FIP 2011: compromising safety and quality is a risky path
Buchman said. He reported that FIP officers make, innovators and collaborators, Dr Buchman as experts, decisions of medicines, he said.

always have input into decisions about the use of medicines around the world, on good pharmacy practice to strengthen the World Health Organization approved joint guidelines. The time is ripe to use the FIP and World Health Organization for best health.

FIP has the “fighting spirit” to step up and profile pharmacists as experts, decisions makers, innovators and collaborators, Dr Buchman said. He reported that FIP officers from community and hospital practice, active in regulatory bodies, in the military, in drug information centres, in biological laboratories, in research and innovation fields, in academic institutions and in industry are working diligently with key partners to implement its strategic plan at a global level.

There is significant evidence that when professionals work together costs are reduced and quality increases, Dr Buchman said. He encouraged FIP members to take a leading role in collaboration because it can have an important sustained impact over time, in a global economy where budgets cannot expand at the rate needed to pay for all healthcare activities. “Collaboration is key to allowing the payer to reap the benefit of the development of patient-centred care,” he said.

For example, for the first time in Africa and in Central America, multi-professional workshops on counterfeit medicinal products were held in 2010, followed by Asia this year. Through these meetings, strategies to fight counterfeits and improve patient awareness and safety were discussed. He reported that it was clear to all that the fight against counterfeit medicines can only be won if there is close collaboration among health professionals, scientists, civil society, regulators, police, customs and manufacturers.

The time is ripe to use the FIP and World Health Organization approved joint guidelines on good pharmacy practice to strengthen pharmacy practice around the world, supporting the case that pharmacists should always have input into decisions about the use of medicines, he said.

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Coming crisis
Turning to the issue of non-communicable diseases (NCDs), Dr Buchman said that their growth no longer affects only the western world and that the “coming crisis” is so important that the United Nations had convened a high level summit on NCDs later in the month (19–20 September 2011) and that FIP had been active in the preparatory meetings. He called for health professionals to work together in managing chronically ill patients. “We need to ensure that citizens in all countries have access to well conducted prevention campaigns and access to medicines to treat chronic NCDs,” he said.

It is estimated that the four main NCDs — cardiovascular disease, cancer, chronic lung diseases and diabetes — kill three in five people worldwide.

Indian president: pharmacy important to health

HOW to achieve access to healthcare and essential good quality medicines for all, at a reasonable cost, must be an essential part of any discussion on pharmaceutical sciences. So said Pratibha Patil, President of India, at the congress opening ceremony. She called for developed countries to work closely with developing countries in addressing healthcare issues and sharing expertise and experiences.

President Patil acknowledged that around 50 per cent of medicines worldwide are prescribed, dispensed or sold inappropriately and that 50 per cent of patients fail to take them correctly, resulting in complications. “Measures to improve the rational use of medicines bring into play the role of pharmacy professionals, whose role in recent years has evolved,” she said. As new medicines and new routes of administration are introduced, patients need much counselling on how to take medicines safely.

“Pharmacy is an important component of the multidisciplinary healthcare sector,” she said. But traditional medicines should not be dismissed: “I believe that we should draw on the rich resource of our indigenous knowledge of medicine [Ayurveda] and reach out to those who have effective remedies but are hesitant to disclose them, and bring these into broader usage,” she said.

The Pharmaceutical Journal
THE valuable part pharmacists can play in curbing the tuberculosis epidemic was formally recognised in a joint International Pharmaceutical Federation and World Health Organization statement signed at the congress (available at www.fip.org).

Speaking at a press briefing, assistant director-general of the WHO Hiroki Nakatani said that although TB is in decline, this success was in some danger because of drug resistance developing from the under- and over-use of antitubercular medicines. He explained that pharmacists can help the fight against TB through a number of measures, which include being aware of the disease and referring people with symptoms, and promoting adherence to treatment.

Ton Hoek, FIP chief executive officer, said the initiative makes clear the role pharmacists can play in helping patients adhere to their medication, for example, by providing them with the correct information. He added that pharmacy has to move away from being reimbursed for product sales and a profit margin system. Rather, pharmacists should be paid for the services that are delivered: “Pharmacists are under-utilised. They are medicines experts. It doesn’t take a university degree to shift a box over the counter.”

FIP president Michel Buchman called the joint statement a “positive step”, adding that a single health profession cannot provide a solution to the TB epidemic, and that doctors, nurses and pharmacists should work together, in a sustainable manner, without competition. Each year, there are over nine million new cases of TB, with half a million being multi-drug resistant. Cases of extensively drug-resistant TB have been seen in 58 countries.

Eastern Europe has the highest incidence of multi-drug resistant TB. Paul Nunn, co-ordinator of the WHO stop TB department, said that it is not known why this is the case, but the problem is probably related to drug quality and past economic crises. He gave an example from the former Soviet Union where prison supplies were cut and one person’s drugs were shared between two. Such situations were a “recipe for creating drug resistance”, he said.

The joint statement, entitled “Engaging pharmacists in TB care and control”, also encourages national TB programmes and pharmacy associations to work together to maintain a continuous dialogue with healthcare providers to rationalise and strengthen their TB management practices.
Canada
Pharmacists support maternal health by treating women for morning sickness
In Québec, Canada, pharmacists are providing treatment for nausea and vomiting in pregnant women under a “collective order” (a prescription that is valid for a group of patients under the care of a physician), improving access to care.
The treatment, a combination of doxylamine 10mg and pyridoxine 10mg, can be given by community pharmacists during the first trimester of pregnancy. Diane Lamarre, associate professor of clinical pharmacy at the University of Montreal and president of the Ordre des pharmaciens du Québec, explained that pharmacists can give 30 tablets, to be taken as a regimen of one in the morning, one in the afternoon and two at bedtime, and supply can be repeated up to the 14th week of pregnancy. The supply protocol includes criteria for referral.
Each pharmacy has a poster to inform patients of the new service but women are also telling their friends, Professor Lamarre said.
The service is part of a wider role for pharmacists to support maternal health, which includes nicotine replacement therapy and vitamin and folic acid supplementation under a collective prescription. “Pharmacists are the first healthcare professionals who see women as soon as they stop or even plan to stop contraception,” she pointed out.
The Canadian collective prescription system is being used to develop other services for women, including treatment of cracked nipples during breastfeeding, with an ointment containing mupirocin, betamethasone and miconazole, treatment of gonorrhoea and the supply of hormonal contraceptives.
Feedback on the service is expected in a year.

