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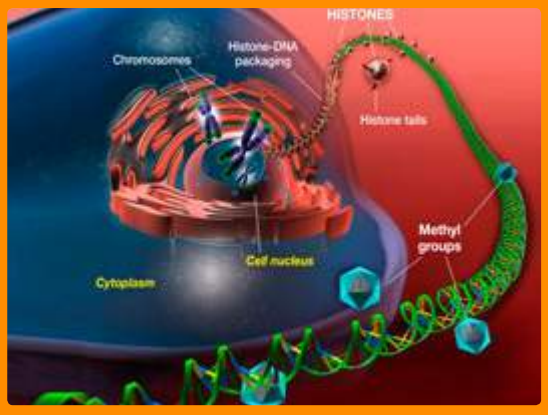
ipj

INTERNATIONAL PHARMACY JOURNAL

CIVIC ENGAGEMENT

EPIGENETICS

Future medicine opportunities



PUBLIC SERVICE

Pharmacists in politics

Advocacy and lobbying

INFLUENCE POLICIES

THE OFFICIAL JOURNAL OF fip ADVANCING PHARMACY WORLDWIDE

INTERNATIONAL PHARMACY JOURNAL

The *International Pharmacy Journal* is the official journal of the International Pharmaceutical Federation *(FIP)* and began in 1912 as the Bulletin de la *Fédération Internationale Pharmaceutique*. Subscription is a benefit to all members— individual or otherwise — of FIP, with readership spanning 132 countries. The *IPJ* is published electronically, three times a year. ISSN 2213-7890

SCOPE

The *IPJ* keeps its readership in touch with pharmacy around the world. The aim is to communicate developments and work in pharmaceutical science, practice and education & workforce in order to contribute to the mission of FIP: to improve global health by advancing pharmacy practice and science to enable better discovery, development, access to and safe use of appropriate, cost-effective, quality medicines worldwide. The *IPJ* reports on pharmacy matters affecting the global community or specific regions or countries, offering in-depth coverage, summaries and unique content. The IPJ strives to inform and inspire. It updates readers on FIP's position and work on important pharmacy issues as well as on relevant activities of FIP member organisations.

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In **this issue**

STEPPING **FORWARD**

The health of individuals is often related to the health of the community. Beyond being a provider of pharmacist services, how much do you contribute to the health of your community and the well-being of its citizens? Are you a player or an observer?

The theme of this issue of the *IPJ* is civic engagement: developing and using the mix of values, knowledge, skills and motivation needed to make a difference to the lives of people in our communities.

Most pharmacists and pharmaceutical scientists are responsible professionals — being so is implicit in what we do. But improving the well-being of communities requires leadership: political and non-political. For example, the theme of this year's World Congress of Pharmacy and Pharmaceutical Sciences is "Reducing the global burden of disease", and pharmacists in every part of the world work to lessen the burden of ill-health by optimising medication, preventing disease and encouraging healthy lifestyles. However, achieving this mission also demands solutions to more fundamental problems such as health inequality, poor education, clean water and the possibility of a better future. These can only be addressed by public debate and changes in local, national and regional policy.

Effective policy is not "top down". Effective policy is "ground up". The people most affected need to understand, develop and support policy that answers their needs. Advocacy skills are essential for ensuring that our profession's voice is heard. In an article on p20, two experts explain how to master the art of advocacy. They offer insights that can be useful in many areas, be it getting buy-in for a new pharmacist service or campaigning against irrational funding cuts in your public services.

Some of our colleagues have taken their civic engagement to a higher level and have entered the world of politics. Formulation of good policy requires participation of people with differing political views, and we celebrate these pharmacists' commitment and conviction in a feature (p10).

Originally, being a citizen pertained to belonging to a city. Today, we are all citizens of something bigger — we are citizens of the world. An article on p36 looks at a movement to teach pharmacists about global citizenship.

Aristotle believed that man is a "political animal" because he is a social creature with the power of speech and moral reasoning. But we know it is sometimes easy to "go with the flow" and to be indifferent when it comes to civic engagement. Nevertheless, in the words of FIP's immediate past president Michel Buchmann: "The more of us there are — the more amplified our actions." Moreover, an opinion piece on p39 explains how leadership — an essential skill in civic engagement, as well as practice — takes many forms and that we should each see ourselves as leaders.

We hope this issue of the *IPJ* encourages you to assess your level of civic engagement, and to consider stepping forward further so that our profession is recognised and the well-being of our communities — local and global — is improved.

“PHARMACISTS: CARING FOR YOU” TO BE SLOGAN OF WORLD PHARMACISTS DAY

Care provided by pharmacists will be the focus of this year’s World Pharmacists Day (WPD) on 25 September, FIP has announced. “Pharmacy has evolved into a caring profession and this year’s theme underlines this. Gone are the days of our focus being on the medicine. Today, our focus is on the patient, with medicines as pharmacological tools to achieve the best health outcomes. In our daily work to achieve the responsible use of medicines, it is patients who are our prime concern. We really care about them and their health and all our actions, whether working in a pharmacy or developing policy, are in the end about this one thing,” said FIP President Carmen Peña.

The official slogan, “Pharmacists: Caring for you”, is accompanied by a number of campaign materials, including a new look WPD logo and images, which can be used by individual pharmacists and their professional organisations around the world. This year, FIP’s campaign materials are available in the six official United Nations languages: Arabic, Chinese, English, French, Russian and Spanish.

Take part in promoting pharmacy.

The materials also include a special design WPD 2016 placard saying “I care for you”, which pharmacists are encouraged to print out and hold in photographs for use on social media, and a Twibbon profile picture overlay.

This year, FIP invited five pharmacists from the Netherlands to be the official poster boys and girls for WPD 2016. They are Arwin Ramcharan and Saskia Visser, both community pharmacists from Transvaal Pharmacy in The Hague, and three pharmacists from the Royal Dutch Association for the Advancement of Pharmacy (KNMP): Ka-Chun Cheung, Jeltje Luinenburg (pictured) and Delia Titre.

“World Pharmacists Day is now in its sixth year and it has grown each year. I urge my colleagues around the world to start thinking now about how they will celebrate our great profession and use this opportunity to highlight how much they care,” Dr Peña added. The FIP resources to support WPD 2016 are now available at www.fip.org/worldpharmacistsday.

GUIDANCE TO HELP PHARMACISTS ESTABLISH **TOBACCO-FREE COMMUNITIES**

The wide variety of different ways in which pharmacists can reduce the use of tobacco has been documented through a new FIP publication. The briefing document, “Establishing tobacco-free communities: A practical guide for pharmacists”, gives a number of examples from around the world, showcasing pharmacists’ value in performing health promotion, triage and referral as well as other interventions.

Moreover, the document contains tools that pharmacists can use to assess a person’s nicotine dependence and readiness to stop smoking, motivational interviewing models, quit plans and follow-up activities to avoid relapse. “It is clear that pharmacist-led interventions can be pharmacological or non-pharmacological. Importantly, pharmacists are supporters and facilitators of the entire smoking cessation process; this is of huge value in providing much needed continuous support to people who have decided to be healthier,” said Mrudula Naidu, immediate past chair of the Young Pharmacists Group, which was a key contributor to the document.

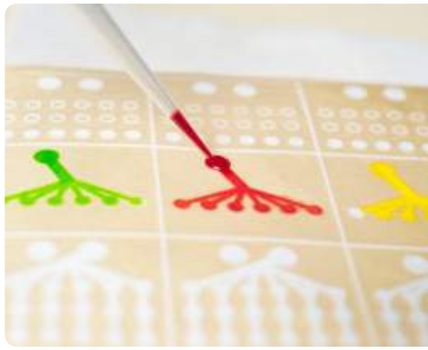
The briefing document aims to provide a platform for future initiatives that national pharmacy associations can run to support pharmacists and the creation of well designed interventions in pharmacies. It can also serve as inspiration for individuals, the authors say.

OPINION LEADERS PREDICT OPPORTUNITIES FOR **THE PHARMACEUTICAL SCIENCES**

“Labs on paper” and “bodies on chips” are among a long list of scientific advances that present opportunities for the pharmaceutical sciences, according to global opinion leaders. These opportunities are described in a paper due to be published in the *Journal of Pharmaceutical Sciences*, and authored by the chairs of FIP’s eight special interest groups, who spoke to other leaders in their field. For example, in the area of drug design and discovery, experts predict accelerated drug design involving protein-protein interactions as drug targets and highlight epigenetic inhibitors as a “potentially fruitful area” (see Article, p24).

Other potential opportunities include application of metabolomics and genetic modification to allow the creation of new medicinal plants, adoption of top-down fabrication processes such as photolithography so that manufacture of nanoscale drug delivery systems is less expensive and time-consuming, and use of novel excipients to enhance drug performance. In particular, the authors point out that the macromolecules sector holds “tremendous potential for future growth” and that as first-generation protein patents begin to expire, market pressures may push innovators to develop non-parenteral formulations for these drugs, that exploit nasal, pulmonary and dermal routes.

The paper also outlines a number of challenges. For example, a barrier to novel excipients is the high cost associated with pharmacokinetic and toxicological evaluation before regulatory approval. “This paper presents some key issues for pharmaceutical scientists to act on over the next five years,” said Geoffrey Tucker, chair of FIP’s Board of Pharmaceutical Sciences.


Paper microfluidic devices could widen the availability of diagnostic tests (© Volker Steger/Science Photo Library)

AFFORDABLE VACCINES AND ANTIBODIES KEY TO **ELIMINATING RABIES**, WHO SAYS

Making human vaccines and antibodies affordable, and ensuring people who are bitten get prompt treatment are key actions are described in a framework to eliminate rabies jointly launched in December 2015 by the World Health Organization, the World Organization for Animal Health, the Food and Agriculture Organization of the United Nations and the Global Alliance for the Control of Rabies.

Tens of thousands of people die from rabies each year but the cost of human rabies vaccines is beyond the reach of many. And treatment for people who are bitten can cost USD 40–50 (EUR 36–45) representing an average of 40 days’ wages in some countries. Recognising this affordability problem, the framework also emphasises prevention through vaccinating dogs (whose bites cause 99% of human rabies cases), vaccines for which cost less than USD 1.

“If we follow this more comprehensive approach, we can consign rabies to the history books,” said WHO Director-General Margaret Chan.

Bringing down the cost of human rabies vaccines and treatments will require strong international collaboration to make quality-assured vaccines and rabies immunoglobulin available to health centres in regions where rabies is endemic, the WHO says.

According to rabies vaccine manufacturer Sanofi Pasteur, human and veterinary vaccines cannot be compared. Its spokesperson said: “The model for veterinary manufacture is not the same as that for human vaccine manufacture. For veterinary vaccines volumes can be higher by a factor of 10 versus human vaccines. . . . Research and development models differ also, not surprisingly. Human vaccine development can take two to three times as long as veterinary vaccine development and associated R&D costs can be up to 10-fold higher.”

There is a need to define the roles for support staff
(© Dmitry Kalinovsky | Dreamstime.com)

STANDARD DEFINITIONS **FOR SUPPORT STAFF** EXPECTED THIS YEAR

Experience from 67 countries will form the basis of the FIP technical report on the pharmacy support workforce, the Board of Pharmacy Practice group working on the report has revealed. Information on the pharmacy support workforce was collected from these countries, which represent all the World Health Organization regions, between October 2015 and January 2016.

