Good prescribing: lifetime skills

It is increasingly recognised that classical medical education concentrates too much on transferring a growing quantity of facts, rather than teaching the student techniques of problem-solving. When "facts" rather than "skills" are the focus, much is rapidly forgotten once examinations are over. Furthermore, the scientific validity of such "knowledge" dates rapidly estimated by some studies to have a half-life of just five years. The teaching of pharmacology and therapeutics is no exception. In many medical schools it is characterised by instilling knowledge about drugs rather than providing students with lifetime prescribing skills.

Teaching medical students and doctors to prescribe rationally has a strong impact on the quality of future health care. This is true also in situations where doctors are not the only prescribers, as their example has a strong influence on other health workers and on the perceived value of specific treatments within the community. For this reason, the Action Programme on Essential Drugs is committed to the development and support of new approaches to training, and works with partners in many parts of the world to promote innovative training tools and strategies. This issue looks at some of the educational programmes and approaches that will provide students with lifetime prescribing skills and established practitioners with the means to enhance their clinical practice.

Guide to Good Prescribing - a new WHO training manual - is an example of one such approach, teaching skills that are not time-limited. Students learn how to develop a set of first-choice drugs, drawing on a wide range of authoritative drug information. They are then shown how to apply these drugs to specific patient problems. The approach is patient-oriented rather than drug-oriented, with a strong focus on effective and sensitive communication. Students not only learn how to select drugs rationally but how to consult, understand and use existing treatment guidelines intelligently, and where necessary, adapt them to the individual patient.

Further on in their careers they will be subject to many other influences on their prescribing, including scientific publications, commercial information and patient pressure. The manual creates awareness of these influences and helps students to evaluate and make optimal use of the information available.

Audiovisual material is recognised to be a powerful communication tool. India's Jawaharlal Institute of Postgraduate Medical Education - well known for its commitment to rational drug use - is now using video to teach young doctors to evaluate promotional practices and other sources of drug information. The audiovisual training package, recently developed by the Institute, depicts an interaction between a physician and two industry representatives. It provides a good basis for a lively, structured discussion of ethical issues, based on WHO's ethical criteria for drug promotion. The video and accompanying materials highlight the strengths and weaknesses of different types of drug information, and their contribution to good clinical practice.

Access by physicians to continuing education is equally important, but is often difficult for geographical and other reasons. In Australia, Monash University's new distance learning package on rational prescribing enables established doctors to increase their knowledge and skills at a pace and place which they can choose. Originally developed as part of a Masters programme in family medicine, the package can also be used as a stand-alone course. Audiovisual materials, practice surveys, self audit and discussion of community perspectives are some of the tools used to develop critical, analytical and clinical skills. Although developed in a national context, the course has created considerable interest in neighbouring countries and could easily be adapted.

On the other side of the globe, in the Netherlands, a national network of pharmacotherapy counselling groups has taken root in the health care system. Backed by their professional organizations and the Dutch Foundation for Efficient Drug Use, general practitioners and community pharmacists, meet regularly throughout the country to discuss drug therapy and develop local prescribing guidelines. The strength of the groups lie in their capacity to draw on the complementary skills of both the medical and pharmacy professions, and to have a regular and established forum for communication and consensus building.

In research, close collaboration between those who identify the problems for study, those who conduct the research, and those who are the potential users of the findings, is necessary if research is to be relevant and usable. One district health team in a rural area of Indonesia is using such a participatory approach to solve problems of drug misuse at the local level. Its report shows how quantitative and qualitative tools, developed for a research project, are now being used by health workers themselves for self-monitoring. This approach is now being introduced into other districts.

A common thread running through all these initiatives is a focus on communication and problem-solving skills within an interdisciplinary framework, rather than just role knowledge. This issue describes only a few of the educational activities that are part of a welcome trend to move onwards from an outdated and narrow biomedical approach to clinical practice, towards the development of broader based skills built on an understanding of the many - not always scientific - influences on prescribing practice. The acquisition of such skills is essential to achieve appropriate and evidence-based therapeutic practice set firmly within a multidisciplinary and a community context.
RATIONAL USE

The NAPRALERT database: linking traditional and modern medicine

Norman R. Farnsworth, Christopher W.W. Beecher, Harry H.S. Fong

The WHO Collaborating Centre for Traditional Medicine at the College of Pharmacy, University of Illinois at Chicago is the subject of the fifth article in our series on organizations concerned with the rational use of drugs. The Centre's unique database of scientifically validated information on medicinal plants offers an interface between their use in traditional and allopathic (Western) systems of medicine and facilitates scientific exploration and evaluation of traditionally used remedies.

Who estimates that up to 80% of people in developing countries rely at some time on indigenous traditional medicine to meet their health care needs, and it can be assumed that a major part of traditional therapy involves the use of plant extracts. Of the conservatively estimated 250,000 species of higher (flowering) plants that exist on earth, perhaps at least 20% have been employed in traditional medicine. The effectiveness of these medicinal plants is due to the presence of one or more biologically active chemical constituents, although it can be assumed that the placebo effect sometimes contributes to the success of such therapy.

The therapeutic value of some 200-300 of the world's higher plants has been sufficiently demonstrated scientifically to warrant their inclusion in allopathic (Western) medicine. Virtually all such plants have been "discovered" through information derived from their use in traditional medicine. Future systematic studies of plants with validated traditional uses will hopefully produce additional drugs.

The scientific validation of medicinal plants for inclusion in primary health-care systems is a very worthwhile, but monumental task. As a starting point it is logical to draw on the vast published literature on the pharmacological evaluations of plant extracts. A combination of information indicating that a specific plant has been used in an indigenous health-care system for centuries, together with efficacy and toxicity data published by several groups of scientists, provides a promising corollary to justify further investigation.

NAPRALERT, a computerized database housed in the WHO Collaborating Centre for Traditional Medicine, College of Pharmacy, University of Illinois at Chicago, is increasingly used for such studies. NAPRALERT, an acronym for Natural Products ALERT, is a unique database of world literature on the chemical constituents and pharmacology of plant, microbial and animal (primarily marine) extracts. In addition, considerable data on the chemistry and pharmacology (including human studies) of secondary metabolites of known structure, derived from natural sources, are stored in this system. Data are obtained from some 700 scientific journals and several abstract services. Around 600 scientific articles per month are added to the NAPRALERT relational data-structure. The system can be used in a number of ways, ranging from simple retrieval of information to complex problem solving (see box).

Applications of the NAPRALERT database to traditional medicine

The most common types of information requested from NAPRALERT are ethnomedical data; results of biological tests carried out on extracts of plant, microbes or animals; and secondary chemical constituents reported to be present in plants, microbes or animals. These are collectively referred to as the "NAPRALERT 3-PART PROFILE" (see box).

Other types of data available

Citations containing information on almost any subject concerning natural products can be retrieved, or a list of organisms involved in the search parameter can be provided, together with a bibliography. Other types of profiles can be generated based on the interests and needs of the user.

Verifying rational use

An important practical application of the NAPRALERT database, is analysis of data to determine or verify the rational use of specific medicinal plants in various traditional medical systems. One example was an analysis of published experimental data on plant extracts prepared from 248 plants used in traditional Chinese medicine, as described in a book intended for use by the "barefoot doctors" in the Beijing area.

To evaluate potential effectiveness, it was important to determine whether one or more components of the prescription had a valid pharmacological basis of action. This

NAPRALERT DATA

Ethnomedical profile

The "ethnomedical profile" provides three major types of information: a) synonymous names found in articles; these may or may not be legitimate scientific names for the organism in question but the synonym alerts the user to the fact that more than one plant name may have to be presented to the database for information; b) common (vernacular) names for the plant (in several languages); c) ethnomedical (folkloric, traditional) medical uses for the plant. A complete list of literature citations is provided in the print-out.

Pharmacological profile

This profile provides all information in the database on testing for pharmacological and/or biological effects of a plant, animal, fungal extract or pure compound. A typical search would provide the following:

- Genus + species
- Organism part
- Family name
- Country

Phytochemistry profile

The "phytochemistry profile" provides the following information, in tabular form, for all secondary constituents reported to be present in, or which were isolated from, the plant, microbe or animal:

- Scientific name of the organism
- Name of the constituent
- Major chemical class of the constituent
- Percentage yield of the constituent
- Country or geographic area where the plant was collected
- Literature citations
Rational use of drugs in the Balkans: a WHO workshop

Leo Offerhaus*

Before the war in Bosnia, Lake Ohrid in the former Yugoslav Republic of Macedonia (FYROM) was used to be a popular holiday resort. Frequent charter flights brought tourists from Belgrade, Frankfurt and Amsterdam, and morning coffee was advertised in several languages. Now the tourists have gone and Ohrid is again the sleepy fishing town it was many years ago. It therefore seemed an ideal spot to isolate the teachers from the Skopje University medical and pharmaceutical faculties from the worries of the outside world and discuss the rational use of drugs and an essential drugs policy.

Prescribing patterns in FYROM, currently one of Europe’s poorest nations, have been influenced by many extraneous factors, such as aggressive marketing of drugs dubious efficacy and safety; long-standing therapeutical habits; lack of price information on the use of both old and new drugs, as well as erratic shortages.

The Regional Office for Europe was approached by the Ministry of Health of the new Republic to contribute to a review of the pharmaceutical sector. The basic assumption was that WHO would advise on the selection and procurement of drugs as emergency humanitarian aid. However, an initial assessment mission showed that the real problem was not so much a shortage of medicines but the optimal use of the available resources. Curricula in both medical and pharmacy were urgently in need of updating to reflect current practice, knowledge and issues.

A series of complementary activities addressing the present difficulties in the pharmaceutical sector was planned with the Government and with support from the newly appointed WHO Collaborating Centre for Drug Policy and Safety at the Wolfson Unit of Clinical Pharmacology, University of Newcastle-upon-Tyne, UK. These activities included a workshop on regulation of the pharmaceutical sector, a plan to improve drug supply in the public sector and the establishment of a national drug information centre.

A key activity was a national workshop on rational drug use in October 1994. Twenty-two participants (mainly faculty members from Skopje) joined a group of teachers from the Newcastle Centre. General principles of drug registration, safety and efficacy testing, pharmacoeconomics, therapeutic response and rational drug use were covered in the programme of lectures. Interpreters were needed and communication was sometimes difficult. With hindsight we realised that we should have prepared overheads in the local language, although it is not easy to discover software firms selling Macedonian for Windows!

The afternoon workshops were more interactive. The Newcastle team used a teaching model for general practice that had proved successful in the University. Four pharmacotherapeutic groups were chosen: anticonvulsant drugs; analgesics/NSAIDs, antihypertensive and anti-anginal drugs, and antipsychotics. Participants were divided, according to interests and knowledge, into four groups of five to six, each group constituted a chairperson and rapporteur. Each group was assisted (in a deliberately passive manner) by one of the members of the WHO group. A list of drugs available in the country was provided by the Ministry of Health. Some months before the meeting
PHILIPPINES' Drug Information Centre making a real contribution

The National Drug Information Centre (NDIC) is fast becoming the focus of activities concerning the provision of drug information in the Philippines. The Centre, based at the Department of Pharmacology of the University of the Philippines, is a component project of the National Drug Policy and is supported by the Action Programme on Essential Drugs.

The newly installed Micromedex comprehensive clinical information system and the Iowa Drug Information Service have been attracting a variety of users, ranging from the Philippines' Department of Health to the general public. For the period May to July 1995, the National Poisons Control and Information Service was the Centre's most frequent client. Its inquiries on management of poisoning constituted approximately 23% of all enquiries received. (See Table for a full breakdown of enquiries.) Among numerous clients, the Bureau of Food and Drugs has tapped the facilities of the NDIC in its task of evaluating applications for drug registration, as well as in answering questions from the public about problematic drug products. The National Adverse Drug Reaction Advisory Committee meets at the NDIC to discuss monthly adverse drug reaction reports. Among other users are doctors, pharmacists, researchers, students, health sector NGOs, the pharmaceutical industry, and the drug and therapeutics committees of many hospitals.

The NDIC has now signified its intention to use the NDIC in its own review of drugs for inclusion in the Philippine National Drug Formulary. As well as dealing with enquiries, the NDIC publishes the RDJ Update, a quarterly bulletin on rational drug use. The bulletin's targeted readership is the country's rural doctors and private practitioners. Ten thousand copies of each issue are distributed. The Centre also produces leaflets on the treatment of common ailments which are distributed as part of health education campaigns among mothers in rural areas.

The NDIC also participates in community-based research on drug use in rural villages. Intervention studies on drugs stored in the home and free drugs distributed by medical missions and public clinics have been undertaken. Methodologies to improve drug use involving primary school children and mothers are being tested.

For further information contact: the National Drug Information Centre, Department of Pharmacology, College of Medicine, University of the Philippines, Manila, 547 Pedro Gil Street, Manila, Philippines.

Table 1

<table>
<thead>
<tr>
<th>Category</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>8</td>
<td>51</td>
<td>46</td>
<td>105</td>
<td>42.0%</td>
</tr>
<tr>
<td>Regulatory</td>
<td>11</td>
<td>2</td>
<td>3</td>
<td>16</td>
<td>6.4%</td>
</tr>
<tr>
<td>Teaching</td>
<td>1</td>
<td>6</td>
<td>49</td>
<td>56</td>
<td>22.4%</td>
</tr>
<tr>
<td>Patient care</td>
<td>16</td>
<td>11</td>
<td>31</td>
<td>58</td>
<td>23.2%</td>
</tr>
<tr>
<td>Consumer info</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>70</td>
<td>144</td>
<td>250</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

New drug information service at a teaching hospital in Nepal

Mohan P. Joshi

The Institute of Medicine (IOM), Kathmandu, has both undergraduate and postgraduate students. Tribhuvan University Teaching Hospital (TUTH), which is associated with the IOM, is a 400-bed hospital providing both outpatient and inpatient services and is the first teaching hospital in Nepal. There are over 130 doctors, 200 nurses and 150 paramedical staff working in the hospital.