France
One in three over 60s opts for records to be shared between pharmacies
Over 20,000 (90 per cent) French community pharmacies are now connected by a shared pharmaceutical record (“dossiers pharmaceutique”); DP), Isabelle Adenot, president of the Ordre National des Pharmaciens, reported. She described the latest developments since the system was conceived in 2005.

Pharmacy practice around the world
Participants heard about pharmacy developments from around the world

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A second development was the extension of DP to hospitals. “Today, hospital practitioners and community pharmacists are strangers to each other. Sharing the DP was experimented in four hospitals for nine months, with staff, including doctors in casualty and anaesthetists, keen to use the system,” she said.
We believe that DP might [in future] be used for other purposes too, for example, to detect trends in data, and so serving public health in a different way, she said. DP could also be used as a vaccination record, and could contribute to pharmacovigilance. It might also be possible to see which patients a batch of products has been distributed to.
The 90 per cent uptake of DP has not been easy to achieve, Ms Adenot said. For example, pharmacists thought they would need internet access at each counter.
The system costs €4m per year and community pharmacies foot the bill (each paying about €110 per year) but she concluded: “at first, there was a problem, but we now think it’s impossible to work without DP.”

Australia
Barcode scanning has halved dispensing errors
Mandatory barcode scanning has reduced dispensing errors by 50 per cent in Australia and it has brought selection error down to 1 per cent, according to Stephen Marty, chairman of the Pharmacy Board of Australia. These figures, from the state of Victoria, where barcode scanning was made mandatory in 2004, have been corroborated by the insurance industry, he told The Pharmaceutical Journal.
In July 2010, barcode scanning became mandatory across the rest of the continent. Mr Marty said that the next steps would be to use scanning to track batches to patients and to reduce the chances of using out-of-date medicines.

Switzerland
Pharmacists support national electronic vaccination records
An electronic vaccination record was launched in Switzerland in April 2011, with the support of Swiss pharmacists, Claudine Leuthold, project manager at PharmaSuisse, reported.
It is difficult to remember which vaccines you have had and paper vaccination records are easily lost, she explained, so a national electronic record is a good solution. Patients can open their own account and authorise their doctor and pharmacist to access it. The system also sends notification when a vaccine is due. Access for patients is free but health professionals must have a Viavac software licence. Further details are available at www.myvaccines.ch.

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The DP record includes all medicines dispensed in any community pharmacy in France, with data collected in real time. Only pharmacists have access to the records and two cards — the pharmacist’s card and the patient’s social insurance card — are required. Now, almost 15 million people (one in four) and one in three aged over 60 years have a DP, with 25 per cent of records leading to data sharing, of which 10 per cent results in the identification of adverse drug reactions.
French pharmacists have also started keeping records of non-prescribed medicines in DPs so analysis of suitability extends to all medicines dispensed, prescribed or not, Ms Adenot said.
Developments to DP in 2011 include the inclusion of criteria for referral.

The 90 per cent uptake of DP has not been easy to achieve, Ms Adenot said. For example, pharmacists thought they would need internet access at each counter.
The system costs €4m per year and community pharmacies foot the bill (each paying about €110 per year) but she concluded: “at first, there was a problem, but we now think it’s impossible to work without DP.”

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How economic pressures are altering the picture of pharmacy across Europe

The secretary general of the Pharmaceutical Group of the European Union predicted what is on the cards for community pharmacy in Europe.

The financial crisis is putting pressure on independent pharmacy and is set to change the picture of pharmacy across Europe. The debate on the regulations affecting the structure of community pharmacy in Europe goes on but, as a result of the financial crisis, we are seeing a shift in emphasis from a legal debate, dominated by lawyers and rights and the laws of a free market, to an economic debate about costs. In other words, whether having regulation that protects independent pharmacy is expensive or not, said John Chave, secretary general of the Pharmaceutical Group of the European Union.

Mr Chave gave an overview of the changing scene in Europe. “The full effect of the financial crisis is yet to be seen but, inevitably, there will be pressure, particularly in those countries directly affected, to further liberalise ownership, he said.

Currently in Europe, pharmacy is still an independent business, with over 80 per cent of pharmacies owned by pharmacists. Recent (2009/10) challenges brought before the European Court of Justice have meant that liberalisation is not obligatory in every member state but voluntary liberalisation is still possible.

He pointed out that there has been some re-impositioning of some form of regulation in some countries. For example, after complete deregulation of ownership rules in Latvia a new law now rejects this and all chains will have to “divest”.

Euro crisis
There are two typical economic arguments by those who are pro liberalisation, Mr Chave said. The first is that independent pharmacy leads to higher prices because limitations on ownership do not allow economies of scale and prices to fall as low as they could.

Medicines pricing is especially relevant to countries, such as Italy, that have introduced co-payment for medicines. The second argument is that lack of access to the market does not support innovation. For example, a chain that has 20 per cent of the market can introduce a new service quickly compared with governments having to go from pharmacy to pharmacy, he explained.

But even where liberalisation occurs, large chains that may be able to deliver the benefits do not automatically materialise. For example, chains in the UK do provide a wide range of services but those in Norway do not. So the arguments are simply not based on evidence, he said.

