

TABLE 6
 PRESCRIPTIONS WRITTEN BY ANCILLARIES FOR CHILDREN AND FOR ADULTS. PERCENTAGE
 OF THE TOTAL FOR EACH

Therapeutic group	14 Paediatric doctors		12 Non-paediatric doctors	
	For children %	For adults %	For children %	For adults %
1	33·52	38·90	0·00	9·69
2	13·46	36·11	8·97	27·43
3	4·46	8·92	4·17	21·10
4	14·49	32·28	5·29	18·96
5	1·83	9·52	19·05	37·74
6	2·70	21·82	17·44	32·92
7	7·47	17·18	11·89	43·44
8	8·62	31·61	16·67	55·00
9	1·61	17·76	0·69	0·52
10	9·13	52·98	9·22	24·06
11	5·43	14·95	16·81	52·16
12	2·99	15·03	6·73	19·37
13	0·56	6·27		
14	10·78	8·45		
	9·89	24·03	9·31	30·51

There were great individual variations in prescribing and some apparent differences were due to activities of two or three doctors, rather than a general tendency. The two areas were sampled in different months, Lancashire in September 1972 and Cheshire in February 1973, but the only obvious seasonal effect was a preponderance of drugs affecting the respiratory system in September.

Two groups of doctors who had different interests and qualifications in paediatrics did not differ greatly in their prescribing for children. It seems that the exercise of a special interest like paediatrics, within the context of general practice, is not revealed in the proportion of prescriptions written for children, nor in the pattern of a doctor's drug use. Morbidity factors and features of practice organisation possibly inhibit the necessary degree of selection by both doctors and patients.

REFERENCES

Dajda, R. H. & Mapes, R. E. A. (1976). Children and the general practitioner. In *Sociology of the National Health Service*. Ed. Stacey, M. *Sociological Review Monograph*, No. 22.

11. SOURCES OF DRUG INFORMATION USED BY GENERAL PRACTITIONERS

GAIL EATON AND PETER PARISH

Information about drugs and drug treatments comes from several sources. Two of these are clearly definable and are predominantly extra-professional—the pharmaceutical industry and the DHSS. The former tries to persuade the doctor to prescribe proprietary preparations, and the latter, with its role as keeper of the public purse, tries to persuade him to be concerned with the cost of preparations and to prescribe generically.

In attempting to influence the prescribing style of general practitioners much drug information is sent by the pharmaceutical industry. The DHSS attempts to counter-balance this by its supply of information. The problem therefore is not that the general practitioner suffers from lack of information, indeed it could be said that he is saturated in terms of both choice of drug preparations and information about them. The real problem for him is one of selection. For the researcher in this field the difficult task is to attempt to determine the sources which the general practitioner selects and how these add to his stock of knowledge about drug treatments.

Drug information

We all come up against new information in our everyday lives, be it by active searching or by chance. Some is accepted and by a process of classification and abstraction may become knowledge, and some is rejected or merely forgotten. Rejection or acceptance will be based on comparisons made with other information, and information is more likely to be acquired if it is relevant to other experiences and therefore has meaning for the individual. Information which is gathered thus depends as much on the ideas, beliefs, and values of the recipient as on the actual information given. It was thought important to determine the sources of drug information which doctors consider to be helpful to them, in the light of their own ideas, beliefs, and values.

Several studies have considered sources of information about drugs used by general practitioners (Worthen, 1973; Hemminki, 1975; Miller, 1974; Committee of Enquiry into the Pharmaceutical Industry, 1967; Coleman *et al.*, 1966); and Coleman *et al.* and Marshall (1972) have looked closely at the adoption of new drugs, particularly in terms of the general practitioner's social network. These studies have indicated that the process is extremely complex and dynamic in nature, pointing to different sources being used at different stages.

Our concern in this study was to find out from where does the general practitioner gather his information about drug preparations and what sources does he find useful in his everyday clinical practice. In the light of the different types of information available and the different needs of general practitioners, several questions were included in the second questionnaire which gave us some indication of the processes of information gathering.

First the respondents were asked about the various publications they received and then were asked to state which publications they used as sources of therapeutic knowledge. Publications could be considered as 'learned', 'quasi-practical' and of the 'recipe' variety. They could also be categorised on other grounds. Some were journals, others were magazines, newspapers, or books. Some were sent free, some were subscribed to. Some were from the DHSS, others from the profession and pharmaceutical industry. Respondents' use of these various publications is shown in table 1.

