

## WORLD CONGRESS OF PHARMACY AND PHARMACEUTICAL SCIENCES

# How to ensure patient safety in drug use

*and on medicines in children*

**M**edications safety is a multidisciplinary issue involving pharmacists, doctors, nurses, health systems managers and patients. With these words, Dr Jim Smith, Chief Pharmaceutical Officer for England, set the scene for a pharmacy practice symposium entitled "Ensuring patient safety in drug use" on 4 September.

Dr Smith added that the prescription is the most common clinical intervention offered to patients and the scope for both clinical benefit and harm is great.

Ton Hoek (FIP general secretary, the Netherlands) explained how pharmacists could become involved in improving patient care in the medicines use process and thereby enhancing patient safety. First, commitment to lifelong learning provides an excellent basis for continual improvement. Secondly, improvements in professional practice can also be initiated through assessment of current practice. Self-assessment surveys, such as the national survey of pharmacy practice in hospital carried out by the American Society of Health-Systems Pharmacy and the medication safety self-assessment of the Institute for Safe Medication Practices, provide a general assessment of the quality of services and medicines use systems. Such surveys have identified areas and pharmacist activities in the United States that have improved the safety of medicines use. These include safe medicines storage and preparation, and screening all orders for drug interactions and allergies. Third, pharmacists need to ensure that all medicines are obtained from reputable sources and should be vigilant in identifying abnormalities in both packaging and the effects of medicines.

Mr Hoek went on to say that errors and adverse events could be reduced by various strategies. These include the establishment of standard operating procedures for prescription receipt and dispensing, and standard treatment policies and protocols to avoid confusion and reliance on memory. A second person should check the label on a medicine before it is dispensed. Trials in the US have found that bar codes on medicines for validation of medicines administration have been successful in improving dispens-

*Our coverage of the Congress of the International Pharmaceutical Federation (FIP), which took place last week in Nice, France, continues with reports from sessions on ensuring patient safety, on the role of technicians and automation in patient safety, on improving access to essential medicines in developing countries*



ing efficiency and patient safety. Pharmacists should also be involved in patient medication reviews and medical rounds to ensure that patients receive the best therapy. It is also important to design procedures to make errors visible when they do occur so that they can be corrected before they cause harm (eg, pharmacists checking doctors' prescriptions before medicines are given). Systems should be in place to lessen the effects of errors when they are not detected (eg, antidotes for potentially dangerous drugs to be available to hand).

Pharmacists also have an important role in following up patients on medication (especially those on newly licensed medicines) to identify any adverse events and report these to the appropriate authorities. "Overall, pharmacists who strive to communicate effectively with patients and other health professionals who provide information and education could gain increased awareness of the patient's use or non-use of their medicines and hence of potential problems, thereby helping the patient to manage their medical condition safely and effectively," he concluded.

Dr Andrei Isaakov (World Health Organization, Switzerland) emphasised that patient safety was high on WHO's agenda. In attempting to define patient safety, he said that the safest health care environment is one where clinical care is measured and managed and the desired clinical outcome is achieved. In his view, patient safety could be defined as freedom from accidental injury, the prevention of harm and the avoidance of adverse outcomes that could result from health care rendered to the patient. However, there is no commonly agreed definition for errors in health care, and this lack of standardisation of definition and terminology made interpretation of the literature difficult. "What is clear, however, is that most

errors are due to system failure rather than individual failure," he said.

Although faults in the system can never be totally eliminated, there is a need to build organisations that are as safe as they can be. This means an emphasis on proactive risk assessment, openness and transparency, the need to learn from incidents and strategies to improve teamwork. "It is also important to focus on fixing systems not blaming people," he concluded.

