

INRUD NEWS

VOLUME 12, NUMBER 2

APRIL 2003

Newsletter of the
International Network for Rational Use of Drugs

INRUD Update

Second International Conference on Improving Use of Medicines (ICIUM 2004) to Be Held March 30–April 2, 2004, in Chiang Mai, Thailand

Now is the time to send in expressions of interest and prepare abstracts for submission.

INRUD is delighted to be one of the organizations collaborating on ICIUM 2004. Following the successes of the landmark ICIUM 1997, ICIUM 2004 seeks to (1) build an international consensus on effective and innovative interventions for improving drug use and (2) define a new global research agenda relevant to current conditions and unfolding developments in international health. The conference will focus on cost-effective interventions for use in developing countries and will offer a forum for concerned policy makers, health ministry officials, program managers, providers, researchers, advocates, and donors to engage in discussion and planning crucial to advancing important public health goals.

Interaction and exchange of ideas will be key to the conference, and all attendees will take an active part in generating the conference products: an international consensus on the value of past and ongoing interventions and a research agenda to identify the best ways to improve the use of medicines worldwide.

Background

In April 1997, researchers and policy makers from around the world, including many INRUD members, gathered in Chiang Mai, Thailand, for the First International Conference on Improving Use of Medicines. The conference was a milestone event—producing an expert international consensus on interventions to improve drug use and defining a global research agenda to explore a variety of interventions and provide evidence on their effectiveness.

An important result of ICIUM 1997 was the Joint Research Initiative to Improve Use of Medicines (JRIIUM), a project launched and promoted by the supporting organizations, with active input from many INRUD groups. JRIIUM was created to investigate the effectiveness of innovative interventions in changing patterns of drug use. The initiative has generated many interesting results, which INRUD groups and others are ready to report.

In the years since ICIUM 1997, the field of international health has experienced advances as well as setbacks. The potential benefits of varied health reforms, decentralization, a fast-growing private sector, and new drug financing and incentive schemes have been explored in many settings. Several new global initiatives have arisen to address catastrophic epidemics and improve access to essential medicines, especially antimicrobials. Increased global flow of antimicrobials brings with it, however, the twin threats of growing rates of antimicrobial resistance and rising prices for alternative drugs.

Conference Structure

The conference will emphasize cost-effective interventions for improving the use of medicines, particularly in developing countries. This time the program will be organized into several concurrent topic tracks. Participants with similar interests in a topic track will form a “meeting within a meeting” as they explore the conference focal areas.

In This Issue

INRUD Update	1
Correspondence and Notices	4
Electronic Communications Update	6
Meetings and Workshops	9
Country and Support Group Reports	11
Research Briefs	21
Recent Publications of Interest	22
Other Recent Articles	25
Inside the Back Page	31
Upcoming Meetings	32

ICIUM 2004 Program Structure

Tuesday March 30		Wednesday March 31		Thursday April 1		Friday April 2	
Morning 3 Hours	Afternoon 3 Hours	Morning 3 Hours	Afternoon 3 Hours	Morning 3 Hours	Afternoon 3 Hours	Morning 3 Hours	Afternoon 3 Hours
Opening	Focal Areas						Closing, with synthesis of issues across focal areas and tracks
	1. International policies and systems	2. National policies, systems, and programs	3. Hospitals and inpatient care	4. Primary care and health providers	5. Primary care and the community	6. Special topics	
	<p>For each focal area, a plenary session will open the discussion, followed by group discussions in each of the following parallel track sessions—</p> <p>Provisional topic tracks</p> <ol style="list-style-type: none"> 1. Malaria 2. Tuberculosis 3. HIV/AIDS, sexually transmitted infections, and reproductive health 4. Child health 5. Chronic diseases and mental health 6. Antimicrobial resistance 7. Impact of access on the use of medicines 8. Other issues, such as methodology, injection use, complementary and alternative medicine 						

Topic tracks will be explored in a sequence of six half-day sessions highlighting specific focal areas. A one-hour plenary session will open the exploration of each focal area. Participants will then break into groups of 30–80 persons across the eight or so topic tracks. Each breakout track session will last for two hours and consist of four presentations or a one-hour roundtable discussion followed by an hour of general discussion.

A rapporteur will summarize the discussions, lessons learned, and recommendations for future research in each track for each focal area. Track rapporteurs will summarize these discussions on a daily basis. At the end of the conference, participants will receive the compiled summaries from all tracks. The conference will close with a synthesis of all daily summaries across focal areas.

To Express Interest

Anyone who may wish to attend the conference is asked to send an expression of interest. This will help the organizers tailor the conference to participants' interests and make sure that conference information reaches all those interested in improving the use of medicines in developing countries. Please notify us of your interest by filling out the Expression of Interest form on the Web site (www.icium.org) or by sending an e-mail to icium@msh.org. If sending an e-mail, please indicate—

1. Your name, your institutional affiliation, country you are coming from, and ways to reach you by mail, phone, fax, and e-mail, including your preferred form of contact
2. Your primary and secondary topic tracks of interest

3. Whether you plan to submit an abstract and, if so, to which focal area and topic track it would be relevant
4. Whether you are a researcher, policy maker, advocate, donor, public health official, or other type of participant (please specify)
5. Whether you will be able to secure funds for your conference registration, travel, and accommodation costs
6. (Optional) Name and best contact address of colleagues whom you think should receive information about ICIUM2004

The information you provide will be accessible only to conference organizers and will be used to plan ICIUM 2004. Sending an expression of interest does not register you for the conference.

To register, please go to the Registration page of the Web site, www.icium.org, which will be available as of late April 2003, or send an e-mail to icium@msh.org. The registration fee will be US\$375.

A limited number of scholarships, covering registration fees, travel, and hotel, will be available to participants from poorer countries who have abstracts accepted or who are key policy makers.

INRUD News is produced twice yearly and distributed free of charge. You can find it on the Web at <http://www.msh.org/INRUD>. If you would prefer to receive the newsletter by mail, please contact the INRUD Coordinator at the following address:

4301 North Fairfax Drive, Suite 400
Arlington, Virginia 22203-1627 USA
Tel: 703-524-6575
Fax: 703-524-7898
E-mail: inrud@msh.org

Abstract and Poster Requirements

You are invited to submit abstracts for consideration. During the conference, posters describing accepted research reports will be on display. Details of required abstract format and poster submission guidelines are available on the conference Web site (www.icium.org) or by e-mail.

Support

ICIUM 2004 is supported by INRUD, together with the World Health Organization's Department of Essential Drugs and Medicines Policy; the Center for International Health at Boston University School of Public Health (BU-CIH); the Department of Ambulatory Care & Prevention, Harvard Medical School (HMS); Management Sciences for Health's Rational Pharmaceutical Management Plus and Strategies for Enhancing Access to Medicines Programs; and the Thai Network for Rational Use of Drugs.

Support for *INRUD News*

This newsletter was made possible through support provided by the U.S. Agency for International Development, under the terms of Cooperative Agreement No. HRN-A-00-00-00016-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development.

Correspondence and Notices

2003 Strategies for Enhancing Access to Medicines Conference

June 16–18, 2003, Dar es Salaam, Tanzania

Funded by the Bill & Melinda Gates Foundation and presented in collaboration with the Ministry of Health of Tanzania, the World Health Organization's Department of Essential Drugs and Medicines Policy, the Rockefeller Foundation, INRUD, and Management Sciences for Health's Rational Pharmaceutical Management Plus Program, the 2003 conference will serve as a forum for discussion of a wide range of pharmaceuticals-related intervention strategies of concern to developing nations. The conference will also provide the opportunity to share information about the activities of the SEAM Program, which focus on enhancing access to essential medicines through collaboration between the private and public sectors. The conference will feature plenary and parallel track presentations on six major topics, followed by roundtable discussion groups for each topic. Poster presentations will provide the opportunity for conference participants to share information about their initiatives, research, and experience. Parallel topic tracks will include:

- Pharmaceutical product prices, including country-level determinants, dynamics, monitoring, and policy
- Pharmaceutical procurement, including national and cross-national pooled procurement strategies
- Pharmaceutical product quality assurance, focusing on strategies for resource-limited settings, including prequalification of products and suppliers and the role of identification (screening) tests and pharmacopeial monograph testing
- Pharmaceutical distribution systems, focusing on strategies for ensuring access to essential medicines in rural and peri-urban areas
- Rational use of medicines, including information access, product selection, and appropriate prescribing and patient use
- Human resources for the pharmaceutical sector, including new approaches to staffing and training in health product supply management

Although the majority of participants will attend the conference by invitation, a number of open registration slots will be available on a first-come, first-served basis. Individuals interested in attending should submit a registration request as early as possible. For further information, please visit the SEAM Web site: <http://www.msh.org/seam>.

Institute of Tropical Medicine and Infectious Diseases

A new Institute of Tropical Medicine and Infectious Diseases (ITROMID) will start its programs in Nairobi, Kenya, in 2003. Although the deadline for applying to attend courses starting in 2003 has already passed, applicants interested in future courses should contact the Institute at kemri_hq@nairobi.mimcom.net or jkurpe@nbnet.co.ke.

Jomo Kenyatta University of Agriculture and Technology (JKUAT) and the Kenya Medical Research Institute (KEMRI) are jointly launching postgraduate programs in Tropical Medicine and Infectious Diseases. The programs are designed to meet the dire need for high-caliber specialists in health sciences for Kenya and the Africa region. By combining the academic, research, training, and linkages capacity available at both institutions, the programs aim to produce professionals measuring up to the highest international levels of competence. For their training, students will be mainly based at KEMRI and will have extensive access to research facilities, training, and other resources of KEMRI throughout Kenya. Degree programs include master of science degrees in Clinical Tropical Medicine; Medical Microbiology; Medical Virology; Medical Mycology; Mycobacteriology; Medical Parasitology and Entomology; Molecular Medicine, including Applied Immunology, Clinical Immunology, and Molecular Biology; Medicinal Phytochemistry; Medicinal Chemistry; Epidemiology; and International Health. Doctoral programs are also available in all of the above areas of specialization. Applicants must be holders of a master's degree in the relevant area.

IUPHAR World Congress on Clinical Pharmacology and Therapeutics (CPT)

August 1–6, 2003, Brisbane, Australia

The International Union of Pharmacology (IUPHAR) is soliciting comments and feedback on the conference program for the World Congress on CPT to be held in Brisbane later this year. INRUD members are invited to review the program outline for the Medicine and Society stream and make suggestions. The outline is indicative only, and suggestions for changes or additions do not have to conform in any way to this outline. IUPHAR welcomes any proposals for new topics, no matter how radical they may seem. Feedback may be submitted via the conference Web site (<http://www.cpt2004.com>), or may be sent by e-mail to David Henry (mddah@mail.newcastle.edu.au), at the Faculty of Health, University of Newcastle, New South Wales, Australia.

Candidate topics for symposia/plenaries in the Medicines and Society stream include:

Quality Use of Medicines (QUM): Curriculum development; undergraduate education; prescriber interventions; feedback programs; national prescribing service; community/consumer interventions; QUM in children; trying to promote EBP (evidence-based practice) when the “E” is so scant in many areas of pediatric therapeutics, etc.

Drug Information: Evidence-based sources—focus on disease—rather than drug-specific information; decision support; independent journals; bulletins in developing countries; direct-to-consumer information.

Drug Utilization: Computerized prescribing; prescribing linkage (diagnostics, indications, outcomes); development of prescribing indicators; information technology developments.

Access to Medicines: WHO Essential Drugs Program; national medicinal drug policies; patents/TRIPS/prices; production quality/dealing with counterfeits; nonprescription medicines in developing and developed countries; franchising of essential drugs.

Pharmacoeconomics and Drug Selection: Who should make decisions? Beyond cost-effectiveness (CE): what other factors should be included? Use of CE data in price negotiations; experience of decision making in different jurisdictions.

Drug Regulation/Evaluation: Focus on issues in children: lack of data on safety and efficacy; developments in Europe and the United States; controversies and lessons; pre-, peri-, and post-natal issues; delayed publication of key data on safety and efficacy.

Medication Safety and Pharmacovigilance: Country activities; international developments; methodological developments; complementary medicines; identifying and quantifying adverse drug reactions in children; systematic reviews; access to national and international databases.

South-North Technology Transfer: How Rich Countries Can Learn from the Poor: Examples of work done primarily in developing countries that has been (or could be) transferred to the developed world; MgSO₄ and PET artemisinin derivatives in malaria; techniques for improving drug use at the community level; management of organophosphate poisoning; what can be done to improve transfer of drug knowledge in both directions?

Promoting Rational Drug Use Course

October 20–30, 2003, Nairobi, Kenya

This two-week PRDU course introduces a new approach to promoting rational drug use. The course will be open to physicians, pharmacists, health program managers, ministry of health officials, and personnel from universities and other organizations concerned with improving the use of drugs. The course will also

provide training to a core group of trainers, who will conduct future PRDU courses. The trainee facilitators will be drawn from East African countries.

The course will focus on methods of studying and remedying inappropriate drug use, including problems with the ways in which drugs are prescribed, dispensed, and consumed. Participants will learn practical approaches for applying key concepts such as essential drug lists and indicators of drug use, as well as methods for changing inappropriate drug use behavior. Topics will include:

- Identification of drug use problems
- Factors that influence prescribing patterns
- Indicators for assessing drug use
- Methods to evaluate effectiveness of drug use interventions
- Field exercises to assess drug use
- Standard treatment to improve quality of care
- Influencing prescribing patterns
- Changing prescriber training
- Public education on drug use
- Planning intervention studies

The course will be conducted in English and will consist of presentations, discussions, group activities, and fieldwork. Highly participatory, the course will foster exchange of skills and experience among participants, adding depth to the learning process. Details for fees and application procedures will be posted on E-drug and circulated shortly.

WHO Model Formulary Released

In its efforts to promote safe and cost-effective use of medicines, the World Health Organization has released the first edition of the *WHO Model Formulary*. The *Formulary* is the first-ever publication to give comprehensive information on all 325 medicines contained in the WHO Model List of Essential Medicines. It presents information on the recommended use, dosage, adverse effects, contraindications, and warnings for these medicines. Correct use of this tool will improve patient safety and limit superfluous medical spending. Bad prescribing habits are very common in all countries of the world. They lead to ineffective and unsafe treatment, exacerbation or prolongation of illness, and harm to the patient. In addition, inappropriate treatment increases the costs to the patient, the insurance system, or the government.

The new formulary is primarily intended as a model for national governments and institutions, to be used as a basis for developing their own national formularies. It is particularly relevant for developing countries, where commercial and promotional materials are often the only available sources of drug information for health workers, prescribers, and patients. The *WHO For-*

ulary may also be useful for individual prescribers, and for this reason it is available at reduced cost for developing countries.

It is estimated that only two-thirds of developing country populations have some form of access to essential medicines. For those countries, pharmaceuticals can represent as much as 40 percent of the health care budget. Because of its considerable impact on the quality of care and the cost of treatment, the selection of essential medicines and their appropriate use constitute the most effective approach to improving equitable access to health care. This principle also applies to industrialized countries, where questions of

medical insurance coverage are always important concerns for the public and central to policy debates.

The WHO Model List of Essential Medicines, recently updated to include 12 essential antiretroviral medicines for the treatment of HIV/AIDS, is compiled to focus pharmaceutical efforts on priority conditions and quality medicines that are the most cost-effective and safe, and as affordable as possible.

The *WHO Model Formulary* is available on the Web at <http://www.who.int/medicines>. A CD-ROM version is in preparation. In addition, the *Formulary* is searchable online at <http://mednet3.who.int/mff/modelFormulary.asp> or at <http://mednet3.who.int/mff/>.

Electronic Communications Update

A sampling of recent correspondence on the E-Drug listserv follows. Anyone wishing to contribute to E-Drug is invited to mail a written message to INRUD News, or for those with Internet access, send an e-mail message to e-drug@usa.healthnet.org. The editor reserves the right to edit the e-mail because of the spatial constraints of this newsletter.

*Send a message to majordomo@usa.healthnet.org to subscribe to the E-Drug listserv and automatically receive all future correspondence. The following command should be the only text in your message: **subscribe e-drug**.*

European Union Clamps Down on Reimportation

Copied as fair use, *British Medical Journal* November 9, 2002; 325:1058

The European Union (EU) is taking measures to prevent low-cost drugs intended for patients in some of the world's poorest countries from being diverted and resold for huge profits in the West. By clamping down on the illegal trade in reimported drugs that undercuts standard European prices, the EU is hoping to encourage pharmaceutical companies to expand the trend of making medicines available at special rates to the developing world. The initiative comes amid growing evidence that cut-price drugs are being diverted onto the European market. Recent investigations by Belgian customs authorities uncovered large quantities of GlaxoSmithKline products (notably Combivir [zidovudine], Epivir [lamivudine], and Trizivir [abacavir]) destined for Africa being sold in the European Union.