The one common characteristic possessed by each of the three most widely used publications was not a common source, but the fact that each was produced specifically for the prescriber. The other publications on the whole appeared to descend in popularity as their content became more removed from the realm of prescribing in particular through medicine in general. Thus the practical publications rather than the discursive ones were more popular.

Sources of drug information

The second question about sources of drug information was of a more practical nature. Respondents were asked to state from a list of sources of information which they would use during a consultation:

(a) To select an appropriate drug treatment and (b) To check on dose and/or strength of a drug.

TABLE 1
PUBLICATIONS USED AS A SOURCE OF THERAPEUTIC KNOWLEDGE

<i>Source</i>	<i>Publications</i>	<i>Percentage of respondents finding each helpful</i>
Industry	<i>Monthly Index of Medical Specialities (MIMS)</i>	84.5
DHSS (circulated)*	<i>British National Formulary (BNF)</i>	72.6
DHSS (circulated)*	<i>Prescribers' Journal</i>	68.4
Profession	<i>British Medical Journal</i>	53.2
Industry	<i>Update</i>	51.6
Profession	<i>Practitioner</i>	32.2
Consumer Association	<i>Drug and Therapeutic Bulletin</i>	23.4
Industry	<i>World Medicine</i>	17.8
Industry	<i>Pulse</i>	13.7
Profession	<i>The Lancet</i>	7.2
Others		15.0
		n=453

*Although circulated by DHSS they are publications independent of DHSS.

**Percentages are not weighted to allow for variations in the distribution of the publications.

TABLE 2
SOURCES OF INFORMATION USED DURING A CONSULTATION

<i>Source</i>	<i>% of respondents using source to select an appropriate drug for treatment</i>	<i>% of respondents using source to check on dose and/or strength</i>
<i>MIMS</i>	77.2	96.2
<i>British National Formulary</i>	68.4	75.4
Partners	51.0	37.8
Others	12.4	14.7
	n=453	n=453

TABLE 3
SOURCES OF INFORMATION USED TO CHECK ON ADVERSE EFFECTS AND CONTRAINDICATIONS

<i>Source</i>	<i>% of respondents using particular source</i>
<i>MIMS</i>	75.7
<i>British National Formulary</i>	29.6
Reference books	25.8
Professional journals	16.6
Drug firm literature and mailings	16.3
Partners	13.4
Hospital staff	7.8
Other sources	5.5
Pharmacists	3.9
Drug firm representatives	2.4
	n=453

Table 2 clearly shows that consensus was high as to which sources were most useful in the consulting room, one in which rapid usable information is quickly required. The *Monthly Index of Medical Specialities (MIMS)* was the most popular, being used by 77 per cent to select an appropriate drug for treatment, and by 96 per cent to check on dose and/or strength.

The relative importance of sources discussed so far was confirmed by the responses to an open ended question. Respondents were asked about the sources of information they would use to check on a drug's adverse effects and contra-indications. No list was given which might prompt particular responses. The most popular sources are shown in table 3.

Once more *MIMS* was rated by a very large proportion (76 per cent) of doctors as a source of information used to check on adverse effects and contra-indications.* The next most popular source was the *British National Formulary* (30 per cent).

The results shown in tables 2 and 3 indicate that under the pressures of everyday clinical practice one source above all was used—*MIMS*. This is supplied free to the prescribing doctor every month; its finances come from the pharmaceutical industry and its information is set out in a 'recipe' style, listing drug preparations available for treating listed disorders.

In addition to written sources of information and contacts with partners, colleagues, medical representatives and others, doctors also attend organised meetings at which they are provided with information about drugs and drug treatments. Table 4 shows the types of meetings, attended by respondents—the most popular being those sponsored by drug companies.

TABLE 4
MEETINGS ATTENDED IN THE PREVIOUS TWELVE MONTHS

Meeting	Number of meeting attended			Total
	None	1-5	over 5	
Drug company meeting	70	205	178	453
Postgraduate centre meetings	106	167	180	453
Clinical meetings in hospital	192	154	107	453
Medical society meetings	128	287	38	453
Other hospital meetings	234	88	31	453
Other	375	32	46	453

Ninety-three per cent of respondents stated that they saw at least one drug company representative each week and 67 per cent felt that they would lose an important source of information if they did not see any representatives. Fifty-one per cent had had one or more visits from a regional medical officer of the DHSS in the preceding year. Seventy-six per cent of these (37 per cent of all visits made) were specifically to discuss prescribing. Fifty-one per cent stated that they found these visits useful.