Dr Delon Human (secretary general of the World Medical Association, France) supported the idea that system failure is responsible for medical errors. Individuals are rarely responsible, apart from a few obvious instances such as Harold Shipman and those in the paediatric heart surgery cases in Bristol. "What usually happens is that separate elements combine, together producing a high-risk situation. It is therefore important to create a non-punitive culture for reporting health care errors where the emphasis is on preventing and correcting system failures and not on individual or organisation's culpability," Dr Human said.

## BAD SYSTEMS, NOT BAD PEOPLE

Concurring with this diagnosis, Judith Oulton (chief executive officer, International Council of Nurses, Switzerland) said that most errors occur not because people are reckless or lack training, but because organisational systems are not designed to prevent them. One US study had found that 75 per cent of adverse drug events are attributable to system failures, although other studies had shown that 50 per cent of medication errors were preventable. "It isn't a problem of bad people, but of bad systems," she said.

From a nursing perspective, system problems that allow such errors include lack of education and training, lack of quality assurance systems, lack of access to clean water and adequate supplies, and poor staffing levels.

Another issue for nurses is lack of drug information at the point of drug administration. "A nurse should not have to guess, for example, whether 20mg is the right dose of a newly released antibiotic for the woman in room 112," said Ms Oulton. Given the number of medicines, both prescribed and over-the-counter, marketed each year, and the growth in complementary medicines, there is a serious need for good references. The use of palm computers on wards is one solution.

She went on to say that improving the safety of medicines use requires a system wide effort from all players — politicians, policy makers, health care providers,



**Ton Hoek: strategies to reduce errors and adverse events**

patients and the public in general. Effective communication and collaboration are vital to ensure that appropriate regulation, policy and resources (including staff) are present. If communication between the nurse, pharmacist and doctor is poor, it is inevitable that opportunities for errors will increase. In addition, more attention needs to be paid to what the patient is saying, she emphasised.

Albert van der Zeijden (the Netherlands) discussed the role of the patient in ensuring patient safety. "Patient-centred health care" is a current buzz phrase, but unfortunately words are not facts, he said. True, health care systems are moving in this

direction. Systems where health professionals are responsible for the well being of their clients are changing into systems where clients are responsible for their own choices and health professionals are responsible for the quality of their advice. But there is still some way to go, he added.

#### BETTER COMMUNICATION NEEDED

Despite patients rights legislation, most patients cannot make fully informed choices about their health care. To achieve this, there is a need for better communication between health professionals and patients. Commu-

nication requires time, but also common ground, which means that patients have to be sufficiently informed — before seeing a health professional — to be able to articulate their concerns. Doctors are not the only valid source of health information, and, in relation to medicines, the pharmacist should be the main supplier of information. However, pharmacists, like other health care professionals, should remember that the needs of the patient should guide communication with patients, not the pharmacist's expectation about what is in the patient's interest. — *Contributed by Pamela Mason.*

## Can dispensing technicians and automation help ensure patients safety?

Pharmacists play a vital role in patient safety, but in many countries of the world, including the United Kingdom, there is a shortage of pharmacists. Pharmacists, therefore, need help to create an environment that will enhance the safety of medicines use. Speakers at a pharmacy practice symposium entitled "Pharmacists, technicians and machines" on 3 September discussed the role of dispensing technicians and automation in helping to ensure patient safety.

According to Lisa Lifshin, of the American Society of Health-System Pharmacists, Bethesda, Maryland, United States, well trained pharmacy technicians can complete tasks which do not necessarily require the knowledge and judgement of a pharmacist and by enhancing safe medication use, they can help to promote the safest productive environment, while freeing the pharmacist to provide better clinical care for patients.

To do this, however, technicians have to be well trained by means of properly accredited training programmes. In the US, the ASHP is the only organisation to accredit technician-training programmes. Accreditation is still a voluntary process, and there are, therefore, inconsistencies in the quality of training.

For a training programme to be accredited it has to reach certain standards in relation to the training site, the programme itself and the teachers, and is subject to regular review by the ASHP. The training is rigorous and has to include didactic, experiential and laboratory experience and be of at least 600 hours duration. During the past five years the number of accredited programmes has doubled to 90, but to ensure enough technicians, many more programmes will need to be accredited in the near future, said Ms Lifshin.

