How much do we know about patterns of drug use in different parts of the world? What do we know of the influences on prescribing behaviour? What, how and where do people learn about the drugs they take, and often buy over the counter?

The answer to these and other questions about drug use is that we know surprisingly little about behaviour which results in the spending of billions of dollars and which has such profound social, health, and economic consequences.

Vast sums are expended on the research and development of new pharmaceuticals. And we should not forget that although on one level this is funded by industry, the underlying cost is included in the drug price, paid by the consumer or government. It is the community’s contribution, therefore, that covers development costs.

At the same time very little is invested to learn about how the drugs we already have are actually used; the impact of commercial marketing, procurement and other factors on such use; or how new drugs compare with their predecessors in terms of therapeutic efficacy and cost. Nor, despite the pioneering work of a few innovative schools, have we done much to investigate how medical students and health workers are taught about pharmacotherapy, and whether their teaching equips them with the skills to prescribe through a professional lifetime in an increasingly complex area.

The limited information we do have strongly indicates that our drugs are generally not optimally used, and that the imbalance between commercial and non-commercial drug information contributes to such misuse. We also know that health professionals do not always have a precise knowledge of the active substance(s) they are actually prescribing. One contributing factor, at a time when pharmacotherapy is increasingly complex, seems likely to be the common practice of prescribing by brand name — of which there are tens of thousands — rather than the international non-proprietary (INN) or scientific name. Unnecessary combinations of active substances also add to cost and to irrational use.

A medicinal drug is often described as an active substance plus information. Perhaps we should take this definition one stage further and add “which is properly used”. The curative or preventive properties of a substance do not function in isolation from how it is used. It must be prescribed or bought by an informed or trained person, be appropriate for the complaint and taken in the right dosage at the right time. Perhaps our priorities have become somewhat unbalanced and we should devote more time, effort and financing to examine what we are doing with the pharmaceuticals we already have.

This issue of the Monitor includes some recent research into drug use. The findings show how complex such decision-making can be and that it is determined by an interlinking web of biomedical, social, cultural and economic factors.

If we are to work towards the rational use of drugs we must have more information about how people perceive and use drugs, and how they are prescribed.

Two publications in DAP’s new Research Series reported on page 11 have precisely this aim. They offer simple, standardised techniques to investigate drug use both in the community and in health centres. It is hoped that studies based on these and other methodologies will increase so that we can lift some of the present veil of ignorance which swaths our knowledge of current practice and enable us to target interventions that will contribute to improved therapy and health.
Pharmacists join the European health for all movement

The European Forum of Pharmaceutical Associations and WHO - European Region have been established to strengthen contact between pharmaceutical associations and the World Health Organization Regional Office for Europe. The new organisation will support the WHO European "Health for All" policy and targets, and contribute to the overall improvement of health through better pharmaceutical services for the 550 million people of WHO's European Region. Its first meeting in Copenhagen (Denmark) was attended by 45 participants from 27 countries, representing national pharmaceutical associations and consumer organisations.

A European Forum of Medical Associations already exists and meets at regular intervals, and the newly created Forum is expected to enhance WHO's capacity to cooperate with health professionals in the Region, as well as among the professionals in the health field. With the recent addition of the European Federation of Pharmaceutical Industries and Additional Member States expected to emerge from the former USSR - the European Region is now made of 34 Member States facing new and highly stimulating public health challenges.

Dr. Gerd Schütz, a WHO official in charge of the "pharmaceuticals in primary health care" field program, says the Forum's main objective is to "address all aspects of their professional scope", says Mr. Almar Grimsson from Iceland, who has been elected President of the Regional Forum's Executive Committee. There will be a particular focus on the national role of drugs in relation to health professionals, patients and the general public, health promotion and education. Members agree to increase knowledge, quality assurance, and the monitoring of drug utilisation.

The meeting in Copenhagen was also the first occasion for high level representatives of the pharmaceutical profession to congregate on a pan-European basis since the deep and rapid political and social change began in the countries of Central and Eastern Europe. They agreed that a cooperation to improve the availability of pharmaceuticals in these countries should address the core problem of economy and structure, and that only truly essential drugs should be provided through international resource mobilisation. Putting the right emphasis on information delivered to professionals and the public should be relied upon, as a way of not "re-inventing" already existing solutions.

The Forum, whose members are to meet once a year, has already come up with the following recommendations:

- to improve the recommendations of the WHO meeting in Madrid 1989 about the role and function of the pharmacist in Europe and to adapt them as targets for pharmacy for the year 2000;
- to plan and implement a major project to improve the quality of information given to patients with their medicines;
- to organise a campaign to help patients ask the right questions when they visit their doctor or pharmacist;
- to strengthen cooperation and collaboration with prescribers on information about medicines for patients;
- to establish a working group to explore the role of the pharmacist in health promotion and illness prevention;
- to establish professional groups for improvement of selected areas within the pharmaceutical sector in countries of Central and Eastern Europe.

A full report of the meeting is available from the WHO Regional Office for Europe, Scherfigvej 5, DK-2100, Copenhagen, Denmark.

French prescribers express concern

According to a critical report by the CNAMTS, the French national health insurance agency, only 10% of the French "the greatest consumers of medicines in the world", but many drug prescriptions in France have "no medical justification", mainly because they do not respect the products' approved indications.

CNAMTS estimates the annual cost of avoidable waste due to over- and mis-prescribing by doctors to be 12 billion (US$24 billion).

Prescription forms contain too many medicines, especially for elderly people, and drugs are prescribed for too long, states the report. Furthermore, it claims that there are "too many" medicines which have a mainly placebo effect, for patients with minor, self-limiting illnesses and those linked to transient psychological problems, with symptoms such as headache, fatigue and digestive disorders.

The report alleges not only excessive over-prescribing but lack of information to assess the efficiency of their decisions, but also intentional over-prescribing, failure to observe the rules on exemption from the co-payment, and fraudulent claims. CNAMTS believes the way forward lies in stronger controls over doctors' activity, more evaluation of medical techniques and greater self-discipline on the part of prescribers.

A new information channel for Bangladesh pharmacists

Pharmacore, a new journal for Bangladesh pharmacists, aims to bring together ideas, knowledge and experience available in the pharmaceutical sector. At a time when some of the country's pharmacists feel that their role is misunderstood, the journal hopes to clarify the importance of the profession in Bangladesh and to illustrate how the contribution pharmacists can make to national development. The first issue includes articles on drugs policy, research, new products, marketing and international affairs.

Available from The Bangladesh Pharmaceutical Society, Department of Pharmacy, University of Dhaka, Bangladesh.

Australian proposal for levy on sales/promotion

The Australian government has proposed the establishment of a National Pharmaceutical Drug Education Programme which could be funded by a levy on pharmaceutical companies' promotion expenditure, or on sales, or by limits on the promotion expenditure that pharmaceutical companies are allowed to include in the price of drugs and transfer of the savings to the Programme.

In a recent national health strategy paper ("Issues in Pharmaceutical Drug Use in Australia") it is proposed that the Education Programme would have the following functions:

- to develop scientific information as a basis for drug use education, programmes for healthcare professionals and patients;
- to prepare drug use guidelines;
- to develop a national forum, including price information from the PBS (pharmaceutical benefits scheme) and prescribing information, with scientific evidence for drug effectiveness;
- to explore different ways of cost-effectively providing drug education services, including the use of detailed community and professional networks;
- to develop education programmes aimed at improving communication between health professionals about drug use issues, and communication between health professionals and consumers;
- to contract with relevant groups for the delivery of education programmes;
- to collaborate on the development of a pharmacoeconomic database.

Industry response

The Australian industry association, the APMA, maintains that the proposal to fund the Education Programme through a levy on drug sales or promotion is in conflict with existing government policy. The APMA says that the government is sending out "mixed signals" to potential investors in the pharmaceutical industry in that its Factor F incentive programme (better prices in return for additional investment) is being contradicted by restricted prices generally and new suggestions, such as levies on drug use activities to fund projects like the Education Programme.

In addition to the Education programme and the pharmacoeconomic database, the strategy paper proposes developing risk profiles to help health professionals and patients themselves recognise people at high risk of adverse drug outcomes; creating community networks and processes to improve medication management for high risk people; developing drug use review processes for patients in hospitals, etc., to improve drug outcomes; developing widespread use of quality assurance and audit processes, including outcome standards for drug use, to inform and support health professionals' decisions on drug use; changing the pharmaceutical supply arrangements for private hospitals, including PBS administrative requirements, to improve the efficiency of drug provision.

For further details of ISD activities and membership contact: Dr. A. Stammers, Conference of Australian ISD Societies, Second Floor, 81 Mortimer St., Sydney, NSW 2000, Australia.
Leading French drug journal goes international

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In 1981 a group of doctors and pharmacists in France created La Revue Prescrire to provide independent information and a critical evaluation of diagnostic and therapeutic strategies. Its aim is to help all those involved in health care to make the best possible choices from the available resources and so minimize waste. In order to maintain its independent reputation, La Revue Prescrire is financed by its subscribers and managed by a non-profit organization. Since 1981 it has been strengthened by a permanent team of authors and editors, together with a network of several hundred reviewers. It became apparent, however, that the international impact of La Revue Prescrire was affected by the fact that it was written in French.

Now every three months Prescrire International will publish English translations of selected articles which have appeared in La Revue Prescrire, and so offer its drug information in the universal scientific language. Each issue includes a new products section which presents critical and comparative evaluations of new proprietary medicines. Adverse effects provides six pages of information based on the latest drugs monitoring data, from all over the world, to enable better decision-making on the risk/benefit ratio of a given drug. A comments section offers opinions on technical and/or ethical matters. Articles on practical subjects, such as the evaluation of a given therapeutic class, are also included and each edition presents a selection of articles and books published in languages other than English, which are not normally to be found in reference banks.

Prescrire International is aimed at decision makers in universities, continuing education organizations, drug information centres, health authorities, pharmaceutical companies and consumer associations throughout the world. It is available from: Prescrire International, BP 459 - F 75527 Paris Cedex 11, France. Annual subscription rates: F450 for individuals, F9100 for institutions.

How honest are drug advertisements?

Advertisements in medical journals are often misleading about the safety and effectiveness of new drugs. This conclusion was reached by a panel of US physicians after a recent review of 109 full-page pharmaceutical advertisements in 10 leading medical journals, published in Annals of Internal Medicine.

Each advertisement was sent to three reviewers. In 86% of the cases the reviewers agreed with the advertisement's claims that the drug was safe, but declared that 44% of the advertisements would have led to improper prescribing if a physician had no other information about the drug. 57% of advertisements were judged by two or more of the reviewers to have little or no educational value.

Overall, the study concluded that 28% of the advertisements should not have been published, and of the remainder, over one-third (34%) required major revisions before publication.

The study supported the view of the Food and Drug Administration (FDA) Commissioner that the problem of misleading drug advertisements is a real one. The reviewers concluded that "many advertisements contained deficiencies in areas in which the FDA has established explicit standards of quality".

New strategies must be used to ensure compliance with these standards, the study concludes.

A statement by the US Pharmaceutical Manufacturers Association strongly objected to the methods and conclusions of the study, which it said unfairly impugned "the reputation of an entire industry".

It described prescription drug advertising as the most regulated form of advertising in the United States. SCRIP (No.1762) reports that at a recent meeting of the Coalition of Healthcare Communicators, Dr George Lundberg recommended that the pharmaceutical industry establish a voluntary system of self-policing to ensure accuracy and fairness in pharmaceutical advertising. He said that the study raised an important debate and predicted some increase in government regulation of pharmaceutical advertising because of the problem unless the industry acted quickly.

What is Equity in essential drugs? The Action Programme’s charter explains:

A CHARTER FOR EQUITY IN ESSENTIAL DRUGS

- access for all people to necessary medicines
- priority for drugs which meet the real health needs of the majority of the population
- fair distribution between cities and rural areas
- assurance that drugs are safe, effective and of good quality
- adequate training of all prescribers
- access to objective information
- real dialogue between patient and prescriber
- empowerment of consumers through education and information
- community development and participation
- development of drugs that meet health needs in the third world and not only those of rich countries
- responsible manufacture and export
- ethical promotion and marketing
- a step to “donations” of hazardous or ineffective products

HAI campaigns to end secrecy in drug regulation

S ecrecy in medicines is pervasive, largely unnecessary and an obstacle to health according to Health Action International (HAI). Launching a campaign for greater openness the group states that “decisions affecting people’s lives and health should not take place behind closed doors”.

During the next few months, members of HAI’s European network will be contacting government, medical, pharmaceutical and consumer representatives to press for greater openness in drugs control.

HAI is using the Treaty of Maastricht’s commitment to greater “transparency of the decision-making process” to assist its campaign.