"We know that having well trained pharmacy support staff frees pharmacists to do more clinical activities, which can translate into improved patient outcomes, but around the world there are significant differences regarding the terms used to describe these staff, their responsibilities and their distribution. There is a need to define the roles for support staff and to identify the competencies, education and practice models that will allow them to make the best contribution possible within the pharmacy team," said working group member Andrew Brown.

At the FIP Bureau meeting in The Hague earlier this month, the working group resolved that the report should be published by the end of the year.

According to the working group's terms of reference, the report is expected to provide an overview of the different roles and responsibilities of the pharmacy support workforce, as well as their education and legal framework, and to present different practice models that allow them to make the best contribution possible within the pharmacy team, thus assisting in ensuring responsible medicines use.

NEW PLATFORM ALLOWS EDUCATORS TO CONNECT, SHARE AND LEARN

A new online platform is transforming the way knowledge, experience and resources are accessed and shared among the global community of pharmacy educators. Since its launch six months ago, PharmAcademy.org has attracted over 600 members. This online "community of practice" is made up of three main components which combine to deliver content sharing of teaching and learning resources, academic publishing and peer networking. It builds on SABER (Sharing and Building Education Resources), a web-based networking site launched by Monash University in 2012 which houses contributed resources from world-leading institutions. PharmAcademy also incorporates access to the online journal *Pharmacy Education*, which recently underwent a redesign and has had a record number of articles downloaded (11,500+) since.

PharmAcademy is the first community of its kind to be developed globally and has been created under the auspices of FIP. It is free to join and can be accessed at http://pharmacademy.org

PharmAcademy

FIP Bureau in brief*

WORK FOR **WOMEN**

Terms of reference for FIP's new working group on women and responsible use of medicines have been approved. The group's work is to include gathering evidence to support the concept of pharmacists as agents of empowerment for women regarding health-related issues. Its finding are expected to be published in 2017.

INFECTIOUS DISEASES AND GPP

A project in the area of infectious diseases transmitted by the *Aedes aegypti* mosquito (namely dengue, Chikungunya and Zika) is to receive financial support from FIP, the Bureau decided. The project is to be run by the Pharmaceutical Forum of the Americas. The Bureau also approved funding for a Western Pacific Regional Pharmaceutical Forum project to increase the ability of the pharmacy workforce to implement good pharmacy practice.

The FIP Bureau met in The Hague, the Netherlands, on 16 & 17 March.

USA

PHARMACISTS START TO PRESCRIBE CONTRACEPTIVES

Pharmacists in Oregon are now permitted to supply contraceptive pills and patches to women without a prescription from a physician under a new state law. The move to pharmacist-prescribed birth control is to increase access to medicines and reduce unintended pregnancies. As *IPJ* went to press, pharmacists in California were expected to be given authority to prescribe contraceptive vaginal rings and injections in addition to pills and patches. Other US states are considering similar legislation.

DENMARK

REGULATOR ASKED TO LOOK AT SUPPLY OF MEDICINES WITHOUT PRESCRIPTION

Danish Health Minister Nick Haekkerup wants Denmark's National Board of Health to investigate whether pharmacists and pharmacy technicians (farmakonomers) could supply certain prescription drugs without a prescription, *Svensk Farmaci* reports. The minister said that a framework to allow pharmacists and farmakonomers to dispense drugs without a prescription, for example, in relation to certain groups of prescription drugs that could be provided without compromising patient safety, could be part of a rational process of care for the benefit of citizens.

AUSTRALIA

CODEINE RECORDING PILOT PROGRESSES

A pilot of real-time codeine recording and monitoring by community pharmacies is to continue, the Pharmacy Guild of Australia has announced. Smaller pilot programmes (MedsASSIST) have already run in Newcastle and Queensland, involving around 30 pharmacies. Software has been modified to reflect feedback and will be piloted at 150 sites. Australia's Therapeutic Goods Administration previously deferred its decision to upschedule products containing codeine to prescription-only status in the face of opposition and the prospect of this online real-time recording and monitoring system developed by the guild.

BRAZIL

CUTS IN VACCINATIONS

Brazilians are to receive fewer doses of vaccines against human papilloma virus and pneumonia as the economic recession takes hold and cuts to health care are made. The decreased supplies of doses will not alter the efficacy of the vaccinations, said the Health Ministry in January. Rio de Janeiro recently declared a state of emergency because it was not able to pay for health equipment, supplies and salaries.

SWEDEN

PHARMACISTS REACH OUT TO REFUGEE COLLEAGUES

The Swedish branch of Pharmacists Without Borders has joined efforts with the Swedish Pharmacists' Association and other organisations, including pharmacy schools, chains of community pharmacies and pharmaceutical manufacturers, to connect local pharmacists with newly arrived refugee pharmacists. The initiative, called "friendly pharmacists" (Farmaceutkompis), aims to assist refugees in their social and professional integration and to avoid their isolation. Likewise, it intends to integrate this skilled workforce into Swedish society.

CANADA

PHARMACY LOYALTY PROGRAMMES RULING OVERTURNED

Incentives to use pharmacy services such as filling prescriptions should not be offered to patients, the British Columbia Court of Appeal in Canada has ruled. The court overturned a previous ruling against the by-laws of the College of Pharmacists of British Columbia prohibiting points or other loyalty programme benefits. "The college considers the provision of incentives like redeemable points to be unethical, unsafe and unprofessional," college registrar Bob Nakagawa said.

EUROPE

NEW EUROPEAN PAEDIATRIC MEDICINES FORMULARY UNDER WAY

An online publication is to give pharmacies across Europe free access to a formulary for the preparation or compounding of paediatric medicines, the European Directorate for the Quality of Medicines and Healthcare (EDQM) has announced. A framework for a project towards a European Paediatric Formulary was adopted by the European Committee on Pharmaceuticals and Pharmaceutical Care in November 2015. Not all countries have adequate formularies for paediatric medicines, and this can lead to poorly developed or even inadequate medicines use, the EDQM says. The aim is to make available appropriate paediatric formulations based on national or regional information, filling the gap until medicines approved for children's use are available.

ENGLAND

THOUSANDS OF PHARMACIES FACE CLOSURE

Between 1,000 and 3,000 pharmacies across England face closure following plans to cut National Health Service funding by GBP 170m (EUR 217m), according to a BBC report. The Department of Health has argued that in some areas there are more pharmacies than needed, with about 40% of community pharmacies found in clusters, with three or more within 10 minutes' walk of each other. The cuts are part of the Government's plan to save GBP 22bn (EUR 27.9bn) across the health service by 2020. Closures will mean more pressure on GP practices and emergency departments, pharmacists warn.

TURKEY

CRIME CAUSES PHARMACISTS TO DISPENSE FROM BEHIND SHUTTERS

Increasing pharmacy robberies in Istanbul have led the city's pharmacists on night shifts to take security measures: they now dispense medicines from behind shutters. Some patients have complained that it is wrong for people suffering from illness to wait outside in the cold. However, pharmacy owners say that until other measures can be taken this is the safest way for medicines to be dispensed.

GHANA

PARTNERSHIP TO HELP SAFER DECISIONS ABOUT MEDICINES

A memorandum of understanding to promote the safe use of medicines within communities in Ghana has been signed by the Lady Pharmacists Association of Ghana, the Anglican Church Diocese of Accra and Pharmacists without Borders. The partnership is aimed particularly at helping Ghanaian consumers protect themselves from substandard and falsified medicines. Outreach strategies will target women's groups and church parishes.

CANADA

ROLE FOR COMMUNITY PHARMACISTS IN DETECTING KIDNEY DISEASE

Community pharmacists can successfully facilitate early diagnosis of chronic kidney disease (CKD), according to research published in the *Canadian Pharmacists Journal* (2016;149:13–17). Researchers at the University of Alberta assessed community pharmacists' application of an online tool ("CKD Clinical Pathway") to screen patients in 55 community pharmacies. The assessment was carried out as a part of the Alberta Vascular Risk Reduction Community Pharmacy Project. The pharmacists identified at-risk patients by reviewing recent prescriptions and laboratory test results. They could order new tests if needed. Among the 720 patients, 39% were found to have CKD and in 40% of these the condition had not been previously recognised.

PUERTO RICO

CONCERNS OVER NEW LAW ON MEDICINAL MARIJUANA

Pharmacists have expressed public health concerns following the adoption of new regulations permitting the use of medicinal cannabis in Puerto Rico in January. President of the College of Pharmacists of Puerto Rico Nayda Rivera claims that the legislation neglects standards to ensure purity and quality, as well as regulation of dosage, frequency and duration of treatments involving medicinal marijuana.

GLOBAL

ORGANISATIONS ISSUE GUIDANCE ON ZIKA

The global public health emergency declared by the World Health Organization on account of the outbreak of Zika virus disease has led pharmacy organisations in Argentina, Brazil, Spain and the USA to publish information and guidelines for pharmacists and the public. Campaign materials, reports and dedicated websites with advice on the disease, its treatment and preventive measures are now available.

interview

PHARMACIST POLITICAL ANIMALS:
What it's like to be in public service

Health promotion is now a recognised pillar of pharmacy practice. Yet, some might argue that it's not enough to encourage people to live healthier and the solutions will only come by going to the root determinants of health — the conditions in which people are born, and in which they grow, live, work and age. Some pharmacists have chosen to try to influence these social determinants by going into public service, either through advising on health-related policies, or by becoming politicians themselves. *IPJ* talked to seven of these pharmacists from around the world about their work in politics.

CANADA: THE ASSEMBLY MEMBER

Diane Lamarre was elected to the National Assembly of Quebec, the legislative body of the Canadian province, in 2014 as the representative for Taillon district. She is the official opposition spokesperson for health and access to care. A pharmacy owner, she has been an academic and is a former President of the Ordre des Pharmaciens du Quebec.

Diane Lamarre, member of the National Assembly of Quebec

Why/how did you get into politics?

I've always been concerned not only by individual health issues but also by population needs: equity, safety and wellbeing. I've been involved in many volunteer missions and have come to realise that education and health as well as good legislation are essential keys for justice. And then our former first woman Prime Minister called me three times in the same week to ask me to join the Parti Québécois team.

Why should other health care professionals be interested in politics?

Health uses about half of the Quebec budget, as in most developed countries. Each dollar spent in health must have an added value. Health care professionals have both a scientific and pragmatic way of thinking as well as regular and close contacts with the population needs. Real long-term plans in health are not easy to write and to implement. In fact, most of the care priorities come from short-term agreements between states and physicians, pharmacists and nurses unions. Two consequences [are that] patient care and ill-health prevention policies are not necessarily priorities and interdisciplinary work, including other health professionals and social workers, is not always patient oriented. We need more health care professionals with global and long-term vision to get involved.

How has being a pharmacist benefited your political work?

Evidence-based analyses of problems as well as knowledge of the real-life and vulnerability of patients and population give a perspective. Pharmacists are really close to their patients. They meet them over a long period. This is a precious advantage that is underestimated. Without any flattery, I must say that attending most of the FIP congresses during the past 15 years has increased my understanding and awareness of international and national health and drug issues.
As a former president of a pharmacy board, I understand the impacts and necessity of legislation. In our daily work, pharmacists have to focus on details. In politics we have to step back and look at the forest instead of the tree.

What in terms of health do you hope to achieve through politics?