**MIMS* does not in fact list adverse effects. In recent years entries on contra-indications and special precautions have increased, but these are far from complete. It cannot be regarded as an appropriate source of such information. The 1971 *British National Formulary* has an eight-page section on adverse reactions to drugs, five pages of these devoted to hazards of drugs in pregnancy, lactation, and the newborn. Although this provides useful background information the BNF cannot be regarded as an appropriate source of information on adverse effects and contra-indications. The 1974 *Data Sheet Compendium* is incomplete and some data sheets are inconsistent and supply insufficient data on adverse effects and contra-indications.

Knowing about drugs

A further question asked the doctors to state from a list those sources they found helpful in order to find out:

(a) About the existence of a drug, and (b) the usefulness of a drug.

This list included publications, places and people, and the questions asked were no longer about helpful sources in particular situations, but about the more subtle processes of *knowing of* and *knowing about* drugs and the sorts of sources involved.

The passive awareness of *knowing of* the existence of a drug is not necessarily the same as the more active interest state of *knowing about* its uses and how to use it. In reality these might converge so as to be inseparable or they might diverge and sometimes be reversed. Active interest in a drug with certain properties might, for example, come before the awareness of a particular drug's existence. This awareness might reasonably come through active searching and not just passive acquisition.

Responses to the above questions show that the doctors discriminated between sources which were helpful in learning about the existence of a drug (tables 5 and 6) and those which were helpful in learning about the usefulness of a drug. Drug company representatives appeared to be of most importance in dealing with initial awareness of the existence of a drug, but in the more active stage of finding out about a drug's usefulness the network of influences was complex.

The findings help to confirm those from other studies which suggest that representatives and other drug company sources are used extensively to inform doctors about the existence of a drug preparation, but are relied upon much less by doctors in their establishment of a drug's usefulness. The Sainsbury report contained similar questions to ours. While detailed comparison of answers is not possible it is worth noting that responses to questions asked for the Sainsbury Committee also showed a similar shift from drug company sources being helpful in learning of the existence of a drug to professional sources being of more importance in learning about its usefulness.

Thus the most helpful sources of drug information in the first instance appear to be from outside the profession, those which fundamentally seek to influence the doctor's

TABLE 5
SOURCES HELPFUL FOR FINDING OUT THE EXISTENCE OF A DRUG

Source		% respondents finding each helpful
Industry	Drug company representatives	89.6
Industry	<i>MIMS</i>	84.5
Profession and Others	Articles in medical journals	75.3
DHSS (circulated)	<i>Prescribers' Journal</i>	71.1
Profession	Consultants	68.4
Industry	Local drug firm meetings	64.9
Profession	Postgraduate centres	64.7
DHSS (circulated)	<i>British National Formulary</i>	64.2
Profession	Partners	63.1
Industry	Advertisements in journals	61.6
Profession	Local clinical meetings	58.1
Industry	Drug company mailings	52.8
—	Patients' records	49.0
—	Pharmacists	33.3
Profession	Other local general practitioners	16.3
—	Patients	14.3
—	Ancillary	4.4
—	Others	4.4
		n=453

prescribing. However, the most helpful sources for the establishment of usefulness appear to come from within the profession—from partners, colleagues, and other professional sources.

Discussion

The findings suggest that doctors gather much information about the existence of prescription drugs from extra-professional sources. On the one hand, there are the drug companies which seek to persuade doctors to prescribe brand preparations, and on the other there is the DHSS seeking to persuade doctors to watch costs. However, the findings also suggest that doctors need accept neither source of information. Instead the medical profession itself becomes the final arbiter when it comes to the usefulness of drugs. It is therefore *within* the profession that doctors appear to seek final legitimation to prescribe.

These observations highlight the competing forces which operate to affect a general practitioner's choice. The DHSS attempts to counter the efforts of the drug companies. Against *MIMS* is the *BNF*; against mailings are histograms and *Prescribers' Journal*, against advertising are data sheets; and against drug company representatives are the visits of regional medical officers. In addition, the DHSS has successfully encouraged the profession in postgraduate education. This the profession has accepted by the setting up of postgraduate centres. Many hopes of the DHSS and the profession are invested in these. But we must note that these very assemblies are also of considerable interest to drug companies and it would appear that some of these also recognise that in the end doctors need doctors to legitimate each other's actions. The drug companies recognise their own limited status as final arbiters in prescribing, and so they increasingly enter into the activities of postgraduate centres. Though not wishing to dominate overtly as an influence, some drug companies attempt to redress their limitations by being patrons of such events.