Under the scheme, which covers both patented and generic products, companies will register with the European Commission the drugs they intend to sell at lower, tiered prices. These would then be stamped with a highly visible special logo—light blue capital E surrounded by 15 gold stars—to alert customs that they should be banned from re-entering the Union.

In order to qualify drugs for the register, the Commission has, for the first time, proposed a definition of low-cost, tiered pricing. The drugs must be sold either at the cost of production plus 10 percent or at a price reflecting 80 percent off the average “ex-factory” price in member states in the Organisation for Economic Co-operation and Development. Initially, the scheme will only cover medicines for the prevention, diagnosis, and treatment of HIV/AIDS, tuberculosis, and malaria, and will apply to 49 least-developed and 23 other low-income countries, mainly in Africa and Asia.

Announcing the plan, Pascal Lamy, the EU Trade Commissioner, said: “The EU wants to set an example with a practical means of helping poorer countries struggling with public health crises. Vaccines and contraceptives have long been available at affordable prices. Now developed countries need to make an effort with other medicines.” He added that the initiative was a concrete example of the trade liberalization commitment made during last year's negotiations in Doha, Qatar, and was just one element of a broader poverty reduction and health program for the developing world.

Lisa Hayes
Health Action International (HAI) Europe
E-mail: info@haiweb.org

HAI Europe sent out the following press release announcing the European Union Environment Committee's rejection of a proposal to relax the ban on the advertising of prescription medicines to the public, and called on Parliament to support the Committee's decision:

The European Parliament's Committee on Environment, Public Health, and Consumer Policy voted yesterday to defeat a Commission proposal aimed at relaxing the ban on advertising prescription drugs to the public. The vote came as part of the Committee's consideration of pharmaceutical

review legislation. A majority of Committee members rejected the Commission's proposal to allow drug companies to provide information to the public about treatments for HIV/AIDS, diabetes, and asthma. While industry representatives and DG [Directorate-General] Enterprise have argued that the proposal was about providing information, public health groups, including HAI Europe, have emphasized that the proposal would actually allow promotion disguised as information to reach consumers.

"The Committee's stance will benefit not only EU consumers, but also people in many other countries, notably in the developing world," said Charles Medawar, Director of the UK-based consumer group Social Audit. "This was an important test case and the Committee has taken an important and good decision, clearly defining the limits of market-driven medicine and making a strong commitment to 'Health for All.'" Instead of approving the Commission's proposal, the Committee called on the Commission to outline a comprehensive consumer/patient information strategy ensuring good-quality, objective, reliable, and nonpromotional information about medicines and other treatments. This is to be done in consultation with consumer and patient organizations. HAI Europe has been actively campaigning against the Commission's proposal for the past year.

Essential Drug Successes

Richard Laing
Boston University School of Public Health
E-mail: richardl@bu.edu

I put out a request on E-Drug for suggestions and was pleased to receive a number of useful ones. They are broken out here by area of access.

Selection

WHO Expert Committee on the Selection and Use of Essential Medicines. The committee has been in existence for 25 years and has met regularly to update the WHO Model List of Essential Medicines. More than 150 countries now have Essential Drugs or Medicines Lists. The committee has managed the change from experience-based to evidence-based approaches well. This must be one of the few WHO publications that people are waiting for and complain about if there is a delay in release. A country that has done well with drug selection is South Africa, which has combined development of treatment guidelines with the production of the list. Andy Gray has written about this.

Procurement

Delhi State Drug Procurement. I quote from the following nomination by Hilbrand Haak, a Dutch essential medicines consultant: "I think any publication on essential drugs success stories should list the experiences from Delhi state in India. In the early 1990s the Minister of Health felt that the public-sector budget for pharmaceuticals was largely squandered on drugs that were

far too expensive and of poor quality. The approach that was used was basically applying the lessons from 10–15 years of essential drugs programs in the world (evidence-based selection, generics policies, pooling of drug needs, good procurement practices, prequalification of suppliers, quality assurance, efficient distribution, and active efforts to improve drug prescribing and use, etc.); in short, all the things we know, but which are not always applied for a variety of reasons."

What impresses me most about this story is that the program was not led or imposed by donors, but was inspired by the common sense of a state minister of health, who decided that he was not prepared any longer to waste his drug budget. As far as I know, no donor is funding this program. The program is largely funded by the tremendous savings that it has generated! To bypass government bureaucracy, an independent nongovernmental organization (the Delhi Society for Promotion of Rational Use of Drugs, DSPRUD) was established to implement all selected strategies—and with success. (See Chaudhury RR. "Rational use of drugs: Delhi's change in policy saves lives." *Essential Drugs Monitor* 1999; 27:2–4.)

Pharmaceutical Procurement Service, Organization of Eastern Caribbean States. This is an amazing story. Initially funded by USAID, after five years it was self-supporting, and for the last 10 years it has procured essential medicines of good quality and at low prices for a number of small Caribbean islands. An article by Francis Burnett, the director of the program, will be coming out in the *Essential Drugs Monitor* soon.

Global Drug Facility for the Stop TB Initiative. Ian Smith at WHO is writing a short article about the scheme for the *Essential Drugs Monitor*.

Distribution

Here the major successes have been by the nonprofit supply agencies. The best examples are UNICEF, International Dispensary Association (IDA) in Amsterdam, Mission for Essential Drugs and Supplies (MEDS) in Kenya, and Joint Medical Store (JMS) in Uganda. For more information on MEDS and JMS, see the report at http://dcc2.bumc.bu.edu/richardl/IH820/Resource_materials/MEDS_JMS/Default.htm.

Rational Use

Changing Injection Use in Yogyakarta, Indonesia. This is the best-documented success in a wide range of work that has been done at Gadjah Mada University. The percentage of injections given to patients at public health facilities has changed from about 65 percent to less than 13 percent. The work has been reported in *Social Science and Medicine* and the *Essential Drugs Monitor*.

Integrated Drug and Poison Information Service. Combining drug information dissemination with poison control, this organization has been extremely successful in sharing information through many different communication media. The Web site, at <http://prn.usm.my/>, is a good example of how information can be shared.

Monitoring of Pharmaceutical Access

Namibia Serial Surveys. Based on work previously undertaken in Zimbabwe, the Government of Namibia has undertaken serial surveys of drug access and use. Such surveys replace routine reporting and provide quality data for decision making. This was reported in the *Essential Drugs Monitor*.

Quality Assurance

WHO Pilot Procurement Quality and Sourcing Project: Access to Antimalarial, Antituberculosis, and HIV/AIDS Drugs and HIV/AIDS Diagnostics of Acceptable Quality. This scheme, although still relatively new, can be labeled a success. By doing rigorous prequalification reviews of producers and products and publishing these results regularly, countries can be confident of the quality of the products they are purchasing. See <http://www.who.int/medicines/organization/qsm/activities/pilotproc/pilotprocmain.shtml>.

Financing

Management Sciences for Health's International Drug Price Indicator Guide. This publication, in existence since 1988, has been an invaluable source of market intelligence on the true international prices for essential generic drugs. The *Guide* is now available on the Web at <http://erc.msh.org/mainpage.cfm?file=1.0.htm&id=1&temptitle=Introduction&module=DMP&language=English>.

National Program

Bhutan. The Bhutan program is a good example of how a small country can achieve a high level of access using essential drugs concepts.

As you see, there have been many successes. But access still remains a problem in many places. The answer to this problem seems to me to be a combination of improved funding mechanisms and the use of proven management techniques.

Drug Price Information Services

Marthe M. Everard
Technical Officer, WHO
E-mail: everardm@who.int

For some time now, WHO's Essential Drugs and Medicines Policy Department has been posting price information links on its Web site via the "WHO Fact Sheet on Drug Price Information Services: What Is WHO Doing to Improve Drug Price Information?" (<http://www.who.int/medicines/organization/par/ipc/drugpriceinfo.shtml>).

The fact sheet includes five WHO supporting price services with partners, some disease-specific links, and links to member state price information services. We are keen to expand the price information of this Web site and keep it up-to-date. We would be grateful if you would send us any electronic links to addi-

tional member state pricing services—that is, official and independent drug price information services, not Internet pharmacy price links or commercial offers.

Alistair Bolt
Norfolk & Norwich Hospital, UK
E-mail: alistair.bolt@norfolk-norwich.thenhs.com

UK drug prices are also available on the Internet; <http://www.bnf.org> gives access to the *British National Formulary*, updated twice a year. Each medicine is priced and there are monographs outlining the use of each.

Julie McFadyen
Management Sciences for Health (MSH), USA
E-mail: jmcfadyen@msh.org

The MSH Center for Pharmaceutical Management and the MSH Electronic Products Group invite you to visit the new and improved Web site for the *International Drug Price Indicator Guide*. The site, <http://erc.msh.org>, has a new design and several useful new features. If you are logged into the MSH Electronic Resource Center, you can create and save lists of drugs from the *Guide* for easy summary information. You can also plan your budget or tender by entering drug quantities. The Web site will then calculate the estimated costs using the tender and supplier median prices for those drugs. In addition, you can enter the prices you are paying for drugs and the site will calculate the percentage of the international tender and supplier medians that your prices represent. All of this information can be saved and printed for easy reference. We have also added a currency converter, so the prices on the site can be viewed in any currency, calculated at today's exchange rate.

Meetings and Workshops

International Training Course on Drug and Therapeutics Committees

September 23–October 2, 2002, Mumbai, India

A 10-day International DTC Training Course for participants from Asian and African countries was hosted by the Department of Clinical Pharmacology, BYL Nair Hospital, Mumbai, in collaboration with the Delhi Society for Promotion of Rational Use of Drugs, WHO/India Essential Drugs Program, Department of Essential Drugs and Medicines Policy of WHO/Geneva, and Rational Pharmaceutical Management Plus/Management Sciences for Health (RPM Plus/MSH). WHO and the U.S. Agency for International Development (USAID) provided most of the funding and other material support for the course. Twenty-eight participants attended from China, Ghana, India, Indonesia, Mongolia, Sri Lanka, South Korea, Sudan, and Thailand. States in India that were represented included Delhi, Gujarat, Karnataka, Maharashtra, Tamil Nadu, and Uttar Pradesh. The diverse group of physicians and pharmacists represented hospitals, ministries of health, nongovernmental organizations, drug information centers, and academic institutions. This group was interactive from the beginning, which made discussion of important topics most interesting and rewarding. A team of experts from the sponsoring organizations provided the training. The facilitators included Dr. Urmila Thatte, Clinical Pharmacologist at BYL Nair Hospital, Mumbai, and Joint Coordinator of the Maharashtra Unit of the WHO/India Essential Drugs Program; Dr. Usha Gupta, Profes-

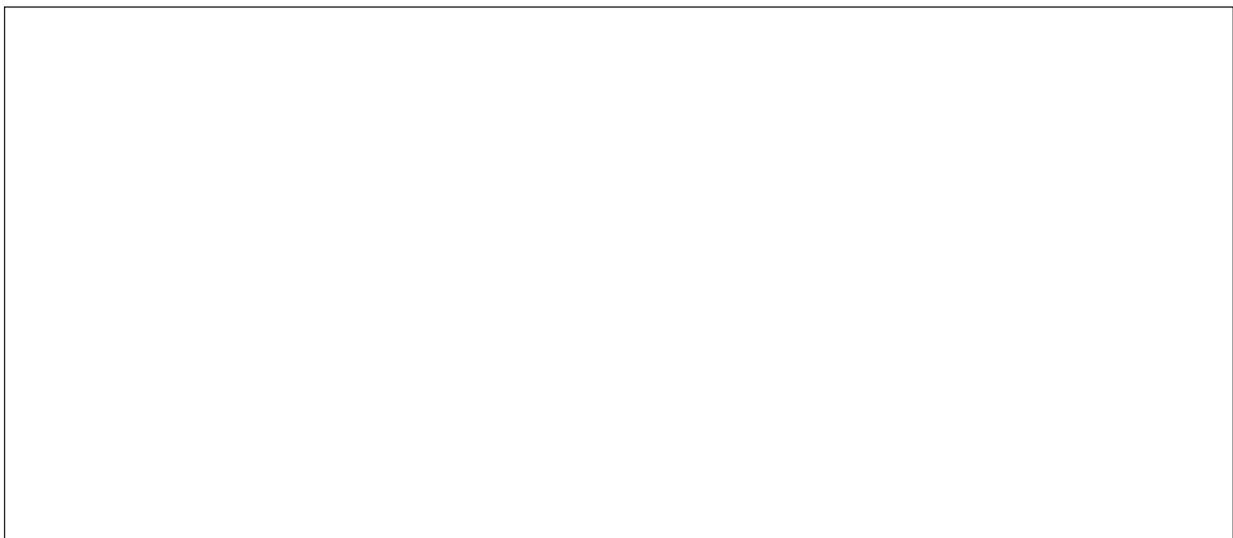
sor of Pharmacology at the Maulana Azad Medical College, New Delhi; Dr. Sri Suryawati, Head of the Department of Clinical Pharmacology, Gadjah Mada University; Dr. Kathy Holloway, medical officer in the Department of Essential Drugs and Medicines Policy, WHO/Geneva; Mr. Terry Green, pharmacist with MSH, Washington D.C.; and Dr. Paul Arnow, physician with MSH, Boston. The course was expanded to 10 days (nine teaching days) to accommodate longer sessions on identifying drug use problems, infection control, and safety.

National Training Course on Drug and Therapeutics Committees

October 14–19, 2002, Lima, Peru

To improve the management of antimicrobials and help control the spread of antimicrobial resistance, the USAID/Peru-funded Vigia Project and the Drug Regulatory Authority of the Peruvian Ministry of Health sponsored a course for hospital DTC members. Patricia Paredes, Albin Chávez, and Edgar Barillas from RPM Plus/MSH participated as lecturers and facilitators of the course activities.

Participants were DTC members from 20 Peruvian hospitals: five from the metropolitan area of Lima, and the rest from various areas of Peru. Local experts participated as lecturers, and professionals from the Drug Regulatory Authority Office facilitated the logistics for the practical sessions. Activities included visits



Twenty-eight physicians and pharmacists from Africa and Asia met to discuss issues related to DTCs in Mumbai, India, this past fall.

to five hospitals in Lima to collect information on medical records to assess specific aspects of drug utilization in hospital cases.

With support from the Vigia Project, the Drug Regulatory Authority will be able to provide technical assistance and follow-up to participants for their workplans. The main goal of the Vigia Project is to strengthen the ability of MOH officials and public health professionals in general to confront the threat of emergent and re-emergent infectious diseases in Peru. A DTC training-of-trainers course sponsored by the Vigia Project has been programmed for early April 2003.

International Training Course on Drug and Therapeutics Committees

December 10–19, 2002, Amman, Jordan

A nine-day international course for participants from Middle Eastern and African countries was hosted by the Jordan University for Science and Technology in collaboration with RPM Plus/MSH, WHO/Eastern Mediterranean Region Office, and WHO/EDM. USAID and WHO provided funding for the training course.

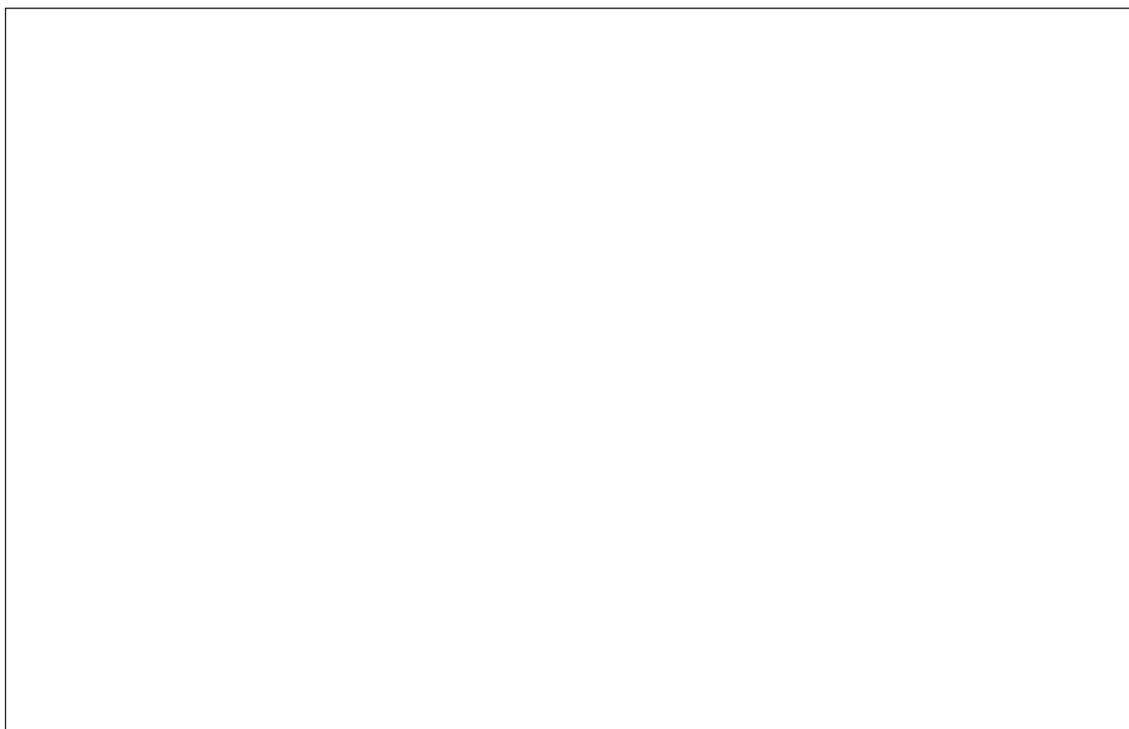
There was a large turnout for this course, with 41 participants in attendance from Egypt, Indonesia, Iran, Iraq, Jordan, Kuwait, Oman, Palestine, Saudi Arabia, Somalia, Sudan, and Syria. Participants included physicians and pharmacists representing min-

istries of health, private hospitals, and academic institutions. Participants had a wide range of professional interests and diverse backgrounds.

