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Post-marketing surveillance of new drugs

POST-MARKETING surveillance is a crucial stage in establishing the safety of a new drug. Pre-marketing studies necessarily take place in controlled situations with selected groups of people and, however safe a new drug appears to be in these studies, unseen adverse effects can occur when a drug is released for use in the general population. The tragic teratogenic effects of thalidomide heightened public awareness of the risks associated with new drugs. In spite of these risks, the potential clinical and commercial rewards are high. In recent years new anti-hypertensive agents, H_2 antagonists and drugs for the treatment of parkinsonism, for example, have been of considerable benefit to patients.

Doctors and the public are ambivalent about the pharmaceutical industry. On one hand, research based companies are seen as successful, innovative contributors to the health and economy of the country. On the other hand, some companies are portrayed as rapacious commercial enterprises more concerned with profit than clinical benefits. This latter image tends to predominate when possible adverse effects of new drugs are reported. Not surprisingly, pharmaceutical companies are sensitive to the risks involved in marketing new drugs and there is a danger that anecdotal accounts of adverse effects reported in the press may lead to a new drug being withdrawn before a scientific evaluation has been possible.

This unsatisfactory state of affairs whereby new drugs are judged by the media will only diminish when the general public have confidence in the procedures for monitoring the effects of new drugs. No less than three different systems of post-marketing surveillance are currently employed in the United Kingdom: the Committee on Safety of Medicines (CSM) monitors general practitioners' reports of possible adverse effects of all drugs, the Drug Safety Research Unit in Southampton requests information from general practitioners who have prescribed selected new drugs (prescription event monitoring), and pharmaceutical companies organize studies of their own products. Each of these methods is useful but at present they have weaknesses and can result in a wasteful duplication of effort.

Prescription event monitoring makes use of the central processing of prescriptions by the Prescription Pricing Authority; prescriptions for selected new drugs are extracted, the prescribing general practitioner is identified and a questionnaire about possible adverse effects sent to him or her. The advantage of this system is that it avoids bias in the selection of patients by its retrospective approach. A major weakness is that there is considerable delay between the prescribing of the drug and the request for information about adverse effects. Although major adverse effects will probably be recorded by general practitioners, minor symptoms may not and the responses will to some extent depend on the recall of the doctor. Prescription event monitoring and the reporting of adverse effects to the CSM provide complementary information. The CSM may be alerted by only a few reports of major adverse effects in the whole range of prescribed drugs. Event monitoring has to concentrate on only a few drugs.

At first sight there may appear to be no conflict between prescription event monitoring and studies set up by the pharmaceutical companies but this is not so. The *Journal* this month carries the report of a large post-marketing study of the anti-hypertensive drug enalapril carried out by the manufacturers.[1] The Drug Safety

Research Unit, which has also monitored enalapril, found that in the first year of experience of the drug in general practice 50% of prescriptions for enalapril were written by general practitioners who were involved in the pharmaceutical company's study.[2] The success of the company in recruiting 10% of general practitioners into their study resulted in useful information but the data was based on a selected group of patients. Furthermore, the scale of the study served to distort the population exposed to the drug in the early years of its general availability and this created difficulties for prescription event monitoring. These observations are not a criticism of Merck, Sharp and Dohme; the company took a responsible position in carrying out a large scale study and problems of selection would occur whoever conducted a prospective study. Similar difficulties occurred, for example, with the Medicines Surveillance Organization, set up by the College to conduct independent post-marketing surveillance of new drugs. Critics felt that doctors were persuaded to prescribe the new drugs being studied and the present inactive state of the Organization highlights the major problems involved in creating an effective monitoring system.

The irony of this situation is that the structure of general practice within the National Health Service should enable the UK to produce unrivalled information about the safety of new drugs. A very high percentage of the population are registered with a general practitioner whose prescriptions are collected centrally for pricing. The facility therefore exists for gathering information about symptoms associated with new drugs in a large defined population. Developments in computers may be the key to setting up a system of surveillance of new drugs in the UK which is both rapid and unselective. The use of computers centrally at the Prescription Pricing Authority will allow better feedback of information to doctors about their prescribing habits than the crude cost analyses which are currently provided. Computers will also shorten the time taken to identify prescriptions for new drugs and allow the Drug Safety Research Unit to request additional information from the prescribing doctor much sooner than is possible at present.

However, it is the introduction of computers into general practice which provides the most exciting opportunity for drug surveillance. Predictably, the initiative has been taken by the commercial sector. Companies who are offering free computer systems to practices can only do so because the pharmaceutical industry is willing to pay for the information which the systems will provide and the design of the systems will be influenced by these commercial considerations. If an effective and coherent system of drug monitoring is to be set up, it is essential that independent authorities have access to all available information about the use of new drugs. The Scottish Home and Health Department has taken a lead in developing a computer software system (GPASS) available to general practitioners. The guarantee of continuing support for the software by government has encouraged over 160 practices to invest in computers and there now exists in Scotland the possibility of a computer based information system about the adverse effects of new drugs. An unbiased system such as this — in which the profession and the government retain control — may be the only way to build up public confidence in the safety of new drugs and this Scottish initiative should be developed further and followed by similar schemes in England and Wales.

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References

1. Cooper WD, Sheldon D, Brown D, *et al.* Post-marketing surveillance of enalapril: experience in 11 710 hypertensive patients in general practice. *J R Coll Gen Pract* 1987; **37**: 346-349.
2. Drug Safety Research Unit. 'Innovace' (enalapril). *PEM News* 1987; **4**: 6-13.

Primary health care and community medicine: a new approach

THE National Health Service in the United Kingdom has two major strengths. The first is an extensive and well developed primary care service, which has helped achieve a high standard of health in the population with the lowest expenditure on health care in the Western world. This is not to argue that expenditure does not need to increase, rather it demonstrates the efficiency of the primary care system in ensuring the most effective use of expensive resources. The second strength is the foundation of the NHS on the principles of public health, now in the form of community medicine. Community medicine has been severely damaged by successive re-organizations and is only now re-establishing its unique contribution to the health of the whole population.

Previously there has been no noticeable fusion of these two elements in the study, planning and development of health services. Now that the family practitioner committees have been constituted as independent authorities in England and Wales it is opportune to look at the possibility of greater collaboration between general practice and community medicine.

The most distinctive features of community medicine's approach to health care and health services are the overall view which community physicians take of the health of groups and populations and the skills which they can bring to bear through a detailed knowledge of the operation of the health care delivery system. In addition, experienced community physicians can understand and make use of the complementary skills and knowledge of a great many different professionals within the health care system and a knowledge of health economics can help to suggest solutions for the inequities which exist in the health and access to care of different groups in the population.

In submitting programmes to the Department of Health and Social Security for approval family practitioner committees need to follow the NHS planning cycle. The technical skills of community physicians could be of value to family practitioner committees at the different stages of this cycle: consideration of environmental changes, situation analysis, formulation of objectives, definition and implementation of an operational plan, and evaluation.

Monitoring is an essential accompaniment to the planning process. In departmental performance review community medicine has the most obvious monitoring role to perform. In this type of situation community physicians could deploy their skills in epidemiology, health economics, statistics, systems analysis, computing and information science most effectively.