Although TUTH provides services to over 200,000 patients annually, until recently it had no organized system of providing independent drug information by qualified staff. But now a Drug Information Unit (DIU) has been established.

Meeting a need...

There are a very large number of drug products available in the market and each year many new drugs are introduced. New facts about existing drugs are also being discovered. It is impossible for busy clinicians to have a satisfactory knowledge of all these drugs. In fact, it may not be possible to remember all the clinically important details of even a limited range of drugs. Selection and use of the right drug in an appropriate manner is thus a challenging and difficult task. It was to meet these needs that the DIU was established.

How the Unit works...

The DIU is run by two clinical pharmacologists and one pharmacist. The hospital provides an assistant for the Unit.

The DIU answers drug related questions asked by doctors, nurses, paramedical staff and pharmacists at the hospital as well as teachers and students at the Institute of Medicine. These typically include: indications, pharmacokinetics, drugs(s) of choice, dose (both adult and child), route and frequency of administration, duration of treatment, adverse reactions, interactions and contraindications, special precautions, drug use in childhood, pregnancy, old age and diseased conditions, availability, cost, stability and storage.

Questions can be put to the DIU staff by telephone, in person or in written form, on all working days between 9am and 2pm.

The speed of response depends on the urgency of the request, the availability of information in the source materials and the workload of the DIU staff.

A standard form is used (see box). This acts as a record for future analysis of the service and also helps to avoid duplication of work if a question that has been answered previously is asked again.

Publicising the service...

First a letter was sent to each Department Head with details of the new drug information service, and a request to disseminate information on the availability of this service to all members of the department. Subsequently the Head of the Unit

Question/answer form

- Date
- Enquirer's name
- The question asked (and its urgency)
- Patient details, if relevant
- Information sources already consulted by the enquirer (if any)
- When and how the answer will be provided
- The answer provided
- Information sources consulted by the DIU staff for preparing the answer
- Signature and name of the DIU staff member preparing the answer

Issue No. 20, 1995
Table 1
Inquiries received by the Drug Information Unit during the first year of its service

<table>
<thead>
<tr>
<th>Questions on</th>
<th>No. of questions* (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug indications/therapy of a disease</td>
<td>70 (18.5%)</td>
</tr>
<tr>
<td>Adverse drug reaction</td>
<td>61 (16.1%)</td>
</tr>
<tr>
<td>Drug dose</td>
<td>45 (11.9%)</td>
</tr>
<tr>
<td>Drug use in pregnancy</td>
<td>32 (8.4%)</td>
</tr>
<tr>
<td>Ingredient(s) of a proprietary product</td>
<td>32 (8.4%)</td>
</tr>
<tr>
<td>Availability</td>
<td>29 (7.6%)</td>
</tr>
<tr>
<td>Precautions in use</td>
<td>26 (6.9%)</td>
</tr>
<tr>
<td>Drug interaction</td>
<td>15 (3.9%)</td>
</tr>
<tr>
<td>&quot;Details&quot; of a drug</td>
<td>12 (3.2%)</td>
</tr>
<tr>
<td>Miscellaneous**</td>
<td>57 (15.0%)</td>
</tr>
</tbody>
</table>

* The total number of questions adds up to 348 because some of the inquiries included requests for multiple informations.
** Includes positioning; comment on clinical trial; therapeutic drug evaluation; mode of use; prescribing of narcotics; drug; banned drug; medication of action; extended for a fixed-dose combination product; brand names of a proprietary drug; allethrin commonly used in the TTU Teaching Hospital; none of the manufacturers of a proprietary product; name of administration; frequency of administration; strength of a proprietary product; dosage of treatment; comparison between two drugs; required for research; costs of use; and pettic education.

attended one of the regular meetings between the Hospital Director and Department Heads, during which he publicized the availability of the service and answered questions on its scope and mode of operation.

Details of the newly established centre were published in "Images," the bimonthly IOM/UTH newsletter.

An informal session was put on the noticeboard of each ward. Out-patient department and the hospital library.

A brief write-up on the service was also published in the Drug and Therapeutics Letter, which is a bimonthly bulletin from the Centre (see below).

Promoting rational use...

In addition to the query-answering service, the DIU also produces a bimonthly newsletter entitled Drug and Therapeutics Letter. This provides brief referenced reviews on drug and therapeutics related topics. The whole bulletin can be read in 15 minutes, which we believe increases the chances of it actually being read.

The bulletin is distributed to all doctors, pharmacists, and other hospital staff. The hospital itself pays for the production and distribution of the bulletin. There is no drug company sponsorship or advertising in the bulletin.

For consumers, the DIU has produced a wall poster on health and disease and a table of medicines. The poster has been replaced in all wards and waiting lounges of the out-patient department.

The DIU staff are also involved in the development of the Hospital Formulary.

An accessible location...

The DIU office is in an easily accessible area within the main hospital building. Its location close to the hospital library gives it easy access to books, journals, and MeSH.

Use of the service...

During the first year (October 1994 to 30 September 1995) the DIU received 348 questions, out of which 17 were asked by professors, 68 by associate professors, 69 by lecturers, 26 by assistant lecturers, 49 by postgraduate students, 25 by house officers, 15 by interns, 17 by postgraduate students, and 62 by others. The majority of questions were asked by prescribing doctors.

Questions came from all the medical and surgical departments of the TTU Teaching Hospital, but most were from the Departments of Medicine (77 questions), Obstetrics and Gynecology (47), General Practice (45), Surgery (20). The types of questions and their numbers are given in Table 1. Of the total 348 questions, 86 (24.7%) were related to patient problems and 44 (12.6%) were urgent.

With regard to the time taken for answering the questions, 99 (28.4%) were answered immediately, 87 (25%) within 15 minutes, 36 (10.3%) within an hour, 84 (24.1%) within 24 hours, and 42 (12.1%) after 24 hours. Of the total 348 answers, 187 (53.7%) were given person-to-person, 91 (26.1%) by telephone, and the remaining 70 (20.1%) as written/printed answers.

Source materials...

Whether or not a source material is used for answering queries depends not only on its usefulness but also on its availability. Amongst the reference books available at the DIU, the single most frequently used book was Merck’s Manual of Medical Practice, 18th Edition. Other frequently used source books were the British National Formulary, Goodman and Gilman’s The Pharmacological Basis of Therapeutics, Harrison’s Principles of Internal Medicine, and an Australian publication, Medicines in Pregnancy.

The Unit also has the United States Pharmacopeia, FDA’s Therapeutic Information (Vol. 2.3), and other publications.

Constraints...

The main constraint at present is the lack of some reference materials and equipment. On a visit to the DIU office, we could not find any drug information service. An as well as insufficient office equipment, we also lack the necessary secretarial support. It is easy to ask questions of the DIU office by phone within the hospital because of a well connected internal telephone system. But asking questions from outside the hospital can be difficult, as the DIU does not have a direct and dedicated telephone line and so calls have to be coordinated through the main switchboard.

Starting on a small scale...

Our short experience shows that all prescribers and other staff have a real need of independent information on drugs and that they use a drug information service if it is available. Involvement in such a service is one of the ways in which clinical pharmacologists and pharmacists can be a part of the health care team and also be of assistance in continuing medical education on drugs and therapeutics.

In developing countries like ours, it may be very difficult to start or acquire the best books, journals, databases, computer and other equipment and then start the drug information service. Instead, we can start with whatever we have and slowly build on that. Once we can show our usefulness, it should then be easier to convince local authorities as well as possible international donors to provide further assistance.

"The services given by the DIU are very beneficial to busy practitioners, hospital officers, and medical students. Information I have received so far from this Unit on actions, side effects and other details of drugs are very beneficial, short but clear and prompt."

Dr Manohar Joshi, MD student (General Practice), IOM, Kathmandu

"The establishment of DIU at TUTH has been very helpful to our Department. We are using the services of this Unit for getting drug information when necessary and also for student teaching."

Dr Pushpa R. Sharma, Associate Professor in Child Health, IOM, Kathmandu
**DRUG INFORMATION**

**Drug exports to developing countries: problems remain unsolved**

Bas van der Heide*

The nature and extent of the problems involved in the export of drugs to developing countries have been the subject of several studies. In 1994, a group of Dutch researchers published their study "Dutch drugs in developing countries: a study for the American Congress into the labelling practices of American companies." The US study included a range of policy recommendations (see EDM-17). Does the Dutch study give any inspiration for opening the political debate in Europe? In this article, Bas van der Heide argues that many problems remain unsolved.

The study, "Dutch drugs in developing countries", was commissioned by the Dutch Government, prompted by discussions in Parliament. Its findings are very like those of similar policy studies. Of the 161 drugs that could be evaluated, 42% were considered problem drugs. Product information was lacking in a third of the drugs, indicative of the difficulties in ascertaining adequate drug information in developing countries. The first aim of the study was to find out which problematic drugs were supplied by Dutch companies to Africa, Asia, and Latin America and on what scale. Products were labelled as problem drugs if the drug was judged as unsuitable and/or undesirable because of its components; if the indications proved unacceptable; if the product information proved insufficient; and if it was sold on the Dutch package insert; or if the package insert was written in a language the majority of the literate local population would be unable to understand. The evaluation was performed by a pharmacist in the research team and independently checked by three drug experts. The second aim was to assess the quality of the product information of the drugs exported by Dutch companies. In order to do so, the labels were compared with the registration requirements in the Netherlands.

Local researchers obtained Dutch drugs in pharmacies in Ecuador, India, Nigeria, the Philippines, Sudan, Surinam and Thailand. Dutch drugs were defined as drugs manufactured and/or exported by Netherlands based companies, but also those drugs that were produced by subsidiaries of a company based in the Netherlands. The principle underlying the evaluation was that drugs for export should be safe and effective and that product information should be provided with them that does not differ in pharmacologically relevant respects from the Dutch product information.

Bad product information

Relatively few cases involved problems concerning the substance of the drugs. The percentage of essential drugs of the drugs evaluated varied between 0% in Nigeria to 40% in Sudan, using the WHO Model List (6th ed.) as a reference. A great number of problems related to the product information, showing inconsistencies in listing side effects (15%), contraindications (12%) and inconsistent warnings (9%). Frequently there was no warning against the hazards of using the drug during pregnancy. Most problem drugs were encountered in areas where the involvement of Dutch manufacturers was lowest, e.g., production by local subsidiaries.

Similar findings to other studies

The findings of the Dutch study are almost identical to percentages reported in the study by the Office of Technology Assessment (OTA) for the US Congress about the labelling by American companies of drugs exported to developing countries. They found that of the 241 drugs sampled, two-thirds failed to provide the labelling information a physician needs to use the drug safely and effectively. Recent studies of French drug exports found similar problems with double standards in labelling and advertising. Often the indications given are wider, whereas warnings and contraindications are fewer than in the text used for the domestic market.

Policy recommendations

The researchers conclude that the current system of voluntary codes and guidelines, limited legislation in exporting countries and limited capability to regulate importation in the recipient countries, functions inadequately. They offer recommendations for both policy-makers in Europe and in the importing countries to tackle these problems. The basic question is where to regulate: at the exporting end, at the importing end or both? The researchers choose both and stress the importance of good-quality drug information.

They argue that many developing countries currently do not have the capacity to enforce legislation on an essential drugs list, that many drug regulatory authorities lack adequate staff and resources, and that they do not have easy access to relevant data and expertise. The first and foremost option is to support the importing countries’ authorities to improve their capacity to implement an effective national drug policy. Without a basic structure there is no-one to interpret drug information, nor any chance of effective control of the drug market. Pointing at the real gaps in product information, the researchers argue for a focus on improving the exchange of information about drugs and prohibiting double standards of information on exported pharmaceuticals.

This touches upon the second basic question regarding drug exports. Should the export of certain products be banned (with provision for exceptions) or should importing countries leave it to the authorities of importing countries to make their own decisions? The second option is very restricted, but more expensive. Countries with very restricted drug budgets might choose to accept a cheaper product.

However, in order to make an informed decision, countries and national authorities need highly qualified staff and also timely and comprehensive information about a drug, in an understandable format. What possibilities do importing countries have to make the most fully informed choices? The mere exchange of information on the GMP status of the producer and the provision of basic information about the drug, as provided by the WHO Certification Scheme on the Quality of Pharmaceutical Products, Moving in International Commerce, is not enough. The information document should also cover safety and efficacy data. In addition, as a recent study shows, the certificates issued by the exporting authorities are often not WHO-type documents, leading to a very confusing situation. The information in the documents is based on regulatory situations that are very difficult to understand. How many drug regulators in Africa know that many of the drug products that are available on the markets in developed countries only a proportion (e.g., in Germany 20%–40%) have been evaluated for safety and efficacy? How many regulators understand that under the old French law the Free Sale Certificate meant that the product was not actually sold on the French market, but that export was allowed? A "rough guide" to European documents would probably help many confined drug regulators in the world. The Dutch study argues for stricter measures in the exporting countries. One of the areas is the further harmonisation of European Union Member States’ export legislation. Most European countries do not require drugs intended exclusively for export to be submitted in a submission procedure. Under the Community law (adopted in 1989) although companies need a licence to manufacture drugs, even if they produce for export only – specific drugs do not need a licence if they are intended for export outside the Community.

France and Germany

Some countries have adopted export provisions that add to the very basic European requirements. Newly introduced provisions in France (1994) and Spain (1995), for example, prohibit the export of drugs whose licence has been suspended or withdrawn for public health reasons. Under the German Drug Law (1989) it is prohibited to export "doubtful" drugs. However, drug products may be exported whenever the competent authority of the importing country has authorised importation, even if a marketing authorisation was refused in Germany. In this case, the importing country must be aware of the reasons for the refusal of the marketing authorisation.