During the course, participants' field visits to local hospitals provided insight into the functioning of hospitals in Jordan. Participants reviewed DTCs at these hospitals and made recommendations for their improvement. One group of participants visited the impressive King Abdulla Hospital in Irbid. This modern health care facility is a regional referral and research center for the Middle East and served as an excellent site for the DTC field study. On the last day of the course, participants wrote workplans for developing DTC-related activities in their home countries. These workplans will be monitored by MSH, which will provide assistance to implement interventions when necessary.

During the day off, many course participants and facilitators were treated to a short visit to the ancient ruins of Petra, a 2000-year-old rock-carved city built by the ancient Nabataean Arab civilization.

The facilitators for the training course included Dr. Sameer Ootom, Jordan University for Science and Technology; Dr. Kathy Holloway, medical officer of WHO/EDM; Dr. Steve Lonsdale, physician with WHO; Mr. Terry Green, pharmacist with MSH, Washington D.C.; and Dr. Paul Arnow, physician with MSH, Boston.



Participants from African and Middle Eastern countries met in Amman for DTC training.

Country and Support Group Reports

Introducing INRUD/Ethiopia

For some time, there have been efforts by some individuals and institutions in Ethiopia to promote the rational use of drugs (RUD). These efforts, however, were lacking coordination, continuity, and, hence, the benefits of sharing experience, resources, and expertise. As a result, it was difficult to assess the impacts of inappropriate drug use. Moreover, sufficient resources were not available to achieve the goal of rational drug use.

Although some Ethiopian individuals and institutions practice the concept of rational drug use, INRUD and its objectives have remained widely unknown. Advocacy to enhance the image and objectives of INRUD and to promote the importance of networking among stakeholders is, therefore, the top priority for our group.

INRUD/Ethiopia is composed of experts from various disciplines, such as economics, epidemiology, journalism, medicine, pharmacoepidemiology, pharmacology, and pharmacy. INRUD membership is entirely voluntary, based on a commitment to contribute toward promoting the safe, effective, and economical use of drugs. Our members are professionals drawn from public as well as from nonprofit, nongovernmental organizations.

INRUD/Ethiopia members uphold the belief that coordinating individual efforts and sharing experiences with colleagues, both within the country and globally through networking, are of paramount importance in promoting rational drug use.

In August 2002, the members applied to the INRUD Secretariat; the application was reviewed and accepted by the INRUD Secretariat and INRUD Board. Following this, INRUD/Ethiopia members met on December 13, 2002, and identified and agreed to undertake several activities to promote the rational use of drugs.

Activities

- *Experience-, information-, and resource-sharing.* Members of INRUD/Ethiopia, after having underscored the importance of experience-, information-, and resource-sharing within the group and with other colleagues, have agreed to work in this line.
- *Advocacy and networking to promote RUD.* Members of INRUD/Ethiopia understand the importance of advocacy to promote the rational use of drugs. Advocacy should be undertaken through networking. It is anticipated that the networking will embrace various individuals and institutions in order to effect sustainable impact on drug use. Members of INRUD will also focus special attention on

community drug use and interventions. Public educational material on “Proper Use of Drugs” has been prepared in Amharic, the official language of Ethiopia. Other efforts will continue to target both the health care provider and the consumer.

- *Education and training.* Preservice education and in-service training of health care providers are two educational strategies to promote the safe, effective, and economic use of drugs. The group has thus agreed to promote the incorporation and adequate coverage of rational drug use in both undergraduate and postgraduate curricula of health sciences. Using a pool of experts and resources, INRUD members will participate in continuing education on rational use of drugs.
- *Seminars, workshops, and conferences.* Members will be encouraged to participate actively (present papers, posters, etc.) in national and regional forums addressing RUD.

Coordinator: Tenaw Andualem

P. O. Box 25616, Code 1000

Addis Ababa, Ethiopia

Tel: +251-1-63-33-78 or 63-33-79

Fax: +251-1-62-63-10

E-mail: tenawandualem@hotmail.com;
andualemte@yahoo.com

Bangladesh Core Group

Prof. Dr. A. K. Azad Chowdhury

The course curricula of pharmacy undergraduate and graduate programs in the schools of pharmacy in Bangladesh have been further strengthened with the inclusion of issues and areas such as study of drug use, promotion of RUD, quality of care, outcomes studies, and pharmacoconomics. Now the pharmacy graduates are better equipped to handle the problems of drug management and inappropriate drug use in the public- and private-sector health facilities and pharmacies. The medical colleges have also updated their syllabi with respect to drug use and rational prescribing. A good number of postgraduate pharmacists and physicians are engaged in formative and intervention studies in the fields of rational drug use, quality of care, and pharmacoconomics in the Department of Pharmacy, University of Dhaka, and in the departments of pharmacology of other medical colleges.

The Directorate of Drugs Administration has undertaken several programs to improve drug use patterns in the public and private sectors. These are as follows:

- Unrestricted supply of promotional information to prescribers by manufacturers, coupled with consumers' ignorance, has contributed to irrational prescribing of drugs. To overcome this problem, the Directorate of Drugs Administration has implemented various programs and initiated several activities. The programs are aimed at creating awareness of rational drug use. As a part of these programs, the Directorate has published the *Bangladesh National Formulary*, which is being used as a guide to rational prescribing by physicians and other classes of prescribers.
- The Directorate of Drugs Administration has taken actions to restrict or ban the use of certain drugs (e.g., cispripide, nimesulide).
- Under the guidance of WHO/Bangladesh, a cell has been established in the Directorate. Initially the cell circulated posters throughout the country bearing slogans on awareness of drug use, organized awareness meetings among chemists from different areas, published awareness notices in the daily newspapers, and broadcast the awareness slogans on Radio Bangladesh. The cell is now trying to introduce a systematic mechanism for adverse drug reaction (ADR) monitoring in Bangladesh through collection, analysis, and compilation of ADR reports. These ADRs will be spontaneously reported to medical and pharmacy professionals. A 10-member ADR advisory committee (ADRAC) has been formed by the Ministry of Health and Family Welfare to evaluate, analyze, and make recommendations for solving the problem of ADRs.
- The Directorate organized ADR monitoring workshops in the six medical colleges and hospitals of the country and distributed ADR reporting forms for spontaneous reports. A blue reporting card is bound in the back of the *Bangladesh National Formulary*.
- For efficient drug management, drug administration, drug use, and promotion of RUD, a program has been initiated to upgrade the Directorate of Drugs Administration into a Directorate General of Drugs Administration with additional expert manpower, technical support, and legal authority.

Delhi Core Group

Dr. Usha Gupta

Meetings/Workshops

- An international training course on DTCs was hosted by BYL Nair Hospital, Mumbai, September 23–October 2, 2002. Full details of the course appear in this issue's **Meetings and Workshops**.
- A national training course, Teaching Rational Drug Therapy, was sponsored by WHO/EDM, organized by the Delhi Society for the Promotion of Rational Use of Drugs (DSPRUD, the INRUD/Delhi Core Group), and held in New Delhi, September 5–11, 2002. Twenty-six teachers of pharmacology, medicine, and pediatrics from nine Indian states attended the course. The facilitators included Dr. A. J. Smith, Australia; Ms. Patricia MacGettigin, Australia; Dr. K. K. Kafle, Nepal; and Drs. Uma Tekur, Molly Thomas, and N. N. Rege, India. Dr. Tekur coordinated the course. The training was based on the Groningen model, a method of problem-based pharmacotherapy teaching developed at the University of Groningen.
- The Annual Coordination Meeting of the WHO/India Essential Drugs Program, organized by DSPRUD, was held November 19–21, 2002, in New Delhi. The meeting was inaugurated by Mrs. Sheila Dixit, Chief Minister of Delhi state. Dr. Hans V. Hogerzeil and Dr. Jonathan Quick from WHO/EDM participated in the meeting. This was a special occasion as the meeting celebrated five years of the India/WHO Essential Drugs Program and 25 years of the WHO Model List of Essential Medicines. Members from 15 Indian states participated in the meeting. The states presented their ongoing activities and submitted plans for next year.

Publications

- *Standard Treatment Guidelines for Hospitals in Delhi State*. DSPRUD has developed standard treatment guidelines (STGs) with contributions from 70 specialists in various branches of medicine. The funds for developing the guidelines have been provided by WHO/EDM. The editors are Drs. Sangeeta Sharma, G. R. Sethi, and Raj Gulati. The co-editors are Drs. Sachdev and Gupta. The guidelines are comprehensive and cover complete management of 285 commonly encountered diseases and emergency cases. The Directorate of Health Services of the National Capital Territory of Delhi released the guidelines in November 2002.
- *Standard Treatment Guidelines and Essential Drugs List for Inpatients, Mumbai Hospitals*. The late Dr. S. A. Dhanukar and Dr. Thatte coordinated the preparation of STGs for inpatients for the hospitals in Mumbai. Morbidity data were collected from 16 hospitals and guidelines were prepared and published for diseases in cardiology, neonatology, dermatology, nephrology, endocrinology, ear, nose, and throat, neurology and neurosurgery, gastroenterology, orthopedics, ophthalmology, general medicine, pediatrics, general surgery, urology, gynecology and obstetrics, pediatric surgery, hematology, plastic surgery, psychiatry, respiratory medicine, and intensive care units (medical, neonatal, and cardiac).
- *Know Your Medicines: A User's Guide*. DSPRUD published this book to enhance patients' knowledge about use of medicines. It contains information on the 50 most commonly used drugs in Delhi hospitals. The book has been written both in Hindi and English. A pilot study revealed that patients find the information very useful. The book was developed with the financial support of WHO/EDM.
- Modules for Training In-Service Prescribers on Rational Use of Drugs. DSPRUD conducts training programs to sen-

sitize in-service prescribers to RUD in Delhi and other states. To facilitate this activity, training modules have been developed with the financial support of WHO/EDM. Topics included are essential drugs, irrational/rational prescribing, pharmacotherapy (including WHO's P-drug concept), STGs, assessment of drug advertisements, planning and methodology to study drug use indicators, safe and effective use of drugs by patients, antibiotic policy and infection control, and designing and implementing training programs. The selection of topics was made on the basis of local needs.

- "Prescribing Behavior of Physicians," S. Sharma, U. Gupta, R. R. Chaudhury, and J. S. Bapna. *Journal of Health Management* 2002; 4:56–71.

Research Briefs

- "Monitoring of Essential Drugs Availability and Other Drug Use Indicators in Some Hospitals in Delhi," R. Parameswar, U. Gupta, and R. R. Chaudhury. In all Delhi hospitals and health centers, drug supply is restricted to the Essential Drugs List (EDL), which is updated regularly. As a part of ongoing activities, the availability of essential medicines and other drug use indicators were monitored in two teaching hospitals, six peripheral hospitals, and six primary health centers in the year 2002. A total of 1,383 patients' prescriptions were monitored and exit interviews were conducted. The results showed that 93 percent of drugs prescribed were from the EDL. Except in two health facilities, 95–100 percent of essential drugs prescribed were actually dispensed to the patients. For more details, please contact Usha Gupta (dsprud@satyam.net.in).
- "A Survey of Drug Use Behavior in Communities of Differing Socioeconomic Status," U. Gupta and R. R. Chaudhury. Socioeconomic status is an important determinant of patients' awareness about health care strategies. The present survey has been undertaken to identify health-seeking behavior and drug use behavior in the communities ranging from slums to low mid-level (LML) and mid-level (ML) socioeconomic status. Data obtained from 226 households revealed that in slums, 50 percent of respondents had prescriptions, 19 percent had knowledge about expiry date of medicines, and 50 percent had knowledge about the use of oral rehydration salts for diarrhea. None of the patients from the slums had any knowledge about antibiotics and their use. For more details, please contact Usha Gupta (dsprud@satyam.net.in).
- "Baseline Studies on Anti-Malarial Treatment in the Private Sector," U. Thatte and R. Kulkarni. Although the National Malaria Eradication Program (NMEP) has been in place since 1995, there is still a lack of awareness regarding the various regimens of the NMEP, especially among private practitioners. A pre-intervention study was conducted by sending questionnaires to 157 private practitioners regarding management of malaria cases. Results showed that none of the doctors followed the NMEP guidelines of antimalarial drug

regimens for a case of fever. One hundred fifty-three doctors prescribed antimalarial drugs for suspected cases of malaria. Of these 153 prescriptions, 87 prescriptions were irrational. Only three prescriptions followed the NMEP guidelines and one followed WHO guidelines. For more details, contact Urmila Thatte (mthatte@vsnl.com).

- "Improving Medicine Usage by Empowering Patients through Value-Added Pharmaceutical Care (Patient Information Leaflets)," U. Gupta, S. Sharma, P. D. Sheth, J. Jha, and R. R. Chaudhury. A drug use survey in Delhi hospitals had shown that patients' knowledge about use of medicines was very low. In this study, the impact of patient information leaflets and oral reinforcement of instructions was measured in a patient population in a large tertiary care public health facility. Patients were randomly allocated to control (114) and intervention groups (118). The impact of the intervention was assessed by comparing the scores for primary indicators (i.e., dosage, frequency and duration, and purpose) and supplementary indicators (most important precautions/instructions, side effects with therapy, next appointment, and emergency visit) before and after intervention in both groups. Results demonstrated significant improvement in primary and supplementary indicators. For more details, contact Usha Gupta (dsprud@satyam.net.in).
- "Impact of Educational Intervention on Prescribing Behavior in Bronchial Asthma," A. Kotwani, U. Gupta, J. C. Suri, and R. R. Chaudhury. A prospective randomized controlled study was done to evaluate the impact of educational intervention on prescribers' adherence to STGs for chronic bronchial asthma (BA) in two secondary health care facilities (SHCF). Results of a baseline survey revealed that only 3 percent of the prescriptions accorded with STGs. Two consecutive face-to-face educational interventions, three months apart, for prescribers at one of the SHCF were conducted. Results revealed, however, that prescribers' behavior did not change significantly. For more details, contact Anita Kotwani (anitakotwani@msn.com).

Members' Activities

- Prof. Ranjit Roy Chaudhury presented the Delhi Model at the Technical Sessions meeting of the 55th World Health Assembly, Geneva, May 17, 2002.
- Dr. Sangeeta Sharma participated in the 25th anniversary of the First Essential Medicines List and presented the Delhi Model at WHO/Geneva, October 2002.
- Prof. Chaudhury delivered lectures on RUD in India, at the Johns Hopkins School of Medicine, Baltimore, and at the School of International Health, Boston University.
- Prof. Chaudhury, Mr. R. Parameswar, and Dr. Sharma evaluated the impact of reforms in the state of Orissa on quality of drugs supplied and availability of drugs in public health facilities, 2002.
- Prof. Chaudhury, Mr. Parameswar, Dr. Gupta, Dr. Tekur, and Dr. Sharma provided technical support in the state of Uttar

Pradesh for developing an essential drugs list and STGs and for training of prescribers on RUD, 2002.

- Drs. Gupta and Sharma provided technical support for developing an essential drugs list in the state of Chhattisgarh, June 2002.
- Dr. Thatte participated as resource person in a training program for medical teachers on pharmacotherapy at Mumbai, August 2002.
- Prof. Chaudhury and Dr. Gupta participated as resource persons in a workshop on RUD for private prescribers at Chennai (Tamil Nadu), September 2002.
- Mr. Parameswar and Dr. Sharma participated as resource persons in the workshop on RUD at Trivendrum (Kerala), October 2002.
- Drs. Gupta and Sharma participated as resource persons in a workshop on RUD in Amritsar and Ludhiana (Punjab), October 2002.
- Dr. Gupta presented the paper “Drug Use Survey in Communities” at the Annual Conference of the Indian Pharmacological Society, November 2002.
- Prof. Chaudhury and Drs. Gupta, Sharma, and Tekur participated as resource persons in a workshop organized for pharmacists on quantification of drug needs, January 2003.
- Drs. Gupta, Sharma, and Tekur participated as resource persons in a workshop for prescribers and pharmacists on RUD at Bhubaneswar (Orissa), January 2003.
- Prof. Chaudhury was awarded the UNESCO/UNITWIN Award for his work in RUD in India and Thailand by the Director General, UNESCO, Paris, November 2002.
- Mr. Parameswar was invited to be a member of the task force formed by the Global Fund to draft procurement policy, September 2002.
- Mr. Parameswar was a member of the high-level team appointed by the Government of Denmark to review the Danida-assisted program for basic health services in the states of Madhya Pradesh and Chhattisgarh, November 2002.

