DRUG INFORMATION IN GENERAL PRACTICE PHARMACY

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SUMMARY

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The drug information sources currently available to general practice pharmacists have been identified. The use of and attitudes to these sources were assessed as well as the perceived information needs of practising pharmacists. The special requirements of women pharmacists and pharmacists working part-time were studied. The relationship of the medical representative as an information source for pharmacists was evaluated. Participation in continuing education programmes as a vital means of ensuring current information awareness and knowledge for the practising profession has been considered. Investigations were mainly pursued by questionnaire survey, while computer facilities were used for the processing and the analyses of data. The desirability of collated and evaluated information from one or more independent authoritative sources has been discussed. The increasing advisory role of the general practice pharmacist and the needs of the patient and potential customer have been discussed, with projections for the pharmacist's future health care contribution.

Key words: drug-information, general-practice-pharmacy, continuing education, women pharmacists, medical representatives

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ABBREVIATIONS USED IN THE TEXT

ABPI	Association of British Pharmaceutical Industry
AIOPI	Association of Information Officers in the Pharmaceutical Industry
BMA	British Medical Association
BNF	British National Formulary
BP	British Pharmacopoeia
BPC	British Pharmaceutical Codex
C + D	Chemist and Druggist
CON-ED	continuing education
CRM	Committee for the Review of Medicines
CROSS TABS	cross-tabulations
CSM	Committee for Safety of Medicines
DHSS	Department of Health and Social Security
DI	drug information
D + TB	Drug and Therapeutics Bulletin
FPC	Family Practitioner Committee
FPN	Family Practitioner Notice
HMSO	Her Majesty's Stationery Office
MIMS	Monthly Index of Medical Specialities
NAWP	National Association of Women Pharmacists
NHS	National Health Service
NPA	National Pharmaceutical Association
OTC	over-the-counter medicine
PJ	Pharmaceutical Journal
PPI	patient package insert
PSGB	Pharmaceutical Society of Great Britain
PSNC	Pharmaceutical Services Negotiating Committee
SPSS	Statistical Package for the Social Sciences
WM	West Midlands

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CHAPTER 1

INTRODUCTION

This study was undertaken to investigate drug information in the field of general practice pharmacy. The pharmacists's ability to act as an adviser on drugs and health care matters will be dependent upon his ability to obtain specific information as well as upon his professional and scientific knowledge (1). Studies in the United States have shown the pharmacist's knowledge is well related to professional behaviour (2). Initial professional training is the beginning of a continuing education process and the requirement of the pharmacist to be reliably informed about new drugs can be seen as an aspect of pharmaceutical continuing education.

Most pharmacists in Britain work within the National Health Service (NHS), either employed in hospitals or as 'chemist contractors' to one of the NHS Area Family Practitioner Committees (FPCs). The term general practice pharmacist is used throughout this thesis for chemist contractor and for those pharmacists working as employees of chemist contractors. Approximately 62 percent of pharmacists in Britain are employed in general practice (3).

The term 'drug information' used in the context of this study is defined as 'all technical, therapeutic and legal information relating to a drug or a compounded product of that drug or drugs'.

The therapeutic discoveries of this century have resulted in the growth of the pharmaceutical industry to the form we know today (4). The industry is dominated by large, multinational companies, who provide medicinal products, rigorously and scientifically controlled, on a large scale. Pharmacists in

general practice now have a significantly changed professional role (5); no longer is their main function the compounding of drugs and medicinal products. Changes in the profession are due not only to the changing nature of drug manufacture but also to changes in the social climate of the society of today and the attitudes of the public to all professions. Greater consumer awareness has made the public demand ever higher standards of competence from professions (6, 7).

Previous work on drug information in the field of general practice pharmacy in this country has been limited. Jones (8) examined 'general practice pharmacy in a National Health Service', concentrating on the development of chemist contractors and their relationship with successive governments in the provision of the state pharmaceutical service and of associated economic trends. A major questionnaire survey was one method used in this work to obtain data on remuneration.

Questionnaires are frequently used in information surveys for the collection of data on a very wide range of topics (9). The techniques of devising appropriate forms, which enable respondents to give their answers without difficulty and which lend themselves to easy encoding and analysis are quite well established, as are the basic techniques of analysis. However, it is essential that the content of the questionnaire and the interpretation required in the analysis be provided by someone with knowledge of the subject matter. The process is also heuristic in that learning takes place as surveys are completed.

Any study of the practice of pharmacy would require the observer to be aware of the changing nature of the profession. More emphasis is being placed on the pharmacist acting as an

adviser on drugs and health care within the community (10, 11). The term 'clinical pharmacy' has come into frequent use and it is linked with the general recognition that the profession of pharmacy should become more 'patient orientated'. Clinical pharmacy embraces the concept of "the joining of knowledge on drugs and patients" (10). Patients, as consumers of prescription medicines, frequently use potent drugs, sometimes compounded in specialised dosage forms. The pharmacist's knowledge of drugs and his ready accessibility makes him a suitable primary health care professional to encourage optimum 'patient compliance' (12).

Increased promotion of health care programmes could lead to greater involvement of the pharmacist in monitoring and screening members of the public. Such activities could include regular blood pressure measurements, weight measurements and urine analysis.

Proposed schemes for future post-market surveillance of new prescription medicines will necessitate the recording of adverse drug reactions and possible drug interactions. Some schemes suggest the pharmacist in general practice could and should be involved (13).

'Patient record cards' are slowly gaining use in general practice. Pharmacists using these cards are then equipped with detailed records of their patients, thus enabling pharmacists to give comprehensive advice on total drug consumption, both prescription-only medicines and over-the-counter medicines (OTCs) (14). The National Pharmaceutical Association (NPA) has begun printing patient record cards for its members, at the request of the Pharmaceutical Society (15).

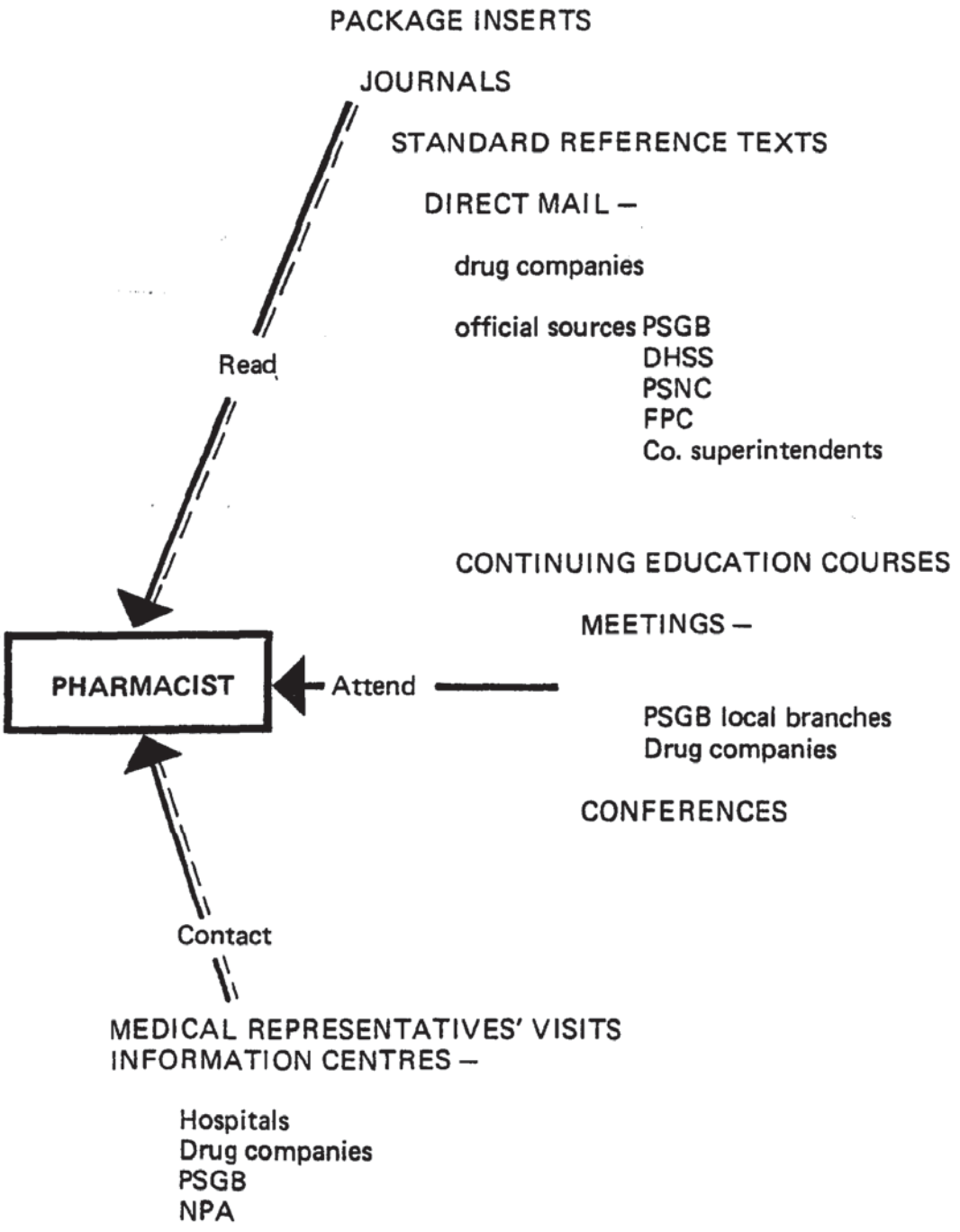
A future expansion in any or all of these areas will further require the pharmacist in general practice to act as a communicator

and a disseminator of drug information, particularly to the general public. To perform this role adequately, he will require to keep himself well informed, to have sufficiently developed communicating skills and above all, to be motivated to increase his advisory role.

This study was undertaken in an attempt to confirm and assess the changing patterns of professional activity within the practice of pharmacy and to suggest possible responses in the light of the results obtained.

Figure 1

Some information sources for the pharmacist in general practice



(– – – – sources most likely to be used for specific information queries)

A variety of information sources is available to general practice pharmacists (see FIGURE 1). The extent to which pharmacists will be exposed to these sources will depend on whether the individual pharmacist is in full time or part time employment and whether information is actively sought or only passively gained.

Major drug information sources are briefly reviewed in the categories indicated in FIGURE 1: those sources which are read (SECTION 1), those requiring attendance by pharmacists (SECTION 2) and finally, those sources involving direct contact with others (SECTION 3).

SECTION 1

The pharmacist has access to a vast amount of information in printed form. The three main types are journals, standard reference texts and direct mail. Package inserts form an ancillary group in this section.

JOURNALS

An American study has shown that pharmacists spend, on average, between one and four hours per week reading journals (16). In Britain the Pharmaceutical Journal (P.J.) and the Chemist and Druggist (C & D) are the journals most frequently read by pharmacists (17).

Pharmaceutical Journal

Founded in 1841 and published weekly since 1870, it is the official organ of the Pharmaceutical Society of Great Britain (PSGB) and is supplied to all registered pharmacists. A survey

conducted in 1978 (17) showed that the Pharmaceutical Journal has the highest readership of any journal in pharmacy and that 92 percent of respondents in the survey had read the PJ in the previous week, compared with 60% for the Chemist and Druggist.

TABLE 1

Findings of Readership Survey, Pharmaceutical Journal, 1978

Results of question concerning best coverage on given topics

SUBJECT	PJ %	C & D %	RETAIL CHEMIST %
Pharmacy law	92	5	2
Technical articles	90	6	5
Letters to the Editor	83	13	5
Leading articles	79	23	10
Regular comment columns	76	29	13
General news affecting pharmacy	73	31	16
Prescription products	64	41	11
Business matters	44	46	31
OTC medicines	23	66	33
Price changes	9	73	42

The content of the PJ covers a wide spectrum of pharmaceutical topics, providing both drug and professional information to the reader (see TABLE 1). Also, it offers a two-way channel of communication via the 'letters to the Editor' section. Notices of branch meetings and continuing education courses appear regularly. Circulated to the entire profession, with the high level of active readership quoted and its weekly issue, the PJ would appear to be a good medium for the transmission of most types of drug information.

Chemist and Druggist (incorporating the Retail Chemist in 1977)

A weekly journal published for 120 years and distributed against an annual subscription, the Chemist and Druggist includes a monthly, comprehensive retail price list. Findings of the Readership Survey, TABLE 1, indicate that the C & D is more useful to general practice pharmacists for information on OTC medicines than on prescription products.

Of the many pharmaceutical and medical journals available, few are in regular use by general practice pharmacists. Practising physicians receive free 'controlled circulation' journals, such as Update, Pulse and World Medicine: pharmacy has few such publications. However, it is reported that up to 42 percent of the space contained in them is devoted to advertisements (18).

Many drug firms produce house journals and some of these have been distributed to pharmacists at some time. Expense has, however, resulted in this practice declining markedly. Exceptions include 'In Touch with Pharmacy', a bulletin produced by Janssen Pharmaceutical Ltd., which has been distributed to all pharmacists receiving the Pharmaceutical Journal on four occasions since its inception in January 1978. The first edition interestingly included information about a 'Janssen Information Service', which was to offer an 'immediate' information service on new products, for pharmacists, who routinely dealt with professional queries.

STANDARD REFERENCE TEXTS

All registered pharmacies receive, free of charge, the following texts:

Association of British Pharmaceutical Industry (ABPI) Data Sheet Compendium (15 monthly).

British National Formulary (BNF) (biennial)

and the Drug Tariff (annual).

All other texts have to be purchased. A comprehensive list of suggested reference sources, now dated, appears as Appendix A to the 'Report of the working party on drug information services', 1974 (19).

ABPI Data Sheet Compendium

This compendium evolved from the statutory requirement for manufacturers to produce data sheets for all medicinal products, for which product licences were held under the Medicines Act, 1968. A data sheet is defined as "a document relating to medicinal products of a particular description prepared by or on behalf of the product licence holder". It must contain particulars described in the regulations and be in a standardised format (20).

The ABPI has issued a compendium of data sheets annually to physicians and pharmacists. As from the 1979-80 edition, the compendium will be published at 15-month intervals. There is no legal requirement for data sheets to be sent to pharmacists and originally, the compendium was distributed to physicians only. However, representation to the industry resulted in the compendium being sent to all hospital and general practice pharmacies (21).

The current volume, 1979, contains information on almost 2000 products on over 1000 pages. In addition, a generic name index for the 1977 compendium was produced by the Drug and Therapeutics Bulletin. The 1979 volume contains an integral index of non-proprietory names as part of an agreement between the ABPI and the Department of Health.

A motion passed at the Pharmaceutical Society's Branch Representatives Meeting in 1977 (22) suggested than an increase

in details of dosage regimens on data sheets was desirable. The Committee on the Review of Medicines suggested that data sheets could give more precise information of possible hazards by having distinct entries under the separate headings: contraindications, precautions and warnings (23).

British National Formulary (BNF)

This text is issued by the Joint Formulary Committee of the British Medical Association (BMA) and the Pharmaceutical Society. It is financed by the Department of Health as an aid to National Health Service (NHS) prescribing. It is distributed to pharmacies and physicians free of charge. The objectives of the Formulary are ... "to offer the doctor ... a selection of drugs that will cope with practically every illness he is likely to meet that can be dealt with by drugs. It offers the pharmacist essential practical information about most of the preparations he will dispense ..." (1976-78 ed.).

The future form of the BNF has been a subject for particular discussion for the past two years. It has been suggested (24) that it might be revised to provide pharmacists and doctors with up-to-date drug information and comparative costs of drugs, regularly updated two to three times per year. Further suggestions (25) indicated the need for advice on the best treatment for particular diseases, advice on drug administration and advice on potential dangers and necessary precautions.

A new style BNF will appear in 1980 (26) with changes in editorial organisation, format and frequency of issue. At present, the design of the book includes three main sections: formulary, notes on the use of drugs and an introductory miscellaneous section. The introductory section includes general information on prescription

writing, prescribing for children, prescriptions for controlled drugs, drug dependence, adverse reactions to drugs, drug interactions and emergency treatment of poisoning.

Drug Tariff

The Drug Tariff is prepared annually, under Regulation 28 of the NHS (General Medical and Pharmaceutical Services) Regulations, 1974, and incorporated in the 'NHS Terms of Service for Chemists'. The stated purpose of the Drug Tariff is to provide up-to-date information (supplements are produced quarterly) on basic prices and pack sizes of drugs commonly supplied on NHS scripts and fees for dispensing and other payments to pharmacists. Additional information included in the Tariff concerns the supply on NHS scripts of dressings, appliances and reagents, 'borderline' substances, elastic hosiery, contraceptive devices and the oxygen domiciliary service. The 1979 edition of the Drug Tariff has been published with an index for the first time.

All other reference texts used by pharmacists have to be purchased. The following is a selection of those texts most frequently found and used in pharmacies.

A summary of major reference texts, including publisher and current cost, is given in TABLE 2.

TABLE 2

Summary of major reference texts

REFERENCE TEXT	PUBLISHER	FREQUENCY	COST (1979)
Pharmaceutical Journal	Pharmaceutical Press	weekly	included in registration fee of pharmacist
Chemist & Druggist Journal	Benn Brothers Ltd.	weekly	£25.00 pa
Chemist & Druggist Price List	Benn Brothers Ltd.	monthly	included in journal subscription
Chemist & Druggist Directory	Benn Brothers Ltd.	annual	£18.00
ABPI Data Sheet Compendium	Pharmind Publications Ltd.	15 monthly	distributed free of charge to all pharmacies
British National Formulary 1976-78	British Medical Assocn. Pharmaceutical Press	biennial	£1.55 distributed free of charge to all pharmacies
Drug Tariff	DHSS	annual	distributed free of charge to all pharmacies
Martindale - the extra Pharmacopoeia	Pharmaceutical Press	27th edition (June 1977) quinquennially	£30.00
Monthly Index of Medical Specialities (MIMS)	Haymarketing Publishing Ltd.	monthly	£14.00 pa
NPA compendium of past formulae (1933-66)	NPA	revised edition (1971) supplement (1979)	£1.50 £1.00
British Pharmaceutical Codex 1973	Pharmaceutical Press	10th edition 11th edition (Nov 1979) supplement (1976)	£13.00 £27.00 £4.00
Pharmaceutical Handbook	Pharmaceutical Press	18th edition (1970) (19th edition, February 1980	out of print £12.00)

TABLE 2 (cont'd.)

Summary of major reference texts

REFERENCE TEXT	PUBLISHER	FREQUENCY	COST (1979)
Drug and Therapeutics Bulletin (D & TB)	Consumers Association	fortnightly	£12.50 pa
Adverse Drug Reaction Bulletin	Adverse Drug Reaction Unit, Shotley Bridge General Hospital, Consett, Co. Durham	bimonthly	£2.00 pa or included in subscription for D & TB
Prescribers' Journal	DHSS (Dept. Health & Social Security)	bimonthly	£1.62 pa
Index of New Products	Pharmaceutical Press	file cards at intervals	£10.50 pa
Approved Names 1977	HMSO (BP Commission)	as necessary	£3.15

Martindale, the Extra-Pharmacopoeia

A reviewer of the latest, 27th edition stated ... "The book is monumental in scope and outstanding in achievement. It should be regarded as compulsory equipment for every practising pharmacist and physician ... easily the best, the most comprehensive and indispensable guide to the world's medicines".

The current edition contains monographs on 3130 drugs, 1000 less important ancillary drugs and the composition of more than 1450 proprietary substances available without prescription. The general index has more than 43,000 entries, compared with 34,000 in the 26th edition, and a valuable index of clinical uses of drugs is also included. The Pharmaceutical Society is to investigate, by means of a pilot study, the use of a computer in connection with the production of Martindale and the creation of a regularly updated 'Martindale databank' (27).

Monthly Index of Medical Specialities (MIMS)

Supplied free of charge to physicians, hospital pharmacy departments and on rotation to selected hospital doctors and consultants in Britain. A recent improvement to MIMS has been the addition of a non-proprietary/proprietary names index, a section on diagnostic agents and a section on NHS dressings, appliances and 'borderline substances'.

The main function of MIMS is to briefly list ethical preparations in broad therapeutic groups, amended monthly from details supplied by drug companies.

Chemist and Druggist Price List

Weekly cumulative amendments to this monthly list are

published in the Chemist and Druggist journal. The contents of the List include a list of manufacturers, prices and legal sales categories of all pharmacy products, a therapeutic-pharmacological index and a drug and dispensary price list. The final page covers a brief guide to legal controls.

Chemist and Druggist Directory

The latest edition contains summaries of the Statutory Instruments implementing Part III of the Medicines Act and a major review of the Tablet and Capsule Identification Guide (28).

NPA compendium of past formulae, 1933-66

Produced by the NPA for its members. As the title indicates, it contains formulae of past 'official' or compendial preparations, no longer contained in current compendia.

British Pharmaceutical Codex (BPC) 10th edition, 1973

Gives authoritative information on drugs, other pharmaceutical substances and formulated products; and provides standards of purity and identity for a range of substances, for which standards are not provided by the British Pharmacopoeia.

Pharmaceutical Handbook

A new edition, completely updated and with a number of new features, is to be published in 1980. The current volume includes wide-ranging information on many topics relevant to practice, such as removal of stains, synonyms and veterinary posology.

Drug and Therapeutics Bulletin

Principally produced for physicians and by arrangement with the DHSS, supplied free to all final year medical students and

and for five years after graduation. Also to all general practitioners for the first four years in practice, and to clinical pharmacologists. In 1976 (29), the Pharmaceutical Society unsuccessfully supported the publishers of the Bulletin, the Consumers Association, in its proposed approach to the DHSS for wider free distribution to pharmacists.

Adverse Drug Reaction Bulletin

Produced bimonthly by the Adverse Drug Reaction Research Unit, Shotley Bridge General Hospital, Consett, Co. Durham. It is usually distributed in association with the Drug and Therapeutics Bulletin and is supplied free of charge to the same categories of physicians.

Prescribers' Journal

Produced for the DHSS by a Representative Committee of Management, with the support of an Advisory Panel, for the medical profession, to whom it is supplied free. The Pharmaceutical Services Negotiating Committee (PSNC) made representations to the DHSS in May 1978 (30) suggesting the Journal be also supplied to chemist contractors. The request was unsuccessful.

Recent criticism of Prescribers Journal included an accusation of censorship of the editorial board (31). This criticism was refuted by the current chairman of the Committee of Management (32).

Index of New Products

Provides information "free from commercial bias" about new prescription products on 4 in x 6 in file cards. Amendments appear periodically in the Pharmaceutical Journal. There is

some time lag after the introduction of a new product, as batches of five to twenty cards are accumulated before mailing to subscribers. In its present form, the Index has been largely superceded by Data Sheets and the more timely 'Drugs in Use' feature in the Pharmaceutical Journal.

Approved names, 1977

Produced by the British Pharmacopoeia Commission and the Medicines Commission, the book lists Approved Names cross-referenced with proprietary names and is updated periodically.

Restricted Medicines and Poisons

A legally classified list of medicines and poisons published in 1974 and regularly updated, it was superceded in mid 1978 by the Medicines and Poisons Guide.

Medicines and Poisons Guide

Incorporated the legal changes resulting from the Medicines Act reclassification of medicinal products and their sale and supply from retail pharmacy businesses. It includes a comprehensive annotated list of all human and animal medicinal products and poisons. Cumulative lists of alterations and additions are published at the beginning of each month in the Pharmaceutical Journal.

Most pharmacies will have at least one of several specialist texts devoted to adverse reactions and drug interactions avialable as well as some general pharmaceutical textbooks, particularly on pharmacology and therapeutics.

DIRECT MAIL

Direct mail is the other major group of printed drug

information available to the general practice pharmacist. Most information from this source arrives unsolicited through the post from drug companies and from official sources, the latter including the PSGB, DHSS, PSNC, NPA and to company pharmacies from the pharmacy superintendent's office. There has been little written on the subject of mail to pharmacists, in marked contrast to mail received by physicians (33, 34).

Some types of 'official' communication sent to pharmacists are described below.

Pharmaceutical Society of Great Britain (PSGB)

Few direct communications are received from the PSGB by post. Occasional circular letters are issued, such as the letters concerning the supply of Mono Amine Oxidase Inhibitors and Aspirin Warning Cards (in 1971 and 1975 respectively) and the letter concerning additional voluntary controls over the sale of medicines liable to abuse (35).

The Pharmaceutical Journal, as the official organ of the Society, is used as a medium for announcements on legislative changes and professional matters.

Department of Health and Social Security (DHSS)

The Department issues to pharmacies, via the FPCs, the annual Drug Tariff and quarterly amendments, Family Practitioner Notices (FPNs) and some of the 'Current Problems' leaflets, produced by the Committee for Safety of Medicines (CSM), and occasional letters from the chairman of the CSM and Committee for the Review of Medicines (CRM).

FPNs contain NHS information mostly restricted to administrative matters.

'Current Problems' is an occasional series of leaflets begun in September 1975, dealing with problems not urgent enough for the yellow 'Adverse Reactions Series' of warnings. They are issued to pharmacists, when considered to be relevant. The statements are mainly warnings or information about significant drug side effects or adverse reactions.

Pharmaceutical Services Negotiating Committee (PSNC)

The Committee produces an 'NHS newsletter', which is sent to all pharmacies contracted to the NHS and usually four or more are produced annually. The contents of the newsletters are varied, dealing mostly with prescribing restraints and dispensing restrictions within the NHS.

National Pharmaceutical Association (NPA)

Membership is open to all private 'chemist contractors', on payment of an annual subscription. Among publications members regularly receive are a Drug Price Calculator, a Compendium of past formulae, 1933-66, a Guide to the Drug Tariff and the NPA supplement, which contains diverse information relating to commercial, professional and technical and formulation matters, such as manufacturers recommended diluents.

The chief pharmacy superintendents office of company pharmacies, especially those of the large 'multiples' normally produce similar information bulletins for their branch pharmacies.

PACKAGE INSERTS

Package inserts, as described here, should not be confused with 'patient package inserts' (PPI's), which are designed specifically to accompany prescription products when dispensed, to aid patient use.

Package inserts are usually found in the outer package of medicinal products, especially bulk packs of prescription only products, and are intended for physicians and/or pharmacists. The practice of including these inserts has declined since the advent of the data sheet. However, Higgins and Booth (36) have assessed their value as a source of drug information.

Printed material, whether in the form of text books, journals or mail, provides the pharmacist in general practice with a pool of drug information, as well as professional and commercial news. The information can be actively or passively sought and is available for either immediate use or as an information store in anticipation of future queries. Journals and direct mail can be stored or filed for reference, in the way that standard texts are used. All printed material is permanent and accessible for immediate use, as well as being easily copied.

SECTION 2

Pharmacists have considerable opportunities to attend lectures, conferences and continuing education courses throughout their professional lives. Participation in these activities however requires initiative and a positive desire by pharmacists.