For the people of Quebec, the challenge is better access to care. One Quebecois in four doesn't have access to a family doctor and mean waiting time in emergency rooms is over 18 hours. In Uganda, I have seen people walking for two days before getting to the Lucille Teasdale Hospital and being treated in half an hour. In Quebec, we get to hospital in half an hour but have to wait for two days before being treated! This is unacceptable. I also want to work on better cost control of health professional fees, development of a long-term health care and prevention programme. As President of the Ordre des Pharmaciens du Quebec, I increased access to pharmacist care to our population by pushing forward the adoption of Bill 41. We reached outcomes for many Quebec patients. We did it together with many Quebec pharmacists, physicians and also deputies who supported our vision. With Bill 41, Quebec pharmacists may extend prescriptions, treat 23 conditions and also adjust drug therapies. I am very proud of it.
In 2016, drug costs politics and drug shortages are concerns all over the planet. I also believe that legislative work anywhere in the world must be adapted to new governance rules. Participating on issues such as environment, education, social justice and respect of Quebec nation are also great challenges.

"With Bill 41, Quebec pharmacists may extend prescriptions, treat 23 conditions and also adjust drug therapies. I am very proud of it."

What has been your proudest achievement so far in your political role?

Being recognised as the one who cares about access and equity in access of health. I contested our health minister's decision to overcharge fees for medical services that are

already paid by the medical insurance. More than a half million elderly people, many physicians associations and citizen protection organisations supported me in this fight. I have been elected in my own city so helping people and local economic development is a great privilege too.

What advice would you give to a fellow pharmacist considering going into politics?

More pharmacists should go into politics. We are good representatives of the real-life of citizens. For sure, we don't go into politics for glory. I used to say I didn't have real enemies before I went into politics. Speaking for the public means being willing to go under fire of opponents and the media. But politics has a strong impact on real life.

JAPAN: THE ADVISER

Daisuke Kobayashi is professor at the Collaboration Centre for Health Promotion, Niigata University of Pharmacy and Applied Life Science, Japan. From 2010 to 2014 he advised Japanese politicians on health care policy and pharmaceutical affairs.

Daisuke Kobayashi, adviser to politicians

Why/how did you get into politics?

After five years as pharmaceutical editor at a publishing house, I started as a pharmacist at a community pharmacy. This practical experience helped me to form political opinions and make assessments but, almost every day, I felt a big gap between ideality and reality; at least, I could not work there with high professional pride. I thought I needed to change things and my conclusion was to go into politics. In Japan, there is a national qualification examination to be a legislative secretary for parliament. After I passed it, I started my career in politics in 2010 with Senator Ryuhei Kawada, a victim of HIV-tainted blood products. He gave me a really good opportunity to learn what lobbying means and how patients think. After this wonderful collaboration, I worked with a Democratic Party of Japan congressman who is in charge of health policy.

"I was able to advocate for the profession from a real-life perspective, which is appreciated by politicians."

Why should other health care professionals be interested in politics?

Health care professionals are involved strongly and solidly in the social health care system. Since most of their professional services are financed by such systems, they need national consensus to offer these services, even if they would result in clear and numerous benefits for the national health status. This means that the professionals need to make efforts to rouse national interest for professional services and their profession, and one of the best methods for achieving national consensus is politics.

How has being a pharmacist benefited your political work?

My pharmacy knowledge and experience has equipped me to give sound opinions and advice in the areas of health and pharmaceutical policy, which informed the national opinions politicians gave to government. As a result, I was able to advocate for the profession from a real-life perspective, which is appreciated by politicians.

What in terms of health do you hope to achieve through politics?

I want to contribute to the responsible use of medicines. Although we should respect democracy, the majority is not always right. For example, the proposed policy of medicines in supermarkets seems to many people to be convenient. But that is only if they don't think about safety. The mass media nowadays tend to stand against "established interests" and perhaps pharmacy is perceived as such an interest. Under this social context, we are working in politics to make people hear our strong professional argument before this wrong decision is made in national health policy.

What has been your proudest achievement so far in your political role?

I hope, someday, to be able to cite some great achievements through my work but, for now, I would say that I am pleased to have been able to give a pharmacy perspective to health policies, so that the profession is better valued and patients have better care.

What advice would you give to a fellow pharmacist considering going into politics?

An important element for a pharmacist in politics is to have your own fundamental principles and a solid decision-making process, and never to lose sight of these, even in difficult situations. Various experiences at a young age help people to build strong convictions so keep interested in everything that happens around you.

JORDAN: THE MINISTER

Taher Shakhshir is Jordan's Minister for the Environment, serving in this position for the second time since 2011.

Taher Shakhshir, Minister for the Environment, Jordan

Why/how did you get into politics?

I started my public activities in 1990 as member of the board of the Pharmaceutical Association of Jordan. Later I was elected as the head of the association and, after that, as the head of the Arab Pharmaceutical Association. My involvement in the pharmaceutical association as well as other activities within the public health sector provided me with an in-depth understanding of issues on the ground and enabled me to appreciate first hand the challenges and needs of Jordanian and Arab citizens. With the geopolitical changes and challenges that the region has encountered in recent years it has become imperative to integrate ministers and politicians with diverse backgrounds and contributions into the overall public mosaic. As such, my background and above-mentioned roles enabled me to join the government of Jordan as Minister of Environment.

Why should other health care professionals be interested in politics?

Health care as a sector is an integral part of the development of Jordan and is a sector that contributes to the overall economic and sustainability of the country. It is a key driver for the medical tourism sector and an integral part of the sustainable development goals of any country. Having professionals with health care backgrounds and a political track record who are well positioned to create an impact in the public sector can directly add value to the government and overall decision-making at a national level.

How has being a pharmacist benefited your political work?

The public sector is constantly in need of specialists and experts in the field who can deal with the ever-increasing challenges and complexities facing the government. Having a scientific background and a methodological approach to work helps in dissecting and dealing with major intricacies in the public sector.

"Having a scientific background and a methodological approach to work helps in dissecting and dealing with major intricacies in the public sector."

What in terms of health do you hope to achieve through politics?

To name only a few things, being able to advocate for implementation of the malpractice law within the health sector, introducing sustainable solutions for the medical waste issue, and sustainable improvement of health-related environmental factors such as air pollution and waste water treatment.

What has been your proudest achievement so far in your political role?

In my role so far I have contributed to constitutional amendments that directly improve citizens' freedoms and the democracy cycle in all its aspects. I have made a significant contribution to the introduction of a reformed "parties law", which allows for the coexistence of multiple parties within the political mosaic of Jordan. In terms of the environment, we have brought in a new law that introduces crucial components such as the climate change module, sustainable development goals and green economies as well as strengthening the penalties related to environmental malpractice. In addition, we have introduced a strategic plan to improve key environmental hotspots in Jordan. ››

What advice would you give to a fellow pharmacist considering going into politics?

It is important to enter the public sector out of conviction, with the ultimate goal of helping and supporting citizens. A key recipe for success revolves around building experience from the ground up in order to understand first hand the challenges and realities that face people daily. Public work requires a lot of patience, diplomacy and attention to detail while understanding the big picture and the implications of decisions at both micro and macro levels.

MAURITIUS: THE COUNTRY PRESIDENT

Last year pharmaceutical scientist Ameenah Gurib-Fakim was sworn in as the first woman president of Mauritius. Among President Gurib-Fakim's past achievements in the pharmaceutical field have been the first complete inventory of medicinal plants native to Mauritius and the publication of the first African Herbal Pharmacopoeia.

Ameenah Gurib-Fakim, President of Mauritius

Why/how did you get into politics?

Frankly, I never chose politics. Politics chose me and I landed in this post in the most incredible manner! But now that I am here, I intend to use my position to further the cause of science, as I remain convinced that the difference between the north and the south [hemispheres] remains the science gap. Changing and improving livelihoods necessarily means adopting science, technology and innovation.

Why should other scientists be interested in politics?

Scientists should show an increasing interest in politics and vice versa. When this mutual interest is established, informed decisions and more investment in science, technology and innovation ensue. This is particularly true for the developing world where leadership in the sciences is often not very strong and yet can have a profound influence on people's lives. The Ebola pandemic is a good example. Had the region and countries invested in basic public health facilities and testing capabilities, the outcome would have been, I am sure, very different.

"Changing and improving livelihoods necessarily means adopting science, technology and innovation."

How has being a pharmaceutical scientist benefited your political work?

I think that when one is a scientist/chemist, one is trained to be Cartesian in one's thinking process. One has to take decisions and, more importantly, one can appreciate the impact that science, technology and innovation can have in shaping livelihoods. A scientist is also results driven. This combination is very powerful in making a big impact on not only the funding landscape of various institutions but also in shaping the future agenda of the country.

What in terms of science or health do you hope to achieve through politics?

I hope I will be able to highlight the importance of science, technology and innovation in our collective developmental agenda, especially for the developing world. I also hope that this recognition will be accompanied by increased funding of science, which has remained weak for far too long. This will have a big impact on our economies. It is time that countries in the south, particularly in Africa, started producing data and knowledge and not just be a consumer of knowledge.

What has been your proudest achievement so far in your political role?

I have been in post for only seven months but I have already helped incorporate a branch of the Planet Earth Institute in Mauritius, of which I am the co-chair. We aim to promote capacity building through quality higher education for the continent in areas of relevance to the continent.

What advice would you give to a fellow scientist considering going into politics?

As I said earlier, I came into this world by accident but if there is any advice that I can give at this moment in time is to learn to take risks and dare to do things differently! As scientists, we need to engage more and more with policy makers and ensure that informed decisions are made.

PORTUGAL: THE PRESIDENTIAL ADVISER

Clara Carneiro advises the President of the Portuguese Republic on health issues.

Clara Carneiro, presidential adviser

Why/how did you get into politics?

I've always followed politics with vivid interest and participated in the main political activities in my country. When the 1974 military coup, which established the democratic regime, happened in Portugal, I was a pharmacy student in my last year of studies — it was impossible not to feel intensely this political moment that transformed Portugal. Later on, I held a leadership position at the Portuguese Pharmaceutical Society for six years, where I had the chance to work on pharmaceutical policy and make contacts and strengthen collaboration with many politicians, members of the Government and the Portuguese Parliament. After finishing my mandate at the society, I had several invitations to public state positions (even to join the Government), but the one I gladly accepted was to run for deputy of the Portuguese National Assembly. My political party won the elections and I was elected as a deputy.

Why should other health care professionals be interested in politics?

I believe it is important for citizens to follow the political interactions of their country. Health, alongside other topics such as employment and security, is the one that concerns people most, therefore health professionals have a great responsibility in terms of providing technical and scientific expertise on social and civic matters. They should be involved in the development of health policies and take leadership in different areas of social intervention and areas of practice.

How has being a pharmacist benefited your political work?

Pharmacists have a broad education encompassing both science and practice, so they are able to perform different duties in several areas. When a person finishes pharmacy school he or she already has an idea of the areas in which they would like to focus and improve throughout their professional life, and the same happened to me when I finished my degree. During my final year I had already started working at the National Institute of Health in the virology laboratory and the National Influenza Centre. This work gave me an interest for public health policies. Through a scholarship from the World Health Organization I did a postgraduate diploma in public health, and this is a key area in politics at the moment.

What in terms of health do you hope to achieve through politics?

The creation in 1975 of the National Health Service in Portugal was a civil breakthrough of great importance: health indicators in the Portuguese population compare today to the best in Europe. Health policy in Portugal has had continuity, regardless of the political party power, and what I hope and wish is that policies continue to be driven, implemented and evaluated towards the goal of universal care, promoting equity and quality of care through a multidisciplinary approach and increasingly directed towards health promotion activities and disease prevention, ensuring future sustainability to a free public service. Our goal is to give more life to years. I would also, of course, like pharmacists to play a greater part in the national health system.