Ghana Core Group

Prof. David Ofori-Adjei

The Ghana Core Group of INRUD welcomed back Mr. Kojo Arhinful (Secretary, INRUD/Ghana Core Group) following completion of his Ph.D. studies at the Amsterdam School for Social Science Research, University of Amsterdam, in the Netherlands. His thesis, titled *The Solidarity of Self-Interest: Social and Cultural Feasibility of Rural Health Insurance in Ghana*, is due to be defended in the spring of 2003.

Prof. David Ofori-Adjei, INRUD Country Coordinator, was appointed member of the Review Panel for the WHO International

Drug Monitoring Program in Uppsala, Sweden. In this capacity he will be responsible for reviewing adverse drug reaction signals involving antimalarials and anti-HIV chemotherapeutic agents. Dr. Alex Dodoo, INRUD/Ghana core member, participated in the 25th annual meeting of countries participating in the WHO Program for International Drug Monitoring in Amsterdam, and presented a paper on “Pharmacovigilance in West Africa” at the International Society of Pharmacovigilance Meeting, which also took place in Amsterdam.

INRUD/Ghana members are actively involved in the rational use of drugs component of the MSH Strategies for Enhancing Access to Medicines (SEAM) Ghana project. Dr. Francis Ofei, Dr. Dodoo, and Mrs. Martha Gyansa-Lutterodt are involved in developing the manual to be used in the nationwide DTC training program for workers in the faith-based sector. Dr. Dodoo continues to produce *Nduro*, a newsletter of the Catholic Drug Centre, to support its activities in the area of pooled procurement of pharmaceuticals.

Prof. Ofori-Adjei is still consultant to the Ghana National Drugs Program of the Ministry of Health. Mrs. Gyansa-Lutterodt is currently the acting program manager and INRUD/Ghana member Mr. Divine Asiamah is currently in the United Kingdom undertaking further studies in the area of management. Prof. Ofori-Adjei, Mrs. Gyansa-Lutterodt, Dr. Ofei, and Dr. Dodoo are all involved in the nationwide DTC training for the Ministry of Health, which is scheduled to take place in mid-March 2003 for about 50 participants drawn from all 10 regions of Ghana, from both the public and private sectors.

Drs. Ofei and Dodoo are still actively involved in RUD training and DTC activities at the nation’s premier hospital, the 1600-bed Korle-Bu Teaching Hospital in Accra. Dr. Ofei recently completed the review, production, and distribution of a handbook on antimicrobial use for medical house-officers at the hospital.

An annual get-together involving all INRUD/Ghana core group members is scheduled for April 2003, during which it is expected that new members will be admitted to the fold.

Indonesia Core Group

Dr. Sri Suryawati

INRUD/Indonesia continues to strengthen its membership countrywide through setting up small INRUD groups in order to foster collaborations and promote activities and operational research on RUD at the health institution level. The establishment of the groups follows the INRUD bylaws. The newest group, INRUD/Palembang, was officially inaugurated in the beginning of 2003.

Since September 2002, INRUD/Palembang and INRUD/Yogya have jointly conducted a study to improve the prescribing practices of antimicrobials in acute respiratory tract infections in hospitals in South Sumatra and Yogyakarta provinces, using a new innovative strategy called MTP (Monitoring-Training-Planning). The strategy applies an interactive small-group discus-

sion format, which is initiated, conducted, and assessed by a group of prescribers and managers in each hospital. MTP was first developed and field-tested by the Center for Clinical Pharmacology & Drug Policy Studies, Gadjah Mada University, Yogyakarta, in 2000, and it was proven effective as a strategy for use by hospital managers to improve prescribing practices in wards. With the support of the WHO/Western Pacific Regional Office, the strategy has been further field-tested and implemented in at least 20 provincial and district hospitals in Lao PDR and at least eight provincial hospitals in Cambodia. Achievements include the reduction of antibiotic use in normal delivery, reduction of intravenous infusion in pediatric and maternity wards, and reduction of presurgery antibiotics in simple elective surgery (e.g., scrotal hernia repair, cesarian section, appendectomy).

With the support of WHO, Dr. Dwijosusono, the Director of Clinical and Community Pharmacy Services of the Ministry of Health, participated in the International Course on Drug and Therapeutics Committees in Amman, Jordan, in December 2002. After his return from the course, a two-day national workshop was conducted in February 2003, attended by hospital managers, clinicians, and hospital chief pharmacists from several provinces and by representatives from the Directorate General of Medical Services of the Ministry of Health. The aim of the workshop was to revitalize the hospital DTCs. The establishment of hospital DTCs in Indonesia was initiated by the Directorate General of Medical Services in 1989, but many of the committees have declined in activity, due to various factors. Among the panel of facilitators were Prof. Krisanta Weerasuriya (WHO/SEARO), Mr. Andy Barraclough (Management Sciences for Health [MSH]), Dr. Sri Suryawati (INRUD), Dr. Dwijosusono (MOH), Dr. Barry Miller, Dr. Thabrani, and Dr. Erni Kolopaking. The WHO/MSH DTC course material was used, and each hospital received a compact disc of the material. The workshop went very well, with significant support from the Directorate General of Medical Services. This promising initiative will be followed by workshops at the provincial level. INRUD/Indonesia has agreed to support the activities at the provincial level through its small-group network.

Dr. Sri Suryawati served as consultant to WHO/WPRO on Good Clinical Research Practices in China, February 20–28, 2003, and attended the meeting of the WHO Expert Committee on the Selection and Use of Essential Medicines in Geneva, March 2003.

Kenya Core Group

Prof. Gilbert Kokwaro

The Kenya Core Group has been involved in the following activities:

- With the momentum set at the formative stages, INRUD/Kenya has continued its fortnightly meetings. Although rigorous, this schedule has enabled us to complete our chapter constitution and lodge our formal registration documents with the government. The development of the chapter con-

stitution has been the subject of the majority of our meetings.

- Our fundraising efforts are slowly bearing fruit, as most of our members have been able to pay the \$65 agreed on as the initial membership fee. This money is largely to be used in the legal registration of the chapter as a nongovernmental organization in Kenya. We have opened an interim account to facilitate financial transactions.
- Our various workplan groups have prepared four concept papers and we have set up a series of special meetings to go through these concept papers and develop them into proposals. If feasible, all of the projects described in the concept papers will be carried out and posters based on some of the studies will be presented at the SEAM Conference in Tanzania in June this year.
- Our other major activity was to request and plan to host a course on promoting rational drug use (PRDU). This request has been granted and the next PRDU course will be held in Nairobi, Kenya (see **Correspondence and Notices**). We are happy to be hosting the first revised and updated PRDU course, where the plan is to train a core group of trainers who will carry on future PRDU courses. These trainee facilitators will be drawn from Kenya and other INRUD core groups. We have an organizing committee for this course that is in full gear, working on both the administrative and content aspects of the conference. Welcome to the new Kenya, those of you who will be attending this training.
- INRUD/Kenya intends to approach potential partners to enable us to accomplish most of our workplan objectives once our concept papers are ready and the project/research proposals are done. Some leads are very promising.

Members' Activities

- Prof. B. Lore has continued to organize and facilitate the training program "Rational Use of Antiretrovirals" for health care professionals, organized through the Kenya Medical Association (KMA).
- Dr. E. Ombaka and Dr. A. Ojoo have facilitated several training programs for medical and clinical officers from church-based health facilities in Kenya on the rational use of antiretrovirals under the auspices of the Ecumenical Pharmaceutical Network (EPN) and supported by ACTIONAID Kenya and Mission for Essential Drugs and Supplies (MEDS Kenya).
- Dr. W. Wanyanga presented a paper titled "Local Manufacturers' Perspective of Malaria Management" at the recent Pan Africa Multilateral Initiative on Malaria (MIM) meeting in November 2002 in Arusha, Tanzania.
- Prof. G. Kokwaro and Dr. Ojoo organized and facilitated a four-week course, Regional Drug Management, in October 2002, through the Center for Drug Management and Policy (CEDMAP). This course attracted 24 participants from eight African countries.

Nepal Core Group

Dr. Kumud Kumar Kafle

The INRUD/Nepal Core Group met four times during the year. The group has been involved in the following activities since the last publication of *INRUD News*.

- Submission of an abstract, “Better Strategy to Improve Treatment of ARI in Children,” for the 33rd World Conference on Lung Health of the International Union Against Tuberculosis and Lung Disease (IUATLD). The abstract was accepted for presentation and has been published in *The International Journal of Tuberculosis and Lung Diseases*, Volume 6, Number 10, October 2002.
- Publication of a document titled “District Drug Use and Health Profile, 2002,” December 2002. This is the first document of its kind in Nepal and includes articles and reports on drug use and information regarding immunization coverage, morbidity, health institutions, and manpower in the district. A senior MOH official was the adviser. The document has been issued ISBN number 99933-53-20-5.
- Organization of the 12th and 13th National Training Courses in Rational Use of Drugs, in collaboration with the District Public Health Office (MOH), Chitwan, and UNICEF at Chitwan, December 2002. Sixty-eight participants attended the courses.
- Signing of a contract with the German Technical Cooperation Agency (GTZ), to participate in its Community-Based Drug Management initiative, part of the GTZ’s Health Sector Support Programme. GTZ staff have already conducted training courses on the rational use of drugs in Siraha, Dhading, Bardia, Doti, and Achham Districts.

Members’ Activities

- Dr. K. K. Kafle was the WHO short-term consultant for one month on rational drug use in Papua New Guinea, November–December 2002. He helped in analyzing baseline drug indicator data from the survey in four selected provinces and preparing the report of the survey. He developed “Protocol for Pilot Programme with IMCI Strategy and Monitoring/Feedback in Improving Pharmaceutical Logistics and Disease-specific Indicators” during his previous assignment.
- Dr. S. B. Karkee and Mr. R. R. Prasad were resource persons for the MTOT (Master Training of Trainers), Community Drug Programme, carried out by the Department of Health Services of the Ministry of Health, November 2002.
- Mr. Prasad participated in the World Self-Medication Industry 14th General Assembly and 5th Asia Pacific Regional Conference and Regulators Forum Meeting, Tokyo, November 2002.

- Mr. G. B. Bhujyu participated in the 6th General Assembly of the ISDB (International Society of Drug Bulletins) and ISDB Workshop, Croatia, September 2002.
- Dr. Kafle participated as a resource person in the national training course on Teaching Rational Drug Therapy, WHO/DSPRUD, New Delhi, September 2002.
- Dr. Kafle published the article “Improving Use of Medicines in Patients—Some Key Points” in *Souvenir*, Alumni M.L.N. Medical College, Allahabad, India, October 2002.
- Mr. Bhujyu and Dr. Kafle were involved in the revision of *Training and Trainers Manual on Prescribing Practices* and *Training and Trainers Manual on Dispensing Practices for Primary Health Care Facilities*, CBDM/HSSP, July 2002.
- Mr. Prasad has been nominated as Registrar, Nepal Pharmacy Council, December 2002.
- Dr. Kafle gave an exclusive interview on rational use of drugs to the daily newspaper *Dainik Jagran* (in Hindi), published from different cities of India. The interview was published in January 2003.

Impact of INRUD/Nepal

- The Chairman of District Development Committee, Chitwan, distributed the certificates of participation in the 12th and 13th national training courses. The ceremony was attended by representatives from UNICEF and journalists, and the training program was covered in local and national newspapers.
- News about INRUD/Nepal was published in the major daily newspaper of India.

Nigeria Core Group

Prof. A. F. B. Mabadeje

Meetings

Following the inaugural meeting of INRUD/Nigeria, held in Lagos on August 14, 2001, and attended by 32 members, bi-monthly meetings were scheduled. Only three meetings have since been held, and attendance at these meetings was not as encouraging as at the inaugural meeting. The main reason was the high cost of transportation for members coming from outside Lagos, since the group was no longer able to reimburse money spent on accommodation and traveling.

Members’ Activities

Prof. Mabadeje, Prof. Abdu-Aguye, and Dr. Isah continue to serve as members of the National Drug Formulary and Essential Drugs List Review Committee, of which Prof. Abdu-Aguye is the Chairman. The committee recently submitted a draft copy of the 2003 Nigeria Essential Drugs List to the Minister of Health.

It is hoped that the EDL will be published in 2003.

Prof. Mabadeje also continues to serve as the Chairman of the Scientific Committee of the Nigeria Heart Foundation.

Mr. I. Oreagba

- Served as resource person in Clinical Pharmacology and Toxicology at the Mandatory Continuing Professional Education (MCPE) Program for recertification of pharmacists organized by the West African Postgraduate College of Pharmacists (WAPCP), December 2–3, 2002, Yaba, Lagos, Nigeria
- Attended the 29th Annual Regional Conference of the West African Society for Pharmacology, December 21–24, 2002, in Abuja, Nigeria, and presented a paper titled “Prescribing Pattern of Antimalarials in Public and Private Primary Care Centers in Lagos”
- Completed work on a project titled “Optimizing Anti-hypertensive Drug Therapy through the Use of Rational Drug Combinations” with Dr. Olayemi and Prof. Mabadeje
- Completed work on “Knowledge, Aptitude and Practice Survey of Malaria Management at the Household Level in Ado-Odo, Ota Local Government Area of Ogun State in South Western Nigeria”

Dr. A. Akinyede

- Completed a survey on the storage/handling of drugs for personal use by some staff of the University of Lagos
- Published two previous collaborative works:
 - Onabanjo A. O., Akinyede A. A., and Higo O. M. “Prescribing pattern in childhood asthma at four referral public health institutions in Lagos, Nigeria.” *Quarterly Journal of Hospital Medicine* 2000; 10(2):153–6.
 - Onabanjo A. O., Akinyede A. A., and Higo O. M. “Childhood asthma: the medications taken in institutions in Lagos, Nigeria.” *Quarterly Journal of Hospital Medicine* 2000; 10(2):148–9.
- Dr. Akinyede, Dr. Olayemi, Dr. Ibuzo, Mr. Oreagba, and Mrs. Tekobo are planning an intervention to modify the use of medications by undergraduate students of the College of Medicine, University of Lagos, and the Lagos University Teaching Hospital. This planning is based on a previous study to assess the self-medication practices of these students carried out by Drs. Akinyede and Onabanjo.

Dr. S. O. Olayemi

- With Mr. Oreagba and Miss Omitogun, completed a study titled “Assessment of the Rational Use of Topical Corticosteroids among Females of the University of Lagos Community”
- Completed his Master of Public Health degree, with a project titled “Prescription Pattern of Twenty Local Government Primary Health Care Facilities in Lagos State”

- Published “Cost Evaluation of Commonly Prescribed Anti-hypertensive Drugs and the Pattern of Prescription among Prescribers of Lagos University Teaching Hospital,” with A. F. B. Mabadeje, in *Nigeria Journal of Health and Biomedical Sciences* 2002; 2. The study followed pharmaceutical antihypertensive prescriptions of 600 randomly selected mild to moderate hypertensive patients for three years in four clinics of the Lagos University Teaching Hospital, namely, the cardiology, endocrine, nephrology, and neurology clinics. Calcium channel blockers (CCBs) were the most frequently prescribed drugs (24.8 percent), followed by angiotensin-converting enzyme inhibitors (12.5 percent). Others included combined amiloride/hydrochlorothiazide (co-amilozide) (10.6 percent), alpha methyl dopa (AMD) (10 percent), beta blockers (BBs) (8.5 percent), combinations of co-amilozide and AMD (6.8 percent), and co-amilozide plus CCBs (6.0 percent). Brand-name prescription was predominantly high in all four clinics: cardiology, 87.4 percent; endocrine, 86.8 percent; nephrology, 74.6 percent; and neurology, 87.9 percent. The monthly cost difference between generic antihypertensive single drug treatment and brand-name single drug treatment was between \$3.50 and \$4.00. It was concluded that generic prescription should be encouraged among prescribers to lessen the financial burden on patients because drugs marketed under generic names are usually cheaper than those with brand names.

Mrs. A. M. Tekobo

- Introduced and taught rational drug use to post-basic ear, nose, and throat nurses, including such topics as national drug policy, essential drugs list, selecting P-drugs, and other related topics.