The internet lobby is growing strongly in Europe, supported by the European Commission. The argument is that there will be more people with chronic diseases. These patients get to know their medicines well so will not need so much advice.” People are saying times have moved on, people shop on the internet, but if you get into this, you’re playing with fire,” Mr Chave said.

He pointed to a US study, in which data show that 32 per cent of patients shop on the internet and that 28 per cent of patients say they will not need so much advice. “Particularly since the nuclear accidents in Japan, the Green Party has been getting more support in Germany. So, even in a fairly stable country like Germany, electoral changes in the next two years or so, could have a significant impact,” he said.

“For the first time in a generation across a whole range of European countries, we are seeing reductions in pharmacy turnover and reductions in pharmacy remuneration. This may be a greater threat to the viability and existence of independent pharmacy than whether you have a regulatory structure which permits chains or not,” Mr Chave said.

He suggested that one approach for independent pharmacists to get some of the buying power the chains have is to band together into buying groups and franchises, forming virtual pharmacy chains. I would suggest this form of approach is going to grow in future, as economic pressure on pharmacy grows, he predicted.
There is huge scope for pharmacists to improve maternal and child health

There is huge scope in roles for pharmacists in maternal and child care, and by playing such parts they will be investing in the future, according to Astrid Kågedal, a community pharmacist from Sweden. Mrs Kågedal spoke at a session on trends in community pharmacy.

The World Health Organization's definition of maternal health is wide, referring to the health of women prepregnancy, during pregnancy, during childbirth and post partum, and maternal death is classed as death occurring within 42 days of termination of pregnancy. It is estimated that there were 350,000 maternal deaths in 2008, with the most common causes being severe bleeding and hypertension. In comparison, the same year, eight million children under the age of five years died, most from conditions that can be treated, such as diarrhoea. Mrs Kågedal said that pharmacists are at the heart of the United Nations Millennium Declarations 4 and 5 (to reduce child mortality be two-thirds from 1990 to 2015, and to reduce maternal mortality by three-quarters, respectively)

“[They] must play a key role in effective delivery of health services relating to medication and vaccine use across the continuum of care for women and children, she said. Pharmacists’ impact on the health outcomes of these vulnerable groups cuts across many dimensions, such as the availability of affordable medicines during pregnancy and paediatric formulations, advice on how to administer medicines to children and appropriate immunsations.

Another goal related to health is to ensure education to a primary level. “Education and empowering women is essential to health,” Mrs Kågedal said, adding that pharmacists could educate mothers on common ailments for the care of themselves and others. Before pregnancy, they can educate people that all children ought to be wanted and that young girls should not be mothers too early against their will, and make solutions accessible.

In pregnancy, as well as providing vitamin and folic acid supplementation, they could help expectant mothers to stop smoking and advise on malaria prevention. They can also evaluate the potential teratogenicity of medicines. Postnatal pharmaceutical care could include providing sterile medical products needed, identifying postnatal depression and supporting breastfeeding.

For infants, pharmacist roles include addressing medicine distribution, teaching how to administer medicines, educating on a healthy diet and administering vaccines. And, for children, pharmacists can advise on doses, ensure access to oral rehydration salts, and educate the public on the proper disposal of medicines.

There are numerous things pharmacists can do, she said. They can also play a role in obesity, cancer and attention deficit hyperactivity disorder. “Each of us has to think what is the situation of my surroundings,” she said.

Leave the pharmacy and educate parents

A STUDY is under way in Australia to find out whether pharmacists can be effective in educating carers to better manage acute asthma exacerbations. In a session on improving maternal, newborn and child health, Rebekah Moles from the faculty of pharmacy at the University of Sydney, suggested that pharmacists need to get out of their pharmacies and provide hands-on education to improve medication skills. Care givers often have trouble when it comes to giving medicine and pharmacists can play a vital role in educating them, she said.

She described a previous study, which looked at how care givers manage common child ailments. It surveyed 97 care givers to children under five years, using a mock fever scenario and found that 82 per cent gave paracetamol. It showed that 11 per cent gave medicine without taking the child’s temperature, 45 per cent gave medicine before it was necessary, 48 per cent stated an incorrect dose, 20 per cent inaccurately measured a dose and 21 per cent stated a dosing interval of less than four hours. “We had a couple of care givers say that they’d dose again in one hour, which was fairly alarming,” she said. Overall, only 23 per cent medicated appropriately, with no difference between day care staff and parents.

Accurate dosing was a much bigger issue than expected. “We know that care givers may sometimes choose the wrong dose giving device and the child may end up with an underdose or overdose,” she added. The researchers found that medicine cups were difficult to use because their measuring lines are so close. Parents using syringes were more likely to give the dose stated.

A follow-up focus group revealed incidents of social medicating (parents being quick to use medicines for tantrums) and presumptions of safety of overdosing because “over-the-counter medicines must be safe”.

When presented with a scenario of a child with cough and cold symptoms, 60 per cent of parents gave a medicine even though, based on current Australian guidelines, the best approach would be not to medicate. Despite the fact that the child had no pain or fever, 43 per cent gave paracetamol.

More children are spending time in child care but asthma knowledge of child care staff is variable, with a lack of training and confidence, Dr Moles said. More than half (55 per cent) of staff report treating an asthma attack, so effective asthma education in this group is needed. Dr Moles’s project is evaluating the current knowledge and practice of care staff, providing feedback, delivering education and, three weeks later, evaluating the education intervention by using an asthma knowledge questionnaire and assessing staff using a scenario and display medicines. The researchers have found that some staff do not know how to put an inhaler into a spacer device and how many puffs to give the child.