The group wants full public access to a wide range of information including reports of clinical trials of drug safety and reasons for refusal of marketing licenses.

Using drugs such as thalidomide, cisplatin and tiazolam as examples, HAI argues that people have been harmed not only by the drugs themselves but also by lack of access to information about their harmful effects.

For more information contact: Health Action International, Jacob van Lennepkade 1147, 1053 NK Amsterdam, The Netherlands.
QUALITY ASSURANCE

Controlling drug quality in Zimbabwe

Nathaniel Dube

Awareness of the need to ensure drug safety led Zimbabwe in 1969 to establish its Drugs Control Council, a body responsible for the regulation of all drugs and allied substances. By 1982, the Council considered it needed a laboratory to test the drugs that it was registering and therefore proposed the idea to the Ministry of Health. Discussion with the World Health Organization followed, culminating in the signing of a tripartite agreement in 1985, between the Ministry of Health and WHO: to establish a WHO Subregion III quality control laboratory in Harare to serve Zimbabwe and the other countries in the Subregion, hence the name of the laboratory, ZIMBABWE Regional Drug Control Laboratory (ZRDCL).

By 1988 the laboratory had been constructed with joint funding from the World Health Organization and the Ministry of Health. Its main functions are:

- To test drugs for quality, safety and efficacy;
- To serve as a regional centre for training of drug analysts;
- To develop a databank and furnish drug regulatory information to WHO Subregion III;
- To carry out accelerated stability studies.

In order to meet its running costs, the laboratory charges for services, but staff salaries are covered by the Ministry of Health. The technical services of the laboratory cover chemistry, microbiology, condom testing and training.

Chemistry

The chemistry section has eleven staff headed by the principal analytical chemist. There are high performance liquid chromatography and gas chromatography instruments which allow very sensitive and precise determinations to be carried out. "Finger print" identification of active ingredients is done by infrared-radiography spectrometry while metals are determined on an atomic absorption spectrometer.

The other commonly requested determinations of bioavailability and physical characteristics of tablets and paracetamol are carried out on dissolution, disintegration and friability apparatus. On the whole, the laboratory is well equipped to cope with routine tests on the USP or BP monographs.

There is also a climatic controlled chamber which simulates present environmental conditions allowing accelerated deterioration of drugs to occur and hence projections of shelf life to be made. Future plans include the acquisition of a nuclear magnetic resonance instrument, as well as a gas chromatograph/mass spectrometer to allow rapid and precise analyses of drugs to be carried out.

Microbiology analysis

The microbiology laboratory is staffed by five scientists headed by a principal microbiologist. The staff comprise a microbiologist, a senior technician and two scientific laboratory technicians. There is also an assistant technician who assists with the preparation of media and standard solutions. The tests carried out include sterility testing of all large and small volume parenterals, eye ointments, eye-drops, and sterile medical devices. Biowastes are carried out to determine the potentials or strengths of the common antibiotics and a computer is now used for the previous tedious manual statistical evaluation of assay results.

For those products which are not required to be sterile, contamination analysis is conducted to determine the bioburden of the products and to check the possible presence of harmful micro-organisms. Some products, such as syrups and lotions, may contain preservatives so the laboratory also checks the effectiveness of these preservatives by challenging them with large amounts of micro-organisms.

Recently, the skills and materials to carry out the endotoxin test on injectables by the LAL gel clot method have been acquired. This is a more modern technique than the rabbit pyrogen test. The laboratory now has a collection of micro-organisms to be used in various tests containing some 20 different types of bacteria and fungi.

Comprehensive condom testing

Although condom testing was not included in the original plan or functions of the laboratory, this is now a very important part of the laboratory’s work. In 1989 PATH (Programme for Appropriate Technology in Health) which is based in Seattle, Washington, U.S.A., selected the ZRDCL as a site for its reference laboratory for Anglophone Africa after a feasibility study mission to various African countries. This was followed by the establishment of the condom testing facility where comprehensive testing of condoms (for both manufacturing defects and deterioration) are carried out.

A growing volume of work

The laboratory is now in its third year of operation and is making steady progress towards completion of its function. In the first year, few samples were analysed mainly because equipment and reagents were still being installed and staff were relatively inexperienced.

The laboratory was going through the slow process of acquiring small and negligible amounts of equipment and also trying to publicise its existence and services. By the second year, the situation had improved and we were getting enquiries from local agencies and companies as well as the countries we were to supply. The work increased significantly and in 1991 alone the laboratory worked on about 700 samples.

In the future, we foresee that the laboratory will be required to test about 3000 samples per year.

International collaboration

In recognition of the need to keep in touch with the international community, ZRDCL has embarked on several collaborative studies with international agencies. A study is currently underway on the stability of certain combinations of drugs during inland shipment, on a collaborative project between ZRDCL, WHO’s Action Programme on Essential Drugs, and the Zimbabwe Essencial Drugs Action Programme (ZEDAP). A similar study is expected to commence soon to be conducted jointly with the University of Bradford, UK. The Condom Testing Unit is currently involved in an inter-laboratory trial organized by PATH and involving other reference laboratories in the developing world. It is hoped that such research will help the ZRDCL keep up to international standards of performance.

Future plans

One of the laboratory’s plans for the near future is to establish a regional drug quality databank to serve Zimbabwe and the Subregion. It is envisaged that the databank will include supplier profiles, specific drug quality profiles (to see which drugs are most susceptible to rapid deterioration) and certain analytical results for selected indicator drugs over a period of time. Negotiations are underway to solicit support for the project.

Another project to be embarked upon in the near future is vaccine analysis. At the moment there is no routine vaccine testing in the Subregion and this is a fact that is expressed need by the expanded programmes on immunization in some of the countries. Again, it is hoped that a donor will be identified to help set up the project, planning is already at an advanced stage.

To help alleviate the shortage of high grade solvents and secondary standards the laboratory has set up a unit to distill solvents to specified levels of purity and to standardise secondary standards against primary standards for use in routine analysis thereby saving valuable foreign currency.

In the long term, it is hoped that the ZRDCL will expand and establish satellite laboratories within the country, obtain a full complement of staff, and become an accepted member of the family to attract and retain the most qualified and experienced scientists. This would help the laboratory to play an even greater contribution to the quality assurance of drugs within the Subregion.

* Dr. Nathaniel Dube is the Principal Microbiologist, Zimbabwe Regional Drug Control Laboratory.
NATIONAL DRUG POLICY

Syria's Minister of Health explains national drug policy

Professor Eyad Chatty, Syria's Minister of Health, talked with EDM Editor Ms Daphne Friesle

EDM: Syria held a national drug policy meeting earlier this year, which produced a draft document that has now been formally issued as the Syrian national drug policy. Is there a link between this policy development and the rapid expansion in the national pharmaceutical industry, which now produces 65% of the drugs in the local market?

EC: Self-reliance is seen as important to small countries which would like to develop their national resources to the limits. His excellency President Hafez Al Assad has always brought our attention to this fact, and from that point of view we realised that we should produce more essential drugs. We wanted to benefit from technology transfer and develop a basic infrastructure reaching far into the next century. What we are doing now, although it is a major thrust, is only a preliminary step. We plan to develop our own raw materials. This is not just out of national pride but because we believe it to be economically viable. Also - although I don't want to philosophise - if you are committed to upgrading the health system, then drugs are a very essential component.

EDM: So was this development in production capacity a precipitating factor in developing the policy?

EC: When we started we were not able to formulate a policy but we had a target: to have basic drugs available that would match our needs and at a fair price. By fair I mean there has to be a sufficient incentive for the manufacturers or they won't produce, but the price should be within the reach of the average working man or woman. So we had a target, but I must admit that we worked more with enthusiasm than knowledge. Then as we learned more, we recruited committed and experienced people.

We reached the stage where we had many factories and we also had many components of a policy, but they had not been linked as a "global" level. So we thought, right, now is the time to bring together all of this practical experience within a guiding structure. Now is the right time to formulate a national drug policy. And I have to say that the guidance of WHO was essential for this. I believe that WHO was also willing to provide such support because they considered that our approach was sound.

EDM: How did you actually go about developing that policy?

EC: After we had recruited the right people we looked closely into each of the main components, in particular how they were interconnected. For instance, we had to base what we needed on a national drug list. I use that term now. In fact, it is an essential drugs list but it is our national list, which meets our needs. The first list was developed in 1988 after we had identified this as a target. But later, in the light of experience, more data and with a critical eye to maximising economic resources, we examined every single item. We deleted many items, we added others, but this time round, the focus on our health system, morbidity pattern and the economic factor, played a role in making the second edition more suitable to our needs.

Then we had to look at legislation. We knew that we could not work alone in this respect, if we wanted implementing power, so we collaborated with the Ministry of Justice and with the Internal Review Department in formulating and updating appropriate legislation.

EDM: What is the role of the new ministry of health?

EC: Yes indeed. And then we started work to develop better ties with the professional associations: the syndicates of pharmacists, of doctors and of physicians. As a result of which they helped us more and we can apply what we think is right through "longer hands with more fingers".

EDM: Did these better ties come about directly as a result of this policy development process? We find that in some countries the process of policy development or a national drug policy meeting may bring together professional groups who never encounter each other under normal circumstances. It can be very enlightening to listen to what colleagues from different professions have to say about the constraints and targets of their work: you would say that happened in Syria.

EC: We used to have what was called a technical drug committee, but it was more or less obsolete. We decided to re-structure the same body in such a way that it could play a dynamic role in drug issues. We brought in the university: the dean of the school of pharmacy and the head of the section of pharmacology of the school of medicine are now members of the committee. We brought in the heads of the syndicates of pharmacists and of physicians. We brought in representatives of the two public sector manufacturing plants, and the body responsible for importing drugs. We also have representatives of the private manufacturing sector and, of course, the committee contains key people from the Ministry of Health. We work together very diligently every Sunday and Tuesday. If you come here at 8 p.m. the committee members are here and they rarely leave before 10 p.m.

EDM: And I know that you personally chair each of these meetings.

EC: I like to chair each one. Although I know there is still much more to learn, I have remarked a lot in the process, which has been translated into policy. From discussions in the committee it is possible to get a really good picture of what is happening. We have now gone a significant stage further. I have established a medical scientific council for the manufacturers, which will "shadow" the technical committee. I purposely delegate some work to them to create an active response.

We are now moving to a new phase. The manufacturers' council now has a drug research fund: for every drug research project there has to be a parallel public health project financed from the fund. Another new activity that started in November is that the scientific council will start meeting with members of professional associations of every medical specialty, such as the Society of Pediatricians, or of Gastroenterologists, to discuss needs and problem areas. Let them interact and something good has to come out of it. I know what I want from it. I want the physicians to express any concerns they may have not through the media or in consulting rooms, but to talk directly to the manufacturers: to ask why, how, etc. Again, two drugs are the same, but one is more expensive than another.

EDM: Is it not possible to implement all components of a drug policy at once? Is that the case in Syria and do you have priorities?

EC: Many of the components were in place before we could look at them globally. There is now greater integration, but of course not everything can be done at once. One aspect of the new policy was to investigate the possible production and uses of herbal medicines. Over a period of four months we have been calling on herbal experts within the country, and this culminated in a planning and strategy meeting. We had people from throughout the country - 89 in all - to pool knowledge and experience. We are now working in groups to see what medicinal plants exist in Syria, what studies have been done, whether mass production is feasible, how we should go about quality control and whether there is a need for standardisation. So the herbal medicine is an example of one of our priorities, but of course there are many other policy components and we can't tackle everything at the same time. At the moment we are studying our pricing policy, because if we produce good drugs but they are priced out of reach for the average citizen, then we have established nothing.

EDM: The current global recession is having a very negative impact on the public sector health services and in some countries the public sector drug supply is drying up. While the public sector is shrinking the private sector is growing, yet people cannot necessarily afford health care and medicines from the private sector, nor do such supplies necessarily match real health needs. How do you, as Minister of Health, view the role of government support to the public sector, and the role of the public sector in health care.

EC: We are deeply committed to supporting the public sector but on a rational basis. We need the public sector because it is a good balancing tool in the hands of the government, and because in our case it has served as a pool for exports. However, the public sector has to support itself before the government supports it. One critical type of support is the national use of drugs. For instance, a significant problem area that springs immediately to mind concerns the use of oral rehydration salts for diarrhoea. We have
Essential Drugs Monitor

"promoting" the use of generic names. How is this being implemented.

EC: Firstly, we are decreasing the amount of combination products and this policy will help us promote generics. Then it is mandatory that the generic name has to appear on the pack. Although there are no regulations on type size yet we intend to push for the generic name to appear in larger letters than at present.

EC: The generic name does not have to appear on the prescription though, does it?