Dr. A. O. Isah and Colleagues from Benin

- The following papers were presented at the West African Society of Pharmacology annual scientific meeting recently held at Abuja, Nigeria: (1) Isah A. O., Aghomo O. E., and Isah E. C. “Trends and Perspectives of the WHO Prescribing Indicators 1991–1995 at the Outpatient Clinic of the University of Benin Teaching Hospital, Benin City, Nigeria.” (2) Isah A. O. “The Impression of Medical Students and Effects of Curricular Timing on Performance of an Intensive Therapeutics Course.”
- The following studies by Dr. O. A. Akoria, Mrs. O. E. Aghomo, and Dr. Isah are ongoing: “The Art of Prescription Writing and Good Prescribing” and “The Influence of Advertising in Print and Electronic Media on the Use of Drugs.”
- Dr. Isah is involved in ongoing plans for the startup of an incentive scheme on rational use of drugs.

Appointments

- Dr. J. Eniojukan was appointed Director of Regulatory Affairs, National Agency for Food and Drugs Administration and Control (NAFDAC).

- Dr. Ogori Taylor was appointed World Health Organization representative for Essential Drug Management in Nigeria.
- Dr. Chinyere Chukwuani was appointed Technical Director, National Programme on Immunisation (NPI).

Peru Core Group

Dr. Raúl Cruzado Ubillús

INRUD/Peru organized and conducted the First International Course on Updating and Managing Antibiotics: An Integral Vision in the Context of Health. The course was held in Lima, Peru, October 18–20, 2002. This was INRUD/Peru's first activity and served as a launching activity for the group. The framework guiding the activity was a holistic perspective of antibiotic use in the context of health care.

Course goals were to (1) encourage attendants to view health and antibiotic use from a more holistic perspective; (2) identify the critical problems in managing antibiotics and its contributing factors, and propose alternatives for improvement; and (3) promote the education of health professionals and the public in the appropriate use of antibiotics.

Topics covered included paradigms and social context for health care, health education, and cultural conditioning in drug use; biosafety, including problems in manufacturing and handling hospital hazardous materials; use of antibiotics in animals and agriculture; clinical issues, such as drug resistance and methods for monitoring safety of antibiotic use; pharmaco-epidemiology; managing drug supply; antibiotic control systems; and drug policy and regulation.

Conference speakers included 18 recognized national authorities and three international lecturers, Patricia Paredes, Albin Chávez, and Edgar Barillas of Management Sciences for Health. Attendees were academics, Ministry of Health and drug regulatory authority officials, students in health care professions, and professionals from public and private health care facilities, specialized institutes of health, and nongovernmental organizations. The event was presented in partnership with PAHO/WHO, the Trujillo National University, Servicio de Medicinas Pro-Vida of the Pastoral for Health of the Catholic Church, and others.

Course outcomes included (1) a consensus on the need for a more holistic view of health and health care to achieve lasting improvements in antibiotic use; (2) a commitment to promote and integrate rational antibiotic use in all stages of drug management; (3) an agreement on the need for multidisciplinary and multi-institutional partnerships to develop and apply strategies for improving overall antibiotic use; and (4) an agreement on the importance of empowering patients to seek and obtain reliable and complete health information that will enable them to make sound decisions about drug use.

Anyone interested in receiving a copy of the course program or course presentations on specific topics may contact us via inrudperu@hotmail.com.

Tamil Nadu Core Group

Dr. R. Murali

Meetings

- INRUD/Tamil Nadu conducts monthly meetings that are attended by all core group members. Key issues that have arisen over the last month are discussed and new proposals for the forthcoming month are analyzed. Some of the key issues discussed in the meetings include economic issues in the rational use of drugs, drug interactions, use of antibiotics, research activities, and networking in the rational use of drugs.
- Dr. R. Murali attended a state-level training program on the prevention of mother-to-child transmission of HIV/AIDS and discussed the use of antiretroviral therapy. This meeting was conducted by the Tamil Nadu State AIDS Control Society and was attended by representatives from UNICEF.

Conference

- The forthcoming Second International Conference on Improving Use of Medicines in Thailand, April 2004, was discussed and members were encouraged to submit research findings for presentation at the conference.

Training

- INRUD/Tamil Nadu, in association with the Institute of Community Medicine, Madras Medical College, Chennai, had arranged for its members to train pharmacy students on RUD; about 40 students were trained in the month of November 2002.

New Members

- INRUD/Tamil Nadu has utilized the services of Dr. Mohanty, Department of Pharmacology, Annamalai University; Dr. Usha Titus, Research Coordinator; Dr. Vamsadhara, Department of Pharmacology, Madras Medical College; Dr. Krishnaswamy, Head of the Department of Geriatric Medicine, Madras Medical College; and Dr. D. Sathyanarayanan.

Research Activities

- Changes in drug usage patterns before and after training for those completing the Compulsory Rotatory Resident Internship and other postgraduates
- Prescribing for the elderly
- Intravenous fluid consumption pattern in diarrhea cases

Future Activities

- Assist in the formation of therapeutics committees in colleges
- Train undergraduate/postgraduate students on RUD in association with a nongovernmental organization called Health Action for People
- Encourage medical college students to take up projects on rational use of drugs

Tanzania Core Group

Dr. Amos Massele

INRUD/Tanzania has been involved in the following activities since the last publication of *INRUD News*.

- Organization of the Zanzibar course on Promoting Rational Drug Use (PRDU), January 20–February 3, 2003. Dr. Amos Massele, Dr. Soni Malele, and Mrs. Kinyawa were trainers. The teaching materials were obtained from a manual titled *Promoting Rational Drug Use and Management of Pharmaceutical Services*, locally developed and accepted by the MOH of Tanzania. The manual was developed in 2002. Drs. Massele and Malele were involved in developing the rational drug use section of the same manual. The Zanzibar PRDU will be among several of such courses that will be conducted by INRUD/Tanzania on the mainland as well.
- Participation in the PRDU course in the Eastern training zone. Drs. Massele and Malele will participate in the February 2003 PRDU course for primary health care workers in the eastern zone, whose base is Arusha. The locally organized two-week course will draw about 30 participants, and will be financed by the MOH.
- Participation in the workshop in Heidelberg, Germany, March 17–20, 2003. Drs. Massele and Zul Premji will represent INRUD/Tanzania at a follow-up workshop of a research proposal on malaria. The workshop will be hosted by Heidelberg University staff and will discuss the progress of an EU-funded project in two African (Tanzania and Burkina Faso) and two European (Germany and Sweden) countries. This project was reported in the last issue of *INRUD News*.
- Participation in the draft of the next Swedish International Development Agency/Swedish Agency for Research Cooperation with Developing Countries (SIDA/SAREC) proposal for 2004–2007. SIDA/SAREC supports research activities at the Karolinska Institute in Sweden and Muhimbili University College of Health Sciences (MUCHS) in Tanzania. The latest three-year support effort began in January 2001 and will end December 31, 2003. The Karolinska Institute and MUCHS have been collaborating closely in malaria research since 1995 (see report in the last issue of *INRUD News*).

- Drafting of the proposal for the next Sweden and Tanzania bilateral research agreement to cover four years (2004–2007). The key INRUD collaborators in this project are Prof. Göran Tomson (coordinator of the project on the Swedish side) and Dr. Massele (coordinator on the Tanzanian side), who will spearhead the effort. The deadline for submission of the proposal to SAREC is February 28, 2003.

Members' Activities

- Dr. Stephen Nsimba is traveling to Stockholm in early March to further his Ph.D. research before his full Ph.D. defense at the Karolinska Institute in November 2003.
- The MUCHS Department of Clinical Pharmacology has purchased high-performance liquid chromatography equipment for drug analysis. We have recruited Mr. Omary Minzi into the Ph.D. program to run the equipment. Thanks to both Prof. Lars Gustafsson of Huddinge University in Sweden and Prof. Tomson of IHCAR in Sweden for facilitating the training of Mr. Minzi and the purchase. The group also thanks Ms. Margareta Rais, a senior engineer from the Department of Clinical Pharmacology, Huddinge University, for the technical advice given to Mr. Minzi.
- Drs. Massele and Malele are both members of the program committee and local organizing committee of the forthcoming SEAM conference to be held in Tanzania in June 2003.

Thailand Core Group

Dr. Chitr Sitthi-amorn

Activities

- Prof. Ranjit Roy Chaudhury, the Chair of UNESCO on Rational Use of Drugs at Chulalongkorn University, received a UNESCO/UNITWIN Award at the World Forum of UNESCO, Paris, France, November 13–15, 2002. The Indian Association for the Study of Traditional Asian Medicines (IASTAM), which is affiliated with IASTAM International, has selected Prof. Chaudhury for the Prof. K. N. Udupa Award for his work over many years in the field of traditional medicine. This award was given February 13, 2003, at a function presided over by the Health Minister of India.
- Prof. Chitr Sitthi-amorn was appointed as a Director of the Health Research Institute, Chulalongkorn University, on October 1, 2002.
- A one-year research project, “A Multi-country Participatory Evaluation of Implementation of WHO’s Ethical Criteria for Medicinal Drug Promotion: Phase 2,” supported by AusAID was implemented by the following researchers from Indonesia, Laos, Vietnam, and Thailand: *Indonesia*: Dr. Sulanto Saleh and Dr. Sri Hidayati, of the Department of Clinical Pharmacology, Faculty of Medicine, Gadjah Mada University, Yogyakarta; *Laos*: Dr. Khampheng Khotsay and

Dr. Sipraseuth Boupha, of the Information, Education, and Communication Office, Food and Drugs Department, Ministry of Health; *Vietnam*: Prof. Pham Huy Dung and Ms. Hoang Thi Phoung, of the Institute of Health Strategies and Policy, Ministry of Health; *Thailand*: Assist. Prof. Dr. Niyada Keiat-yinganglulee, of the Faculty of Pharmaceutical Sciences, Chulalongkorn University, and Dr. Samlee Pliangbangchang and Ms. Ratana Somrongthong, of the College of Public Health, Chulalongkorn University.

- Thailand has been named host country for ICIUM 2004. Organization of the conference is a collaboration among INRUD, INRUD/Thailand, and other concerned organizations. As part of the early process, periodic telephone conferences have been conducted for communication and consultation. In addition, other members of the Conference Organizing Committee have visited the INRUD/Thailand team to discuss ICIUM 2004 and related issues. Visitors have included Assoc. Prof. Dr. Dennis Ross-Degnan (November 5–12, 2002); Dr. John Chalker (December 8–10, 2002); and Ms. Anita Wagner, (January 26–31, 2003).

Uganda Core Group

Prof. W. W. Anokbonggo

Meetings

The INRUD/Uganda Core Group has continued to meet, although irregularly. The meetings have discussed the progress of research projects being conducted by members. Two progress and data analysis meetings have taken place between Applied Research on Child Health (ARCH) project representatives and INRUD members in Kampala. In August 2002, Dr. Dennis Ross-Degnan and Dr. Onesky Aupont met with investigators for the ARCH project. Dr. Aupont again traveled to Kampala to review the progress of the research projects and to assist with analysis of the data. While in Kampala, Dr. Aupont participated in the dissemination workshop for the Private Pharmacy ARI Treatment project.

Research

Three projects have been completed: decentralization impact, private practitioner prescribing, and private pharmacy management of ARI in children. A national dissemination workshop is planned for April for all three projects.

Phase III proposals, to follow on the initial ones, have been prepared and submitted to ARCH. The phase III proposals are:

1. Relationship between pharmaceutical stock levels and prescription patterns in hospitals in Uganda
2. Effect of cost-sharing on drug availability in hospitals in Uganda

3. Change in antimalarial drug policy and its impact on utilization, malaria case management, and rational prescription in hospitals in Uganda

Courses/Workshops

Dr. Winnie Tumwikirize attended a Pharmacovigilance Training Course in Australia, November 4–15, 2002.

Service to the Community

The INRUD/Uganda Coordinator has assumed the Chairmanship of the National Medical Stores. This is a very important aspect of the drug management cycle in Uganda and this appointment is recognition of Dr. Anokbonggo's efforts to improve the health status of Ugandans through RUD.

Return to Uganda

We welcome Dr. Jasper Ogwal-Okeng, who has been a very active core group member, back from sabbatical leave at the University of Illinois at Chicago. We are confident that Dr. Ogwal-Okeng's return will reinvigorate our rational drug use activities.

Zimbabwe Core Group

Dr. C. E. Ndhlovu

The National Drug and Therapeutics Policy Advisory Committee—the INRUD/Zimbabwe Core Group—has finally launched the National Drug Management Training Suite on CD-ROM. This work was carried out in collaboration with the Department of Pharmacy Services at the Ministry of Health and Child Welfare. The CD-ROM comes complete with visual aids for lectures and notes for students to support training of all cadres of health care workers. It also contains resource materials such as the PRDU course, WHO/EDM material, the Reference Manager, and, of course, the EDLIZ—our essential drugs list and standard treatment guidelines book.

As we are losing pharmacists and other health care workers, it has become impossible to continue to hold regular national rational drug use courses. The funding for these activities has stopped as well. Thus, we hope that this suite will enable the various training centers, such as medical schools, nursing schools, and other interested stakeholders, to cover those aspects of drug management. As the National Drug Policy declares, "All health care workers at each level of the health care system who diagnose, prescribe, and dispense will be fully trained in the essential drug concept, stock management, and rational use of drugs."

Research Briefs

Analysis of Drug Utilization Among Patients in Osmania General Hospital, Hyderabad, India

G. B. Simpson and D. Govinda Das

Department of Clinical Pharmacology and Therapeutics
Osmania Medical College/Osmania General Hospital
Hyderabad, India

Introduction

The Concept of Essential Drugs: Health is a fundamental human right. Access to health care, which includes access to essential drugs, is a prerequisite for realizing that right. Essential drugs play a crucial role in many aspects of health care (1).

Essential drugs are those that satisfy the health care needs of the majority of the population; they should therefore be available at all times in adequate amounts, in the appropriate dosage forms, and at a price that individuals and the community can afford (2).

The concept of essential drugs was taken up by the Government of India and Andhra Pradesh State Government. By the end of 1999, 156 developed and developing countries had lists of essential drugs prepared from the WHO Model List of Essential Medicines (1,2).

Drug Utilization Studies: The WHO Expert Committee on the Selection and Use of Essential Medicines has recognized the importance of drug utilization studies. WHO recommends that such studies be conducted using the Anatomical Therapeutic Chemical (ATC) classification system and the Defined Daily Dose (DDD) as a measuring unit.

The purpose of the ATC/DDD system is to serve as a tool for drug utilization research in order to improve the quality of drug use. Access to standardized and validated information on drug use is essential to allow audit of patterns of drug utilization, identification of problems, and monitoring of the outcome of educational or other interventions (2–4).

Objective

The study was conducted to analyze drug use trends among inpatients in Osmania General Hospital (OGH), Hyderabad.

Although drug use studies are done in many countries, in India such studies are scanty and incomplete. This study was conducted using WHO drug indicators, using data to design interventions and evaluation of interventions.

Materials and Methods

Osmania General Hospital is a tertiary health care government teaching hospital with 39 wards, 21 departments, and 1,168 beds. Patients come from all over the state of Andhra Pradesh.

Analysis of drug utilization was done using the ATC classification system and Defined Daily Doses per thousand patient days (DDD/1000PD) as a measuring unit (4–6).

Two years of retrospective data from April 1, 2000, through March 31, 2002, were collected and analyzed for rational use of drugs and are used to design interventions to change the prescription behavior and evaluate the outcome of interventions.

Results

Osmania General Hospital Inpatient and Drug Utilization Statistics

	<u>2000–2001</u>	<u>2001–2002</u>
No. of patients	42,804	41,615
Annual number of patient days	383,134	352,816
Total number of major and minor operations	35,584	31,332
Total utilization of drugs (in DDD/1000PD)	4,426.66	4,484.35
Utilization of corticosteroids (in DDD/1000PD)	508.22	536.81
Utilization of ranitidine (in DDD/1000PD)	380.22	488.92

Discussion

Overall drug utilization in OGH was 4,426.66 DDD/1000PD during 2000–2001 and 4,484.35 DDD/1000PD during 2001–2002. On average, each patient received four to five drugs daily. In comparison, in Serbia, the drug utilization was 7,133.87 DDD/1000PD during 1997 and 8,597.03 DDD/1000PD during 1998 (5).

Two major prescription irrationalities were observed after analysis of utilization of individual drugs and drug groups.

- *Corticosteroids.* The use of corticosteroids in 2000–2001 was 508.42 DDD/1000PD and, during 2001–2002, use was 536.81 DDD/1000PD. In Serbia in 1997, the use of corticosteroids was 325.00 DDD/1000PD and 320.70 DDD/1000PD in 1998 (5). In OGH, there is widespread use of corticosteroids, which may lead to many toxic effects.

