data presented in this thesis:

- 1 Pharmacy undergraduate education should include more emphasis on the pharmacist's professional role in providing a pharmaceutical information service to GPs. There is a need for pharmacists to convey their expertise to GPs with professional confidence. The importance of communication skills, both written and verbal needs to be stressed. (The GPs' contract would now allow for a pharmacist to be paid as a prescribing adviser).
- 2 All pharmacies should be able to provide and advertise an information service to GPs and act as a channel for information queries to external services where necessary. Most GP queries can be answered by reference to the BNF, Drug Tariff, Drug and Therapeutics Bulletin, MeReC Bulletin, Current Problems and the current editions of Martindale and the RPSGB's Medicines, Ethics and Practice Guide. Five of the seven items listed are available free of charge to community pharmacists.
- 3 Those responsible for pharmacy undergraduate education, especially in professional and patient orientated studies, should plan relevant joint courses and workshops with those

responsible for medical general practice undergraduate education.

- 4 All those with responsibility for the postgraduate education of community pharmacists and pre-registration pharmacy graduates should plan relevant joint courses with those responsible for the postgraduate education of GPs and GP trainees.
- 5 Patient referral cards must be introduced as soon as possible into all community pharmacies with appropriate information for pharmacists to introduce the referral arrangement to their local GPs. Arrangements could be made through FHSAs and the FHSA pharmaceutical advisers could act as facilitators.
- 6 Encouragement should be given to community pharmacists to keep complete PMRs for all patients and to include details of recommended OTCs in accordance with the 'Guidelines on Pharmacy Computer Systems' issued by the Council of the RPSGB. The increasing number of more effective and potent medicines which are no longer restricted to prescription, is a very relevant pharmaceutical care factor in this context.
- 7 The public's and GPs' confidence in the objective professionalism of pharmaceutical services must be improved

by the adequate training of all pharmacy staff involved with prescriptions and medicine supplies. The lack of trained pharmacy staff is a serious weakness in the community pharmaceutical service and may limit future developments.

- 8 A scheme is needed to formally recognise and bring to the attention of patients and the public that patient confidentiality in community pharmacy is properly recognised and treated with respect. Pharmacy staff involved with prescriptions and medicine supplies should receive appropriate instruction and they should sign a standard protocol document. It might reassure both the public and many GPs if some form of discrete notice was displayed in pharmacies which confirmed the professional recognition given to patient confidentiality. To give the necessary credence to such a scheme, some form of censure for failure to meet accepted standards of confidentiality should be part of pharmacy staff contracts of employment.
- 9 More attention must urgently be given to providing adequate privacy for giving patient advice in all pharmacies. Properly provided waiting areas should be introduced to meet the public's increasing expectations.
- 10 All pharmacies should have leaflets available summarising the services which they offer to the public which should

include an adequate description and the advantages of complete PMRs for the individual. A similar requirement is now part of the GP contract.

11 FHSAs should consider in the public's interest, what changes are necessary in their areas to reduce the difficulties and the professional isolation of the one pharmacist pharmacy. Some initiative is necessary in order to:

- a) provide financial compensation for the merging of small pharmacy businesses in towns or suburbia,
- b) encourage partnerships in pharmacy into which young pharmacists could join, as has been encouraged in general medical practice,
- c) help the identity of community pharmacists by including their names in FHSA contracts and Practitioner Lists which is now done for optometrists as well as for GPs and dentists,
- d) where merging of small pharmacies is not feasible or acceptable, pharmacists should be encouraged to work together to provide specialist services between them. For instance, one pharmacist might take responsibility for domiciliary visits, another for residential homes and another for GP practice involvement and the FHSA would need to divide remuneration equably,
- e) larger pharmacy units providing a wide range of pharmaceutical services should be encouraged if

necessary by contract limitation similar to that applied to GP practices.

12 Consideration should be given by PSNC to the advantageous effects of shifting the emphasis in pharmacist contractor remuneration away from the numbers of prescription items. Associated aspects include the partial allocation of remuneration for the following:

- a) targets, especially for postgraduate education, and which could also include, PMRs, residential home pharmacist counselling, domiciliary visits, GP practice visits, patient counselling area provision and maintenance, diagnostic services testing especially for monitoring blood pressure, blood glucose and cholesterol.
- b) encouragement for a second pharmacist to provide the opportunity for pharmacists to properly undertake domiciliary services and other aspects of the extended role. The second pharmacist could be part-time.
- c) service hours more closely related to surgery hours with a recognised overlap.
- d) recognised out-of-hours service to reduce the difficulties experienced by a minority and demonstrate pharmacy's commitment to the public and to GPs.
- e) adequate allowances for attendance at postgraduate courses during the day to include reimbursement for a second pharmacist where appropriate. Pharmacists are

now almost alone among all the professions in being expected to attend mainly evening courses or courses on Sundays in order to keep up-to-date.