"I believe it is important for citizens to follow the political interactions of their country."

What has been your proudest achievement so far in your political role?

To have always been able to associate my name and personal achievements with being an advocate for pharmaceutical profession.

What advice would you give to a fellow pharmacist considering going into public service?

I personally don't like to give advice. Instead I say, with everything in life, be committed. Work hard, believe and never give up!

SWITZERLAND: THE COUNCILLOR

Michel Buchmann, immediate past president of FIP, held office in the General Council (parliament) of Fribourg, a canton (state) of Switzerland, from 1996 until 2010, when he resigned to become FIP President.

Michel Buchmann, former member of the parliament of Fribourg, Switzerland

Why/how did you get into politics?

I was young when I became involved in my town council. But it was only when I turned 50 that I realised the importance of politics at a state and federal level. Nothing can change faster than a law, and the legal framework of our profession can always be challenged. Fortunately, our professional associations consider these changes carefully and seek opportunities for adaptation, like FIP does at global level. They work to influence policymakers and bodies like the World Health Organization. But nothing replaces the activity of a dedicated member of parliament who can demonstrate his commitment to public interests, and ensure that developments suggested by pharmacists are aligned with the interests of citizens.

"In 2012, during the celebrations of the FIP Centennial and Ministers' Summit, I told them: 'We are here to help you, we offer you solutions, so use us!"

Why should other health care professionals be interested in politics?

The more of us there are and the more amplified our actions, the more the services of our profession will be understood and recognised by policymakers. Advocacy, when done from the outside, needs to provoke politicians' interest — after all, their time is limited. Nothing replaces the moments around a glass during informal discussions, during joint work and phone calls; direct contact with a fellow politician who happens also to be a pharmacist supports trust, recognition of competencies and appreciation of our profession and its public health mission.

How has being a pharmacist benefited your political work?

I will give an example. During work in the Health Commission preparing the parliamentary debate about the new health law of Fribourg, one deputy — a physician — made a proposal to introduce doctor dispensing in my canton. Unlike in most of the German-speaking cantons, this was forbidden in our French-speaking canton. I was able to explain to my colleagues the advantages of the separation of dispensing and prescribing. As a deputy, I have had the chance to be present, to win in the voting process and to close this important debate.

On the other hand, being a politician has also benefited my work as a pharmacist. Imagine you are a member of parliament. You have around you colleagues who may not think like you, and ministers who are defending the position of the government — all this under the scrutiny of the press. Under such conditions, you learn to be perfectly prepared, to control your emotions, to grow influence by demonstrating your competencies through your positions during debates, to react quickly, to learn patience and respect, to understand that it is impossible to win a fight alone, and sometimes to learn to shut up! Don't you think that such training and competencies would serve you in pharmacy?

What in terms of health did you hope to achieve through politics?

Politicians are not aware that pharmacists are facing a revolution with regard to their training and education. FIP has raised awareness that we cannot rely on the curriculum of the 20th century to develop the professional competency required for the sciences and public health of the 21st century. We will need to convince policymakers in all countries to use a renewed pharmaceutical framework to resolve many of the acute problems faced by our health care systems. In 2012, during the celebrations of the FIP Centennial and Ministers' Summit, I told them: "We are here to help you, we offer you solutions, so use us!" I would like my colleagues to hear and convey this message.

What has been your proudest achievement so far in your political role?

In Fribourg I was actively engaged in the health law reforms in the 90s. Among others, I was successful in ensuring the recognition of the roles of pharmacists in public health institutions so that they could develop pharmaceutical services and were not only considered as logisticians. The notion of pharmaceutical services was further developed by decrees and is now widely recognised. Pharmacists' clinical competency is now accepted by other health care professionals and the economic impact of this model is demonstrated. This was one of the most important successes of my Swiss political life.

What advice would you give to fellow pharmacists considering going into politics?

Let me start with this: do not be afraid. Through their training, pharmacists have a high level of competencies which allow them to bring many important considerations and items to political debates which otherwise would be ignored. Add to them an ounce of passion, two ounces of curiosity, a lot of interest in public and people matters, and you have the recipe. You will be surprised by the welcome you will receive and the influence you will have. And if you don't wait too long (unlike me), you may finish your life in the circle of the national decision makers, far away from the education and work of pharmacy that helped you to develop your particular and appreciated personality!.

USA: THE CONGRESSMAN

Buddy Carter is currently the only pharmacist serving the US Congress and is a member of the Republican Party. He has previously been the Mayor of Pooler, Georgia, and a Georgia State representative and senator. He has owned community pharmacies for 30 years.

Buddy Carter, Congressman, United States Congress

Why/how did you get into politics?

I have always been interested in politics and public service. Growing up, I was active in my church and held leadership roles. When I was at college I was president of my freshman class and was very active as time went on. When I got out of school, I was working and my wife and I were starting our careers, but when I opened my own business in November 1988, I knew I needed to get involved in my community even more. I then decided to serve for four years on the planning and zoning committee and chaired that committee before I ran for city council and was elected mayor pro tem. I was elected mayor two years later.

"I think it is the responsibility of all citizens to be involved in public service and, yes, when I say public service I mean politics. We need good people in politics."

How has being a pharmacist benefited your political work?

Certainly my experiences as a health care professional, as well as a small business man, have helped me in my decision-making in Congress and in the legislature. All of us draw on our experiences when we make decisions, and after 27 years in business I've had quite a few experiences. Also as a health care professional I understand the needs of patients and the challenges that we face in health care.

What in terms of health do you hope to achieve through politics?

As the only pharmacist in Congress, I have seen the devastating impact of Obamacare first hand. It's driving up costs, taking away choices and putting bureaucrats between patients and their health care providers. Improving health care in America begins with repealing this disastrous law. I have voted to repeal it in its entirety and am part of the conservative Republican Study Committee's Health Care Taskforce working to identify solutions that will empower patients with more choice, lower cost, and better services. Additionally, I am working to garner support for several pieces of important legislation with a great impact on pharmacists:

H.R. 244, the Maximum Allowable Cost (MAC) Transparency Act, will provide some light to how third party Pharmacy Benefit Managers determine the pricing reimbursement of prescription drugs, which will provide greater transparency on how drug prices are set. By doing this, pharmacists and consumers will have a better understanding of how drug prices fluctuate in the market.

H.R. 793, the Ensuring Seniors Access to Local Pharmacies Act, allows patients to keep their pharmacists if they want to. Currently, some health care plans provide the patient with a

"preferred" pharmacy, which they must use to fill their prescriptions or face higher copayments. This legislation ensures that as long as the pharmacy is willing to accept the insurance plan's pricing, then the patient will be able to keep their copayments at their trusted pharmacies.

Finally, there is H.R. 592, the Pharmacy and Medically Underserved Areas Enhancement Act, which adds pharmacists to the Medicare list of providers ensuring pharmacy provider status. Studies have shown that when pharmacists are involved as members of the health care team, patient outcomes improve, patients report higher rates of satisfaction, and overall healthcare costs are reduced. Allowing pharmacists to have provider status would allow more Medicare patients to have access to patient-centred treatment.

What has been your proudest achievement so far in your political roles?

Having been born and raised in the First District of Georgia, growing up to represent the people of Southeast Georgia is the honour of a lifetime.

What advice would you give to a fellow pharmacist considering going into politics?

I think it is the responsibility of all citizens to be involved in public service and, yes, when I say public service I mean politics. We need good people in politics. Winston Churchill said years ago that "democracy is the worst form of government known to man — except for all the others that have been tried from time to time." Democracy is not easy; in fact it's very difficult. That's why we need good people, we need people to serve at all levels , whether it be on a homeowners association, on the city council, on the school board, or in the halls of the United States Congress, we need good people who have real life experiences, and who want to move our country forward.

Grasp the art of advocacy to **influence policy**

There are two sides to efforts to influence policy: power and art, say Susan Winckler and Kristina Lunner. In this article, these two former lobbyists explain why advocacy is important and how to do it effectively.

Advocacy occurs every day: in marriage, around board tables, when patients send letters to their elected officials asking for an increase in cancer research funding, when World Health Organization assembly members seek to ratify policies, and in the workplace when pharmacy technicians seek workflow changes. Advocacy is actively communicating with the goal of influencing a final decision. It is the process of stating and defending a position.

The terms "lobbying" and "advocacy" are often used interchangeably. Lobbying is the same as advocacy, but performed by individuals who are hired for this purpose — who conduct this activity as their professional vocation. (We have been, at various times in our careers, lobbyists. Throughout our careers, we have been advocates.) Due to concerns that these professionals may drown out the voices of everyday participants, some countries require lobbyists to self-identify through a registration process, and to report activities such as their clients' and their own political contributions.

Advocacy might involve a narrow approach that only involves paid lobbyists, the CEO of an organisation, and meetings with the most influential policymakers (and/or their staff) for a particular issue. This effort is often called a "grasstops" approach. Conversely, if demonstration of broad support for a position is necessary, lobbyists are likely to use the influence of affected constituencies; often referred to as a "grassroots" approach. Or the effort might involve both approaches. The approach taken depends on the nature of the challenge, which may evolve as the status of the issue changes.

Advocacy works

Advocacy activities are critical. Take away the voice of pharmacists, and policies that affect the profession and the patients served either do not advance because the issue is not a priority for anyone else or are implemented poorly because pharmacists were not involved in their development.

Neither policymakers nor their staff are obligated to check with the pharmacy profession before they pass a law or regulation affecting your practice.

To help readers better understand the potential of lobbying and advocacy, we draw attention to how pharmacists gained the authority to administer vaccines in the USA. This was a multi-year effort from pharmacists and pharmacy organisations representing all areas of practice. Even those who would not directly benefit from the change engaged in advocacy because they recognised that the new authority would raise the profile of the profession. They took the position that a rising tide lifts all boats.

And they were right. After years of advocating that empowering pharmacists to administer vaccines would improve individual patient health as well as public health, this practice is now widely adopted and cited as an example for why pharmacists should have additional, non-dispensing authorities. To many it seems obvious now, but a few years ago, before dedicated pharmacists like Mitch Rothholz, chief strategy officer at the American Pharmacists Association, took up the mantle for the cause, it seemed like a pipe dream.

Because of the structure of pharmacist oversight in the USA, empowering pharmacists with the authority to administer vaccines required a 50-state effort, as compared with a federal approach, which would have empowered all US pharmacists with one statutory change. Trailblazers in several states either worked with their state legislatures to enact new laws or worked with their regulators (state boards of pharmacy) to interpret the current law to give pharmacists this authority. Securing this authority is also an excellent example of how policy is influenced by many environmental factors. Advocacy often requires establishing additional relationships — securing authority to administer vaccines often required the pharmacy to work with the medical profession. Pharmacists and their professional organisations needed to gain the support of their colleagues — practising physicians in their community, the medical community lobby and, often, boards of medicine. And most of these individuals and groups did not initially support this agenda.

"The best advocates can provide an executive summary of the issue in layman's terms, and are able to explain the issue and request in a 30-second communication."

The success of these efforts affected pharmacy well beyond the authority itself. It raised the profile of the profession. It allowed many patients and providers (including some pharmacists) to see the profession of pharmacy as more than just the steward of medicines: pharmacists became health care professionals who could administer a medicine. Pharmacists became seen as essential members of the care team.