Two categories of toxic effects result from the therapeutic use of corticosteroids, those resulting from withdrawal of

steroid therapy and those resulting from continued use of supraphysiological doses. The side effects from both of these categories are potentially life-threatening and mandate a careful assessment of the risks and benefits in each patient (7).

- *Ranitidine*. The use of ranitidine was 380.42 DDD/1000PD during 2000–2001 and was 488.92 DDD/1000PD during 2001–2002. In OGH, there was an increase in use of ranitidine between 2000–2001 and 2001–2002. It is observed that ranitidine is prescribed as prophylaxis against ulcers induced by nonsteroidal anti-inflammatory drugs (NSAIDs), and as treatment of peptic ulcer, gastroesophageal reflux disease, and non-ulcer dyspepsia. Prophylactic use of ranitidine is not needed with short-term NSAID therapy in patients without any history of ulcer disease.

In a drug utilization study at Government Headquarters Hospital, Ooty, 46 percent of patients admitted were prescribed ranitidine. After educational intervention, a 30 percent decrease in ranitidine use was observed after one year (8).

Interventions

An intervention program to change prescription behavior of doctors is now underway in OGH through educational activities such as lectures, seminars, group teaching, and distribution of printed material to reduce the use of corticosteroids and ranitidine.

Conclusion

This analysis points to irrational use of corticosteroids and ranitidine and the necessity of educational interventions to change prescription behavior and evaluation of outcome before and after interventions.

References

1. WHO. *How to develop and implement a national drug policy*. 2nd edition. 1988; 3–10.
2. WHO. Technical report series 895, the use of essential drugs. 2000; 1–8.
3. WHO. How to investigate drug use in health facilities, EDM Research Series No.7, 3–27.
4. Management Sciences for Health and WHO. *Managing drug supply*. 2nd edition. 1997; 422–49.
5. Jankovic, S. M. Drug utilization trends in clinical hospital center 'Kragujevac' from 1997 to 1999. *IJP* 2001; 33:29–36.
6. WHO. *Collaborating center for drug statistics methodology, ATC index with DDDs*. 2002; Oslo, Norway.
7. *Goodman & Gilman's pharmacological basis of therapeutics*. 10th edition. 2001; 1666–8.
8. Johnson, G. Impact of drug utilization programme on ranitidine in a South Indian Hospital. *IJP* 2001; 33:43.

Recent Publications of Interest

Strategies to Improve Adherence to Recommended Chloroquine Treatment Regimes: A Quasi-Experiment in the Context of Integrated Primary Health Care Delivery in Ghana

I. A. Agyepong, E. Ansah, M. Gyapong, S. Adjei, G. Barnish, and D. Evans

Reference: *Social Science and Medicine* 2002; 55:2215–26

Abstract

This paper presents the results of an intervention study carried out as part of the activities of a District Health Management Team responsible for integrated primary health care delivery in a rural district in Ghana. The aim was to test the impact of a combination of improved information provision to patients and drug labeling on adherence to recommended antimalarial treatment

regimens, focusing on oral chloroquine for the outpatient management of acute uncomplicated malaria. The study had a quasi-experimental pretest/post-test control group design with partly random allocation by clinic. The results show that the intervention resulted in an improved flow of information to clients prescribed chloroquine and better labeling of drugs for the home treatment of acute clinical episodes of malaria in the intervention area. Improvements in adherence occurred in all clinics. However, improvements in adherence were most marked in the clinic that was worst performing at the start of the intervention. Implications of the results for improving adherence to chloroquine therapy on an outpatient basis are discussed.

Comment

Poor adherence to antimalarial therapy results in increased morbidity and mortality and also accelerates drug resistance. The authors sought to develop a sustainable approach to improving adherence in a rural district in Ghana where a large proportion of the population was illiterate. The study, led by a

member of INRUD/Ghana, is part of a group of district-level intervention studies involving district medical officers as principal investigators. The intervention to increase adherence involved small group training on appropriate communication with patients conducted by members of the District Health Management Team for four to six prescribers (one medical assistant and several nurses) and three to four dispensers at each health post. To support proper dosing for children, the team pretested and used simple rubber stamps with pictorial labels of teaspoons with different amounts of medicine. The paper includes interesting descriptions of how the team creatively adapted the research to deal with issues such as transfer of clinic staff, logistical complexity, and the laborious follow-up of 412 of 445 patients prescribed chloroquine in their rural homes three days after treatment. Despite problems in statistical analysis due to the small number of clinics and clustering of practices at clinic level, the results are provocative. The authors found more problems in adherence to syrups than to tablets, which they speculate are due to administration to children, bitterness of the drug, and difficulty defining correct dose, even with symbolic labels. They suggest studying in a systematic way the common practice of crushing tablets and mixing them with sweet liquid to treat children, which they expect might overcome some of these problems.

—Dennis Ross-Degnan

Impact of Supervision and Self-Assessment on Doctor-Patient Communication in Rural Mexico

Y.-M. Kim, M. E. Figueroa, A. Martin, R. Silva, S. F. Acosta, M. Hurtado, P. Richardson, and A. Kols

Reference: *International Journal for Quality in Health Care* 2002; 14:359–67

Abstract

Objective: To determine whether supervision and self-assessment activities can improve doctor-patient communication.

Setting and Participants: Six supervisors, 60 doctors in their last year of training, and 232 primary health care patients at rural health clinics in Michoacan, Mexico.

Design: The main evaluation compared postintervention measures in control and intervention groups. A small panel study also examined changes from baseline to postintervention rounds in both groups.

Intervention: Over a four-month period, specially trained supervisors added one hour of supervision on interpersonal communication and counseling (IPC/C) to regular site visits. Doctors who had received prior IPC/C training periodically audiotaped and assessed their own consultations.

Main Outcome Measures: These comprised frequency of doctors' facilitative communication, doctors' biomedical information giving, and patients' active communication.

Results: The performance of all doctors improved markedly over the study period, but gains in facilitative communication and information giving were significantly greater in the intervention group than the control group. No single component of the intervention was responsible for the improvement; it resulted from the combination of activities. The doctors appreciated the more supportive relationship with supervisors that resulted from the intervention and found listening to themselves on audiotape a powerful, although initially stressful, experience.

Conclusion: Supportive supervision and self-assessment activities can reinforce IPC/C training, prompt reflection and learning, and help novice doctors improve their interpersonal communication skills.

Comment

This study also examines an intervention to improve clinician-patient communication, this time in rural Mexico. The authors emphasize the importance of facilitative communication that promotes active interaction between providers and patients, and greater information giving. Following a workshop on IPC/C, the intervention involved both supervision and self-learning to help recently graduated doctors apply these skills in their work. During two visits over four months, supervisors observed a consultation, used a checklist to assess communication skills, gave feedback to the doctors, and discussed specific skills that needed improvement. Doctors also audiotaped and reviewed two consultations a month to improve their own skills. In focus groups, doctors reported that this self-assessment process was initially stressful and threatening, but that over time they found it to be a valuable tool for recognizing strengths and weaknesses and for motivating them to improve. Following the intervention, 47.7 percent of patient encounters in the intervention group contained elements of facilitative communication, compared to 29.6 percent of encounters in the control group, with significant positive changes in three of the six communication areas evaluated. In addition, biomedical information was imparted in 27.5 percent, compared to 16.6 percent of the postintervention encounters in the two groups, respectively. It would be interesting to know if these gains were reflected in changes in patient management of their illnesses, including better adherence to therapy.

—Dennis Ross-Degnan

Effect of Computerised Evidence Based Guidelines on Management of Asthma and Angina in Adults in Primary Care: Cluster Randomised Controlled Trial

M. Eccles, E. McColl, N. Steen, N. Rousseau, J. Grimshaw, D. Parkin, and I. Purves

Reference: *British Medical Journal* 2002; 325:941–7

Abstract

Objective: To evaluate the use of a computerized support system for decision making for implementing evidence-based clinical guidelines for the management of asthma and angina in adults in primary care.

Design: A before-and-after pragmatic, cluster, randomized controlled trial utilizing a two-by-two incomplete block design

Setting: Sixty general practices in northeast England

Participants: General practitioners and practice nurses in the study practices and their patients aged 18 or over with angina or asthma

Main Outcome Measures: Adherence to the guidelines, based on review of case notes and patient-reported generic and condition-specific outcome measures

Results: The computerized decision support system had no significant effect on consultation rates, process of care measures (including prescribing), or any patient-reported outcomes for either condition. Levels of use of the software were low.

Conclusions: No effect was found of computerized evidence-based guidelines on the management of asthma or angina in adults in primary care. This was probably due to low levels of use of the software, despite the system being optimized as far as was technically possible. Even if the technical problems of producing a system that fully supports the management of chronic disease were solved, there remains the challenge of integrating the systems into clinical encounters where busy practitioners manage patients with complex, multiple conditions. Recent systematic review of 68 controlled trials examined the effectiveness of such systems. They were shown to be beneficial in 9 of 15 trials of systems to improve drug dosing; 1 of 5 trials evaluating diagnostic aids; 14 of 19 trials evaluating systems to improve preventive care; and 19 of 26 trials evaluating “other” medical care such as the management of disease in hospitals and ordering tests. Improvements were found in 6 of the 14 studies measuring patient outcomes. However, the authors reported that most of the studies had flaws in design or analysis, so the findings should be interpreted with caution. Moreover, no studies were identified in the management of chronic disease in primary care or in computerized decision support systems integrated into routine computer systems in primary care.

Comment

This very carefully designed and implemented study, conducted by several leading researchers on physician behavior change in the UK, amply demonstrates that technology is not a panacea. As the authors note in their discussion, previous work showing the positive effects of computerized guidelines has been criticized on methodological grounds. As frequently happens with behavior change interventions, this carefully controlled study of an intervention method that appears to be successful in less well-designed trials shows no effect. The work demonstrates that simply making guidelines easily and immediately available to clinicians in whatever form does not mean that they will be used or actively incorporated into daily practice. All of the medical practices in this study involved groups of physicians, and it would be interesting to see if some of the more behaviorally engaging, peer-oriented strategies, such as group norm development or self-assessment, tested in the previous two studies could have been combined with the computerized guidelines to achieve positive behavior change.

—Dennis Ross-Degnan

Other Recent Articles

Academic Medicine

Glover ML and Sussman JB. *Assessing pediatrics residents' mathematical skills for prescribing medication: a need for improved training.* 2002; 77:1007–10.

Adverse Drug Reactions and Toxicological Reviews

Hardwicke CJ. *The World Health Organization and the pharmaceutical industry: common areas of interest and differing views.* 2002; 21(1–2):51–99. [Review.]

American Journal of Health System Pharmacy

Aspinall MB, Whittle J, Aspinall SL, Maher RL Jr, and Good CB. *Improving adverse-drug-reaction reporting in ambulatory care clinics at a Veterans Affairs hospital.* 2002; 59(9):841–5.

Finley PR, Rens HR, Pont JT, Gess SL, Louie C, Bull SA, and Bero LA. *Impact of a collaborative pharmacy practice model on the treatment of depression in primary care.* 2002; 59(16):1518–26.

Flynn EA, Barker KN, Pepper GA, Bates DW, and Mikeal RL. *Comparison of methods for detecting medication errors in 36 hospitals and skilled-nursing facilities.* 2002; 59(5):436–46.

Odedina FT, Sullivan J, Nash R, and Clemmons CD. *Use of pharmaco-economic data in making hospital formulary decisions.* 2002; 59(15):1441–4.

Razi ZS, Latif SA, and Shamim RS. *Establishing clinical pharmacy services in a Pakistani intensive care unit.* 2002; 59(19):1888–9.

Young D. *Studies show drug ads influence prescription decisions, drug costs.* 2002; 59(1):14, 16.

Zachry WM 3rd, Shepherd MD, Hinich MJ, Wilson JP, Brown CM, and Lawson KA. *Relationship between direct-to-consumer advertising and physician diagnosing and prescribing.* 2002; 59(1):42–9.

American Journal of Managed Care

Rolnick SJ, Margolis KL, Fortman KK, Maciosek MV, and Grimm RHJ. *How acceptable are financial incentives and written feedback for improving hypertension control? Perspectives from physicians, clinic administrators, and patients.* 2002; 8(5):441–7.

American Journal of Public Health

Artz MB, Hadsall RS, and Schondelmeyer SW. *Impact of generosity level of outpatient prescription drug coverage on prescription drug events and expenditure among older persons.* 2002; 92(8):1257–63.

American Journal of Therapeutics

Signorello LB, McLaughlin JK, Lipworth L, Friis S, Sorensen HT, and Blot WJ. *Confounding by indication in epidemiologic studies of commonly used analgesics.* 2002; 9(3):199–205. [Review.]

Annals of the Academy of Medicine, Singapore

Mahadevan M, Jin A, Manning P, and Lim TK. *Emergency department asthma: compliance with an evidence-based management algorithm.* 2002; 31(4):419–24.

Annals of Pharmacotherapy

Momani AA, Madhavan SS, and Nau DP. *Impact of NSAIDs prior authorization policy on patients' QoL.* 2002; 36(11):1686–91.

Furler MD, Rolnick MS, Lawday KS, Mak MW, and Einarson TR. *Cost impact of switching histamine(2)-receptor antagonists to nonprescription status.* 2002; 36(7–8):1135–41.

Patel RP and Taylor SD. *Factors affecting medication adherence in hypertensive patients.* 2002; 36(1):40–5.

Archives of Internal Medicine

Barr RG, Somers SC, Speizer FE, and Camargo CA Jr. *Patient factors and medication guideline adherence among older women with asthma.* 2002; 162:1761–8.

Archives of Pediatrics and Adolescent Medicine

Byington CL, Castillo H, Gerber K, Daly JA, Brimley LA, Adams S, Christenson JC, and Pavia AT. *The effect of rapid respiratory viral diagnostic testing on antibiotic use in a children's hospital.* 2002; 156(12):1230–4.

Fischer JE, Steiner F, Zucol F, Berger C, Martignon L, Bossart W, Altwegg M, and Nadal D. *Use of simple heuristics to target macrolide prescription in children with community-acquired pneumonia.* 2002; 156(10):1005–8.

Nash DR, Jeffrey Harman J, Wald ER, and Kelleher KJ. *Antibiotic prescribing by primary care physicians for children with upper respiratory tract infections.* 2002; 156(11):1114–9.

Zito JM, Safer DJ, dosReis S, Gardner JF, Magder L, Soeken K, Boles M, Lynch F, and Riddle MA. *Psychotropic practice patterns for youth: a 10-year perspective.* 2003; 157(1):17–25.

Australian Journal of Rural Health

Bonner CJ and Carr B. *Medication compliance problems in general practice: detection and intervention by pharmacists and doctors.* 2002; 10(1):33–8.

Australian Prescriber

Lopert R and Henry D. *The pharmaceutical benefits scheme: economic evaluation works . . . but is not a panacea.* 2002; 25:126–7.

British Journal of Clinical Pharmacology

Begaud B, Bergman U, Eichler HG, Leufkens HG, and Meier PJ. *Drug reimbursement: indicators of inappropriate resource allocation.* 2002; 54(5):528–34.

British Medical Journal

Flottorp S, Oxman AD, Havelrud K, Treweek S, and Herrin J. *Cluster randomised controlled trial of tailored interventions to improve the management of urinary tract infections in women and sore throat.* 2002; 325:367.

Benson J and Britten N. *Patients' decisions about whether or not to take antihypertensive drugs: qualitative study.* 2002; 325:873.

Kumar S, Little P, and Britten N. *Why do general practitioners prescribe antibiotics for sore throat? Grounded theory interview study.* 2003; 326:138.

Patel MG, Wright DJ, Gill PS, Jerwood D, Silcock J, and Chrystyn H. *Prescribing of lipid lowering drugs to South Asian patients: ecological study.* 2002; 325:25–6.

Weingarten SR, Henning JM, Badamgarav E, Knight K, Hasselblad V, Gano A Jr, and Ofman JJ. *Interventions used in disease management programmes for patients with chronic illness—which ones work? Meta-analysis of published reports.* 2002; 325:925. [Review.]

Bulletin of the World Health Organization

Islam MA, Wakai S, Ishikawa N, Chowdhury AM, and Vaughan JP. *Cost-effectiveness of community health workers in tuberculosis control in Bangladesh.* 2002; 80(6):445–50.

Xianyi C, Fengzeng Z, Hongjin D, Liya W, Lixia W, Xin D, and Chin DP. *The DOTS strategy in China: results and lessons after 10 years.* 2002; 80(6):430–6.

Cadernos de Saude Publica

Mejia Restrepo S, Velez Arango AL, Buritica Arboleda OC, Arango Mejia MC, and Rio Gomez JA. *[National pharmaceutical policy in Colombia and social security reform: access and rational use of medicines].* [Spanish]. 2002; 18(4):1025–39.

Romero CP. *[Health sector reform and pharmaceutical policy in Peru].* [Spanish]. 2002; 18(4):1121–38. [Review.]