Registration of technicians is also an issue, she said. In the US, it is patchy, with some states requiring technicians to be registered and some not.

Dr Han de Gier, of Health Base Foundation, Houten, the Netherlands, discussed the potential influence of computerised decision support systems on pharmaceutical care,

including medication safety. Most computerised systems in pharmacies enable the processing and management of information (eg, input of data from prescriptions). However, decision support is frequently lacking.

Pharmacy decision support systems can be defined as software that integrates information on the characteristics of individual patients with a computerised knowledge base for the purpose of generating patient-specific assessments or recommendations designed to help a pharmacist or patient make health and medication-related decisions. Such systems should help not only with decisions related to dispensing but also to pharmaceutical care and should allow for efficient collaboration between pharmacists and medical practitioners.

This type of system is available in the Netherlands and is in use in about one third of Dutch pharmacies, said Mr de Gier. No studies have yet been published on the effectiveness of the Dutch system in relation to pharmaceutical care. However, studies looking at systems in other countries have generally concluded that evidence of effectiveness is limited, but this can largely be due to the differences in system features and the difficulties in comparing them.

Uncertainty exists as to the features required for a computerised decision support system to optimise pharmaceutical care, and the benefits of such systems can be realised only if the knowledge base on the software is standardised and based on good quality evidence. Consensus on standards (eg, categories of drug therapy problems) is essential and a great deal of further research is needed to evaluate decision support systems, he concluded.

Professor Harold Godwin, director of pharmacy, University of Kansas, US, described various automated systems used in US pharmacies. Increased use of both automation and technicians could help to relieve the growing pressure on pharmacists and reduce medication errors.

Automated dispensing systems include compounders for intravenous fluids, packaging and dispensing carts (including machines for unit dose packaging) and

robotic dispensers. The most exciting development, however, is technology that automates patient drug administration by use of a bar code on the medicine. The bar code is scanned using a portable scanner and can be used to check not only the identity of the medicine but also the identity of the patient. It charts administration and ensures that the patient receives the right drug in the right dose at the right time.

In the US, automated systems have been more eagerly embraced by hospital pharmacists than by those in the community, but robotic technology is now being used in community pharmacies, too. Automated systems improve dispensing accuracy, reduce medication errors and cost, allow for better utilisation of the workforce and provide opportunities for expanding the scope and level of pharmaceutical care, he concluded.

#### DEVELOPMENTS IN MOLECULAR BIOLOGY

The final speaker, Daan Crommelin, of the Netherlands, discussed some of the latest developments in molecular biology which are enabling progression towards increasingly sophisticated drug delivery systems. Up until now delivery systems have been relatively simple, targeting organs and body systems, but the next step is to target cells, and possibly the cell nucleus as well. This involves what is known as nanotechnology.

Liposomes have been studied as drug delivery systems for the past 10 years, and although they have the ability to target cells, distinguishing, for example, between cancer and non-cancer cells, the technology is not yet available to use liposomes as drug delivery systems in practice. Comparing the liposome to a submarine, Mr Crommelin explained that research on liposome-entrapped diphtheria toxin A has progressed to identifying a "docking" facility (ie, a hydrophilic coating for the liposome) and a "homing device" (an antibody). What is still needed, however, is an "engine" to push the liposome into the cell. Researchers at Cornell University (US) are working on this. — *Contributed by Pamela Mason.*

# What do children know and want to know about their medicines?

A congress session, presented by FIP's pharmacy information section on 4 September looked at how to develop and evaluate medicines education programmes and materials for children and adolescents.