- f) The inclusion in a revised contract of patient registration with a pharmacy of the patient's choice, as for medicine and dentistry, would reorientate pharmacy and enhance the continuity of pharmaceutical care for the individual patient.

8.11 RECOMMENDATIONS FOR FURTHER RESEARCH

- 1 Research should continue on the mechanics of introducing a scheme for patient registration with pharmacy.
- 2 More research is required on pharmacist - GP relationships and professional co-operation, especially with regard to lowering GPs' suspicions of pharmacists' motives.
- 3 A feasibility study with an FHSA, to provide a pharmaceutical adviser facilitator scheme to help community pharmacists assist GPs.
- 4 Research into the issues of confidentiality and privacy in pharmacies, as factors detrimental to the changing role of the community pharmacist with the emphasis on pharmaceutical care.
- 5 Research into the requirements of suitable postgraduate joint courses for pharmacists and GPs.

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Q4 - MAIN REASON FOR OTHER VISITS n = 143

- 1 Script amendment (79);
- 2 Delivery of stock to surgery (18);
- 3 Discuss patients treatments/DI, allergies etc (14);
- 4 Scripts and repeat scripts collected from surgery by other staff (11);
- 5 Discuss general service matters (11);
- 6 Courtesy/social calls (9);
- 7 Assist with computer records (4);
- 8 Replace/inquiry re oxygen cylinders (2);
- 9 Suspected script forgery (2);
- 10 New pharmacy services (1);
- 11 Consultancy at GP's request on pharmaceutical aspects of safety and efficiency (1);
- 12 Accident requiring advice from GP (1).

Q6 - OTHER FORMS OF CONTACT n = 79

- 1 Prescription queries, replacement prescriptions (43);
- 2 Product information and availability, re Drug Tariff (25);
- 3 Pharmacy leaflet information - discussions (2);
- 4 Monthly meetings - different topics (1);
- 5 Residential home patients (1);
- 6 Visit both local GPs daily (1);
- 7 Monthly antenatal clinic (1);
- 8 Oxygen and nebuliser therapy (1);
- 9 GP purchases (1);
- 10 Storage and stock rotation in busy rural practice (1);
- 11 Telephoned prescriptions daily (1);
- 12 Review of CD practice and records (1).

Q7 - DETAILS OF PHARMACIST'S INFLUENCE ON PRESCRIBING

n = 90: 'yes' = 85, 'no' = 5

- 1 YES - re alternatives to unobtainable or cheaper products Drug Tariff items, cost containment (43);
- 2 YES - re suitability of products; improving compliance (20)
- 3 YES - re new drug information/practice formulary (10);
- 4 YES - re drug interactions (8);
- 5 YES - re amendment to computer programme (1);
- 6 YES - asked to attend formulary meeting and gave presentation (1);
- 7 YES - re prescribing generics (1);
- 8 YES - re some PACT information (1);
- 9 NO INFLUENCE - occasional advice only (4);
- 10 NO INFLUENCE - dispensing doctors law under themselves (1).

Q8 - DETAILS OF MEETINGS ARRANGED WITH GPs n = 27

- 1 Re computer prescription errors and inflexibility of dosage (8);
- 2 Re legal changes, CD prescriptions, wrong doses, Drug Tariff specifications (8);
- 3 Monthly practice meetings (1);
- 4 Re residential homes script collection etc (1);

- 5 Re inconvenience to patients (1);
- 6 Coffee time meetings in adjacent health centre (1);
- 7 Re calendar packs and correct prescribing (1);
- 8 To discuss training-video for receptionists (1);
- 9 YES - but improvement short-lived must continually tackle - a continuing problem (1);
- 10 Gave presentation on how to use your pharmacist to a practice meetings (1);
- 11 YES - but no response (3).

Q9c - REASONS FOR NOT KEEPING PMRs n = 35

- 1 New computer system due (18);
- 2 Computer lacks capacity (10);
- 3 No computer, investment not worthwhile (3);
- 4 Low prescription numbers and company reason (2);
- 5 Not considered necessary at present/not enough payment (2).

Q10b - DETAILS OF PARTIAL PMRs n = 134

- 1 All regulars on medication including children and elderly (excluding short-term antibiotics) (50);
- 2 Over 60's and chronic (oxygen, stoma etc) (30);
- 3 All except visitors / very few who have declined (21);
- 4 Residential and nursing homes / hosiery, urostomy (12);
- 5 Patient agreement only (8);
- 6 Very limited, 50 only, ostomy (5);
- 7 Impractical / not necessary in city centre pharmacy (3);
- 8 Use stopped because of locum unfamiliarity (1);
- 9 Changing clientele and many don't speak English (1);
- 10 Only computer generated repeats (1);
- 11 Not the many out of town visitors (1);
- 12 Only locals 'with printed prescriptions' (1).