EC: Not at this stage.

EC: Are you considering making this obligatory, since the mandatory addition of the generic name to a prescription (even where a brand name is given) is itself a form of public education? It helps patients to understand that drugs with different brand names can be the same substances. There is undoubtedly quite a lot of confusion about that in the public mind at present. It also has a potential contribution to make to more rational drug use by professionals.

EC: I think that this is important because, as you say, the essential drugs list exists only to help patients with their illnesses. I intend to make the essential drugs list the backbone of teaching pharmacology in medicine.

EDM: May I ask one final question about health education and public education. It seems to me that much of our medical and pharmacy education we are teaching students to communicate well and we are not teaching them about their health education role in the community. What are you trying to do in this in health professional education?

EC: I think it is extremely important and we are trying to fill this gap. It is a true gap, and at the moment I don't know what is the best formula, but personally I am aware of it. The concept of health education is carried now in the "sacks" of all our graduates from the institute of public health. They are starting to get into key positions in the Australian Institute of Health and we have to reflect that to the teaching institutes. Fortunately we are not the major contributors to teaching residents. In the Ministry we have two and a half times as many residents as the combined universities at the moment, and we have two disciplines which are not available in the university, one is that of family physician, and the second is public health.

EDM: So would you agree that possibly we need to restucture our curriculum somewhat, perhaps diminish a little the biomedical focus and increase focus on the hospital and counselling and public health in our medical education.

EC: In 1986, when I was dean of the medical school and looking at the restructuring of the curriculum, I decided that my main task really was to define the kind of physician we needed. In that definition we also included "and to deal with patients", in other words to educate them. One problem that is the focus of universities is "minute areas, miles deep and only metres wide", and we need to broaden our approach. So the concept is there but finding the best formula to apply it is not easy.

EC: I think that basic communication principles are not so difficult to teach and we could do that if we were prepared to allocate the necessary resources to the curriculum. The problem is one of convincing health professionals of the role they should play in engaging the patient and community. Doctors are not always so eager to share their hard

Australia launches campaign to "be wise with medicines"

A national campaign to encourage community awareness of the risks and benefits of medicines was launched in Canberra on 31 August 1992 by the Federal Minister for Aged, Family and Health Services, Peter Stuart.

The major campaign has two phases, national and local, and is designed to be repeated annually.

"As many as 30,000 people are admitted to hospital in Australia each year because they are taking medicines", Mr Staples said. "This is a frightening statistic. There are enormous costs associated with misuse, from both a social and economic perspective."

"This campaign is a very positive step towards achieving the quality use of medicines in the community and is a clear demonstration of the Federal

acquired professional knowledge with lay people. They often prefer to maintain their professional mystique and so have a patient who just doesn't know what they are using and doesn't ask "awards" questions. But in reality not only is this a very ineffective therapeutic encounter because studies show that many patients leave the hospital with a great deal of uncertainty about their disease and treatment and a lot of them do not even have a general practitioner they see regularly."

We hope that the findings from research into drug use in the community that we are reporting in a number of countries can eventually be used as a training tool for health professionals, because they will tell us more of the real world of what is going on in the community: how people use drugs and how they perceive them. Such research if acted upon could lead to a better understanding between the health care provider and the patient.

EC: I think if truly in our minds we had considered this a priority and we had given it proper attention, we would have found solutions. We are convinced of the difficulties, we have not given it priority. There has to be a revolution but it may be gradual. The key is to find the proper channels through which the word gets to the university, how one man or woman can bring about radical change if they are able to be supplied locally and this has to do with culture and many other factors. Perhaps the project is better placed in discussing with our institute of public health will help us find a point of focus.

EDM: Before we close, is there anything you would like to add about policy development that we have not discussed?

EC: As far as drug policy is concerned, I believe that at some stage we should have to reconsider and, where necessary, revise our policy. Even the priorities may change in time. So it is an ongoing process and I think we have to be open to change. The policy will match the social advances that are taking place in the world. Without this flexibility we may lose the support of a large number of people who are not only technologically knowledgeable but who also embody a community caring about their social ideals and advancement.

The campaign will place doctors in a better position to review their patients' medicines to ensure they are not taking more than they need and, to advise them about lifestyle changes that could also improve their health", Mr Staples said.

One of the key campaign activities was a national "Be wise with medicines" phone-in on 4 September.

Consumers could call to ask any questions relating to the use of medicines. A team of pharmacists and doctors stood by to answer both specific and general queries.

"Other "Be wise with medicines" activities during September included:

- The distribution of 10,000 medicine kits compiled by the Royal Australian College of General Practitioners, the Pharmaceutical Society of Australia and the Australian Nurses Federation. These provide doctors, pharmacists and nurses with practical tools to help consumers about their medicines;
- The cooperation of around 5,000 pharmacists who ran a medicines disposal scheme throughout Australia, with

the assistance of the National Pharmaceutical Distributors' Association. This enabled consumers to dispose of medicines that are used, out-of-date, or not needed; and
- The organization of more than 350 local events held by community-based groups that have been awarded small grants to organize information days, workshops, radio and other activities.

All of the initiatives are designed to encourage consumers to think of themselves and their health professionals as "modification teams", Mr Staples said.

"If we all understand the risks associated with not taking medicine as prescribed, then we can do a great deal better with each other, the aims of the campaign will have been achieved.

"Mr. Pencott has the support and assistance of health professionals and consumer groups in developing and operating the campaign.

"The continued goodwill and cooperation of these groups will help us all to continue encouraging the wise use of medicines long after "Be wise with medicines" month is over", he said.
RATIONAL USE

"FEW IN NUMBER, GREAT IN WORTH..."

A Nicaraguan approach to rational drug use

by Ana Ara, Benito Marchand and Marinella Locatelli

Essential drugs, essential drugs, few in number, great in worth, effective, safe and needed. The words of the song die away, to the applause of Nicaraguan nurses and community health workers. The singing marks the end of an unusual piece of community theatre which traces the evolution of modern medicines in the light of the essential drugs concept. But drama and song are just one element, albeit a colourful one, of a nation-wide campaign to support and improve the quality of health care and the use of drugs throughout Nicaragua.

Disturbing research findings...

The Nicaraguan experience developed out of research and action that began in the Matagalpa health region in 1987. At that time, health care and the use of drugs, were being reviewed by a joint Ministry of Health regional management/NGO team. They found that many health posts were looked after by a single health worker. The care of patients and the use of drugs were inadequate, two closely linked activities with a critical impact, few in number of the health services. Furthermore, the nine months training received by the health workers did not always equip them with the practical preparation for their duties. This was particularly the case for those who would be working alone in the health post. This lack of practical training was especially critical, since the health workers received very little supervision and support from the medical and nursing staff in coping with the problems of looking after patients and the proper use of drugs.

Another concern was the lack of reference materials for the health workers. Although the Ministry of Health had produced a series of therapeutic guidelines that were technically sound, their presentation was not attractive and the language used was more appropriate for health professionals rather than health workers. In addition, this information was contained in different booklets of which many health facilities did not have a complete set.

A new approach...

It was agreed that in order to improve care - particularly the use of drugs - refresher training, supervision and support for primary level staff was needed, together with a more practical training programme that would focus on the day-to-day realities of primary health care.

One significant point of intervention was considered to be the training programme of the regional nursing/health worker education centre. In Nicaragua health workers provide much of the primary health care.

A priority was the development of practically oriented training material which could subsequently serve as a reference tool for the health worker and as a guideline for supervisors. The development process included a three-day workshop attended by health workers who were alone in 10 "sentinal" health posts, together with nurses, physicians and pharmacists from the surrounding health areas. The group identified the most common diseases treated in the health posts and drew up a corresponding list of essential drugs to match local needs. The resulting draft booklet was completed.

The end result - made possible by the cooperation of a group of nongovernmental organizations in various European countries and UNICEF - was an extensively illustrated 440 page learning and action guide for local health workers. Buscando Remedio (Seeking a Remedy), published by CIES and Medicus Mundial, France.

Why the title BUSCANDO REMEDIO?

Buscando remedio is actually a play on words whose double meaning encompasses both the search for an appropriate "remedy" in the sense of drug or treatment, but also the need for a social "remedy" in our approach to community health care, the appropriate use of drugs and the training of health staff.

People who visit health centres generally do so to receive "care" which they often perceive to be the provision of drugs, a conditioning that perhaps stems from an over-reliance by health service staff on pharmaceuticals. In contrast, the manual stresses the need to look beyond the automatic prescribing of a medicine. It points out that health care is not necessarily the prescription of a drug. What is needed might be simple advice or to recommend a safe traditional household remedy.

Moreover, the manual emphasises that the best remedy is prevention. When, for example, a mother brings her three-year-old child with diarrhoea to the health centre, the first thing to do is to treat any dehydration and, at the same time, to explain to the mother how to apply and follow the treatment at home, and then what can be done to prevent a recurrence. It stresses that this opportunity can also be taken to check the child’s weight or vaccination status, to find out about the other children in the family, and discuss any health concerns that the mother may have. The manual’s cover illustrates breastfeeding, because this has both preventive and curative properties, and is an example of the manual’s teaching that the health worker should, where possible, promote "remedies" that can be generated within the community itself.

The core "remedy" is a comprehensive approach to health care and the manual’s approach is to solve the person’s immediate health problem - if necessary using drugs - but always
From regional to national...

Early in 1992 a national seminar on teaching methodologies adapted to primary health care and rehabilitation was brought together teachers from health worker training schools throughout the country. The objective of the seminar was to discuss how the book could be used nationally to support PHC training.

Following the meeting, a group of health worker training seminars were held in the capital of the schools to introduce staff and students to the book and promote national drug use.

In addition, a series of two-day seminars were organized in various "Zonas de Riego" (districts) with representative physicians and nurses from the local health teams. Participants were introduced to different concepts and materials - including the book - to improve educational refresher training on case management and the rational use of drugs for all staff at the local level. Work in this area was later enhanced on a revised edition of the book that would incorporate the experience gained in the three years of its trial and use.

Changing the status quo...

This type of experiment is not easy because it requires everyone to change their traditional roles, teachers, nurses, and students. Whose most of us prefer to maintain the status quo and to reproduce the problems we have been taught. The related objective in a learning process is to modify behavior: it is essential that the student take an active role and not be treated as a passive recipient of knowledge.

There is a clear analogy here in the teaching of health subjects and health worker, which requires the active participation and interaction of both to be theoretically effective. This experiment, developed at the local level in the context of Nicaragua, is being mirrored by similar initiatives to improve the training of health professionals in other countries. We must ensure that health staff at all levels are fully involved not only with theoretical knowledge, but equally importantly, with the practical skills that are required to achieve the necessary "transformation in training of human resources for health."

* Ms Ana Areg and Ms Martina Locatelli are nurse instructors and Dr Benoit Marchaud is a physiotherapist for the Promotion of the Rational Use of Drugs and Consumers Health Ministry, Ministries of Health/CIES/Nicaragua and Medicus Mundi, France.

Further information about the project and copies of Buzzaco Remedio may be obtained from the International Action (Acción Internacional para la Salud), Apdo 4667, Managua, Nicaragua. The price of the publication is US $10.

References
2. J. Wanner and A. Brown, Drug Health Workers to Learn, European Foundation, Pilsen, 1984

Working on Regional Drug Issues: The Role of Consumer Organizations

Problems involving pharmaceuticals have come to the fore in promoting the training of health care workers and the use of drugs and other rational use ideas was not a first priority. Workshop managers included in the first region-wide consumer conference held in Eastern Europe. Jointly hosted by the International Organization of Consumers’ Unions (IOCU) and the Slovene Consumer Association, the general theme entitled "Create Campaign for Consumer Awareness" brought more than 80 consumer leaders from virtually every country in Eastern and Central Europe to Bled, Slovenia from 21-24 October.

At the pharmaceutical workshop, lively discussion centered on the possibility that effective pharmaceuticals can have upon consumers and what consumer organizations can do to address them. Speakers stressed that consumers have an important role to play in the market system. They argued that government, health professionals and consumers must work together for a national drug system to be effective. The workshop also served as an opportunity for staff from the Health Action International (HAI) to hear first-hand which health policy and management issues were of highest concern to consumer groups already operating in the region and to offer assistance and an information exchange. An overview of the consumer drug situation in Slovenia was given by a member of the HAI network working at the Latvian Academy of Medical Sciences. Start of the conference was made difficult by the stresses of inadequate drug control and regulation and the need for proper licensing and educational training for those selling drugs. In both cases, the constant problems of black market pharmacy were emphasized.

Drug labelling and drug information received attention as participants discussed consumers’ right to information about the medicines that they take. It was emphasized that for the best care, consumers need to work in partnership with their doctor or pharmacist, and to do that, they must understand what medicines are available and why.