The first speaker, Françoise Pradel, assistant professor at University of Maryland School of Pharmacy, introduced her talk by explaining that children are eager to learn about medicines. They receive daily messages about them from television, radio, magazines and their parents, and, of course, children take medicines themselves. In the United States, where there is direct-to-consumer advertising, sometimes the messages do not meet children's information needs. Professor Pradel said that pharmacists have an important role to play.

"Children," she said, "present us with many challenges. They are not small adults; their views about health and illness vary with their level of cognitive development and the complexity of children's thinking increases with age. This should determine how we present information to children."

Professor Pradel referred to a study in which children had been asked what causes asthma. A young child had said "you get sick a lot and you have to go to hospital" whereas an older child said "asthma is caused by a tightening of the ligaments around the bronchi which causes air to get caught in the lungs". That illustrates how we must adapt our messages for each age, she said.

Professor Pradel's work has shown that young children describe medicines in terms of colours. Children had said: "I take my puffer, it is white, I take it in the morning" and "I took the blue puffer, I didn't take the white one". Older children, she said, tend to know both the generic and brand names of their medicines.

Professor Pradel explained that the implications of this are that information materials should be designed to meet children's age and educational level. A good place to start is with the US Pharmacopoeia guide to developing medical information and materials for adolescents, which pharmacists can view at [www.usp.org/information/uspprograms/children](http://www.usp.org/information/uspprograms/children).

We must, she said, avoid medical jargon and only introduce medical and technical terms progressively. We should provide complete explanations of meanings of terms in language that is used by young children. For older children more complex information may be provided. There should be a good mixture of text and illustrations. Older children can have more text whereas younger children need mainly illustrations. The reading level for materials for older adolescents and also in fact for adults, she said, should be aimed to be for 13-year-olds. Younger children need words with fewer syllables and shorter sentences. Young chil-

dren can deal with around two or three messages and older children seven to 14 messages.

"Children," Professor Pradel continued, "are very interested in why people take medicines. We should address some key behaviours, like training children about reading the label on a medicine or getting an adult to read it for them to make sure they follow all the instructions."

It is also important, she said, in asthma for example, that children understand the difference between relievers and preventers. The USP guidelines have a useful list of key behaviours by age. We also need, she said, to address misconceptions: for example, the difference between street drugs and medicines.

Professor Pradel concluded by saying that we can also use these guidelines to evaluate existing materials.

Irina Kazarian, head of pharmacy at the National Institute for Health in Armenia, told the section about a survey she had carried out about what children know, do and want to know about medicines. Most children, she said, knew what a medicine was and what it was for. They also tended to

know that medicines could be both helpful and harmful. Knowledge about medicines, she explained was related to income, education and health status of the family members and the child.

Patricia Bush, former professor at Georgetown medical school, US, described four studies about children and medicines that had been carried out in the US, Nepal, Malaysia and Armenia. Unfortunately, there had not been a co-ordinated approach and different methodologies had been used in different countries. In broad terms, the studies had found that children have considerable autonomy in medicine taking and that they are currently ill-informed and want more information about medicines.

The final speaker, Marja Airakinen, University of Kupio, Finland, explained that pharmacists and pharmacy students need more communication skills training. She called for an integrated curriculum that addresses theory and practice. She suggested that children were used as standardised patients and that pharmacists could also use techniques from sociodrama to help children learn about medicines. — *Contributed by Claire Anderson.*

## Military and emergency pharmacists make excellent co-ordinators in relief operations

Military and emergency pharmacists make excellent co-ordinators in disaster relief programmes, Colonel Robert Van Damme, pharmaceutical inspector, Belgian Armed Forces, told the congress during a pharmacy practice symposium on 3 September.

The reason is that they are used to working with the medical and logistical side of an organisation. "Understanding both areas and being particular about about detail means we are good at problem solving in this regards," said Colonel Van Damme, adding that pharmacy, as a cross science between biology, chemistry and medicine is a good basis for making its graduates able to cope with medical logistics as well as hygiene measures.