**Q11 - ADVANTAGES OF PATIENTS BEING REGISTERED WITH A PHARMACY
n = 20**

- 1 YES - completeness of PMRs and continuity (includes OTCs) allergies, drug interactions etc (88);
- 2 YES - improved patient care, quality and trust (including compliance counselling) (86);
- 3 YES - improve inter-professional relations (8);
- 4 YES - professionally desirable (6);
- 5 YES - control unprofessional competitiveness (4);
- 6 YES - GPs drug records incomplete (2);
- 7 YES - guaranteed income (2);
- 8 YES - regularising current repeat script arrangements (2);
- 9 YES - control on 'minor-relocation' (1);
- 10 YES - providing patient benefited (1);
- 11 YES - better able to keep unusual/expensive replacement prescription items in stock (1).

- AGAINST - n = 81

- 1 Patient's freedom of choice (53)
- 2 Not practical (5);
- 3 Free-market; barrier to building up business (5);
- 4 Could lead to reduction in professionalism (4);
- 5 Not sure (2);

- 6 No, problems with out of hours (2);
- 7 No, prefer more professional approach to attract and keep patients, some local multiples have used PMRs to 'capture' repeat prescription business (2);
- 8 No, unfair because of collusion between pharmacists and doctors which is prevalent (2);
- 9 No, because also a business (2);
- 10 Large proportion tourist visitors (1);
- 11 No, "right of choice providing carry details of prescriptions in some form" (1);
- 12 No, benefits in patients eyes, negated by inconvenience (1)
- 13 No, destroy basic concept of "national" health service (1).

Q13 - PARTIAL REMUNERATION OF COMMUNITY PHARMACY LINKED TO PATIENT REGISTRATION n = 149; 'yes' = 115, 'no' = 34

- 1 YES - fair and more stable remuneration for responsibility, advice etc (46);
- 2 YES - increase commitment and development of NHS (34);
- 3 YES - encourage better PMR service / higher standards; more patient oriented; stability and benefit for patients (29);
- 4 YES - bring pharmacists into health care team (4);
- 5 YES - good idea; but who decides which patients are eligible for registration? (1);
- 6 YES - but flexibility for patient needed (1).
- 1 NO - could lead to unethical canvassing for patients (9);
- 2 NO - too subjective; number of patients not proportional to workload or to quality of service (8);
- 3 NO - free-market preferred, patients freedom of choice (5);
- 4 NO - jeopardise economics of small pharmacy (4);
- 5 NO - unfair advantage to large multiples and those opening 9 am to 10 pm and/or seven days a week (2);
- 6 NO - too much bookwork (2);
- 7 NO - seasonal resort and no temporary resident fees (1);
- 8 NO - might force patients to sub-standard pharmacist (1);
- 9 NO - too much passing trade in town centres and less work in doing 'one-offs' compared with 'regulars' (1);
- 10 NO - put patients under pressure to be on PMR (1).

Q14 - 'TARGETS' REMUNERATION LINKED TO POST-GRADUATE COURSES

n = 220; 'yes' = 179, 'no' = 41

- 1 YES - to encourage pharmacists to keep up-to-date and raise standards (105);
- 2 YES - with adequate financing (full locum fee, etc) (55);
- 3 YES - pharmacist to be more involved with patient care (11)
- 4 YES - effect closer working by pharmacists and GPs (5);
- 5 YES - courses should form integral part of career development in work time (1);
- 6 YES - but only educational targets (1);
- 7 YES - in general to other 'targets' - obviously depending on what they are (1).
- 1 NO - not time to leave business in locum hands; locum problems, without 'new money' (17);
- 2 no - long hours and distance make attendance difficult (14)

- 3 NO - not necessary - should be self-motivated; courses not relevant to retail; freedom like patients (5);
- 4 NO - unsure - need adequate financing for week-day courses, locum fees, and locum availability to cover manager and assistant pharmacist (4);
- 5 NO - don't need this imposing on me - read Journals (1).

Q15 - OTHER SOURCES OF INFORMATION FOR CHANGING ROLE n = 17

- 1 Management courses (4);
- 2 Other publications - Independent Pharmacist, New Scientist, MIMS Magazine, quality newspaper (Independent) (3);
- 3 Distance learning courses / audio cassette (3);
- 4 Seminars by Regional Pharmaceutical Committee (2);
- 5 Homoeopathic courses (1);
- 6 Local hospital pharmacists weekend and evening courses (1);
- 7 Local Pharmaceutical Committee meetings (1);
- 8 NPA courses and publications (1);
- 9 Joint meetings with other health workers (1).