The gaining of information about drugs and drug treatments poses problems for general practitioners as individuals. Usually these are coped with in the way that ordinary mortals cope—by a process of common sense, discrimination, and reference group legitimation. In general it appears to us that the selection of information in general practice is often more a matter of good sense than good science.

TABLE 6
SOURCES HELPFUL FOR FINDING OUT THE USEFULNESS OF A DRUG

<i>Source</i>		<i>% respondents finding each helpful</i>
Profession and others	Articles in medical journals	74·8
DHSS (circulated)	<i>Prescribers' Journal</i>	74·4
Profession	Partners	74·0
Profession	Consultants	68·2
Profession	Postgraduate centres	67·6
Profession	Local clinical meetings	61·2
DHSS (circulated)	<i>British National Formulary</i>	58·7
Industry	Drug firm representatives	50·8
—	Patients' records	44·2
Industry	<i>MIMS</i>	43·7
Industry	Local drug firm meetings	43·7
—	Patients	43·3
Profession	Other local general practitioners	20·9
—	Pharmacists	19·4
Industry	Advertisements in journals	17·4
Industry	Drug company mailings	7·4
—	Ancillary staff	6·0
—	Others	4·4
		n=453

The medical profession has not quite succumbed to accepting drug companies as principal therapeutic advisors. The traditional safeguard of 'group acceptance' is being maintained. To date, the profession is still able to act as an umbrella for individual prescribers allowing each to pursue his own idiosyncrasies.

The fundamental issue which these suggestions raise for the medical profession is how it can continue to retain legitimation of itself by itself. This issue becomes more pertinent if medical auditing and professional standards review organisations are considered.

REFERENCES

- Coleman, J., Katz, E. & Menzel, H. (1966). *Medical Innovation—a Diffusion Study*. Indianapolis: Bobbs-Merrill Company.
- Hemminki, E. (1975). Review of literature on the factors affecting drug prescribing. *Social Science and Medicine*, 9, 111–116.
- Marshall, J. (1972). *Aspects of the Sociology of Prescribing Among General Practitioners*. Ph.D. Thesis. University of Wales.
- Miller, R. R. (1974). Prescribing habits of physicians: a review of studies of prescribing drugs. *Drug Intelligence and Clinical Pharmacy*, 8, No. 2, 81–91.
- Report of the Committee of Enquiry into the Relationship of the Pharmaceutical Industry with the National Health Service, 1965–1967 (1967). (Sainsbury Report). London: HMSO.
- Wilson, C. W. M., Banks, J. A., Maples, R. E. A. & Korte, S. M. T. (1963). Influence of different sources of therapeutic information on prescribing by general practitioners. *British Medical Journal*, 2, 99–604.
- Worthen, D. B. (1973). Prescribing Influences: An overview. *British Journal of Medical Education*, 7, 109–117.

12. GENERAL PRACTITIONERS' VIEWS OF INFORMATION ABOUT DRUGS

GAIL EATON AND PETER PARISH

The relationship of the medical profession to the pharmaceutical industry

The relationship of the pharmaceutical industry to prescribing doctors has always caused concern to the DHSS. This concern has usually centred on the ever increasing costs of the pharmaceutical services. Both the Hinchliffe Committee (1959) and the Sainsbury Committee (1967) acknowledged the influence of the pharmaceutical industry on the prescribing activities of general practitioners.

In a previous paper the findings highlighted the position of the general practitioner between the pharmaceutical industry on the one hand and the DHSS on the other, each competing to influence his prescribing. The findings further suggest the way in which doctors, when uncertain and faced with competing forces, turn to members of their own profession for final legitimation of their actions.

Biased drug information and commercialism.

Further answers to the second questionnaire reveal just how uncertain the situation of prescribing doctors can be. Doctors were asked, "Do you feel that you are able to obtain an unbiased assessment of a newly introduced drug?" If they answered no, they were asked to state why not. If yes, they were asked "What source of information would you consult to obtain such an unbiased assessment?"

Three hundred and eighty-two (84 per cent) of the 453 respondents answered this question. Of these 181 (47 per cent) stated that they were not able to obtain an unbiased assessment. Two hundred and one (53 per cent) said that they could. A majority of the former felt that most drug information was too commercial and therefore biased. Some also considered clinical trials, professional journals, and consultants to be biased in this