France has banned the export of drugs which have been withdrawn from the French market or whose registration has been temporarily suspended for safety reasons. The Minister of Health may, for public health reasons, ban the export of any drug. The export of drugs without a French licence needs to be accompanied by an export certificate. In order to get this document from the French regulatory authorities, the company has to explain why the product is not authorised for sale on the French market, in an export declaration.

Chances for European harmonisation

The Dutch researchers specifically refer to the German and the French legislation as a basis for further European harmonisation. Unfortunately there is a big gap between law on paper and enforcement in practice. The German Drug Law should be implemented by the competent authorities at the regional level. To date, however, few steps seem to have been taken to implement this law. The consumer organisation, Buko Pharma-kampagne, wrote to the authorities in 16 German States to ask if they had implemented drug controls and if so how, as export control should be implemented at federal state level. By June 1995 information had been received from 10 states. Three of these had implemented the law. Two had taken action at least once to ban an export or to request a translation of the German package insert in a language comprehensible to the importers.
I understand in the importing country. The French law is too recent to evaluate, but could become highly relevant in improving the flow of information about drugs exported to francophone Africa.

What would additional export provisions do to already existing measures? Would they improve the flow of information to developing countries? The key element of the French and German legislation is the ban on the export of banned, unapproved and withdrawn drugs, as well as on drugs whose use is restricted in the home country. Drugs that cannot be made, but the manufacturer has to apply for a licence. With this exception to the rule principle, the number of interested drugs remains possible in cases where this is proved to meet the needs of the developing countries. Such provisions can also function as a notification procedure parallel to other measures and as such be an even more stringent and more transparent European drug regulatory authority. To date, licensing and drug export policies in the European countries contain no provisions that differ so different to find a standard definition for the key categories of products whose export should be restricted.

I am pleased to receive the Essential Drugs Monitor which I read with interest. I particularly appreciate the work put into preparing the documents and making them available. Drugs supplied and kept in stock for distribution. The system worked well and was accepted as a great improvement.

It is surprising now to read a report, almost 20 years on, which suggests that until late 1993, when two WHO consultants were sent to The Gambia and later a workshop of 49 people got together, there was no national drug policy for that country.

The Gambia 20 years back

Editor,

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Potential hazards from traditional drugs

Editor,

Recently Roy and Rehman from Bangladesh suggested that all traditional drugs should be prohibited under legislation, to overcome potential hazards from their uncontrolled sale.

India is one of the few countries in which a wide range of systems of medicine such as Ayurveda, Ayurveda, Homopathy, Unani, Tibbia and Naturopathy are formally recognised. However only the sale and use of allopathic medicines are controlled by legislation, despite the fact that powerful drugs are sometimes freely marketed and influenced by patent restrictions, which could produce serious effects in long-term therapy. Traditional medicines belonging to all systems of medicine should be controlled by drug legislation and their benefits and hazards recorded scientifically.

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Unnecessary injections: new study adds to the evidence

A. Reeler*

One of the major problems facing health services in developing countries is how to limit the number of irrational injections while retaining a positive attitude towards vaccinations. Studies sponsored by the Action Programme on Essential Drugs have been taking place for the last five years to assess the extent of the problem, and in EDM 18 we reported the results of a research project in Uganda. Now another study, this time from Thailand, shows a worrying level of injection abuse.

The goal of the research study in Thailand was to determine the extent to which injections are sought by patients and administered by different types of health care providers in an urban and rural setting. It also aimed to explore the causal and contextual factors behind the popular demand for injections and to suggest ways of reducing that demand. The report of the study, which was supported by the Action Programme and DANIDA, provides health care planners, non-governmental organizations and consumer groups with an overview of the findings. The emphasis is on how the results can be used to help improve the health of those in developing countries by decreasing unsafe injection practices and their associated health risks.

The research area was in the North-East of Thailand in Udorn Thani Province. The major part of the field work period, i.e. nine out of the 12 months, was spent in a rural area and the rest in an urban slum setting. A mixture of methodologies was chosen, including in-depth interviews, focus group discussions and a survey using a semi-structured questionnaire.

Disturbing results

In 59 out of the 209 households surveyed, one or more members had received at least one injection in the previous two weeks – 26% of the households.

The fact that 40% of child patients between one and six years of age receiving treatment given an injection is particularly alarming.

The percentage of patients who received one or more injections during their first visit ranged from 18% for public hospitals to 79% at private medical clinics, with 33% at district hospitals and 42% at health centres. Injections were administered most frequently by private medical doctors. Yet these doctors also work at the district hospitals, where only 33% of patients received an injection on their initial visit. When the figures from the other public hospitals are included, the percentage of patients who received injections at these levels of public health care was as low as 18% – a significant difference from the 79% in the private sector.

The 42% health centre figure may be due to the good social relationship between villagers and health centre staff, leaving staff more open to persuasion by patients. In addition, the health centre staff may have been worried that villagers might go to a local informal provider if they refused an injection.

It is interesting that in fact, in the study area, these informal providers were used far less than the formal health system, previous research in Thailand and elsewhere. It was expected that the majority of injections would be administered by the informal health sector. However, everyone in the study visiting a provider for the first time received their injection from the formal sector, not from "informal doctors", pharmacies or private individuals.

These figures have to be seen in the context of the study findings on community beliefs concerning injections. Thai people strongly believe that injections are the most powerful form of treatment because "they run in the blood". Although some people had suffered from abscesses as a result of injections in the informal sector, most people denied that there was a risk involved.

While aware that sharing needles could transmit HIV infection, consumers and providers alike were not aware that sharing a syringe could involve the same risk. Formal injection providers knew very well that there were other diseases, such as hepatitis, which could be transmitted through injection equipment. Most of the providers were also aware that injections are a very expensive form of treatment and local government and business considerations resulted in the administration of injections anyway.

Injections are only part of the drug treatment which people receive. The lowest number of drugs per person per visit was dispensed in the informal sector, i.e. 3.42 to 3.45 drugs per patient. It would therefore seem that the formal sector is more responsible for polypharmacy than the informal sector.

Consumers knew more about the drugs they received in the informal sector than those from the formal sector, with the exception of the health centre. This may be because in Thai culture it is not common for a person of "inferior" status to ask questions of a "social superior". Medical professionals are expected to be formal, rapid, meticulous and secretive. Treatment expectations are different in the informal sector when the provider may be a fellow villager and the responsibility for diagnosis lies with the customer.

Boost for UK research into prescribing

The UK Department of Health has earmarked £2.4 million for a research into prescribing over a four-year period and advertisements are now being placed in the national and medical press inviting researchers to put forward proposals, reports *Script No. 1990. The Department says that the research would be expected to cover areas such as:

- doctors' perception of a patient's need for treatment with medicines and the patient's own perceptions;
- ways to encourage doctors to prescribe new medicines;
- incentives to help improve the quality of prescribing;
- ways of encouraging patients to complete their course of medication.

The move was recommended by a group of expert advisers; prescribing has been identified as one of eight priority areas following a National Health Service Research and Development strategy. Last spring, the Audit Commission recommended that savings of about £425 million could be made on the NHS drugs bill if all GPs were to prescribe in the rational manner seen in a number of selected practices.

Hope for the future

What can be done to reduce the number of injections in Thailand? Health care planners could take as a starting point people's belief that injections are the most powerful form of medicine. Furthermore, they do not believe that injections have any side effects. But given the general emphasis on moderation in Thailand's Buddhist culture, a health education campaign to promote the concept of moderation in connection with medicines and injections. The popular belief in a balance between four body elements could also be used to explain that too much power, in the form of an injection, might upset the internal body balance. In addition, some Thai people believe that as children are more vulnerable than adults they should not be given injections. This view could be emphasised in consumer education.

Education on the appropriate use of drugs and injections should be carried out at different levels in a variety of ways. While the majority of health personnel are already well aware that most administered injections are clinically useless or even harmful, education on the essential drugs concept during their training would improve their skills as health educators. However, the research showed that parents and neighbours were more important as a source of health education than either health educators or the media. Appropriate use of drugs should be incorporated into the general school health education programme. At the same time, health professionals, governmental organizations and consumer groups could participate in such efforts, using locally adapted means of communication. Brochures, booklets, posters, pamphlets and dramas are some examples of communication techniques that can be used to target the public.

While the research findings are representative of only one area of Thailand, and the figures are small, the data show that a large number of households receive therapeutic injections regularly. In the rural area – the main focus of the study – 22% of patients with a cold were treated with an injection, and in the case of diarrhoea the figure rose to 83%. Tiredness was treated with an injection or IV fluid in 80% of cases.

The results of the Thai research are a cause for concern and it is hoped that this will act as a stimulus to further efforts to curb injection abuse in all developing countries.

* Dr Anne Reeler is a medical anthropologist who regularly acts as a consultant for WHO.

Thailand: a new approach to data collection

When some Thai schoolchildren asked their teacher what was for homework recently, the reply was perhaps not what they expected. Instead of the usual maths and geography, a group of students in the 6th and 7th grades were asked to fill in questionnaires on their household's drug purchases. This innovative method of data collection proved one of the most interesting aspects of research into drug purchasing behaviour in Thailand.

The research, which received support from the Action Programme on Essential Drugs, was carried out by the Institute for Population and Social Research, Mahidol University, in collaboration with the Food and Drug Administration.

Teachers gave pupils questionnaires and instructed them on how they should be completed. The children interviewed members of their household, listing all episodes of illness during the previous ten days which resulted in a drug purchase from either modern or traditional commercial outlets.

Information was gathered on socio-economic characteristics of the household, income, the person's symptoms, type, quantity and cost of drugs bought, the type of outlet the drugs were bought from, and the distance and cost of travel to and from the place of sale. The following day teachers collected the questionnaires and checked them for consistency and completeness. The response rate was very high and, by involving teachers in checking the forms, data quality was significantly improved. Reliability was verified by comparing the responses in the students' questionnaire with the responses in a later follow-up survey of their households.

It was concluded that the method is simple, convenient and quite reliable. For large-scale application, however, the method needs to be further studied and improved.

The results of the research proved similar to those obtained from other studies on self-medication in various countries. Families are heavily dependent on self-medication for treating minor illnesses. The most popular drugs used were analgesics, cough and cold preparations, systemic antibiotics and antacids.

Resource Centre encourages UK pharmacists' research studies

Since 1991, UK pharmacists have had their own Resource Centre to encourage them to carry out practice research. The Pharmacy Practice Research Resource Centre has provided support for both community pharmacists who are already involved in research and for those who are just starting out.

Located within the Pharmacy Department of the University of Manchester, the Centre provides support in a variety of ways.

Bulletins are produced on a regular basis, and each issue focuses on a particular aspect of research methodology. Topics covered to date include: questionnaire design, qualitative research, sampling, evaluating quantitative research, poster design and statistics. Workshops have been run on questionnaire design, Epi-Info, statistical techniques, reporting and presenting research. This annual programme of one day workshops takes place at different venues throughout the country.

The Centre publishes a series of step-by-step guides which each provide a complete research project. They are designed so that community pharmacists with little or no research experience can undertake a project within their own pharmacy. So far two guides have been produced: A Method for Recording and Analyzing Pharmacist Prescription Interventions and Customer Needs Survey. Both have proved very popular and several health organizations are beginning wider-based projects using them.

Staff at the Centre undertake literature searches to find research papers to assist them in their research activities.

For further information contact: Pete Abel, Information Associate, Pharmacy Practice Research Resource Centre, Department of Pharmacy, University of Manchester, Manchester M13 9PL, UK.

Changing doctors' prescribing patterns: results of Mexican study

At a time when excessive use of drugs is one of the major problems of medical practice, the results of a Mexican study provide an interesting example of how effective a well planned local initiative may be. Studies carried out in Mexico in the 1980s had found excessive prescription of drugs, mainly antibiotics, in the treatment of acute diarrhoea in primary health care units, as well as a low rate of oral rehydration therapy (ORT) use. As a result a programme aimed at changing physicians' prescribing practices was started in two family medicine units of the Mexican Social Security Institute in Mexico City, reports Medical Care. Sixty nine doctors work at the units and see an average 25 patients a day. Doctors can only prescribe drugs from a list of essential drugs. Consultations and prescriptions are free.

The intervention strategy was designed to decrease drug prescribing and increase the use of ORT in the treatment of acute diarrhoea. The study lasted two years seven months and had six stages:

» baseline survey of prescribing practices by all the doctors;
» a training workshop attended by 36 physicians, which included a critical analysis of relevant literature;
» a review of the baseline survey, discussion of a previously designed treatment algorithm for acute diarrhoea and its modification by participants;
» post workshop evaluation;
» the establishment of a peer review committee to discuss the doctors' prescribing practices; mid-term evaluation for two months after the committee disbanded;
» long-term evaluation at six, 12 and 18 months of 20 physicians who received the comprehensive intervention and a control group of 20 doctors who received none.

While the prescribing patterns of the study and control groups were similar initially, they differed significantly in the post workshop evaluation.

The study group showed a reduction in the use of antibiotics (from 78.8% to 59.3%) and restrictive diets (47.3% to 12.4%) and an increase in the use of ORT (31.4% to 58.4%) for children under the age of five suffering from acute diarrhoea. In the mid-term evaluation, the use of antibiotics by the study group had decreased to 27.6%, prescription of restrictive diets to 6.4%, and use of ORT had increased to 73.8%. The long-term evaluation showed that the positive prescribing behaviour had been maintained, while there was no significant change in prescribing by the control group. The average proportion of patients treated according to the algorithm by the study group increased in 29.2% of cases after the workshop and 45.2% after the peer review committee. This behaviour was maintained during the 18 months after the intervention (74%). The active participation of physicians in the workshop and in the peer review committee was identified as the key to both the short- and long-term success of this educational strategy.