In the same way, the problems caused by misinformation and lack of concern about different factors differ between the country of origin and the country of import - and a lot of attention during the session. Participants called for the identification of labels and packaging information as the origin of information and of unsuitable drug donations was also brought out. Consumer leaders mentioned that there is no need for labels and instructions written in foreign languages and can thus be used for rare or complex illnesses. For those reasons, many of these shipments have been destroyed by governments in order to keep them from appearing on the black market, participants said.

Members of the workshop also noted that the lack of advertising guidelines operating in many countries has opened up the way for misinformation in using practices in many places. They asked for suggestions from Western legal models that help fight against such practices, especially regarding more sophisticated and difficult-to-detect practices.

The groups present were also keen to discover ways to increase consumer awareness about drug issues. Some suggestions were made to increase the information reaching consumers about drug problems, to establish a dialogue with consumers about drug problems, and to provide additional information to consumers on the rational use of drugs.

Consumer - Continued on next page
RATIONAL USE

Growing movement to deregister anti diarrhoeals

The availability of a multitude of "anti diarrhoeal" drugs throughout the world is one of the factors contributing to the widespread inappropriate use of drugs for diarrhoeal disorders, according to WHO's Programme for the Control of Diarrhoeal Diseases (CDD) in CDD Update No. 11.

In 1986, in an initial effort to address this problem, the Programme issued a policy document which emphasised that the cornerstone of correct case management of diarrhoea is oral rehydration therapy, and that selected antibiotics and antima-

Use of drugs for children with diarrhoea

- **ANTIBIOTICS** should only be used for dysentery and suspected cholera. Otherwise they are ineffective and should **NOT** be given.
- **ANTIPARASITIC** drugs should **ONLY** be used for:
  - Amoebiasis, after antibiotic treatment of bloody diarrhoea by Shigella has failed or trophozoites of *E. histolytica* causing red blood cells are seen in the stool.
  - Giardiasis, when diarrhoea has lasted at least 14 days and cysts or trophozoites of Giardia are seen in faeces or small bowel fluid.
- **ANTI-DIARRHOEALEDS** and **ANTIEMETICS** **SHOULD** NEVER be used. None has proven practical value. Some are dangerous.

Although a few countries deregistered anti diarrhoeal drugs in the 1980's, the vast majority continued to register these products, in both solid and liquid formu-

Regulatory actions against anti diarrhoeal drugs for use in children

As reported to the World Health Organization Programme for the Control of Diarrhoeal Diseases from January 1990 to July 1992.

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>DRUGS AFFECTED</th>
<th>ACTION</th>
<th>DATE</th>
</tr>
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<tbody>
<tr>
<td>France</td>
<td>Brand name paracetamol products containing paracetamol</td>
<td>Restricted on use in children</td>
<td>August 1991</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Brand name anti diarrhoeal products containing antibiotic mixtures, hydroxyquinolines, nonsteroidal anti-inflammatory drugs, and other medicines</td>
<td>Restricted on use in children, deregistration of solid and liquid formulations</td>
<td>May 1990</td>
</tr>
<tr>
<td>Lebanon</td>
<td>All protein containing suspensions, diphenoxylate, diphenhydramine and salbutamol. All liquid forms of thiamphenicol</td>
<td>Restricted on use in children</td>
<td>September 1990</td>
</tr>
<tr>
<td>Libya</td>
<td>11 brand name anti diarrhoeal products, which include substances like antidiarrehaic drugs, antiemetics, and antidiarrheals</td>
<td>Restricted on use in children, deregistration of products</td>
<td>September 1990</td>
</tr>
<tr>
<td>Armenia</td>
<td></td>
<td>Restricted on use in children, deregistration of products</td>
<td>August 1992</td>
</tr>
<tr>
<td>Mexico</td>
<td>5 brand name paracetamol products containing paracetamol and diphenoxylate</td>
<td>Banished</td>
<td>May 1990</td>
</tr>
<tr>
<td>Nepal</td>
<td>Large group of single component or combination products, which include substances like hydroxyquinolines, nonsteroidal anti-inflammatories, diphenoxylate, isoniazid, antiamoebics, anticholinergics and anti-diarrhoeaic agents.</td>
<td>Banished</td>
<td>February 1991</td>
</tr>
<tr>
<td>Pakistan</td>
<td>20 brand name anti diarrhoeal products, including diphenoxylate, diphenhydramine and pyrophosphate</td>
<td>Deregistered</td>
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<td>Philippines</td>
<td>All paracetamol products containing paracetamol and diphenoxylate</td>
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<td>May 1990</td>
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<tr>
<td>Republic of Korea</td>
<td>3 brand name paracetamol products containing paracetamol and diphenoxylate</td>
<td>Deregistered</td>
<td>September 1991</td>
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<td>Sri Lanka</td>
<td>Paracetamol products containing paracetamol, mixtures containing 'food and/or medicine'</td>
<td>Deregistered</td>
<td>September 1991</td>
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<td>Thailand</td>
<td>Paracetamol products containing paracetamol and diphenoxylate</td>
<td>Deregistered</td>
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<tr>
<td>Turkey</td>
<td>Paracetamol products containing paracetamol and diphenoxylate</td>
<td>Deregistered</td>
<td>September 1991</td>
</tr>
</tbody>
</table>

Bulk procurement in the Gulf States and the Maghreb

In 1976 a system of bulk procure-

The need for strong national drug policies was also emphasised in order to ensure a sufficient drug supply, its rational use and price and promotion controls. Participants also talked about ways for con-

Consumer - Continued from page 8

The need for strong national drug policies was also emphasised in order to ensure a sufficient drug supply, its rational use and price and promotion controls. Participants also talked about ways for consumer organisations to contribute to the development and implementation of national and essential drug policies. It was stressed that the essential drugs list was critical for the development of policies that supply appropriate drugs. The use of the UN Consolidated List of Products Whose Consumption and/or Sale Have Been Banned,Withdrawn, Severely Restricted or Not Approved by Governments was also mentioned as a tool to monitor certain pharmaceutical products and prevent them from appearing on national markets.

However, it was stressed that the Consolidated List does not provide a basis for drug registration. Instead, it was emphasised that the best way to ensure appropriate drugs on the market was through an essential drugs policy.

Report by Elizabeth Haynes of IUCU.

More information and proceedings of the meeting can be obtained from IUCU's Regional Office for Europe and North America, Emmnusatra 9, 2595 EG The Hague, The Netherlands.

An itinerant nurse tending a young patient in Morocco. Savings made through bulk procurement of drugs can benefit everyone in the region.
**NEWSDESK**

**USA ban on 415 ineffective drug ingredients**

On August 25, the US Food and Drug Administration (FDA) proposed banning 415 ingredients from 7 categories of over-the-counter (OTC) medications because they have not been shown to be safe and effective for their stated claims. The 7 therapeutic categories of OTC drug products affected by this action include digestive aid, tropical antiun- gal, external and internal analgesic, orally administered menstrual, pedicu- licide, and skin protectant drug products. Manufacturers will have to either reformulate or remove such products from the market.

“We are taking this action because no proof has been submitted to the FDA that these medicines are effective for the conditions claimed,” said Dr David Kessler, FDA Commissioner. This is the third and largest proposed ban on OTC drugs that the FDA has conducted in the past few years. In November, 1990, the FDA banned 272 ineffective ingredients from 19 categories of products, and in August 1991, 11 ineffective ingredients in weight control products. Most of the ingredients have been around since 1962, when in a change in the law required that manufacturers submit proof of effectiveness for both new drugs and drugs that had been approved earlier. To implement the part of the law dealing with OTC drugs, the FDA set up a process to evaluate all ingredients contained in OTC drug products. Since the review began, products and ingredients found to be unsafe have been removed from the market. However, products believed to be safe but ineffective were allowed to remain in the market until proof of their efficacy could be established. Under the review, the FDA evaluates reports prepared by advisory panels of outside experts together with comments from industry and the public. The FDA then publishes a proposed rule with another comment period, which includes an opportunity for a public hearing. Ultimately, the FDA issues a final regulation (monograph) on acceptable ingredients, doses, formulations, instructions, and permitted claims. Comments on the current proposal, published in the US Federal Register on August 25, may be sent within the next two months.


**Telephone advice for the Swiss**

Swiss patients and consumers now have a telephone drug advisory service, staffed by pharmacists, and aiming to provide independent advice on the rational use of medicines. The Swiss Association of Pharmacies in Switzerland, a group of pharmacological specialists, has set up the Swiss Drug Information Office with support from a number of patients and consumer rights organizations in the country.

The telephone service is currently the main activity of the office. Callers receive information on all aspects of drug use, including possible side effects and price, but doctors stress that the intention is to add to, not replace, advice given by doctors and pharmacists. Currently, funds only allow for a telephone service in German, but the group hopes to expand to provide in-depth information on national drug use, and to campaign on drug issues.


**Eastern Mediterranean: call for more drug information centres**

Drug information officers from countries throughout the Eastern Mediterranean met in Alexandria from 11-15 October 1992 to develop guidelines for a regional policy on drug information. In his opening remarks, Dr Hussein Gezairy, WHO Regional Director, spoke of the lack of effective, independent sources for drug information in the area. Research showed that drug information from both the public and the press was highly valued, prescribed, dispensed and used, he continued.

One of the main objectives of an essential drugs policy, therefore, should be to provide objective, unbiased information about drugs for the prescriber, dispenser and consumer. He asked participants to discuss ways they might critically evaluate available drug information and how information might be disseminated.

Dr Gezairy drew particular attention to the important role of the mass media and the community pharmacist in this work and stressed the importance of the development of a forum for the exchange of views between drug information officers, WHO staff and local experts.

Participants concluded that:

- Every member state should have a drug information centre operating within a national drug information policy and a national drug information

Family planning experts call for new collaborative approach

A seminar attended by family planning experts from fifteen countries has called for the imposing of a set of international guidelines for the development, distribution and use of contraceptives. The seminar, "Women's Perspectives on Family Planning," was organized by the WHO/UN Women and Pharmaceuticals Project, in the Netherlands, and enabled women from developing countries to share their experiences of new and sometimes controversial contraceptives. It also allowed them to participate in drawing up the guidelines, which can be used to evaluate existing services and to address policy-makers responsible for developing family planning programmes.

As Janit Janicen, coordinator of the WHO/UN Women and Pharmaceuticals Project, puts it, "We are saying to policy-makers, governments and international aid organizations: If you want to help women and to keep their interests in mind, you must incorporate these guidelines into your planning programmes." Too often, population policies and a purely bio-medical approach have distorted the development of contraceptive.

—the seminar organizers. This has led to family planning programmes which set targets of numbers of contraceptive acceptors. It has also led to the development of new technologies which are ill-suited to Third World countries without a well-developed system of health care, the organizers conclude.

Further information and guidelines available from: Janit Janicen, Project Coordinator, WHO/UN Women and Pharmaceuticals Project, P.O. Box 4253, 1009 AG Amsterdam, The Netherlands.

**Birth of MaLaM, India**

The Medical Lobby for Appropriately Marketed (MaLaM), is expanding its network and has now established an affiliated national association in Andhra Pradesh, India. MaLaM is an international non-profit organization created to provide health care professionals concerned about misleading advertising and inappropriate marketing of pharmaceuticals. Its aim is to encourage drug companies to provide sufficient, clear and accurate information to enable correct prescribing, dispensing, and consumption of drugs.

Once a month, subscribers receive copies of a letter addressed to drug company executives about their marketing of one or more drugs. The letters compare advertising claims with the available scientific literature. The executives are asked to either justify or improve their marketing practices. The letters are checked by an international board before distribution to MaLaM subscribers in over thirty countries. If subscribers agree that the question in the letter should be asked, they sign it and post it to the company under scrutiny. Subscribers also receive a newsletter which explains the background to that month's topic and reports on direct correspondence between the MaLaM Secretariat and the industry.

For further details contact: MaLaM, OSid- dhartha Medical College and Research Institu- te, Vijayawada, Andhra Pradesh 520 005, India. Annual subscription fee: 60 rupees.
DAP launches new research series

The operational research undertaken by the Action Programme on Essential Drugs may not lead to superficially "glamorous" breakthroughs in pharmaceutical technology, but it has a direct bearing on the way in which vital medicines can be made available to the greatest number of people. Recognising the need to make the results of this research as widely known as possible, the Action Programme has launched a special research series which offers guidelines, simple and appropriate methodologies, and reports on all operational research conducted by the Programme.