Dr Moles believes that a hands on approach — sitting with day care workers and allowing them to “play with” devices — is a powerful way to change behaviour. This might be an important service pharmacists can provide for their communities to improve child outcomes, she said.
PHARMACISTS need to consider how they can care for and inform teenagers so that they can profit from medicines when needed, safely and readily, said Priya Bahri, a pharmacovigilance specialist from the UK, who has been researching into communication with adolescents and risk management. According to one survey, teenagers expect and rely on information from physicians, family and schools. Pharmacists were either not mentioned or scored lower than 1 per cent. “I think that’s shocking news for us. We, as experts on medicines, are not high on the list to be asked,” she said. She suggested that schools could be a good starting point for projects to increase adolescents’ awareness of pharmacists.

Another study, carried out in the Netherlands, showed that less than 10 per cent of pharmacists comply with obligations to give information about prevention of pregnancy to teenagers dispensed isotretinoin. “As pharmacists, we need to learn more about our audiences and our own professional behaviour,” she said. There is also a need to understand how a given “audience” uses medicines. Dr Bahri said that the main cause of disability in 10- to 24-year olds is neuropsychiatric disorders, with accidents and infectious diseases being second and third. In terms of what medicines are used for and how, the most common complaints are headache, stomach ache, sleeping difficulties and nervousness. At least 30 per cent of teenagers use painkillers once a month. By the age of 11 or 12 years, 30 per cent start to use medicines autonomously with higher autonomy in chronic diseases. “The good news is that the majority of use is appropriate,” she said. However, adherence in chronic disease is low.

Teenagers’ perception of medicines is also significant. They tend to be concerned about resistance, immunity and dependency developing. There is also confusion over management. Overall, they have limited knowledge on how medicines work, she added.

It is important for pharmacists to be able to communicate with adolescents because they are a vulnerable population, she said. They have not yet had life experiences and what experiences they do have will have a long-term impact on their health and that of their families. For example, in developing countries where teenagers are the literate generation they may have a responsibility to help their parents [with health issues], she explained. They need support entering an increasingly complex world with many information sources and many life and health choices to make.

Dr Bahri said that in order to improve communication with teenagers, pharmacists first need to listen, understand and respect their needs. The key to overcoming barriers is to ask teenagers “is there anything you want to know?” she advised.

Make teen healthcare a good experience

A clear understanding of information can reduce fear and confusion, increase awareness and understanding of disease, medical procedures, treatments and side effects, and make it easier for patients to navigate the healthcare system and act on health information, she said. “The safe use of medicines” was specifically developed for sub-Saharan Africa, with the World Medical Association, the International Council of Nurses and the African Pharmaceutical Forum. It gives guidance on how patients should safely acquire, keep, and use medicines to get well and stay healthy, and includes advice on how to avoid counterfeit medicines. It is available in English and French and was launched in South Africa in November 2010, followed by Uganda and Senegal in June 2011.

Speaking books have been recognised across the world for their success, Dr Andrews said. Studies conducted on a previous speaking book providing information on clinical trials (“What it means to be part of a clinical trial”) showed a significant positive increase in knowledge of clinical trials among those given the book and told how to use it (P=0.02). Learning was enhanced when the books were taken home, and sharing books with others improved learning and comprehension. However, how to use the book was not intuitively obvious to everyone and needs explaining. Frequent battery changes was also an issue. The books are not thought of as childish.

Other speaking book titles available are: “Living with HIV and AIDS doesn’t mean living with depression”, “Understanding your mental health”, “TB can be cured” and “Hypertension”. More information is available from http://booksofhope.com.

Books that cross literacy boundaries

SPEAKING books are an innovative way of improving health. They are laminated hardbacks that incorporate sound chip technology so that each page can be listened to as well as read, by pressing a button. They are designed to help low literacy patients and their families better understand important health information.

At a session organised by the FIP pharmacy information section Emma Andrews, director of external medical affairs at Pfizer, described the company’s work with an organisation called Books of Hope to help improve medicine communication with patients and their families, regardless of their literacy levels, through the development of a book entitled “The safe use of medicines”.

Dr Andrews said that low health literacy is a global issue that exists among every race, age group and economic class, and severely reduces the effectiveness of health communications. For example, it has been found that adults with low health literacy:

- Are less likely to comply with prescribed treatment and self-care regimens
- Make more medication or treatment errors
- Fail to seek preventive care
- Are at a higher risk for hospital admission
- Remain in the hospital nearly two days longer than other patients

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Pharmacy-based travel clinics: there is plenty for you to offer customers

At a session organised in collaboration with the International Society of Travel Medicine, participants heard about the growth of travel clinics in community pharmacies

COMMUNITY pharmacists have always sold products related to travel, such as sunscreens and first aid. What is new is that pharmacists are starting to deliver a formal consultation service. This is a real turnaround. We believe that travel medicine as a specialty is leading that front in development, said Larry Goodyer, head of the school of pharmacy at De Montfort University.

Johannes Jaenicke is one such community pharmacist, running a clinic from his pharmacy in rural Germany. He described how he manages his clinic. First, customers know his pharmacy offers a travel service because it is well advertised. He promotes his clinic in the local newspaper, he sends his regular customers post six weeks before the holiday season, and he announces it through flyers and posters as well as on the pharmacy’s television, on the pharmacy’s website and its social networks. No matter where customers are, they get the message, he said.

The pharmacy offers five modules of service:

- Malaria prevention
- Vaccination
- Sun protection
- Travel kits
- Individualised travel advice

For malaria prevention, the customer is given a map presenting high risk regions, a repellent, and plenty of advice to give. For example, if a healthy person with skin type II and no allergies is going to trek around Mount Kilimanjaro you might recommend factor 50. And, if a painkiller is needed, aspirin should not be used if malaria or dengue fever is possible. Ibuprofen is considered a safer alternative. “Travel medicine can be very interesting,” he said.