MEETINGS

Quite a number of local pharmaceutical associations have existed for over one hundred years and one of their prime functions was educational. In 1922, the Pharmaceutical Society organised its membership into a comprehensive local branch system. Branches now number 136, each branch receiving a grant proportional to the number of pharmacists in that branch. Local meetings are organised for members on topics of common scientific and professional interest.

In 1968, the Society set up a regional organisation in England and Wales, each of the thirteen regions formed including a school of pharmacy. Regions supplement the branch structure and have had responsibility for the organisation of postgraduate continuing education courses to the present time. Occasionally, meetings and symposia are also arranged by the regional committees to aid communication over a wider area.

Infrequently, meetings about new products are sponsored by drug companies for general practice pharmacists.

Meetings, usually with a more commercial content, are held occasionally by the NPA for its members.

In general, meetings can cover subjects providing drug information and items of professional interest to participating pharmacists. One distinct advantage of meetings as a medium for obtaining information is the opportunity that they afford especially for informal discussion with professional colleagues.

CONFERENCES

Conferences are held less frequently than meetings. The regional committees of the Pharmaceutical Society are encouraged to hold conferences, whilst the Society holds an annual conference.

The British Pharmaceutical Conference was founded in 1863, the main objective being "to encourage pharmaceutical research and promote friendly intercourse among those interested in pharmacy". In 1970, the responsibility for the organisation of the Conference devolved from an Executive Committee to the Council of the Society. The conference has been held at different centres annually and from 1956, Branch representatives have received financial assistance toward the cost of attendance. In this way opportunity is provided for all pharmacists to attend and participate in scientific and

professional sessions.

Contact with fellow professionals is an important element of conference participation.

CONTINUING EDUCATION COURSES

Probably the most important medium for regular updating of knowledge by attendance is the continuing education course. Continuing education can be defined as "all organised and directed educational activity beyond the attainment of the professional degree". Short term goals should be to meet the immediate and frequently changing needs of the profession. The long range goals of continuing education should be the maintaining and improving of professional competence, as well as the preparation for changing roles.

The recent impetus for more formal continuing education in the profession of pharmacy can be traced back to the Pharmaceutical Survey of 1948 in the United States. A committee on continuation studies was established in 1955 by the American Association of Colleges of Pharmacy and annual reports have been published since. In 1967, mandatory continuing education was first adopted by two states, with an increase to thirteen by 1976. In these states, attendance on a specified number of courses is a prerequisite for continued professional registration.

In Britain, legislation in 1971 enabled the DHSS to make financial support available for continuing education programmes for pharmacists providing, or intending to provide, pharmaceutical services under the NHS Act (37). These programmes are conducted by schools of pharmacy in co-operation with the Regional Committees of the Pharmaceutical Society. Financial provision for the courses

is administered through each Regional Health Authority by the Regional Pharmaceutical Officer. Each region offers a number of courses annually and participation by pharmacists is voluntary.

Over the past decade, pharmacy educators have been advocating a more specialised role for the pharmacist, a role which would establish the pharmacist as a 'drug information specialist'. It is generally agreed within the profession that an important vehicle for helping pharmacists to keep up-to-date and to assume this role is continuing education.

The Memorandum on Continuing Education for pharmacists providing part IV pharmaceutical services (37) states that

... "there is no doubt that the pharmacist's role in modern dispensing requires a comprehensive knowledge in this area* if he is to ensure the safe distribution and use of medicines ... (*action and use of medicines) ... whilst there is still need to offer suitable up-dating to older pharmacists, the scope of the courses has been widened to embrace advanced study in specialised fields and, where viable, courses specially designed to cater for the needs of married women contemplating a return to pharmacy".

The subject of the special updating and drug information requirements of women pharmacists has been studied in the United States (38). Studies have shown that pharmacists practising part time or who have experienced periods of temporary professional inactivity have some difficulty in maintaining professional competence. However, when these pharmacists were provided with continuing education programmes, designed to fulfil their particular needs, they regained a level of knowledge comparable

to their colleagues practising full time (39).

It would seem that with voluntary attendance, course numbers are disappointingly low, although attendance figures in this country are comparable with those for local branch meetings. In the West Midlands Region, during the academic year 1976-77, a total of 166 pharmacists attended at least one of the four continuing education courses provided, that is, approximately eight percent of the total pharmacist population in the Region. These figures compare closely with the national average attendance and with attendance on similar, voluntary schemes in other professions. Attendance on courses in the West Midlands has grown from forty seven in the first year of formal courses, 1972. A peak of 261 was reached in one year, when courses were held at five different centres.

Although theorists, including pharmacy educators, suggest that continuing education is a good medium for providing information, only small numbers of pharmacists avail themselves of the opportunities offered. It has been suggested that course organisers should look closely at the 'orientation' of the adult learner (40), as psychologists have recognised the establishment of 'mental rigidity' in adults (41).

In February 1974, a Working Party on postgraduate education and training was established by the Council of the Pharmaceutical Society, arising from a recommendation of their Education Committee. The Report of the Working Party made twenty four recommendations (42). The Council of the Society formulated views on these recommendations (43). Seven concerned aspects of mandatory continuing education. It was suggested that all pharmacists

should eventually be required to participate in programmes by making this a requirement for continued registration. The Council did not feel that it was apposite to take a decision on this issue at the time. They urged the detailed exploration of more liberal arrangements, which could be adopted to increase the participation of pharmacists. The Council accepted the recommendation for consideration of the formation of a College of General Practice. The possibility of setting and assessing standards of professional competence were recommended and accepted.

One major problem in the area of continuing education is the lack of knowledge about 'measurement of increased professional competency' as a result of participation in programmes (44) (45) (46). It has been suggested that standards of competency should be formulated, and then to establish whether programmes are effective in maintaining or improving them (47). Pharmacists in Britain could learn from the American experience in this field.

One main drawback to organised continuing education has been the variation in standards and lack of structure (48). Tice suggested as far back as 1970 (49) that adequate financing was the keystone to successful and appropriate courses.

Improved attendance by the membership would seem essential if continuing education courses are to be considered an effective and efficient means of communicating drug information to pharmacists in general practice.

SECTION 3

The remaining distinct type of 'drug information sources' involves personal contact by the pharmacist with medical representatives of drug firms and with the staff of various

information centres.

MEDICAL REPRESENTATIVES

Sales promotion within the pharmaceutical industry has two major functions: that of providing information about new products and developments in therapeutics, and that of selling the industry's products. On all forms of promotion, the industry spends about thirteen percent of its total sales to the NHS (50).

Medical representatives form the field forces of the marketing departments of drug companies. Approximately 3,000 representatives are employed in Britain (51) and the cost of maintaining these field forces is almost fifty percent of the industry's total promotional budget (see TABLE 3).

TABLE 3

Breakdown of promotional expenditure of ten largest ethical pharmaceutical manufacturers, 1973

% REPRESENTATIVES	% JOURNALS	% DIRECT MAIL	% TOTAL
55	29	16	
58	30	12	
46	50	4	
60	23	17	
32	48	20	
46	44	10	100
58	32	10	
35	62	3	
42	47	11	
58	29	13	

Source: Intercontinental Medical Statistics (IMS).

The representative's job has been defined as

... "To promote the use of and to sell ethical drugs and other pharmaceutical products to physicians, dentists, hospitals, and retail and wholesale drug establishments, utilising knowledge of medical practices, drugs and medicines. To inform customers of new drugs, explain product characteristics and clinical studies conducted with drugs. To discuss dosage, use and effect of new drugs and medical preparations" (52).

Most of the larger pharmaceutical companies have field forces of fifty to seventy representatives and some companies divide their representatives into hospital and general practice field forces.

About 17,000 of the 24,500 doctors in general practice will be visited by a typical company field force at least once a year and about 6,000 of these doctors will be visited three of four times each year.

According to the Pharmaceutical Manufacturers' Association in the USA, a typical representative ('detailman') spends sixty six percent of his time with physicians and dentists, sixteen percent with hospital and fifteen percent with general practice (community) pharmacists. In this country, most representatives make three to four calls on physicians each day and some reports suggest a similar number of calls on pharmacies.

The ABPI holds a non-product orientated national examination for medical representatives. Some representatives possess primary qualifications such as nursing before joining their respective companies and a small proportion are qualified as pharmacists. A survey of pharmaceutical companies, conducted in the USA (53) revealed that only twenty percent of the companies

participating in the survey would give priority to those applicants for representatives' posts already qualified as pharmacists.

In the period 1965-67 in Britain, an enquiry into the relationship of the pharmaceutical industry with the NHS was conducted (54), resulting in the publication of the Sainsbury Report. The main areas of investigation were prices and profits, research and sales promotion. The enquiry provided much useful data from an independent authoratative source.

Medical representatives were confirmed to be a prime source of information to the medical general practitioner (see TABLE 4).

TABLE 4

The proportion of general practitioners (gps) considering each source of drug information to be either Very Good or Fairly Good with respect to 'getting to know the existence of New Products'.

MAIN SOURCES OF INFORMATION	proportion of gps rating source as either very good or fairly good for getting to know about the existence of new products (%)
Drug firm representatives	78
Articles in medical journals	76
Recommendations from consultants	71
MIMS	67
Refresher courses	61
Professional contacts with other doctors	59
Advertisements in medical journals	53
Drug firm literature	52
Local clinical meetings	51
Medindex	47
Drug firm meetings	37

Source: Sainsbury Report, 1965-67.

This finding was confirmed by a later survey (55) conducted in 1975 under the auspices of the Office of Health Economics, an independent organisation founded by the ABPI in 1962. In the annual report of 1975-76 (56), the ABPI reiterated its belief that the medical representative was the most important communication link between the industry and the professional groups within the NHS. The Code of Practice of the ABPI (57) states in its introduction

... "The industry recognises its obligation to provide information about medical products to the pharmaceutical profession ...".

For companies whose distribution policy includes direct sales to general practice pharmacists, the amount of time spent in pharmacies by representatives may be significant (58). However, few major companies fall into this category in this country: most supplies are distributed through wholesalers (see FIGURE 2).

Figure 2

Percentage of sales by channel of distribution for a 'typical company'

Source: S Slatter 'Competition and marketing strategies in the Pharmaceutical Industry'

Smith, in a survey conducted in the USA entitled 'A Communications Program for Pharmacists' (59) indicated that manufacturers would be well advised to evaluate the pharmacist-manufacturer relationship, especially as a high proportion of pharmacists in the survey were critical, indicating considerable room for improvement in relationships.

Siegelman, editor-in-chief of the 'American Druggist' journal commented on a two-part survey on how pharmacists rated detailmen (60) and how detailmen rated pharmacists (61). Approximately 1,500 pharmacists responded to the initial survey and 68.6 percent thought that ... "detailmen did a good job in serving the needs of pharmacy". However, qualitatively, adverse comments reflected strong undercurrents of dissatisfaction, for example, pharmacists regarded 'script surveys' conducted by detailmen in pharmacies as unprofessional. Only 28.2 percent of respondents considered that detailmen should be qualified as pharmacists. It was found that the average pharmacy was visited by about fifteen detailmen per month and that detailmen appeared to be calling on pharmacies with less frequency than in the past. The subsequent survey of detailmen, in which 1,100 of the USA's 24,000 detailmen participated, revealed that 88.3 percent usually received a cordial reception when visiting general practice pharmacies. Respondents estimated that about 23 percent of visited pharmacists were primarily interested in financial/business considerations. Conversely, 63 percent genuinely wanted to obtain information about products and promotional programmes. The types of information sought were financial arrangements, data about products, competing pharmacists' activities and prescribing habits of local physicians.

Little similar information pertinent to Britain is available. Estimates of the value of drug firm representatives, as a source of drug information to pharmacists, have yet to be established.

INFORMATION CENTRES

Pharmacists are able to contact a variety of drug information centres. Such contact requires active participation by the pharmacist and would invariably be prompted by the need to obtain information related to specific queries or problems.

The main information centres are hospital drug information centres, drug company technical/medical product information departments, PSGB library and technical information service, NPA information department, Poisons Information Centres and pharmaceutical wholesalers.

Hospital drug information centres

The late Don Franke wrote in 1966 that the role of the pharmacist as a drug information specialist was full of promise (62). He commented that as the pharmaceutical industry had virtually taken over the role of preparation of drugs, the profession of pharmacy should develop this new function by establishing drug information centres in hospitals.

In Britain, The Report of the Working Party on the Hospital Pharmaceutical Service (63), the Noel Hall Report, commented on the need for drug information to be made available to physicians via pharmacists. Following the reorganisation of the health service in 1974 (64), career structures for hospital pharmacists were improved and a number of pharmacists began to specialise in the provision of drug information. In many cases, this development

resulted from redeployment of existing resources (65). At a national day conference for drug information pharmacists in 1976 (66), it was suggested that a national network of centres was needed. The degree of development of the services throughout the country reflected the varying levels of financial support given to the centres. Currently, most drug information pharmacists are based in centres provided with standard reference texts and their own literature files. One recently opened regional centre contains a computer terminal, which provides access to the British Library's automated information service (67).

Drug information pharmacists answer queries referred to them from physicians, nurses, pharmacists and allied personnel within the hospital service and to a lesser extent from health care professionals in the family practitioner services (see TABLE 5).

TABLE 5

Sources of inquiry to eight regional drug information centres during 1976

SOURCES OF INQUIRY	NUMBER	PERCENTAGE
Consultants	971	11.3
Junior medical staff	2512	29.3
General medical practitioners	177	2.1
Hospital pharmacists	2909	33.9
Nurses	929	10.8
General practice pharmacists	363	4.2
Others	723	8.4
	8584	100.0

Source: F. N. Leach A Survey of the work of regional drug information centres (68)

In addition to providing information of a straightforward nature, the hospital service expects drug information pharmacists to assess the therapeutic merits of various products and to be able to give independent advice on their use and application. Calder, Davis et al. (12) suggested that the field of drug information could achieve a closer liaison between hospital and general practice pharmacists and in so doing, equip the latter to act more positively as advisers to general practitioners (physicians) on pharmaceutical matters.

The Report of the working party on drug information services (69) in 1974 suggested that some functions for regional centres beyond the provision of answers to specific queries could be the preparation of bulletins for distribution to all interested personnel in both the hospital and family practitioner services, the collection of reports on adverse drug reactions within regions and the provision of a 24-hour service.

Although the last point has not materialised, many regions produce regular drug information bulletins, which are circulated within hospitals and sometimes distributed on request to general practice pharmacists.

The services available at some centres have also been advertised to the general practitioner services (70). However, the use of the advertised services by general practice pharmacists and by general medical practitioners was reported to be low.

In 1977, drug information centres, within the NHS, were costing approximately £500,000 a year (71). Some pharmacists have suggested that extension of the service provided by the centres to the community would not necessarily fulfil the information

needs of pharmacists and/or physicians (72). Information provided was often drug orientated rather than patient orientated.

Drug companies' product information departments

Each major drug company supports its own technical and medical information department. The staff of these departments sometimes includes pharmacists. The Association of Information Officers in the Pharmaceutical Industry (AIOPI), formed in 1974, provides a forum for information personnel and has introduced a training scheme for new staff.

Information departments of individual companies are able to provide comprehensive, in depth data on their companies' products, including details of clinical trials and reported adverse effects. They provide, also, the backup technical service for representatives in the field forces, so that a two-way channel of communication can exist for the provision of information to physicians and pharmacists via representatives.

Because of the diversity of activity amongst companies, it is difficult to give precise information from the literature on the use made of these information departments, particularly by general practice pharmacists.

PSGB Library and Technical Information Service

The Society's information service is based in London at headquarters with facilities available to all members from 9 am to 5 pm, Mondays to Fridays. The Library contains over 59,000 books, pamphlets and manuscripts and currently receives 500 periodical publications (73). It contains a nationally unique collection of world pharmacopoeia and drug compendia.

The information office is equipped to deal with a wide variety of general and technical information relating to pharmacy and allied subjects and it is particularly well equipped to deal with inquiries on proprietary medicines, both British and foreign. The office is supported by the Society's scientific editorial staff in answering inquiries on the action and uses of drugs, by the law department in dealing with legal queries and by the Society's pharmaceutics laboratory in Edinburgh on questions relating to practical problems in dispensing and pharmaceutical formulation.

The number of inquiries received continued to increase to a total of 8,800 in 1977. After ten years of the service operating in its present form, the number of inquiries has increased to nearly 3½ times the number received in 1968. The distribution of inquirers closely followed that of previous years (see TABLE 6) (74).

TABLE 6

The distribution of inquirers using the Pharmaceutical Society's information service during 1976 and 1977

INQUIRERS	1977 %	1976 %
Pharmacists		
in general practice	27	26
in hospital	37	36
in pharmaceutical service	10	10
Allied professions	5	5
Members of the public	7	7
Libraries	4	4
Press	2	2
Miscellaneous e.g. industry, marketing and advertising agencies, embassies	8	10

NPA information department

The Association maintains an information department principally for members. A wide range of queries are answered, many being of a commercial nature.

Pharmacists can always make informal contact with their professional colleagues, including the Pharmaceutical Society's inspectors and Law Department. Person to person contacts can often be of assistance in providing information, when more formal channels of communication are inaccessible or inadequate.

It can be seen that pharmacists are not dependent upon any one particular source for information. Indeed, the sources form an interdependent network of information. The categories of sources discussed have inherent communication techniques: the reading of texts and journals and spoken communication with colleagues and medical representatives.

The computer as a medium for communicating information in general practice pharmacy already has some application in this country at present. Several pharmaceutical wholesalers use computerised stock control systems in conjunction with their pharmacist clients (75). There have been reports of a number of pharmacies in Spain and Canada, which have computer terminals (76). In Canada, the terminals give access to patient records and drug information and each pharmacy has a video display terminal and printer linked to central processing units. In Britain, the wholesalers Vestric run a scheme, which has 2,000 general practice

pharmacist members (77). Greatly increased computer usage is anticipated as the cost of equipment continues to fall and their use becomes socially acceptable (78).

The Ad Hoc Committee on Computerised Pharmacy Systems was set up by the Illinois Pharmaceutical Association in 1976. Different types of computerised pharmacy systems were evaluated by the committee (79). To date, no such comparable study has been carried out in this country (see later discussion, p.144).

The Post Office in Britain has its own computerised information system called Prestel, formerly known as Viewdata. A readily available system such as Prestel would seem to have possibilities for the pharmacist in general practice.

A major problem in the use of computers is 'confidentiality'. This is particularly pertinent when considering the storage of patient profiles as well as drug information.

It has been suggested (80) that the main clinical advantages of computer usage could be: patient profiles of past and present prescription therapy, patient allergies and drug reactions, adverse drug reaction records, control of abuse of dangerous drugs and on-line detailed drug information for all medicinal product queries.

Administrative developments could include accurate and speedy stock control and accounting, counting and labelling dispensed medicinal products, pricing of prescriptions and epidimiological data collection.

The time-saving factor as well as increased reliability and efficiency on these administrative procedures could release the pharmacist from repetitive work and enable him to increase his patient contact time.

Information for pharmacists generally falls into one of two broad groups, commercial and professional, both groups being essential for the pharmacist. His needs are for a sufficient, varied and unbiased supply of information, upon which he can make necessary decisions. 'Bias' in the area of drug information can take several forms.

Manufacturers of medicinal products possess detailed knowledge of their products. It would be unrealistic to believe that unsubstantiated information, contradictory to the success of their products, would be willingly disseminated. Hence, bias of a commercial nature can occur. However, the staff of major drug manufacturers medical information departments are well aware of the need to maintain their own professional integrity.

Academic establishments, including schools of pharmacy, contribute to research and technical development in pharmaceutical and medical sciences. Such published information may appear theoretical and of limited practical application to practising pharmacists.

Government or institutional establishments can produce information, some of which has a bias towards 'cost consciousness'. Again, this information may not be of direct benefit to the practising pharmacist.

When evaluating the type of source, its form of communication and the usefulness of drug information, the pharmacist must draw upon his professional expertise for its appraisal, evaluation and application.

CHAPTER 2

AIMS AND OBJECTIVES AND EXPERIMENTAL APPROACH

AIMS AND OBJECTIVES

The aim of the work was to study the information sources currently available to general practice pharmacists. The information requirements were to be evaluated and an assessment made of the type, scope and value of existing information.

The special requirements of women pharmacists and pharmacists working in a part-time capacity were to be studied in particular and a survey was to be initiated into the relationship between the medical representative and the pharmacist with respect to information about drugs.

EXPERIMENTAL AND ANALYTICAL APPROACH

a) Survey design

Surveys can be defined as planned collections of data and they can involve complex patterns of interacting variables. The two main types of recognised surveys are descriptive (factual and actuarial) and analytical (exploring attitudes and relationships between variables). The nature of the data to be collected should indicate the type of survey to be used.

The questionnaire is an established means for achieving the collection of data in surveys. The techniques of questionnaire design are well formulated, with the main objective being the collection of the maximum amount of clearly defined information. The use of any questionnaire should be preceded by pilot work study, which can take the form of preliminary questionnaires or detailed interviews. This enables the experimenter to investigate his subject with greater insight and should also make the final

questionnaire a much improved experimental tool. Such improvements could be

simple unambiguous wording of questions with clear instructions on how they should be answered,

the appropriate sequence of questions,

the construction of 'closed' questions from previously 'open' questions,

development of rapport with respondents by making the questionnaire interesting to them and visually attractive

and optimum total length and timing of the questionnaire.

Questionnaires are usually conducted by one of two main methods: detailed personal interviews of or by mailing questionnaires to would be respondents. The technique of mailing questionnaires has several disadvantages, the main one being a relatively poor response rate. However, this can vary according to the source of the questionnaire (9, 81). The Sainsbury Report (54) included a questionnaire, admittedly from an 'official' body, which obtained an eighty eight per cent response rate. But some response rates are reported as low as ten to twenty per cent. As 'non-response' is not a random process, steps should be taken to reduce, if not eliminate, non-response. Some methods of achieving this are

accompanying initial explanatory letters,

the use of stamped-addressed reply envelopes

and official sponsorship of the survey, whenever possible.

However, the technique of mailing questionnaires does have a number of advantages, such as

comparatively inexpensive and reliable,

a relatively quick method of obtaining data,

anonymity and confidentiality can be assured when necessary and most importantly, this method is very often the only feasible one for collecting certain types of data.

b) Sampling techniques

Consideration of samples, on which to perform surveys, should be made after definition of the population to be studied, the 'target population', and the feasibility of it being fully or partly covered by the survey. Knowledge of the variability within the population is important in determining an efficient sample design and sample size. Pilot studies are not often helpful in this respect because of their smallness. Researchers frequently need to refer to reliable statistics on the given population, for the same or related geographical area, in order to determine the 'survey population', that is, sample.

Statements based on sample results are always probability statements (9). It is important that bias in the selection process should be avoided. Simple random sampling protects against selection bias. Bias is introduced if some sections of the target population refuse to co-operate or if there is non-response from the survey population. This type of bias cannot be eliminated or reduced by an increase in sample size.

Some types of sampling techniques are

random sampling,

stratification,

cluster and multistage sampling (including area sampling) and sampling with varying probabilities.

A five percent or more sample of a population is considered a relatively high proportion for a survey. A large sample size

does not guarantee the accuracy of the interpretation of the results; the importance of the sampling fraction is often overrated. The researcher must think of the precision required, that is, how large a standard error can be tolerated, and the way the results are to be analysed, for example, so that sufficient case numbers are provided for sub-group analyses.

c) Processing of data

The purpose of any survey is measurement. During the quantification stage of a survey, the words or replies of the respondents will be processed: they will be turned into figures wherever possible. Precoded or closed questions included in questionnaires present little difficulty to the researcher at this stage. Numerical values will have been assigned to the various answer categories at the design stage of the questionnaire. Free-answer or open questions require projective techniques at the processing stage. Words written by respondents have to be classified before they can be ascribed numerical values.

The processed data, once in numerical form, can be handled manually or the information can be punched onto computer cards. The latter technique has the advantage that the data can be handled by a computer for analysis.

d) Analysis of data

Data from a survey, once in numerical form, can be used, in the first instance, to provide straightforward tabulations, that is, simple frequency distributions of the answers to each question in the questionnaire for the entire sample. Cross-tabulations can be obtained from the initial frequency distributions.

The second stage of analysis is often an attempt to reduce the dimensions of the data, without losing any of the information, in an effort to make further analyses more tractable and to facilitate greater understanding of the data. This is often applicable to attitudinal surveys, where a variety of analytical methods can be used, including

non-dimensional scaling methods,

factor analysis

and canonical correlations.

All these methods attempt to reduce the data by forming new variables consisting of weighted averages of the original data. Of the scaling methods, Thurstone and Likert Scales are well used for measuring attitudes to a range of statements in a questionnaire where all the statements have an underlying theme, for example, on professionalism.

e) Statistical procedures

The statistical procedures applied to data collected from a survey will depend on whether the data is quantitative or qualitative.

Quantitative data measures along a continuum and has additive properties. The statistical parameters, which are readily applicable, are means, standard deviations and other measures of variability. The significance of these parameters can be evaluated by using a variety of established tests, such as the 't-test'.

Qualitative data includes frequencies in discreet categories and the statistics most often applied are percentages, 'chi-square' and other non-parametric devices.

Some data fall between these two distinct categories and in such cases, rank correlation techniques can be used to evaluate relationships between variables.

f) Computer usage

The development of computers has led to advances in survey analysis (9). Tabulations can be performed with greater ease but more importantly, the use and development of more powerful multivariate statistical procedures have been facilitated. Ease and speed are two advantages attributable to computer usage but only after the researcher has familiarised himself with computer techniques. Also, one should have sufficient knowledge of anticipated data analysis and statistical requirements to select a suitable computer 'program'. Once selected, a study of the program documentation is essential to make sure that the facilities it offers are adequate for the purposes of the study and that any previous coding of the data is consistent with the program's requirement.

The most common procedure for feeding survey data into computers is by the use of punched cards. Later, the raw data can be kept 'on file' in the computer and called upon for further analysis and suitable subroutines.

g) The SPSS

The Statistical Package for the Social Sciences (SPSS) (82), is an integrated system of computer programs, primarily intended for the analysis of social science data. However, data produced from surveys performed in other disciplines can also be analysed. SPSS allows flexibility in data format, provides a comprehensive

set of procedures for data transformation and a large number of statistical routines. It provides a set of common conventions for using the variety of subprograms. SPSS is driven through its various functions by a sequence of control cards interspersing the data entered on punched cards.

SPSS has a number of features for processing 'missing data'. This is often an important consideration in survey work. A variable may have up to three values, which are designated as 'missing'. Each of the statistical subprograms contains a number of options for processing missing data. Results from the system are provided automatically as print-out reports. The level of detail contained in the reports will depend on the specifications made by the user.

h) Survey results

The detail and form in which results are presented vary with each survey. Conclusions should be drawn cautiously from the results, particularly the projection of figures from the survey population to the target population.