Patients wait to be seen at a clinic in Mexico City, where a study has shown how overprescribing can be reduced by a well planned educational initiative.
Important

The Action Programme on Essential Drugs cannot supply the publications reviewed on these pages.
Please write to the address given at the end of each item.


Noting that projected costs can account for up to 70% of the recurrent health budget, this publication explores various ways to increase the relevance of education for health professionals, as a strategy for improving the quality of health care and increasing access to services. The report concentrates on innovations in education that can make learning easier and more efficient while also producing graduates equipped with the knowledge and skills most relevant to priority health problems. Particular attention is given to the relevance of education to community needs and practice. Throughout the report, examples of innovative approaches are used to illustrate possible lines of action, alert readers to barriers that stand in the way of change and propose solutions based on practical experiences. The report is presented in five main sections.

The first explains why changes in the methods and objectives of education are desirable and shows what these changes can be expected to achieve. The second section offers advice on how to evaluate the effects of innovations in the education of health professionals, paying particular attention to recent practical experiences in the use of problem-based and community-based learning. Arguing that educational institutions should have a role in shaping health policy, the third section considers how institutions can work together with communities to identify and solve priority health problems. Readers are also given advice on the development of curricula that address the wider aspects of health, health promotion and prevention of illness. The remaining sections discuss strategies for change applied to health systems and to educational institutions, and discuss a number of organizational and practical issues.

The report states that the impact of educational programmes on the behaviour of health professionals in practice has yet to be established. However, it concludes that problem-based learning can be used to make educational programmes more relevant to health needs if the selection of problems in a curriculum reflects the health care needs that graduates will face.


This training manual provides a helpful practical guide to the use of cost analysis as a tool for improving the efficiency of primary health care, whether in the national, regional or district level. Addressed to programme managers, the book responds to the urgent need for information that helps make the best use of scarce resources. With this need in mind, the book demystifies economic concepts. It shows how these concepts can be used to measure programme costs, assess efficiency and make wise decisions, particularly when managers face alternative ways of achieving an objective.

Finalised after three years of field testing, the manual contains twelve training modules presented in three parts. Information in each module is supported by a series of training exercises offering practice in collecting data and solving problems.

Available in English (French and Spanish in preparation) from: World Health Organization, Distribution and Sales, 1211 Geneva 27, Switzerland. Price: Swiss fr.25.00/$52.50, and in developing countries $17.50.

Cost Analysis in Primary Health Care

A training manual for programme managers


As many governments implement policies to "rationalize" the use of medicines, interest in the use of pharmaceuticals has increased greatly. This book is a compilation of 16 articles about problems relating to the use of medicines in different parts of the world. The first section consists of eight papers dealing with perceptions and interpretations of medicines - the "meanings of medicines." All emphasise the need to recognise perceptions of medicines in relation to other concepts of health and illness. Rather than defining "rational" use, the authors reveal the reasonable bias that varieties people's use of medicines. Studies from Ghana, Guatemala, Nigeria and the Philippines are included to illustrate the argument.

The second section focuses on injections. In one paper, the authors, Whyte and van der Geest, observing that few studies have been made on injections, suggest a possible research agenda. They also address the policy implications of anthropological research on injection use. The publication discusses the accessibility of pharmaceuticals and how they are managed within the home. There are reports of hidden undertakers in Costa Rica and Sri Lanka. Another paper examines three processes which have had important implications for the changing availability of pharmaceuticals: structural adjustment policies, UNICEF's health financing Bamako Project and the HIV/AIDS epidemic.

The final section of the book features papers with an applied perspective. They show how research can be used to evaluate drug programmes and highlight innovations that seek to promote a more appropriate use of medicines.

Available from: Medical Anthropology Unit, University of Amsterdam, Oudezijds Achterburgwal 185, 1012 DK, Amsterdam, the Netherlands.

Innovative Programmes of Medical Education in South-East Asia, N.M. Matthews, P. Abeykoon, SEARO Regional Publications No.21, WHO, 1993, 119 p.

This publication presents six detailed case studies of innovative programmes for medical education at schools and institutions in Thailand, Nepal, Myanmar, India, Sri Lanka and Indonesia. Innovations reflected different social and developmental priorities in primary health problems. Case studies which offer lessons about approaches that have failed as well as succeeded, cover a range of different strategies for overcoming specific problems. These include a shortage of doctors willing to serve in rural areas, overemphasis on training in technical skills, dependence on expensive urban facilities, reliance on curricula based on Western medicine rather than on priority health needs, limited resources for training and strong resistance to change. The book concludes with an overview of problems commonly encountered in all these instances, the factors that contribute to success and the many practical lessons that can assist other educators attempting to change the way doctors are trained.

Available from: World Health Organization, Distribution and Sales, 1211 Geneva 27, Switzerland. Price: Swiss fr.25.00/$52.50, and in developing countries $17.50.


A two-volume publication which provides the results of the UK Parliament's Select Committee on Health's enquiry on the National Health Service (NHS) drug budget. The Committee assessed whether the measures introduced by the Government to control drug spending are leading to more appropriate and cost-effective use of drugs in terms of current NHS resources and future patient needs.

The report provides a clear and detailed description of the machinery that determines drug pricing and expenditure. It will be of value to all those interested in the cost of medicines, particularly policy makers wishing to curb drug expenditure, health economists and teachers of clinical pharmacology.

Available from: HMSO. P.O. Box 276, London SW8 5DT, UK. Price: Volume I, £31.40; Volume II, £40.90.


The International Organization of Consumers' Unions, (now renamed Consumer International) has published a review of promotion of over-the-counter (OTC) drugs in 11 developed countries. Only three of the 183 advertisements analysed complied with WHO and European Union standards, 87% of them made no mention of side effects and 84% did not refer to contraindications. The authors argue that as manufacturers have to include this information in advertisements of prescription medicines to doctors, it is even more vital when they advertise directly to consumers. The fact that globally the OTC market is expected to grow by 42% between 1992 and 2002 is of particular concern. The publication concludes that existing practices are failing to provide the necessary safeguards and calls for tighter controls on OTC advertising.


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Since the introduction of standardised multitherapy (MDT) the leprosy in 1981 over 5.6 million patients have curined and the number of cases has been reduced by two-thirds. Although many countries are now aware of the critical role of MDT in leprosy control, there is still some uncertainty about the efficacy and optimum duration of such regimens.

The report contains the recommendations on MDT for chemotherapy of Leprosy, convened to review the performance of WHO's multitherapy regimens for pulmonary and extrapulmonary leprosy. Intended for managers of leprosy control programmes, the report has five sections. The first reviews findings from several studies of leprosy among groups involving large numbers of patients. The second section summarises accumulated data on the safety, efficacy, optimum doses and costs of available antileprosy drugs. Recommended chemotherapeutic regimens are presented in the third section. The report concludes with practical advice on operational issues relevant to the quality of control programmes and relevant prospects for the development of new drugs.


The socioeconomic dimensions of drug use have assumed special importance as a result of economic recession, rising pharmaceutical costs in many countries and structural adjustment policies. A timely new publication from the Action Programme on Essential Drugs, the guide is to those in the pharmaceutical sector not trained in economics. Produced in collaboration with the National Centre for Scientific Research in Grenoble, France, the Guide provides a basic theoretical and conceptual economic framework. The manual focuses on economic aspects of selection, procurement, distribution and prescribing. It is particularly aimed at those in national bodies responsible for defining and guiding health policies on drugs, and those responsible for drug procurement and management at national level. Staff of international agencies and NGOs in the pharmaceutical sector will also find the book useful.


Antimalarial Drug Policies: Data Requirements, Treatment of Uncomplicated Malaria and Management of Malaria in Pregnancy, WHO, Division of Control of Tropical Diseases, 1994, 67 p.

A report of an informal consultation which looks at the broad aspects of developing national antimalarial drug policies and specifics of treatment. A review is also included of the existing situation regarding drug resistance. Two country examples, Malawi and Thailand illustrate evolving policies in contrasting situations.

Available in English, French and Spanish from: Division of Tropical Diseases, World Health Organization, 1211 Geneva 27, Switzerland.

Health and Disease in Developing Countries, K.K. Lakhina, S. Bergvall, T. Makkel, M. Peloza, eds., 1994, 586 p.

A comprehensive book which reviews central issues of health care from the wider perspective of development in general, without neglecting the specifics of individual diseases and disorders. The publication traces health problems in developing countries to their roots - providing an in-depth analysis of the path of pathology of the health. In five sections, with 59 articles (many written by specialists from different disciplines and departments). The book's second section deals with the general factors of health such as history, economics, environmental and sociocultural aspects. Section two covers the main infectious diseases affecting developing countries, and focuses on epidemiology, control and prevention. Recognizing the increasing importance of non-communicable diseases in developing countries, section three includes articles on topics such as chronic disease, malnutrition, mental health and disabilities. The fourth section presents strategies to overcome the burden of disease. The starting point is primary health care - the planning, financing and management of diseases are discussed extensively. The authors' message is clear: strengthening primary health care and first referral levels services will provide health benefits to the largest possible number of people. The importance of implementing national drug policies and drug policies are discussed in one article covers the aims, components and implementation of such policies.

The book concludes with an overview of principles, practice and possibilities of international cooperation in an effort to achieve better health for all. While acknowledging the significant roles both non-governmental and international organizations play in these efforts, the book stresses that, at a national level, only governments can provide the real catalytic role of reallocating resources for health care. Health and Disease in Developing Countries will be of particular interest to medical and other professionals, such as teachers and those working for international cooperation agencies. It will also be a valuable resource for district medical officers in developing countries and students taking courses in public health and tropical medicine.

Available from: Physicians for Social Responsibility, 729 National Public Health Institute, Mannheimstrasse 106, FIN-00330 Helsinki, Finland. NGOs working in the health sector developing countries may apply for copies which will only be a postal charge.


A symposium entitled, Health promotes Development, was held in Krefeld, Germany in May 1994, to mark the 30th anniversary of Action Medeor, the German medical relief organization. The theme of the symposium was the need for health supply to developing countries to go hand in hand with the demand that the drugs should meet the same standards of quality as those in the exporting countries. This publication includes the papers presented at Krefeld, together with the symposium's final declaration which details the inter alia for the enhancement of existing export bases on expired drugs and the checking of drug shipments to prevent incorrect, misleading, incomplete and missing information. The symposium emphasized that all drugs should be labelled with generic names and accompanied by standardized information.

Available, free of charge, from: German Medical Relief Organization Action Medeor, 7400 Krefeld, Germany, Street 27, 47931 Krefeld, Germany, Phone: +231-60002.

Zimbabwe’s Essential Drugs Action Programme has produced a training manual to introduce the 1994 edition of ELD/IZ (the country’s treatment guidelines and essential drug lists) to all health professionals in the country. Health workers from all regions of Zimbabwe contributed to the development of this clearly written booklet. It highlights the most important changes in ELD/IZ, in terms of both standard treatment guidelines and drugs. The many case studies, examples and suggestions for role play provided will form the basis of in-service training at every level.


Published Lately


This book reviews current and potential opportunities for the prevention of diabetes mellitus and the improvement of prognoses through the early detection and treatment of complications. It draws on striking recent progress in knowledge about the disease. The report aims to identify specific interventions, at primary, secondary and tertiary levels, that have been shown to be feasible, effective, ethical and thus most likely to represent a wise investment of resources. Potential interventions deserving further study are also clearly indicated.

Available in English (French and Spanish in preparation) from: World Health Organization, 1211 Geneva 27, Switzerland; Price: SFr.15.50/SFr.12.50, and in developing countries: SFr.10.50.


Despite advances in injection equipment and a better understanding of the risks of cross infection, unsafe medical practices continue to contribute to the transmission of diseases such as HIV and hepatitis B. The problem is potentially greatest in developing countries as more injections are given and the prevalence of blood-borne diseases is higher. This publication briefly reviews the complications caused by unsafe injections and presents the different types of injection equipment. After examining the potential risk of transmitting blood-borne organisms with each type of equipment, the publication concludes with a discussion of the financial and operational implications of using each of them.


This book provides guidance for all countries wishing to rationalise their drug use. It is based on information on the establishment of a national list of essential drugs and presents WHO’s own eighth model list.

The first part of the report provides updated information on several components of national drug policy, necessary to ensure that essential drugs are available at all times, in adequate amounts and in the proper dosage. Topics covered include: the contribution of quality assurance; the growing need for reserve antimicrobials in areas where resistance to widely available antimicrobials has developed; the priority health needs of displaced communities; the need for relevant and reliable information on drugs; and the contribution of post-marketing drug surveillance to the rational and safe use of drugs.

The eighth WHO model list of essential drugs is then presented, together with an explanation of changes made when revising the list. Organised according to therapeutic group, the list includes information on route of administration, dosage forms and strengths for each of the 284 essential drugs. To qualify for inclusion in the list, a drug must be supported by sound and adequate data, demonstrating safety, efficacy, cost-effectiveness and lack of adverse reactions.

Available in English (French and Spanish in preparation) from: World Health Organization, 1211 Geneva 27, Switzerland; Price: SFr.24/US$31.50, and in developing countries: SFr.14.70.


Postpartum haemorrhage is still one of the most common causes of maternal death, especially in developing countries. A new publication in DAP’s research series reports on an assessment of stability patterns of common oral oxytocics, to evaluate their usefulness in reducing postpartum haemorrhage in tropical areas.

Simulation studies assessed the influence of packaging, humidity, light and heat. Tablets of ergometrine, mephalanergosine, bucloc oxycin and biecloc damocin oxytocin were exposed to seven artificially regulated conditions. Temperatures ranged from 6–40°C and relative humidity between 20–85% in the dark with ambient temperatures used under exposure to daylight. At nine different times during a period of a year, samples were taken and analysed on the content of active ingredients, using High Performance Liquid Chromatography.