And if the person is going for eight weeks, he or she will need seven bottles of protection. The customer will need to be advised to apply the sunscreen every day, even if it is cloudy. And, then there is the debate over use of sunscreens with insect repellents. He tells his customers always to apply sunscreen before repellents. In addition, he advises them on the expiration of sunscreens. The US Food and Drug Administration says if a sunscreen has no expiration date it must be stable for three years but if it has been taken to a hot country, it is advisable to replace it, he said. Mr Jaenicke also gives the following advice on sunburn:

- Sunburn is dangerous and can take up to 24 hours to appear
- Never break a blister; apply some gauze
- If large areas are affected or you have a headache or fever, seek medical attention

And, if a painkiller is needed, aspirin should not be used if malaria or dengue fever is possible. Ibuprofen is considered a safer alternative. “Travel medicine can be very interesting,” he said.

For the travel kit element of the service module, the pharmacy offers three levels of kit. The basic level contains “must” elements, such as antihistamines, gaze, syringes and needles. The extended level kit contains “should” items, such as analgesics, insect repellent, an antimalarial, antibacterial gel, hydrocortisone cream, antidiarrheals and electrolyte replacement. The luxury level contains “can” items, such as cold and flu preparations, throat lozenges and dry eye products (to deal symptoms caused by strong air conditioning), laxatives, motion sickness tablets, antacids, an antifungal and water purification tablets. “We give [customers] a checklist so [they] can check what they have in their medicines cabinet at home,” he said.

Individualised advice includes information on travel socks, vitamins, nutrition and prophylaxis. For example, we remind people to go to the dentist before a long trip. We help customers fill in forms for countries such as Dubai and we give them a list of German-speaking or English-speaking doctors, and details for the German embassy. We also give them information on personal safety for the area and optimise patients on medicines such as insulin.

Business sense

What does such a comprehensive service cost? Mr Jaenicke’s pharmacy has invested in software (US$250 per year for updated data), team training ($433 for basic training and $240 for updates every two years), advertising, storage (for vaccines) and personnel costs — at least half an hour of the pharmacist’s time is needed per patient. The pharmacy has budgeted $6,000 over five years. But there is profit to be made. “We charge for independent, individual travel advice. We take $29 a half-hour consultation (which includes a $7.50 voucher for the customer to spend on travel products) and we find people pay for this,” he said. The pharmacy also makes money through the sales of sunscreen.

“We need at least 29 customers per year to break even . . . By year 5, we’ve reached 20 customers per year. We could increase [our] charges to $45 per case to break even but people won’t pay,” he said. But then there is the profit that cannot be calculated. The service increases your professional image and worth. Anyone can give travel advice but not necessarily professional, reliable advice, he explained.

“And travel advice is a nice niche for pharmacists to get into,” he concluded.
Telepharmacy boosts health and logistics

TELEPHARMACY — the use of electronic and telephone technology to provide pharmaceutical care — has many potential uses, according to Susan Groves, of the Canadian Forces Health Services. It allows pharmacists in remote locations to have full access to all required software, patient information, test results, references, policies and inventory lists. It allows them to receive an order for medicines and verify this remotely and, once done, labels can be printed and, after checking, delivered by a technician on site. The pharmacist can then counsel patients by telephone or video link.

Although telepharmacy began in the 1990s, it is increasingly being used by community pharmacy, hospitals and government departments, with many advantages. For example, Lt Col Groves described its use by smaller institutions to deal with a lack of resources — pharmacy services can be provided without the need to employ a pharmacist fully. “A full service can be provided at small sites, which would not be possible otherwise,” she said.

A major benefit is that you can provide pharmaceutical care regardless of patient location, she said. “We know [telepharmacy] has the potential to improve health outcomes. It also helps to decrease medication errors, especially where you have untrained personnel,” she added.

It also improves staff morale. The pharmacist can focus on cognitive functions and you can go on holiday and use telepharmacy as your replacement, she explained. However, there are also disadvantages, which include the need for communication links and a secure power source, and the requirement for upfront investment in equipment, software and training. In addition, in some countries, professional regulations may prohibit its use.

Two award winning services where telepharmacy has been used were described by Dennis Helling, executive director of pharmacy operations and therapeutics, Kaiser Permanente, in a session on paying pharmacists for patient outcomes. Dr Helling reported that a clinical pharmacy call centre in which 29 clinical pharmacists and nine technicians telephone patients within 48 hours of hospital discharge, to do medicines reconciliation, has had “profound results”.

This service, financed by a health plan in the US, has resulted in a 78 per cent decrease in mortality 60 days post discharge and a 36 per cent decrease in accident and emergency visits. Over 90 per cent of these patients have significant drug-related problems, he said.

The second service is anticoagulation. Anticoagulation by pharmacists is not, in itself, new but from the point a patient is prescribed warfarin pharmacists manage dosage adjustments, deep vein thromboses, high risk pregnancies, and “bridge therapies” (eg, when patients need to have surgery). Pharmacist-led management has resulted in a 40 per cent reduction in warfarin complications, he said.

This team prevents one warfarin complication for every 52 patients. That means these pharmacists go to work every day knowing that they will be preventing a serious complication that day, he said. We prevent one major bleed per week so these pharmacists are “very motivated to take care of these patients”. Dr Helling described the pharmacists providing the service as tenacious. “When these patients don’t pick up a prescription, we know. We call them. If they don’t get their INR levels done, we call them. We send them letters. So we’re constantly dogging them to take care of themselves. The results make it very worthwhile,” he said.

In order to drive the value to high levels, pharmacists need to increase their quality and decrease their costs while at the same taking into account the patient experience. Quality is now “paying big”, he said. The service has bonus payments. When a health plan achieves high quality status, you are the preferred provider, you get referrals, he said.