The principles outlined in this chapter were observed in performing Experiments I, II and III, as described in the following chapter.

CHAPTER 3

EXPERIMENTAL RESULTS

EXPERIMENT I

A survey of drug information sources in general practice pharmacy

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1. Introduction

A survey was designed to determine the use of information sources available to general practice pharmacists, pharmacists' attitudes to the sources and the value they placed on them. The survey was carried out in July 1977.

2. Preliminary Studies

Initially, a pilot survey of pharmacists attending a continuing education course was conducted. This was followed by the distribution of a prototype questionnaire to pharmacists at fifty pharmacies in the West Midlands Region. Copies were sent for comment to the Pharmaceutical Society, the PSNC, the Regional Pharmaceutical Officer of the West Midlands Region and to the superintendent pharmacist of the Boots Company Ltd. The responses obtained from responding pharmacists and the organisations were used to improve the framing of questions and general style of the questionnaire. The revised questionnaire was used for the main inquiry (Appendix 1).

Two ancillary studies were carried out during the same year as the questionnaire survey of general practice pharmacists. The results of these two studies are discussed before presentation of the major survey.

Ancillary study I involved the monitoring of all queries received from general practice pharmacists at hospital drug

information centres in the West Midlands Region for the year 1977.

Ancillary study I

An assessment of queries received from general practice pharmacists at hospital drug information centres in the West Midlands for the year 1977.

Methodology

All fifteen drug information centres in the Region were sent a form (Appendix 3) at the beginning of 1977, plus an accompanying letter (Appendix 4). The information pharmacist in charge was requested to complete monthly figures of queries, together with information about the types of queries and the length of time taken to reply to each query.

Results

Replies were obtained from twelve drug information centres of the fifteen circulated, including the Regional Drug Information Centre. A few responding centres did not complete the 'total number of queries' column, so that an approximate guide only could be obtained for the proportion of all queries received from general practice pharmacies.

From the figures collected over a twelve month period, 147 (2.6%) queries were received from general practice pharmacists, out of a total number of 5756, an average of approximately twelve queries per month. The most frequent type of query concerned product availability and most queries were answered in less than 5 minutes (see TABLE 7).

TABLE 7

Types of queries received at hospital drug information centres in the West Midlands for the year 1977

TYPES OF QUERIES REFERRED TO CENTRES BY GP PHARMACISTS	NUMBER OF QUERIES IN EACH CATEGORY
availability	41
identification	23
clinical use	20
side effects	14
other - formulations etc.	12
dosage	6
interactions	6
contraindications	5
stability	3
toxicology	2
cost	1

TIME TAKEN TO REPLY TO QUERIES	NUMBER OF QUERIES IN EACH CATEGORY	(%)
less than 5 minutes	48	(52.0)
5 - 30 minutes	32	(35.0)
½ - 1 hour	5	(5.5)
over 1 hour - over 1 day	7	(7.5)

Ancillary study II involved monitoring the drug information literature received in the form of 'direct mail' at each of nine pharmacies for a period of six weeks in 1977.

Results

An average of fifteen items of literature was collected per

pharmacy, that is, approximately 2¼ items per week. Distribution of printed information was mostly in the form of data sheets (44%) and these were more likely to be retained and filed for future reference than other forms of mail. The pattern of distribution of most of the information to pharmacies was variable and inconsistent.

The survey would indicate that pharmacists in general practice do not receive as much drug information literature from drug companies as general medical practitioners. Medical representatives appear to play a small part in transmitting printed material to pharmacies.

Major general practice pharmacy survey continued ...

3. Methodology

An eleven page postal questionnaire consisting mainly of multiple-choice questions, previously coded for computer analysis, was distributed in July 1977, with a stamped-addressed envelope, to general practice pharmacists, with an accompanying letter (Appendix 2). The letter emphasised the need for adequate back-up information if the advisory role of the pharmacist was to progress. As complete anonymity was to be maintained throughout the survey, reminder notes could not be issued to non-respondents.

A sample of pharmacists at fifty per cent of all registered pharmacies in the West Midlands Region was selected as the survey population. The eleven up-dated Family Practitioner Committee Pharmaceutical lists for the WM Region were used for selection of the sample (see TABLE 8).

Alternate names and addresses of registered premises were taken from the Pharmaceutical Lists. As the superintendent

TABLE 8

Family practitioner committees (NHS) for the West Midlands Region

F.P.C. AREA	NO. OF CHEMIST CONTRACTORS IN AREA
Birmingham	205
Coventry	60
Dudley	49
Hereford & Worcester	84
Salop	63
Sandwell	61
Solihull	28
Staffordshire	149
Walsall	46
Warwickshire	64
Wolverhampton	44
TOTAL	853

pharmacist of the Boots Company Ltd. refused permission for the Company's pharmacies to participate in the survey, approximately ten percent of the original sample was lost (see TABLE 9). The possible introduction of an unavoidable bias cannot be ignored.

There were several reasons for the selection of the West Midlands as the sampling area. It was a representative area in terms of geographical location with a mixture of urban, suburban and rural districts. It was considered that the practising pharmacist population was reasonably representative of the national population. Available parameters for both local and national pharmacy populations were compared to substantiate this opinion (see TABLE 10).

TABLE 9

Sample for questionnaire survey (Experiment I)

Total number of W.M. pharmacies		853
Original number of sample (50%)		427
Number of Boots pharmacies in original sample	45	
Number of sample pharmacies for pilot survey	50	
	95	
Final number of sample for major survey		332

TABLE 10

Some pharmacy population parameters for year 1977

	NATIONAL No.	(%)	WEST MIDLANDS No.	(%)
Registered pharmacists	27108		2015	
Male pharmacists	19604	(72.3)	1542	(76.5)
Female pharmacists	7504	(27.7)	473	(23.5) - married
Hospital pharmacists	1230	(4.5)	92	(4.6)
Registered pharmacies	10836		853	
Boots Co. Ltd. pharmacies	1150	(10.6)	110	(12.9)

It was considered also that factors influencing the practice of pharmacy could only be readily monitored at a regional level. For instance, the appraisal of participation in continuing education courses, organised on a regional basis, was essential.

The 332 pharmacists selected as the sample were given until the end of September 1977 to complete and return the questionnaires. A response rate of 48.5 percent was obtained.

4. Survey results

A total count of the responses to the structured questions in the questionnaire is given in FIGURE S1, alongside the questions posed. The frequency of responses to alternatives posed within questions is given also.

5. Analysis of results

Two-way CROSS TABULATIONS

These tabulations were performed using the SPSS subprogram CROSSTABS on the data for two variables describing the responding pharmacists: 'year of registration' and 'type of pharmacist'. Each variable was used to compute joint frequency distributions for responses to all questions throughout the questionnaire. The results obtained which show statistically significant differences in responses are shown in TABLES C1 to C16. The tables are included, where most appropriate, in the following discussion section of this chapter.

The chi-square test for significant difference was applied to the cross tabulations. Results which show a significance level below 0.05% have been selected (TABLES C1 to C16). The following nomenclature abbreviations are used in the presentation of the results:

x^2 = chi-square, df = degrees of freedom, s = significance

FIGURE S1

QUESTIONNAIRE ON DRUG INFORMATION SOURCES IN GENERAL PRACTICE PHARMACY, RESULTS

TOTAL NUMBER OF RESPONDENTS = 161

ALL PERCENTAGES ARE ADJUSTED FREQUENCIES FOR MISSING RESPONSES (m)

			No.	%
1.	Year of registration	1977-72	24	14.9
		1971-68	15	9.3
		1967-58	42	26.1
		1957-48	34	21.1
		BEFORE '48	46	28.6
			161	100.0
2.	School of Pharmacy at which you qualified	ASTON	64	39.8
		ALL OTHERS	97	60.2
	and qualifications obtained	MPS	98	61.6
		BPharm/BSc	49	30.8
		C + D	12	7.6
		m=2	159	100.0
3.	Please indicate whether you are a:			
		PROPRIETOR PHARMACIST	100	62.1
		MANAGER	59	36.7
		ASSISTANT PHARMACIST	2	1.2
			161	100.0

4. Please indicate the value you place on each one of the following as a source of drug information:

LIST NO. 1	VERY GOOD (5)	GOOD (4)	AVERAGE (3)	POOR (2)	VERY POOR (1)	NOT KNOWN (0)
Standard reference sources:						
A. Martindale	128	28	3	-	-	2
B. MIMS	26	40	57	16	1	21
C. ABPI Data Sheet Compendium	46	67	29	2	6	11
D. BNF	11	43	65	30	7	5
E. Drug Tariff	7	20	36	48	45	5
Journals						
F. Pharmaceutical Journal- articles	29	71	42	10	3	6
adverts (drug)	4	14	71	36	18	18
editorials	10	41	58	25	13	14
letters	12	31	58	27	19	14
G. Chemist and Druggist- articles	8	34	51	10	6	52
adverts (drug)	1	9	47	34	11	59
editorials	1	25	38	24	17	56
letters	3	16	29	38	17	58
H. Direct Mail (Unsolicited through the post) from:						
Drug firms	18	56	67	7	2	11
Offical sources -						
PSGB	19	31	50	19	12	30
DHSS	10	22	47	33	15	34
PSNC (Newsletter)	18	31	43	22	12	35
NPA (pink supplement)	41	46	45	16	5	8
Company newsletter	5	10	28	14	10	94

	VERY GOOD (5)	GOOD (4)	AVERAGE (3)	POOR (2)	VERY POOR (1)	NOT KNOWN (0)
J. Medicinal product package inserts	16	65	56	15	2	7
K. Medical representatives' visits	9	29	69	30	17	7
L. Attendance at continuing education (refresher) courses	27	41	13	5	4	71
M. Attendance at meetings organised by:						
PSGB	5	31	35	17	7	66
NPA or group equivalent	4	9	19	22	7	100
Drug firms	3	13	20	14	12	99
N. Contact with information units at:						
Hospitals	23	31	19	15	5	68
PSGB (Library, Law Dept)	13	22	10	5	6	105
Drug firms	14	36	30	7	7	67
NPA	17	43	10	5	6	80
P. Contact with other pharmacists:						
Colleague in same pharmacy	13	22	11	3	1	111
Neighbouring pharmacists	23	46	37	11	10	34
Head office, if part of a group	7	8	15	5	2	124
PSGB Inspector	27	40	33	12	10	39
R. Contact with a school of pharmacy	7	13	7	6	6	122

5. Please indicate from which source(s) you are most likely to learn about NEW DRUG PRODUCTS:

SOURCE	No. RESPONSES	SOURCE	No. RESPONSES
Direct mail	61	Martindale	7
Pharmaceutical Journal	47	PSGB Index of new products	4
ABPI data sheet Compendium	29	Retail Chemist	3
MIMS	23	First Prescription	2
Representatives	16	Wholesalers	2
Chemist + Druggist Price list	8	Package inserts	1

6. Below you will find a list of possible information queries. Please state the source you most frequently consult to deal with each of these.

	SOURCE	No of responses	SOURCE	No of responses
(a) THERAPEUTIC ACTION OF A DRUG	Martindale	81	Package inserts	3
	ABPI dsc	72	BPC	3
	MIMS	29	Goodman + Gilman	3
(b) ACTIVE INGREDIENTS	Martindale	67	Container label	9
	ABPI dsc	65	Retail chemist	4
	MIMS	46	Package insert	3
(c) CONTRAINDICATIONS	ABPI dsc	94	Package insert	3
	Martindale	67	Drug firms' mail	3
	MIMS	36	PSGB Index of new products	2
(d) DOSAGE	ABPI dsc	74	BNF	9
	Martindale	62	Drug firms' mail	6
	MIMS	54	Package insert	5
(e) DRUG INTERACTIONS	ABPI dsc	63	Drug inter-actions chart	16
	Martindale	57	MIMS	15
	Drug inter-actions book	28	Pharmaceutical Journal	5

	SOURCE	No of responses	SOURCE	No of responses
(f) EXTEMPORANEOUS PROCEDURES (DILUTIONS ETC)	NPA diluent Directory	116	BNF	6
			BPC	6
	Martindale	38	Drug firms' mail	3
	ABPI dsc	15		
(g) LEGAL CONTROLS	Restricted medicines + poisons, 1974	40	ABPI dsc	23
			NPA literature	11
	Chemist + Druggist Price List	32	Pharmaceutical Journal	10
	Retail Chemist	26		
(h) SIDE EFFECTS	ABPI dsc	86	Package inserts	8
	Martindale	74	Drug firms' mail	5
	MIMS	25	PSGB index of new products	3
(i) STORAGE (including Chemical and physical stability)	Martindale	71	Drug firms' mail	12
	ABPI dsc	54	Package inserts	10
	Container label	23	BPC	6

Questions 7 to 13 deal with the ethical pharmaceutical representatives visits and any links the pharmacist might have with the pharmaceutical industry.

			No.	%
7.	Do you see representatives?	YES	160	99.4
		NO	1	0.6
			161	100.0
8.	If your answer to 7 is YES, what is the average length of call?	5 MINS OR LESS	25	15.7
		6 - 10 MINS	110	68.5
		11 - 20 MINS	18	11.3
		21 MINS OR MORE	2	1.3
		NOT KNOWN	5	3.2
		m=1	160	100.0

			No.	%
9. If your answer to 7 is NO, please indicate your reason:	TOO TIME-CONSUMING		1	100.0
		m=160	1	100.0

10. What do you see as the main function of representatives' visits? Please indicate this by giving the following statements a rank order of importance.

(1 = most important to 6 = least important)

	VALUE OF FUNCTION						
	1	2	3	4	5	6	
(a) Stocktaking, ordering, sales promotion	21	6	18	27	29	52	(m=8)
(b) Introduction of new products	78	37	20	7	7	5	(m=7)
(c) Reminding you of existing products	2	22	39	18	36	37	(m=7)
(d) Provision of up-to-date drug information	55	44	24	18	9	6	(m=5)
(e) To act as a two-way channel of communication with the parent company	15	17	25	36	27	34	(m=7)
(f) Replacement of out-of-date stock	19	25	37	31	25	19	(m=5)

			No.	%
11. Have you ever had direct contact with drug firms' medical information departments ?	YES		88	55.0
	NO		72	45.0
		m=1	160	100.0
If your answer to 11 is NO, is this because:				
(a) No queries			46	70.8
(b) Unaware of service			10	15.4
(c) Telephoning is too costly and time consuming?			9	13.8
		m=96	65	100.0
(d) Any other reason			NIL RESPONSE	
If your answer to 11 is YES, about how frequently?	LESS THAN 1 A YEAR		4	4.8
	1 A YEAR		16	19.3
	2 A YEAR		27	32.5
	3 A YEAR		14	16.9
	4 A YEAR		10	12.0
	MORE THAN 4 A YEAR		12	14.5
		m=78	83	100.0
Please indicate *type* of query forwarded	AVAILABILITY		49	58.3
	REQUEST FOR FURTHER LIT.		12	14.3
	CONTRAINDICATIONS/ INCOMPATIBILITIES		11	13.1
	OTHERS		12	14.3
		m=77	84	100.0

			No.	%
12. You can request to be placed on a mailing list for medical information normally circulated to physicians. Please indicate if you:	HAVE REQUESTED		34	21.4
	NOT REQUESTED		51	32.1
	UNAWARE		74	46.5
		m=2	159	100.0
If your answer is HAVE NOT REQUESTED/ UNAWARE, would you be interested in such a service?	YES		95	74.8
	NO		32	25.2
		m=34	127	100.0
If your answer is YES, do you still receive information on the mailing list?	YES		44	74.6
	NO		15	25.4
		m=102	59	100.0
13. Are you invited to meetings about new drugs arranged by by drug firms?	YES		22	13.8
	NO		138	86.2
		m=1	160	100.0
If yes, are they,	USEFUL		14	
	OF INTEREST ONLY		7	
	SOCIALLY PLEASANT		9	

Questions 14 to 17 deal with continuing education (refresher) courses, which are organised for general practice pharmacists on a Regional basis.

14. Do you receive details of the courses organised in your region?	YES		147	91.9
	NO		13	8.1
		m=1	160	100.0

			No.	%
15. Have you attended any courses?	YES		69	43.4
	NO		90	56.6
		m=2	159	100.0
If YES, how many in past 5 years?	1 IN PAST 5 YEARS		25	36.2
	2 IN PAST 5 YEARS		21	30.4
	3 IN PAST 5 YEARS		8	11.6
	4 IN PAST 5 YEARS		7	10.2
	5 IN PAST 5 YEARS		6	8.7
	MORE THAN 5		2	2.9
		m=92	69	100.0
If NO, would a greater financial incentive encourage you to attend?	YES		43	41.7
	NO		60	58.3
		m=58	103	100.0

16. Please indicate the value you place on attendance at these courses by circling the appropriate number for <u>each</u> statement.

	STRONGLY AGREE (5)	AGREE (4)	UNDECIDED (3)	DISAGREE (2)	STRONGLY DISAGREE (1)	
(a) They provide an opportunity to keep up-to-date	63	76	7	3	-	(m=12)
(b) Good idea but I am too busy	37	48	11	34	16	(m=15)
(c) Opportunity to learn new pharmaceutical concepts	27	81	31	5	1	(m=16)
(d) Courses appear too academic and not sufficiently orientated towards general practice	25	41	31	43	10	(m=11)
(e) I would attend but courses are insufficiently advertised	6	5	19	90	22	(m=19)
(f) The courses are of general interest only	3	23	33	71	10	(m=21)

	STRONGLY AGREE (5)	AGREE (4)	UNDECIDED (3)	DISAGREE (2)	STRONGLY DISAGREE (1)
(g) I think attendance on these courses should become a mandatory requirement for continued registration	13	23	20	49	43 (m=13)

			No.	%
17. Please indicate if you would be interested in organised postal continuing education (refresher) courses eg. cassettes/ notes presentations, programmed learning texts etc.	YES		106	69.7
	NO		46	30.3
		m=9	152	100.0
18. Do you know of you local HOSPITAL-drug information unit?	YES		94	60.5
	NO		62	39.5
		m=5	156	100.0
If YES, have you used the unit?	YES		44	42.3
	NO		60	57.7
		m=57	104	100.0
If YES, please indicate:				
Frequency of contact	INFREQUENTLY		10	22.2
	UP TO 5 TIME A YEAR		16	35.6
	MORE THAN 5 TIMES A YEAR		19	42.2
		m=116	45	100.0
Type of query forwarded	HOSPITAL FORMULAE		22	
	DRUG SIDE EFFECTS		10	
	DOSAGE REGIMES		7	
	DRUG INTERACTIONS		6	

				No.	%
19.	Would you welcome more information about these units?	YES		124	82.7
		NO		26	17.3
			m=11	150	100.0
20.	Have you ever contacted the PHARMACEUTICAL SOCIETY'S Information Department?	YES		40	25.0
		NO		117	75.0
			m=4	157	100.0
	If YES, please indicate *frequency* of contact:	INFREQUENTLY		9	23.1
		ONCE		20	51.3
		MORE THAN ONCE		10	25.6
			m=122	39	100.0
	Type of query forwarded	FOREIGN DRUG		11	
		LEGAL QUERY		9	
		AVAILABILITY		4	
		FORMULATION		3	

This page contains a brief section on possible future developments:

Please indicate your opinion ofthe following statements:

		STRONGLY AGREE	AGREE	INDIFFERENT	DISAGREE	STRONGLY DISAGREE
21.	I would welcome a current comprehensive monthly list of proprietary medicinal products, with a cross-reference to generic names	67	64	23	4	1 (m=2)
22.	I would welcome a pull-out form of the Pharmaceutical Journals "Drugs in Use' section (on newly introducted drugs).	50	77	29	3	2
23.	Pharmacists should receive 'PRESCRIBERS JOURNAL' (a bimonthly publication sponsored by DHSS) free of charge	69	77	12	1	1 (m=1)
24.	Pharmacists should receive 'DRUG AND THERAPEUTICS BULLETIN' (Consumers Association) free of charge	61	67	25	7	1

		£25	£15	£10	£5	NOT PREPARED TO PAY
25	What is the maximum you would be prepared to subscribe annually for a reliable, regular supply of independent drug information ?	18	22	37	29	51 (m=4)

26. Please tick those categories of information which you feel need specific attention and development to help you in general practice.

		No. RESPONSES
1.	Drug Interactions	146
2.	Advice on encouraging 'patient compliance'	48
3.	Paediatric prescribing	66
4.	Geriatric prescribing	49
5.	Ostomy/appliances	112
6.	Agriculture/veterinary information	27
7.	Accident and poisoning advice	110
8.	Specific diseases information (e.g. diabetes, epilepsy)	94
9.	New products information	126
Others - please specify...	DERMATOLOGICAL PRODUCTS	11
	STORAGE	2

Finally, would you kindly indicate which reference sources you have in your pharmacy

		No RESPONSES
1.	ABPI Data Sheet Compendium 1977	153
2.	BNF British National Formulary 1976/78	158
3.	BPC British Pharmaceutical Codex 1973	69
4.	Chemist and Druggist Price List	109
5.	Chemist and Druggist Directory 1977	24
6.	Drug Tariff 1977	157
7.	Martindale - The Extra Pharmacopoeia 26th ed. (27th ed. June, 1977)	121
8.	MIMS	105
9.	Pharmaceutical Handbook	54
10.	Restricted Medicines and Poisons	68
11.	Retail Chemist	95
12.	NPA Compendium of past formulae, 1933-66	120
13.	A drug interactions book.	64

Any other reference sources, please specify:-

UNICHEM MEDICAL PRODUCTS LIST	4
MERCK MANUAL	3

6. Discussion

Careful comparison of the age distribution of responding pharmacists confirmed the similarity with the profession as a whole, at the time of the survey (3). The age of respondents was imputed from the date of first registration (age of registration taken to be 22 years, as in the Manpower Survey 1977). The increase in the Society's Manpower Survey figure for the 50 and over age group could be accounted for by the inclusion of pharmacists beyond retirement age, who work part-time or not at all but who have maintained their registration as pharmacists.

Very few respondents had considered contact with a school of pharmacy as a source of drug information. Schools of pharmacy have not been traditionally active as an information service and it is unlikely to occur to most pharmacists, especially if practising at a distance from their own school. Therefore, answers to question 2 were of no significance. However, from the author's experience of continuing education courses, initial contacts made between attending pharmacists and course lecturers often resulted in further interaction and increased communication.

Question 4 asked respondents about the value they placed on a list of varied information sources. Answers were considered to be general indications only, as many sources are specific in their drug information content.

Martindale, the Extra Pharmacopoeia scored very highly as a wide-ranging, comprehensive information source and no respondent found it 'poor' or 'very poor'. This response could have been influenced by the coincidental timing of the survey with the production and issue of the new 27th edition of Martindale (June 1977). When

issued, the new text was an up-to-date volume of drug information. However, with publication quinquennially, without supplements during that period, it has an inherent tendency towards obsolescence. As confirmation, only seven respondents quoted this text as the source from which they were most likely to learn about NEW drug products. Martindale is most likely to be used as a primary reference source, when dealing with queries. Between 42 to 50 percent of respondents quoted Martindale as the reference source of first choice for queries concerning the 'therapeutic action of a drug', 'active ingredients of a drug product' and 'storage'. Between 35 to 46 percent quoted Martindale as the reference source of second choice for the following queries: 'contraindications', 'dosage regimes', 'drug interactions' and 'side effects'. Three quarters of all responding pharmacists possessed a copy of Martindale, either 26th or 27th edition. The text holds a world position as a unique major source of comprehensive drug and product information and clinical usage. Selected significant abstracts are included extensively from the leading medical and pharmaceutical journals. Timeliness is maintained by inclusion of references within six months of the publication date. It is published by a professionally independent and long established organisation and the text has the highest reputation for unbiased information. It is disappointing that not all pharmacists insist on acquiring the current edition for use in every pharmacy.

MIMS 25 percent of respondents found it a 'good' source of information and 14 percent quoted it as the source from which they were most likely to learn about recently introduced drug products. It was the third choice as the reference source for dealing with the following queries: 'therapeutic-action of a drug', 'dosage regimes'

and 'side effects'.

81 percent of respondents agreed or strongly agreed with the suggestion in Question 21 of the questionnaire that they would welcome a 'current, comprehensive monthly list of proprietary medicinal products'. It would appear that MIMS fulfils this function for prescription products and is valuable as a quick reference source. However, only 65 percent of pharmacists responding to the questionnaire subscribed to the publication. This apparent reluctance could be due to an unfulfilled wish to be supplied with MIMS free of charge, like general medical practitioners. Although the information contained in MIMS is brief, it is constantly updated and maintains, therefore, its currency. The recent addition of a section covering NHS dressings and appliances would especially seem to increase its usefulness to general practice pharmacists. MIMS contains basic minimal information taken from data sheets, with packaging and NHS price details. For awareness it is most useful but for fuller information, quite inadequate. The text sometimes contains limited but not infrequent printing errors.

ABPI Data Sheet Compendium 70 percent of respondents found this text a 'good' or 'very good' source of information. It was the source most frequently quoted for reference concerning the following queries: 'contraindications', 'dosage regimes', 'drug interactions' and 'side effects'. It was the second choice as a reference source for dealing with the following queries: 'therapeutic action of a drug', 'active ingredients of a drug product' and 'storage'. These results show that the compendium is a valued and frequently used source, which appears to endorse the ABPI's decision to supply a copy to general practice pharmacies (21). The information contained

in the text is regulated but it is considerably more comprehensive than that in MIMS. It is produced more frequently, approximately 15 monthly, than Martindale. Data sheets for recently introduced products are distributed separately to pharmacies, although somewhat irregularly (see Ancillary study II). 95 percent of pharmacists responding to the survey possessed a copy of the compendium. The main advantages as an information source would appear to be its currency, its quality of information and wide distribution. The text of each data sheet is produced by individual pharmaceutical manufacturers, which results in considerable variation in detail and to some extent quality. However, the Licensing Authority require all data sheets to be submitted for scrutiny. Information on some side effects considered at the time of publication to be insignificant is unlikely to be included. It is not the present requirement of a data sheet to give comparative information with other products.

TABLE 11

The comparative usefulness to survey respondents of three main sources for specific information queries

SOURCES	Therapeutic action	Active ingredient	Storage	Contra-indications	Dosage	Inter-actions	Side effects
Martindale	+++	+++	+++	++	++	++	++
MIMS	+				+		+
ABPI Data Sheet Compendium	++	++	++	+++	+++	+++	+++

+++ - source of first choice; ++ - source of second choice; + - source of third choice

BNF 40 percent of respondents found this text 'average' as an information source and it appeared to be used infrequently for the types of queries listed in the questionnaire. However, more pharmacists possessed this text than any other (98 percent). Responses to Question 26 of the questionnaire showed that pharmacists usually required much more information on 'adverse reactions to drugs', 'drug interactions' and 'emergency treatment of poisoning' than that available in the BNF. It is possible that in future, the new-style BNF will be more useful in this respect to pharmacists in practice.