Q23 - ADDITIONAL COMMENT n = 35

- 1 Improve present inter-professional relations (14);
- 2 Pharmacy degree courses must be more community pharmacy oriented and practice involvement encouraged, 'from First-aid to diagnosis' (3);
- 3 1960s pharmacy courses in Cardiff/Liverpool, first two years with medical and dental students (2);
- 4 Do not wish to see a salaried profession (2);
- 5 Medical students/trainee GPs to spend two-three weeks period of training in a pharmacy (2)
- 6 For community pharmacist to retain reputation, must develop an effective training system, upgrade epidemiology and morbidity for counter-prescribing and screening role (2);
- 7 Year at medical school of much value re human anatomy (1);
- 8 Educate public, government, LMCs, FHSAs re pharmacy (1);
- 9 Reward quality of service, second pharmacist allowance for extended role and service (1);
- 10 Inter-professional meetings best way forward (1);
- 11 Re joint courses, change of attitude in teaching staff needed otherwise of limited use (1);
- 12 Remuneration bonuses for:
a) computerised PMRs, b) second pharmacist for extended role, c) monitored dosage systems, d) qualified dispensers (1);
- 13 Know all GPs and patients personally - informal contact - GPs accept and appreciate any comments (1);
- 14 Outlook for independents very gloomy - could end up as technicians in health centres (1);
- 15 Pharmacists have knowledge responsibility and understanding in law but no power in law, legislation needed; must be involved in decision making at patient level (1);
- 16 "In favour of multi-discipline education in early stages, providing classes not huge and constituent professions do not lose identity. Also teachers need to be carefully chosen and aware of their multi-disciplinary role" (1).

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Q5 - REASONS FOR PREFERENCE OF LOCATION MEETING n =71

- 1 Telephone (for convenience) (23);
- 2 Surgery because quiet, no interruptions and time saving, greater privacy, patient records to hand (12);
- 3 Time is of the essence (12);
- 4 More space at surgery, little space in most pharmacies (5);
- 5 Depends on who is approaching whom (3);
- 6 Doesn't matter so long as environment conducive to uninterrupted private discussion (3);
- 7 Local pharmacist very helpful always -dispensing doctor (2)
- 8 No preference - chemist next door and have good liaison (2)
- 9 At pharmacy - any prescription query can be sorted out quickly and convenient for us (2);
- 10 Often use both pharmacy and surgery (1);
- 11 not practical at surgery (1);
- 12 More difficult for pharmacist to leave pharmacy than for GPs to call while "on visits" (1);
- 13 Rarely meet (1);
- 14 Parking difficult at pharmacy (1);
- 15 At surgery because can be seen between patients (1);
- 16 No preference (except home!) have good relationship with all four local pharmacists (1).

Q6 - OTHER REASONS FOR CONTACT WITH PHARMACISTS n = 28

- 1 Prescription errors / queries (11);
- 2 Non-availability of drugs (7);
- 3 Delivery and collection of prescriptions twice daily / for patients on Saturday pm / collection for home visits (2);
- 4 Discuss unexpected side-effects, borderline substances (2);
- 5 "teaching" of GP trainee 2 hours/year; half day (2);
- 6 Requests for pharmacist to deliver a prescription (1);
- 7 Discussion re possible erroneous prescriptions (1);
- 8 Script collection for elderly, delivery by pharmacist (1);
- 9 Visit to restock my bag (1).

**Q8 - GP DETAILS OF PHARMACIST'S INFLUENCE ON PRESCRIBING n = 88
YES**

- 1 Notification of drug interactions and dosage (16);
- 2 Information on new drug availability and side effects, more up to date information, general advice - price (15);
- 3 Availability on NHS, quantities and pack sizes, strength, formulation, difficult appliance scripts, blacklist (14);
- 4 Alternative to product not easily available (11);
- 5 Value and converse of generic prescription (4);
- 6 Appropriate prescribing / pharmacology and cost containment, NSAID and antibiotics, better alternative (4);
- 7 Cost containment and effectiveness of therapies ie "education role" (3);
- 8 Watch-dog over all drugs used / knowledge of our prescription habits (2);
- 9 Pharmacist can choose specific branded drugs when prescribing generally; integrity of generics (2);

- 10 Want to be sure patients with generic scripts get same product each time from UK/Europe not from Far East (1);
- 11 Patient information leaflets / sometimes alarming and stopped patients taking drug on possible drug reactions (1)
- 12 Most of items listed in Q6 (1);
- 13 Dispensing practice but also try to prescribe items stocked in village pharmacy two hundred yards away (1);
- 14 Pharmacists could do a lot more re vigilance for drug interactions (DI), abuse, safety (1);
- 15 Local pharmacist started supplying note of possible DIs for specific patients, but seems to have stopped
- 16 Motivate patients to use generics and cheaper drugs (1);
- 17 I always welcome advice from fellow health professional (1)
- 18 Practice formulary and prescribing policies drawn up and revised in consultation (1);
- 19 Aiding patient compliance with treatment (1);
- 20 Encouraging people to see GP over minor ailments (1);
- 21 When symptomatic remedies not indicated or helpful, patients referred to GP (1);
- 22 Discuss problems of addicts (1);
- 23 Patient preferences because I'm not aware of drug costs (1)
- 24 Very important advisory role (dispensing doctor) (1);
- 25 Advice on many issues we are not familiar with (1);
- 26 Offering advice to patients re appropriate OTCs (1);
- 27 Especially re non-standard strengths of mixtures and with colour additives (1);
- 28 NO - but almost certainly will in the future (1).