Centenary and summit in Amsterdam

THE next World Congress of Pharmacy and Pharmaceutical Sciences, to be held in Amsterdam, the Netherlands, from 3 to 8 October 2012. The theme is “Improving health through responsible medicines use”.

Next year will be the centennial of the International Pharmaceutical Federation and on this occasion FIP along with the Dutch Government will host a ministers summit on medicines. The summit (3 October) will look at what instruments are available for governments to stimulate more responsible use of medicines. The aim is to produce a declaration that will be a roadmap towards more efficient and cost-effective healthcare.

The Dutch Government has decided to invite five countries per WHO region, and stakeholder round tables (2 October), which will include representatives from governments, the pharmaceutical industry, regulatory bodies and patient and healthcare organisations, will discuss topics including: right medicine, right patient; adherence; information and knowledge systems; and how innovation can provide solutions.

Congress programme highlights include:

- The future of sustainable health and pharmacy care
- Medicines of the future and their effect on practice
- Clinical pearls — inspiration to improve your future hospital practice

More information on the FIP centennial congress and the ministerial summit is available at www.fip.org/centennial.
The issue of clean water crosses all socio-economic boundaries, said Fred Massoomi, pharmacy operations co-ordinator at the Nebraska Methodist Hospital, US. The World Health Organization has identified pharmaceuticals in our water supply as an emerging issue. “About 100,000 tons [of pharmaceuticals] are consumed annually in the world and these have to go somewhere. We also know that from 1993 to 2003 we have seen a 70 per cent increase in the use of pharmaceuticals in the world,” he said.

Over 10 years ago, a US geological survey revealed that 80 per cent of waterways were contaminated, and this is mimicked in Europe and other parts of the world, he said. Primary contaminants include antibiotics, anticonvulsants, mood stabilisers, cholesterol lowering drugs, analgesics and reproductive hormones. And the effects have been emerging over the years, for example, feminisation of fish, but a study published in *Nature* this year looked at fish both upstream and downstream from a pharmaceutical plant in France and found that downstream, there were intersex and fewer male fish than upstream. “This is the first time we see a link between pre and post exposure,” he said.

Dr Massoomi described a visit to his hospital from the Environmental Protection Agency in 2007 when, questions of how the hospital properly disposes of pharmaceuticals were raised. “Pharmacists, as drug experts, have a responsibility for pharmaceutical waste, but in which class at pharmacy school did we learn about how to dispose of pharmaceuticals? . . . This is something that we do all lack as a knowledge base, at least in the US,” he said.

Drugs are chemicals with a pharmacological effect. “If we don’t want to put chemicals into the environment, and we spend a good deal of effort on not putting chemicals into the environment, then we definitely do not want to put [drugs] into the environment as well,” he said. Three main ways that medicines get into the environment are via agriculture (eg, use of antibiotics and steroids), domestic use (excretion and disposal) and industry.

**How effective is water treatment?**

“You really can’t take one model or treatment and say it is effective in removing pharmaceuticals. All of us know that pharmaceuticals have varied chemical characteristics, in as far as being hydrophilic, lipophilic, positively-charged, negatively-charged — the list goes on as we think about the basics of chemistry. And with that in mind, not one method is the proper method in eliminating all the residues that we see of all types of pharmaceuticals. Some methods are effective but highly specific,” he said.

Pharmaceuticals in drinking water is not a new issue, but the technology is now available, being able to go down to the nanogram level, so it has become more of an issue. And technology is advancing. For example, in China they have spliced a fish and jelly fish gene so that the fish will fluoresce if it has been in contact with an oestrogen destructor and this is a possibility for a new type of test.

Dr Massoomi then drew attention to a recently published document by the WHO (“Pharmaceuticals in drinking water”), which discusses the literature, the causes, the health risk assessments that have been done, what methods we have for proper removal and what preventative measures can be put in place. However, he described it as “disappointing”, probably because of the lack of information. He had hoped that it would have pulled everyone together globally to say that we have an issue and we do need to put together some standards of practice to minimise the contamination of our water supply. “I don’t want there to be a situation five or 10 years from now where we look back and say we should have put more teeth into the document,” he explained.

He added that the WHO thinks that pharmaceuticals should be removed from water like other chemicals. However, drugs are designed specifically to deal with harsh environments, to get through to a target point to elicit their effect. “[Drugs] are not just chemicals. They are chemicals that are designed to not be destroyed in a very easy fashion. So there could be an issue,” he said. Metabolites can also interact with the environment.

For those interested in the impact of pharmaceuticals on the environment, he recommended a book and website, “Our stolen future” (www.ourstolenfuture.org). The website is continuously updated as information emerges. He said that although the pharmaceutical industry has compared the incidence of drugs in water to one molecule in an Olympic-sized swimming pool, we do not know what the minimum exposure limits are and what the long-term effects of that will be.

The International Agency for Research on Cancer also looks at the impact of chemical exposure and tries to classify whether they are possible carcinogens. Dr Massoomi reported that this agency has classified about 245 chemicals, of which around 45 sit on the shelves of pharmacies today. He then commended a Swedish document (“Eiﬀicially destroyed pharmaceuticals”), which looks at the problem in terms of the persistence of drugs the environment and their bioaccumulation as well as their toxicity. “To date, 442 drugs have been classified. “This is how we should be thinking, globally moving forward, as we bring drugs to the market,” he said. He also highlighted a European Environmental Agency suggestion in 2010 that drugs should be “benign by design” — that the pharmaceutical industry should look to designing drugs that are safer to the environment. The agency has also published water quality guidelines in terms of what are accepted standards for levels of antibiotics, antiparasitics, hormones, analgesics and psychotropics in our water, and gives a solution for disposing of unwanted medicines: incineration.