Drug Tariff This text was considered a 'poor' source of drug information. Question 26 showed that in particular, 112 responding pharmacists required rather more information on Ostomy appliances. The Drug Tariff lists the 'ostomy items, which general medical practitioners may prescribe, with extreme brevity. Especially in view of the complexity of this rapidly developing area, the Drug Tariff is the most obvious text for fully detailed information on this subject.

Journals The results of the survey showed the PJ to be a valued and frequently used source of information. Cross tabulations performed on the results showed statistically significant differences in responses to PJ 'articles', 'editorials' and 'letters' for pharmacists of different age groups (see TABLES C1, C2 and C3). In general, older pharmacists valued these sources more highly than younger pharmacists. No statistically significant differences were observed between manager and proprietor pharmacists. Perhaps older pharmacists' greater lack of current pharmaceutical

TABLE C1

YEAR OF REGISTRATION by Value placed on 'PJ' ARTICLES as a source of drug information

YEAR OF REG	VALUE not known	v. poor	poor	average	good	v. good	ROW TOTAL
1977 - 72	0 (0.0)	1 (4.2)	3 (12.5)	9 (37.5)	8 (33.3)	3 (12.5)	24
1971 - 68	0 (0.0)	2 (13.3)	1 (6.7)	5 (33.3)	7 (46.7)	0 (0.0)	15
1967 - 58	2 (4.8)	0 (0.0)	4 (9.5)	8 (19.0)	23 (54.8)	5 (11.9)	42
1957 - 48	1 (2.9)	0 (0.0)	0 (0.0)	8 (23.5)	16 (47.1)	9 (26.5)	34
Before '48	3 (6.5)	0 (0.0)	2 (4.3)	12 (26.1)	17 (37.0)	12 (26.1)	46
COLUMN TOTAL	6 (3.7)	3 (1.9)	10 (6.2)	42 (26.1)	71 (44.1)	29 (18.0)	161 (100)

x^2 = 32.497, df = 20, s = 0.038 (=%)

TABLE C2

YEAR OF REGISTRATION by Value placed on 'PJ' EDITORIALS as a source of drug information

YEAR OF REG.	VALUE v. poor	poor	average	good	v. good	ROW TOTAL
1977 - 72	2 (8.7)	8 (34.8)	11 (47.8)	1 (4.3)	1 (4.3)	23
1971 - 68	5 (35.7)	1 (7.1)	8 (57.1)	0 (0.0)	0 (0.0)	14
1967 - 58	5 (12.5)	5 (12.5)	13 (32.5)	17 (42.5)	0 (0.0)	40
1957 - 48	0 (0.0)	2 (6.2)	17 (53.1)	10 (31.3)	3 (9.4)	32
Before '48	1 (2.6)	9 (23.7)	9 (23.7)	13 (34.2)	6 (15.8)	38
COLUMN TOTAL	13 (8.8)	25 (17.0)	58 (39.5)	41 (27.9)	10 (6.8)	147 (100) m = 14

x^2 = 52.079, df = 16, s = 0.000 (=%)

m = missing values

TABLE C3

YEAR OF REGISTRATION by Value placed on 'PJ' LETTERS as a source of drug information

YEAR OF REG.	VALUE v. poor	poor	average	good	v. good	ROW TOTAL
1977 - 72	7 (31.8)	2 (9.1)	7 (31.8)	5 (22.7)	1 (4.5)	22
1971 - 68	6 (46.2)	3 (23.1)	3 (23.1)	1 (7.7)	0 (0.0)	13
1967 - 58	4 (10.8)	6 (16.2)	14 (37.8)	11 (29.7)	2 (5.4)	37
1957 - 48	0 (0.0)	6 (18.7)	17 (53.1)	7 (21.9)	2 (6.2)	32
Before '48	2 (4.7)	10 (23.3)	17 (39.5)	7 (16.3)	7 (16.3)	43
COLUMN TOTAL	19 (12.9)	27 (18.4)	58 (39.5)	31 (21.1)	12 (8.2)	147 (100) m = 14

x^2 = 36.612, df = 16, s = 0.002 (=%)

m = missing values

TABLE C4

YEAR OF REGISTRATION by Value placed on 'C & D' ARTICLES as a source of drug information

YEAR OF REG.	VALUE v. poor	poor	average	good	v. good	ROW TOTAL
1977 - 72	1 (5.3)	2 (10.5)	13 (68.4)	3 (15.8)	0 (0.0)	19
1971 - 68	1 (8.3)	2 (16.7)	6 (50.0)	3 (25.0)	0 (0.0)	12
1967 - 58	2 (6.9)	0 (0.0)	15 (51.7)	12 (41.4)	0 (0.0)	29
1957 - 48	2 (8.0)	2 (8.0)	8 (32.0	11 (44.0)	2 (8.0)	25
Before '48	0 (0.0)	4 (16.7)	9 (37.5)	5 (20.8)	6 (25.0)	24
COLUMN TOTAL	6 (5.5)	10 (9.2)	51 (46.8)	34 (31.2)	8 (7.3)	109 (100) m = 52

x^2 = 29.825, df = 16, s = 0.019 (=%)

m = missing values

knowledge results in a higher dependence upon the PJ for keeping up-to-date. Also, older pharmacists may be inclined to read more than younger pharmacists.

Respondents showed a difference in response to C & D 'articles' by age (see TABLE C4).

The PJ was the second most frequently quoted source from which respondents were most likely to learn about NEW drug products; direct mail was recorded 61 times compared with 47 times for the PJ. This reponse could be due mainly to the 'Drugs in Use' feature, which appears weekly. It has been suggested that this feature be produced in a standard format for easy removal and storage for future reference (83). 127 respondents agreed or strongly agreed, with the suggestion that they would welcome a 'pull-out' form of the 'Drugs in Use' feature in the PJ (Question 22).

Direct Mail The findings of Ancillary Study II indicated that pharmacists did not receive a large amount of printed information through the post. However, the information they do receive in this way is important for alerting them to NEW drug products, as mentioned above. Cross tabulations with age of pharmacist showed differences in responses to direct mail from drug companies and from the NPA (see TABLES C5 and C6). Again, these tables illustrate a tendency for pharmacists qualified before 1948 to value direct mail more highly as an information source than younger pharmacists. The NPA (Pink Supplement) received higher positive scores in total than any other type of direct mail. Drug firms' mail was quoted by a few respondents as a useful source for a number of different queries: 'contraindications' (3), 'dosage regimes' (6), 'extemporaneous procedures' (3), 'side effects' (5) and 'storage' (12).

TABLE C5

YEAR OF REGISTRATION by Value placed on DIRECT MAIL from DRUG FIRMS as a source of drug information

YEAR OF REG.	VALUE v. poor	poor	average	good	v. good	ROW TOTAL
1977 - 72	0 (0.0)	2 (8.3)	12 (50.0)	8 (33.3)	2 (8.3)	24
1971 - 68	1 (7.1)	1 (7.1)	2 (14.3)	10 (71.4)	0 (0.0)	14
1967 - 58	1 (2.6)	1 (2.6)	17 (43.6)	16 (41.0)	4 (10.3)	39
1957 - 48	0 (0.0)	2 (6.1)	20 (60.6)	9 (27.3)	2 (6.1)	33
Before '48	0 (0.0)	1 (2.5)	16 (40.0)	13 (32.5)	10 (25.0)	40
COLUMN TOTAL	2 (1.3)	7 (4.7)	67 (44.7)	56 (37.3)	18 (12.0)	150 (100) m = 11

x^2 = 26.594, df = 16, s = 0.046 (=%)

m = missing values

TABLE C6

YEAR OF REGISTRATION by Value placed on DIRECT MAIL from NPA as a source of drug information

YEAR OF REG.	VALUE not known	v. poor	poor	average	good	v. good	TOTAL
1977 - 72	1 (4.2)	1 (4.2)	4 (16.7)	10 (41.7)	5 (20.8)	3 (12.5)	24
1971 - 68	1 (6.7)	3 (20.0)	3 (20.0)	4 (26.7)	3 (20.0)	1 (6.7)	15
1967 - 58	5 (11.9)	0 (0.0)	3 (7.1)	11 (26.2)	12 (28.6)	11 (26.2)	42
1957 - 48	1 (2.9)	0 (0.0)	4 (11.8)	8 (23.5)	14 (41.2)	7 (20.6)	34
Before '48	0 (0.0)	1 (2.2)	2 (4.3)	12 (26.1)	12 (26.1)	19 (41.3)	46
COLUMN TOTAL	8 (5.0)	5 (3.1)	16 (9.9)	45 (28.0)	46 (28.6)	41 (25.5)	161 (100)

x^2 = 40.994, df = 20, s = 0.004 (=%)

Almost half of the survey respondents were unaware that they could request to be placed on the ABPI mailing list for manufacturers' medical information mailings and only 20 percent were not interested in such a service. Question 26 of the questionnaire listed subject areas which might appear to need attention and development and 126 (78%) indicated 'NEW product information'. The importance of direct mail in this area has been demonstrated. Drug firms produce detailed and instructive information for physicians, in addition to the blatant advertising material, which has been heavily and justifiably criticised. Pharmacists' awareness of new drug products and new therapeutic treatments could be enhanced if receipt of the more desirable factual material were made available to them, on request. Postal costs could be a financial drawback for drug firms but suitable serious literature could be requested from medical representatives during visits to pharmacies. However, pharmacists will increasingly have to be prepared to evaluate the standing of such information.

Information from 'official' sources does not appear to significantly duplicate information from the drug industry to any great extent. Respondents indicated that mail from the NPA was the most useful in this sub-group. It consists of commercial, technical and professional matters directly related to pharmacy business practice.

Package inserts can be considered as part of the total literature distribution from the industry. Their inclusion by manufacturers has declined since the advent of data sheets. However, when available, pharmacists can find them informative at the time of dispensing, especially for recently introduced products.

Medical representatives' visits Crosstabulation of responses to Question 4K showed statistically significant differences with age of responding pharmacists (see TABLE C7). As with previous crosstabulations, there was a tendency for older pharmacists to value the source more highly than younger pharmacists. In this case, factors predisposing to this situation could be older pharmacists' greater dependence upon a variety of sources in their search for up-to-date information. Also, personal relationships with representatives could have developed resulting in mutual understanding and respect with possibly an enhanced opportunity for the transmission of information during visits.

TABLE C7

YEAR OF REGISTRATION by Value placed on MEDICAL REPRESENTATIVES' VISITS as a source of drug information

YEAR OF REG.	VALUE v. poor	poor	average	good	v. good	TOTAL
1977 - 72	3 (13.0)	10 (43.5)	9 (39.1)	1 (4.3)	0 (0.0)	23
1971 - 68	3 (20.0)	6 (40.0)	4 (26.7)	2 (13.3)	0 (0.0)	15
1967 - 58	5 (11.9)	5 (11.9)	19 (45.2)	10 (23.8)	3 (7.1)	42
1957 - 48	1 (3.2)	6 (19.4)	16 (51.6)	7 (22.6)	1 (3.2)	31
Before '48	5 (11.6)	3 (7.0)	21 (48.8)	9 (20.9)	5 (11.6)	43
COLUMN TOTAL	17 (11.0)	30 (19.5)	69 (44.8)	29 (18.8)	9 (5.9)	154 (100) m = 7

$x^2 = 28.261$, df = 16, s = 0.029 (=%)

m = missing values

Almost all responding pharmacists saw representatives for an average of six to ten minutes, although the frequency of calls was not elicited. Pharmacists could benefit appreciably from regular visits informing them about new drug products, with emphasis on technical and medical aspects. Representatives' training should enable them to impart such information succinctly, given the opportunity. However, it would be naive of pharmacists to expect truly critical, unbiased information from this source. Suggestions have been made that representatives' visits to physicians could be usefully supplemented by visits from Government sponsored teams of doctors, pharmacists and nurses (84). Such 'independent' information should also be directed towards general practice pharmacists. This proposal though desirable is unlikely to be attainable in the near future.

Few drug companies currently attempt to attract pharmacists to join their representative forces. It is most likely that a greater rapport could exist between pharmacist and representative if both were pharmacists. The results could be the improved transmission of information.

The representative's visit can be seen as an opportunity for the two-way passage of information. Patients' comments to pharmacists about their drugs, such as adverse reactions, interactions, side effects and ease of compliance could be passed on. The pharmacist in practice might more actively report problems concerning the formulation, presentation, packaging and storage of products.

Continuing education courses When asked their opinion of these courses, as many as 44 percent stated that they 'did not know'.

This opinion reflects the generally poor attendance by general practice pharmacists at continuing education courses provided for them. Discussion in the Introductory Chapter suggested reasons why this should be so. 43 percent had attended courses and a more detailed analysis of attendance figures confirms that 10 percent of attenders represented about 50 percent of all attendances.

TABLES C8 and C9 confirm that younger pharmacists were more likely not to have received details of courses nor to agree that courses were sufficiently advertised. It is possible that recently qualified pharmacists had not been included in the Society's mailing list used for distribution of details of courses.

Crosstabulation of age with attendance on courses showed that pharmacists qualified for between ten and thirty years were most likely to have attended courses (TABLE C10), although younger pharmacists will obviously have had less opportunity to do so.

Payment of a financial incentive would not encourage pharmacists qualified for more than thirty years to attend courses (see TABLE C11). As managers were found to be younger than proprietors, the results on postal courses in TABLE C13 confirm the results in TABLE C12. Perhaps younger pharmacists are more adventurous or open-minded in the methods they are prepared to use in order to keep up-to-date. A limited postal service has been established at the University of Aston for the West Midlands since 1976, consisting mostly of tape-booklet presentations for home study. From January to December 1979, nineteen loans of nine presentations were made by eight pharmacists, two of whom were married women. Although pharmacists responding to the survey

TABLE C8

YEAR OF REGISTRATION by RECEIPT OF DETAILS OF CONTINUING EDUCATION COURSES

YEAR OF REG.	DETAILS RECEIVED	DETAILS NOT RECEIVED	ROW TOTALS
1977 - 72	18 (75.0)	6 (25.0)	24
1971 - 68	13 (92.9)	1 (7.1)	14
1967 - 58	41 (97.6)	1 (2.4)	42
1957 - 48	33 (97.1)	1 (2.9)	34
Before '48	42 (91.3)	4 (8.7)	46
COLUMN TOTAL	147 (91.9)	13 (8.1)	160 (100) m = 1

x^2 = 12.274, df = 4, s = 0.015 (=%)

m = missing value

TABLE C9

YEAR OF REGISTRATION by Value placed on ATTENDANCE at continuing education courses. From statement - "I would attend but the courses are insufficiently advertised"

YEAR OF REG.	VALUE Strongly disagree	Disagree	Undecided	Agree	Strongly agree	TOTAL
1977 - 72	1 (4.3)	11 (47.8)	4 (17.4)	3 (13.0)	4 (17.4)	23
1971 - 68	1 (7.7)	9 (69.2)	2 (15.4)	1 (7.7)	0 (0.0)	13
1967 - 58	8 (19.5)	28 (68.3)	5 (12.2)	0 (0.0)	0 (0.0)	41
1957 - 48	3 (9.4)	25 (78.1)	3 (9.4)	0 (0.0)	1 (3.1)	32
Before '48	9 (27.3)	17 (51.5)	5 (15.2)	1 (3.0)	1 (3.0)	33
COLUMN TOTAL	22 (15.5)	90 (68.4)	19 (13.4)	5 (3.5)	6 (4.2)	142 (100) m = 19

x^2 = 31.344, df = 16, s = 0.012 (=%)

m = missing values

in 1977 showed considerable interest in postal courses, very few have since made use of the service. The nature of the subject material offered is, however, still limited. A feasibility study on distance teaching is currently being undertaken (85) with some financial support from the Pharmaceutical Society.

Fifty seven percent of respondents disagreed or strongly disagreed with the statement concerning mandatory attendance at courses for continued professional registration and there was no significant difference with either age or type of pharmacist. This attitude would seem to reflect the present action taken by the Council of the Society in rejecting the recommendation by the Working Party on Postgraduate Education (42, 43).

The attitudes displayed by the majority of survey respondents represent the feelings of the non-participating members of the profession to continuing education courses. It has been suggested that the perceived need to be more knowledgeable acts as a stimulus for some pharmacists to participate in continuing education (86). The satisfaction obtained from participation reinforces the behaviour and serves as a further stimulus. In those pharmacists who do not perceive the need, there is no stimulus, no response and no accompanying behaviour, such as attendance at courses.

A major problem would seem to be to demonstrate that continuing education does lead to greater professional competence. Knowledge must be transferred into practice for patients to benefit. This has been shown to happen (2) when programmes have been directed towards improving those areas of knowledge, which can be directly applied in practice, that is, result in behavioural changes.

TABLE C10

YEAR OF REGISTRATION by ATTENDANCE AT CONTINUING EDUCATION COURSES

YEAR OF REG.	ATTEND	DO NOT ATTEND	ROW TOTAL
1977 - 72	3 (12.5)	21 (87.5)	24
1971 - 68	4 (28.6)	10 (71.4)	14
1967 - 58	24 (57.1)	18 (42.9)	42
1957 - 48	23 (67.6)	11 (32.4)	34
Before '48	15 (33.3)	30 (66.7)	45
COLUMN TOTAL	69 (43.4)	90 (56.6)	159 (100) m = 2

x^2 = 23.806, df = 14, s = 0.0001 (=%)

m = missing values

TABLE C11

YEAR OF REGISTRATION by FINANCIAL INCENTIVE TO ENCOURAGE ATTENDANCE AT CONTINUING EDUCATION COURSES

YEAR OF REG.	WOULD ENCOURAGE	WOULD NOT ENCOURAGE	ROW TOTAL
1977 - 72	13 (59.1)	9 (40.9)	22
1971 - 68	5 (41.7)	7 (58.3)	12
1967 - 58	12 (54.5)	10 (45.5)	22
1957 - 48	6 (42.9)	8 (57.1)	14
Before '48	7 (21.2)	26 (78.8)	33
COLUMN TOTAL	43 (41.7)	60 (58.3)	103 (100) m = 58

x^2 = 9.932, df = 4, s = 0.042 (=%)

m = missing values

TABLE C12

YEAR OF REGISTRATION by INTEREST IN POSTAL CONTINUING EDUCATION COURSES

YEAR OF REG.	INTERESTED	NOT INTERESTED	ROW TOTAL
1977 - 72	21 (91.3)	2 (8.7)	23
1971 - 68	12 (80.0)	3 (20.0)	15
1967 - 58	31 (73.8)	11 (26.2)	42
1957 - 48	22 (71.0)	9 (29.0)	31
Before '48	20 (48.8)	21 (51.2)	41
COLUMN TOTAL	106 (69.7)	46 (30.3)	152 (100) m = 9

x^2 = 14.702, df = 4, s = 0.005 (=%)

m = missing values

TABLE C13

TYPE OF PHARMACIST by INTEREST IN POSTAL CONTINUING EDUCATION COURSES

PHARMACIST	INTERESTED	NOT INTERESTED	ROW TOTAL
Proprietor	58 (61.7)	36 (38.3)	94
Manager	46 (82.1)	10 (17.9)	56
Assistant	2 (100.0)	0 (0.0)	2 1.3
COLUMN TOTAL	106 (69.7)	46 (30.3)	152 (100) m = 9

x^2 = 9.827, df = 2, s = 0.020 (=%)

m = missing values

However, this survey and other studies (87) have shown that pharmacists do show reluctance to participate. This could be due to a degree of self-satisfaction with their level of proficiency or perhaps the fear of a threat to self esteem if presented with new ideas. Lemberger suggested (40) that postgraduate course organisers should appraise themselves of the different types of adult learners. Three basic types have been identified:

the 'goal-orientated learner', who uses education to achieve very clear-cut objectives,

the 'activity-orientated learner', who enjoys the circumstances of learning,

and the 'learning-orientated learner', who seeks knowledge for its own sake.

It has been suggested that mandatory continuing education could serve as a stimulus to goal-orientated learners. Participation in activities which could lead to membership of a proposed College of General Practice could also act as a stimulus.

In Britain, regional postgraduate course organisers meet annually at the Pharmaceutical Society's headquarters. The three hour meeting mainly consists of official reporting and organisational information and lacks any real stimulus and innovative action. Perhaps 'workshops' for organisers, held twice a year, could help to develop ideas resulting in a comprehensive pattern of relevant courses for the whole country.

The current situation on postgraduate pharmaceutical education in England is that each Region is being left to decide individually on the fate of the proposed Regional Pharmaceutical Education Committees (88). It is hoped that this situation will not lead

to any further lack of cohesion and direction, although this is a distinct possibility.

One of the main problems of information transfer by means of continuing education, referred to earlier, is convincing the majority of pharmacists that the courses offered are relevant to practice and that attendance would improve professional competence. At present, measurements of competence or even self-audit within the profession are lacking, as in most other professions. This would appear to be an important area for future investigation.

The Postgraduate Education Subcommittee of the Education Committee of the Society's Council has put forward detailed proposals for the establishment of a 'PSGB postgraduate education research unit' (89). Financial support has been sought from the Department of Health (90), however, the PSNC has expressed opposition to the research project (91).

It would seem that the future of continuing education would be to assess as accurately as possible the real needs of pharmacists associated with a concise appraisal of current professional competence and projections of pharmacists' future professional needs.

Professional meetings 41 percent of responding pharmacists did not know what value to place on PSGB branch meetings as a source of information compared with 62 percent for both NPA and drug firm meetings. These limited results reflect the fact that few NPA and drug firm meetings are held.

The numbers of pharmacists attending PSGB branch meetings are similar to those attending continuing education courses. An attempt was made to try to establish whether these two groups of

pharmacists were indeed the same pharmacists. Unfortunately, in order to carry out a comparison, it had to be assumed that respondents offering the opinion 'do not know' to meetings and courses had not actually attended them. This assumption was corroborated for continuing education courses. Recoding and crosstabulations showed similarity in attendance with statistical significance. It is evident that in general, the same people attend PSGB branch meetings and continuing education courses, though the former attract a wider audience.

Contact with information units

a) hospital drug information units 58 percent of respondents indicated that they knew of their local drug information unit, of whom 27 percent (overall) had made use of it. The survey showed that hospital formulae queries were the most frequent reason for reference by general practice pharmacists. More detailed analysis of the use of the centres showed that approximately two hundred enquiries had been made by forty five pharmacists in the original sample, which was almost half of all registered pharmacies in the West Midlands. The proportion of queries in different categories appears to correlate fairly closely with those identified in Ancillary study I (page no. 48).

Drug information bulletins are being produced by an increasing number of units, primarily for local hospital medical, nursing and pharmaceutical staff. Some bulletins are distributed on request to general practice pharmacies. Their value to retail pharmacy practice has not been studied in this survey.

Questions addressed to the information service fall into two categories; those which require an opinion and those which need

factual data. Ancillary study I showed that in the West Midlands, approximately 3 percent of queries (4.2% nationally, page no. 32) were received from this source and that most concerned product availability. Replies were often given in less than five minutes and required little assessment or judgment by the drug information pharmacist.

To date, hospital drug information units primarily serve the needs of hospital staff and have made little impact on general practice. However, they do provide a useful back-up service for drug queries supplying factual, independent information. A major limitation for wider use by general practice pharmacists at present is the limited staff and manned hours of service. At least a third of the pharmacists sampled in this survey did not know about their local drug information units.

b) drug firm centres 55 percent of pharmacists had had direct contact with drug firms, most frequently asking about the availability of products. The role of the pharmaceutical manufacturers and their medical representatives is presented with Questionnaire survey III (see page 119).

c) PSGB Library and Technical Information Service Only 25 percent of respondents had used this centre, half of whom had made contact just once. Foreign drugs and product queries and legal queries were most common. It has been reported (73) that between 26 and 27 percent of all inquiries received are from general practice.

d) NPA information service This general information service is principally run for NPA members. It was thought to be 'good' by forty three respondents. Eighty did not comment. Approximately four hundred enquiries per week were received by the NPA information service in 1977 (92), mostly concerned with foreign medicines and NHS prescribing.

Contact with other pharmacists

a) contact with colleague in same pharmacy. Cross tabulations with age showed that 93 percent of respondents qualified before 1948 thought this a 'good' to 'very good' source compared with 48 percent of recently qualified pharmacists (see TABLE C14). However, the results should be read with caution as statistically all numbers were low. The economics and unrestricted distribution of pharmacies has resulted in relatively few pharmacies staffed by two or more full time practising pharmacists.

b) contact with PSGB inspector. Older pharmacists again valued this source more highly than younger pharmacists (see TABLE C15). Perhaps older pharmacists are more likely to build a relationship with the inspector and use him as a source of information, especially for professional and legal matters.

c) contact with a school of pharmacy. 76 percent of respondents had not considered schools of pharmacy as a source of information (see page 67).

The penultimate section of the questionnaire requested opinions on possible future developments in the supply of printed drug information material. There was strong agreement with all four suggestions made in question 21 to 25.

Q.21 I would welcome a current, comprehensive, monthly list of proprietary medicinal products, with a cross-reference to generic names.

MIMS all but fulfils this function. It would seem desirable for the 35 percent of pharmacists, who did not subscribe to this publication, to do so. The inclusion in MIMS of a generic name cross reference has now been incorporated. The currency of this publication makes it a most useful adjunct to the pharmacist's standard information texts.

TABLE C14

YEAR OF REGISTRATION by Value placed on CONTACT with COLLEAGUE in same pharmacy as a source of drug information

YEAR OF REG.	VALUE v. poor	poor	average	good	v. good	ROW TOTAL
1977 - 72	0 (0.0)	1 (9.1)	5 (45.5)	5 (45.5)	0 (0.0)	11
1971 - 68	1 (12.5)	1 (12.5)	3 (37.5)	2 (25.0)	1 (12.5)	8
1967 - 58	0 (0.0)	1 (11.1)	0 (0.0)	4 (44.4)	4 (44.4)	9
1957 - 48	0 (0.0)	0 (0.0)	2 (28.6)	5 (71.4)	0 (0.0)	7
Before '48	0 (0.0)	0 (0.0)	1 (6.7)	6 (40.0)	8 (53.3)	15
COLUMN TOTAL	1 (2.0)	3 (6.0)	11 (22.0)	22 (44.0)	13 (26.0)	50 (100) m = 111

x^2 = 27.687, df = 16, s = 0.034 (=%)

m = missing values

TABLE C15

YEAR OF REGISTRATION by Value placed on CONTACT with PSGB INSPECTOR as a source of drug information

YEAR OF REG.	VALUE not known	v. poor	poor	average	good	v. good	ROW TOTAL
1977 - 72	11 (45.8)	1 (4.2)	2 (8.3)	6 (25.5)	3 (12.5)	1 (4.2)	24
1971 - 68	6 (40.0)	3 (20.0)	0 (0.0)	2 (13.3)	3 (20.0)	1 (6.7)	15
1967 - 58	11 (26.2)	2 (4.8)	4 (9.5)	7 (16.7)	10 (23.8)	8 (19.0)	42
1957 - 48	6 (17.6)	1 (2.9)	1 (2.9)	12 (35.3)	11 (32.4)	3 (8.8)	34
Before '48	5 (10.9)	3 (6.5)	5 (10.9)	6 (13.0)	13 (28.3)	14 (30.4)	46
COLUMN TOTAL	39 (24.2)	10 (6.2)	12 (7.5)	33 (20.5)	40 (24.8)	27 (16.8)	161 (100)

x^2 = 36.880, df = 20, s = 0.012 (=%)

Q.22 I would welcome a pull-out form of the Pharmaceutical Journal's 'Drugs in Use' Section (on newly introduced drugs).