Researchers concluded that none of the oral oxytocics included in the study were stable under simulated tropical conditions. It is therefore unlikely that oral oxytocics can be effective in preventing peripartum haemorrhage in tropical climates. Injectable oxytocin remains the best choice of oxytocic for prophylactic use, although its intramuscular route is not ideal. Investigation of the possibility of formulating and manufacturing a stable non injectable alternative to oxytocin is recommended by the researchers.

WHO calls for action on spread of drug-resistant diseases

A recent action is needed to combat the spread of antibiotic-resistant bacterial diseases in many parts of the world, reports a World Health Organization group of scientific experts. Antibiotics and other antimicrobial agents are losing their effectiveness. Once a new drug has become widely used, resistance to it is already emerging somewhere in the world. In the past, the pharmaceutical industry was able to provide new classes of antibiotics—cephalosporins and quinolones—which could successfully deal with almost all bacteria. Now, however, drug resistance is appearing everywhere at a time when no new antibiotics are anticipated. At the same time, micrororganisms, including pneumococcus, staph aureus, enterococci and strains of tuberculosis bacilli are spreading with unexpected rapidity, having developed defence mechanisms against existing antibiotics.

"Resistance is epidemic in many countries and multi-drug resistance leaves doctors with virtually no room for manoeuvre in the treatment of an increasing number of diseases," said Professor Jacques Azor of the Free University, Paris, and Chairman of the WHO Working Group on Monitoring and Management of Bacterial Resistance to Antimicrobial Agents. "In hospitals alone, an estimated one million bacterial infections are occurring worldwide every day, and most of these are drug resistant."

The four-day meeting of the Working Group at WHO Headquarters in December 1994, with participants from 25 countries—researchers, clinicians, public health officials and representatives of the pharmaceutical industry—resulted in a set of recommendations which will help to tackle the problem.

These include:
- establishing policies to control the availability of antibiotics and to promote their appropriate use;
- establishing methods and setting standards for evaluation of hospital-based infection and antibiotic resistance prevention and control programmes;
- establishing self-sustaining models for prevention and control of hospital-acquired infections in designated collaborating hospitals that will provide training and expert consultation for relevant personnel;
- global expansion of the network of antimicrobial resistance surveillance activities through the WHO computerised system WHONET;
- extending existing collaboration and partnerships in this area to include international agencies, governmental and nongovernmental organizations, academia and the pharmaceutical industry;
- encouraging basic research towards new approaches to the development of antimicrobials.

Tuberculosis, choler and other diarrhoeal diseases, which together kill millions of people every year, are often already resistant to many types of antibiotics.

During the meeting, experts said there had been such dramatic increases in drug resistance in some diarrhoeal diseases in many parts of the developing world that shigella organisms are now resistant to almost all available and affordable antimicrobial drugs. Multiple drug resistance to the main strain of cholera has also occurred in many areas of the world. Resistance is a much greater problem in the developing world, where the sale of antimicrobial drugs is largely unrestricted.

"Hospitals worldwide are experiencing an unprecedented crisis due to the rapid emergence and dissemination of antibiotic resistant bacteria," said Dr Donald Goldman of the Hospital Epidemiology Programme, the Children's Hospital and Department of Pediatrics at Harvard Medical School in Boston, USA. "While new antibiotics continue to be introduced, physicians and their patients are finding themselves in an increasing predicament—infected and not having effective treatment available for this crisis. Antibiotics are largely blame for this crisis. When antibiotics become available they tend to be used excessively and inappropriately.

In developing countries contributing factors include the shortage of medical doctors and lack of reliable scientific information, while in developed countries the patients themselves play a role by insisting on antibiotic treatment which may not always be necessary.

The consequences of antimicrobial resistance are seen in increased morbidity and mortality due to bacterial diseases. Antimicrobial resistance also has a considerable economic impact, and is estimated to cost at least US$ 4 billion annually in the United States alone. Faced with resistant infections, clinicians are forced to resort to second line treatment which invariably involves more expensive drugs and often makes hospitals stay longer.

Antimicrobial resistance is costly for both patients and health services. However, a great deal can be done at very little cost to contain the spread of resistant bacteria by improving the flow of existing information and revising medical practices.

WHO, in collaboration with the Microbiology Laboratory of Brigham and Women's Hospital in Boston. USA, has created WHONET—a computerized integrated system for surveillance of bacterial resistance to antimicrobial agents at local, national and global levels. It is based on a network of clinical laboratories linked by a common software for analysing and sharing their routine antimicrobial resistance data. At the moment there are about 150 laboratories in 30 countries using this facility, which is open to all. WHO encourages more widespread participation in the project.

This user-friendly programme allows a hospital to monitor the appearance and spread of resistant bacteria among its patients, for example the identification of an outbreak in a particular section of the hospital. The programme is designed to make it easy for each laboratory to analyse the results of other laboratories with which it shares data. It also helps groups of participants to form local, national or regional networks. Latin American countries are leading the way in this with well-established systems in Argentina, Chile and Venezuela. There are plans to expand WHONET to include infection control, diagnosis and adequate antibiotic treatment.


The myth of the "magic bullet": African study provides more evidence of antibiotic misuse

A research study in West Africa has shown how much remains to be done to try to dispel the belief in antibiotics as "magic bullet" cures for conditions they were never intended to treat. The study was carried out in Mauritania, Niger and Senegal with financial and technical support from the Action Programme on Essential Drugs. It aimed to identify the most commonly prescribed antibiotics in health facilities and to assess their suitability in relation to the patient's clinical needs and the prevailing resistance levels to common antibiotics. Information was collected during field surveys and clearly shows that:
- Consumption of antibiotics is high: 28% of outpatients and 52% of hospital inpatients received antibiotic therapy.
- The irrational use of antibiotics is very widespread; for example, in Mauritania more than two thirds of patients in hospital received an injection of antibiotic, and 33% received two antibiotics. In peripheral health facilities in Senegal, 36% of the patients received an injection. In most cases the injection was not necessary; an oral presentation would have been more rational. The main causes of antibiotic prescribing were errors in diagnosis and the fact that treatments such as oral rehydration salts for diarrhoea and disinfections for skin problems were never used.
- Resistant strains of bacteria exist in the three countries. Many strains are multiresistant, and antibiotics such as penicillin and ampicillin no longer provide adequate treatment.

There are multiple reasons for the irrational prescribing, abuse and misuse of antibiotics. In Mauritania, Niger and Senegal they are linked to the difficult conditions in which health workers have to perform their duties. Many of them are isolated, have very few diagnostic tools available and no access to objective information. In all three countries, the main source of information is medical representatives. Shortages in drug supply, the presence of an illegal market and the lack of effective control all contribute to the irrational use of antibiotics. The study concludes with suggestions for simple measures which could have a considerable impact in reducing antibiotic use in West Africa.

A report of the study, "Prescription of antimicrobials in three West African countries" is available, free of charge, in French only, from Action Programme on Essential Drugs, World Health Organization, 1211 Geneva 27, Switzerland.
The need for vigilance: seminars focus on irrational drug use in Pakistan

Concerns about irrational prescribing and drug use in Pakistan has prompted the Health and Nutrition Development Society (HANDS) to hold two seminars on rational drug use in treating children. The seminars took place on 23 December 1994 and 13 January 1995 in the cities of Mirpurkhas and Dada, and attracted a large number of local general practitioners. Speakers addressed a number of issues, including the use of anabolic steroids to treat nutritional problems and irrational drug use in the management of malaria. Dr. Tanveer, HANDS’ Coordinator, reported on a study of general practitioners in Karachi which showed that almost 70% of children seen by doctors are given antibiotics. In the majority of cases this is for reasons which Dr. Tanveer described as “unnecessary”.

The seminars were the first in a series planned for all the cities of Sindh Province. HANDS is organizing these in collaboration with UNICEF, local branches of the Pakistan Medical Association and the Sindh branch of the Pakistan Paediatric Association. For more information contact the Health and Nutrition Development Society, First Floor, 153-S, Block 2, Sir Syed Road, P.E.C.H.S., Karachi, Pakistan.

Bi-regional meeting on technical cooperation on essential drugs

Future developments in Technical Cooperation Among Countries in essential drugs in the South-East Asia and Western Pacific Regions were discussed at a meeting in Kuala Lumpur, in December 1994. The Action Programme on Essential Drugs, which co-sponsored the event, was represented among the large number of government, pharmaceutical industry and WHO delegates.

The meeting gave an opportunity to review ongoing activities and issues. Working groups discussed priority areas and subjects chosen for intensified regional and inter-regional technical collaboration included: Good Manufacturing Practices; drug evaluation/information exchange; quality assurance; use of the WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce; and human resources development and exchange. Delegates prepared a broad action plan in the selected areas, in order to identify partners and to explore possible sources of technical and financial support for their continued collaborative efforts.

Tightening up on “medicines” in Russia

The Pharmacological Committee of Russia’s Ministry of Health has issued a warning against a highly publicised preparation, Vitivid, advertised as specific against AIDS and cancer. The warning states that the Committee has never licensed clinical tests of the preparation, but that “preclinical” research has shown it to be not only without therapeutic properties but also to be a toxin.

According to the inventor of the drug, Tamara Vorobeva, it consists of a “non-toxic aqueous solution of mercury salts”, which transforms cancer cells into normal ones, and is then expelled from the body after six hours. She maintains that clinical trials of the drug took place “many years ago” in Ukraine and that these showed that Vitivid was “considerably effective”. She says that she began her research on the preparation more than 20 years ago. But it has proved impossible to identify where and when Vorobeva carried out these trials.

An incident such as this exemplifies a major problem in post-Soviet medicine. The breakdown in the supply of conventional pharmaceuticals has left the way open to all kinds of dubious herbal and chemical preparations. Even professional health workers’ journals seem only too willing to accept advertisements for what their editorial experts must surely recognise as preparations of unproven worth. At first glance, and to the non-specialist, the advertisements for Vitivid have a certain pseudoscientific gloss, and even the mainstream daily Izvestiya, which normally has scientific and medical articles well vetted by experts, was prepared to give Vorobeva column space. Since mercury was a traditional eighteenth century “treatment” for syphilis, to those without medical training it may well seem logical to apply it to AIDS.

Two years ago, medical journalists in Russia justified the advertisements their papers carried for unproved, traditional and dubious “treatments” by suggesting that, even if they had no specific curative effect, they might be at least have some placebo benefit, in the absence of more conventional pharmaceuticals. The warning against Vitivid suggests, however, that the Ministry of Health now plans to tighten up on at least the more toxic and dangerous of these alleged “medicines”.


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Tanzania: workshop promotes essential drugs concept

Training modules developed by WHO/INRUD were successfully used at a workshop on promoting the essential drugs concept in church-related hospitals in Central, Eastern and Southern Africa. Organized by the World Council of Churches, the workshop was held in Moshi, Tanzania in June 1995 and was attended by 24 people from 10 countries. It offered an opportunity for four participants who had already attended one of the WHO/INRUD Promotion of Rational Drug Use courses, led by a staff member of the Action Programme on Essential Drugs, to practise their skills as facilitators.

The workshop's main objectives were: to share experiences in the implementation of sustainable drug supply systems; to strengthen training activities to develop skills in evaluating and monitoring drug use; and to develop sub-regional support networks.

Uganda to host training course on rational prescribing

The next global DAP/INRUD training course on promoting rational drug use will be held in Kampala from 14 to 27 April 1996. Intended mainly for doctors, pharmacists and senior government officials involved in programmes promoting rational drug use, the course will follow the same format as previously, with a highly participatory, practically oriented approach. The first week will be devoted to methods of detecting drug use problems, and will include two days' field work. The second week will focus on discussion of various intervention strategies to promote rational drug prescribing.

As previous courses have been over-subscribed, early application is advised. Tuition fees, which include board and lodging, will be approximately US$3,000.

Further information can be obtained from: Management Sciences for Health, 1635 N. Fort Myer Drive, Suite 920, Arlington VA 22209, USA. Tel. +703 524 6575; fax: +703 524 7898; e-mail: imrad@msh-dc.org

Meeting calls for increased support for drugs programmes

Delegates from the Andes region, Central America and the Dominican Republic met in Panama in August 1995 to discuss coordination of pharmaceutical programmes and projects. During the meeting, which was supported by the Action Programme on Essential Drugs, participants expressed their concern about the current pharmaceutical situation. Noting that WHO's World Health Assembly (WHA) and Executive Board have both recognised that pharmaceuticals are a priority for health, delegates passed three resolutions which they urged their governments and the Pan American Health Organization (PAHO)/WHO to act on.

The resolutions:

Recomended to both governments and PAHO/WHO that they maintain the priority nature of pharmaceuticals within their reform processes, according to the principles of equity, universal access and rational drug use.

Requested the Ministers of Health and representatives of the Americas at their meeting in September 1995, to promote national drug policies based on the comprehensive essential drugs strategy advocated by WHO.

Recommended to PAHO/WHO that they strengthen the Regional Essential Drugs Programme. This would help to meet the needs of the countries in the Region and maintain the Programme's leadership in the pharmaceutical sector, delegates stated.
Consumers tackle women's issues at Beijing Conference

The NGO Forum of the World Conference of Women, held in September 1995, was chosen by the Women's Health Action Foundation and Health Action International to launch new materials highlighting current health issues. In the case of Women's Health Action Foundation it was a publication, A Healthy Balance. Women's health advocates from around the world explain how aspects of women's health have been neglected in health care, are affected by drugs. As old problem drugs disappear, new ones unfortunately take their place, the authors state. Some never seem to disappear despite strong efforts to take them off the market. The publication is intended to spur readers into action and provide ideas for new campaigns on women's health. Among the subjects covered are false promises, empty slogans, sex stereotyping and the assumption that women can't think. These are mostly advertisements directed as doctors. HAI believes that women's health is compromised by this type of promotion and argues that to make an informed choice women need: a wide range of contraceptive methods; freedom of choice; full, unbiased information about the methods available; and access to good health care systems.