Included in the US EPA list of hazardous drugs are epinephrine, nitroglycerin and warfarin, but this was compiled in 1976 and we have had new drugs coming out since then that are far more hazardous, Dr Massoomi said. A best practice document is expected in 2012 but, generally, progress has been slow. For example, in the US it has taken eight years since the study of drugs in the water supply for congress to talk about it.

**Dealing with waste**

“The logistics of disposal is complicated and a very large problem but it is our problem. I would encourage all of you to look at your waste processes,” Dr Massoomi told the audience. In his hospital, he has put together a...
Exposure to cytotoxics still an issue

PHARMACISTS will be well aware of the risks of exposure to cytotoxic drugs — carcinogenicity, genotoxicity, teratogenicity and organ damage — but more evidence is emerging of the consequences of occupational exposure, Jill Kolesar, professor of pharmacy at the University of Wisconsin-Madison, US, told The Journal.

Occupational exposure is more of an issue for developing countries because, for example, laminar flow hoods cost thousands of dollars, but evidence is now persuasive of the need to invest in this sort of equipment, Professor Kolesar said. However, recent research in the US has shown that workplace contamination with antineoplastic drugs in pharmacy and nursing areas continues (Journal of Occupational Environmental Medicine 2010;52:1019–27).

Speaking at a session on recent advances and challenges in the safe preparation of cytotoxic agents, Professor Kolesar said: “The risk assessment of all new drugs is based on the perspective of patients. . . . When drugs are developed, there’s really no consideration given to the people who are preparing and administering those compounds. In oncology, a high degree of risk is acceptable for a patient because they have a life-threatening illness. So the question is how much risk is acceptable for nurses and pharmacists . . . who clearly have no threatening illness. So the question is how for a patient because they have a life-

administration issue because it will cost money to put things into place.” Part of its work was to review practices and this showed that in 2010, the hospital sent over two million dose packages to landfill as well over 600,000 intravenous drug bags.

Dr Massoomi’s opinion is that non-hazardous waste can be “sewered” and packaging and empty bottles can go to landfill, but anything else should be incinerated, preferably using the waste energy. However, the US Clean Air Act in 1970 resulted in US hospitals getting rid of their incinerators. He warned that unused pharmaceuticals should not be disposed of with biohazardous waste because this is only autoclaved to 180°C and then sent to landfill This temperature is not enough to destroy the drug, which will get into our water.

Aerosol containers do not do well in incinerators, he added. There are various recommendations throughout the world. For example, puncturing the container before incineration and triple rinsing before landfill (and disposing of the rinsings properly).

There are a number of models for dealing with waste, including manual sorting, use of electronic devices for sorting waste and centralising segregation, but managing all waste as hazardous is probably the best way, Dr Massoomi said.

The costs associated with dealing with waste properly are high. “Before the EPA visit, we probably spent $2,000 per year. We now spend over $100,000 a year at our hospital. There is a lot of money involved. I want to look to the pharmaceutical industry to help us out. For example, we collected package inserts for six months. This came to 742 pounds of paper. Moreover, 38 per cent of those inserts were out of date. We have the information on the internet so maybe we don’t need all those inserts,” he said.

Other strategies
Pharmacists also have a place in making sure medicines are taken rather than wasted. According to Dr Massoomi, developing world donation or dumping is not a good option.

“We need to think better. If we’re not going use medicines for our population we shouldn’t expect that it will be good enough to be used in [other] populations,” he said. He is also concerned about a number of emerging high tech products and how they will impact the ability to removed pharmaceuticals from our environment, for example, genotargeted drugs, drug-loaded adenoviruses, nanotechnology drugs and disposable drug delivery devices. He summarised that an ideal pharmaceutical waste disposal strategy would have the following properties:

• Universal rules that are easy to implement and control
• Education of the public that it is inappropriate to put things in the rubbish
• Engagement of pharmacy practices
• Education of health professionals (including proper prescribing)
• No landfill or sewer, with the exception of intravenous fluids
• Incineration (including proper controls and waste to energy)

“We’re pharmacists. We’re the drug experts. We pride ourselves on making sure the physicians write the right prescriptions. We counsel patients on how to take them. But we kind of stop right there. The process of pharmaceutical care stops at the point of dispensing and monitoring. We need to go to the next step and be involved in proper disposal,” he concluded.

Jill Kolesar: how much risk is acceptable for nurses and pharmacists?

Carcinogenicity studies are typically done in rodent models. Only if a drug causes cancer at a dose less than 25 times greater than its dose in humans is it considered carcinogenic. Another type of study done is a genotoxicity study, treating cell lines with the drug and monitoring for DNA damage (comet assays). The other areas that the US Food and Drug Administration considers is effects on reproduction and development in animal models and safety in pregnancy.

The National Institute for Occupational Safety and Health considers all standard cytotoxic antineoplastic drugs and all hormonal anticancer drugs as hazardous, but its list does not yet include monoclonal antibodies such as bevacizumab. It recommends that each institution develops its own list.

A major group of drugs associated with secondary malignancies (a surrogate endpoint) is alkylating agents. These typically occur five to seven years after treatment. For example, the relative risk of a secondary malignancy in children with acute myeloid leukaemia treated with mechlorethamine is 320 per cent.

A meta-analysis of 14 studies (Journal of Oncology Pharmacy Practice 2005;11:69–78) found no significant association between exposure and congenital malformations but did find an association between chemotherapy exposure in nurses who prepared chemotherapy and spontaneous abortions. (OR 1.46; 95 per cent confidence interval 1.11–1.92) This evidence is “very compelling”, Professor Kolesar said. The researchers called for health policy decision makers to communicate effectively the magnitude of this risk and to implement cost-effective interventions for reduction or elimination.

The current standard for assessing exposure, although that does not necessarily translate to risk, is blood and urine levels.