Canadian Journal of Clinical Pharmacology

Grootendorst P. *Beneficiary cost sharing under Canadian provincial prescription drug benefit programs: history and assessment.* 2002; 9(2):79–99.

Canadian Medical Association Journal

Marshall JK, Grootendorst PV, O'Brien BJ, Dolovich LR, Holbrook AM, and Levy AR. *Impact of reference-based pricing for histamine-2 receptor antagonists and restricted access for proton pump inhibitors in British Columbia.* 2002; 166(13):1655–62.

Chest

Lawrence SJ, Shadel BN, Leet TL, Hall JB, and Mundy LM. *An intervention to improve antibiotic delivery and sputum procurement in patients hospitalized with community-acquired pneumonia.* 2002; 122(3):913–19.

Pinto Pereira LM, Clement Y, Da Silva CK, McIntosh D, and Simeon DT. *Understanding and use of inhaler medication by asthmatics in specialty care in Trinidad: a study following development of Caribbean guidelines for asthma management and prevention.* 2002; 121(6):1833–40.

Clinical Infectious Diseases

Fry AM, Jha HC, Lietman TM, Chaudhary JS, Bhatta RC, Elliott J, Hyde T, Schuchat A, Gaynor B, and Dowell SF. *Adverse and beneficial secondary effects of mass treatment with azithromycin to eliminate blindness due to trachoma in Nepal.* 2002; 35(4):395–402.

Lautenbach E, LaRosa LA, Marr AM, Nachamkin I, Bilker WB, and Fishman NO. *Changes in the prevalence of vancomycin-resistant enterococci in response to antimicrobial formulary interventions: impact of progressive restrictions on use of vancomycin and third-generation cephalosporins.* 2003; 36(4):440–6.

Thomas C, Stevenson M, Williamson DJ, and Riley TV. *Clostridium difficile-associated diarrhea: epidemiological data from Western Australia associated with a modified antibiotic policy.* 2002; 35(12):1457–62.

Clinical Microbiology & Infection

Carbon C, Cars O, and Christiansen K. *Moving from recommendation to implementation and audit: part 1. Current recommendations and programs: a critical commentary.* 2002; (8 Suppl) 2:92–106. [Review.]

Cochrane Database of Systematic Reviews

Haynes RB, McDonald H, Garg AX, and Montague P. *Interventions for helping patients to follow prescriptions for medications.* 2002; (2):CD000011. [Review.]

Ethnicity & Disease

Chisholm MA, Mulloy LL, Jagadeesan M, Martin BC, and DiPiro JT. *Effect of clinical pharmacy services on the blood pressure of African-American renal transplant patients.* 2002; 12(3):392–7.

European Journal of Epidemiology

Wieggersma PA, Hofman A, and Zielhuis GA. *Evaluation of community-wide interventions: the ecologic case-referent study design.* 2001; 17(6):551–7.

Family Practice

Silagy CA, Weller DP, Lapsley H, Middleton P, Shelby-James T, and Fazekas B. *The effectiveness of local adaptation of nationally produced clinical practice guidelines.* 2002; 19(3):223–30.

Watson MC, Bond CM, Grimshaw JM, Mollison J, Ludbrook A, and Walker AE. *Educational strategies to promote evidence-based community pharmacy practice: a cluster randomized controlled trial (RCT).* 2002; 19(5):529–36.

Fortschritte der Neurologie-Psychiatrie

Weitbrecht WU and Vosskamper C. *[Influence of the drug package information paper on compliance of neurological and psychiatric outpatients].* [German]. 2002; 70(4):178–84.

Health Policy

Kang HY, Park CY, and Kim HJ. *Public attitude and knowledge on a new health policy for pharmaceutical care in Korea.* 2002; 62(2):195–209.

Onwujekwe O, Chima R, Shu E, and Okonkwo P. *Community-directed treatment with ivermectin in two Nigerian communities: an analysis of first year start-up processes, costs and consequences.* 2002; 62(1): 31–51.

Reuveni H, Sheizaf B, Elhayany A, Sherf M, Limoni Y, Scharff S, and Peled R. *The effect of drug co-payment policy on the purchase of prescription drugs for children with infections in the community.* 2002; 62(1):1–13.

Health Policy and Planning

Bowden A, Fox-Rushby JA, Nyandieka L, and Wanjau J. *Methods for pre-testing and piloting survey questions: illustrations from the KENQOL survey of health-related quality of life.* 2002; 17:322–30.

Fiedler JL and Suazo J. *Ministry of Health user fees, equity and decentralization: lessons from Honduras.* 2002; 17:362–77.

McCombie SC. *Self-treatment for malaria: the evidence and methodological issues*. 2002; 17:333–44.

Trap B, Hansen EH, and Hogerzeil HV. *Prescription habits of dispensing and non-dispensing doctors in Zimbabwe*. 2002; 17:288–95.

Uzochukwu B, Onwujekwe OE, and Akpala CO. *Effect of the Bamako-Initiative drug revolving fund on availability and rational use of essential drugs in primary health care facilities in south-east Nigeria*. 2002; 17:378–83.

Heart (British Cardiac Society)

Steg PG, Iung B, Feldman LJ, Cokkinos D, Deckers J, Fox KA, Keil U, and Maggioni AP. *Impact of availability and use of coronary interventions on the prescription of aspirin and lipid lowering treatment after acute coronary syndromes*. 2002; 88(1):20–4.

Indian Journal of Physiology & Pharmacology

Maini R, Verma KK, Biswas NR, and Agrawal SS. *Drug utilization study in dermatology in a tertiary hospital in Delhi*. 2002; 46(1):107–10.

International Journal of Antimicrobial Agents

Borg MA and Scicluna EA. *Over-the-counter acquisition of antibiotics in the Maltese general population*. 2002; 20(4):253–7.

International Journal of Clinical Pharmacology and Therapeutics

Jassim Al Khaja KA, Sequeira RR, and Mathur VS. *Trends in ophthalmic antimicrobial utilization pattern in Bahrain between 1993 and 2000: a resurgence of chloramphenicol?* 2003; 41(1):36–41.

Schroder-Bernhardi D and Dietlein G. *Lipid-lowering therapy: do hospitals influence the prescribing behavior of general practitioners?* 2002; 40(7):317–21.

International Journal of Clinical Practice

Ravi Shankar P, Partha P, and Nagesh S. *Prescribing patterns in medical outpatients*. 2002; 56(7):549–51.

Sarkar C, Das B, and Sripathi H. *Antimicrobial drug use in dermatology in a teaching hospital in western Nepal*. 2002; 56(4):258–60.

International Journal of Geriatric Psychiatry

Sauer J and Howard R. *The impact of journal advertisements on prescribers of cholinesterase inhibitors*. 2002; 17(10):976–8.

International Journal of Health Planning & Management

Meulemans H, Mortelmans D, Liefoghe R, Mertens P, Zaidi SA, Solangi MF, and De Muynck A. *The limits to patient compliance with directly observed therapy for tuberculosis: a socio-medical study in Pakistan*. 2002; 17(3):249–67.

International Journal of Infectious Diseases

Sow PS, Gueye TS, Sy E, Toure L, Ba C, and Badiane M. *Drugs in the parallel market for the treatment of urethral discharge in Dakar: epidemiologic investigation and physicochemical tests*. 2002; 6(2): 108–12.

International Journal of Nursing Practice

Webster CS and Anderson DJ. *A practical guide to the implementation of an effective incident reporting scheme to reduce medication error on the hospital ward*. 2002; 8(4):176–83. [Review.]

International Journal for Quality in Health Care

Kim Y, Figueroa ME, Martin A, Silva R, Acosta SF, Hurtado M, Richardson P, and Kols A. *Impact of supervision and self-assessment on doctor-patient communication in rural Mexico*. 2002; 14:359–67.

Liabsuetrakul T, Lumbiganon P, and Chongsuvivatwong V. *Prophylactic antibiotic prescription for cesarean section*. 2002; 14:503–8.

Sofaer S. *Qualitative research methods*. 2002; 14:329–36.

Urassa DP, Carlstedt A, Nystrom L, Massawe SN, and Lindmark G. *Quality assessment of the antenatal program for anaemia in rural Tanzania*. 2002; 14:441–8.

Joint Commission Journal on Quality Improvement

Sim TA and Joyner J. *A multidisciplinary team approach to reducing medication variance*. 2002; 28(7):403–9.

Journal of Allergy & Clinical Immunology

Bender BG. *Overcoming barriers to nonadherence in asthma treatment*. 2002; 109(6 Suppl):S554–9. [Review.]

Journal of the American Geriatrics Society

Meredith S, Feldman P, Frey D, Giammarco L, Hall K, Arnold K, Brown NJ, and Ray WA. *Improving medication use in newly admitted home healthcare patients: a randomized controlled trial*. 2002; 50(9):1484–91.

Schneeweiss S, Maclure M, and Soumerai SB. *Prescription duration after drug copay changes in older people: methodological aspects*. 2002; 50(3):521–5.

Journal of the American Medical Association

Haynes RB, McDonald HP, and Garg AX. *Helping patients follow prescribed treatment: clinical applications*. 2002; 288(22):2880–3.

Joyce GF, Escarce JJ, Solomon MD, and Goldman DP. *Employer drug benefit plans and spending on prescription drugs*. 2002; 288(14): 1733–9.

McDonald HP, Garg AX, and Haynes RB. *Interventions to enhance patient adherence to medication prescriptions: scientific review*. 2002; 288(22):2868–79.

Pierce JP and Gilpin EA. *Impact of over-the-counter sales on effectiveness of pharmaceutical aids for smoking cessation*. 2002; 288(10):1260–4.

Steinwachs DM. *Pharmacy benefit plans and prescription drug spending*. 2002; 288(14):1773–4.

Journal of the American Medical Women's Association

Ratanajamit C, Chongsuvivatwong V, and Geater AF. *A randomized controlled educational intervention on emergency contraception among drugstore personnel in southern Thailand*. 2002; 57(4):196–9.

Journal of the American Pharmaceutical Association

Millonig MK, Jackson TL, and Ellis WM. *Improving medication use through pharmacists' access to patient-specific health care information*. 2002; 42(4):638–45. [Review.]

Journal of Antimicrobial Chemotherapy

Kardas P. *Patient compliance with antibiotic treatment for respiratory tract infections*. 2002; 49(6):897–903. [Review.]

Journal of the Association of Physicians of India

Bhatia RS. *Drug advertisements in Indian medical journals: total lack of information: requires improvement.* 2002; 50(5):744.

Journal of Chemotherapy

Leblebicioglu H, Canbaz S, Peksen Y, and Gunaydin M. *Physicians' antibiotic prescribing habits for upper respiratory tract infections in Turkey.* 2002; 14(2):181–4.

Journal of Clinical Epidemiology

Chuc NTK, Larsson M, Do NT, Diwan VK, Tomson GB, and Falkenberg T. *Improving private pharmacy practice—a multi-intervention experiment in Hanoi, Vietnam.* 2002; 55(11):1148–55.

Foy R, MacLennan G, Grimshaw J, Penney G, Campbell M, and Grol R. *Attributes of clinical recommendations that influence change in practice following audit and feedback.* 2002; 55(7):717–22.

Gregoire JP, Moisan J, Guibert R, Ciampi A, Milot A, Gaudet M, and Cote I. *Determinants of discontinuation of new courses of antihypertensive medications.* 2002; 55(7):728–35.

Linjakumpu T, Hartikainen S, Klaukka T, Veijola J, Kivela SL, and Isoaho R. *Use of medications and polypharmacy are increasing among the elderly.* 2002; 55(8):809–17.

Molloy W, Strang D, Guyatt G, Lexchin J, Bedard M, Dubois S, and Russo R. *Assessing the quality of drug detailing.* 2002; 55(8):825–32.

Schneeweiss S, Maclure M, Soumerai SB, Walker AM, and Glynn RJ. *Quasi-experimental longitudinal designs to evaluate drug benefit policy changes with low policy compliance.* 2002; 55(8):833–41.

Journal of Clinical Pharmacy and Therapeutics

Bjornsdottir I and Hansen EH. *Ethical dilemmas in antibiotic prescribing: analysis of everyday practice.* 2002; 27(6):431–40.

Bouvy ML, Buurma H, and Egberts TC. *Laxative prescribing in relation to opioid use and the influence of pharmacy-based intervention.* 2002; 27(2):107–10.

Freemantle N and Eastaugh J. *Using effectiveness studies for prescribing research, part 1.* 2002; 27(5):383–9.

Freemantle N and Eastaugh J. *Using effectiveness studies for prescribing research, part 2.* 2002; 27(6):469–73.

Hanssens Y, Deleu D, Al Balushi K, Al Hashar A, and Al-Zakwani I. *Drug utilization pattern of anti-epileptic drugs: a pharmacoepidemiologic study in Oman.* 2002; 27(5):357–64.

Magnus D, Rodgers S, and Avery AJ. *GPs' views on computerized drug interaction alerts: questionnaire survey.* 2002; 27(5):377–82.

Journal of Continuing Education in the Health Professions

Sanders KM and Satyvavolu A. *Improving blood pressure control in diabetes: limitations of a clinical reminder in influencing physician behavior.* 2002; 22(1):23–32.

Tu K and Davis D. *Can we alter physician behavior by educational methods? Lessons learned from studies of the management and follow-up of hypertension.* 2002; 22(1):11–22. [Review.]

Journal of Critical Care

Landry MD and Sibbald WJ. *Changing physician behavior: a review of patient safety in critical care medicine.* 2002; 17(2):138–45. [Review.]

Journal of Evaluation in Clinical Practice

Al Khaja KA, Sequeira RP, Mathur VS, Damanhori AH, and Abdul Wahab AW. *Family physicians' and general practitioners' approaches to drug management of diabetic hypertension in primary care.* 2002; 8(1):19–30.

Pagliari C and Grimshaw J. *Impact of group structure and process on multidisciplinary evidence-based guideline development: an observational study.* 2002; 8(2):145–53.

Journal of Family Practice

Arroll B, Goodyear-Smith F, Thomas DR, and Kerse N. *Delayed antibiotic prescriptions: what are the experiences and attitudes of physicians and patients?* 2002; 51(11):954–9.

Green LA, Gorenflo DW, and Wyszewanski L. *Validating an instrument for selecting interventions to change physician practice patterns: a Michigan Consortium for Family Practice Research study.* 2002; 51(11):938–42.

Lefevre F, Piper M, Weiss K, Mark D, Clark N, and Aronson N. *Do written action plans improve patient outcomes in asthma? An evidence-based analysis.* 2002; 51(10):842–8. [Review.]

Journal of General Internal Medicine

Guterman JJ, Chernof BA, Mares B, Gross-Schulman SG, Gan PG, and Thomas D. *Modifying provider behavior: a low-tech approach to pharmaceutical ordering.* 2002; 17(10):792–6.

Lesar TS. *Prescribing errors involving medication dosage forms.* 2002; 17(8):579–87.

Wang PS, Bohn RL, Knight E, Glynn RJ, Mogun H, and Avorn J. *Noncompliance with antihypertensive medications: the impact of depressive symptoms and psychosocial factors.* 2002; 17(7):504–11.

Journal of Health, Population, & Nutrition

Hyder SM, Persson LA, Chowdhury AM, and Ekstrom EC. *Do side-effects reduce compliance to iron supplementation? A study of daily- and weekly-dose regimens in pregnancy.* 2002; 20(2):175–9.

Journal of Ocular Pharmacology & Therapeutics

Taylor SA, Galbraith SM, and Mills RP. *Causes of non-compliance with drug regimens in glaucoma patients: a qualitative study.* 2002; 18(5):401–9.

Journal of Pediatric Psychology

Bearison DJ, Minian N, and Granowetter L. *Medical management of asthma and folk medicine in a Hispanic community.* 2002; 27(4):385–92.

The Lancet

Henry D and Lexchin J. *The pharmaceutical industry as a medicines provider.* 2002; 360(9345):1590–5. [Review.]

Lopert R, Lang DL, Hill SR, and Henry DA. *Differential pricing of drugs: a role for cost-effectiveness analysis?* 2002; 359(9323):2105–7.

Patel V, Chisholm D, Rabe-Hesketh S, Dias-Saxena F, Andrew G, and Mann A. *Efficacy and cost-effectiveness of drug and psychological treatments for common mental disorders in general health care in Goa, India: a randomised, controlled trial.* 2003; 361(9351):33–9.

Trouiller P, Olliaro P, Torreele E, Orbinski J, Laing R, and Ford N. *Drug development for neglected diseases: a deficient market and a public-health policy failure*. 2002; 359(9324):2188–94. [Review.]

Villanueva P, Peiro S, Librero J, and Pereiro I. *Accuracy of pharmaceutical advertisements in medical journals*. 2003; 361(9351):27–32.

Medical Care

Anis AH, Guh DP, and John Woolcott J. *Lowering generic drug prices: less regulation equals more competition*. 2003; 41(1):135–41.