The eight initial publications in the series, described below, illustrate the diversity of the Programme's approach to research activities. Evaluation and monitoring of successful drug programmes and policies, and also appraisal of new policy approaches, play a vital role in the work. It is equally important to examine constraints in the drug supply system, in an effort to solve problems quickly. Simplicity in research methods can be of great benefit in developing countries, where funds are often scarce. Two of the current publications describe simple standardised methodologies to investigating drug use in a community and in the health centre.

In these ways the Programme undertakes and conducts operational research aimed at filling some of the many gaps in existing knowledge about the best means of selecting, procuring and distributing drugs, and their use by prescribers and consumers.

Injection practices research, WHO/DAP/92.9, 61 p.

This report on two informal workshops which were part of a collaborative research project on the use of injections in Indonesia, Senegal and Uganda. The need to support such a study comes from concern about widespread non-sterile and unhygienic use of injections in developing countries.

The workshops, which brought together staff from DAP, the University of Amsterdam and the research teams of the countries involved, resulted in a series of revised country research protocols, which have been standardised with respect to core data collection instruments and data analysis techniques.


This guide provides researchers, health workers and administrators of health programmes with simple research methods to identify problems in the provision and use of drugs at community level. It also aims to encourage them to work together in developing action oriented research projects. The guide first discusses relevant research themes, such as misuse of antibiotics; it then presents a rapid assessment methodology for those with little time to develop their own study design; and finally gives more general methodological suggestions for field research on community drug provision and use. In this section the advantages and disadvantages of various approaches are clearly stated and sample forms included for use in community surveys.

People's perceptions and use of drugs in Zimbabwe, WHO/DAP/92.7, 9 p.

The findings of a sociocultural research project to learn more about consumers' attitudes and behavioural patterns with regard to allopathic and traditional medications are presented in this report.

Researchers collected data on socio-culture characteristics, the availability and cost of medicines, sources of knowledge about health care and actions taken to treat recent illness in the family. The size of the sample, consisting of ninety hundred respondents, resulted in large group interviews. The project also highlighted the need for improved training of interviewers because "their observations were out of sufficient quality, while conversational and analytical skills were lacking". Nevertheless, the group interviews yielded interesting data, which was complemented by individual reports from each of the interviewers in the research sites.


This report is of an informal consultation which reviewed the policies, objectives and strategies of DAP's operational research component. Major recommendations were that country specific research projects should continue and be integrated into the programmes of collaboration between DAP and the countries concerned.

At a global level, DAP should lead and influence research related to drug policy, selection, supply, distribution, financing and use. The programme should do more to disseminate research results and to assist researchers in transforming their results into specific action-oriented recommendations and programmes.


This is a practical manual which describes a simple standard methodology using twelve core indicators, to measure drug use in health facilities (see p.15 for full report).

The indicators measure performance in three general areas related to the rational use of drugs: prescribing practice, patient care, and the availability of key essential drugs and a minimum of pharmaceutical information.

Special data forms are provided for manual analysis or easy adaptation to a simple spreadsheet.

Operational research on the rational use of drugs, WHO/DAP/92.4, 38 p.

As an international conference was held in Paris in March 1991 which brought together people wanting to improve the coordination of strategies in operational research related to the rational use of drugs.

This document is based on the presentations given to the meeting by representatives from many countries, and organisations such as HAI, INRD, UNICEF and WHO. The presentations covered the type of research being undertaken, methods, disciplines involved, problems encountered and results.

The Conference clearly identified the need for strengthening existing research networks, and for better coordination and harmonisation among the various participants.

Furthermore, the Action Programme on Essential Drugs was encouraged to take the lead in developing, promoting and coordinating future activities.

Development of indicators for monitoring national drug policies, WHO/DAP/92.6, 10 p.

The Action Programme on Essential Drugs has in the past defined and used simple indicators for monitoring national drug policies, but their use is only intended as a starting point (see EMD 13).

Now working with Harvard School of Public Health and the International Network on Rational Use of Drugs, it is aiming to create a set of guiding principles and criteria to facilitate a common approach for groups working on indicator development in the pharmacuetical field.

This is a report of an informal consultation to prepare guidelines for developing such indicators. Participants decided on six criteria including clarity, ease of measurement, and consistency and validity.

The guidelines will now be tested in a limited number of countries before being finalised.

Stability of injectable oxytocics in tropical climates, WHO/DAP/93.6, 30 p.

This report on the findings of field surveys and simulation studies on ergometrine, mehylergometrine and oxytocin. These drugs, which can be saving, are used in the treatment and prevention of excessive uterine bleeding following obstetric delivery, and previous research had indicated problems with their stability under tropical conditions.

The project was carried out by WHO's Action Programme on Essential Drugs, the Safe Motherhood Research Programme and the International Dispensary Association.

The study is in two parts, the first is a series of field surveys in Gambia, Malawi, Sudan and Zimbabwe covering 29 samples of ergometrine injection, produced by 18 manufacturers from 6 countries.

The second part is a laboratory study of the stability of 11 lots of ergometrine and oxytocin under stored simulated tropical conditions, over a period of up to 2 years. The report gives details of the materials and methods used and lists test results. It concludes that the stability of oxytocin is better than that of ergometrine and mehylergometrine, mainly because it lacks the adverse effects of exposure to light, but also because it is probably more stable when kept in the dark or without refrigeration.

A strong correlation was found between the colour of the solution of (methyl) ergometrine and its level of active ingredient. One recommendation of the study is that every injection of these drugs should be visually checked and discarded if the colour is different from clear water.

Finally the report makes recommendations on the procurement, storage and quality control of the drugs studied.

A complete report of the study will be published in the next issue of the Monitor.

Publications in the DAP Research Series are available free of charge, on request, from the Action Programme on Essential Drugs, World Health Organisation, 1211 Geneva 27, Switzerland.
The logic of “rational” drug use: the case of a rural Ghanaian coastal community

by Kodjo A. Senah

In the Third World, pharmaceuticals have now acquired the dubious distinction of being as available and ubiquitous as Coca-Cola; in elites and large towns and in villages and hamlets, these new “magical” commodities are not only treated with awe but also are imbued with powers and used in circumstances not intended by their manufacturers. And in this process of transformation, they are often wrongly distributed through illegitimate means. The phenomenon of “pharmaceutical invasion” of Third World countries is enhanced not only by weak local medical infrastructures and intensive pharmaceutical marketing and promotion but also - and very ironically - by the fact that in most Third World countries policies relating to the improvement of the health status of people often see the provision of (essential) drugs as very crucial in this regard. The main focus of this article is to sensitise health policy by showing how cultural perceptions influence the use of pharmaceuticals. The example used is an ongoing study of how the people of a Ghanaian village perceive and use pharmaceuticals for their common health problems and how these villagers cope with expenditures on health and pharmaceuticals.

Niman - the village and its people

Niman is located on the west coast, 36 km from Accra, the capital city of Ghana. The 1984 national census report put the village’s total population at 3,298 and its annual growth rate at 4.1%. About 48% of the population are between 15 years of age. The population is female-dominated due to high migration among young male adults. Subsistence farming and fishing are the main economic activities of the people, and about 98% of the population is illiterate. Although Niman is very close to the capital, like most Ghanaian villages, it is socially isolated; it has very few social infrastructural facilities. The village has neither electricity nor drains nor a marketplace. Although it enjoys piped water supply, this is restricted to a few persons who can afford the monthly water rate of 1,500.

In addition, water supply is so irregular that the majority of the people depend on the old unprotected spring water which flows from the surrounding highlands. This water is often polluted by pigs and people who wash clothes and bathe close to its banks. The general sanitary condition in the village is very poor. Thieves and mainly lands surrounding the village are overgrown with weeds providing congenial breeding ground for mosquitoes. Also these areas including the beach are used for the disposal of human excreta providing further breeding and feeding ground for flies, pigs and other domestic animals.

Health problems

Given the environmental conditions that confront the villagers there is a high endemicity of environmental, parasitic and infectious diseases. Among children the diseases and conditions of common occurrence include malaria, febrile convolution, measles diarrhea, tetanus, cold/epigastritis and helminthes and among adults, malaria, diarrhea, cholera, cough/cold, tetanus, gonorrhoea and back pain.

Since antimonial notions often influence illness behaviour, the question then is: how do the villagers perceive these common health problems? Earlier anthropologists who have studied the illness behaviour of so-called traditional societies have often concluded that in such societies people see all diseases as supernaturally caused and which must be endured fatefully or confronted through magic-religious means. However, latter day anthropologists in more critical empirical studies of these societies have shown a three-time anatomy of diseases - natural, supernatural and natural-supernatural.

In Niman, most of the everyday health problems are seen in very naturalistic terms, generally as the result of an interpersonal relationship between human beings and the elements, namely, the sun, earth, rain and air. For instance, malaria, measles and infectious diseases occur when children suffering from convulsion are unduly exposed to the heat of the sun. On the other hand, cold, cough and catarah are said to occur when a person is unduly exposed to the sea breeze or is beaten by rain. Nurses are said to result from eating dirty or sugary foods while harmonious (pljes) asthma and back pain are said to be caused among others, by accumulation of phlegm (musac) in the body. Interestingly, although the villagers hold these naturalistic views, they do not see any close link between their unhealthful environment and their morbidity patterns.

Village health provision profile

Niman has no public health post but is covered by a fortnightly PHE outreach programme on immunization and ante- and post-natal care underwritten by public health nurses from the city. It is evident that, among other factors, the token charges levied do not encourage high patronage of the programme. The vacuum created by the absence of the public sector health care has been filled by private entrepreneurs. There are two drug stores licensed to sell over-the-counter drugs only but which also sell restricted drugs such as antihelminths, and antibiotics, intravenous infusions, etc., and undertake the treatment of patients; there is a clinic run by a retired nurse and a maternity home run by retired mid-wife. They are supplemented by number of drug peddlers who sell any drug with a demand potential. Another source of health care is the traditional sector. There are five traditional healers with various specialisations and two traditional birth attendants who undertake most of the deliveries in the village.

Perception and use of medicines

As with all Ghanaians, the villagers make a distinction between pharmaceuticals (blofo tosa) and traditional or herbal medicine (medin or shiogon tosa). Both are said to be disease/condition-specific: pharmaceuticals for diseases of common occurrence and herbal medicine for both common and unusual or chronic conditions. There are exceptions to this rule, however. Also in more general terms, Western pharmaceauticals have greater popularity and are said to bring quicker relief than herbal medicine, on the other hand herbal medicine is said to be cheaper and has less side effects than pharmaceuticals. Given this comprehension of knowledge, the villagers have developed "indigenised" ways of using pharmaceuticals. For example, in the village, analgesics, especially codeine and paracetamol, are noted for their effects on headaches and pains. Thus they are commonly used for a variety of symptoms ranging from headache through arthritis and back pain. Among the older generation they are used as propylitics. Since codeine is potentially addictive some of the villagers may have become addicted.

As noted earlier, measles is one of the common child illnesses in the village. Since measles often occur in a period characterised by heat, dryness and food scarcity, measles children are said to suffer from the body temperature and headache because they have accumulated faecal matter in their stomach (constipation) which together with atmospheric heat-wave, generates the high body temperature in such patients in results in headache. Diarrhoea which normally accompanies measles is said to be the result of the general poisoning resulting from both the accumulated faecal matter and rushes which are supposed to be hidden in the abdominal cavity. Nausea and vomiting are also expected. Measles therefore, the following steps are taken: first, the child is given some paracetamol or a mixture of mashad-codeine and/or paracetemal tablets), followed by the administration of an enema of warm water. The latter happens because the body temperature cannot be tackled, the rashes and the abdominal pain. For the former, the sick child is given some "african" beer mixed with a high alcoholic content; and for the latter, ampicillin, chloramphenicol or penicillin (injections). At times, the contents of these may be mixed with water and administered to children. Later, when the child is finally asleep on the skin, these are treated with calamine lotion and aspirin.

The treatment for malaria is similar to that of measles because both are thought to result from similar antecedent factors - constipation and heat-wave. In the case of malaria, however, chloroquine tablets and analgesics are used instead of antibiotics, aspirin and calamine lotion.

Coping strategies

Although the discussion has so far shown the extent to which pharmaceuticals feature in the health menu of the villagers, it would be wrong to assume that in times of illness everyone simply resorts to pharmaceuticals. One important constraint is that these are very expensive. In situations where a wide range of competing demands must be met with limited resources, another coping mechanism must be devised. As found elsewhere, self-medication is often the first reaction in times of illness. This is true of the villagers also. However, because of the general state of poverty and also the low income level of the villagers who work in the clinics and drug stores, they often...
The use of medicines in the poor districts of Peru

Christopher Knauth*

Waiting for the pharmacy to open. Irrational use of drugs is widespread among the poor of Chimbote.