Military and emergency pharmacists act as medication managers, supervise the field or emergency pharmacy and act as medical supply supervisors. Their skills therefore need to

encompass: an ability to make therapeutic modifications; a knowledge of supply mechanisms and sources; a knowledge sufficient to act as a drug information source; an ability to perform supply management and organisation; patient and clinical contact skills; an ability to advise on environmental and food hygiene and vector control; and a basic knowledge of clinical biology.

Colonel Van Damme told the congress that normal medical and pharmaceutical practice is not always possible in relief operations in disaster areas. In such cases the ordering of priorities is paramount and hygiene measures may

prove to be much more important than proper curative medicine. "The patient's safety should be the prime goal," he said. "All health workers should therefore try to comply as well as possible with internationally accepted quality standards." Every patient is entitled to the best possible help, he concluded.



*Robert Van Damme: patient's safety is prime goal*

# Ways of improving access to essential medicines in developing countries

One third of the world's population lacks access to essential medicines. In the poorest parts of Africa and Asia, this figure rises to one half. Ninety-five per cent of tuberculosis cases and 98 per cent of TB deaths occur in poor countries. World-wide, 79 per cent of people with TB do not have access to treatment. There are 300 to 500 million new cases of malaria each year, of which one to two million result in death. Ninety-five per cent of the 36 million people with HIV/AIDS live in developing countries. Research and development into diseases that affect the poor has stagnated because of the lack of economic incentives. The last major new TB drug was developed 30 years ago. Resistance to all infectious disease treatments is on the rise.

Many developing countries have pharmacy regulatory systems staffed with well-trained individuals that are unable to operate due to lack of resources, corruption or ineffective laws. Some countries are unable to stop the flow of counterfeit drugs despite possessing the appropriate technical knowledge and equipment to do so and others do not have the resources to test new drugs that come on to the market to ensure their quality. In many instances, countries do not have the drug management infrastructure and resources effectively and efficiently to procure, process and distribute medicines. Where systems do exist to ensure delivery of medicines, the lack of resources often limits the extent to which patients can afford treatment.

It was against that background that the Pharmacy Information Section of FIP and the World Health Organization jointly presented a symposium on 5 September entitled "Access and equity: the challenge of getting medicines to the people who need them".

Opening the symposium, David Lee, Centre for Pharmaceutical Management, Management Sciences for Health, Panama and United States, told the congress that access to medicines is a multidimensional concept. Dimensions of access include the medicine's geographic accessibility, availability, affordability and acceptability.

Mr Lee explained these terms. Geographic accessibility refers to the relationship between the location of the product or service and the location of the eventual user. Availability is the relationship between the type of product or service needed and the type and quantity of the product or service provided locally. Affordability is the rela-

tionship between the price of the product or service and the user's ability to pay for it. And acceptability is the fit between the user's attitudes and expectations about the product or service and its actual characteristics.

Improving access to medicines means increasing all four of these factors. "But if the quality or effectiveness of the medicines



*Hans Hogerzeil: irrational drug use remains a widespread hazard to health*



*Rafaella Ravinetto: about one third of the world's population lacks access to essential medicines*

is low," said Mr Lee, "then all this is meaningless."

The second speaker outlined the World Health Organization's Essential Drugs Programme. Hans Hogerzeil, base at the WHO in Switzerland, said that the EDP, which is now in its 25th year, could point to several achievements relating to improved access to and use of essential medicines:

- 1 National drug policies are being introduced at a growing pace in every region of the world
- 1 The essential drugs concept is nearly universal
- 1 Treatment guidelines and formulary manuals have put the essential drugs concept into clinical practice
- 1 Training in rational prescribing has expanded in universities throughout the world
- 1 The number of people with access to essential drugs has nearly doubled in the past 20 years

Elaborating on that last point, Mr Hogerzeil pointed out that at the same time, the world's population has increased and the actual number of people with no access to essential drugs has remained the same. "This shows that the poor have remained poor," he said.