Q9 - DETAILS OF MEETINGS ARRANGED WITH PHARMACISTS n = 31

YES

- 1 Labelling directions ; information leaflets - agreed to change of wording (3);
- 2 To establish practice policy re generics, quantities (2);
- 3 Common prescriptions errors and discuss items of mutual interest, dosage, items not in stock (2);
- 4 Setting-up system of weekly 'wallets' of drugs for patients in local residential home (2);
- 5 Regular weekly meetings with the team community pharmacist and key members of the primary health care team and monthly management meetings (2);
- 6 To discuss repeat prescribing and script collection (2);
- 7 Computer information and setting-up - format of scripts (2)
- 8 Met to discuss delivering medication to patient's home (1);
- 9 To set up a pharmacy in Health Centre (1);
- 10 Pharmacist arranged to supply and load special compliance aid for elderly partially sighted patient - bravo! (1);
- 11 Annual meeting - local medical society (12 GPs and 24 pharmacists), to discuss local problems (addiction) and practice formulary (1);
- 12 Informal meetings (1);
- 13 Joint meeting with BMA (1);
- 14 Instruct re use of asthma and contraceptive appliances (1);
- 15 For elderly patients - instructions for carers and relatives (1);

- 16 At medical representative presentations (1);
- 17 Forum for problems with drug addicts (1);
- 18 Bi-annual meetings in health centre (13 GPs) - all three chemists invited - a very useful discussion (1).

NO

- 1 Discussed from time to time informally; but good idea (2);
- 2 Discussion group in past with progressive pharmacist (1);
- 3 Dispensing doctor and no chemist locally (1).

Q10 - REASONS FOR AND AGAINST PATIENT REGISTRATION WITH PHARMACY

YES n = 73

- 1 Continuity of care, better liaison and consistency of prescribing, less risk of prescribing errors; PMRs all in one place (41);
- 2 Less chance of fraud and drug misuse and abuse (8);
- 3 Patient "trust" and confidence in advice and information from pharmacist they know; better communication in pharmacy of their choice; help spots problems (7);
- 4 For prevention of drug interaction, check on side-effect information including with OTCs (5);
- 5 Better liaison leading to better treatment, GP knows who to contact if any problems (5);
- 6 Like pharmacy in every health centre or linked to a GP practice for emergency dispensing - on call system (2);
- 7 Out of hours calls to GP for repeat medication could be overcome etc (2);
- 8 Facilitate computer generated prescriptions by modem (1);
- 9 Only when pharmacist has access to total drug therapy and history of reactions can pharmacist fulfil a useful role in monitoring prescriptions (1);
- 10 For same reasons as GP has a list (1);

NO n = 68

- 1 Limiting patients freedom; lack of flexibility if item not in stock; patients like to choose (27);
- 2 No clear advantage, could be inconvenient to patients, many not on continual medication (8);
- 3 Inconvenient for patients who cannot travel; not all patients, maybe elderly, not practicable because of patient mobility/convenience (5);
- 4 Local pharmacists inconsistent with stock of common script drugs so patients have to shop around - other business interests, retailing, raise lots of commercial problems (4)
- 5 Patients tend to use same pharmacy anyway; what possible advantage? (4);
- 6 Out of hours and emergency needs (3);
- 7 Because pharmacists are retailers who make money directly out of the public which doctors and dentists do not (3);
- 8 Added bureaucracy; too many restrictions (3);
- 9 Dispensing practice - some patients have to work! and village pharmacy 200 yards away closes before practice (2);
- 10 Though in practice more than 95% of practice patients use one pharmacy (within 200 metres) otherwise 4½ miles (2);
- 11 Communication with practice unlikely to be good enough to

- make this safer (1);
- 12 Patient and pharmacist can come to good relationship without binding of registration (1);
 - 13 Local chemist closes promptly at 6.00 pm! - My surgery may overrun. Patients prefer to pick-up prescriptions in the centre of town when shopping (1);
 - 14 Though close liaison with local chemist next door, patients spread over very large geographical area (1);
 - 15 Elderly care home proprietors might be offered inducements for dispensing (1);
 - 16 Patient care is best if one person (GP) is recognised as being responsible overall for care; registration with pharmacists would complicate matters unduly. Advantage if pharmacists incorporated into primary health care team, with GP as nominal head (1);
 - 17 Opening hours vary considerably better local pharmacies - patients greatly inconvenienced (1);
 - 18 Too limiting and larger nationwide pharmacies may put smaller independent pharmacies out of business (1);
 - 19 Can see advantages but disadvantages (mainly inconvenience) outweigh (1);
 - 20 Should not be influenced by pharmacy retail provision (1);
 - 21 Prevents internal competition between pharmacists(1).