Chimbote study*

The port of Chimbote is on the north coast of Peru. In 1940 it was still a fishing village of 4000 inhabitants, now it is the second largest industrial centre in the country. 80% of the people live in poor districts, the pueblos jovenes. Drinking water supply, sanitation and waste collection are hardly available in some areas. Malnutrition and infectious diseases are very widespread, and neonatal and infant mortality have increased alarmingly since the mid-1980s.

One of the questions in the Chimbote questionnaire was: “What did you do about the most serious illness that occurred in your household over the last fortieth?”

More than half (53% of the 2122 interviewed) said they had chosen drugs to treat the illness. These came either from the pharmacy (35.6%) or the local grocery (18%). In 34% of cases a physician was consulted, either on a private basis (11.9%) or within the public health service (22.5%). In 12.3% of cases, domestic remedies were used, and in 2.5%, a traditional healer was consulted. The remaining 10.3% said they did nothing, which indicates that they counted on the disease being minor and on the patients’ spontaneous recovery.

Self-medication is common because health centres are often difficult or impossible to reach (long journeys, high transport costs, long waiting time, etc.) and (45%) or the pharmacy (33.7%), while 11.5% of patients sought a medical opinion, barely 9% relied on home remedies and 8.6% saw no reason to treat what was after all a common ‘flu (the total does not equal 100% because many responses are possible). 55.3% of those suffering from influenza took at least one drug to combat the disease, 19% took pain killers, 14.9% took drugs to soothe coughing and 11.3% took antibiotics. The last figure is all the more worrying in that antibiotics do nothing to combat influenza, which is a viral disease; they simply develop drug resistance. With the exception of remedies for headaches or fever, it is generally held to be useless to treat influenza with drugs. 13% of people suffering from a cold took composite drugs, some containing an antihistamine. This is a needless risk, since metamizole can have lethal side-effects. In many industrialized countries the substance has been banned, or at the very least its use has been severely restricted.


diarrhoea

Self-medication is the most common reaction to diarrhoea also: 62.8% of patients obtain drugs either at the pharmacy or at the grocers, where 27.9% consult a physician and 13.8% use household remedies. The worst thing is that 40% of those suffering from diarrhoea took antibiotics whether medically or self-prescribed, and 38% took other anti diarrhoeal drugs. Both forms of treatment are at best useless and at worst dangerous.

pain

Headaches, toothache, backache and joint pains were treated with self-prescribed modern drugs in almost 50% of cases. In 24% of cases the patient took drugs containing metamizole, while 16% chose acetylsalicylic acid and a further 16% chose paracetamol, both of which entail a risk (although acetylsalicylic acid should not be given to children under the age of 12).

References

4 Dr C. Knauth, 2 Tuermesstrasse, 2800 Bremen 41, Federal Republic of Germany. The survey on the use of medicines in the poor districts of Peru was conducted during 1981 by the Peruvian branch of Health Action International, the University of Heidelberg, TRC and the Cayenne Heredia University, Lima, Peru.

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In the case of influenza, 78.7% of patients used drugs obtained from the grocers because private consultations are expensive. The local pharmacy or grocery, well-stocked with common drugs, takes up little time and money. Even patients who con- sult a physician, whether in the private or in the public sector, usually have to obtain and pay for the drugs themselves.

173 households in Chimbote were asked to give detailed information on how they treat each disease.

The most frequently mentioned health problems were influenza, diarrhoea, non-viral (i.e. not affecting the intes- nal organs), fever, lack of appetite and faintness.

Influenza

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Pain

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Fever

The survey showed that where fever was the only symptom, 83% of cases were treated with self-medication alone, and 17% with a combination of self-medication and hospital treatment. Patients used household remedies in only 5% of cases.

As regards drugs, 55% of patients at least took analgesics, 42.5% took drugs to counteract cough or influenza, and 17.5% took antibiotics. Drugs used contained metamizole, 70% of the cases of fever involved children up to the age of 10. Practiced in conjunction with physical treatment is the only appropriate method; it was used in 16% of cases.

Loss of appetite (anorexia), malnutrition: A surprising one-third of patients with these symptoms consulted a physician, 38% took self-medication, and 9 out of 10 of those drugs were purchased in pharmacies, which tend to be well supplied with multivitamin products and appetite stimulants. These products have already been the object of critical analysis: 40% of people suffering from these symptoms took multivitamins and 20.5% took appetite stimulants containing crohophosphates. Neither form of treatment is in any way justified.

Irrational supply leads to irrational use

An overview of the data on drug consumption seen in the two weeks of the inquiry shows that the people interviewed, whatever their age, took at least one drug for each illness. Half of the drugs taken (50.5%) were bought without prescription. 86% of drugs for influenza, 65% of painkillers and 36% of antibiotics were self-prescribed; the last group is particularly alarming.

Even more worrying is the fact that about half the drugs against diarrhoea and three-quarters against the common cold are self-prescribed. In the two districts, both categories contain substances that are largely inappropriate - were taken on medical prescription.

The assertion that the private market in a country that has an essential drugs program is only for the wealthier classes is completely unfounded in the case of Chimbote.

On the contrary, the families interviewed in the poor districts mostly use drugs from the private sector for their day-to-day health problems, and they use practically the entire available range. If the drug supply is irrational, consumption too will be irrational.

This is true not only of self-medication but also of the way physicians prescribe drugs, as the example of antidiarrhoeal drugs and vitamin-based products shows. In terms of health policy there is no reason to exempt the private drug market from official authorisation and control based on criteria of medical need and rational use of drugs.
RESEARCH

Health post usage in a mountain district in eastern Nepal

John C. Chalker*, Madhu Dapali**, Bhagwati Khadka***

Qualitative research methodology has been particularly useful in assessing community attitudes. In recent times semi-structured group interviews (focus groups), have been applied to various aspects of community health concern. Multilateral agency thinking indicates that the regular provision of essential drugs, at a price that will cover the costs plus enough over to pay for the facilities, will be sufficient to stimulate health service use, and promote primary health care coverage to the most needy groups. For example the Bamako initiative is designed to encourage maximum community involvement in management of health care through provision of essential drugs and supplies by "promoting self reliance in the supply of basic essential drugs, through community participation." 2

The Medical Trust (BNMT) has been helping to run cost sharing drug schemes (CSDSs) in three districts of eastern Nepal for ten, three and one year respectively. For that period, all government health posts, and the district hospitals have had no regular drug supply. Before this, the health posts were issued a supply of medicines by the government every three months. For a few months and then out. For this reason, BNMT in cooperation with the District Public Health Officers supplied CSDSs under which each episode of illness is fully treated for a prescription fee of 5 Rupees (US$ 0.20 Rupees). This fee was based on a calculation that the average daily wage in the hills of Nepal was 6 Rupees (US$ 0.20 Rupees) and the people were prepared to spend one day’s wages equivalent on an episode of illness. 3

In the present usage, which was already low, dropped considerably with the introduction of this scheme, and has only slowly increased. Factors such as drug supply are therefore relevant to health post usage. The prescribing pattern of health staff and the number of patients that visited each health post per average in 1980/89 was 2.1 people per day. 4

The district has a population of 324,450 people and the population density is 33.1 per square km. There are 19 government health posts and a district hospital. The health posts are staffed by health workers and the hospital has a doctor. The number of patients that visited each health post per average in 1980/89 was 2.1 people per day. 5

The other dimension of the PNMBP is to achieve access to the dumb and the illiterate. 6 The second category essentially applied to certain symptoms such as diarrhea or headache or bronchitis. However, all sickness may come into either of these two categories.

Treatment of illnesses

In all cases, there is a gradation of treatment activity. Most illness, if not treated, led to get better on their own.

If they do not improve, then home herbal treatment is used. If this does not work, then the traditional healer (dhami) is called. Finally, if there is no improvement, the health post will be visited.

Nine of the eleven groups stated that if a disease was caused by a god or spirit, then going to a health post for treatment would make the illness worse. Therefore it was necessary to go to a dhami first in case a god or spirit had caused the problem (unless the problem was a cut or accidental trauma).

Prevention

Responses to this area of enquiry reflected the perceived causes of disease. As poor farmers, the health problems faced by the people were often of a preventive nature for the disease to re-occur. The entire group agreed with this and understood the need to prevent the occurrence of illness. The group felt that sickness was random and therefore prevention was not possible, although this was contradicted by a community expressed belief that religious ceremonies could prevent illness. One strategy for a breast-fed sick child was for the mother to stop eating hot and sour food and taking alcohol. Two groups mentioned vaccination and one group mentioned latrines.

Advantages of traditional healers (dhamis)

The overwhelming advantages of dhamis were stated to be their familiarity, availability, cost, and the belief that they could intercede on behalf of the patient if a god or spirit has caused the illness. Again and again, group members stated that: dhamis were often effective and could be called any time of the day or night; the dhami is often a friend or relative, and such people have been used by the local people for generations; they do not charge money, but can be paid for their services in available goods, such as a meal, bottles of alcohol, a chicken, or even a goat. They are the only people capable of curing a sickness caused by a god or spirit.

Health post staff

There was a general perception that the health post staff were rude, and some participants thought that rich people received better treatment. There were complaints that the health worker was not always there when patients reached the health post. Health assistants were reluctant to make home visits, and if they did they often charged Rs. 200 to Rs. 500. The health post staff often only spoke Nepali, which was difficult for some of the ethnic minorities. Two groups complained that the health workers were male and that this made it difficult for women to visit. One group that was conducted near a health post said that while the health post was useful, the staff charged Rs. 200 for a visit, but gave “only white tablets for all sicknesses”, presumably in contrast to the colourful dhami ceremonies.

Time and distance

Participants complained that the health posts were far away and the road was difficult, especially in the monsoon. It would take all day to go and return, and that they did not have the time, especially the women who had too much work to do and other children to look after. Another problem was that there was nowhere to spend the night near the health posts. This created difficulties if daily treatment was necessary or if they had a long distance to travel. For some ethnic groups, e.g. Brahmins, there was an additional problem in obtaining food that met strict dietary rules.

Meditations

There was a common perception that the health post staff sold the good drugs giving only bad drugs to poor people.

Prescription fee

Two groups complained of this, either saying that it was easier to pay a dhami in goods, than it was to find Rs. 5 in cash, or that they were often not given Rs. 5 worth of medicine.

Discussion

The idea that a regular supply of medicines at a supposedly affordable fee will in itself increase health centre attendance has been shown to be erroneous, at least in the hills of eastern Nepal. There are other factors related to the use of health services, which although perhaps harder to solve, cannot be ignored.

In the area studied there is a ubiquitous perception that the cause of illness may be an angry god or spirit. The only people believed qualified to deal with these problems are the dhamis. Only after a dhami has been seen, can a health post be visited (unless the problem is a cut or an accident). Therefore to promote health post usage, the dhami has to be drawn into a partnership with the government health delivery system. This confirms the thesis of another author, that dhamis with their orthodox position, have a potent potential for development. Despite the regular supply to all health posts of good quality essential drugs throughout the year, the community perception is still that old and ineffective drugs are given out.

This may reflect the social and geographical distance between health post staff and the community they serve, and the seemingly poor staff/patient communications apparent.

Nepal - Continued on page 16
How to investigate drug use in health facilities

Selected drug use indicators

The practical manual on addition to the new Action Programme on Essential Drugs Research Series—describes in detail a recommended standard methodology, using indicators, to measure drug use in health facilities. The results of each study can provide a challenging starting point for a discussion on rational prescribing. The indicators can be used for a survey of prescribing practices, for comparisons between regions or over time, for monitoring of individual facilities, and especially for measuring the impact of an intervention.

In recent years concern has been increasingly expressed about the public health and economic impact of poor prescribing practices. There are many reports that this is an increasing problem in both developed and developing countries. Attempts to identify the scope and nature of the problem and so develop adequate interventions to improve drug use are increasing. An essential tool for such work is an objective method to measure drug use in health facilities. However, the lack of agreement on such a method has been a recurrent problem. For this reason, WHO’s Action Programme on Essential Drugs, in collaboration with the International Network on Rational Drug Use (INRUD) decided to develop a standard approach which could be easily used by researchers throughout the world.

The main purpose of the selected drug use indicators is to describe the drug use in a country, region or individual health facility. Such indicators allow health planners, managers and researchers to make basic comparisons between different situations in different areas at different times. And, when an intervention is undertaken to improve aspects of drug use, the indicators can be used to measure impact. They can also serve as simple supervisory tools to detect problems in performance by individual prescribers or facilities.

The indicators are intended to measure specific aspects of the behaviour of health providers in a reproducible manner, irrespective of who measures them or when the measures are taken. The techniques for their use have been well tested and do not require special training. The indicators are intended for health centres and district hospitals, but can also be used in referral hospitals, to assess potential problems in drug use and to focus subsequent efforts to correct these problems.

