Information and prescribing from the hospital doctor's viewpoint

K. R. HUNTER
M.D., M.R.C.P.

Royal Infirmary, Bristol*

Summary

The requirements of a hospital doctor are viewed under the headings of 'active' and 'passive' information. The emphasis is placed on the practical value of information aimed at the prescribers, and the conclusion reached is that the information should be disease- rather than drug-orientated.

MODERN hospital treatment is becoming more and more a team activity; patients' welfare depends largely on the smooth co-ordination of the various members of that team. Therefore a symposium such as this where many disciplines are represented is an appropriate forum in which to discuss how to co-operate to produce optimum benefit for the patients. In order to give the best treatment a prescriber must ask three questions (Binns, 1975) whenever he considers drug therapy for a particular patient: 'What good do I hope to achieve? What harm may I do with this treatment? What harm will result if I do not use it?'

Therefore doctors need to be supplied with appropriate information to answer these questions. How should this information be given? The author thinks that it is convenient to consider this under two headings, namely 'active information' and 'passive information'.

Active information

This is information which is actively disseminated to doctors and others. Examples are publications which accompany the introduction of new products; notices which draw a prescriber's attention to new indications for established drugs; warnings about hitherto unrecognized dangers or side effects of drugs. Plainly this kind of information about drugs should be sent to all doctors who might want to prescribe them themselves, and to all other doctors who might meet patients taking them. This information should be set out in a standard form: a good example of this is the system of sub-headings used in the *Data Sheet Compendium* (1976). Use of uniform layouts like this does not necessarily preclude the use of additional leaflets setting out

more emphatically the particular, claimed advantages of each preparation.

Information presently sent out to doctors by the Pharmaceutical Industry usually tells the doctor what good and what harm he might do by using a drug, but it is unusual for actively disseminated information to say anything about the harm which will result if a particular drug is not used. This is a pity because it is only by balancing the likely results of treating with the likely results of not treating, that the prescriber can make a rational decision. If a patient has presented his doctor with a symptom he usually expects the doctor to prescribe a drug in return. But if this symptom is due to a self-limiting illness then prescription of a drug, with the inevitable risks that any drug treatment carries, may be wrong. For example, withholding an antibiotic from certain patients with cough and purulent sputum does not cause any harm (Leading Article, 1976).

Interestingly, the pharmaceutical industry is actively bombarding doctors with information on the harm caused by not treating one particular disease. This is the largely symptomless condition, hypertension. Doctors are urged to measure blood pressures in apparently fit people and if hypertension is found they are encouraged to use drugs because of the increased risks of complications in untreated subjects. But this example of the pharmaceutical industry encouraging doctors to treat a symptomless condition is exceptional and it emphasizes a fault in the present active information services which often concentrate on the treatment of symptoms rather than treatment of underlying diseases. Examples taken from recent advertisements in the *British Medical Journal* are: '— stops diarrhoea safely and rapidly' and '—; when dizziness dominates'. This type of information emphasising the treatment of symptoms rather than diseases violates one of the most elementary principles of medicine: both diarrhoea and dizziness can be symptoms of many different conditions, each requiring different treatments. Such information is incompatible with the author's view of the prime role of the information service: it should be educational—educating doctors to use drugs well.

* Present appointment: Consultant Physician, Plymouth General Hospital.

Advertisements should not emphasize the alleged simplicity of prescribing, but instead should concentrate on educating doctors about the basic pharmacological principles behind their recommendations. This will encourage more rational prescribing. An example of the use of an advertisement in this way would be instead of simply stating 'use with caution in patients with liver failure' it would say why special care is necessary. Is it because liver disease has impaired drug-metabolizing enzyme activity? Is it because liver disease causes changes in plasma protein concentration resulting in changes in the distribution of drug in the blood? Is it because liver disease has sensitized target organs, such as the central nervous system, to the actions of the drug? In this way it is hoped that doctors will be encouraged to adopt an attitude to prescribing which is based more firmly on pharmacological knowledge. Information which suggests that drug therapy is simple is misleading; instead, emphasis should be on the importance of inter-individual variation in patients' responses to drugs. A prescriber should monitor the clinical effects and adjust the dose to produce optimal results. Drugs which can be used in a simple 'standard dose' are exceptional; usually the clinical response to drug administration varies widely between individuals (Smith and Rawlins, 1973) and selection of the correct dose requires skill.

Passive information

After having received information which has been selected by the sender as the most essential in the way outlined above, doctors will want to seek out for themselves additional information. This is what is meant by passive information: it is the store of the vast accumulation of knowledge about individual drugs. Plainly this store must be readily accessible to the interested doctor faced with a particular clinical problem but, unlike information which is actively sent direct to doctors, information from the passive store is best channelled through, for example, the Regional Information Pharmacist and the Ward Pharmacist. But a pharmacy-based information system should not be exclusive, others such as clinical pharmacologists and specialists in particular diseases may want to hold detailed information about particular groups of drugs. A disadvantage in having information personnel too easily accessible might be that doctors will turn to them before consulting books themselves. Too much spoon-feeding means that only the question asked will be answered, whereas half-an-hour spent browsing in a library means that the inquirer modifies the question and learns much peripheral, but relevant, extra information. In hospital practice there is no reason why doctors should not have easy access to a basic library.