DON'T KNOW n = 6

- 1 Don't know - would hold complete drug record but lack patient flexibility (2);
- 2 Don't know, excellent idea in principle - concerned re forming pacts between GPs and pharmacists - but perhaps not a bad idea anyway! (1);
- 3 Don't know - don't have sufficient knowledge for an opinion; can see geographic problems; pharmacy should be close to and open same hours as surgery (1);
- 4 Seems a reasonable idea but not sure how much benefit from continuity of contact; doesn't seem useful as with GP (1);
- 5 Don't know can see advantages - familiarity with patient, complete records DI. stock control ... but freedom?! (1).

Q14 - LINKED EDUCATION DETAILS n = 15

- 1 Joint classes at GP vocational training level(2);
- 2 classes on common symptoms and their primary approach (2)
- 3 Medical students should spend time looking at how pharmacy works during community module (1);
- 4 Pharmacy students would enjoy attachment to GP and more use than attending joint physiology class (1);
- 5 Happier for pharmacists to dispense (presumably re response to symptoms) if had diagnostic experience and pathology (1)
- 6 joint clinical sessions with patients (1)
- 7 social (1);
- 8 basic sciences can be extended to include nursing and paramedical colleagues too - and perhaps physios etc (1);
- 9 Disagree re Q14c), too early for medical students (1);
- 10 Agree re Q14d), any classes would be an improvement on NONE
- 11 Disagree - different courses in different places with different students because impractical (1);

- 12 Disagree - but to know more about each others training and abilities would be helpful "attending a course together at 18 can't help in my view" (1);
- 13 I spent a day with local pharmacist as a GP trainee and appreciate the professional relationship that as developed between us (1).

Q15 - ADDITIONAL COMMENTS n = 60

- 1 Welcome closer co-operation between the pharmacy and medical professions (4)
- 2 Concern with variation of professional competence and motivation in pharmacies (2);
- 3 Many local old peoples' homes now registered with particular pharmacy and this has been very helpful
- 4 Unsure about a pharmacy in a health centre but nearby
- 5 Re 11b) 'we' GP knows about compliance through our computer
- 6 Re 11b) patients responsibility to comply with instructions
- 7 Re 11i) closer liaison would help
- 8 community pharmacist in health centre
- 9 Dispensing practice because of location and history surgery supplied by pharmacist eight miles away; never had a missing prescription details query in twelve years
- 10 Local pharmacies close before surgery finishes - need for proper rota
- 11 Main concern is standard of advice and professionalism of pharmacists - large chain and 'locum' managers of dubious quality
- 12 As dispensing doctor available 24 hours a day, seven days a week (11j), compared with pharmacy hours
- 13 Good relationship with local pharmacist but as doctor responsible for PMRs and for DIs - waste of time for pharmacist to check as well
- 14 A lot of additional information on pharmacists labels of prescription drugs is unnecessary and confusing to patients eg time of taking drugs re meals (fear of poisoning if don't) and often impossible to comply with
- 15 Greatest problem is that pharmacy is little better than average shop. As GPs are exploited to give longer hours for consultation and also on call at night. Pharmacies should open much longer hours - even if on rota basis (2);
- 16 So professional codes of ethics exist?
- 17 All health services should be sited under one roof (2);
- 18 Computerised link-up of prescribed better surgery and pharmacy ideal in the future
- 19 Prefer patient held PMR, that is a smart card
- 20 Separate non-pharmaceuticals in pharmacies; 'black list' topical antihistamines and antidiarrhoeals;
- 21 Pharmacists too involved with profit - should only dispense and not advise should be attached to and under control of surgeries. Remuneration should not be linked to prescription numbers (disagreed with 11h). Patients then only go to one place. If GPs given access to dispensing then complete course of treatment available out of hours
- 22 Soured-relationships because of rural dispensing -

- pharmacist trying to justify existence because of abolition of one mile limit and doctor dispensing for urban patients. Pharmacists need to be less disparaging about doctor dispensing etc
- 23 Additional information about medication this should be given by GP
- 24 I appreciate professional impute and help given by some pharmacists. Complete records held by pharmacist would be an advantage but the patients freedom of choice must remain paramount as is his freedom to choose his doctor
- 25 "I consider a well qualified pharmacist to be on a par with myself and most of my colleagues"
- 26 Rural practice dealing first with one local pharmacy, 200m, enjoy good informal professional relationship.
- 27 Division of pharmacies and doctors surgeries against patients interest. Integrated service surely the way forward - integration of dispensing into general practice
- 28 6 GPs practically no contact with local pharmacists. Largest health centre in the UK; 30 doctors in seven practices - wanted resident pharmacist but local pharmacists couldn't agree. I think too much competition between pharmacists and not enough co-operation ...
- 29 For twenty-five years enjoyed most satisfactory and congenial rapport with local pharmacists of great benefit to all of us, especially patients. Recently pharmacy computer caused some difficulty, very junior pharmacist constantly phones about interaction thrown up on green flashing screen causing distress to me and patient who'd been on his medication for twenty years and had no trouble! Hope this isn't a growing trend!
- 30 Dispensing doctor with few prescribing patients and little contact with community pharmacists up to 16 miles away (4);
- 31 Dispensing practice employing pharmacist as full member of primary health care team (PHCT) with community practice staff - access to total medication record, medical history summary including previous adverse reactions. In my opinion pharmacist is in best position to exercise professional expertise when a member of a community PHCT working within a local health centre.
- 32 Occasions when pharmacist not there when pharmacy open (2)
- 33 Grounds for doctors and pharmacists to go into joint community pharmacy venture to advantage of public RPSGB should encourage rather than discourage; together GPs and pharmacists can give a wide range of open access health centre eg health promotion and screening advice
- 34 Both GPs and pharmacists are professional and both should behave and relate as such. Room for interaction but doctors trained to diagnose and determining most suitable drug for therapy. Alternatives could be in pharmacists province but he is less aware of possible variations in a patient's reaction to his illness
- 35 Happy for pharmacists to give more advice for simple ailments if it didn't so often lead to purchase of unnecessary OTCs and some advice is not satisfactory eg