Posters are available from HAI-Europe, Jacob van Lennepkade 3345T, 1053 NJ Amsterdam, the Netherlands. Price: Dfl.15, plus Dfl.5 handling charge for 5 copies.


US fraud alert targets unethical promotion

The Office of the Inspector General for the US Department of Health and Human Services has issued a special "fraud alert". The alert letter was sent to health care providers and patients, warning them of "aggressive" marketing by companies whose products may impair the legal and ethical use of Medicaid statutes. The letter targets incentives, such as cash payments and research grants, intended to encourage prescribing or dispensing of a specific drug.

"In an era of aggressive drug marketing, patients may now be using prescription drug items, unaware that their physician or pharmacist is being compensated for promoting the selection of a specific product," it stated.

The Office of the Inspector General cited three specific cases where marketing tactics may have violated the criminal anti-kickback statutes governing Medicaid. The Agency repeatedly avoided naming specific companies or products because the listed activities are "typical" within the industry. The activities are listed in the alert letter as follows:

- A "product-conversion" programme which resulted in 96,000 brand name conversions. In this scenario, for example, Drug Company A offered a cash award to pharmacies each time a drug prescription was charged from Drug Company B's product to Drug Company A's product. The pharmacies were encouraged to help persuade physicians, who were unaware of the pharmacies' financial interest, to change the prescription.

- A "frequent flier" campaign in which physicians were given credit towards airline frequent flier mileage each time the physician completed a questionnaire for a new patient placed on the drug company's product.

- A "research grant" programme in which physicians were given substantial payments for minimal record keeping tasks. The physician administered the company's drug to the patient and made brief notes, sometimes a single word note, the treatment outcome. Upon completion of a limited number of such "studies", the physician received payment from the company.

No safe harbour...

These marketing programmes may pose a danger to patients because the payments "may interfere with a physician's judgement in determining the most appropriate treatment", as well as increasing the Government's cost of drugs and suppliers for the products, the alert letter noted. "The Office of the Inspector General is investigating various drug marketing schemes and enforcing the anti-kickback laws where those practices affect the federal health care programmes", it stated.

Under the statute, a payment or gift may be considered improper if it is "made to a person in a position to generate business for the paying party; related to the volume of business generated; and more than nominal in value and/or exceeds fair market value of any legitimate service rendered to the payer, or is unrelated to any service at all other than referral of patients".

"No free lunch"

The fraud alert is "another step in our effort to protect our beneficiaries from companies which encourage health care providers to put their financial

self-interest ahead of the best interest of their patients", said Inspector General June Gibbs Brown. "We all know that there is no 'free lunch' in American business", she commented. "When a drug manufacturer gives its prescribing physicians airline tickets and golf weekends at plush resorts, someone has to pay for these gifts. And that someone is the average American citizen."

New educational efforts...

In an effort to increase awareness of statutory requirements, the US Pharmaceutical Advertising Council has developed a new reference publications to help entry-level marketing and communications professionals understand the Government regulations and guidelines covering pharmaceutical promotion. Understanding Promotional and Educational Regulations/ Guidelines, the 700-page reference manual and workbook covers all Government and private sector standards. The books were developed using educational grants from 21 pharmaceutical companies. PBMA, The US pharmaceutical industry association, has encouraged its members to use the new reference as part of an "ongoing effort to assure accurate, fair, and factual communication".

The manual and workbook are available individually (369.75 and $34.25 respectively) or as a set ($79.25) from: Advanced Therapeutic Communications, 400 Plaza Drive, Secaucus, NJ 07094. USA. Tel: +201 865 7500, fax: +201 865 0698.


Tanzania moves to control drug promotion

The Pharmacy Board of Tanzania has prepared guidelines on drug promotion. The guidelines incorporate those in WHO's Ethical Criteria for Medicinal Drug Promotion, together with those regulated by the Pharmacy and Poisons Act, reports the Drug Information Bulletin (vol.6, no.3).

The guidelines have been drawn up at a time when, according to the Ministry of Health's Bulletin, drug promotion in Tanzania is threatening to get out of hand. Complaints about the unethical marketing practices of some pharmaceutical companies have been received from the country's consumer group and from individuals. According to the Bulletin, there have been some reports of medical representatives going from doctor to doctor to induce them to prescribe their company's products by their brand names. This results in confused patients going from one pharmacy to another in search of the particular brand name product. The Bulletin points out that these drugs could easily be substituted by another and that in any case the products are more expensive than generic ones. Such practices are unethical and totally contrary to the National Drug Policy of 1993, which states categorically that doctors should prescribe generically, the Bulletin continues, regretting that doctors allow themselves to be so easily influenced.

Another area of complaint concerns some drug advertisements. All advertisements must first be approved by the Pharmacy Board. Many manufacturers, however, are not abiding by this regulation. The Board is looking for ways of stopping this, including refusing of product licensing. "If necessary and restraining offending medical representatives' licences, reports the Bulletin. The Pharmacy Board has no wish to prevent pharmaceutical manufacturers promoting their products. It is just encouraging commercial production which meets ethical standards and Good Manufacturing Practices. The Board would also like manufacturers to promote rational drug use."
New distance learning package in rational prescribing

M.J. Lidell*

Macquarie University in Melbourne, Australia, recently commenced a new initiative in graduate education. The Department of Community Medicine in the Faculty of Medicine has developed a course to be taught by distance education, which leads to a Graduate Diploma in Family Medicine. The course is offered to doctors who are currently engaged in general practice. It is spread over two years part-time and can be upgraded to a Masters degree by a further year of course work and completion of a minor thesis.

The background to the distance education course was a Masters course in Family Medicine, taught on campus at Monash University from 1989. While it had a very small enrolment of around four students per year, participants perceived it to be a high quality course, providing an insight into critical appraisal of aspects of general practice/family medicine and an introduction to research in general practice. The major barriers to participation were geographic inaccessibility and time constraints. Thus the idea of a distance education equivalent was born. Students are able to work at a time and place of their own choosing, and so fit their studies around their clinical and personal commitments.

The Graduate Diploma began in 1992 with 56 students, 28 of whom completed the course in minimum time. Seventeen of these are currently proceeding to Masters. In 1994 there was a total of 201 students, spread over three years of the course. Students from all states of Australia are enrolled and there is a significant number from overseas, primarily from South-East Asia. To date, nine different countries are represented in the student body.

The Graduate Diploma consists of two compulsory units in the first year: The Academic Basis of Family Medicine and Introduction to Research Methods in General Practice. In the second year students select three electives from 13 currently available, one of which is Rational Prescribing. Third year Masters students may take a further selection of electives, but they are encouraged rather than required to take a unit in Clinical Pharmacology and Applied Research in General Practice to prepare them for ongoing involvement in academic medicine and research. In their fourth year they undertake a research project and submit a thesis.

A development of the units has been slow and painstaking, not least for Rational Prescribing. The first hurdle was to decide on the aims and objectives for the unit. The electives tend to be clinically oriented and the temptation when planning Rational Prescribing was to put together a compilation of therapeutic bases on current wisdom, detailing the most appropriate therapy for various conditions. This disease-based approach was rejected for two major reasons:

- In Australia we have an excellent set of booklets designed precisely for the purpose of giving current therapeutic guidelines (see EDM-19). They are put together by representative committees and are updated biennially. They are evidence-based where possible and consensus-based otherwise. It was considered that these could not be bettered, and so they were included as a set text.
- If the students only engaged in rote learning of current pharmacotherapy, the knowledge they gained would be superficial and rapidly outdated.

The approach settled on was broader and more enduring. The underlying aim was to develop in the students a habit of critical appraisal, which they would use not only in working through the elective, but continue into the future.

The elective comprises 10 sessions, which on average require about 10 hours each of student time in reading and other activities. The presentation is multi-media, using written materials, audiotape, videotape and computer programmes. The course content is summarised below.

Introduction to rational prescribing: session 1

In the introduction, the scope of "rational prescribing" and some of the sociological factors involved are reviewed. Students are asked to consider why people take drugs. They then consider what factors, including psychological factors, motivate a doctor to prescribe as he or she does. The structure and marketing strategies of the pharmaceutical industry in Australia are reviewed and students analyse aspects of pharmaceutical promotional techniques they encounter. They examine the generic versus originator brands debate, and are asked to consider performance indicators for appropriate use of medicine.

Practical philosophy of rational prescribing: session 2

A WHO model for teaching appropriate drug selection to undergraduates has been modified for practising clinicians. It is based on the concept of developing a personal list of preferred drugs for common clinical situations (see Guide to Good Prescribing page 18).

Basic background pharmacokinetics: session 3

This session includes such areas as absorption and bioavailability, volume of distribution, hepatic and renal clearance, and the use of these concepts to predict drug interactions and effects of disease states. The students then analyse the information in examples of "approved product information" of drugs with which they may not be familiar.

Pharmacodynamics and clinical pharmacology: session 4

This session covers pharmacodynamics, adverse drug reactions and drug interactions. The students are reminded of the components of a drug history. The "why" and "when" of monitoring serum drug levels are discussed. Case histories are given to illustrate various drug-related problems, with a commentary provided.

Prescribing in practice: session 5

Various non-drug alternatives to medication are discussed, including a review of non-orthodox medicine. Patient adherence to treatment and patient education are then addressed. The students are asked to evaluate several types of patient education materials. They then analyse aspects of adherence to treatment with patients in their own practice by means of a small survey.

A method for clinical prescribing: session 6-1

The adaptation of the WHO model is continued, looking at optional drug selection when prescribing for an individual patient. The general aspects of efficacy, safety and cost are modified by factors which may affect suitability for that particular patient. Patient education is further discussed in this context and students are asked to devise examples of patient education materials to use.

The issue of treatment duration is also addressed, as stopping treatment appropriately is as important as commencing it.

Rational prescribing in special categories: session 6-2

In the second part of the session, prescribing needs of certain groups of patients are discussed - children, the elderly, pregnant and lactating women, and ethnic minorities. Difficult issues in prescribing for these groups are reviewed, and suitable approaches are suggested.

Methods of improving prescribing: sessions 7 and 8

The process of formal medication review is described. Then the many and varied avenues by which doctors obtain information about drugs are outlined and the students are led through the process of critically evaluating each source.

The governmental regulatory framework affecting prescribing is discussed, and then methods of self-regulation by the medical profession are reviewed. The students are taught the principles of medical audit and develop a method for auditing prescribing in their own practices. The different purposes and problems associated with personal, practice and national formularies, essential drugs lists and therapeutic guidelines are considered.

Community perspectives: session 9

Part 1 Prescribed drug dependence

This segment should enable students to recognise the scope of prescribed drug dependence in their community and to be better able to recognise, manage and prevent such problems.

Part 2 Doctor/pharmacist relations

This segment looks at prescribing from the pharmacist's perspective, both historical and current. A case-based approach is employed, where students analyse problems in prescriptions as presented to the pharmacist.

Part 3 Ethical and negligence issues

Legal and ethical requirements for informed consent in relation to prescribing are discussed. Some historical drug
Tried, tested and ready for use – the new Guide to Good Prescribing

The Action Programme on Essential Drugs has published a new training manual as part of its continuing campaign against irrational prescribing. Guide to Good Prescribing, produced in collaboration with the University of Groningen, describes an innovative teaching methodology for medical schools. It provides a much needed update to pharmacotherapy teaching, which has traditionally focused on theory rather than practice. The approach taken by the Guide is fundamentally different. The emphasis is from diagnosis to drug treatment, rather than concentrating on drug-centred information. Many practical examples illustrate how to select, prescribe and monitor treatment and how to communicate with patients. The manual provides step-by-step guidance to rational prescribing and teaches skills which will remain valid throughout a clinical career.

Many doctors find it difficult to make a rational choice from the large number of medicines that are available on the market. In both developing and developed countries, ineffective or unnecessary treatment is common, sometimes causing serious side effects and even resulting in hospital admission. While irrational prescribing is a "disease" which is difficult to treat, prevention is possible. For this reason, WHO's Action Programme on Essential Drugs is engaged in several activities aimed at improving pharmacotherapy teaching to medical students.

In many medical schools, methods of teaching pharmacology and therapeutics have not changed, despite great progress in pharmacotherapeutic approaches to disease. Teaching of drug therapy is characterized by transferring knowledge about drugs, rather than training students to treat patients in a rational way. However, in the last decade, a number of innovative educational programmes have been developed in an attempt to change this situation. The University of Groningen in the Netherlands has taken a lead in this field, and the Action Programme has collaborated with the University's Department of Clinical Pharmacology to develop a manual for undergraduate medical students on the principles of rational prescribing.

Guide to Good Prescribing introduces the concept of a personal formula of essential drugs, based on rational selection criteria of efficacy, safety, convenience and cost. It provides students with a normative model for pharmacotherapeutic reasoning. First, students are taught to generate a "standard" pharmacotherapeutic approach to common disorders, resulting in a set of first-choice drugs, called "Personal-drugs". In the course of this process they learn to consult existing national and international treatment guidelines, national formularies, pharmacology textbooks and other important sources of drug information. Then they are shown how to apply this set of drugs to specific patient problems using six steps:

- Define the patient problem;
- Specify the therapeutic objective;
- Verify the suitability of the P-drug;
- Write a prescription;
- Inform and instruct the patient; and
- Monitor and/or stop the treatment.