However, at the same time, much remains to be done. Substandard drugs are common. (For example, analysis has shown that some 60 per cent of drugs available in

developing countries have no active ingredient at all.) Irrational drug use remains a widespread hazard to health. He said that half of all countries have no regulation of drug promotion. Half of 15 billion injections given in developing countries are not sterile. Finally up to 75 per cent of antibiotic use is inappropriate and this is a huge problem for resistance in the long run — and that was in teaching hospitals. Finance, delivery and other constraints still limited access to essential drugs.

"These concerns, coupled with the fact that new essential medicines are expensive, reinforce the importance of ongoing and concerted actions being taken in relation to enhancing access to and use of pharmaceuticals," said Mr Hogerzeil.

As an example he mentioned that the cheapest antiretroviral treatment cost \$300 to \$600 per patient per year. But 38 countries have a drug budget of less than \$2 per person per year. "This is a huge problem for AIDS treatment," he said. Another

example was that Malarone treatment for malaria was some 400 times more expensive than chloroquine.

He went on to outline some promising developments:

- 1 An access framework has been identified and work continues on the development of reliable indicators for measuring access
- 1 The increased availability of price information promotes transparency and competition
- 1 Advocacy, corporate responsiveness and competition have reduced the price of antiretroviral drugs by 95 per cent in three years
- 1 There is an increased number of drug financing options with an increasing number of countries having some form of drug benefits as part of health insurance
- 1 There are a number of successful experiences with local supply systems and regional bulk buying

"The essential drugs concept is more valid than ever, and the unfinished agenda is large," Mr Hogerzeil concluded.

Rafaella Ravinetto (Médecins Sans Frontières Campaign for Essential Medicines, Switzerland) discussed the impact of patents and prices on access to treatment in developing countries. She said that, currently, about one third of the world's population lacks access to essential medicines. One of

the major reasons for this is their high prices, which are often related to patents. For instance, gross national income in Burkino Faso is about \$210 per person per year and antiretroviral treatment costs much more than that.

Another major reason is that few new drugs are being developed to tackle the diseases of developing countries and some existing and new drugs are simply too expensive.

Ms Ravinetto pointed out that of nearly 1,400 new chemical entities examined between 1975 and 1999, only 16 were for tropical disease. Five of these had been discovered through veterinary research and four through United States army research. One was a traditional Chinese medicine and two were reformulations of older medicines.

#### EQUITY PRICING

Ms Ravinetto believed that financial considerations should not limit appropriate use of essential drugs and suggested that a solution may be equity pricing.

"Equity pricing is the policy of dramatically reducing drugs prices so that the become truly affordable to people in need," she explained, adding that it can be achieved through a combination of strategies:

- 1 Agreeing on a clear and standardised international guideline for differential prices offered by companies to developing countries
- 1 Increasing competition on the world pharmaceuticals market by including generic products
- 1 Raising awareness of TRIPS (Trade Related Aspects of Intellectual Property Rights, see [www.wto.org](http://www.wto.org)) safeguards and ensuring their full implementation according to the principles of the Doha Declaration (which, in November 2001, reasserted the primacy of public health interest over market-driven interests)
- 1 Implementing a global or regional procurement and distribution system to support countries in need of external technical support
- 1 Encouraging and strengthening local production by means of licensing agreements and technology transfer

Equitable access to medicines can be achieved, Ms Ravinetto declared, but political willingness is needed to put lives before profit.

The subject of drug donations was raised by Serge Barbereau, Réseau Médicaments et Développement (ReMeD), France. Could donations contribute to improved access? He said that reports have shown that the role of drug donations in this regard is not positive. In many instances the donation of medicine has become reflex, with the media often defining the need and creating an atmosphere that contributes to making people in developed countries feel guilty. "Although this is not necessarily bad, since there is a need to increase awareness about problems relating to lack of access, there is a danger that this approach will result in do-

nations that are made quickly, without much thought, and based on what is available for donation — or surplus to requirements — as opposed to what is really needed," he said.