The 'Drugs in Use' feature of the PJ would have increased usefulness if presented in a standardised format for easy removal and routine filing. Pharmacists responding to the survey quoted the Journal as the second most used source of learning about new drug products. Editorial co-operation in improving the lay-out of the 'Drugs in Use' feature could increase its usefulness without undue expense.

Q.23 & 24 Pharmacists should receive 'Prescribers Journal' - 'Drug and Therapeutics Bulletin' - free of charge.

The free distribution of both Prescribers Journal and Drug and Therapeutics Bulletin has been discussed previously. As cost must be the main factor precluding general practice pharmacists from receiving free copies, pharmacists could be encouraged to subscribe to these modest publications, if special rates were made available. Subscription rates and relevant subject contents could be advertised in the PJ from time to time.

Q.25 What is the maximum you would be prepared to subscribe annually for a reliable, regular supply of independent drug information?

Respondents did not appear very willing to subscribe to an independent source, younger pharmacists showing a greater reluctance than their older colleagues (see TABLE C16). This result could indicate that pharmacists either feel that they receive sufficient information via the various routes outlined in this work or that they do not perceive the need to spend money on such additional sources or do not have the time.

Question 26 outlined categories of information and respondents were asked to indicate those which they felt were deficient. 'Drug interactions' received the highest score: 91 percent of respondents

felt this area required attention and development. However, only 40 percent possessed a text book on the subject. It would seem that some effort should be made by pharmacists to help themselves in this direction. A half-day continuing education course on the subjects of 'drug interactions' and 'adverse reactions to drugs', held in the West Midlands, disappointingly attracted only thirty five

TABLE C16

YEAR OF REGISTRATION by MAXIMUM ANNUAL SUM FOR INDEPENDENT SOURCE OF DRUG INFORMATION

YEAR OF REG.	£25	£15	£10	£5	NOT PREPARED TO PAY	ROW TOTAL
1977 - 72	0 (0.0)	4 (17.4)	8 (34.8)	5 (21.7)	6 (26.1)	23
1971 - 68	4 (26.7)	2 (13.3)	4 (26.7)	0 (0.0)	5 (33.3)	15
1967 - 58	7 (17.1)	6 (14.6)	9 (22.0)	3 (7.3)	16 (39.0)	41
1957 - 48	5 (15.2)	6 (18.2)	9 (27.3)	10 (30.3)	3 (9.1)	33
Before '48	2 (4.4)	4 (8.9)	7 (15.6)	11 (24.4)	21 (46.7)	45
COLUMN TOTAL	18 (11.5)	22 (14.0)	37 (23.6)	29 (18.5)	51 (32.5)	157 (100) m = 4

$x^2 = 31.533$, df = 16, s = 0.012 (=%)

m = missing value

pharmacists. This subject area would appear to be particularly suitable for instruction by postal courses or distance learning programmes.

Deficiency in 'new products' information was the subject area receiving the second highest score, 78 percent. Pharmacists could request through the ABPI to be placed on medical literature

mailing lists. The pharmaceutical industry could try to ensure that mailing agencies improved their distribution reliability (see page 49).

70 percent of respondents thought the subject area of 'Ostomy/Appliances' required development. The Drug Tariff could be much more informative and precise on this subject. At present, it covers the topic in a most cursory manner, which has even resulted in problems of interpretation between the Department of Health and the Prescription Pricing Authority. Recently, some manufacturers of ostomy appliances are offering pharmacists instruction courses for their products.

68 percent of pharmacists stated that 'accident and poisoning advice' required attention. The BNF contains a section listing poisoning centres throughout the country and the Pharmaceutical Handbook contains a section on the treatment of accidental poisoning. Individual manufacturers in particular possess detailed information derived from experience with their own products, which can be invaluable, such as with agro-chemicals.

The list of reference texts kept by pharmacists showed that a major proportion possessed a Martindale (75 percent), while a disappointingly low number (40 percent) possessed a drug interactions book. MIMS, which was frequently cited as a useful source of information for a variety of types of queries, was available to 65 percent.

EXPERIMENT II

A survey of married women pharmacists in the West Midlands Region

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1. Introduction

The study was undertaken to obtain and compare data on the drug information needs of married women pharmacists in full-time and part-time employment; their attitude to and participation in continuing education programmes, their personal methods of keeping 'up-to-date' with changes in pharmacy practice and the sources from which they were most likely to learn about new drugs and changes in the law and practice of pharmacy.

The Pharmaceutical Society's Manpower Surveys of 1977 (93) and 1978 (3) highlighted a trend towards an increased female membership. An increase in the number of pharmacists working part-time was also evident and they accounted for nearly one quarter of the total general practice workforce. The number of women working part-time or not at all accounted for over 50 percent of the total female membership.

Married women pharmacists were surveyed because this group was considered most likely to contain a proportion of pharmacists practising part-time in general practice and to include women who had experienced periods of professional inactivity, with the ensuing problems of revising their knowledge of current developments in pharmacy on returning to practice.

2. Preliminary studies

The questionnaire survey on general practice pharmacists, Experiment I, proved to be sufficient as a pilot study for the

compilation of this questionnaire. The questionnaire was refined following useful comment from the Pharmaceutical Society and the final version (Appendix 5) used in the survey, conducted in September, 1977.

3. Methodology

The six-page questionnaire consisted mainly of multiple choice questions coded for computer analysis. Copies were distributed with an accompanying explanatory letter (Appendix 6) and a stamped reply envelope.

The survey sample consisted of all 473 married women pharmacists in the Pharmaceutical Society's West Midlands Region membership of 2015 pharmacists. The sample represented 6 percent of all female pharmacists on the Society's register of pharmaceutical chemists.

Those circulated were given until the end of October 1977 to complete and return the questionnaires, by which time there had been a response rate of 55 percent.

4. Survey results

A total count of the responses to the structured questions is given in FIGURE S2, alongside the questions posed. Responses to unstructured questions 16 and 20 are given in the following section (5).

FIGURE S2

QUESTIONNAIRE SURVEY OF MARRIED WOMEN PHARMACISTS IN THE WEST MIDLANDS REGION, RESULTS

TOTAL NUMBER OF RESPONDENTS = 263

ALL PERCENTAGES ARE ADJUSTED FREQUENCIES FOR MISSING RESPONSES (m)

			No.	%
1. Year of registration	1977 - 72		54	20.6
	1971 - 68		32	12.2
	1967 - 58		83	31.7
	1957 - 48		68	26.0
	BEFORE '48		25	9.5
		m=1	262	100.0
2. Qualification obtained	MPS		129	49.2
	BPharm/BSc		123	46.9
	C & D		10	3.8
		m=1	262	100.0
3. Are you working as a pharmacist at present?	YES		239	91.2
	NO		23	8.8
		m=1	262	100.0
4. If YES, please indicate if:-	FULLTIME		78	32.8
	PARTTIME		160	67.2
		m=25	238	100.0
and				
	HOSPITAL		52	24.5
	GENERAL PRACTICE		154	72.6
Any other, please indicate:-	INDUSTRY		2	1.0
	TEACHING		4	1.9
		m=51	212	100.0

			No.	%
5.	If your work is PART TIME, is it:-			
	a) on a regular basis		124	75.1
	b) irregular but frequent		13	7.9
	c) occasional		13	7.9
	d) very infrequent		15	9.1
		m=98	165	100.0
6.	If you are NOT WORKING at present, do you consider yourself:-			
	a) permanently "retired"		2	7.7
	b) temporarily "retired"		18	69.2
	c) don't know		6	23.1
		m=237	26	100.0
7.	If you are NOT WORKING at present or work PART TIME, is this primarily because of family commitments?	YES	132	89.2
		NO	16	10.8
		m=115	148	100.0
8.	Do you attempt to keep "up-to-date" with pharmacy practice?	YES	252	96.8
		NO	6	3.2
		m=5	258	100.0
	If YES, please indicate how:-			
	a) reading Pharmaceutical Journal		246	
	b) attending PSGB branch meetings		99	
	c) attending continuing education (refresher) courses		129	
	d) any others, please indicate:-			
	Medical journals		24	
	Communication with others		22	
	Manufacturers' literature		15	
	Working in pharmacy		12	
	Reference books		9	

		No.	%
9. Please state from which SOURCE(S) you are most likely to learn about:			
a) new drug products	Pharmaceutical Journal	144	
	Manufacturers' literature	48	
	Representatives	34	
	MIMS	11	
	Hospital D I Centres	7	
	Medical Journals	4	
b) changes in pharmacy law and practice	Pharmaceutical Journal	236	
	NPA literature	5	
	Hospital D I Centres	4	
	FPC circulars	2	
10. Have you attended continuing education refresher courses, which are organised for pharmacists on a Regional basis?	YES	135	51.7
	NO	126	48.3
	m=2	261	100.0
If YES how many in the past 5 years	ONCE	50	
	TWICE	39	
	THREE TIMES	19	
	FOUR TIMES	11	
	FIVE TIMES	7	
	MORE THAN FIVE	5	
If NO, would a greater financial incentive encourage you to attend?	YES	33	24.4
	NO	102	75.6
	m=128	135	100.0

11. Please indicate the value you place on attendance at these courses by circling the appropriate number for <u>each</u> statement

	STRONGLY AGREE (5)	AGREE (4)	UNDECIDED (3)	DISAGREE (2)	STRONGLY DISAGREE (1)
(a) They provide an opportunity to keep up to date	78	148	18	6	1 (m=12)
(b) Good idea but I am too busy	48	84	21	66	21 (m=23)
(c) Opportunity to learn new pharmaceutical concepts	50	134	51	13	2 (m=13)
(d) Courses appear too academic	14	44	51	109	32 (m=13)
(e) I would attend but the courses are insufficiently advertised	4	16	23	148	55 (m=17)
(f) The courses are of general interest only	4	31	55	129	29 (m=15)
(g) I think attendance on these courses should become a mandatory requirement for continued registration	16	41	56	89	50 (m=11)

			No.	%
12. Please indicate whether you would be interested in organised <u>postal</u> continuing education (refresher) courses e.g. cassette/notes presentations, programmed learning texts etc.	YES		202	78.3
	NO		56	21.7
		m=5	258	100.0

			No.	%
13. Do you feel that you require courses in specific subject areas not covered by courses currently offered?	YES		61	25.1
	NO		93	38.3
	DON'T KNOW		89	36.6
		m=20	243	100.0

If YES, please state subject areas:-

Clinical pharmacy/ counter-prescribing	17
Pharmaceutical legislation	10
Colostomy appliances	5
Drug interactions	2
Veterinary medicine	1

14. Considering the TIMING of continuing education courses, which type of course would you find most convenient to attend?				
	a)	Weekday MORNING session	55	22.4
	b)	Weekday AFTERNOON session	10	4.1
	c)	Whole weekday session	31	12.6
	d)	Series of weekly EVENING lectures	119	48.4
	e)	SATURDAY session	14	5.7
	f)	SUNDAY session	17	6.9
		m=17	246	100.0
15. Do you have any children	YES		191	74.3
	NO		66	25.7
		m=6	257	100.0
If YES, would the use of University nursery/ crêche facilities help or encourage you to attend courses?	YES		42	22.2
	NO		147	77.8
		m=74	189	100.0

			No.	%
16. If you have recently undertaken locum work after a period of 'retirement', what particular problems or changes have you experienced?				
	(Unstructured question - results elsewhere)			
17. After a period of absence from practice, do you feel you should undertake some 'acclimatisation' before taking up a post of SOLE responsibility?	YES		183	84.7
	NO		18	8.3
	DON'T KNOW		15	7.0
		m=47	216	100.0
18. If you dispense for the general public, do you explain labels verbally to patients?	YES - ROUTINELY		89	35.3
	SOMETIMES		158	62.7
	SELDOM		5	2.0
		m=11	252	100.0
19. Do you feel the need for additional leaflets (e.g. to be given to the patient with eye-drops, suppositories etc)?	YES		213	83.2
	NO		37	14.5
	DON'T KNOW		6	2.3
		m=7	256	100.0

20. Finally, have you any comments on your DRUG INFORMATION REQUIREMENTS and suggestions on how they could best be fulfilled?

(Unstructured question - results elsewhere)

5. Analysis of results

Crosstabulations were performed for part-time and full-time respondents and in addition, on pharmacists employed in different branches of the profession.

It can be assumed that the part-time respondents were mostly women working in general practice (only 16.6% of hospital pharmacists work on a part-time basis). A non-response rate of at least 25 was expected for crosstabulations of full-timers and part-timers because 25 respondents to the survey stated that they were not working at the time of the survey. The results are given in TABLES C17 to C26.

Full-time pharmacists were far more likely to attend branch meetings than part-timers (TABLE C17). Women pharmacists were most likely to learn about new drug products from the Pharmaceutical Journal and more particularly so by part-timers (TABLE C18). Suggestions by respondents for topics for inclusion in continuing education courses are given in TABLE C19. Cell numbers in the table are small, therefore results should be treated merely as a guide. Assistance with 'counterprescribing' and 'legislation' were suggested more frequently by part-timers. That the majority of women pharmacists working part-time had children and that their pattern of work was dictated by their family commitments can be seen in TABLE C20.

TABLE C17

TYPE OF FEMALE PHARMACIST by KEEPING 'UP-TO-DATE' BY ATTENDING PSGB BRANCH MEETINGS (a)

PHARMACIST	ATTEND	DO NOT ATTEND	ROW TOTAL
FULL TIME	42 (56.8)	32 (43.2)	74
PART TIME	51 (32.5)	106 (67.5)	157
COLUMN TOTAL	93 (40.3)	138 (59.7)	231 (100.0) m = 32

x^2 = 11.332, df = 1, s = 0.0008 (%)

m = missing values

TABLE C18

TYPE OF FEMALE PHARMACIST by SOURCES QUOTED BY RESPONDENTS FOR LEARNING ABOUT 'NEW' DRUG PRODUCTS (a)

PHARMACIST	NOT KNOWN	REPS.	P.J.	DRUG FIRMS' LITERATURE	MEDICAL JOURNALS	MIMS	HOSPITAL DI CENTRES	CONED COURSES	ROW TOTAL
FULL TIME	1 (1.3)	18 (23.1)	34 (43.6)	18 (23.1)	1 (1.3)	1 (1.3)	4 (5.1)	1 (1.3)	78
PART TIME	9 (5.6)	16 (10.0)	92 (57.5)	29 (18.1)	1 (0.6)	10 (6.2)	3 (1.9)	0 (0.0)	160
COLUMN TOTAL	10 (4.2)	34 (14.3)	126 (52.9)	47 (19.7)	2 (0.8)	11 (4.6)	7 (2.9)	1 (0.4)	238 (100.0) m = 25

x^2 = 18.206, df = 7, s = 0.011

(%)

m = missing values

TABLE C19

TYPE OF FEMALE PHARMACIST by REQUIREMENT FOR COURSES NOT SUFFICIENTLY COVERED

PHARMACIST	COUNTER-PRESCRIBING	DRUG INTERACTIONS	LEGISLATION	VET. MEDICINE	COLOSTOMY	ROW TOTAL
FULL TIME	4 (50.0)	2 (25.0)	0 (0.0)	1 (12.5)	1 (12.5)	8 (25.0)
PART TIME	13 (54.2)	0 (0.0)	7 (29.2)	0 (0.0)	4 (16.7)	24 (75.0)
COLUMN TOTAL	17 (53.1)	2 (6.2)	7 (21.9)	1 (3.1)	5 (15.6)	32 (100.0) m = 231

x^2 = 11.420, df = 4, s = 0.022 (%)

m = missing values

TABLE C20

TYPE OF FEMALE PHARMACIST by FAMILY SIZE

PHARMACIST	HAVE CHILDREN	DO NOT HAVE CHILDREN	ROW TOTAL
FULL TIME	27 (35.1)	50 (64.9)	77
PART TIME	142 (91.0)	14 (9.0)	156
COLUMN TOTAL	169 (72.5)	64 (27.5)	233 (100.0) m = 30

corrected x^2 = 78.250, df = 1, s = 0.000 (%)

m = missing values

The results in TABLE C21 suggest that part time pharmacists are more reluctant to speak to patients about their prescription medicines than their full time colleagues. This attitude to verbal advice to patients could reflect the limited confidence and rapport with the public of part time pharmacists. The majority of responding pharmacists worked in either the hospital service or general practice and only small numbers were recorded for locum, industry, teaching, drug firm representative and pharmaceutical research, which resulted in small cell numbers in the crosstabulation tables. The statistical significance of the results were affected accordingly and so were treated with caution.

However, the results did show that hospital pharmacists were more likely than general practice pharmacists to attend PSGB branch meetings and continuing education courses to keep up-to-date (see TABLE C22). 71 percent of hospital pharmacists compared with 51 percent of women working in general practice stated that they had attended at least one continuing education course, while approximately 40 percent of the latter had attended one course in the five years prior to receipt of the questionnaire (see TABLES C23 and C24). More than twice the number of hospital pharmacists than those in general practice disagreed with the statement that they were "too busy to attend courses". However, both groups showed that the majority, between 70 and 75 percent, thought that a greater financial incentive would not encourage women pharmacists to attend continuing education courses. Again, both groups showed similar attitudes to the important principle of mandatory attendance on continuing education courses for continued professional registration (see TABLE C25). 55 percent disagreed or strongly disagreed but 22 percent were undecided on the issue.

TABLE C21

TYPE OF FEMALE PHARMACIST by VERBAL EXPLANATION OF LABELS

PHARMACIST	EXPLAINED ROUTINELY	SOMETIMES	SELDOM	ROW TOTAL
FULL TIME	38 (51.4)	33 (44.6)	3 (4.1)	74 (31.9)
PART TIME	37 (23.4)	119 (75.3)	2 (1.3)	158 (68.1)
COLUMN TOTAL	75 (32.3)	152 (65.5)	5 (2.2)	232 (100.0) m = 32

x^2 = 21.242, df = 2, s = 0.000

(%)
m = missing values

TABLE C22

TYPE OF FEMALE PHARMACIST by KEEPING 'UP-TO-DATE' BY ATTENDING (b) PSGB BRANCH MEETINGS

PHARMACIST	ATTEND	DO NOT ATTEND	ROW TOTAL
HOSPITAL	29 (56.9)	22 (43.1)	51
GENERAL PRACTICE	52 (34.9)	97 (65.1)	149
OTHERS	3 (60.0)	2 (40.0)	5
COLUMN TOTAL	84 (41.0)	121 (59.0)	205 (100.0) m = 58

(%)
m = missing values

TABLE C23

TYPE OF FEMALE PHARMACIST by ATTENDANCE AT CONTINUING EDUCATION COURSES

PHARMACIST	DO NOT KNOW	DO ATTEND	DO NOT ATTEND	ROW TOTAL
HOSPITAL	0 (0.0)	37 (71.2)	15 (28.8)	52
GENERAL PRACTICE	1 (0.6)	78 (50.6)	75 (48.7)	154
OTHERS	0 (0.0)	4 (66.6)	2 (33.4)	6
COLUMN TOTAL	1 (0.5)	119 (56.1)	92 (43.4)	212 (100.0) m = 51

(%)

m = missing values

TABLE C24

TYPE OF FEMALE PHARMACIST by NUMBER OF ATTENDANCES AT CONTINUING EDUCATION COURSES

PHARMACIST	ONCE IN 5 YEARS	TWICE IN 5 YEARS	3 IN 5 YEARS	4 IN 5 YEARS	5 IN 5 YEARS	MORE THAN 5	ROW TOTAL
HOSPITAL	11 (29.7)	13 (35.1)	6 (16.2)	3 (8.1)	1 (2.7)	3 (8.1)	37
GENERAL PRACTICE	31 (41.3)	19 (25.3)	12 (16.0)	7 (9.3)	5 (6.7)	1 (1.3)	75
OTHERS	0 (0.0)	2 (50.0)	0 (0.0)	0 (0.0)	1 (25.0)	1 (25.0)	4
COLUMN TOTAL	42 (36.2)	34 (29.3)	18 (15.5)	10 (8.6)	7 (6.0)	5 (4.3)	116 (100.0) m = 147

(%)

m = missing value

TABLE C25

TYPE OF FEMALE PHARMACIST by ATTITUDE TO STATEMENT "ATTENDANCE AT CONTINUING EDUCATION COURSES SHOULD BE MANDATORY"

PHARMACIST	STRONGLY DISAGREE	DISAGREE	UNDECIDED	AGREE	STRONGLY AGREE	ROW TOTAL
HOSPITAL	7 (14.0)	20 (40.0)	11 (22.0)	9 (18.0)	3 (6.0)	50
GENERAL PRACTICE	33 (22.1)	53 (35.6)	30 (20.1)	25 (16.8)	8 (5.4)	149
OTHERS	0 (0.0)	0 (0.0)	4 (80.0)	0 (0.0)	1 (20.0)	5
COLUMN TOTAL	40 (19.6)	73 (35.8)	45 (22.1)	34 (16.7)	12 (5.9)	204 (100.0) m = 59

(%)

m = missing values

TABLE C26

TYPE OF FEMALE PHARMACIST by SOURCES QUOTED BY RESPONDENTS FOR LEARNING ABOUT 'NEW' DRUG PRODUCTS (b)

PHARMACIST	NOT KNOWN	REPS	PJ	DRUG FIRMS' LITERATURE	MEDICAL JOURNALS	MIMS	HOSPITAL DI CENTRES	CONED COURSES	ROW TOTAL
HOSPITAL	3 (5.8)	6 (11.5)	18 (34.6)	17 (32.7)	1 (1.9)	1 (1.9)	5 (9.6)	1 (1.9)	52
GENERAL PRACTICE	7 (4.5)	22 (14.3)	90 (58.4)	25 (16.2)	1 (0.6)	8 (5.2)	1 (0.6)	0 (0.0)	154
OTHERS	0 (0.0)	0 (0.0)	5 (83.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (16.7)	0 (0.0)	6
COLUMN TOTAL	10 (4.7)	28 (13.2)	113 (53.3)	42 (19.8)	2 (0.9)	9 (4.2)	7 (3.3)	1 (0.5)	212 (100.0) m = 51

(%)

m = missing values

The questionnaire attempted to elicit the manner by which responding women pharmacists kept 'up-to-date' and from which sources they were most likely to learn about NEW drug products. General practice pharmacists showed a greater dependence upon the Pharmaceutical Journal than hospital pharmacists, while the latter were twice as likely to use drug firms' literature than women in general practice (see TABLE C26). Within hospitals, there was an equal tendency for pharmacists to learn about new drugs from the PJ and drug firms' literature. Pharmacy departments receive more literature than general practice pharmacies and literature may also be actively circulated around the hospital pharmacy departments. Part-timers in general practice are far less likely to see drug information mailing. Crosstabulations confirmed that a high proportion of all female pharmacists depended upon the Pharmaceutical Journal for improving awareness of recently introduced pharmaceutical legislation.

Responses to unstructured questions (nos. 16 and 20).

Unstructured questions were included in the questionnaire in an attempt to obtain opinions from respondents which were as free from influence or bias as possible by the questionnaire.

Responses are grouped together under similar statements.

Q.16 If you have recently undertaken locum work after a period of 'retirement', what particular problems or changes have you experienced?

ANSWERS	NO. RESPONDENTS
LACK OF FAMILIARITY WITH LEGAL CHANGES IN PRACTICE.	19
LACK OF FAMILIARITY WITH NEW DRUG PRODUCTS	18
LACK OF FAMILIARITY WITH NHS PRESCRIPTION ADMINISTRATION	6

LACK OF PERSONAL CONFIDENCE	4
CHANGING FROM ONE BRANCH OF THE PROFESSION TO ANOTHER	4
PROBLEM OF ACCESS TO REFERENCE BOOKS	2
UNEASE WITH RELATIONSHIP BETWEEN PHARMACIST, DOCTOR AND DOCTOR'S RECEPTIONIST	2
FINDING A SITUATION AGREEABLE WITH SCHOOL HOURS AND HOLIDAYS	1

The suggestion was made by at least four respondents that women pharmacists would face fewer problems if they continued to work throughout their professional lives, if only for a few hours per week.

Q.20 Have you any comments on your 'drug information requirements' and suggestions on how they could best be fulfilled?