Passive information should be set out in standard form, for example as in *The Pharmacological Basis of Therapeutics* (Goodman and Gilman, 1975).

Sources of passive information should include generic preparations as well as proprietary drugs and should be indexed under therapeutic groups of drugs. The present *Data Sheet Compendium* is prepared by different pharmaceutical companies, often with unnecessary duplication, each manufacturer having his own section. But one does not seek information with a manufacturer's name in mind; one has instead a particular clinical problem or a particular class of drugs in mind. Therefore classification by therapeutic category would be better, each section starting with the therapeutic characteristics of that group in general, followed by the differences shown by individual compounds in the group. The quantity of information in the *Data Sheet Compendium* needs to be improved. The word compendium suggests that it should be comprehensive but at present there are gaps. It contains no index of official names and even some important proprietary preparations are missing; for example, Serpasil, the trade name listed in the current British National Formulary for reserpine, is absent. The quality of information also needs to be improved. Doctors want to know the relevant clinical importance of the information given. If a prescriber sees the almost routine warning that is often given about the use of a drug in early pregnancy he will immediately ask himself: is this simply a formal warning meaning that it is a new drug and there is no information about its teratogenicity in humans—or is it **probably** associated with an increase in fetal abnormalities—or is it **definitely** associated with an increase in abnormalities? Often, such warnings are included with little indication of their relative importance: it is vital that warnings about trivial adverse effects are not given the same emphasis that should be reserved for serious warnings. In this connection, negative information is often equally valuable to positive information. If a drug is confidently thought to be free of certain adverse effects, then that information should be available. With adverse drug interactions it is important to distinguish between clinically important real interactions and pharmacologically interesting theoretical interactions. The drug disc developed by the Glasgow University department of Materia Medica (Whiting, Goldberg and Waldie, 1973) is a good example of useful condensation of the vast number of known interactions into summary form classified according to clinical importance. Again, negative information is important. A new drug should be particularly studied for interactions both with other drugs which are theoretically likely to interact and with other drugs which are likely to be given concurrently

for the same diseases. Another type of drug interaction is the useful interaction. The answer to a therapeutic problem is often a combination of drugs which act well together, but much manufacturer-generated information ignores the place of other drugs in the overall treatment regimen. Many hospital prescribers are newly qualified housemen who welcome fairly detailed guides for treatment regimens, including techniques of combining different drugs.

Just as it is helpful to have the degree of clinical importance of an interaction clearly stated, so the degree of emphasis on various contraindications to drugs should be given with clinical realities in mind: for example, some data sheets list different categories of contraindications; conditions that are 'absolute' contraindications, conditions that should 'normally' be regarded as contraindications and conditions where 'caution should be exercised'. In this way the prescriber can more easily decide how much weight to give to each contraindication and compare with this the various factors favouring the use of the drug. When deciding whether or not to use a drug it is helpful to have information about suitable alternative therapy, but this is often lacking in manufacturer-generated data.

Conclusions

Above all, information aimed at a prescriber must be of practical value, bearing in mind that it is the clinician who takes the ultimate decision on whether or not to give a drug to a particular patient: ideally, this decision should be based on full consideration of all the relevant pharmacokinetics and pharmacodynamics. On the same basis he must also decide how closely to monitor his patient's progress. It is clearly impracticable for every prescriber to go through every argument for himself every time, therefore he must rely on the judgment of others. Most clinicians find it very useful to read well written, authoritative clinical reviews which give definite recommendations about indications and contraindications and practical guides about management, for example, how frequently to

monitor liver function tests when using a potentially hepatotoxic drug.

If this article appears to be excessively critical of the pharmaceutical industry this is not intended to be destructive: the author has emphasized some of the things which he considers to be wrong in the hope that they can be improved so that justification for criticism disappears. He believes that information should be given in an educational form—using the opportunity to teach doctors how to use drugs better, rather than making them believe that therapeutics is easy. It is inevitable that much information about a drug will be combined with marketing strategies for that drug, but professional information must be clearly separate from marketing gimmicks so that it is clearly seen by doctors as based on sound pharmacological and clinical principles. Similar considerations apply to information issued by the Department of Health: many of its publications seem to be excessively orientated towards cost.

It is important always to remember that it is the patient who should be at the centre of all a physician's activities. Clinical problems are orientated towards the patient and his disease: the pharmacology of the drugs used is only of secondary importance. Therefore from the prescriber's point of view it would be helpful if the emphasis in information systems could be shifted away from the traditional drug-orientated approach and towards a more disease-orientated system of classification.

References

- BINNS, T.B. (1975) Sensible prescribing. *The Practitioner*, **214**, 118.
- LEADING ARTICLE (1976) Antibiotics for respiratory illness? *British Medical Journal*, **2**, 550.
- Data Sheet Compendium*, Third edn. (1976) The Association of the British Pharmaceutical Industry, London.
- GOODMAN, L.S. & GILMAN, A. *The Pharmacological Basis of Therapeutics*, Fifth edn. (1975) Macmillan Publishing Co., New York.
- SMITH, S.E. & RAWLINS, M.D. (1973) *Variability in Human Drug Response*, Butterworth & Co., London.
- WHITING, B., GOLDBERG, A. & WALDIE, P. (1973) The drug disc. *Lancet*, **i**, 1037.