The International Society of Oncology Pharmacy Practitioners Standards for safe handling of chemotherapy are available at www.isopp.org.
RPS support for leaders

“A LEADER is anyone who wants to make changes for the better in healthcare. Leaders are those who think beyond convention and beyond boundaries,” said Helen Gordon, Royal Pharmaceutical Society chief executive, at a session on the role of women in leadership positions in pharmacy.

She said that it is to the benefit of the profession that it has a “good blend” of leaders in pharmacy, both men and women. She added that although she is not a fan of quotas, she is a fan of taking action to ensure equality and one of the goals of the RPS, as a professional body, is to help provide equality and one of the goals of the RPS, as a professional body, is to help provide opportunities to all members.

Ms Gordon explained that as well as leading the profession (eg, promoting excellence and new thinking), the Society also has a role to play in helping leaders in the profession. She explained that there are many types of leader in pharmacy, from front-line senior organisational leaders and generalist and specialist leaders to those in pharmacy teams and in the business side of health care. The role can be obvious or complex. “Our diversity is our strength and the professional body has a role in bringing strands together,” she said.

She said that, in order to welcome diversity, the RPS is working in a number of ways, providing learning and networking in a way that suits busy people, working with employers to promote progressive employment methods, flexi-time and part-time career breaks and better support for locums, and promoting all fields in pharmacy practice, research, education and science.

She added that, in its first year, the RPS is going to be looked at in terms of how it goes about its work. It needs to be visionary and this often means working at the edge of professional boundaries. How the RPS goes about promoting leadership and celebrating diversity is key, she said.

The RPS has since launched a leadership competency framework for pharmacists.
THE flooding that occurred in Pakistan in 2010 was probably the worst disaster in recent history, resulting in a loss of lives, crops and infrastructure, said Josie Jarad, pharmacist and flight lieutenant with the Royal Australian Airforce. She described Australia’s response to the disaster, Operation Pakistan Assist II, her role as a pharmacist within it and lessons learnt from the aid mission.

The mission set up a logistics hub at a military base in Multan and a health facility at Kot Addu to relieve local hospitals. The contingent of healthcare personnel consisted of eight teams, which brought with them specialist physicians, midwives, radiographers and a pharmacist. Movement was restricted due to reliance on helicopters. The healthcare centre aimed to provide primary care. The most common conditions encountered were malaria, diarrhoea, skin infections and chronic diseases. Flt Lt Jared’s role as a pharmacist involved keeping control of supplies and providing information to healthcare staff.

The greatest challenge faced was inexperience with the World Health Organization healthcare kit, Flt Lt Jared said. This is a standard kit of essential medicines and devices designed to provide post emergency primary care for 10,000 people for three months. However, since medical staff had not used it before and were unfamiliar with its content and protocols the start of the operation was “really chaotic” and resulted in “quite a lot of frustration”, particularly for specialist physicians who were not able to use the knowledge they had.

“Because people were not familiar with the kit, they started to use it outside protocols. But if you do that, it doesn’t last three months. So it’s imperative for people to be trained to use kits before using them,” she explained. For example, the kit only contained 13 boxes of gloves but the staff were used to changing their gloves frequently so stocks were in danger of running out.

“I think we thought that [the kit would] be like a Mary Poppins bag containing everything, but we quickly saw this was not so,” she said. Additional items required included waterless handwash, urine dipsticks, pregnancy tests, vomit bags and cups. There were also not enough tables, chairs and hospital furniture and those contained in the kit, being canvas, were difficult to clean.

Malaria

One of the main problems was that there were no medicines for malaria in the kit so these had to be sourced from a local pharmacy. “[This] was not ideal because our commitment had been not to take from the local community, but we had to go down this path” she said. In addition, there was no guarantee that the medicine was not counterfeit. “You need to rapidly assess the needs of the local community,” she said.

“If you have time, for example, five days before launch, assess these kits and find out what you need,” she advised. Shortages meant that imagination was needed, for example, using a glass cola bottle to crush tablets.

The team also faced resupply challenges. Flt Lt Jared said that there had been an assumption that further supplies could be obtained from the same place as the kits but these could not be delivered and trying to obtain them involved a lot of bureaucracy. “Every day 200 people were coming, wanting things, so we had to abandon the government [source] and engage a local contractor. The main disadvantages [of this] were quality assurance and expense,” she said. Sometimes medicines looked genuine, sometimes tablets were crumbled. The cost for the whole WHO kit is around $3,000 but local supplies cost more. “[You] need to have established multiple supply chains and not be reliant on one chain,” was her advice.

There were also more pharmacy specific challenges. “Something I didn’t expect to come across was medicines we hadn’t used before,” she said. One example being artesunate and sulfadoxine/pyrimethamine to treat malaria. This is dosed according to weight and we considered this quite high risk, she explained. Part of Flt Lt Jared’s role was to identify high risks and find ways to reduce these. In the case of the antimalarials, this included educating staff and displaying information in tents. In addition, many of the children were underweight and malnourished so she had to do research, contacting manufacturers for information of use with these weights. “If a phone or internet is not available, you will need a wide range of references,” she said. Cold chain breaches were another challenge faced.

Despite all the challenges, Flt Lt Jared described the mission as the “highlight” of her military career and her career as a pharmacist.

HOW TO CHOOSE A KIT

With so many kits available (eg, from WHO, Médecins Sans Frontières, wholesalers, non-governmental organisations and UNICEF), you need to consider how you will choose between them, was the advice from Alexandre Kosyak, commander with the US Agency for International Development. Considerations should include:

- The quantities and quality of medicines
- The weight and volume of the kit
- How many people are to be treated and how appropriate the kit is for the response
- The languages used for labelling and instructions
- Cost
- The type of packaging (eg, is it waterproof. does the kit have handles for lifting and will it be easily lifted by anyone?)
- Whether the health teams on the ground will know how to use it
- How waste will be disposed of

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