Cowen ME and Strawderman RL. *Quantifying the physician contribution to managed care pharmacy expenses: a random effects approach*. 2002; 40(8):650–61.

Glassman PA, Simon B, Belperio P, and Lanto A. *Improving recognition of drug interactions: benefits and barriers to using automated drug alerts*. 2002; 40(12):1161–71.

Hazlet TK and Blough DK. *Health services utilization with reference drug pricing of histamine₂ receptor antagonists in British Columbia elderly*. 2002; 40(8):640–9.

Korthuis PT, Asch S, Mancewicz M, Shapiro MF, Mathews WC, Cunningham WE, McCutchan JA, Gifford A, Lee ML, and Bozzette SA. *Measuring medication: do interviews agree with medical record and pharmacy data?* 2002; 40(12):1270–82.

Mott DA and Cline RR. *Exploring generic drug use behavior: the role of prescribers and pharmacists in the opportunity for generic drug use and generic substitution*. 2002; 40(8):662–74.

Schectman JM, Bovbjerg VE, and Voss JD. *Predictors of medication-refill adherence in an indigent rural population*. 2002; 40(12):1294–300.

Neuropsychobiology

Udomratn P and Srisurapanont M. *Impact on Thai psychiatrists of passive dissemination of a clinical practice guideline on prescribing attitudes in treatment-resistant schizophrenia*. 2002; 45(4):186–90.

Nursing Standard

Magwaza S, Cooper D, and Coetzee N. *Improving care for patients with sexually transmitted infections in South Africa*. 2002; 17(8):33–8.

Outcomes Management

Marino BL, Branowicki P, Bennett JA, Houlahan K, O'Neill JB, Dwyer JL, and Billett A. *Evaluating process changes in a pediatric hospital medication system*. 2002; 6(1):10–5.

Paediatric Drugs

Ramgoolam A and Steele R. *Formulations of antibiotics for children in primary care: effects on compliance and efficacy*. 2002; 4(5):323–33. [Review.]

Patient Education & Counseling

Krass I, Svarstad BL, and Bultman D. *Using alternative methodologies for evaluating patient medication leaflets*. 2002; 47(1):29–35.

Pharmacoeconomics

Ess SM, Schneeweiss S, and Szucs TD. *European healthcare policies for controlling drug expenditure*. 2003; 21(2):89–103.

Ioannides-Demos LL, Ibrahim JE, and McNeil JJ. *Reference-based pricing schemes: effect on pharmaceutical expenditure, resource utilisation and health outcomes*. 2002; 20(9):577–91. [Review.]

Pharmacoepidemiology & Drug Safety

Sheen CL, Dillon JF, Bateman DN, Simpson KJ, and MacDonald TM. *Paracetamol pack size restriction: the impact on paracetamol poisoning and the over-the-counter supply of paracetamol, aspirin and ibuprofen*. 2002; 11(4):329–31.

Pharmacotherapy

Empey KM, Rapp RP, and Evans ME. *The effect of an antimicrobial formulary change on hospital resistance patterns*. 2002; 22(1):81–7. [Review.]

Geber J, Parra D, Beckey NP, and Korman L. *Optimizing drug therapy in patients with cardiovascular disease: the impact of pharmacist-managed pharmacotherapy clinics in a primary care setting*. 2002; 22(6):738–47.

Quality and Safety in Health Care

Andersen SE. *Implementing a new drug record system: a qualitative study of difficulties perceived by physicians and nurses*. 2002; 11(1):19–24.

Revista Espanola de Salud Publica

Llanos-Zavalaga F, Mayca Perez J, and Contreras Rios C. *[Characteristics of antibiotic prescription during office visits in the Hospital Cayetano Heredia in Lima, Peru]*. [Spanish]. 2002; 76(3):207–14.

Sante

Bitera R, Alary M, Masse B, Viens P, Lowndes C, Baganizi E, Kamuragiye A, Kane F, Kintin FD, Sylla M, and Zerbo PJ. *[Quality of disease management of sexually transmitted diseases: investigation of care in six countries in West Africa]*. [French]. 2002; 12(2):233–9.

Savadogo LG, Sondo B, Guissou IP, Kouanda S, and Dujardin B. *[Hospital staff use of generic essential drugs: the case of Yalgado Ouedraogo University Hospital Centre (Burkina Faso)]*. [French]. 2002; 12(2):257–62.

Sexually Transmitted Infections

Bista KP, Chaudhary P, Slinger TE, and Khan MH. *The practice of STI treatment among chemists and druggists in Pokhara, Nepal*. 2002; 78(3):223.

Social Science and Medicine

Chakraborty S and Frick K. *Factors influencing private health providers' technical quality of care for acute respiratory infections among under-five children in rural West Bengal, India*. 2002; 55(9):1579–87.

Goldman N, Pebley AR, and Gragnolati M. *Choices about treatment for ARI and diarrhea in rural Guatemala*. 2002; 55(10):1693–1712.

Kasje WN, Timmer JW, Boendermaker PM, and Haaijer-Ruskamp FM. *Dutch GPs' perceptions: the influence of out-of-pocket costs on prescribing*. 2002; 55(9):1571–8.

Mangione-Smith R, Stivers T, Elliott M, McDonald L, and Heritage J. *Online commentary during the physical examination: a communication tool for avoiding inappropriate antibiotic prescribing?* 2003; 56(2):313–20.

Tropical Medicine and International Health

Boelaert M, Le Ray D, and Van der Stuyft P. *How better drugs could change kala-azar control. Lessons from a cost-effectiveness analysis.* 2002; 7(11):955–9.

Chalker J, Chuc NTK, Falkenberg T, and Tomson G. *Private pharmacies in Hanoi, Vietnam: a randomized trial of a 2-year multi-component intervention on knowledge and stated practice regarding ARI, STD and antibiotic/steroid requests.* 2002; 7(9):803–10.

Kamali A, Kinsman J, Nalweyiso N, Mitchell K, Kanyesigye E, Kengeya-Kayondo JF, Carpenter LM, Nunn A, and Whitworth J. *A community randomized controlled trial to investigate impact of improved STD management and behavioural interventions on HIV incidence in rural Masaka, Uganda: trial design, methods and baseline findings.* 2002; 7(12):1053–63.

Kamya MR, Bakyaite NN, Talisuna AO, Were WM, and Staedke SG. *Increasing antimalarial drug resistance in Uganda and revision of the national drug policy.* 2002; 7(12):1031–41.

Newton PN, Chierakul W, Ruangveerayuth R, Abhigantaphand D, Looareesuwan S, and White NJ. *Malaria and amphetamine "horse tablets" in Thailand.* 2003; 8(1):17–8.

Risha PG, Shewiyo D, Msami A, Masuki G, Vergote G, Vervaet C, and Remon JP. *In vitro evaluation of the quality of essential drugs on the Tanzanian market.* 2002; 7(8):701–7.

Stekelenburg J, Kashumba E, and Wolffers I. *Factors contributing to high mortality due to pneumonia among under-fives in Kalabo District, Zambia.* 2002; 7(10):886–93.

Ugeskrift for Laeger

Bonnevie B and Jensen BA. [*Prescribing and dispensing drugs in Denmark. Frequency of and intervention against errors in documentation and dispensing of drugs.*] [Danish]. 2002; 164(40):4656–9. [Review.]

Yakugaku Zasshi [Journal of the Pharmaceutical Society of Japan]

Kawakami J, Mimura Y, Adachi I, and Takeguchi N. [*Application of personal drug (P-drug) seminar to clinical pharmacy education in the graduate school of pharmaceutical sciences.*] [Japanese]. 2002; 122(10):819–29.

INRUD News Available on the Internet

Past issues of *INRUD News* are available on the World Wide Web. In addition to *INRUD News*, the INRUD Web page contains information on INRUD members, activities, and links. Please visit the site at <http://www.msh.org/INRUD>.

INRUD Bibliography

The *INRUD Drug Use Bibliography* is an annotated bibliography of published and unpublished articles, books, reports, and other documents related to drug use, with a special focus on developing countries. It now contains more than 5,000 entries and is updated regularly. Submissions of materials for the database are welcome.

The bibliography is available on disk or via e-mail. Contact inrud@msh.org to receive a copy.

Inside the Back Page

Drug Company Representatives: An Experience in a Kenya Hospital

Ours is a children's hospital serving the East and Central Africa Region. It is a 100-bed hospital with 150–200 outpatient visits per day. It is a not-for-profit health care institution that also offers free health care to those who cannot afford it.

In March 2000, we instituted a system of regulating the visits by company medical representatives (med reps) to our hospital. Rules and regulations for their conduct were written and given to all companies. Each med rep was required to obtain a letter from a senior manager of his or her company, addressed to the hospital Chief Pharmacist, to introduce the company, the rep, and the products that they were interested in marketing in our hospital. The system allowed a maximum of two initial appointments to see outpatient doctors (OPDs), after which the med rep would report back to the Chief Pharmacist for bimonthly renewal. During the renewal visit to the Chief Pharmacist, the med rep's conduct was reviewed and feedback was given.

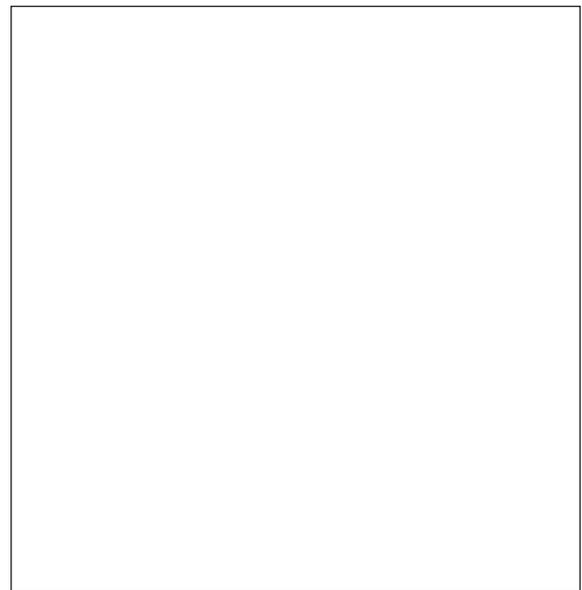
The DTC had earlier come up with a system for drug evaluation and approvals. Med reps were prohibited from marketing products that were not yet approved by the DTC to OPDs. They were, however, free to market to consultant pediatricians and other pediatric specialists who visit the hospital, preferably at their private clinics. The hospital was under no obligation to stock an item on doctors' request until it was evaluated and approved by the DTC.

In late October 2001, a group of multinational pharmaceutical companies requested preferential treatment. The DTC declined. The group then started lobbying through the OPDs but nothing changed.

In May 2002, we ran into problems: The med reps had become too numerous, our prescribing patterns (measured using the WHO Prescribing Indicators) were off the mark, and prescription costs were on the rise. The DTC approved an increase in the stocking levels of quality generics from 20 percent to 60 percent and approved generic substitution. A local tender was advertised in late May and the process was completed in the first week of August.

Medical rep visits to OPDs were suspended in August 2002 to allow for implementation of the changes and a review of the med reps appointment system. Despite adequate communication, the OPDs were up in arms and wanted the med reps back immediately. They felt they were missing out, especially in terms of continuing education and sponsorships. A special DTC meeting was held, and a representative of the OPDs was invited to attend to map out the way forward. We finally settled for an exhibition type of system where each company will be given an opportunity to display its products in a designated area within the hospital each Wednesday and Friday morning for two hours. A monthly timetable will be drawn up giving the company details and date and time of display. This will be circulated to doctors, nurses, and pharmacy and laboratory staff. These staff are free to choose which displays they want to attend. This new system started February 5, 2003. The drug evaluation and approval system still stands.

Watch **Inside the Back Page** for updates on this situation.



Marketing by drug companies can pose a challenge to rational use.

What Is INRUD?

The International Network for Rational Use of Drugs (INRUD) was established in 1989 with the goal of promoting the rational use of pharmaceuticals. Prominent features of INRUD's strategy to achieve this goal include—

- An interdisciplinary focus, linking clinical and social sciences
- Activities originating from country-based core groups of individuals representing ministries of health, universities, nongovernmental organizations, and private-sector institutions
- Belief in the importance of sharing relevant experiences and in technical cooperation among participating individuals
- Emphasis on understanding behavioral aspects of drug use, particularly the beliefs and motivations of providers and consumers
- Promotion of well-designed research studies to understand these behavioral factors, leading to reproducible interventions to improve drug use
- Development of useful tools for research, including standard research methodologies, simplified sampling and data collection strategies, and user-accessible computer software



SUPPORTED BY
THE U.S. AGENCY FOR
INTERNATIONAL DEVELOPMENT

Upcoming Meetings

2003 SEAM Conference	June 16–18, 2003	Dar es Salaam, Tanzania
IUPHAR World Congress on CPT	August 1–6, 2003	Brisbane, Australia
Promoting Rational Drug Use Course	October 20–30, 2003	Nairobi, Kenya
ICIUM 2004	March 30–April 2, 2004	Chiang Mai, Thailand

Africa

Ghana: Dr. David Ofori-Adjei
Centre for Tropical Clinical Pharmacology
University of Ghana
Fax: +233-21-668-219
E-mail: dofori@AfricaOnline.com.gh

Ethiopia: Tenaw Andualem
Addis Ababa
Fax: +251-162-63-10
E-mail: tenawandualem@hotmail.com;
andualemte@yahoo.com

Kenya: Dr. Gilbert Kokwaro
Dept. of Pharmaceutics
University of Nairobi
Fax: +011-254-2-711673
E-mail: GKokwaro@wtairobi.mimcom.net

Nigeria: Prof. Biola Mabadeje
E-mail: biolamab@linkserve.com.ng
Mr. I. A. Oreagba
Dept. of Pharmacology
University of Lagos
Fax: +234-1-584-9582
E-mail: oreagbai@lycos.com

Tanzania: Dr. Amos Massele
Dept. of Clinical Pharmacology
Muhimbili Medical Center
Fax: +255-51-151596
E-mail: hdcph@muchs.ac.tz

Uganda: Prof. Willy Anokbonggo
Dept. of Pharmacology and Therapeutics
Makerere University
Fax: +256-41-532-947
E-mail: anokbonggo@uga.healthnet.org

Zimbabwe: Dr. C. E. (Rati) Ndhlovu
Directorate of Pharmacy Services
Ministry of Health and Child Welfare
Fax: +263-4-730-970 or +263-4-795-353
E-mail: cndhlovu@healthnet.zw

Asia

Bangladesh: Prof. Azad Chowdhury
Faculty of Pharmacy
University of Dhaka
Fax: +880-2-865-583
E-mail: duregstr@bangla.net

India: Dr. R. Murali
Tamil Nadu AIDS Control Society
Fax: +91-44-4983298
E-mail: girijaa@md3.vsnl.net.in

India: Dr. Usha Gupta
Maulana Azad Medical College
Fax: +91-11-3235574
E-mail: usha_gupta2@yahoo.com

Indonesia: Dr. Sri Suryawati
Centre for Clinical Pharmacology
and Drug Policy Studies
Gadjah Mada University
Fax: +62-274-563-596
E-mail: suryawati@yogyawa.santara.net.id

Nepal: Prof. Kumud K. Kafle
Dept. of Clinical Pharmacology
Tribhuvan University Teaching Hospital
Fax: +977-1-228496
E-mail: inrud@healthnet.org.np

Philippines: Dr. Roberto A. Rosadia
Integrated Family Planning & Maternal Health Program
Management Sciences for Health
Fax: +632-525-6086
E-mail: rrosadia@msh.org.ph

Thailand: Dr. Chitr Sitthi-amorn
College of Public Health
Chulalongkorn University
Fax: +662-255-6046
E-mail: chitr@md2.md.chula.ac.th

Australia

University of Newcastle:
Dr. David Henry
Discipline of Clinical Pharmacology
Faculty of Medicine
Fax: +61-49-236148
E-mail: mddah@mail.newcastle.edu.au

Europe

Karolinska Institute: Dr. Göran Tomson
Division of International Health
Dept. of Public Health Sciences
Stockholm, Sweden
Fax: +46-8-311-590
E-mail: Goran.Tomson@phs.ki.se

EDM: Dr. Kathy Holloway
World Health Organization
Geneva, Switzerland
Fax: +41-22-791-4167
E-mail: hollowayk@who.ch

Latin America

Peru: Dr. Raúl Cruzado Ubillús
Seguro Integral de Salud—Ministerio de Salud
Fax: +51-01-387-9244
E-mail: rcruzadou@usis.minsa.gob.pe

North America

Drug Policy Group: Dr. Dennis Ross-Degnan
Ambulatory Care & Prevention, DACP/HMS
Boston, MA, USA
Fax: +617-859-8112
E-mail: drossdeg@hms.harvard.edu

INRUD Secretariat: Dr. John Chalker
Management Sciences for Health
Arlington, VA, USA
Fax: +703-524-7898
E-mail: inrud@msh.org