The rationale behind this approach is that, at some time in the course of their studies or early in their career, medical students always develop a set of drugs which they will use regularly from then on. However, this choice is often made on irrational grounds, such as copying the prescribing behaviour of their clinical teachers or peers without really considering the alternatives or knowing how to choose between them. The manual not only helps the students to select P-drugs in a rational way, but also to consult, understand and use existing treatment guidelines in an intelligent manner. For example, it teaches the students how to verify, for each individual patient, whether their P-treatment is also the most appropriate choice in the individual case, and, if necessary, how to adapt the drug, the dosage form, the dosage schedule or the duration of treatment.

Further on in their careers, doctors are subject to many other influences on their prescribing, including scientific publications, commercial information and patient pressures. Guide to Good Prescribing makes students aware of these influences and helps them to make optimal use of the information available to them to update their P-drugs in a rational way.

The manual can be used for self-study or as a part of a formal training programme. Although intended primarily for undergraduate medical students who are about to enter the clinical phase of their studies, postgraduate students and practising doctors may also find it a source of new ideas and perhaps an incentive for change.

Field testing...

Before publication, the draft manual was tested through an international randomised controlled trial. This followed a highly standardised research protocol and involved groups of undergraduate medical students in Groningen (Netherlands), Kathmandu (Nepal), Lagos (Nigeria), New Delhi (India), Newcastle (Australia), San Francisco (USA) and Yogyakarta (Indonesia). The objective was to determine whether a short interactive training course, based on the manual, would enable the students to use the knowledge and skills obtained during the course to solve new patient problems.

Study design

In each of the seven medical schools, undergraduate medical students about to start their clinical phase of training were invited to volunteer for the study. All took a pre-test. The students were then divided randomly between study and control groups of about 10 students. The study groups continued for four weekly pharmacotherapeutic training sessions of two to three hours using the draft manual.

Because of limited time, the principles were discussed using patient examples on pain medication only. Impact was measured by three tests for both study and control groups, before and immediately after the training period, and after six months.

Training course

During the course, five written patient problems on pain were discussed. All teachers were carefully instructed not to provide solutions to the problems, but rather to guide the students in discussing and finding the answers themselves. First the students were taught to determine one or more first-choice drugs for pain. Then they had to develop a complete pharmacotherapeutic plan for each specific patient, using the six-step model.

Results

The results of the test are visualised in Figure 1. The full results are available on request from the Action Programme and the trial's methodology is published in the Lancet.

An effective way to teach pharmacotherapy...

The results of this study, which involved 184 students from seven medical schools, underline the need for a comprehensive and interactive teaching method. The Guide to Good Prescribing provides a practical and user-friendly tool for medical educators and students alike.
Essential Drugs Monitor

Figure 1

Test results

<table>
<thead>
<tr>
<th>Test</th>
<th>Define problem</th>
<th>Specify therapeutic goal</th>
<th>Choose treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>3</td>
<td>4</td>
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<tr>
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<td>4</td>
<td>5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Write prescription</th>
<th>Inform patient</th>
<th>Monitor treatment</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>2</td>
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<td>4</td>
</tr>
<tr>
<td>3</td>
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</tbody>
</table>

Each panel represents one step of the problem solving routine.

New distance learning package... cont'd from pg. 17

disasters are traced and these are related to current approaches.

Drug trials and the future of clinical pharmacology: session 10

The methodology of clinical drug trials in Australia is described to enable students to more critically appraise the avalanche of information when new drugs are released.

levels and enhance participation. By the end of the course the students will have hands-on experience of critical appraisal techniques in many areas of prescribing, and should have a broad view of the issues in pharmacotherapy. They should be better equipped for a rational approach to prescribing in the future.

The actual project was designed as part of a course leading to the Diploma in Family Medicine, it also operates as a stand-alone package. A shortened module requiring about 30-35 hours of student time is also planned.

Course to train the trainers...

In August 1994 the University of Groningen ran its first summer course on pharmacotherapy teaching. The course was specifically designed to test the methodology described in Guide to Good Prescribing and proved so successful that it has become an annual event. During the first week participants - mainly university pharmacology teachers - are exposed to training on the principles of rational pharmacotherapeutics, using the Guide. In the second week they teach the same course to a group of medical students. Comments by staff and students, as well as video recordings, are used to assess the participants' performance and to review and discuss the teaching methodology.

The Department of Clinical Pharmacology - now designated a WHO Collaborating Centre for Pharmacotherapy Teaching and Training - will hold the next course from 5-12 August, 1996. Information can be obtained from the Department of Clinical Pharmacology, University of Groningen, Biomedical Institute, 9713 BZ, Groningen, The Netherlands. Fax: +31-50-3632812; e-mail: summercourse.pharmac@med.rug.nl.

Guide to Good Prescribing, Action Programme

References


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References


Pharmacotherapy counselling groups in the Netherlands, a bottom-up approach

EM Hanijer-Ruskamp

Two strategies were developed to provide this support: a national network of local pharmacotherapy counselling groups was set up to work with general practitioners (GPs); and public education programmes. This article is limited to a discussion of the counselling groups, since most experience has been gained with this policy aspect.

Pharmacotherapy counselling groups consist of general practitioners and one or more local community pharmacists, who meet regularly to exchange information about drug therapy and work towards local guidelines. This integration of expertise from both professions targets optimal patient management.

Several methods have been used by the groups, some in combination, depending on the stated objective. The most popular is a lecture by a pharmacist (83%); and/or a GP colleague (59%). A few groups have invited lectures from specialists (14%), and in a few cases (9%) also from pharmaceutical industry representatives (9%). Other common approaches are the use of a structured patient case study (38%); or intensive discussion of the treatment standard, as presented by the Dutch College of General Practice (57%). Only a few groups used feedback about agreed treatment in terms of prescription data. If prescription data were used, this was more to gain information about prescription patterns or to prepare guidelines.

Feedback to individuals on their prescribing patterns is known to be a powerful tool in changing physicians’ behaviour. Although such data were in theory generally available in the Netherlands, actual practice was hard to obtain in a usable form. User friendly programmes suggest a way to get the pharmacist the data needed from that stored in their computers. Moreover, working with such individual data presupposes a level of trust between the participants of the groups, which needs time to grow.

The project is not yet available, but enough is known to form a general idea about the use of the approach. The present 500 pharmacotherapy counselling groups exist, covering more than 90% of the general practitioners. The most groups consist of doctors and 1-3 pharmacists. In a few cases the number of GPs is less than 5% (in 1992) or more than 12% (16%) of the GPs.

A survey of 400 groups at the end of 1992 gave more specific data on aims and approaches. The stated objectives of 23% of the groups was the exchange of information; in 28% it was advice or voluntary guidelines about drug choice; in 35% it was to develop guidelines that were to some degree obligatory; in 5% the guidelines were binding, and in 9% binding guidelines were monitored with prescription data. Exchange of information and developing voluntary guidelines are not the most effective ways to change such prescribing. Yet, they are important for the improvement of knowledge. They can also be an effective first step in a project where members get to know each other and build up confidence and consensus.

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User-friendly systems...

In the period after the first survey described above, progress has been made on both fronts. User-friendly systems have been developed and are becoming more generally available, either from the local pharmacist or from regional health insurance schemes. An effort is being made to present prescription data so that it is more meaningful to the prescriber. Also group members have learned to work together and to discuss their prescribing with peers and the community pharmacists. Few, if any groups have disbanded and most continue to meet. In the last six weeks to two months, they are undoubtedly helped by a reasonable financial compensation for attendance.

The experience to date has been so positive that the group has decided to start working with pharmacists and GPs, who already work together, on the intensive involvement and active encouragement of both professional organisations at the national and regional levels, have served as a powerful motivating factor.

The real impact on actual prescribing remains to be seen, but from evaluations of similar experiences, one would expect a positive effect. Peer review and audit have proven effective in other aspects of general practice; while experience with changing prescribing behaviour has shown mixed results.

More support needed...

At present, the major focus of work on the most frequently prescribed drug groups, not necessarily the groups where the most irrational prescribing occurs, however, the project is an ongoing process; subjects for discussion are tuned to the perceived needs of the participants and these needs will change over time. Moreover, until now the regional teams have functioned mainly as a force to start the whole process going, giving support in terms of motivation and organization, which are important aspects especially in the initial stages. However, to tackle the problem of irrational drug choice, more support in terms of medical pharmacological expertise is needed. At times there is a gap between the views and perceptions of the GPs and the pharmacists. The latter will approach prescribing primarily from the point of view of the pharmacological characteristics of the drug, while the clinician will include patient factors and side effects. Bringing together these two views is inevitably fruitful, but at times can lead also to misunderstanding and friction. This is when the support of someone with medical as well as pharmacological expertise may be crucial.

Another problem, which still has to be resolved, is that the groups only include GPs, while much of the prescribing of a drug is made by specialists imitated by a GP. GPs do not regard these prescribers as their own and feel unable to change them without the consent of the specialist. Specialists also influence the drug choice of GPs indirectly by their example. It is therefore of utmost importance to involve specialists in the process, and new initiatives in this direction are being developed.

Key success factors...

This model of a network of pharmacotherapy counselling groups was developed to fit the Dutch situation. A number of important factors have contributed to its success so far:

- It has been embedded in a structure of GPs who already work together.
- Tensions between GPs and pharmacists, while sometimes existing, are not so strong that collaboration is impeded.
- Pharmacists are highly trained and respected for their knowledge about drugs.
- Pharmacists are reaching out towards the practising physician in a changed health care role.
- Computerization in pharmacies, making prescribing data available, provides feedback later. About drug prescribing patterns. This may be the most crucial element in a eventual positive impact.

To what extent can such a model be exported to other health care systems, in particular to those with more limited resources than the Netherlands? While any continuing drug education has to be tailored to local circumstances, there are some elements which appear universally applicable. The first of these is to meet at a regular interval with a small group of peers and an expert. The group can be GPs and a pharmacist, as in the Netherlands, but it can just as well consist of medical assistants and a physician who has taken extra training in pharmacotherapy. A prerequisite is that adequate information is available to the group, such as formularies, treatment guidelines and, if possible, scientific journals, particularly drug bulletins. In the Netherlands, for example, the Dutch Drug Bulletin (comparable to the American Medical Letter) is an important source of information. Feedback about individual prescribing is an essential element, but this does not have to be in the form of sophisticated computerised patient records; other ways are the use of hypothetical patient cases or examples contributed by participants. Most important of all is political will at the local level of national health authorities and national professional organisations, as well as of individual prescribers and experts, to give time and attention to the problem of rational drug use.

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For further information about the Dutch Pharmacotherapy Counselling Groups contact: Greet Rademakers, Steenweg op Het Veerweg 172, 8200 AS Ridderkerk, The Netherlands; fax: +31 11 33 12 325; or Wil Hijnken, Director Dutch Foundation for IDD, Unit Steenweg 82, 8200 AS Ridderkerk, The Netherlands; fax: +31 11 33 12 325.

References


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Issue No. 20, 1995
From research to action: the Gunungkidul experience

Budiono Santoso

In EDM-15 we described the research policy of the Action Programme on Essential Drugs with its emphasis on research which is relevant and usable. To increase the likelihood of such research, DAP advocates close collaboration between those who identify the problems for study and who are the main potential users of the research results and those who conduct the research. In this article, we describe how one district health team in a rural area of Indonesia is using such a participatory approach to solve problems of drug misuse at local level. The article shows how research tools can be used as part of a learning process with health centre staff both applying the tools and also learning about and improving their own practice.

Gunungkidul is a rural district in Java, Indonesia, one of five districts in Yogyakarta Special Province. The district has a network of public health facilities, which include one public hospital, 29 public health centres (puskesmas) and 109 sub-health centres (puskesmas pembantu) managed by the same organisation. The puskesmas and puskesmas pembantu have three distinct functions in the community: providing the majority of health services including curative services, promotion, prevention and rehabilitation; providing technical advice on health to the community; and encouraging community participation in health issues.

Generally, each puskesmas is staffed by at least one or two physicians, one of whom manages the health centre, its associated sub-centres, and their services. These physicians are supported by eight to ten paramedics, who are usually nurses. Because of the heavy workload and administrative responsibilities of physicians, about 70% of patients visiting health centres for curative care are treated by paramedics, despite the fact that diagnostic and pharmaceutical therapy are not included in their formal training.

Drugs are a key component of treatment, and they are provided free of charge to patients in Government facilities. Without adequate access to drugs, community members are less willing to participate in the other health activities offered by the puskesmas. Unfortunately, some managerial problems related to drugs are known to prevail at the present time in Gunungkidul District, as in many other districts in Indonesia. These include periodic shortages of drugs, as resources are very limited and drug prices are continually increasing; a tendency towards increased demand for drugs due to increasing patient attendances at public facilities; and frequent polypharmacy, including excessive use of injections and antibiotics.

These problems interfere with the effective functioning of health services. Because it is beyond their capacity to increase the health budget, Gunungkidul District Health Administration (the District Team) realised that it was necessary to control drug use to address these problems. They therefore carried out a series of activities to learn more about the nature and causes of drug misuse and to design and test new management systems to improve the situation.

The conceptual framework of the problem-solving process is shown in Figure 1. One key to the approach was the use of applied quantitative and qualitative tools, often only associated with research, as a way to promote action on the part of district health staff. This work was carried out with the assistance of the International Network for Rational Use of Drugs (INRUD) Indonesia Core Group, which provided financial support as well as exposure to some of the applied research tools used in this process.

**Steps in Problem-Solving**

**Step 1: Studies with applied research tools**

Quantitative data to describe drug use

As their first step in learning about managerial problems related to drug use, the District Team conducted a quantitative survey of drug use (see Time Line in Figure 2). The methods for this survey were based on those described in the recent WHO publication, *How to Investigate Drug Use in Health Facilities*. However, the indicators themselves were simplified to include only three prescribing indicators: average number of drugs prescribed per case; percentage of patients receiving antibiotics; and the percentage of patients receiving injections. The other suggested prescribing indicators in the publication were not measured because all drugs in Gunungkidul health centres are supplied by generic name and from the National Essential Drugs List. All health centres also have standard therapy guidelines. However, this survey, covering the period August–October 1992, confirmed that these guidelines were not being followed, and that there was very high use of injections (75% of patients), antibiotics (63%), and extensive polypharmacy (4.2 drugs per patient).