How to do it

There are several key elements of effective advocacy and these are described below.

Build a knowledge case The best lobbyists identify not only who supports a proposal but also who opposes it and why. This insight helps policymakers weigh their options. In addition, it is essential to provide data to support your position; and these data need to be relevant. For example, comprehensive data on the results of an initiative involving young and healthy patients will not have much influence on officials overseeing a programme that serves an elderly population. When pursuing the authority for pharmacists to administer vaccines, gathering data on the number of patients who were underserved by the current structure — and who may be helped by expanding the health care professionals involved in the effort — was essential.

Hone your message Most policymakers face a multitude of policy decisions each year. Effective advocacy involves helping them understand not only why they should care about your issue, but why it should be a top priority. This requires understanding their personal initiatives and, where possible, aligning their priorities with your proposal. The best advocates can provide an executive summary of the issue in layman's terms, and are able to explain the issue and request in a 30-second communication. That message should be consistent across all supporters, because any deviation may be perceived as a different request, or lack of support from the pharmacy profession and other supporters. In the

immunisation campaign, it was paramount to emphasise that pharmacists would be expanding the number of health professionals to meet an unmet public health need, as well as working under the authorisation of a prescriber. These components helped highlight the expanded authority as a solution — and a solution that was integrated with the broader health care system.

"Beyond influencing policymakers, another essential element to advancing pharmacist engagement in public policy is to have more pharmacists serve as legislators and regulators."

Understand your audience Each audience for advocacy is different. Audiences have different roles, different authorities, different priorities and different information requirements. Understanding these differences is critical to effective navigation of any system. Advocates (and lobbyists) must appreciate that different governments and government agencies operate with specific mandates and adjust their approach accordingly. For example, how one would approach advocacy at the state level (ie, a board of pharmacy) in the USA is different from how one would approach the US Food and Drug Administration (FDA). (In the immunisation example, the FDA has no authority to dictate which health professionals administer the products they regulate. So while it is highly influential on many pharmacy-relevant topics, the FDA was not an appropriate audience for these efforts.)

Form alliances One change we have observed over the past 10 years is a shift from individuals or organisations tackling problems alone to those individuals and organisations forming alliances of different stakeholders. These multi-sector collaborations tend to share a "common pain" (a problem they would all like to address — such as low immunisation rates) and a common commitment to resolve that problem. Many such collaborations use a third-party to lead the group's efforts to develop, advocate for and achieve innovative, consensus-based solutions. By shifting the message from "I" to "we," these groups gain greater respect and attention from policymakers. Furthermore, these alliances are an effective route to affecting policy in an otherwise grid-locked environment.

Engage

We encourage you to consider how you will use advocacy skills to begin or continue your civic engagement. How will you help to share the pharmacy profession's responsibility, and commitment to the patients you serve? What efforts will you undertake to advance a cause or to prevent the enactment of a policy that you believe will be detrimental to your profession?

Beyond influencing policymakers, another essential element to advancing pharmacist engagement in public policy is to have more pharmacists serve as legislators and regulators. Securing elected offices is an important consideration for the profession. In the USA, for example, there are many opportunities for pharmacists to improve their influence, since only one pharmacist serves in the country's most important legislature, the US Congress. By contrast, other health professions enjoy far stronger representation:

- Physicians: 19 (twice as many as 10 years ago)
- Nurses: 5
- Psychologists: 3
- Dentists: 2
- Optometrists: 1

Advocacy comes in many forms, but it always requires engagement. What level of engagement will you choose? Will you send a personalised letter to a member of congress or parliament, attend a board of pharmacy meeting, volunteer to serve on a hospital committee, join your association's policy committee, hold a fundraiser for an elected official or run for office?

If not you, then who is left to speak for the profession and the patients you serve?

ABOUT THE AUTHORS

Susan Winckler is the chief risk management officer for Leavitt Partners as well as a lead contributor in the firm's alliance management and regulatory consulting activities. **Kristina Lunner** is a senior director who specialises in medical products and services and has over 20 years' experience in government relations and coalition work. Leavitt Partners provides business intelligence regarding the health care eco system to inform the thinking of executives.

LEADING PHARMACIES in complex and uncertain times

Organisational agility is a hot topic in a world undergoing changes so fast that we must adapt swiftly simply to survive. The skills needed to navigate successfully through these changes will be presented during this year's FIP congress. Adian Magomedov reports.

Have you ever come across the term VUCA? This term was coined by the US military to describe the volatile, uncertain, complex, and ambiguous (VUCA) time the world currently faces. It has subsequently been adopted by strategic business leaders to describe the turbulent business environment that has become the "normal standard" today.

The VUCA model identifies internal and external conditions affecting organisations. It looks at the magnitude and speed of change (volatility), the lack of predictability in issues and events (uncertainty), numerous and difficult-to-understand causes and moderating factors involved in a problem (complexity) and the lack of clarity about the meaning of an event (ambiguity).
"The world is changing at an increasingly rapid pace. . . . How do we cope with these changes, because we decide whether we see the changing world as a world of opportunities or a world of challenges," says Lars-Åke Söderlund, head tenders & contract sales, senior adviser at Apoteket, Sweden. Mr Söderlund has advised a number of organisations using his commercial and international knowledge in performance management, change management and leadership.

Changes in expectations

The telecom industry is a good example of a turbulent market. "Smartphone companies have changed the game of the market by introducing new innovative products, forcing old telecom monopolies to change," he says. He predicts that the next step in innovation is that telecom providers will eventually transform into health care providers. Technological development will impact on how health care and pharmacy are implemented in the market, he adds.

Changes in expectations will affect pharmacies, the need for transparency, values and ethics. "But this is nothing new. What is new is that there is far less tolerance for poor behaviour and decision-making that doesn't account for our moral, social and environmental responsibility as leaders," he says.

"We decide whether we see the changing world as a world of opportunities or a world of challenges"

So how can you ensure your pharmacy survives in a VUCA world? Mr Söderlund will tell you during a session at the World Congress of Pharmacy and Pharmaceutical Sciences organised by the Community Pharmacy Section and the Young Pharmacists' Group. "I hope to meet my fellow pharmacists in Buenos Aires and welcome them to the VUCA World-VUCA pharmacy session," he says. Watch the video and find out what, according to Mr Söderlund, is the trick to success in a VUCA world.

EPIGENETICS is providing exciting targets for future medicines

Epigenetics — the study of cell and physiological phenotypic variations caused by environmental factors that affect how cells read genes — is gathering pace. So much so that the development of epigenetic inhibitors is listed as a "potential opportunity" for the pharmaceutical sciences to make a global impact in an article written by the chairs of FIP's special interest groups and soon-to-be-published in the *Journal of Pharmaceutical Sciences*. Marzia Rossato, Timothy Radstake and Kris Reedquist give an overview of some recent therapeutic advances.

How can one eye acquire multiple pigmentations? How can one genotype give rise to a multitude of tissues, with completely different gene expression and function? And why do genetically identical twins differ in their susceptibility to acquiring autoimmune diseases? The answer to these questions is largely attributable to the influence of epigenetic mechanisms. The term "epigenetics" refers to dynamic and sometimes inheritable changes in gene expression that do not involve changes (mutations) in the underlying DNA sequence, but rather phenotypical differences that reflect variation in how cells differentially respond to environmental influences such as diet, smoking, infection, physiological stress or cytokines released by neighbouring cells. The information conveyed by epigenetic modifications plays a critical role in the regulation of all physiological processes because it determines the pattern of expressed genes and their level of activation in specific cellular contexts. Consequently, abnormal epigenetic patterns or genomic alterations in epigenetic regulators can have profound influences on cellular behaviour and can lead to the development and maintenance of diseases, including autoimmune rheumatic diseases and cancer.

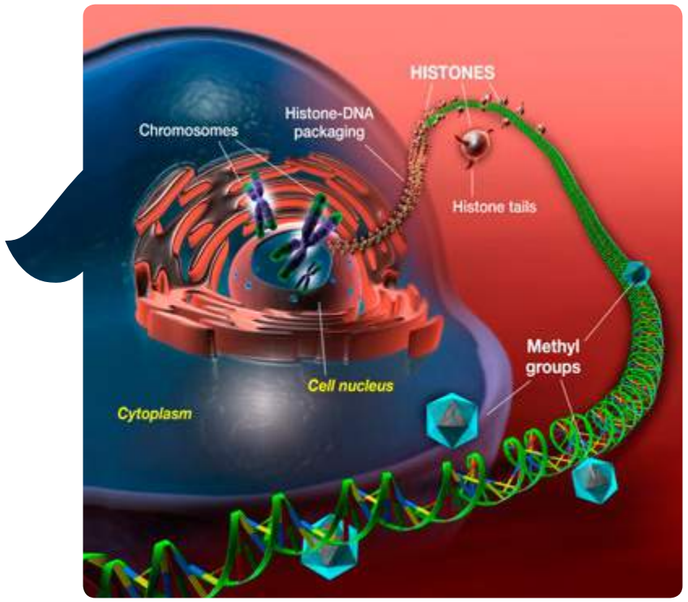
New insights

The study of epigenetic mechanisms has advanced rapidly in the past few years, providing new insights into disease pathogenesis and novel potential therapeutic targets.

Particularly in the field of autoimmunity, this effort has been accelerated by results from genome-wide studies that, while identifying both common and disease-specific genetic risk factors for acquiring disease, clearly demonstrated that genetic variation accounts for only a relatively small amount of risk for a given individual to develop disease.[1] Moreover, this genetic variation by itself is neither sufficient nor causative for these diseases, evident when considering the very low concordance of autoimmune disease development in monozygotic twins (<10–50%).[1] These findings have strongly consolidated the concept that the environment has a major role in driving a certain genetic background towards the breakage of immune tolerance and development of autoimmunity.

"Epigenetic modifications offer an unprecedented opportunity to fine-tune gene expression in patients as compared with other therapeutic options."

Epigenetic modifications, resulting from external stimuli to a cell, impact upon gene expression and cellular function. These modifications include DNA methylation, which can prevent recruitment of transcription factors to gene loci or recruit transcriptional repressors, and histone modifications that regulate transcription factor access to gene loci.



Epigenetic factors such as methyl groups and histone marks affect how genes are processed and used by cells. (© Jose Antonio Peñas /Science Photo Library)

Growing evidence has shown that these modifications are important in the onset and maintenance of disease in several autoimmune conditions, including systemic lupus erythematosus (SLE) and rheumatoid arthritis (RA).[2] Similarly, oncogenic mutations in cancer cells can drive epigenetic modifications that maintain tumour growth and impact upon cellular responses to therapy.[3] Importantly, these epigenetic modifications are not only very specific but also reversible, offering an unprecedented opportunity to fine-tune gene expression in patients as compared with other therapeutic options. Propelled by these observations, both academic and pharmaceutical research are investing heavily in understanding how specific epigenetic modifications contribute to disease, and developing small-molecular-weight compounds to target these processes, some of which have already entered clinical trials.[4]

DNA methylation inhibitors

DNA methylation is the addition of a methyl group to specific DNA sequences that can block transcription at a gene locus. Patterns of DNA methylation are established and maintained by DNA methyltransferases (DNMTs). DNA methylation, particularly in promoter regions, can block binding of transcription factors needed for gene transcription. Alternatively, methyl-CpG-binding domain proteins (MBDs) can also detect these epigenetic marks, binding and recruiting protein complexes that block gene expression.