Field testing

Some of the indicators were used in early studies in Yemen and Uganda to quantify the impact of activities within essential drugs programmes. Building on this early work, members of the International Network for the Rational Use of Drugs (INRUD) undertook a systematic programme to develop, field test and refine drug use indicators. The methodology for collecting the necessary data was tested in Indonesia, Bangladesh and Nepal. In close collaboration between INRUD and WHO, the revised indicators were also used in Sudan, Uganda, Malawi, Nigeria and Tanzania. An explicit effort was made to limit the number of indicators with the intention of defining a core set that could be collected in any health system and would yield the maximum of information with the minimum of effort. These have now become the provisional standard for the Action Programme on Essential Drugs.

Using the indicators

The indicators are facility-based measures, meant to describe practices in a representative sample of facilities. The data can be collected once in a cross-sectional survey, or measurements can be made at different times to assess change in performance.

The number of health facilities at which data are collected will depend partly on the purposes of a particular study. For a basic cross-sectional survey, 20 health facilities should be selected to represent a larger group of facilities. 30 prescriptions should be studied in each of the selected facilities. Using either prospective or retrospective data, both methods have their advantages and disadvantages. Patient care indicators are always measured prospectively. For a measurement of performance in individual facilities and for supervisory functions, a larger number of patient encounters should be studied; the minimum number is 60 per facility, but 100 is recommended.

The indicators are designed in such a way that a team of two can collect all necessary data from one health facility within half a day.

Standardising measurement

Field tests have shown that some standardisation in the measurement of the core indicators is needed. Only the major points can be mentioned here. In principle the indicators focus on the general outpatient department. For the average number of drugs per encounter, combination drugs are counted as one.

For the percentage of encounters with an antibiotic prescribed, antibiotic eye and skin preparations are counted as antibiotics, and so are sulfas preparations and

Continued on next page

Table 1: Core drug use indicators

<table>
<thead>
<tr>
<th>Prescribing indicators</th>
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</thead>
<tbody>
<tr>
<td>1 Average number of drugs per encounter</td>
<td></td>
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<tr>
<td>2 Percentage of drugs prescribed by generic name</td>
<td></td>
</tr>
<tr>
<td>3 Percentage of encounters with an antibiotic prescribed</td>
<td></td>
</tr>
<tr>
<td>4 Percentage of encounters with an injection prescribed</td>
<td></td>
</tr>
<tr>
<td>5 Percentage of drugs prescribed from essential drugs list or formulary</td>
<td></td>
</tr>
<tr>
<td>Patient care indicators</td>
<td></td>
</tr>
<tr>
<td>6 Average consultation time</td>
<td></td>
</tr>
<tr>
<td>7 Average dispensing time</td>
<td></td>
</tr>
<tr>
<td>8 Percentage of drugs actually dispensed</td>
<td></td>
</tr>
<tr>
<td>9 Percentage of drugs adequately labelled</td>
<td></td>
</tr>
<tr>
<td>10 Patients’ knowledge of correct dosage</td>
<td></td>
</tr>
<tr>
<td>Facility indicators</td>
<td></td>
</tr>
<tr>
<td>11 Availability of copy of essential drugs list or formulary</td>
<td></td>
</tr>
<tr>
<td>12 Availability of key drugs</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Complementary drug use indicators

| Percentage of patients treated without drugs |  |
| 13 Average drug cost per consultation |  |
| 14 Average drug cost per patient |  |
| 15 Percentage of drug costs spent on antibiotics |  |
| 16 Percentage of drug costs spent on injections |  |
| 17 Prescription in accordance with treatment guidelines |  |
| 18 Percentage of patients satisfied with the care they received |  |
| 19 Percentage of health facilities with access to impartial drug information |  |
## Essential Drugs Monitor

### Analysis and reporting

Special data forms have been developed specifically for manual analysis. However, to assist those with access to a computer, the forms can easily be adapted to a simple spreadsheet.

In addition, two software tools have been developed to facilitate data analysis and standard reporting of data from prescribing encounters, while preserving detail about specific health problems and drugs.

### Early study results

Some of the initial surveys only studied a limited number of indicators and gave an idea of the range of experience in different countries. Several drug use studies with the indicators have been completed.

### Table 3: Results from earlier drug use indicator studies

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of facilities</th>
<th>No drugs/prescription (%)</th>
<th>% prescribed</th>
<th>% with antibiotic</th>
<th>% with injections</th>
<th>% from drugs list</th>
<th>consultation time (min)</th>
<th>dispensing time (sec)</th>
<th>% knowledge of dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yemen</td>
<td>19-42</td>
<td>1.5</td>
<td>1.9</td>
<td>14.15</td>
<td>38</td>
<td>2</td>
<td>3</td>
<td>82</td>
<td>78</td>
</tr>
<tr>
<td>Uganda</td>
<td>27-20</td>
<td>2.3</td>
<td>3.8</td>
<td>2.1</td>
<td>3.1</td>
<td>17</td>
<td>3</td>
<td>82</td>
<td>78</td>
</tr>
<tr>
<td>Sudan</td>
<td>20-20</td>
<td>2.3</td>
<td>3.8</td>
<td>2.1</td>
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<td>Indonesia</td>
<td>20-20</td>
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<tr>
<td>Tanzania</td>
<td>20-20</td>
<td>2.3</td>
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<td>2.1</td>
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<td>17</td>
<td>3</td>
<td>82</td>
<td>78</td>
</tr>
</tbody>
</table>

### Nepal - Continued from page 14

from the very negative comments about health workers' attitudes.

Education of health post staff in communications skills is clearly needed not only to improve the therapeutic encounter but to convince clients that they are receiving quality, effective medical care.

Health posts are seen as generally having an accepted place, but their usefulness is limited by geographic distance and the lack of accommodation or food.

There are two possible strategies to combat this: firstly, those who provide services and cooking pots for the use of patients and their families could be built near each health post; and the number of outreach clinics could be increased, with the provision of trained staff at a community level. The Village Health Workers (VHWs) and Community Volunteers (CHVs), and the promotion of outreach health posts (a current HMGG/PSA programme), will go some way to improving this situation.

It is a problem for many people to find Rs.5 cash and much easier for them to pay in kind.

It is the practice of some sort of exchange system could be set up, whereby rice or other crops could be exchanged for a prescription.

The scheme would have to be sold eventually for cash to pay for drugs.

### Conclusion

This research indicates that to concentrate extensively on drug supply and cost recovery is a limited approach that fails to maximise the use of health facilities by vulnerable groups. Health care needs to be targeted on a broader front in which particular attention should be paid to community attitudes and resources.

As so many new points and possible programme directions emerged from the focus group discussions this qualitative research technique has shown itself to be useful methodology for investigating community attitudes to health post usage.

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**Madha Kapala** is a field coordinator with the British Nuffield Trust.

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References:

The 1990 international conference, primary health care and drugs: global action towards rational drug use, examined the relationship between rational drug use and the provision of primary health care. Primary health care is an approach to health which aims at prevention and stresses self-help.


To reach the goals of health for all by the year 2000, primary health care must be implemented cost-effectively, especially given the severe constraints facing the health sector in many developing countries. A key requirement is knowledge about the resources being used for primary health care, and on the results that are yielded.

This manual was prepared over a period of three years, with important inputs from health programme managers from many developing countries. It is designed to illustrate how one essential tool of resource management, cost analysis, may be employed by programme managers to answer basic questions about efficiency, equity and sustainability of the health activities for which they are responsible. The outcomes of cost analysis are intended for direct use to improve service operations, and are also useful for decisions about the allocation of resources and other management issues beyond the immediate programme context. Better information about costs can make an important contribution to strengthening health concerns in structuring adjustment programmes. The book is divided into three main sections: an introduction to financial costs and look at the effectiveness of health services; cost-effectiveness analysis; and the use of cost data in planning. Each section contains a number of modules and related exercises are included at the end of the chapter.


This book at contraceptive policy from the perspective of the needs, desires and rights of contraceptive users, and focuses particularly on developing countries. The authors argue that it is in these countries that women are more likely to be confronted with a lack of choice and poor or misleading information.

It is also in developing countries, the authors state, that family planning programs are often tied to programs to limit population growth and where cultural and religious prohibitions may further restrict women’s choices.

Topics include the testing and development of new contraceptives and a discussion of Norplant, an implantable contraceptive introduced to many developing countries. The book examines the conditions faced by contraceptive users in the Philippines, Tanzania and South Africa and gives an example of an integrated approach to reproductive health care in Bangladesh. It outlines the consequences of HIV/AIDS for women and for reproductive health services and proposes a set of guidelines for contraceptive services.


In May 1988 the Forty-First World Health Assembly adopted a resolution endorsing the ethical criteria for medicinal drug promotion contained in this booklet and urging Member States to take them into account in developing marketing policies to ensure that such promotion supports the aim of improving health care through the rational use of drugs.

The criteria are based on a draft prepared by an international group of experts, and set out principles which could be adopted by governments to national circumstances. This useful Bengali edition has been published by UNICEF Dhaka.

Available from: UNICEF, GPO Box 58, Dhaka 1000, Bangladesh

The Ethical Criteria are published by WHO in Arabic, Chinese, English, French, Russian and Spanish, and are available from WHO Distribution and Sales, Geneva, Price $2, 1992.

NIRODHla Health Bulletin, OSLEN, Colombo, Sri Lanka

Since its introduction in May 1991, NIRODHla (New Initiatives for Rationalization of Drugs and Health Actions) has been campaigning for the health care rights of consumers in Sri Lanka. The bulletin is published quarterly and includes articles covering a wide range of national and international concerns. It aims to open a dialogue with all those involved in health care in order to elucidate what Dr Balasubramaniam describes as "the neglected solution," a people-oriented policy which he believes benefits the population.

There is also a report on the serious distribution of health services and irrational drug use in Sri Lanka. The second issue includes information for a market organizing system for pharmaceutical products in Sri Lanka.

The bulletin gives prominence to reports on recently banned drugs and research into the possible dangers of others. On an international level, it includes a feature on the drug policy of Mozambique and all issues will include reports of relevant conferences and training workshops both in Sri Lanka and abroad.

NIRODHla: Published by the Health Dept of OSLEN, (Organization to Safeguard Life and Environment) 165 Ellite Place, Colombo 8, Sri Lanka.


Victorian Drug Usage Advisory Committee

These are two updates to the successful Guidelines series which also includes books on cardiovascular and psychiatric drugs.

Analytic Guidelines was first published in 1988. Since then new information has become available, which has increased our understanding of pain mechanisms and the pharmacology of analgesic drugs. This update particularly respects the clinical use of opioids, and this information has now been incorporated in the second edition.

All chapters have been updated and more tables have been included and some chapters amalgamated to make this second edition particularly "user friendly.

Antibiotic Guidelines proposes rational approaches to the use of antimicrobial drugs both in hospital practice and in the community. Since its first appearance in 1977 the book has popularised the concept of peer consensus when prescribing for bacterial infections.

As a result of better information and understanding, the authors state that practitioners are changing their prescribing habits and are now more likely to use cheaper, narrow-spectrum antibiotics than broad-spectrum.

It is in the interests of public health that drugs are used for the right indications, in the right dosage and that the choice of drugs is appropriate. In Europe, work in this direction has mainly concentrated on teaching the principles of clinical pharmacology and pharmacotherapy to medical students and doctors.

The WHO Working Group on Clinical Pharmacology in Europe, set up in 1986, has laid down the general principles for the teaching of and training in clinical pharmacology and also the guidelines on the role of the discipline in health care delivery.

These principles and guidelines form the first section of this book, which places special emphasis on primary health care.

In addition the book presents, country by country, the results of a questionnaire sent out to medical schools and health ministries about the academic status of clinical pharmacology.

It represents a guide to academic programmes in clinical pharmacology in the European Region, as well as discussing the role of clinical pharmacology in creating a rational, comprehensive system for quality control of pharmaceutical products.

The first and most extensive set of guidelines cover updated requirements for good manufacturing practices in pharmaceutical production. These include general conditions and essential elements of quality assurance in pharmaceutical manufacture, and supplementary guidance for the manufacture of sterile preparations and the production of active ingredients.

The second guidelines detail the plant inspection procedures needed to ascertain adherence to good manufacturing practices. Implementation of the WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce is covered in the next section.

Other topics include the quality of pharmaceutical and biological products prepared by recombinant DNA technology, as well as the validation of procedures used to assess the safety and efficacy of products. The remaining section provides updated lists of available international chemical reference substances and of adopted infrared reference spectra.

The report also contains a brief, updated information on several other elements of quality assurance.

Available in English and French (Spanish in preparation) from: World Health Organization, Distribution and Sales, 1211 Geneva 27, Switzerland. Price SwFr 16.70 (US$15,50), and in developing countries SwFr 5.70.