COMMENTS/SUGGESTIONS	NO. RESPONDENTS
A 'MIMS-TYPE' BOOKLET SHOULD BE ISSUED MONTHLY OR EVERY TWO TO THREE MONTHS, INCLUDING GREATER DETAILS ON DOSAGE AND SIDE EFFECTS	10
A MONTHLY DRUG INFORMATION BULLETIN SHOULD BE PROVIDED	10
A STANDARDISED CARD SYSTEM SHOULD BE PRODUCED, SIMILAR TO THAT OF THE PSGB, TO INCLUDE INFORMATION ON MODE OF ACTION AND SIDE EFFECTS OF NEW DRUGS. SIZE SUITABLE FOR FILING	9
MARTINDALE IS AN INVALUABLE SOURCE OF DRUG INFORMATION	6
KEEPING UP-TO-DATE AND ACQUIRING DRUG INFORMATION IS THE RESPONSIBILITY OF INDIVIDUAL PHARMACISTS	4
Hospital drug information centres	
INFORMATION BULLETINS FROM CENTRES COULD BE DISTRIBUTED TO ALL PHARMACISTS	8
CENTRES SHOULD BE READILY AVAILABLE FOR THE HOSPITAL SERVICE	5

CENTRES IN THE WEST MIDLANDS AND DRUG FIRMS' MEDICAL INFORMATION DEPARTMENTS DO AN ADEQUATE JOB	4
A SYNOPSIS OF BOOKS AND PAMPHLETS RECEIVED BY CENTRES COULD BE DISTRIBUTED	1

Continuing education courses

COURSES SHOULD BE HELD IN ACCESSIBLE LOCAL CENTRES	4
POSTAL COURSES SHOULD BE AVAILABLE	3
M.Sc. COURSE ON MODULAR BASIS ACCEPTABLE	2
IN-SERVICE TRAINING FOR HOSPITAL PHARMACISTS SHOULD BE HELD DURING WORKING HOURS WITH PAID RELEASE	2

The Pharmaceutical Journal

A MONTHLY PULL-OUT SUPPLEMENT TO THE PJ OF UNBIASED INFORMATION PRESENTED IN AN ATTRACTIVE AND READABLE FORMAT	7
PROPRIETARY NAMES SHOULD BE INCLUDED ALONGSIDE CHEMICAL OR APPROVED NAMES WHEN USED IN ARTICLES	2
IMPROVED LAYOUT DESIRABLE	2
FURTHER COVERAGE OF NEW DRUGS, PATHOLOGY AND RESEARCH	2
UP-TO-DATE ARTICLES ON LAW USING SIMPLE LANGUAGE AND INCLUDING LABEL EXAMPLES	1

Drug firms' information

MORE INFORMATION FROM THIS SOURCE WOULD BE DESIRABLE, ESPECIALLY TO 'TEMPORARILY' OR 'SEMI-RETIRED' MEMBERS	10
DATA SHEET COMPENDIUM SHOULD BE AVAILABLE (FOR PURCHASE) TO NON-PROPRIETOR PHARMACISTS	2
QUARTERLY COMPENDIA OF DATA SHEETS ON RECENTLY INTRODUCED PRODUCTS SHOULD BE SENT TO TEMPORARILY RETIRED PHARMACISTS	2
LABELS ON PRODUCTS SHOULD INCLUDE DETAILS OF INTERACTIONS AND DOSAGE REGIMES	2

The provision of information in the form of CHARTS was requested under the following subject headings:

DRUGS EXCRETED IN BREAST MILK
DRUG INTERACTIONS WITH ALCOHOL
DRUGS CONTRAINDICATED IN PREGNANCY
DRUG INTERACTIONS
POISONOUS INGREDIENTS IN HOUSEHOLD PRODUCTS

6. Discussion

EXTENT OF PROFESSIONAL ACTIVITY. Few respondents considered themselves permanently retired from professional work, whatever their family commitments. The Society's 1978 manpower survey (3) indicated a female membership of 30.1 percent. Recent figures for intakes into schools of pharmacy show a high proprortion of female students (94), there being a 52 percent female intake in the year commencing October, 1977. It seems reasonable to suggest that the proportion of females on the Register will increase from the present figure.

METHODS USED FOR KEEPING UP TO DATE. The Pharmaceutical Journal featured strongly as a source of information to both full-time and part-time pharmacists. The Journal is a good medium for enabling pharmacists to keep up-to-date. Expansion of the Journal to provide postal courses or updating supplements would seem desirable but such developments could be limited for financial reasons (95).

The pharmaceutical industry provides information about new drugs in the form of mailed literature and visits by representatives. Those combined sources equalled The Pharmaceutical Journal as sources for learning about NEW drug products for full-time pharmacists. However, part-time pharmacists were not exposed to the industry's

information to the same extent. It seems unfortunate that the ABPI Data Sheet Compendium is supplied only to pharmacies and not to each pharmacist, as the survey of general practice pharmacies (Experiment I) showed that the Compendium was found to be a highly valued source of information.

Perhaps part-time pharmacists could be encouraged to request to be placed on manufacturers' mailing lists for medical literature available to pharmacists.

CONTINUING EDUCATION COURSES. The majority of women pharmacists, who had not attended courses, stated that a financial incentive would not encourage them to attend. This attitude could suggest that courses at present are not sufficiently attractive, relevant or convenient.

A suggestion, which would be economically feasible is that the Pharmaceutical Society should encourage all postgraduate course organisers to hold at least one course each year specifically for women pharmacists, who work part-time or who are contemplating a return to practice. Indeed, this is a long standing recommendation of the DHSS (37). However, there could be a danger of losing contact with pharmacists practising full-time, who attend courses, should the courses be organised exclusively for women pharmacists. Studies have shown (38, 39) that temporarily inactive women pharmacists believed their greatest deficiency, when returing to practice, was a "lack of knowledge of new drugs". Hence a suitable topic for inclusion in a continuing education course would be a review of new drugs and new drug products introduced in the previous four or five years. Changes in pharmaceutical legislation and pharmacy practice would commend themselves as associated subjects for inclusion.

The timing of courses could be an influential factor on attendance. Half of the survey respondents agreed that the conventional series of weekly EVENING lectures were most convenient to attend. A significant majority of women pharmacists in the West Midlands would be accessible to a large town or city, where courses would be based. However, approximately 20 percent stated weekday MORNINGS while 13 percent agreed that whole WEEKDAY sessions would be most convenient. Course organisers could give some thought to more flexible timing schedules. The importance of sufficient informal discussion during courses, especially with practising pharmacists, cannot be overestimated. Evening courses alone afford little such opportunity.

The responses to the prepared statements listed in Question 11 confirmed the general acceptance of continuing education courses as a means of keeping up-to-date. However, the variation in responses to statements (b), (d) and (f) highlight the difficulty in designing courses to suit a significant majority. Responses to statement (g) concerning mandatory attendance showed some polarisation of opinion and more pronounced disagreement with the possibility by part-time pharmacists. Perhaps those pharmacists feel threatened by such a proposal. The survey results indicate that a majority of female pharmacists would not be in favour of mandatory courses for maintaining professional registration. This concurs with the Council of the Society's rejection of the working party's recommendation (43).

PERIOD OF ACCLIMATISATION ON RETURNING TO PRACTICE. The report of the working party on postgraduate education and training (42)

also recommended that pharmacists should not be permitted to hold positions of sole responsibility, in either hospital or general practice, within the first six months of returning to practice after an absence of 10 years or more. The Society's Council generally concurred with that recommendation and referred the suggestion to the Council's New Legislation Committee. The 70 percent of survey respondents, who replied affirmatively to the question in the survey that some period of acclimatisation should be undertaken following a period of absence from practice, reflects the responsible awareness of married women pharmacists to their own limitations when returning to practice.

The expected increase in the proportion of women in the profession will mean a future increase in the proportion of pharmacy manpower suboptimally utilised. Women pharmacists should be given assistance to restore both their competence and confidence on returning to practice. Few professional bodies make formal provision for their female members to keep up-to-date during periods when they are unable to practise full-time (96). (However few, if any, comparable professions have such a significant proportion of women members.) The medical profession receives official DHSS sponsorship for its 'doctors' retainer scheme' (97).

The scheme is for doctors, male and female, under the age of 55, who are currently not working more than one day a week, and who wish to remain in touch with medicine so that they can return to the NHS when their circumstances permit. They have the opportunity to do a small amount of paid professional work and to attend postgraduate sessions, and they receive £75 per year retainer to help meet their expenses. The scheme is administered by the

Regional Health Authorities. It dates back to 1969, when the Department of Health asked hospital authorities actively to encourage married women doctors and other doctors with domestic commitments to return to some form of medical practice.

The value of a professional retainer scheme for temporarily retired pharmacists, similar to that available to the medical profession, should be pursued and closely investigated. It was confirmed during discussion at the Practice Research Session of the 1978 British Pharmaceutical Conference that a request for such consideration had been made to the DHSS in 1975. The Department's response at that time had been that when the scheme had been initiated for doctors there had been a considerable shortage of medical staff, but that there appeared to be no similar shortage of pharmacists. Furthermore, no money had been made available for such a scheme. It is very debatable whether or not there are sufficient experienced pharmacists available at present. The manpower survey figures indicate a future increase in the number of female members with the inherent problems already mentioned.

The National Association of Women Pharmacists (NAWP) exists as a voluntary association within the profession of pharmacy. The aims of the association embrace many of the concerns discussed in this paper. The association has a membership of approximately 250, while there are 8,300 females on the Register of Pharmaceutical Chemists. Unfortunately, this voluntary organisation has so far attracted only limited support from the majority of women pharmacists.

The overall results to the survey clearly show that almost all married women pharmacists work to some extent as pharmacists,

whatever their family commitments. Answers to the unstructured question on returning to work after a period of absence indicate that 'a lack of familiarity with new drug products and recently introduced legislation' was the biggest problem for pharmacists in this situation. This could be overcome by the implementation of a national scheme or, at the very least, by the encouragement of the provision of continuing education courses specifically for this group of women pharmacists. Membership of a national scheme could be linked with the provision of appropriate drug information bulletins, or regular supplements to the Pharmaceutical Journal.

There is a need for the predominantly male leaders of the profession to recognise the special needs of this group BEFORE these needs become a 'problem'. It is hoped that the profession will investigate the most effective and economic means for ensuring a useful professional future for this significant proportion of its membership and for the overall benefit of the community.

EXPERIMENT III

A two part survey of the pharmaceutical industry as a source of drug information for general practice pharmacists.

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1. Introduction

Information from the industry is provided as direct mail, ABPI Data Sheet Compendia, visits by medical representatives and response to queries received at companies' information departments. This study was undertaken to obtain further data on the supply of information in general practice. In particular, the role of the medical representative was to be investigated, especially in view of the apparent importance attached to the representative in the transmission of information on new drug products to medical practitioners (54, 55).

2. Preliminary studies

A pilot questionnaire survey was carried out in 1976 of fifty major drug companies who were members of the ABPI. Unfortunately, companies were advised by the ABPI not to participate. Discussions ensued over a period of two years through the Professional Representation Subcommittee of the ABPI. Eventually, the Committee agreed to inform member companies to participate in any survey planned by the author, if they so wished.

3. Methodology

A two part questionnaire was designed using the limited responses obtained in the pilot survey to frame appropriate questions. The questionnaire consisted mainly of multiple-choice questions, previously coded for computer analysis.

Section A of the questionnaire (Appendix 7) was distributed to fourteen companies, including member companies of the Professional Representation Subcommittee of the ABPI, with accompanying explanatory letters (Appendix 8 and 9). The questionnaires, addressed to the Marketing Department of each company were distributed in June 1978.

Copies of Section B of the questionnaire (Appendix 10) were also distributed (15 to each of twelve companies, 8 and 6 to the remaining two, as requested). The marketing departments were asked to distribute the questionnaires within their representative field forces giving consideration to some variation in geographical location and years of service of the selected representatives. It was intended that each of these representatives should receive a copy of Section B questionnaire, a covering letter (Appendix 11) and a stamped reply envelope. All responses were completely anonymous.

194 representatives formed the survey sample, which approximated to a 6.5 percent sample of the country's 3000 medical representatives.

Although not a true random sample, it was essential to have the co-operation of the ABPI to achieve an adequate response.

Responses to the two-part survey are indicated overleaf (see TABLE 12).

TABLE 12

Responses to two-part questionnaire survey of some marketing departments and medical representatives of the pharmaceutical industry

PART A - marketing departments		
Questionnaires distributed		14
Questionnaires completed and returned		12
No response		2
Percentage response rate	=	86%
PART B - medical representatives		
Questionnaires distributed		194
Questionnaires completed and returned		140
No response		54
Percentage response rate	=	72%

4. Survey results

A total count of the responses to the structured questions is given in FIGURES S3 and S4, alongside the questions posed.

FIGURE S3

GENERAL PRACTICE PHARMACY/MEDICAL REPRESENTATION QUESTIONNAIRE,

RESULTS

TOTAL NUMBER OF RESPONDENTS = 12

ALL PERCENTAGES ARE ADJUSTED FREQUENCIES FOR MISSING RESPONSES (m)

SECTION A

Q1 - 10 to be answered by Company Management

SECTION B

Q11 - 22 to be answered by individual representatives

SECTION A		No.	%
1. Is it a policy of your company to visit general practice pharmacy outlets routinely?	YES	12	100.0
	NO	-	-
2. If YES: Are the visits made			
a) Regularly each working cycle?		7	63.6
b) At the representatives' convenience when in the vicinity?		4	36.4
c) A fixed number of times per year?			
d) Completely at random?			
e) Any other - please specify			
	m=1	11	100.0

			No.	%
3.	If your answer to Q1 is NO, have you a positive reason for not calling on these outlets?		NIL RESPONSE	
4.	If your policy is to call on GP pharmacy outlets, does this include MULTIPLES e.g. Boots, Westons, Co-op?	YES	12	100.0
		NO	-	-
			12	100.0
	If NO, would this be influenced by the fact that such calls would generally be to provide information and not to gain orders?	YES	NIL RESPONSE	
		NO		
5.	If your policy is to call on GP pharmacy outlets, do you believe your field force achieves a REGULAR coverage of most of them?	YES	7	58.3
		NO	5	41.7
			12	100.0
	If YES, could you qualify this by indicating what percentage of pharmacies are called on in a year?	LESS THAN 25%	-	
		25 - 50%	1	12.5
		51 - 75%	4	50.0
		MORE THAN 75%	3	37.5
		m=4	8	100.0

		No.	%
6. Does your Company 'product information department' receive queries from general practice pharmacists?	YES	12	100.0
	NO	-	
		12	100.0

If YES, would you indicate		Commercial	Technical
(a) the proportion of queries that are of a commercial nature (availability, prices, discounts, etc) and the proportion of technical queries	UP TO 25%	2	4
	26 - 50%	1	4
	51 - 75%	2	2
	76 - 100%	7	2
		12	12

		No.	%
(b) total number of queries received from this source per year	0 - 50	2	20.0
	51 - 150	1	10.0
	151 - 300	4	40.0
	MORE THAN 300	3	30.0
	m=2	10	100.0

(c) types of technical queries received

FORMULATION DETAILS	4
SIDE EFFECTS	3
DOSAGE REGIMES	1
STABILITY	1

(d) approximately what proportion of GP pharmacist queries if any was referred through representatives	0 - 10%	6	50
	11 - 25%	3	25
	26 - 50%	2	16.7
	51 - 75%	1	8.3
	76 - 100%	-	
		12	100.0

		No.	%
7. Does your Company supply GP pharmacists with product information other than data sheets ?	YES	8	66.7
	NO	4	33.3
		12	100.0

If YES, could you describe briefly:

(a) the general form this takes

BASIC PRODUCT INFORMATION	2
NEW PRODUCTS + PRICES	2
DETAILED PAPERS	2
VISUAL AIDS	1

and

(b) how frequently is such information supplied (times per month/year etc).

2 - 4 TIMES PER YEAR	4
AS REQUESTED	2
NEW PRODUCT LAUNCH	1
RARELY	1

8. Does your Company remind GP pharmacists that they can request to be placed on the mailing list for medical product information through ABPI?	YES	-	
	NO	12	100.0
		12	100.0

9. If YES, is this done through	YES	NIL RESPONSE
	NO	

(a) Representatives?

(b) Any other means?

10. Does your Company Arrange sponsored meetings specifically for GP pharmacists?	YES (REGULARLY)	-	
	NO	9	75.0
	OCCASIONALLY	3	25.0
		12	100.0

FIGURE S4

GENERAL PRACTICE PHARMACY/MEDICAL REPRESENTATION QUESTIONNAIRE,

RESULTS

TOTAL NUMBER OF RESPONDENTS = 140

ALL PERCENTAGES ARE ADJUSTED FREQUENCIES FOR MISSING RESPONSES (m)

SECTION B

The following questions are intended for individual representatives of those Companies with a policy of calling on general practice (retail) pharmacy outlets.

(Section A questions 1 - 10 have been answered by Management)

		No.	%
11. Approximately what proportion of GP pharmacists see you readily when you call?	OVER 80%	97	69.3
	80 - 51%	32	22.9
	50 - 25%	10	7.1
	LESS THAN 25%	1	0.7
		140	100.0
12. What is your average length of call?	5 MINS OR LESS	12	8.6
	6 - 10 MINS	82	58.5
	11 - 20 MINS	39	27.9
	21 MINS OR OVER	5	3.6
	NOT KNOWN	2	1.4
		140	100.0
13. Does your answer to Q12 include the time when you are waiting to be seen?	YES	39	28.1
	NO	100	71.9
	m=1	139	100.0
14. If your answer to Q13 is NO, what is your average waiting time?	5 MINS OR LESS	65	62.5
	6 - 10 MINS	29	27.9
	11 - 15 MINS	9	8.6
	MORE THAN 15 MINS	1	1.0
	m=36	104	100.0

		No.	%
15. For general practice pharmacists who will not see you, what reason(s) are given?	TOO BUSY	115	92.0
	NOTHING REQUIRED	7	5.6
	PHARMACIST NOT PRESENT	3	2.4
	m=15	125	100.0

16. What do you see as the <u>main function</u> of your visits to general practice pharmacists? *Please indicate this by giving the following statements a rank order of importance.*

(1 = most important to 7 = least important)

		VALUE OF FUNCTION							
		1	2	3	4	5	6	7	
(a)	Stocktaking, ordering, sales promotion	27	21	12	12	24	27	14	(m=3)
(b)	Introduction of new products	17	35	37	29	10	8	2	(m=2)
(c)	Reminding pharmacists of existing products	2	13	15	22	30	36	19	(m=3)
(d)	Provision of up-to-date drug information	11	22	29	30	32	11	3	(m=2)
(e)	To act as a two-way channel of communication with the parent company	14	15	21	30	30	20	8	(m=2)
(f)	Replacement of damaged and out-of-date stock	4	2	3	5	5	28	89	(m=4)
(g)	To advise on products currently being detailed to local doctors	70	28	19	9	5	4	3	(m=2)

			No.	%
17. Pharmacists can request to be placed on a mailing list for medical information (product literature) normally circulated to physicians. Do GP pharmacists approach you about going on this list?	OFTEN		-	
	SOMETIMES		5	3.6
	SELDOM		34	24.5
	NEVER		100	71.9
		m=1	139	100.0
18. If your answer to the previous question is SELDOM or NEVER, do you remind GP pharmacists that this service is available?	OFTEN		1	0.7
	SOMETIMES		17	12.7
	SELDOM		30	22.4
	NEVER		86	64.2
		m=6	134	100.0

19. Regardless of its source (e.g. direct mailing, from yourself) do you think that general practice pharmacists are interested in receiving product literature?

(Please indicate by giving approximate % for number of pharmacists in each category)

	Up to 10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	Over 80%
Very intst.	76	14	7	3	2	5	3	1	3
interested	16	16	12	21	14	16	12	12	4
not interested	35	16	14	9	15	6	8	5	6
don't know	31	19	7	4	6	-	-	-	-

20. **When calling on retail outlets, are pharmacists generally:**

(Please indicate by giving approximate % for number of pharmacists in each category)

	Up to 10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	Over 80%
welcoming	27	29	13	8	17	10	6	11	7
polite	9	18	11	21	18	20	14	14	4
indifferent	63	35	9	8	7	-	1	-	1
impolite	100	5	1	-	-	-	-	-	-

			No.	%
21	Has there been a change in attitude towards representatives by pharmacists in the past few years?	YES	37	26.4
		NO	56	40.0
		DON'T KNOW	39	27.9
		UNDECIDED	8	5.7
			140	100.0

If your answer is YES
Please indicate
briefly in what way:

MORE BUSINESS-MINDED	12	32.4
VISITS TOO TIME-CONSUMING	6	16.2
INCREASED CONSCIOUSNESS OF STOCK LEVELS	6	16.2
INCREASED ETHICAL INTEREST	5	13.5
VARIOUS	8	21.7
m=103	37	100.0

22.	Finally, would you please indicate number of years service as a medical representative	LESS THAN 5 YEARS	56	40.9
		5-10 YEARS	30	21.9
		11-15 YEARS	16	11.7
		16 YEARS OR MORE	35	25.5
		m=3	137	100.0

Miscellaneous comments to final statement of questionnaire:

Any further comments you may wish to make on the subject of 'drug information in general practice pharmacy' would be welcome.

COMMENTS/SUGGESTIONS	NO. RESPONDENTS
RE Q.16 - FUNCTION OF REPS VISIT:	
TO OBTAIN INFORMATION ON DOCTORS' PRESCRIBING HABITS	5
MOST CALLS ARE PURELY 'COURTESY CALLS'	2
TO CHECK ON MOVEMENT OF A NEW PRODUCT	2
THE JOB OF THE REPRESENTATIVE IS HELPED BY BEING A PHARMACIST	1
GENERAL REPLIES ARE DIFFICULT - EVERY CALL IS AFFECTED BY SO MANY FACTORS	1
SOME PHARMACISTS RELY MORE ON THE PJ AND BOOKS FOR INFORMATION	1
TOLERANCE AND APPRECIATION OF EACH OTHER'S BUSINESS COMMITMENTS ARE IMPORTANT	1
PHARMACISTS ARE EITHER VERY WELL INFORMED OR EXTREMELY ILL INFORMED ABOUT RECENT DRUG PRODUCTS	1
SOME COMPANIES APPEAR NOT TO BE CALLING AS FREQUENTLY AS IN THE PAST	1
MOST PHARMACISTS ARE MORE INTERESTED IN STOCKS THAN DRUG INFORMATION	2

5. Analysis of results

No further analyses were performed on the results of Section A, due to the small numbers involved.

SECTION B - medical representatives.

Two way cross-tabulations were performed on the variable

'length of service' of representatives. Results showed:

5 TO 10 YEARS OF SERVICE - This group thought 'introduction of new products' to be more important than the other three groups did and a large proportion of them found that up to 10 percent of pharmacists were 'indifferent' to receiving product literature. The group felt strongly that there had been no change in attitude towards representatives by pharmacists within their relatively limited experience (see TABLE C27).

11 TO 15 YEARS OF SERVICE - Respondents in this group showed a tendency to spend longer, when calling on pharmacists. 56 percent thought that there had been a change in attitude towards representatives, compared with 40 percent of the 16 years plus group (see TABLE C27). The most frequently cited type of change

TABLE C27

LENGTH OF SERVICE OF MEDICAL REPRESENTATIVE by CHANGE IN ATTITUDE by PHARMACISTS TOWARD REPRESENTATIVES

LENGTH OF SERVICE	ATTITUDE YES	NO	DON'T KNOW	UNDECIDED	ROW TOTAL
LESS THAN 5 YEARS	5 (5.9)	10 (17.9)	37 (66.1)	4 (7.1)	56
5 TO 10 YEARS	8 (26.7)	19 (63.3)	1 (3.3)	2 (6.7)	30
11 TO 15 YEARS	9 -(56.2)	6 (37.5)	1 (6.2)	0 (0.0)	16
16 YEARS OR MORE	14 (40.0)	19 (54.3)	0 (0.0)	2 (5.7)	35
COLUMN TOTAL	36 (26.3)	54 (39.4)	39 (28.5)	8 (5.8)	137 (100.0) m = 3

x^2 = 75.676, df = 9, s = 0.000 (=%)

m = missing values

was 'an increase in business mindedness'.

16 YEARS OR MORE - This group considered the 'sales promotion' aspect of their job less important than the other groups.

6. Discussion

SECTION A - company management

The companies surveyed generally recognised the need for their medical representative field forces to call on all types of general practice pharmacies and ensure that regular coverage approached 75 percent of all pharmacies annually. However, five companies stated that their field forces did not achieve REGULAR coverage but visits were at the representatives' convenience when in the vicinity of pharmacies. There is, of course, wide variation in marketing policy amongst pharmaceutical manufacturers, partially due to the diversity of companies within the industry. Correspondingly, representatives vary, with those of a more professional nature being employed by the major manufacturers of prescription products.

Queries to product information departments of companies averaged between 150 and 300 annually. The nature of the queries was in the ratio 3 to 1 of commercial and technical. This would indicate that few pharmacists avail themselves of the opportunity to request information on products, for example in the form of original research papers or reports of clinical trials. Are their requirements already met or is apathy an overriding factor? Few queries were directed to information departments via the representative. Perhaps the two-way communication aspect of the representative's role is of minor importance.

More than half the companies surveyed issued product literature other than Data Sheets and the majority of companies did not sponsor meetings for general practice pharmacists.

SECTION B - medical representatives

Results of Experiment I, survey of general practice pharmacies, showed that respondents considered 'introduction of new products' and 'provision of up-to-date drug information' as the most important functions of representatives' visits, from their point of view. Representatives themselves overwhelmingly indicated that 'to advise on products currently being detailed to local doctors' was their main function, when visiting pharmacies. However, this statement had not been included in the earlier Survey I, hence worthwhile comparisons are difficult to make. When used in the context of the last statement, 'advise' could mean checking on stocks held by pharmacists, in anticipation of scripts from doctors previously visited, as well as imparting information about products. Representatives definitely did not see that their role included the replacement of damaged and out-of-date stock.

Responding pharmacists in Survey I stated that 'direct mail' was the source from which they were most likely to first learn about new drug products. Representatives were placed fifth. As direct mail is received mostly from the industry, the latter performs its function of alerting pharmacists primarily in this way. Representatives' calls are therefore secondary in importance. It would seem unfortunate that the majority of pharmacists have never asked representatives to be placed on the ABPI's mailing

list for medical information or that the majority of representatives have never alerted pharmacists to the facility. It was the opinion of half the representatives responding to the questionnaire that up to 10 percent of pharmacists were 'very interested' in receiving product literature. Could this be the same proportion of well motivated and active pharmacists who showed interest in continuing education courses, branch meetings and so forth? Do most professional groups possess similar dedicated minorities? A similar sized minority, 10 percent, was reported to be 'impolite' by the majority of responding representatives.

Question 22 of the questionnaire asked representatives to indicate their length of service. The largest proportion, 41 percent, was in the 'less than 5 years' group. This could be indicative of the national medical field forces. Unfortunately, no parameters for comparison were available.

'Increased business mindedness' was the most commonly perceived change in attitude towards representatives. This could be a reflection of the increased economic pressures on pharmacists in general practice.

CHAPTER 4

DISCUSSION

The discussion in this chapter incorporates the main points from preceding discussions. Where deficiencies in a particular type of information occur, some suggestions are made on how the deficiencies may be overcome. The possible impact of new technology and its relationship to the attitudes found in the surveys is considered, as are specific problems related to the age - sex structure of the profession and the proposition that general practice pharmacists must become more involved in advising patients on their drug therapy.

READING OF DRUG INFORMATION IN THE PRINTED FORM. Analysis of the results of Experiments I, II and III have revealed that information in the printed form is most widely used and highly valued by the practising pharmacist. Printed material is supplied from a multiplicity of sources and poor correlation amongst replies indicated a diversity of opinion about the value placed on these sources.