Stable methylation patterns are established during development and can be maintained throughout the life of an individual. However, acute stimulation of a cell by an environmental factor can lead to changes in the DNA methylation pattern and, in older individuals, it is common to see deviations from the expected methylation pattern that can lead to less stringent control of gene expression. Global DNA hypo-methylation, leading to aberrant overexpression of genes, is frequently observed both in cancer and autoimmunity, and may even predict the onset of persistent disease. Currently, approximately 50 clinical trials are planned or ongoing, utilising inhibitors of DNA methylation in cancer and chronic inflammation.

Regulation of histone modification

A rapidly evolving research focus is the regulation of epigenetic modifications of histones, and how these modifications are recognised to regulate gene expression. Histones are conserved proteins that package and organise DNA. They can undergo a variety of post-translational modifications, including acetylation, phosphorylation and methylation, which influence chromatin structure and the accessibility of transcription activators to gene promoters and enhancers. Histones can be methylated by histone methyltransferases (HMTs) or demethylated by histone demethylases (HDMs) at lysine and arginine residues, all of which dynamically regulate recruitment or blockade of transcription factors. Histone acetylation is catalysed by histone acetyltransferase (HAT) enzymes that transfer acetyl groups to core histones and the transcription factors recruited to the site, leading to a more open chromatin structure, promoting gene expression. Histone deacetylases (HDACs), on the other hand, remove acetyl groups, causing a tighter wrapping of the DNA around the nucleosome that represses gene expression. Additionally, HDACs can target non-histone proteins, regulating their enzymatic activity, cellular localisation or transcriptional activity. Pan-HDAC inhibitors, having activity against all 18 mammalian HDACs, have been approved for use in the treatment of cancer, and have shown initial success in the treatment of juvenile idiopathic arthritis in an open-label trial.[5,6] However, it is not known which HDACs are responsible for driving these diseases. ››

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"Academic and pharmaceutical research are investing heavily in understanding how specific epigenetic modifications contribute to disease, and developing small molecular-weight compounds to target these processes, some of which have already entered clinical trials."

BET inhibitors

An alternative opportunity for targeting epigenetics in disease is the inhibition of binding interactions between the modification and the protein recognising the modification (the "reader"). In this regard, a number of companies have developed compounds specifically inhibiting interactions between acetylated histones and BET family bromodomain proteins which recognise this mark. These compounds have demonstrated preclinical efficacy in models of RA, multiple sclerosis, sepsis and cancer, and initial clinical assessment of this strategy has begun in the treatment of cancer.[7]

Our increasing understanding of how epigenetic processes contribute to cell behaviour in health and disease provides exciting insights not only into fundamental biology, but also into potential new targets for the treatment of disease. Key goals on the immediate horizon that will allow us to exploit this knowledge are: understanding how specific epigenetic modifications contribute to disease onset, persistence and therapeutic responses; determining how these modifications are specifically read to promote pathology; and the development and characterisation of compounds that can reprogramme or disrupt the interpretation of these epigenetic modifications.

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EPIGENETIC INFLUENCES ON GENETIC SELECTION

We are coming to a realisation that DNA is not the only way that parents can pass on traits to their offspring. Events experienced by a parent over a lifetime can also have an impact. For example, a recent study by researchers at the University of Pennsylvania showed that experiencing stress changes a male mouse's sperm in such a way that it affects his offspring's response to stress. This change is imprinted epigenetically by molecules called microRNAs, or miRs, rather than by DNA, they say. For readers who want to know more about the basic concepts behind epigenetics, *IPJ* recommends the TEDxSBU talk "Epigenetics 101: You can't always blame your parents" by Alberto Perez.

How **US pharmacists** are gaining ground in achieving wider access to their services

Access to pharmacists' services faces common barriers worldwide, including resistance to change, lack of resources and the underappreciated value of what pharmacists offer. Thus patients do not benefit fully from their medicines. But US pharmacists have united to change that and great progress has been made. Steve Simenson and Tom Menighan tell the story so far.

The global community of pharmacists is on the same journey to optimise medicines use. While at different places on this journey, pharmacists' destination is full integration as "providers" (formally listed as reimbursable contributors to care) into team-based care. Before describing US pharmacists' quest for provider status, let us review medication coverage by the US Government. In 1965, Medicare (a national social insurance programme) for people aged 65 years or over began with no drug benefit, while under a shared federal/state programme for people with limited resources — Medicaid — beneficiaries (typically medically underserved) gained coverage for prescription medicines. Pharmacies were paid by states in the Medicaid programme for the medicine plus a dispensing fee, a system that structurally remains the same today, but is increasingly challenging as fees and product cost reimbursement are reduced, often below actual cost. The Medicare Catastrophic Coverage Act (MCCA) was passed in 1988 but was quickly repealed in 1989. This Act would have provided seniors coverage for prescription drugs. In 2006, the Medicare Modernization Act established prescription drug coverage for seniors. To improve medicines use, "medication therapy management" (MTM) was included for selected patients. Generally, pharmacies, not pharmacists remained the billing entity. Despite high hopes, most pharmacists feel the Medicare MTM benefit fell short of expectations.

Pharmaceutical care in a value-based system

The Affordable Care Act (ACA) passed in 2009, expanded government insurance coverage, created the construct for "accountable care organisations" (ACOs; groups of health care providers who are paid linked to quality metrics) and challenged health systems, payers and providers to move care from "volume to value." Organisations began establishing ACOs and other value-based programmes. Implementation, still without pharmacists on the list of providers, renewed pharmacists' drive to create access to care in these value-based systems.

"APhA would launch the Pharmacists Provide Care campaign that has generated over 38,000 letters from pharmacists to the US Congress."

The American Pharmacists Association (APhA) recognised an advocacy need in 2010 when APhA president Steve Simenson created a task force, followed by a large, profession-wide stakeholder conference in 2012. Later, APhA would launch the Pharmacists Provide Care campaign that has generated over 38,000 letters from pharmacists to the US Congress.

Pharmacy organisations agreed pharmacists needed recognition as "providers" in Medicare before patients could gain broad access to our many services. With over a dozen pharmacy organisations in the mix, finding consensus on how would take time.

Meanwhile, pharmacy's friends in Congress were supportive of pharmacists but questioned the cost. Congressional leaders said: "Come with a single request." To be successful, all organisations had to put aside parochial interest. With each organisation's interests at stake, the equation to be solved was "Which patients, services and pharmacists" would be included in the profession's ask of Congress. Each of these three levers together would determine the calculated cost to Medicare. Debate over ensuing months led to a breakthrough. At the November 2013 gathering of the Joint Commission of Pharmacy Practitioners an invited Walgreen's representative proposed an approach that had nearly everyone nodding in approval.

A straw poll was taken, and after years of debate, America's pharmacy organisations united in an unprecedented way. The consensus was that Congress would be asked to amend Medicare Part B (which covers medically necessary services and preventive services) so that Medicare beneficiaries in medically underserved areas would have access to pharmacy services covered by Medicare and within pharmacists' state scope of practice. The equation was created — Which patients? Medicare beneficiaries in medically underserved areas. Which services? Those services within pharmacists' state licensure scope of practice. Which pharmacists? All licensed pharmacists, ultimately subject to any local or state credentialing requirements.

In January 2014, the Patients Access to Pharmacists' Care Coalition (PAPCC) was formed by a steering committee of pharmacy organisations, including Walgreens Boots Alliance, APhA, the National Association of Chain Drug Stores and the National Community Pharmacists Association, and was joined shortly after by the American Society of Health-System Pharmacists. Today this coalition includes over 40 organisations.

"After years of debate, America's pharmacy organisations united in an unprecedented way."

Congressional sponsors were identified by the steering committee lobbyists, a bill was written and introduced early

in 2014 and work began to secure co-sponsors and additional support. Since the formation of PAPCC, pharmacy's lobbyists have become a highly collaborative, effective team. Collectively the PAPCC steering committee has invested millions of dollars to help Congress appreciate how important pharmacists' services are to medication optimisation. At the time of writing this article, over 60% of the House and 40% of the Senate are backing HR 592 and S 314, the bills to list pharmacists among other Medicare providers. Common opposition from legislators includes: "Why change Medicare? I get my prescriptions fine already." Yes, patients get medicines safely dispensed, but lack of coverage prevents pharmacists from providing clinical services they are well trained to provide.

How things could look

At Simenson's Goodrich Pharmacy in Minnesota, pharmacists have been integrated into patient care teams well beyond the dispensing function for several years, thanks in part to more progressive insurance programmes in the state. To document results, all health care providers in the primary care clinics the pharmacy serves are measured against best-practice guidelines. With pharmacists on the team for those private plans that cover pharmacists' services, community measure scores have improved steadily. Since pharmacists began providing direct patient care through scheduled patient visits for medication management consisting of comprehensive medication reviews and follow-up, patient outcomes have improved and patient satisfaction with the care provided by all health care providers has risen.

"Lack of pharmacist provider status in Medicare is the glass ceiling preventing expansion of pharmacist patient care services."

Goodrich pharmacists have also gained access to electronic medical records through collaborative practice agreements among other providers. The state of Minnesota pays pharmacists as MTM providers for the state's Medicaid patients and measures show improvements for these economically disadvantaged patients. New analysis from the University of Minnesota shows that health care homes including pharmacists saved Minnesota USD 1bn over five years. Unfortunately, despite great results, the complex US health care system still offers highly variable access among payers. For medical practices ACOs, only recognised providers can earn revenue for the team. Thus, lack of pharmacist provider status in Medicare is the glass ceiling preventing expansion of pharmacist patient care services.

The quest continues

While still lacking much federal support, pharmacists and their organisations have continued to innovate, expand and advocate for new care models that include pharmacists' patient care services. State Medicaid programmes and many private programmes continue to consider and/or cover pharmacists' services. And, as described in the IMS Responsible Use of Medicines Report 2012, the body of evidence is compelling: pharmacists on the team improve quality and lower costs. Further, Goodrich Pharmacy has observed that when pharmacists practise at the top of their education other health care providers seek them out and job satisfaction improves. And, when extra support is provided for chronically ill patients, improved outcomes and lower costs result. Today, US pharmacy schools prepare pharmacists through interprofessional education to work collaboratively. Coverage of their services promotes elevated practice.

Tactically, when Goodrich Pharmacy pursues coverage with payers, the most frequent reason to deny coverage is lack of inclusion in Medicare as providers, regardless of documented value. Data and experience teach that teams inclusive of pharmacists improve outcomes and lower overall costs. Once exposed to pharmacists, teams request more of their time. Strategically, through positive media, united political advocacy and continued practice innovation American pharmacists are making great progress toward the goal of medication optimisation through the achievement of provider status in Medicare. Doing so will secure expanded access and coverage for pharmacists' patient care services with Medicare beneficiaries in medically underserved areas and beyond.

ABOUT THE AUTHORS

Steve Simenson is managing partner and president of six community pharmacies. He has chaired the APhA Policy Committee and serves on the APhA MTM Services Model Advisory Committee. **Thomas Menighan** is executive vice president and chief executive officer of the American Pharmacists Association (APhA).

Building bridges across the global pharmacy community

Adian Magomedov reports on the findings of a recent survey on the Pharmabridge initiative.

While some countries have well developed health care systems and more financial resources to utilise pharmacists as health care providers, other countries are not quite there yet. "As pharmacists, we have the responsibility of contributing to the growth of our fellow pharmacists in developing countries. We must share knowledge, experience and skills, so that they, too, can provide the best health care to their patients," says Agathe Wehrli, founder of the Pharmabridge initiative.