- diarrhoeal advice to children. Awkward for professional reasons to disclose "blunder" to a patient
- 36 Local pharmacist very helpful, but some of checking by pharmacist should be done by ourselves and our computer systems. Notice that concoctions are bought by people and for example simple analgesics rarely used; incentive for pharmacist? advertising pressure on public?
- 37 Most GPs would prefer pharmacists to briefly phone if patient or relatives etc have 'doubts' about medication - had a few disastrous misunderstandings including a twenty-year doctor-patient relationship; art of doctoring goes well beyond tablets and pills!
- 38 Deal with FHSA Independent Pharmaceutical Adviser in preference to individual pharmacists
- 39 Very wary about data held by pharmacists especially in remote areas - confidentiality a big problem
- 40 Remove pharmacists monopoly of dispensing would be sensible way forward for supply of drugs
- 41 Dispensing GP with some patients who have no choice but to take their prescriptions to a pharmacy get no significant benefit
- 42 (Yes to Q10) Suspicious of pharmacists reasons for recommending useless OTC drugs. I feel any suitably trained GP should be able to dispense
- 43 "Short changing of patients on EC10s!"
- 44 Relationships with pharmacists depends very much on personality and approach of both GP and pharmacist
- 45 GPs are small independent contractors who do not have to compete with multi-million businesses. Independent pharmacists offer extremely good service and assist in maintaining standards which could deteriorate with only a few national pharmacies
- 46 We were ill-equipped to join a dispensing practice, but now after five years in one it works extremely well. I feel all GPs should work in or near a pharmacy. We are more aware of our prescribing, it works well and the patients love it. We keep a good range of drugs with little waste and our prescribing and dispensing is below average
- 47 Pharmacy in health centre, happy with present arrangement. Pharmacist very co-operative explains to patients - if any query referrals - telephone link with doctors' rooms
- 48 Cathedral city practice, no contact with pharmacist, wonders why meeting (Q5) is required;
- 49 In previous area had close links with pharmacists to both our and patients benefit - like idea of having pharmacy within health centre - assuming no personality problems!
- 50 Have close links with local pharmacy - mainly between receptionist and pharmacist
- 51 I feel that problem is lack of communications between GPs and pharmacists. We are probably unaware of amount of advice given to patients by pharmacists and how much our workload is reduced by them. Probably also unaware of full range of services - is fault ours or theirs for not promoting themselves?

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Q5 - REASONS FOR AND AGAINST PMR CARD n = 100**In support** n = 80

- 1 Because pharmacist can check all medication at a glance at the computer, back-up to doctors records and check on compatibility of future prescriptions (49);
- 2 Ready check of allergies etc and speeds dispensing increased efficiency (12);
- 3 Of value in case of emergencies (4);
- 4 To assist with stock control (3);
- 5 Helps when purchasing a medicine without a prescription, which may be cheaper (3);
- 6 Very important for continuity when pharmacist changes (2);
- 7 Hospital could check medication by telephoning chemist (1);
- 8 Advice always on hand (1);
- 9 If taken ill, doctor will know medication I'm taking (1);
- 10 Helps pharmacist to supply in an emergency (1);
- 11 Change of medication promptly explained by pharmacist (1);
- 12 Improve service by cutting waiting time (1);
- 13 Yes, but I may not always carry this card (1);
- 14 My chemist seems extremely expert in being able to refer to any of the prescriptions I have submitted (1).

Against or don't know n = 20

- 1 Never seen one, don't know what its for, don't know why a pharmacist needs to keep records (9);
- 2 No help to me personally, unless have regular scripts (4);
- 17 Not likely to always carry the card (1);
- 12 DON'T KNOW - another card to carry, get lost or stolen (1);
- 14 DON'T KNOW - as I always consult the doctor and don't see the reason (1);
- 15 DON'T KNOW - if registered at one chemist it may be closed after hours (1);
- 18 DON'T KNOW - quite satisfied with present situation (1);
- 20 DON'T KNOW - been given a card but never given any reason/never told about it (1);
- 21 DON'T KNOW - as I keep forgetting to take it with me (1).