He outlined some of the many problems with drug donations:

- 1 Provision of outdated medicines or providing excessive amounts of a medicine that will become outdated before it can be used
- 1 Provision of drug samples
- 1 Provision of medicines not matching a country's needs or not on the WHO's or a country's essential drugs list
- 1 Donation of drugs to countries or institutions that do not have adequate storage or distribution capacities
- 1 Inappropriate valuation of the donation — often the value is defined by the donor country and not by the recipient country

Another problem is that, just like all donations, the donation of drugs creates a dependence of the recipient on the donor.

Mr Barbereau concluded by saying that it is necessary to educate health care professionals and the general public about donation programmes, and to enhance these by basing them on appropriate pharmaceutical needs evaluation, awareness of essential medicines, advice of pharmacists and appropriate pharmaceutical care principles.

#### PROFESSIONAL AND POLITICAL ISSUE

The final speaker was John Bell, president of the Commonwealth Pharmaceutical Association. Mr Bell, who is a community pharmacist in Australia, said that the issue of access to medicines has become a highly significant issue both professionally and politically, having been for some time a major topic of discussion within WHO and at other non-

government forums. He believed that the profession of pharmacy is ignoring the fact that many of the impediments to access are technical barriers which have already been overcome in developed countries. These barriers included counterfeit medicines, ineffective distribution systems, non-existent or corrupt regulatory procedures, absence of rational drug use strategies and a lack of pharmacovigilance. "National pharmacy organisations and individual pharmacists have an important role in identifying and helping to break down these access barriers," he said.

Major impediments to progress are that there are too few pharmacists in developing countries who are inadequately trained and who are insufficiently recognised by their governments, non-governmental organisations and other health providers.

Mr Bell suggested solutions to these problems. He said there should be proper workforce planning and better working conditions by way of remuneration and provision of ongoing continuing professional development, which currently is often not available.

Recognition could be increased by establishing collaborative projects and activities involving local pharmaceutical societies, the government and the industry and by gaining representation on government committees. The training issue could be helped by assisting poor countries to develop their pharmacy undergraduate curricula so that pharmacists would have the skills to manage drug supply. The provision of distance learning courses would also be helpful.

Both FIP and the CAP have a role to play in this, Mr Bell said. They could assist with education and training, foster young pharmacists and help to strengthen local pharmacy organisations. "Collaboration with developing countries is crucial," he concluded.

## World Health Organization launches model formulary

The World Health Organization launched its model formulary during the International Pharmaceutical Federation Congress at a special media briefing on 3 September. The formulary is the first publication to give comprehensive information on all 325 medicines contained in the WHO Model List of Essential Drugs.

The formulary presents information on the recommended use, dosage, adverse effects, contraindications and warnings associated with these medicines. WHO says that it is primarily intended as a model for national governments and institutions, to be used as a basis for developing their own national formularies. In particular, it is intended to be of benefit to developing countries, where commercial and promotional materials are often the only source of drug information available to health workers, prescribers and patients.

As Dr Hans Hogerzeil, from the essential drugs and medicines policy department at WHO, explained: "Developing countries do not always have access to unbiased information about medicines. The formulary aims to address that problem and provide a service based solely on scientific evidence."

Speaking at the launch, Dinesh Mehta, executive editor of the British National Formulary and a joint editor of the WHO formulary said: "A nationally supported and nationally adapted WHO model formulary can help achieve uniformly high standards of drug therapy."

Copies of the formulary are available from Maryvonne Grisetti at WHO on +41 22 791 24 81 (e-mail [grisettim@who.int](mailto:grisettim@who.int)) at the price of SFr40 (SFr28 for developing countries) and it is intended that it will soon be made available on the internet at [www.who.int/medicines](http://www.who.int/medicines). A CD-ROM version is in preparation.