Supported by FIP, the Pharmabridge programme aims to strengthen pharmacy services in developing and transitional countries with the support of established pharmacy resources from the developed world. This is facilitated through a network of institutional and personal links between schools of pharmacy, pharmacists associations, drug information centres, hospital pharmacies and individual pharmacists. To date, Pharmabridge has placed nearly 90 pharmacists in practice sites, mostly in the USA, Canada and the UK. According to a recent survey of participants in the programme, these training opportunities have proven to be fruitful, enriching and rewarding.

Outcomes in practice

The majority of participants (n=31) had a background in pharmacy education and hospital pharmacy. Over 90% indicated that they saw Pharmabridge as an opportunity to facilitate career development, acquire professional skills and improve patient care. All participants indicated they would recommend the programme to others.

"The survey showed that 97% of respondents were overall satisfied with their practice placement."

During interviews with eight Pharmabridge participants, ward rounds, collaboration and teamwork involving other health care professionals were ranked as the most important lessons drawn from the experience. Despite positive changes, participants faced several barriers in their home countries. For example, attempts to increase pharmacist responsibilities were met with physicians' concern about pharmacists taking over their jobs.

After Pharmabridge, interviewees have attempted to improve the efficiency and organisation of their practices by implementing new documentation forms, systematic flowcharts, validation exercises and/or crosschecks they adapted from the programme. One of the interviewees believed that great improvements had been made in clinical collaboration at their practice as a result of Pharmabridge. The survey showed that 97% of respondents were overall satisfied with their practice placement.

Olufunke Hafsat Jimoh, director of pharmacy department, Job University Teaching Hospital, Nigeria, participated in the Pharmabridge programme in 2013. Watch the video to find out what Mrs Jimoh has to say about her placement in the USA, changes she has made in her own pharmacy environment, and for her advice to fellow pharmacists who might also want to gain the same experiences.

For more information about the Pharmabridge initiative visit www.pharmabridge.org. Pharmacists interested in taking part can contact Dr Agathe Wehrli at wehrlia@bluewin.ch

LOOK BEYOND YOUR IMMEDIATE COMMUNITY: practise in low-resource or emergency settings

Claire Liew shares how a decision to practise in Tanzania in 2012 led to working for communities in need during the West African Ebola crisis and the earthquakes of Nepal.

The option of combining travel with working as a pharmacist first presented when I came across a VSO International open day during my time at university. Voluntary Services Overseas is the world's leading independent, international development non-governmental organisation that uses volunteers to fight poverty and reduce inequality. Skilled volunteers from sectors such as health are posted overseas to live and work alongside local professionals, exchanging knowledge and skills to improve the quality of life for people who need it most. Placements are usually for one or two years to enable meaningful relationships to be formed between volunteers and the communities in which they work; a new language may need to be learnt and respect gained before even small differences can be made. Such a time commitment is not possible for everyone and since placements are voluntary you need to be financially secure at home before considering it. In my case it took 10 years before the right time came to spend 18 months away from family and friends and for me to believe I had the professional and personal skills to offer; I accepted a VSO placement at Nyangao Hospital, southern Tanzania. As the only pharmacist there, my role was to improve pharmacy services at the 160-bed rural mission hospital with a focus on improving the supply chain of medicines and hospital equipment. All too often the hospital would run out of common antibiotics or syringes, for example, with not enough money in the government funded Medical Stores Department to purchase more. Being able to suggest pharmaceutical alternatives was one thing but creating a sustainable source of medicines that would continue after I left was another. During my placement I helped open and manage a second pharmacy within the hospital that used privately donated funds to purchase medicines and supplies that patients were able to buy at a low-cost if the government-backed pharmacy ran out. As my first experience of working in a low-resource setting, Tanzania opened my eyes to the plight of people who do not have access to a level of health care often taken for granted; I will always remember patients lined up on trolleys outside theatre under the heat of the sun, swatting flies away from their external fixation devices. But the good memories outweigh the sad ones. Learning enough Swahili to counsel patients on their medication, being taught how to make chapattis and joining the resident nuns on one of their pilgrimages were just some of them.

Ebola

Within six months of returning to the UK the Ebola epidemic was at its peak in West Africa and with Save the Children I travelled to Sierra Leone to work in the UK's flagship Ebola Treatment Centre in Kerrytown. For four months I worked alongside National Health Service staff, the Cuban Medical Brigade, the UK military, Sierra Leonean health workers and Save the Children employees. Unlike in Tanzania, the centre had a good supply of quality medicines. The challenges arose from working with teams from all around the world, each of which had their own preferences and ideas on how best to treat patients. As the pharmacist it was my responsibility to ensure clinical guidelines and protocols were followed. It was also a perfect opportunity to deliver training to the enthusiastic and motivated Sierra Leonean nurses and doctors, who were unfamiliar with the value a clinical pharmacist could bring to the team, helping to build skills and capacity. Once I had completed training in personal protective equipment (PPE), I was able to enter the "red zone". I had to ensure there were no glass ampoules or bottles left on the wards — glass could rip PPE — and that only approved emergency medicines were stored in the cupboards. Sharing the dispensary with UK military pharmacists was an added bonus. Their discipline, motivation and work-ethic combined with a strict adherence to clinical guidelines and treatment protocols was inspiring (not to mention their regular supply of coffee, chocolate and biscuits from home, which made the air-conditioned pharmacy a popular venue in the centre). Fortunately I was not restricted by military convention and when an oral potassium solution had to be made from potassium ampoules and locally procured mango juice for a patient who had lost IV access, I was able to go ahead unhindered.

Earthquakes

As the Ebola epidemic slowed down and the need for a pharmacist in Nepal heightened following the devastating earthquakes of 2015, I found myself flying to Kathmandu for two months to work with the in-country Save the Children team. (Unlike in a disease outbreak, the international medical response to a natural disaster can be over more quickly, especially where the local health systems are sufficient and competent.) My role in Nepal was more akin to that of a medical logistician, managing the large pharmaceutical warehouse and co-ordinating donations of unused medicines and equipment to local hospitals. Following national treatment guidelines alongside the World Health Organization Essential Drugs List, we were able to minimise the volume of pharmaceuticals previously sent from the UK which needed to be destroyed and were able to donate them to a worthy cause. One of the biggest challenges facing the Nepalese health system was the physical damage to the rural health posts in the areas most severely affected by the earthquakes. Damage to the buildings and equipment meant that health facilities were unable to provide adequate care to their communities. For the health team, our task was to assess and co-ordinate the needs of the health posts and fulfil our pledge to supply essential equipment, including corrugated iron sheets to rebuild the external structures as well as clinic furniture and medical equipment to enable the service to resume.

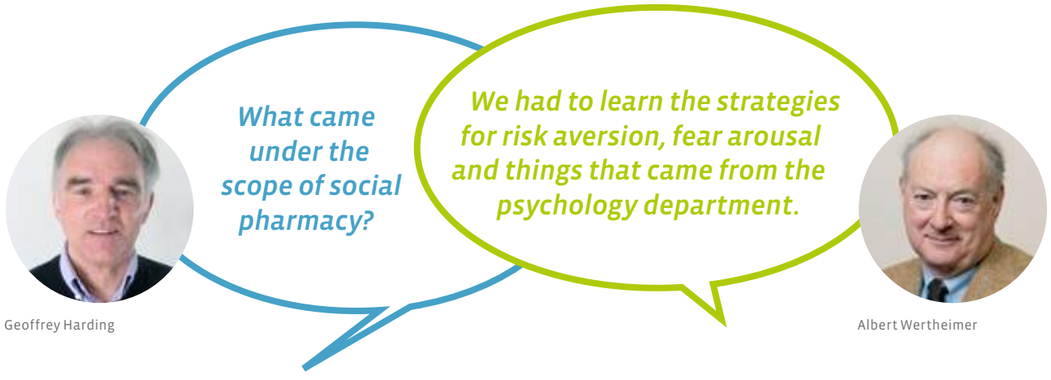
"As the Ebola epidemic slowed down and the need for a pharmacist in Nepal heightened following the devastating earthquakes of 2015, I found myself flying to Kathmandu."

The opportunity to travel to amazing places while continuing to work as a pharmacist alongside people who inspire me is more than I can ask for from a job. And although I appreciate that the insecurity and challenging work environments may not suit everyone, I have managed to fit these opportunities around working as a locum pharmacist in the UK National Health Service and short periods working in New Zealand and Australia. The value of working in situations that challenge me professionally, emotionally and mentally cannot be easily quantified. The major downside of this work, however, is that it can be addictive. Once you have spent an afternoon in a Masai hut in Tanzania, chewed on dried yak's milk overlooking the Himalayas in Nepal and danced at emotional discharge ceremonies of Ebola survivors in Sierra Leone, the hardest thing of all can be returning home to a normal life.

For pharmacists interested in work beyond their immediate community, Claire Liew recommends reliefweb.int which acts as a gateway for humanitarian and development jobs.

Social pharmacy then and now: **a discussion**

Inequality in our societies is one factor affecting the health of our communities and behavioural aspects of medicines use is another. Both of these come under the umbrella of social pharmacy. In 1986 Geoffrey Harding (GH) was the first social scientist to be employed in a UK school of pharmacy. He talked to Albert Wertheimer (AW), a pioneer of social pharmacy in the USA.



Geoffrey Harding

Albert Wertheimer

GH: Is there a clear concept of social pharmacy in the States or is it a catch all term?
AW: Young graduates probably know what it is and older pharmacists are probably a bit confused . . . even the academics are a bit confused because in some places it might be called the department of social and administrative pharmacy, [in] some places it's called pharmacy administration and [in] others [it's] social and economic. The terminology varies based on their areas of expertise. I would say, if anything, we have lost a bit of ground because insurance companies are eager to have people who understand epidemiology, biostatistics [and] outcomes research for the pharmacovigilance jobs, and there's not much encouragement and financial support for the social and behavioural sciences.

GH: What was the original vision?
AW: Back in the late 1960s — '69, '70 — we recognised it was the beginning of the global pharmacy movement and the pharmacist might become very expert with drug interactions and adverse events but nobody would listen to them unless they had some interpersonal communication skills — and there [were] some strategies from the social scientists we could apply.

GH: So social sciences were significant?
AW: Yes. I would say the 1950s and 1960s were a golden age of medical sociology and social psychology.

GH: So what came under the scope of social pharmacy in the 1960s?
AW: Well we focused on diseases that we could piggy back, and what the students had learnt in pharmacology and pharmacotherapeutics and pathology. Then we talked about how no one wants to be ill, which led us to theories that people are willing to help ill people to fill the gap because it could happen to them, and since it's costly, health insurance came about, and also [that] there are ways to try to enhance drug taking compliance because already for 40 to 50 years people had said the weak link is with good diagnosis, good imaging, good laboratories, [and that] the physician gives the patient a prescription and they don't take it because it tastes bad. So we needed to do some interpersonal communication and counselling and we had to learn the strategies for risk aversion, fear arousal and things that came from the psychology department.

GH: So who is doing the teaching of this? Is it pharmacists?
AW: In the beginning it was myself and probably about 10 others. We taught scores of graduates — the next generation who would be teaching it. The original [text] book was with Micky Smith and now I'm currently working [on] the fifth edition. So the field is alive and taught at most schools. We now have 130 pharmacy schools in the United States — doubled in the last 10 years — and I would say there's some [social pharmacy] course offered in just about all of them.