This book presents and explains WHO's second model list of essential drugs, a list identifies a core group of prophylactic and therapeutic substances judged capable of meeting the vast majority of health needs and so deserving priority in purchasing decisions and procurement schemes.

The first part of the report provides updated information on several components of national drug policy necessary to assure that essential drugs, corresponding to essential health needs, are available at all times, in adequate amounts and in proper dosage. Organized according to therapeutic group, the list includes information on route of administration, dosage forms and strengths of 286 essential drugs. For the first time the lists includes a selection of essential drugs needed for the pain relief of cancer patients. Quality assurance, education and dissemination of drug information are also discussed. The report draws attention to the urgent need for better laboratory monitoring of antimicrobial sensitivity, and the importance of post-registration study, field and adverse drug reactions studies and assess other indicators of drug performance.

New sections discuss drug nomenclature, including the problems that arise when trade marks are used by National Nomenclature Authorities, and also offer advice on the principles that should be followed when procuring or using contaminated drugs for use in displaced communities.

Anecdotal to the report are a document setting out guiding principles for small national drug regulatory authorities and an application form for inclusion of pharmaceutical products in the model list.

Available in English, French and Spanish in preparation) from: World Health Organization, Distribution and Sales, 1211 Geneva 27, Switzerland. Price SwFr 5.40 (US$5,00), and in developing countries SwFr 2.


This revised edition of the handbook, describes a wide range of illnesses and factors affecting the health of the village population, from diarhoea to tuberculosis. It now includes information about addi- tional health problems, such as AIDS, Dengue, abortion complications and drug addiction. Advice is updated on other topics, such as precautions on cleanliness, healthy diet and vaccinations. Childbirth and family planning are covered in detail.

The book explains which medicines are most useful for specific sicknesses and which are useless or dangerous. Risks and precautions are carefully described and guidelines given for the sensible use of both traditional and modern medicines. The handbook is aimed at village workers from medical centres, and village storekeepers and pharmacists selling health care supplies. It's important and clearly written information will also interest village health workers, teachers, mothers and midwives.

Available in more than 50 languages. Contact: The Herppyr Foundation, P.O. Box 1602, Palo Alto, CA 94302, USA.

Essential Drugs Monitor


According to estimates by WHO and UNICEF, diarrhea annually causes the death of four million children. The authors of this report state that most of these deaths could be avoided if children with diarrhea were treated simply with oral rehydration. Yet every year hundreds of thousands of dollars are spent on anti-diarrheal drugs which, in most cases makes the problem worse.

This book reports on a major survey of the market of anti-diarrheals undertaken in twenty Latin American countries as part of a consumer information campaign to curb their use. The survey, which was carried out by Acceso para la Salud (APS) and the International Organization of Consumers Unions (IOCU), found evidence of poor drug use. For example, hidroxiprolinol etilcat, known for its serious adverse effects on the optical nerves, was found in 12.8% of antidiarreals. The book includes a guide for action against such drugs, and lists all the anti-diarrheals included in the study.


This therapeutic guide, intended for use by health auxiliaries, contains clear information on thirty eight drugs which are commonly used and which have been tested by health experts. It also provides well illustrated treatment guidelines for primary health care.

Available in Spanish from: IOCU Regional Office for Latin America, Caja de Correo 10993, Savard 2, C.P. 11000, Montevideo, Uruguay.


This report addresses the pressing need for educational measures that can improve the competence and motivation of health personnel working in district health systems.

Noting that personnel constitute the most valuable and expensive component of the health services, the report argues for the use of a systematic programme of continuing education, geared to the functioning of a district health system, as a measure that can help staff at all levels improve their performance and maintain a high level of job satisfaction.

Emphasis is placed on the importance of on-the-job training as an approach that can significantly improve learning based on real problems and appropriate to real needs in the community.

Throughout the report, brief case studies are used to show how different countries have made continuing education an integral part of district health management.

The report opens with a discussion of the ways in which continuing education can strengthen the health system and thus support its role in ensuring universal access to primary health care. The second section lists operational principles for the management of district health systems and shows how specific managerial functions are facilitated when health staff are continuously encouraged to improve their skills and competence. Factors that can influence the successful operation of programmes for continuing education are identified in the third and most extensive section, which considers the importance of political and financial commitment, the choice of educational methods, the relevance of learning materials, the professional aspirations of staff, and methods of supervision. Factors to consider when evaluating the success of a continuing education system are also clearly explained.

The final section presents and discusses six fundamental questions that can help authorities decide what should be included in a continuing education system and how it should be organized and managed. Details range from a discussion of the merits of different forms of incentives to a list of reasons why some continuing education programmes have failed.

Available in English (French and Spanish in preparation) from: World Health Organization, Distribution and Sales, 1211 Geneva 27, Switzerland. Price SwFr 8.80 (US$8.40), and in developing countries SwFr 5.60.


The aim of this recently published thesis is to present an automatic method for offering a drug information service to health professionals, when patient related problems arise. It has been designed for and used in the with the development run jointly by clinical pharmacologists and physicians at Huddinge Hospital, Stockholm. It also looks at the issue of developing a quality assurance programme for a drug information centre.

See EDM-12 for further details of the work of the Drug Information Centre, Huddinge Unit of Hospital, Stockholm.

Available from: Department of Clinical Pharmacology, Karolinska Institute, Huddinge Hospital, Stockholm, Sweden.


Based on the recommendations of an international group of experts, the report provides detailed guidelines to assist drug regulatory authorities in implementing a rational, comprehensive system for quality control of pharmaceutical products.

The first and most extensive set of guidelines cover updated requirements for good manufacturing practices in pharmaceutical production. These include general conditions and essential elements of quality assurance in pharmaceutical manufacture, and supplementary guidance for the manufacture of sterile preparations and the production of active ingredients.

The second guidelines detail the plant inspection procedures needed to ascertain adherence to good manufacturing practices. Implementation of the WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce is covered in the next section.

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The report also contains a brief, updated information on several other elements of quality assurance.

Available in English and French (Spanish in preparation) from: World Health Organization, Distribution and Sales, 1211 Geneva 27, Switzerland. Price SwFr 16.70 (US$15,50), and in developing countries SwFr 5.70.


This handbook is intended to help medical practitioners to identify more common problems encountered in the practice of medicine in Malawi. It discusses medical and surgical problems, and also provides guidance for investigations and treatments available in Malawi.

The differential diagnosis of causes is listed, with reference to the pattern of disease. Where appropriate the book covers physical therapy, nursing, and where a practical approach is taken. There is a section on antibiotics and the treatment of infections.

Available from: Ministry of Health, P.O. Box 50177, Chichewa City, Lilongwe 3, Malawi.
Good response to WHO “Core Library”

WHO has developed a “core library” for doctors working in remote, rural areas. The library, which consists of seven clinical manuals, was established following the recommendation of a study group concerned with hospital functions at the first referral level. The group specifically asked WHO to “select and produce a short list of manuals that are considered indispensable to hospitals at referral level and could form the nucleus of a hospital library.”

Three surgery manuals (Anesthesia at the District Hospital, General Surgery at the District Hospital, and Surgery at the District Hospital) were selected because they describe new life-saving procedures, as was the pocket guide on Management of Severe and Complicated Malaria. Respiratory infections in Children: Management in Small Hospitals was included because of its direct relevance to a major problem in hospitals, and Manual of Radiographic Interpretation for General Practitioners was selected as representing the most complete set of radiographic images for clinical use. Finally, Cancer Pain Relief was added to the list because many patients in developing countries are hospitalized because of intractable pain; when the cause is cancer, the disease may be so far advanced that pain relief is the sole treatment option.

To help make the library affordable, WHO and the publishing house arranged for the book, valued at Swfr.125, to be purchased for only Swfr.44. Since four of the books are large-format, weighty manuals, the price is, in effect, just enough to cover postage.

There are already signs that this special offer will be successful. The first order (from a Geneva address) arrived the day after presentation of the idea at the 49th World Health Congress in Mexico City. Two NGOs are considering purchasing core libraries for all hospitals within selected countries, and the International Hospital Federation will be promoting the library in its newsletter and journal.

Available in English and French from: World Health Organization, Distribution and Sales, 1211 Geneva 27, Switzerland.
RATIONAL USE

Changing antibiotic utilisation patterns in Costa Rica

by Albin Chaves Matamoros, J. Duarte, D. Lee

The appropriate use of antibiotics is of great concern worldwide. Factors influencing antibiotic use are multiple and complex. Efforts to improve antibiotic utilisation must take into account the perception of health and disease of the populations, the availability of antibiotics, and the characteristics of the established systems of medical care. Specific recommendations in antibiotic selection must take into consideration not only the resistance patterns of bacteria, but also the economics, health services manpower, and social constraints. Among others, the implementation of national drug formularies may provide opportunities to improve the availability and use of antibiotics in developing countries.

Costa Rica is a small Central American country of three million inhabitants. In the public sector, health care services are provided by the Costa Rican Social Security Institute to approximately 95% of the population. The adoption of a limited list of essential drugs and improved central procurement and distribution, basic pharmaceutical needs appear to have been adequately met. Within the Social Security Institute, the Department of Pharmacotherapeutics is charged with periodically revising the essential drug list, coordinating drug quality assurance, monitoring the use of drugs, and conducting information and education activities for prescribers. Supported by strict inventory control and dispensing practices, the Department of Pharmacotherapeutics is currently able to monitor drug utilisation effectively.

In 1984 the National Therapeutic Formulary listed 15 antibiotics and urinary tract antiseptics (as well as four drugs for treatment of tuberculosis). In 1989 the Formulary recommended the use of 21 such drugs, having added two third-generation cephalosporins and an anti-Pseudomonas B-lactam. Table I provides data on consumption of systemic antibiotics and urinary tract antiseptics effectively. Data on tuberculo-statics and streptomycin are not included. Overall, the consumption of antimicrobials increased over the seven year period 1982-1989. Until 1986, cotrimoxazole, ampicillin, erythromycin and tetracycline were the most consumed antibiotics. A significant change in the consumption pattern may be observed for 1988 and 1989 as a result of action taken by the National Therapeutic Formulary Committee and the Department of Pharmacotherapeutics. In 1985 microbiological studies performed at various hospitals and outpatient clinics revealed that gram-negative bacilli (E. coli, Proteus, Klebsiella, Citrobacter, Acinetobacter, and Pseudomonas) were highly resistant to ampicillin, the resistance ranging from 69 to 97%. These strains were still sensitive to agents such as nitrofurantoin, cotrimoxazole and cefalexin. As oral ampicillin was most commonly used in the management of uncomplicated urinary tract infections as well as other indications without prior microbiological support and adequate follow-up, the Pharmacotherapeutics Committee decided to delete the ampicillin 500 mg capsule from the Formulary. The ampicillin pediatric and parenteral formulations were maintained but restricted to hospital use for the management of Haemophilus influenzae and Salmonella infections.

In early 1986, through a two-page "Dear Doctor" circular, prescribers were informed of this decision and of the available antibiotics of choice for the common infections diseases in primary care. Specifically, nitrofurantoin and cotrimoxazole were recommended as the drugs of choice (and when supported by microbiological testing, cefalexin as a possible alternate drug) for the management of uncomplicated urinary tract infections for which ampicillin might be prescribed. Table I shows the reduction in consumption of ampicillin and a concomitant increase in consumption of cefalexin. Consumption of nitrofurantoin and cotrimoxazole as well as other antibiotics remained relatively stable without demonstrating increases that could be attributed to a shift from ampicillin use.

Although recommendations favouring the use of nitrofurantoin and cotrimoxazole as drugs of first choice in the treatment of uncomplicated urinary tract infections, the consumption pattern for 1985 and 1988 clearly indicates that cefalexin replaced ampicillin in prescribers' choice of drug therapy in the outpatient setting.

The observed lack of compliance with recommendations is in accord with results conducted in other settings indicating that printed information alone may not be effective in modifying prescribing behaviour.

In this particular situation, perhaps a targeted intervention involving person-to-person or group communication may have produced a different consumption pattern. Current microbiological data do not reflect any increase in gram-negative bacilli resistant to cefalexin. There are no data that indicate inappropriate use from a clinical viewpoint. Nevertheless, further studies are underway to evaluate this shift in drug use from the perspective of cost-effectiveness.

References


Of antimicrobials in Costa Rica

(Defined Daily Dose/1000 inhabitants/day)

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Data were not available for benzylpenicillin and phenoxybenzaminicillin for the years 1982-1986. Data were not available for cotrimoxazole for 1982, 1983, and 1984. Piperacillin, cefadroxil, and cefotaxime were added to the Formulary in 1988 and 1989.