Q9 - REASONS FOR AND AGAINST COMPLETE PRESCRIPTION RECORDn = 22; **In favour** n = 14

- 1 Gluten free items need ordering because of short sell dates, pharmacist would know which brands to order (5);
- 2 Enable pharmacist to check suitability of a new prescription, accuracy etc (3);
- 3 Makes one feel safer, helps to build a relationship with the pharmacist, so like your GP, they know about your illness and what you are prescribed (2);
- 4 Prefer to keep to one chemist in own small town if he kept better stock (1);
- 5 I would like to have the same make of medication (1);
- 6 I'm on a monthly repeat prescription so I'd find it an advantage (1);
- 7 Better to deal with one chemist because epileptic (1).

Against or unsure n = 8

- 1 Increased workload for pharmacist (1);
- 2 No advantage for chemist to keep a record, its for the doctor to do (1);
- 3 Occasional prescription but if prescription of personal nature better not to be familiar with chemist staff (1);
- 4 Embarrassment when name called that: "stoma bags here" (1);
- 5 A chemist is not a doctor and does not know what the prescription is for - does he need this information? (1);
- 11 All changes etc should be rectified by prescriber who is solely responsible (1);
- 12 I've always consulted the doctor and not the pharmacist and I'm 89 (1);
- 4 Not sure, usually my doctor gives me what medication advice I need (1).

Q11 - ADDITIONAL COMMENTS n = 56

- 1 Very satisfied with regular chemist; got to know him; knows name of family; advises on OTC and checks records; advice on a par with our doctor (15);
- 2 Importance of good personal relationship with pharmacist, can ring with any medication query (5);
- 3 Concern re my regular chemist not opening late (4);
- 4 Use two chemists both very good and good home service to OAP - first class (3);
- 5 Shift worker needs flexibility (1);
- 6 Would like registration card to ensure good service and better stock (1);
- 7 Recognise advantage of registration but wouldn't want to be restricted for convenience (1);
- 8 Advantages in registration with my GP but not with dentist or chemist (1);
- 9 I will go to same chemist whilst same pharmacist there but if new pharmacist had different attitude to customer; I would want to be free to change. Attention given by pharmacist is absolutely vital (1);
- 10 Registration would be of value if prescription lost - dispensing could be stopped with registration number (1);
- 11 Better service, including home delivery from local chemist than large town centre shop (1);
- 12 "Assistant normally deals with clients", only one out of 5 or 6 pharmacists has proffered information (1);
- 13 Puzzled why daughter on repeat script for life, can only get tablets from regular chemist who always has stock (1);
- 14 Waste of resources sometimes for GPs to prescribe for minor ailments when chemist could give satisfactory service, he knows if there is a risk of possible hidden complications when requested to prescribe OTC and would advise patients to see their GPs (1);
- 15 No other chemist (1);
- 16 Instructions on medicines could be better worded, example, "take one twice a day spread evenly over the day" (1);
- 17 Over 25 years since I had a prescription dispensed (1);
- 18 Registration with pharmacist is ridiculous, chemist is a provider of medicines and not qualified to diagnose (1);

- 19 Pharmacists could play a larger role within the Health Care Team by giving more advice and information to patients. People should be educated that their local chemist could help them rather than going to their GP (1);
- 20 Receive prescription by post monthly from my GP, I'm 80 years old (1);
- 21 Very important for neighbourhood pharmacist to be in regular contact with local GPs and have amicable relationship (1);
- 22 Neighbourhood pharmacist should be open 30-45 minutes after GPs surgeries close (1);
- 23 Like to be registered with GP, less important re dentist, of little value re chemist, possible advantages would be outweighed by possible inconvenience (1);
- 24 I'd be against registration if I couldn't go to another chemist when either away from home, or when one pharmacist at lunch because I want to get home quickly (1);
- 25 Now housebound and reply on daughter to collect prescriptions (1);
- 26 Never had cause for complaint about my present chemist, but would want flexibility when away on holiday or if chemist closed after very late surgery at my doctors (1);
- 27 I am pleased with my local chemist especially with my pharmacist; son had metabolic disease and needs regular medication which he obtains from a local hospital or Birmingham Children's Hospital in a few days (1);
- 28 Idea of using one particular chemist in theory is ideal - if emergency, may be necessary to use a pharmacist closer to home (if chosen one close to GP's surgery) or one operating relief hours (1);
- 29 Need drugs every six weeks and other people get them when shopping (1);
- 30 On Sunday morning only certain chemists are open - one in Redditch and one on A441 to Birmingham worth having choice as both are about five miles from home (1);
- 31 Very good service from my chemist - free delivery by chemist or staff (1).