Using group discussions as an intervention

In December 1992 following the quantitative survey, an innovative intervention, targeting the very high use of injections, was conducted in 24 health centres in cooperation with academic researchers from INRUD-Indonesia. The intervention involved interactive group discussions between health workers and community members to reduce injection use in 12 randomly selected health centres. An evaluation three months after the intervention showed a significant decrease in injection use. More importantly, however, the experience of using this qualitative tool and the responsiveness of health staff convinced the District Team that broader changes in behaviour were possible, based on self-learning and active participation among health staff. This was the beginning of the shift in perspective from research to action—that is, adapting tools developed to investigate problems to tools that could be used directly in the process to solve them.

**Focused study to learn about causes**

The District Team then held a brainstorming session on the possible factors that could be responsible for apparent over-prescribing. They raised an extensive list of possible factors, which were expressed as 37 possible causes. These questions were used as the basis for developing a protocol and research instruments for a focused study.

The study was carried out by members of the District Team with input and support from INRUD-Indonesia. Members of the District Team used four applied research methods suggested to them by the INRUD consultants: in-depth interviews, observations, focus group discussions and questionnaires. Draft instruments were developed and then field tested in four puskesmas. The results of this field test were reported at a workshop hosted by the District Team for all district health staff. Some of the summary findings which were discussed included:

- doctors are uncertain about diagnoses
and feel that prescribing is an art;  
- paramedics are unsure of diagnoses because patient complaints are too varied;  
- average examination time is two minutes and dispensing time 6.5 seconds;  
- doctors feel that national treatment guidelines are only useful for paramedics, and paramedics feel that these guidelines are not helpful;  
- patients rely on prescribers to make decisions about which drugs to use;  
- patients do not demand injections but are disappointed when they do not receive them.

The staff of the puskesmas where the instruments were tested reported, in a positive way on what they had learned about their own practices as result of this experience.

Although pleased with the results, the District Team realised that district-level staff could not use these methods to examine care in all facilities because of limited resources. However, it began to be clear to them that although the methods used in the focused assessment were primarily research tools, they could also be useful as part of a self-learning process, in which health centre staff could use the tools to learn about and improve their own practice.

Following the district-wide meeting, the tools from the focused assessment were revised accordingly and draft self-monitoring instruments were prepared.

Step 2: Development of self-monitoring tools

Four puskesmas were identified as pilot sites to field test the self-monitoring system. A monitoring team of doctors and paramedics was formed at each health centre, and trained to use the tools in a two-day session conducted by members of the District Team. The self-monitoring methods included: a monthly quantitative survey of 30 cases at each health centre and 50 cases at each of its health sub-centres to measure the three prescribing indicators; monthly observation by the puskesmas' management of clinical encounters by paramedics; and monthly interviews with patients.

Using these data, the monitoring team held a monthly discussion with all puskesmas about their findings and together they discussed appropriate solutions to problems. The District Team felt that these monthly meetings would encourage puskesmas to exert pressure on their peers to conform to monthly targets they established. After this discussion, the puskesmas monitoring team sent the data and a monthly report to the District Health Office. The District Team did not set specific health centre targets or dictate the issues covered in the reports, but they did exert pressure on the heads of the puskesmas to submit the report on time, before their own monthly meeting with the District Team.

After the three month trial period, each puskesmas presented its results, as well as a review of their experience with the instruments, at another workshop with staff from all 29 puskesmas. Most staff from the pilot health centres were very positive about the self-monitoring process and the quantitative indicators at these centres showed substantial changes. Discussion at this second workshop focused on the possibility of extending self-monitoring to all health units, the resources required, revising the tools and the next planned activity.

Step 3: Implementation of self-monitoring

The District Team then extended the self-monitoring system to all puskesmas in the District. After training had been given. As in the pilot phase, instruments had to be completed by all puskesmas on a monthly basis, and after local discussion, routine reports were sent to the District Health Office for review (see Figure 3).

Using the monitoring form, puskesmas staff compare drug use for the current month in each facility with that from the previous month and quickly see whether each indicator has decreased or increased.

The continuity of the self-monitoring process is guaranteed by:
- weekly staff meetings of the District Team at which results are discussed;
- monthly district-level meetings for the heads of all puskesmas at which the reports they submitted for that month are discussed;
- regular feedback and occasional supervisory visits to puskesmas by members of the District Team.

This self-monitoring system has now been in place since January 1994. Experience has shown that self-monitoring is feasible and useful for both puskesmas and District staff. Furthermore, this activity has been recognized as a useful innovation by the Provincial Health Office, and a programme promoting the rational use of drugs has now been made a priority in the District.

POSITIVE RESULTS

What has been achieved? During the last quarter evaluation in September 1994, puskesmas' reports to the District Office showed that compared to the baseline study, polypharmacy had been reduced by 26% (from 4.2 to 3.1), antibiotic use had been reduced by 51% (from 63% of patients to 31%) and injection use had been reduced by 74% (from 76% to 20% of patients). Furthermore, health centres have submitted orders for fewer drugs during the next planning year and reduced the average number of different items ordered from 120 to 100, a reduction of 17%. Despite these changes in practice, attendance at health centres has remained constant and observations of clinical episodes have shown that consultation time has actually increased. Interviews with health workers showed more positive attitudes to the use of standard treatments, willingness to improve skills and knowledge for better treatment, and increased communication among physicians, paramedics, dispensers and the District Team. Rather than being an additional burden, most health workers saw these new activities as part of their job.

Many drug use problems in the District appear to be caused by lack of knowledge on the part of paramedics, limited resources and by routine behaviour on the part of health workers. We believe our experience has shown that there are a number of quantitative and qualitative research tools which can be adapted to the local setting and applied in a self-monitoring process to improve problems in drug use. The key aspects of this process are the active involvement of local staff and the use of indicators which are meaningful in the local situation. The applied research methods used in this self-monitoring process serve a number of purposes: providing tools for research, tools for intervention and tools for self-monitoring and evaluation. When used by health workers themselves to examine their own behaviour, this process will help them to improve drug use.

Based on our experience, we have a number of recommendations to make to researchers and managers. For researchers, it is important to collaborate with managers to determine needs; to be absolutely clear about what the research aims to accomplish, and to use the research process to improve the local situation. For managers, problem-solving should be approached scientifically: from understanding problems and their causes, to designing interventions and evaluating outcomes. Finally any sustainable problem-solving strategy must involve a participatory approach to staff so that they feel both the problems and the solutions are their own.

*Budjono Santoso is a Professor in the Department of Clinical Pharmacology, Faculty of Medicine, Gadjah Mada University, Yogyakarta, Indonesia.

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![Figure 3: Example of local area monitoring form](image1)

**Figure 3:** Example of local area monitoring form

- Health Centre: *Widodari*
- Month: September
- Year: 1995
- No cases sampled: 50 per cent
- Drugs per case
  - Antibiotics
  - Injections
- Calculation
  - Drugs per case
  - Antibiotics
  - Injections
- Observations
  - Cures from
  - Improvement
- Prevention

![Figure 4: Quarterly changes in prescribing indicators following self-monitoring](image2)

**Figure 4:** Quarterly changes in prescribing indicators following self-monitoring

- # per patient
- % of patients
- % of drugs
- % of antibiotics
- % of injections
- Baseline
- 1/4/3-3/4
- 4/4-6/4
- 7/4-5/4

- [Table showing changes in prescribing indicators following self-monitoring]
Drug promotion: push, promote or educate?

C.H. Shashindran and K.R. Sethuraman

The pharmaceutical industry spends 15–20% of its annual budget on medicinal drug promotion. Medical representatives, known as detailers, are used extensively for drug promotion because one-to-one interaction is a powerful method of communicating—in this case, changing the prescribing behaviour of the physician in a "desirable" way. However, what is desirable from a commercial viewpoint may not be desirable from the clinical or patient's viewpoint. This can diminish the doctor-patient relationship, which is based on trust and goodwill.

Since 1985, the Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER) in Puducherry, India, has conducted a training programme for internists at the beginning of their hospital posting. One of the sessions includes a role play simulating a physician-detailer interaction. The aim is to familiarise the interns with the promotional pressures they are likely to encounter in their professional life. The positive feedback on the session from interns and faculty led to the conclusion that this approach could usefully be adopted by other medical schools, through the development of a video and training materials.

International support...

In 1993, a draft video script was sent to the Action Programme on Essential Drugs for comment and possible support. As a result of the Programme's suggestions, the script was extensively revised to increase its educational value and to highlight the principles of WHO's Ethical Criteria for Medicinal Drug Promotion. It was further prevalidated through feedback from six members of the clinical faculty, a group of 10 residents and interns, and four drug detailers.

With the help of Dr Ken Harvey of La Trobe University, Australia, and support from the Action Programme, the video-based educational module, entitled Push, Promote or Educate, was made at JIPMER in mid-1994. It aimed to:
- sensitise medical professionals to irrational marketing forces;
- highlight areas where promotional pressures can infringe on professional responsibilities and ethics;
- help identify overt and covert messages that promote rather than educate;
- enable doctors to construct the educational component by taking control of the interaction and torecognise promotional strategies.

Ethical dilemmas and subtle promotional pressures...

The video simulates the promotion of a fictitious antibacterial, by a team of detailers and a field manager, to a doctor in family practice. The objective is to trigger discussion on various aspects of the physician-detailer interaction, and to increase awareness of subtle promotional pressures and the ethical issues involved.

The first half of the video shows the interview without interruption; the second is a re-run with sixteen breaks when questions are raised on the promotional tactics employed and ethical dilemmas that arise. These cover:
- The propriety of allowing detailers to take time scheduled for patient consultations.
- The academic background of a detailer with reference to the norms suggested in the WHO Ethical Criteria for Medicinal Drug Promotion.
- Unqualified use of words such as "safe" and other superlatives for the drug, the doctor and the firm.
- Critical appraisal of the product information's educational value conveyed by the detailer.
- Critical analysis of the detailer's answers to pointed queries on the pharmacoeconomics of the drug.
- The use of a female figure in promoting a systemic antibacterial agent.
- The data pertaining to hospital-acquired infections while possessing community-acquired infections seen in family practice.
- The importance of taking control of the interview and how to do this effectively.
- The fallacy of accepting samples to do a "small clinical trial". Critical information is needed before prescribing a new drug.
- The credibility of data from company files and in-house journals as against reprints from peer-reviewed original articles.
- Common errors in cost comparisons: unit cost versus cost of disease; comparisons among different brands as against comparison with well established and less expensive therapies.
- The ethical propriety of accepting gifts.
- The trust-based nature of the doctor-patient relationship.

A versatile educational tool...

The video can be used in two ways:
- "Run-freeze-buzz" mode: In this method, short portions of the film are run and frozen. The group then has a brief buzz session to discuss the points in detail, and the issue is further clarified by the facilitator. The next segment is then run and frozen, and the procedure repeated. The appropriate speed of the film is indicated by the Willsee second part of the video may be run at the end for reinforcement.
- The "check-list" mode: The participants browse through a check-list based on the WHO publication Ethical Criteria for Medicinal Drug Promotion. They then view the first part of the video and fill in the check-list. This is followed by a structured group discussion highlighting points raised by the participants. Later, the second part of the video is run to reinforce the various ethical and promotional issues involved. The facilitator can then focus on the points missed by the group. This method is more appropriate for medical students who have not yet faced detailers.

Users' vote of confidence...

Medical faculty members, medical professionals, residents and interns have already reacted very positively to the video. The medical faculty of K.E.M. Hospital, Bombay, the Rajiv Gandhi Medical College, Amravati, and colleagues at JIPMER, Puducherry, are convinced of the educational value of this approach and will be using the module in future training programmes at a number of levels. They have proposed that a multi-disciplinary team of facilitators could have even greater impact in clarifying the complex issues of drug promotion ethics and economics.

Medical professionals who have viewed the video include primary and secondary care physicians. They found it to be a realistic depiction, and considered that the issues raised were thought-provoking and would trigger much discussion among professionals. Many wished that they had seen it at the start of their career!

A group of 23 internal medicine residents commented that the video provided insight into subtle promotional pressures, adding that they now felt better equipped to control the encounter to maximise its potential educational value while disregarding irrelevant promotional claims. Forty-two newly graduated physicians concluded that the training approach had given them a valuable insight into the workings of the market place and had sensitised them early in their career to professional issues and related ethical dilemmas. One remarked that he is effective, training in good prescribing—like training in good habits—should be started early in life. The group recommended that this video-based training become a regular feature of the Interns' Orientation Programme.

A vital need...

Face-to-face promotion of drugs is industry's major marketing approach. Legitimate concern has been expressed in many fora concerning inappropriate drug marketing, and face-to-face promotion is probably the most powerful technique in the industry. Even when commercial promotion is conducted to the highest ethical standards, it is aimed to promote particular products. Physicians need to be aware that such marketing can never provide the full and comparative information necessary to their patients' ultimate welfare. This is applicable to both developed and developing countries, as the Australian initiative has shown. JIPMER hopes that its training approach will be widely adopted and will be glad to collaborate in this area with other training institutions.

* Professor C.H. Shashindran is Head, Department of Pharmacology and Dr K.R. Sethuraman is Professor in the Department of Medicine, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry — 605 006, India.

The production of the video and its distribution is being supported and financed by the Action Programme on Essential Drugs and La Trobe University, Australia. Copies can be obtained from Consumers International, Room 512, Action Programme on Essential Drugs, PO Box 1015, 10852 Punggol, Malaysia. Further information on this programme and copies of the video within India can be obtained by writing to JIPMER.

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