Journal reading is an important method of gaining current drug information, with general practice pharmacists showing a trend in readership of the more trade-orientated publications. Information is gleaned from articles, editorials, letters and advertisements in that order of usefulness. Several new journals have been introduced since the surveys were conducted, namely the 'Journal of Pharmacy Practice', produced primarily for hospital pharmacists, and 'Pharmacy International', a monthly journal of the Federation Internationale Pharmaceutique (FIP) covering trends in pharmacy and pharmaceutical practice. The Pharmaceutical Journal remains the most important and influential journal in the

field of general practice. The cost of producing the PJ in 1977, representing 33,000 copies per week, was half a million pounds, which was mostly met by advertisers. Publishers of the controlled circulation medical journal 'Update' have expressed interest in producing a similar journal for pharmacists. The pharmaceutical industry supports controlled circulation journals (supplied free) directly or indirectly through advertising. A criticism of sponsored journals is that they protect their sponsors and advertisers (98).

Numerous textbooks are available to pharmacists, covering most topics relevant to general practice. Pharmacists should be prepared to purchase recent editions of standard texts and each pharmacy should have a copy of a 'drug interactions' book. No standard text is available in this country on the subject of counterprescribing and OTC products. An equivalent American publication, 'Handbook of Non-Prescription Drugs' (99), is a comprehensive and instructive guide to practising pharmacists. A similar publication would seem desirable in this country and would satisfy a need expressed by a majority of pharmacists responding to Survey I. A comprehensive but concise text on ostomy products would also find an audience, should the Drug Tariff continue to be so circumspect.

It is hoped that the Pharmaceutical Society and PSNC will continue to press for free circulation of 'Drug and Therapeutics Bulletin' and 'Prescriber's Journal' at least to practising members of the profession or that organisations representative of pharmacy attempt to negotiate special rates for their members. An effort could be made to publish a regularly revised basic list

of reference literature for practice including those already discussed.

It is encouraging to note that updating articles in recent editions of the PJ appear under the broad heading of 'Continuing Education'. Self study through reading is clearly very important to pharmacists. It can be carried out privately, at the reader's own convenience, even during the working day. However, like all methods, reading requires self motivation.

ATTENDANCE AT BRANCH MEETINGS, CONFERENCES AND COURSES. This section is essentially a discussion of continuing education and postgraduate education for pharmacists. Replies given in the surveys related to actual experiences of respondents, although some offered opinions about continuing education courses without attendance. Courses and meetings were patronised and valued by a minority of the sample population. The introduction of bias is possible because course participants could be more likely to reply to questionnaires, although there is no proof for this suggestion. Bias would mean that figures obtained would probably be an upper rather than lower limit. It would appear to be necessary to analyse in some depth professional attitudes, opinions and behaviour, particularly of those pharmacists who do not participate in programmes offered them. Probably voluntary participants possess more professionally orientated attitudes and are more involved in a variety of pharmaceutical activities.

It has been suggested that the problems of motivation would disappear if programmes co-ordinated all the elements essential to general practice pharmacy (100). Material of a commercial nature, plus management topics could be offered along with the more

traditional subjects of drugs and therapeutics. Flexible arrangements could also improve the attendance of motivated pharmacists. An open-university system, offering a three-year postgraduate training, was to be investigated by the Society's postgraduate education subcommittee (101). A variety of M.Sc. courses, some designed on a modular basis, are offered at several university centres throughout the country. The establishment of a College of Pharmacy Practice is still under consideration. All these arrangements could only enhance the participation of the already active minority of the profession and add to their number.

The question of whether participation improves competency in practice has yet to be resolved. It is very difficult to measure the benefit of continuing education in improving competency and then further relating the measure of competency to variables quantifying the effectiveness of patient care. Even if the information describing these variables could be defined, the collection of data would be more difficult in general practice than in the controlled environment of hospitals. Research in this area is essential in order to evaluate the true worth and future direction of educational programmes.

Every pharmacist should assume a basic responsibility for increasing his or her professional competence. Courses could be the mechanism for alerting pharmacists to the more discerning and better use of all types and sources of drug information.

PERSONAL CONTACT. This section is principally a discussion of use of hospital drug information centres and contact with medical representatives. As a group, the information sources requiring personal contact showed a high proportion of 'not known' responses in the surveys conducted.

In 1974, the report of the working party on drug information services (69) suggested that ..."the local district general hospital should be consulted on scientific problems. Reference to them should be restricted to certain specialist questions". One could infer that there was some fear that the centres might be swamped by relatively minor queries. The limited use made of them by pharmacists in general practice shows that such a fear was unfounded. The information service continues to serve hospital pharmaceutical, medical and ancillary staff well.

One report in America (102) suggested that when a continuous service was provided, that is twenty four hours for seven days a week, an increase in use was observed for general practice pharmacists. Also, 15 percent of calls were made in the evening.

Perhaps centres could have an active input into general practice if the production of current awareness bulletins, possibly produced on a regional basis, were made available or advertised to general practice pharmacists. Bulletins could contain details of reference sources kept at centres. However, the future of hospital drug information centres appears to lie mainly as a supportive service for hospital personnel.

Information from representatives to pharmacists forms a limited part of the pharmaceutical industry's information output. The industry's promotional activity is concentrated during the introductory period of a new drug product, after which promotion drops to a reminder level (103). It is important for the practising pharmacist to have prior knowledge of a preparation before he dispenses it. The representative plays a role in the introduction of new products, as shown in surveys I and III

although the pharmacist is most likely to first learn about new products from the PJ. It would appear that the promotional aim of representatives' visits is the creation of awareness of recently introduced drugs, rather than influencing long-term evaluation.

Several schemes have been proposed involving the replacement of drug information from the industry and in some instances, of the replacement of medical representatives, particularly as advisers to physicians.

Herxheimer and Lionel (104) have proposed the formation of a small professional group, consisting of clinical pharmacologists and clinicians, who would put together 'minimum information packages'. It was envisaged that such a group would form part of an international group, with support of the World Health Organisation. Co-operation from manufacturers and drug regulatory authorities would be essential.

A suggestion at an annual conference of the Socialist Medical Association (105) was that the Minister of Health should set up an 'independent special commission' to establish a department to publish unbiased, authenticated drug information.

A report of the Central Health Services Council (84) for the year 1975 included the suggestion from the Standing Pharmaceutical Advisory Committee that with regard to information about medicines to doctors, existing sources of information could be usefully supplemented by independent information teams. A team, comprising a doctor, a pharmacist and a nurse would visit prescribers and discuss problems associated with the use of medicines.

This last proposal mentions the participation of pharmacists in information teams. Should such proposals come to fruition, it

would be an undoubted advantage to include pharmacists both as advisers and not least, as recipients of the information generated by the teams. Not surprisingly, emphasis had been placed on supplying unbiased or independent information to prescribers. It is hoped that the needs of general practice pharmacists would not be overlooked, as their main influence can be made in the area of patient advice and counselling. Unfortunately, in 1975, the Standing Pharmaceutical Advisory Committee mentioned overleaf, considered that advice offered by a pharmacist to patients would be limited in the absence of full knowledge of the range of medicines, which patients might be taking. However, the pharmacist in general practice is in a unique position to actively acquaint himself with patients full drug profiles and to advise accordingly.

The medical profession as a whole, to whom most of these new schemes would be directed, has expressed reluctance to be dependent upon government agencies for information. There is a fear of a monopsonistic power of Government in health matters, particularly the economic aspects. The need for information should be satisfied rapidly and the ability to cope adequately and speedily with frequently changing data is also important. The possible problems of institutional situations could be that the information might become bulky and unhelpful and the procedures not only protracted but costly. Any scheme envisaged must be flexible.

Less than 20 percent of medical representatives in the USA are pharmacists and initial pilot work for Experiment III revealed that the figure is much less in this country, with a continuing decline. One reason given for this trend was the higher salaries allegedly commanded by pharmacists compared with other science

graduates or non-graduate recruits. However, this is a debatable factor. It is possible that the quality of information and professional integrity of representatives might be improved if more pharmacists were employed in, and responsible for, the marketing/promotional sector of the industry.

Further pressure on the pharmaceutical industry to reduce its promotional expenditure, could result in reduction of services to the pharmaceutical professional either in the form of direct mail or calls from representatives. Unless the services of other agencies were guaranteed, reduction of existing resources, whatever the source, appears most undesirable. The fear of commercial bias, the greatest criticism levelled against the industry (106), would not seem to justify removal of this source of information from general practice pharmacy. The industry should continue to perform its role of creating awareness of its products, especially those recently introduced.

VARIATION OF INFORMATION NEEDS WITH 'AGE'. The attitudes expressed to information sources and responses directly related to their use, as shown in the experimental work described in this study, illustrate variation with age of responding pharmacists. For each type of source and between sources, replies showed no clear correlation, that is, no particular age group responded in a consistent way throughout the questionnaire. However older respondents showed that they valued journals and direct mail more highly than younger pharmacists. Equating use to need, one can deduce that they need more information. The threshold for requiring and valuing information highly would appear to be reached after about thirty years of professional activity, that is, fifty five

years of age or more. This age group showed a greater reluctance to attend continuing education courses and would not be encouraged by payment of a financial incentive. Older pharmacists valued interactive sources, those involving personal contact, more than younger pharmacists.

It would appear that more intensive efforts are required for the thirty to fifty five year old age group regarding supply of information and updating procedures. Members in this group will generally have similar requirements, deficiencies and professional aspirations. These pharmacists showed the greatest likelihood of attending continuing education courses. Perhaps postgraduate course organisers should consider programmes of differential course material, concentrating on this important subgroup. One could speculate that recently qualified pharmacists would be likely to be attracted to these postgraduate arrangements leading to further qualifications.

VARIATION OF INFORMATION NEEDS WITH 'EXTENT OF PRACTICE'. Within the profession of pharmacy, a large proportion of members practice part-time, especially in general practice. The majority are women, who will not be exposed to or be familiar with all sources of drug information. A small minority will be temporarily retired from practice, usually for family reasons.

It is imperative that the profession, particularly leading members, recognises the pattern of changes in manpower. The trend towards a higher female membership must be given due consideration. An officially recognised 'period of acclimatisation' should be required for those returning to practice with accompanying schemes, such as the supplying of up-dating bulletins or booklets

or supplements to the PJ and specially orientated courses. The suggestions made by female respondents themselves in Experiment II could be incorporated in these arrangements. As the majority of respondents did not consider that a financial incentive would encourage them to attend courses, more active practical support needs to be offered by the profession. Few comparable professions have or will have such a large proportion of females in its membership. The pharmaceutical profession could set an example by coping with the situation before it becomes a problem by manifesting itself as professional weakness. Such an undesirable situation could result in the public's requirements and expectations from the profession remaining unfulfilled. An appointment on the Society's permanent staff should be made so that at least one person would have the responsibility of monitoring part-time members, organising their membership and co-ordinating drug information activities for this special group. Initially, and for economic reasons, the appointment might not have to be full-time.

CHANGES IN METHODS OF COMMUNICATION. Undoubtedly, changes in the technology of communication in the next decade will have far reaching effects upon methods employed in pharmacy practice. These methods will be initially introduced for commercial reasons, probably with wholesalers providing the necessary computer hardware and expertise in independent retail pharmacies. The incorporation of drug information systems would be an associated but extremely beneficial feature. Dissemination of information from source to pharmacist and from thence to patients and practitioners would be rapid and with little time lag involved in

up-dating data. That is, such systems would be speedy and flexible.

The Pharmaceutical Society's awareness of the implications of computers in pharmacy is evidenced by the report of the 'Working Party on computers in pharmacy' (107). Many of the points covered in the report have been mentioned in the Introductory chapter (see page 36). At present, it is envisaged that independent pharmacies would be tied to a particular wholesaler because different wholesalers' systems are unlikely to be compatible. Multiple companies in general practice are reported to be prepared to install computers in their outlets as soon as their cost-effectiveness can be demonstrated (presumably from a business administration viewpoint). The systems mentioned above may be simple communication devices with a large central computer (intelligence) or, more likely in the future, would also possess local intelligence and storage facilities.

Inexpensive micro-computers are now available, which serve as store terminals to a larger central system and provide sufficient capacity for storage of patient records for a typical pharmacy. For example, a single 5¼ inch floppy disc costing £2.00 will hold at present ¼ million characters (approximately 100,000 words) with access times of a few microseconds to any character. The system is likely to be of far greater use to the pharmacist in a purely commercial area such as stock control. Already there are several pioneering pharmacists in Britain developing computer applications to the work in their pharmacies, including the automatic printing of labels for dispensed medicines simultaneously with stock control routines. It has been suggested that a capital outlay of between £1000 and £3000 would be necessary

for a fully installed and working system (108). Use of data base systems for drug information could be an expensive operation for retail pharmacists, if not provided as a service by pharmaceutical wholesalers. Apart from the operational costs, there is a considerable capital investment in setting up a comprehensive data base.

The legal profession will shortly be serviced by two computer data base systems involving the hiring of terminals with TV type screens for office use (109). One service will be launched with 100 million words of information (equivalent to 1000 average length paperbacks). The systems will involve the following costs: annual rent for terminals £600 to £1000 and cost per hourly contact with central computer £40 to £60.

With the reluctance shown by pharmacists responding to Survey I to pay an annual subscription, from £10 to £25 for an independent regular source of drug information, it is highly unlikely if more than a small minority of the profession would be interested in paying for a computerised drug information service, even if the necessary hardware were provided. Thus unless costs are to fall, very little progress in this area is envisaged in the practice of pharmacy unless commercial companies see some advantage in a package deal and are willing to underwrite costs.

THE ROLE OF SCHOOLS OF PHARMACY. Members of the health professions reach technical obsolescence in a relatively short time from their initial training. Pharmacists for the future need to be trained with an acute awareness of the need to keep up-to-date in order to maintain professional competence. Schools of pharmacy play

an important part in imparting knowledge to their students, setting standards and implanting desirable professional attitudes. New curricula will stress the importance of the learning process rather than the accumulation of knowledge. Introduction of the concept of continuing education at undergraduate level is essential. The need for more emphasis on drug literature identification, evaluation and utilization within the undergraduate cirriculum was indicated in a survey of general practice pharmacists in the USA (110). It is hoped that this need will be increasingly catered for in the schools of pharmacy in Britain. There is variation in the 'clinical' content of courses offered at present to pharmacy undergraduates. The communication skills of students should be developed throughout courses so that the developing advisory role of present day pharmacists can be further enhanced in the future. Like most professions, pharmacy is always evolving and pharmacy students must be educated to adapt to change and should be guided to relate optimally to the community's needs.

DRUG INFORMATION PROPOSALS FOR THE FUTURE. An ideal hypothetical drug information system should provide accurate and concise information, which is reliably up to date, be easily accessible and as far as possible be unbiased and emanate from an independent source.

Fuller integration of information from existing resources and its evaluation could provide the pharmacist in practice with all his regular information requirements. Unfortunately, no single body or person performs any overall co-ordinating function. Probably the most economic method for maximising existing services/ resources would be the establishment of a Drug Information Liaison Officer, for pharmacy, who could combine this function with an

involvement in pharmacy practice education at both undergraduate and postgraduate levels. This function would most appropriately be separate from the existing Pharmaceutical Society's Library and Technical Service, but could possibly be based at the Society. As a simple independent means of communication, a fileable loose insert or microfiche in the weekly mailed PJ, distributed to 30,000 pharmacists when necessary, would only cost from £750 currently.

However, the provision of any new, independent drug information service is most likely to be prompted by evidence of inadequacies in the present systems. The experiments conducted in this work have revealed some inadequacies, described in the discussion sections of Chapter 3, which relate to the practice of pharmacy. 'Official' financial assistance and support for new drug information services are most likely to be forthcoming if directed towards the more influential prescriber rather than to pharmacy.

If, as previously suggested (p.140) some new officially or independently organised information teams were established, each consisting of a pharmacist, doctor and nurse, to visit and discuss prescribing with the medical profession, such teams ought to also provide a useful supportive service to general practice pharmacists. Pharmacists could contribute, particularly as part of these teams, in evaluating pharmaceutical information relevant to the clinical selection of the most appropriate medicines.

The funding, location and structure of any new information teams need to be considered in relation to existing NHS structures and resources in order to provide practical, feasible suggestions.

Finance from the DHSS would seem the logical method for official funding and information teams could possibly be incorporated into the present NHS Regional Structure. (There are fourteen Regional and ninety Area Health Authorities at present in England.) Economic restrictions would probably limit teams to one per region, while visits to medical practices could be linked to the annual FPC prescription analysis visits by Area Medical Officer personnel. The membership of the teams could involve bodies like the Royal College of General Practitioners, the Royal College of Nursing and if formed, a College of Pharmacy Practice, in an endeavour to establish acceptable independence and confidence. The teams could be valuable in co-ordinating the efforts of health care professionals and increasing their awareness of current trends in medical and pharmaceutical practice. Indirectly, their influence could help to improve public health awareness.

PUBLIC NEED AND EXPECTATIONS. Discussion so far has concentrated on the information needs of the pharmaceutical profession. The patient or customer is the all-important recipient of advice from the pharmacist. Patients need to understand their condition and treatment in order to achieve good management of their drug regimes. Assurance and encouragement from pharmacists can assist patient motivation resulting in more successful treatment. The pharmacist has the ideal opportunity to critically appraise each situation in a practical manner: he can call on his professional knowledge about drugs, he can decide on the most effective type of communication with the patient (language, medium and so forth) and he can help stimulate responsible attitudes in the patient about the prescribed treatment. Similarly, responsible self-

medication or improved general health care can result from the pharmacist's ability to evaluate 'advised sales' situations of his customers and again use his professional knowledge and judgment to arrive at appropriate medication (or lack of medication, when medical attention has been advised). The overall benefits of responsible professional behaviour and optimum interaction with the public could be more economic use of health resources, that is, health professionals' time and drug consumption with successful treatments resulting in a healthier public.

Studies have shown that patients do not remember all the information given to them during medical consultations (111). One study on the public's access to primary health care has confirmed that the pharmacist is a valuable and accessible member of the primary health care team (112).

It is axiomatic that the public should receive and expect to receive informed advice from the pharmacist in general practice. Pharmacists must be aware of the real responsibility they bear, both ethical and legal, when advising the public. Inaccurate or misleading advice could result in serious consequences for both parties. The lack of concise information may be a significant factor, not helped by the traditional shop environment, which has discouraged the pharmacist from developing his advisory skills. The prescription counter has been described as a barrier to patient communication (113) and improvement of the environment of the pharmacy has been advocated.

The profession of pharmacy has an opportunity and obligation to fill the community's unmet need for accurate information on appropriate drug use. There are many opportunities each day for

pharmacists to provide patients with appropriate information regarding use and storage of drug products.

There is no doubt that the dissemination of accurate drug and health care information is an essential element of contemporary and future pharmacy practice.

CHAPTER 5

CONCLUSIONS

The technique of data collection by questionnaire survey is a flexible, economic and reasonably successful method, especially for the type of experimentation outlined in this work. The satisfactory response rates varied from 48.5 to 72.0 percent. Postal response is more objective and appropriate for the data required in this work than the alternative feasible methods of data collection. Although interviewing techniques are more interactive than the methods used, it would not have been possible to collect and collate so much extensive data. The SPSS system is a powerful and acceptable tool for analysing the type of data produced by such experimentation.

The research has provided an up to date account of use and evaluation of sources of drug information by pharmacists in general practice. The quantified data from pharmacies could be of value in future comparative studies of any changes in pharmacy practice.

Sources to which ready reference can be made have proved to be the most useful and important. Deficiencies most frequently highlighted included information and standards on appliances and on guidance for counterprescribing.

Attendance at professional meetings and courses, especially continuing education courses, involves a minority of pharmacists. Methods for enhancing attendance at courses are discussed in association with the philosophy of the need for professional

practitioners to keep up to date. The desirable stimulus, which the formation of a College of Pharmacy Practice could generate, is endorsed.

The importance of the changes in manpower needs in the profession of pharmacy is highlighted particularly in relation to the increasing number of women pharmacists and those pharmacists working in a part time capacity. The extent of professional activity of women pharmacists is quantified and the current methods of keeping up to date assessed. The most effective means for enabling these special groups to restore, maintain and enhance professional competence and confidence, for the overall benefit of the community, are discussed.

Measurements of professional competence can only be made when parameters for investigation have been clearly identified. Relating the needs of practising professionals to a level of desirable professional competence, which in turn will result in the safe and efficacious use of drugs by the public is a challenge for the profession of pharmacy.

For Office Use only

Code Clmn

APPENDIX 1

QUESTIONNAIRE ON DRUG INFORMATION SOURCES

IN GENERAL PRACTICE PHARMACY

Please indicate:-

1. Year of registration ---------- 1 2 3 4 5 6

2. School of Pharmacy at which you qualified ---------- 1 2 3 7

and qualifications obtained ---------- 1 2 3 8

3. Please indicate whether you are a

please tick

Proprietor pharmacist ☐ 1 2 3 9

Manager ☐

Assistant pharmacist ☐

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Please indicate the *value* you place on each one of the following as a source of drug information:

Please ring the appropriate number

LIST NO. 1	VERY GOOD	GOOD	AVERAGE	POOR	VERY POOR	NOT KNOWN	
Standard reference sources:							
A. Martindale	5	4	3	2	1	0	10
B. MIMS	5	4	3	2	1	0	11
C. ABPI Data Sheet Compendium	5	4	3	2	1	0	12
D. B.N.F.	5	4	3	2	1	0	13
E. Drug Tariff	5	4	3	2	1	0	14
Please indicate any other(s) you use							

Journals							
F. Pharmaceutical Journal articles	5	4	3	2	1	0	15
adverts (drug)	5	4	3	2	1	0	16
editorials	5	4	3	2	1	0	17
letters	5	4	3	2	1	0	18
G. Chemist & Druggist articles	5	4	3	2	1	0	19
adverts (drug)	5	4	3	2	1	0	20
editorials	5	4	3	2	1	0	21
letters	5	4	3	2	1	0	22
Please indicate any other(s) you read							

Direct Mail (unsolicited through the post)							
from: Drug firms	5	4	3	2	1	0	23
Official sources							
P.S.G.B.	5	4	3	2	1	0	24
D.H.S.S.	5	4	3	2	1	0	25
P.S.N.C. (Newsletter)	5	4	3	2	1	0	26
N.P.A. (pink supplement)	5	4	3	2	1	0	27
Company Newsletter	5	4	3	2	1	0	28

	VERY GOOD	GOOD	AVERAGE	POOR	VERY POOR	NOT KNOWN	Cde Clmn
J. Medicinal product package inserts	5	4	3	2	1	0	29
K. Medical representatives' visits	5	4	3	2	1	0	30
L. Attendance at continuing education (refresher) courses	5	4	3	2	1	0	31
M. Attendance at meetings organised by:							
P.S.G.B.	5	4	3	2	1	0	32
NPA or group equivalent	5	4	3	2	1	0	33
Drug firms	5	4	3	2	1	0	34
Others - please specify							

N. Contact with information units at:							
Hospitals	5	4	3	2	1	0	35
P.S.G.B. (Library, Law Dept.)	5	4	3	2	1	0	36
Drug Firms	5	4	3	2	1	0	37
N.P.A.	5	4	3	2	1	0	38
Others - please specify							

O. Contact with other pharmacists:							
Colleague in same pharmacy	5	4	3	2	1	0	41
Neighbouring pharmacists	5	4	3	2	1	0	40
Head office if part of a group	5	4	3	2	1	0	41
P.S.G.B. Inspector	5	4	3	2	1	0	42
Others - please specify							

R. Contact with a School of Pharmacy	5	4	3	2	1	0	43

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	Cde.	Clmn.

5. Please indicate from which *source(s)* you are most likely to learn about NEW DRUG PRODUCTS: (refer to question 4 list No. 1, if helpful)

---------- 44 45

6. Below you will find a list of possible information queries. Please state the *source* you most frequently consult to deal with each of these.

(a) THERAPEUTIC ACTION of a drug ---------- 46 47 48

(b) ACTIVE INGREDIENTS ---------- 49 50 51

(c) CONTRAINDICATIONS ---------- 52 53 54

(d) DOSAGE ---------- 55 56 57

(e) DRUG INTERACTIONS ---------- 58 59 60

(f) EXTEMPERANEOUS PROCEDURES (dilutions etc) ---------- 61 62 63

(g) LEGAL CONTROLS ---------- 64 65 66

(h) SIDE EFFECTS ---------- 67 68 69

(i) STORAGE (including chemical and physical stability) ---------- 70 71 72

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Questions 7 to 13 deal with the *ethical pharmaceutical representatives' visits* and any links the pharmacist might have with the pharmaceutical industry.

7. Do you see representatives? please tick

YES [ ] 1 73

NO [ ] 2

8. If your answer to 7 is YES, what is the average length of call? 74

5 mins or less	6 - 10 mins	11 - 20 mins	21 mins or over	NOT KNOWN
[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5

9. If your answer to 7 is NO, please indicate your reason: 75

1
2
3
4
5
6

---

10. What do you see as the main function of representatives' visits? Please indicate this by giving the following statements a rank order of importance
(1 = most important to 6 = least important).

(a) Stocktaking, ordering sales promotion [ ] 76

(b) Introduction of new products [ ] 77

(c) Reminding you of existing products [ ] 78

(d) Provision of up-to-date drug information [ ] 79

(e) To act as a two-way channel of communication with the parent company [ ] 80

(f) Replacement of damaged and out-of-date stock [ ] 81

		Cde.	Clmn.
	Please tick		
11.	Have you ever had direct contact with drug firms' medical information departments?		
	YES NO		
	If your answer to 11 is NO, is this because		
	(a) No queries	1 2 3	83
	(b) Unaware of service		
	(c) Telephoning is too costly and time consuming	1 2 3	84
	(d) Any other reason		
	If your answer to 11 is YES, about how frequently?	A 1 2 3 4	85
	---------- times per year	B	
	Please indicate *type* of query forwarded:	1 2 3 4 5	86

12.	You can request to be placed on a mailing list for manufacturers' medical information normally circulated to physicians.	1 2 3	87
	Please indicate if you:		
	HAVE REQUESTED [ ] HAVE NOT REQUESTED [ ] UNAWARE [ ]		
	If your answer is HAVE NOT REQUESTED/UNAWARE, would you be interested in such a service?	1 2	88
	YES [ ] NO [ ]		
	If your answer is YES, do you still receive information on the mailing list?	1 2	89
	YES [ ] NO [ ]		

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13. Are you invited to meetings about new drugs arranged by drug firms?

YES ☐ NO ☐ | 1 / 2 | 90

If yes, are they

USEFUL ☐ OF INTEREST ONLY ☐ SOCIALLY PLEASANT ☐ | 1 / 2 | 91

Questions 14 to 17 deal with *continuing education (refresher) courses*, which are organised for general practice pharmacists on a Regional basis. | 1 | 92

14. Do you receive details of the courses organised in your region?

YES ☐ NO ☐ | 1 / 2 | 93

15. Have you attended any courses?

YES ☐ NO ☐ | 1 / 2 | 94

If YES how many in the past 5 years ---------- | 1 / 2 / 3 / 4 / 5 | 95

If NO, would a greater financial incentive encourage you to attend?

YES ☐ NO ☐ | 1 / 2 | 96

16. Please indicate the value you place on attendance at these courses by circling the appropriate number for <u>each</u> statement

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE	
(a) They provide an opportunity to keep up to date	5	4	3	2	1	97
(b) Good idea but I am too busy	5	4	3	2	1	98
(c) Opportunity to learn new pharmaceutical concepts	5	4	3	2	1	99
(d) Courses appear too academic and not sufficiently orientated towards general practice	5	4	3	2	1	100
(e) I would attend but the courses are insufficiently advertised	5	4	3	2	1	101
(f) The courses are of general interest only	5	4	3	2	1	102
(g) I think attendance on these courses should become a mandatory requirement for continued registration	5	4	3	2	1	103

		For Office Use Only Cde.	Clmn.
17.	Please indicate whether you would be interested in organised postal continuing education (refresher) courses e.g. cassette/notes presentations, programmed learning texts etc.		
	YES ☐ NO ☐	1 2	104
	please tick		
18.	Do you know of your local HOSPITAL-drug information unit? YES ☐ NO ☐	1 2	105
	If YES, have you used the unit? YES ☐ NO ☐	1 2	106
	If YES, please indicate:	1 2 3 4	107
	Frequency of contact ----------		
	Type of query forwarded ----------		108
	----------		109
19.	Would you welcome more information about these units? YES ☐ NO ☐	1 2	110
20.	Have you ever contacted the PHARMACEUTICAL SOCIETY'S Information Dept.? YES ☐ NO ☐	1 2	111
	If YES, please indicate *frequency* of contact ---------- times per year	1 2	112
	Type of query forwarded ----------	1 2	113

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This page contains a brief section on *possible future developments:*

Please indicate your opinion of the following statements by ticking the appropriate box:

21. I would welcome a current, comprehensive, monthly list of proprietary medicinal products, with a cross-reference to gereric names.

STRONGLY AGREE	AGREE	INDIFFERENT	DISAGREE	STRONGLY DISAGREE	1 2 3 4 5	114

22. I would welcome a pull-out form of the Pharmaceutical Journal's "DRUGS IN USE" Section (on newly introduced drugs).

STRONGLY AGREE	AGREE	INDIFFERENT	DISAGREE	STRONGLY DISAGREE	1 2 3 4 5	115

23. Pharmacists should receive 'PRESCRIBERS JOURNAL' (a bimonthly publication sponsored by D.H.S.S.) free of charge.

STRONGLY AGREE	AGREE	INDIFFERENT	DISAGREE	STRONGLY DISAGREE	1 2 3 4 5	116

24. Pharmacists should receive 'DRUG AND THERAPEUTICS BULLETIN' (Consumer Protection) free of charge.

STRONGLY AGREE	AGREE	INDIFFERENT	DISAGREE	STRONGLY DISAGREE	1 2 3 4 5	117

25. What is the maximum you would be prepared to subscribe annually for a reliable regular supply of independent drug information?

£25	£15	£10	£5	NOT PREPARED TO PAY	1 2 3 4 5	118

26. Please tick those categories of information which you feel need specific attention and development to help you in general practice.

	please tick	For Office Use Only Cde.	Clmn.
1. Drug interactions	☐	1 2	119
2. Advice on encouraging 'patient compliance'	☐	1 2	120
3. Paediatric prescribing	☐	1 2	121
4. Geriatric prescribing	☐	1 2	122
5. Ostom y/appliances	☐	1 2	123
6. Agriculture/veterinary information	☐	1 2	124
7. Accident and poisoning advice	☐	1 2	125
8. Specific diseases information (e.g. diabetes, epilepsy)	☐	1 2	126
9. New products information	☐	1 2	127

Others - please specify ----------

128
129

---------- 130

Any comments on drug information requirements would be greatly appreciated

Finally, would you kindly indicate which *reference sources* you have in your pharmacy (Publisher's name and price are for your own information).

		Tick box	For Office Use Only Cde.	Clmn.
1.	A.B.P.I. Data Sheet Compendium 1977		1 2	131
2.	B.N.F. British National Formulary 1976/78		1 2	132
3.	B.P.C. British Pharmaceutical Codex 1973		1 2	133
4.	Chemist and Druggist P rice List (with Chemist and Druggist).		1 2	134
5.	Chemist and Druggist Directory 1977 £12. 00.		1 2	135
6.	Drug Tariff 1977		1 2	136
7.	Martindale - The Extra Pharmacopoeia 26th Edition (Pharmaceutical Press) (27th Edition June 1977 £25. 00).		1 2	137
8.	MIMS (Haymarket Publishing Ltd.) £12. 00 p.a.		1 2	138
9.	Pharmaceutical Handbook (Pharmaceutical Press) 18th Edition £4. 00.		1 2	139
10.	Restricted Medicines and Poisons (Pharmaceutical Press) £1. 50.		1 2	140
11.	Retail Chemist (IPC Consumer Industries Press)		1 2	141
12.	NPA Compendium of past formulae, 1933 - 66 (NPA)		1 2	142
13.	A drug interactions book.		1 2	143

Any other reference sources, please specify:-

For any further information, please telephone the University of Aston, 01.359.3611. Ext. 426.

Thanking you again for your co-operation.

Yours sincerely

Barbara Fourcade

Mrs B J Fourcade, B. PHARM., M.P.S.
Lecturer - Pharmacy Department.

APPENDIX 2

Pharm/BJF/IAT

APPENDIX 2

THE UNIVERSITY OF ASTON IN BIRMINGHAM

Gosta Green, Birmingham B4 7ET/Tel: 021.359 3611 Ex

Department of Pharmacy

Professor of Pharmaceutical Microbiology: M R W Brown, MSc, PhD, FPS
Professor of Pharmacology: C B Ferry, BPharm, BSc, PhD, MPS
*Professor of Medicinal Chemistry: D G Wibberley, PhD, DSc, C.Chem, FRIC
(*Head of Department this Session)

July 1977

Dear Pharmacist,

THE DEVELOPING INFORMATION NEEDS OF THE GENERAL PRACTICE PHARMACIST

Ever more attention is being given to the evolving role of the pharmacist and it is apparent that increasing demands are being made on him concerning patients and customer advice - even though for the present this does not seem to be adequately remunerated !

However, looking to the future, those of us who have worked in retail pharmacy practice are sure that pharmacists must be adequately equipped to cope with this changing role, as confirmed and supported by the Society's Council in their evidence to the Royal Commission on the N H S.

In 1974 the Society's Working Party on Drug Information Services endorsed the setting up of information units in the hospital service, which has happened in most regions. These back-up units are, of course, no substitute for a pharmacist's own knowledge and immediate resources.

I am a former proprietor pharmacist, at present a member of staff of the Department of Pharmacy and am investigating Drug Information Sources available to you in general practice pharmacy and would be most grateful if you would complete the questionnaire which is enclosed. This should take not more than 15 minutes to complete and I would be most grateful if you would return it in the stamped, addressed envelope provided, by 3 SEP 1977 The analysis of the information so provided will indicate those sources currently available, their readiness of access and the areas of need.

You will notice that names and addresses are not requested on the questionnaire and I would like to stress that all individual results contributing to this research will thus be completely anonymous.

Thank you for your co-operation,and please telephone me if you require further information.

Yours sincerely,

Barbara Fourcade

(Mrs) Barbara Fourcade B.Pharm.MPS
Lecturer in Pharmacy

Telex 336997

APPENDIX 3

QUERIES RECEIVED FROM GENERAL PRACTICE PHARMACISTS, 1977

Name of D.I. pharmacist _____

Hospital _____

MONTH	No. of queries from G.P. pharmacists	Total no. of queries	AN ADDITION IF POSSIBLE: Category of query	Time taken to reply
JANUARY				
FEBRUARY				
MARCH				
APRIL				
MAY				
JUNE				
JULY				
AUGUST				
SEPTEMBER				
OCTOBER				
NOVEMBER				
DECEMBER				

To be returned, on completion to: B. FOURCADE
DEPARTMENT OF PHARMACY
UNIVERSITY OF ASTON
BIRMINGHAM

APPENDIX 5

QUESTIONNAIRE SURVEY OF MARRIED WOMEN PHARMACISTS IN THE WEST MIDLANDS REGION

	For Office Use Only Code	Clmn
Please indicate;-	1 2 3 4 5	6
1. Year of registration ----------	1 2 3	7
2. Qualification obtained ----------		
3. Are you working as a pharmacist at present? Please tick		
YES ☐	1 2	8
NO ☐		
4. If YES, please indicate if ;-		
FULL TIME ☐ PART TIME ☐	1 2	9
and		
HOSPITAL ☐ GENERAL PRACTICE ☐	1 2 3 4	10
Any other, please indicate ----------		
----------		
5. If your work is PART TIME, is it		
a) on a regular basis ☐	1	11
b) irregular but frequent ☐	2	
c) occasional ☐	3	
d) very infrequent ☐	4	

For Office Use Only

Code Clmn

6. If you are NOT WORKING at present do you consider yourself:-

	Please tick		
a) permanently "retired"	☐	1	12
b) temporarily "retired"	☐	2	
c) don't know	☐	3	

7. If you are NOT WORKING at present or work PART TIME, is this primarily because of family commitments?

YES	☐	NO	☐	1 2	13

8. Do you attempt to keep "up-to-date" with pharmacy practice?

YES	☐	NO	☐	1 2	14

If YES, please indicate how:-

a) reading Pharmaceutical Journal	☐		15
b) attending P.S.G.B. branch meetings	☐		16
c) attending continuing education (refresher) courses	☐		17
d) any others, please indicate ----------		1 2	18
----------		3	

9. Please state from which SOURCE(S) you are most likely to learn about:-

a) <u>new</u> drug products ----------		1 2	19
----------		3	
b) changes in pharmacy law and practice ----------		1 2	20
----------		3	

Office Use Only

Code Clmn

10. Have you attended continuing education refresher courses, which are organised for pharmacists on a Regional basis?

YES ☐ NO ☐ 1 2 21

If YES how many in the past 5 years ---------- 1 2 3 4 5 6 22

If NO, would a greater financial incentive encourage you to attend?

YES ☐ NO ☐ 1 2 23

11. Please indicate the value you place on attendance at these courses by circling the appropriate number for <u>each</u> statement

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE	
(a) They provide an opportunity to keep up to date	5	4	3	2	1	24
(b) Good idea but I am too busy	5	4	3	2	1	25
(c) Opportunity to learn new pharmaceutical concepts	5	4	3	2	1	26
(d) Courses appear too academic	5	4	3	2	1	27
(e) I would attend but the courses are insufficiently advertised	5	4	3	2	1	28
(f) The courses are of general interest only	5	4	3	2	1	29
(g) I think attendance on these courses should become a mandatory requirement for continued registration	5	4	3	2	1	30

12. Please indicate whether you would be interested in organised <u>postal</u> continuing education (refresher) courses e.g. cassette/notes presentations, programmed learning texts etc.

YES ☐ NO ☐ 1 2 31

For Office Use Only

Code Clmn

13. Do you feel that you require courses in specific subject areas not covered by courses currently offered?

YES	NO	DONT KNOW		
☐	☐	☐	1 2 3	32

If YES, please state subject areas:-

---

1 2 3	33

14. Considering the TIMING of continuing education courses, which type of course would you find most convenient to attend?

	Please tick		
a) Weekday MORNING session	☐	1	34
b) Weekday AFTERNOON session	☐	2	
c) Whole weekday session	☐	3	
d) Series of weekly EVENING lectures	☐	4	
e) SATURDAY session	☐	5	
f) SUNDAY session	☐	6	

15. Do you have any children?

YES	NO		
☐	☐	1 2	35

If YES, would the use of University nursery/crêche facilities help or encourage you to attend courses?

YES	NO		
☐	☐	1 2	36

For Office Use Only

Code Clmn

16. If you have recently undertaken locum work after a period of 'retirement', what particular problems or changes have you experienced? 37

17. After a period of absence from practice, do you feel you should undertake some 'acclimatisation' before taking up a post of SOLE responsibility?

YES ☐ NO ☐ DON'T KNOW ☐ 1 2 3 38

18. If you dispense for the general public, do you explain labels verbally to patients?

YES - ROUTINELY ☐ SOMETIMES ☐ SELDOM ☐ 1 2 3 39

19. Do you feel the need for additional leaflets (e.g. to be given to the patient with eyedrops, suppositories etc.)?

YES ☐ NO ☐ DON'T KNOW ☐ 1 2 3 40

APPENDIX 6

PHARM/BJF/KPB.

THE UNIVERSITY OF ASTON IN BIRMINGHAM

Gosta Green, Birmingham B4 7ET/Tel: 021.359 3611 Ex 426

Department of Pharmacy

Professor of Pharmaceutical Microbiology: M R W Brown, MSc, PhD, FPS
Professor of Pharmacology: C B Ferry, B.Pharm, BSc, PhD, MPS
*Professor of Medicinal Chemistry: D G Wibberley, PhD, DSc, C.Chem, FRIC
(*Head of Department this Session)

August 1977

Dear Colleague,

QUESTIONNAIRE SURVEY OF MARRIED WOMEN PHARMACISTS IN THE WEST MIDLANDS REGION

I am taking this opportunity to enclose with your copy of the West Midlands refresher courses booklet a brief questionnaire intended for all married women pharmacists in the Region.

I am aware of difficulties experienced by married women pharmacists, particularly when they have spent periods of 'semi-retirement' away from pharmacy, for various reasons, before returning to professional practice.

I am a pharmacist, at present a member of staff at the Department of Pharmacy and I am investigating Drug Information Sources available to pharmacists. I am particularly interested in any specific drug information requirements you may have, as a group.

I should be most grateful if you would complete the questionnaire, which is enclosed. This should take not more than 5 minutes and a stamped addressed envelope is enclosed, also, for its return. I should be grateful to receive your reply by and the analysis of the information so provided should indicate the most efficient means of providing information in these areas of special need.

You will notice that names and addresses are not requested on the questionnaire and I would like to stress that all individual results contributing to this research will be completely anonymous.

Thank you for your co-operation and please telephone me if you require further information.

Yours sincerely,

(Mrs) Barbara Fourcade B.Pharm. M.P.S.
Lecturer in Pharmacy.

Telex 336997

APPENDIX 7

GENERAL PRACTICE PHARMACY/MEDICAL REPRESENTATION QUESTIONNAIRE

FOR OFFICE USE ONLY

Code Clmn

"general practice (G.P.) pharmacy/pharmacist = retail chemist"

SECTION A

Q1 - 10 to be answered by Company Management

SECTION B

Q11 - 22 to be answered by individual representatives

SECTION A

Please tick one appropriate box for each answer.

1. Is it a policy of your Company to visit general practice pharmacy outlets routinely? 1 6

2

YES ☐ NO ☐

2. If YES:

Are the visits made

(a) Regularly each working cycle? ☐ 1 7

2

(b) At the representatives' convenience, when in the vicinity? ☐ 3

(c) A fixed number of times per year? ☐ 4

5

(d) Completely at random? ☐ 6

(e) Any other - please specify 7

8

3. If your answer to Q1 is NO, have you a positive reason for not calling on these outlets?

e.g. (a) No effect on increasing Company sales ☐ 1 8

(b) Too time-consuming for size of representative force ☐ 2

(c) General practice pharmacists considered too unimportant ☐ 3

4

(d) No direct accounts ☐ 5

(e) Any other - please specify ---------- 6

7

---------- 8

FOR OFFICE USE ONLY

	Code	Clmn

4. If your policy is to call on GP pharmacy outlets, does this include MULTIPLES e.g. Boots, Westons, Co-op? | 1 2 | 9

YES ☐ NO ☐

If NO, would this be influenced by the fact that such calls would generally be to provide information and not to gain orders? | 1 2 | 10

YES ☐ NO ☐

5. If your policy is to call on GP pharmacy outlets, do you believe your field force achieves a REGULAR coverage of most of them? | 1 2 | 11

YES ☐ NO ☐

If YES, could you qualify this statement by indicating what percentage of pharmacies are called on in a year? | 1 2 3 4 | 12

Less than 25% ☐ 25 - 50% ☐ 50 - 75% ☐ More than 75% ☐

6. Does your Company 'product information department' receive queries from general practice pharmacists? | 1 2 | 13

YES ☐ NO ☐

If YES, would you indicate

(a) the proportion of queries that are of a commercial nature (availability, prices, discounts etc.) .....% | | 14
and the proportion of technical queries .....% | | 15

(b) Total number of queries received from this source per year ..... | 1 2 3 | 16

(c) Types of technical queries received ..... | 1 2 3 4 5 | 17
.....
.....

(d) Approximately what proportion of G.P. pharmacist queries, if any, was referred through representatives? | 1 2 3 4 5 | 18

0-10% ☐ 10-25% ☐ 25-50% ☐ 50-75% ☐ 75-100% ☐

FOR OFFICE USE ONLY

	Code	Clmn

7. Does your company supply G.P. pharmacists with product information other than data sheets?

YES ☐ NO ☐ | 1 2 | 19

If YES, could you describe briefly:

(a) the general form this takes | | 20

---

and

(b) how frequently such information is supplied (times per month / year etc.) | 1 2 3 4 5 | 21

---

8. Does your Company remind GP pharmacists that they can request to be placed on the mailing list for medical product information through ABPI? | 1 2 | 22

YES ☐ NO ☐

9. If YES, is this done through | 1 | 23

(a) Representatives? | 2 |

YES ☐ NO ☐

(b) any other means? | 1 | 24

YES - please specify ---------- | 2 3 |

---

10. Does your Company arrange sponsored meetings specifically for GP pharmacists? | 1 2 3 | 25

YES (REGULARLY) ☐ NO ☐ OCCASIONALLY ☐

Thank you for your participation

Yours sincerely

Mrs B J Fourcade, B.Pharm., M.P.S.
Lecturer in Pharmacy
University of Aston in Birmingham

APPENDIX 8

June 1978

THE UNIVERSITY OF ASTON IN BIRMINGHAM

Gosta Green, Birmingham B4 7ET/Tel: 021.359 3611 Ex

Department of Pharmacy

Professor of Pharmaceutical Microbiology: M R W Brown, MSc, PhD, FPS
Professor of Pharmacology: C B Ferry, BPharm, BSc, PhD, MPS
*Professor of Medicinal Chemistry: D G Wibberley, PhD, DSc, C.Chem. FRIC
(*Head of Department this Session)

Dear

In June 1976, I sent a letter and brief questionnaire to you, as part of my research work into drug information in General Practice (retail) Pharmacy and the role of the pharmaceutical representative in this context.

You were kind enough to indicate that your company might be willing for some members of your representative force to participate in a further survey, planned by myself (7th and final question of the original questionnaire).

I have spent some considerable time liaising with Mr John Wheeler, Executive Officer of the ABPI, and members of the Professional Representation Sub-Committee, whom I met personally last year. The Committee has studied my proposed questionnaire and several of the members expressed their willingness to take part. Indeed, their pertinent and helpful suggestions and comments have now been incorporated.

I explained to the Committee that last year, I carried out a detailed postal survey of general practice (retail) pharmacists in the West Midlands, on the subject of Drug Information Sources. The questionnaire included some questions about representatives. In order to obtain a balanced viewpoint I should like the Representatives' Questionnaire to be completed by a sample of representatives from some 20 member companies of the ABPI. All replies obtained will be anonymous and the information obtained will be treated confidentially.

Should your company be willing to participate, the enclosed questionnaire subtitled SECTION A is intended for completion by Management. This should be answered and returned independently of the individual representatives' replies. Also enclosed are 15 copies of the questionnaire subtitled SECTION B, along with accompanying covering letters and stamped addressed envelopes. I would be most grateful if these could be distributed to a sample of up to 15 of your representatives, with if possible some geographical scatter and range of 'years-of-service'.

May I think you in anticipation for your co-operation. Should you have any queries or require further information, please do not hesitate to contact me.

Yours sincerely

Mrs B J Fourcade, B.Pharm., M.P.S.
Lecturer in Pharmaceutics

PHARM/BJF/PP

Telex 336997

APPENDIX 9

June 1978

THE UNIVERSITY OF ASTON IN BIRMINGHAM

Gosta Green, Birmingham B4 7ET/Tel: 021.359 3611 Ex

Department of Pharmacy

Professor of Pharmaceutical Microbiology: M R W Brown, MSc, PhD, FPS
Professor of Pharmacology: C B Ferry, BPharm, BSc, PhD, MPS
*Professor of Medicinal Chemistry: D G Wibberley, PhD, DSc, C.Chem, FRIC
(*Head of Department this Session)

Dear

General Practice Pharmacy/Medical Representation Questionnaire

I was pleased to hear from Mr Wheeler of ABPI that you and several other members of the Professional Representation Sub-Committee have kindly agreed to participate in my questionnaire survey.

I enclose a copy of the questionnaire subsection A for completion by yourself with up to 15 copies of the questionnaire subsection B for the representatives. Each has its own covering letter and stamped-addressed envelope. After distribution of these by yourself and completion by the representatives, they can be returned to me completely anonymously. My previous letter to Mr Wheeler suggested that you might like to select representatives, who are geographically scattered and who have varying 'lengths-of-service.'

May I thank you in anticipation for your co-operation.

Yours sincerely

Mrs B J Fourcade B.Pharm., M.P.S.
Lecturer in Pharmaceutics

PHARM/BJF/PP

Telex 336997

APPENDIX 10

GENERAL PRACTICE PHARMACY/MEDICAL REPRESENTATION QUESTIONNAIRE

"general practice (G.P.) pharmacy/pharmacist ≡ retail chemist"

FOR OFFICE USE ONLY

Code Clmn

SECTION B

The following questions are intended for individual representatives of those Companies with a policy of calling on general practice (retail) pharmacy outlets.

(Section A questions 1 - 10 have been answered by Management).

Please tick one appropriate box for each answer

11. Approximately what proportion of general practice (retail) pharmacists see you readily when you call? — 1 6

Over 80% ☐ 80 - 51% ☐ 50 - 25% ☐ less than 25% ☐ — 2 3 4 5

12. What is your average length of call? — 1 7

5 mins or less ☐ 6-10 mins ☐ 11-20 mins ☐ 21 mins or over ☐ NOT KNOWN ☐ — 2 3 4 5

13. Does your answer to Q12 include the time when you are waiting to be seen? — 1 8

YES ☐ NO ☐ — 2

14. If your answer to Q13 is NO, what is your average waiting time? — 1 9

5 mins or less ☐ 6-10 mins ☐ 11 -15 mins ☐ More than 15 mins ☐ — 2 3 4

FOR OFFICE USE ONLY

Code Clmn

15. For general practice pharmacists who will not see you what reason(s) are given?

1 10

2

3

4
5

16. What do you see as the main function of your visits to general practice pharmacists? *Please indicate this be giving the following statements a rank order of importance.*

(1 = most important to 7 = least important). ☐

(a) Stocktaking, ordering, sales promotion ☐ 11

(b) Introduction of new products ☐ 12

(c) Reminding pharmacists of existing products ☐ 13

(d) Provision of up-to-date drug information ☐ 14

(e) To act as a two-way channel of communication with the parent company. ☐ 15

(f) Replacement of damaged and out-of-date stock ☐ 16

(g) To advise on products currently being detailed to local doctors. ☐ 17

17. Pharmacists can request to be placed on a mailing list for medical information (product literature) normally circulated to physicians.

Do general practice pharmacists approach you about going on this list? 1 18

2

3

OFTEN ☐ SOMETIMES ☐ SELDOM ☐ NEVER ☐ 4

18. If your answer to the previous question is SELDOM or NEVER do you remind general practice pharmacists that this service is available? 1 19

2

OFTEN ☐ SOMETIMES ☐ SELDOM ☐ NEVER ☐ 3

4

FOR OFFICE USE ONLY

Code | Clmn

19. Regardless of its source (e.g. direct mailing, from yourself) do you think that general practice pharmacists are interested in receiving product literature?

(Please indicate by giving approximate % for number of pharmacists in each category).

20

[ ]%	[ ]%	[ ]%	[ ]%
VERY INTERESTED	INTERESTED	NOT INTERESTED	DON'T KNOW

21

22

23

20. When calling on retail outlets, are pharmacists generally:

(Please indicate by giving approximate % for number of pharmacists in each category).

24

25

26

27

WELCOMING	POLITE	INDIFFERENT	IMPOLITE
[ ]%	[ ]%	[ ]%	[ ]%

21. Has there been a change in attitude towards representatives by pharmacists in the past few years?

1 28

2

3

4

YES [ ] NO [ ] DON'T KNOW [ ] UNDECIDED [ ]

If your answer is YES please indicate briefly in what way.

1 29

2

3

4

5

FOR OFFICE USE ONLY

Code	Clmn
1	30
2	
3	
4	

22. Finally, would you please indicate number of years service as a medical representative.

LESS THAN 5 YEARS ☐ 5 - 10 YEARS ☐ 11 - 15 YEARS ☐ 16 YEARS OR MORE ☐

Thank you for your participation.

Any further comments you may wish to make on the subject of DRUG INFORMATION IN GENERAL PRACTICE PHARMACY would be welcome.

Yours sincerely

Mrs B J Fourcade, B.Pharm., M.P.S.,
Lecturer in Pharmaceutics
Department of Pharmacy
University of Aston in Birmingham

PHARM/BJF/PP

APPENDIX 11

THE UNIVERSITY OF ASTON IN BIRMINGHAM

Gosta Green, Birmingham B4 7ET/Tel: 021.359 3611 Ex 311

Department of Pharmacy

Professor of Pharmaceutical Microbiology: M R W Brown, MSc, PhD, FPS
Professor of Pharmacology: C B Ferry, BPharm, BSc, PhD, MPS
*Professor of Medicinal Chemistry: D G Wibberley, PhD, DSc, C.Chem. FRIC
(*Head of Department this Session)

June, 1978

Dear Representative,

General Practice (retail) Pharmacy/Medical Representation Questionnaire.

Your company has kindly agreed to assist me in a research project I have undertaken, which involves the investigation of drug information in General Practice (retail) Pharmacy.

I am a former proprietor pharmacist and at present, I am a lecturer at the Department of Pharmacy, University of Aston. I have carried out a major survey of General Practice (retail) Pharmacists by postal questionnaire, the latter including some questions about medical representatives. In order to obtain a balanced viewpoint, I have designed the enclosed questionnaire, to be completed by a sufficient sample of representatives working for some 20 member companies of the ABPI.

The questionnaire should take approximately 10 minutes to complete and I enclose a stamped addressed envelope for your convenience. All replies will be anonymous and the information obtained will be completely confidential. You will see that your questionnaire is subtitled 'Section B', 'Section A' has been sent to the Management division of your company, who will reply independently.

May I thank you in anticipation for your co-operation.

Yours sincerely,

Mrs. B. FOURCADE B.Pharm. MPS
Lecturer in Pharmaceutics.

Telex 336997

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