GH: So social pharmacy has a good presence in the US pharmacy curriculum?
AW: Yes. If I'm 100% honest I would tell you the students aren't thrilled about it because they come to the faculty to learn about saving lives and preventing drug catastrophes and then we talk about understanding the relationship between attitudes and behaviour.

GH: That sounds a familiar story — something that would resonate with colleagues in the UK. Looking back over the past three decades do you think social pharmacy has been on the ascendant, is it staying where it was, or is it on the decline?
AW: It's probably on the ascendant but the slope is [a] near lateral line. It's difficult to get money for research. There is money but it's all [for] applied [research rather than pure discipline based], for example, if I had a project that would enhance drug taking behaviour or get people to stop smoking that could be funded using different social science strategies.

GH: There's a sense in the UK that pharmacists can do a lot of the social pharmacy teaching themselves. They don't necessarily need an expert — rather they read a few books and develop it as they go along instead of drawing on the expertise of psychologists and sociologists.
AW: We have some of that, but the faculty might borrow someone from the sociology or psychology department to teach that course. We do that with the law and jurisprudence as well; it doesn't pay to have a pharmacist lawyer on staff full-time.

GH: This seems to hit on the nub of the issue — that social pharmacy is ill defined and can be whatever someone calls it; [it could be] what pharmacists do when interacting with people, so they could talk about the psychology of medicines use [but on the other hand] someone could come in and talk about inequalities and access to health care. So perhaps there isn't a concise definitive definition of social pharmacy.
AW: I say the glass is half full. I say that's a sign of the maturity of the discipline because it's now grown. There are people who are now specialising in various aspects of social pharmacy. We have people who still teach marketing — how you get people to change their purchasing behaviour. Well that's social pharmacy in a way — it's different from what I do but I don't think it's a competing or different definition, it's just the area they feel most comfortable teaching. We have some places that only do interpersonal communication and that's a legitimate part of social pharmacy.

GH: So is it possible to make a clear distinction between what constitutes pharmacy practice and what constitutes social pharmacy?
AW: I use an illustration or example to try and explain that same question. I say that the practice of pharmacy requires you to sit on a three-legged stool. One of those legs is biomedical science — pharmacology, pharmaceutics, pathology, anatomy, physiology, etc, the second one is pharmaceutical science — drug therapy, pharmacokinetics, and the third leg is social science, and all that knowledge is useless if you can't successfully communicate to the patient and have it sink in.

This text has been adapted from a recording. You may listen to the original here.

GLOBAL ISSUES
forge the path for pharmacy global citizens to follow

Civic responsibility can be defined as the responsibility of a citizen. But should citizenship be perceived as limited by country borders? Ailsa Colquhoun reports a movement to teach global citizenship to pharmacists

Since September 2015, Europe's response to the Syrian refugee crisis has kept global migration in the headlines. And with good cause: last month the UN Refugee Agency, UNHCR, announced that during the first six weeks of this year more migrants arrived in Europe by boat than in the first four months of 2015. Each day over 2,000 people risk their lives and the lives of their children attempting to reach Europe.

For educators, the health challenges facing refugee populations represent just one more argument for the greater adoption of the ethos of global citizenship.

Oxfam defines a global citizen as a person who actively engages with the world, and helps to make it a more just and sustainable place. It stresses that global citizenship is an ethos that must permeate all activity to achieve social justice, the appreciation of diversity and sustainable development.

" Pharmacists pondering the relevance of global citizenship to their own profession may be interested to note an exponential rise in the number of postgraduate qualifications in global health as well as efforts to globalise the pharmacy undergraduate curricula."

Pharmacists pondering the relevance of global citizenship to their own profession may be interested to note an exponential rise in the number of postgraduate qualifications in global health[1] as well as efforts to globalise the pharmacy undergraduate curricula. Driven by global initiatives such as the United Nations Millennium Development Goals, and, latterly, the 2030 Sustainable Development Goals (SDGs), pharmacy educators have begun to assess their role in achieving the SDG ambition for universal health coverage, specifically access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines. Among the bodies coordinating the effort is the FIP education initiative (FIP*Ed*), which is working to develop socially accountable pharmacy education, defined as "where practice and science are evidence-based and practitioners have the required competencies to provide the needed services to their communities".

Developments in pharmacy global health education

Good examples of developments in pharmacy global health education can be found around the world: since February 2016, the University of Brighton undergraduate (MPharm) pharmacy degree has included an optional global health module (developed in collaboration with the Wellcome Trust Centre for Global Health Research), based at the Brighton & Sussex Medical School (BSMS). BSMS also offers a masters programme in global health, which includes a module on access to medicines. According to teaching fellow in global health Sarah Marshall, the MPharm module aims to deliver a "taste of global health", and covers such topics as the global burden of disease, social determinants of health and access to medicines globally, with particular emphasis on health inequities in the context of low- and middle-income countries.

At the University of California, San Francisco, USA (UCSF), global pharmacy education is an established discipline with general and specialist programmes for students that include overseas and domestic experiential placements centred on global population health improvement.

At the UCL School of Pharmacy, London, UK, global pharmacy issues are introduced in varying degrees at undergraduate level. Activities such as poster preparation, in-class activity and visits by external speakers are used to encourage global citizenship among pharmacists. Now, to develop more formal learning structures, a set of global pharmacy learning outcomes has been drafted. These look at six domains: public health and chronic disease; political, economic, social and cultural dimensions of medicines and pharmacy; pharmaceuticals; international infrastructure for supply and use of medicines; professionalism; and interdisciplinary factors and their relevance to health, medicines and pharmacy.

"Although the importance of global perspectives is now well recognised by governments and international health organisations, there remains a potential disconnect between the strategic imperative and the practicalities of teaching the necessary skills at the local level."

Practical relevance

Global pharmacy learning outcomes such as those proposed by UCL have an obvious relevance for pharmacists working in the humanitarian sector or in lower-income countries with less comprehensive pharmaceutical care networks. Such professionals will be familiar with the increased red tape, as well as systemic failures in the indigenous skill sets and resource bases that can exist.[2] However, proponents of global health education argue that these outcomes now also have increasing relevance to pharmacists intending to work solely in higher-income nations. Figures for the UK, for example, show that tuberculosis and HIV rates are higher for non-UK natives. Studies into the reactivation of latent TB suggest contributory factor such as low income and poor living conditions. Also implicated for both new and longer resident migrants are systemic failures such as inadequate information and procedural signposting, particularly for new migrants, lack of access to reliable transport, confusion around entitlements, particularly among migrants with insecure immigration status, and cultural insensitivity of some front line health care providers.[3]

It is yet to be seen how such system failures will cope with the increased population mobilisation associated with the current global humanitarian response to the Syrian crisis, as well as the challenges of emergent diseases such as the Zika and Ebola viruses.

As Tina Brock, professor of clinical pharmacy, associate dean for teaching and learning at UCSF, says: "Even if our students never leave the US, they need to be global pharmacists: the world is a much smaller place and diseases — and people — transcend geographical boundaries."

Gaining buy-in

Although the importance of global perspectives is now well recognised by governments and international health organisations, there remains a potential disconnect between the strategic imperative and the practicalities of teaching the necessary skills at the local level. In the report "The global pharmacist" published by UCL School of Pharmacy and the Institute of Education, University of London, researchers conclude that education can be dependent on the interests and knowledge of individual staff members, and their perceptions of the overall relevance of these issues to the everyday practice of pharmacy.

Concern about how to incorporate global health issues within an already crowded undergraduate curriculum is one concern, says report co-author Sudaxshina Murdan, who is progressing the adoption of the draft learning outcomes. Other barriers to adoption include the perception that global issues cannot be easily embedded in the teaching of more "technical" subjects. The danger is that pharmacy education sees them as "nice to know" but not "need to have".

But in dynamic marketplaces where there is changing demand for and supply of health care professionals and of the services they use and deliver, what is nice to know today can quickly become the need-to-have skill of tomorrow. Among students, there is now huge interest in global health issues, Dr Marshall believes. She says: "In a world where employment is no longer guaranteed, skills in global health are vital for tomorrow's workforce."

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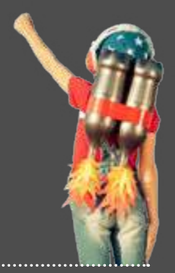
Think of yourself as **a leader!**



If you don't want to lead, can you be an effective practitioner?
By Lowell Anderson, co-director, Center for Leading Healthcare Change, USA

Lowell Anderson

Leadership takes many forms. It is easy to name the leaders of our profession. Many of them have titles — association president, vice-president, chairman. The equation of leadership with those who have titles and position is common in our profession. Based on our understanding of those positions, we will each decide whether or not we wish to seek those offices, to be a leader. Or even to lead.

Less often do we acknowledge leaders in our profession. These are the pharmacists who are mayors, members of legislative bodies, civic leaders. A recent study by the National Community Pharmacists Association (USA) found that 6% of US community pharmacists hold an elective office.

Even less often do we acknowledge the importance of leadership in the management of our practices and our patients' medicines use. Think of some of the skills and attributes of a good leader. A pharmacist who works with a patient to improve his or her medicines use will use many of these skills with the patient:

- **Communication**: We often call this counselling or consulting, but it is the ability to describe the treatment and the goals in a way that the patient buys into the process and will commit to working toward the goals.
- **Confidence**: It is human nature to assess another person's level of confidence. Clinicians must be confident of their knowledge and their skills to achieve the treatment goals. If we are not confident the patient will sense it and not engage.
- **Commitment**: To be good clinicians we must be committed not only to our profession and practice but also to patients' needs and goals.
- **Positive attitude**: It is well accepted that a positive attitude can improve clinical outcomes. We can affect patients' attitudes by our own attitude. If we are positive, the patient is more likely to reflect that positivism.
- **Creativity**: Working with patients requires creativity. Because each patient is unique we need to find ways to address what they feel important in ways that consider their lifestyles and personal goals.
- **Being informed**: We must stay on top of the knowledge required to treat our patients. If we do not know it, they will know it!
- **Honesty**: It is important we are honest with our patients, but it is even more important to be honest with ourselves. It means knowing both our skills and shortcomings to apply our expertise and in recognising areas where we do not have expertise, finding a colleague who can fill the gap. We cannot be experts in everything, but there is an expert in everything. In medical practice it is called referral. Pharmacists should not be afraid of referring a patient to a pharmacist specialist when indicated.
- **Ability to inspire**: Think about the patient who leaves your practice and is committed to achieving the jointly developed therapy goals, the patient who, because of your skills, will now follow you towards achieving his or her treatment goals; the patient who now tells his or her friends: "The hour I spent with my pharmacist today was the best experience of the week!"

"It is well accepted that a positive attitude can improve clinical outcomes. We can affect patients' attitudes by our own attitude."

Society expects us, as professionals, to lead. We are expected to apply all the above leadership skills for implementing positive changes not only to our patients, but also to our practices, profession and communities. We are expected to bring our unique knowledge of medicines to the team of health professionals who are working with a patient, with a health system, or with a government.

There are times to lead and times to follow, but in patient care, being a follower cannot be an option.

Social responsibility should be part of business as usual

In the business world, civic engagement has been translated into "corporate social responsibility" (CSR). A former CEO of British Petroleum recently asserted that CSR is dying, but according to Ulf Janzon, policy & communications director, MSD, Sweden, in the pharmaceutical industry it is very much alive.

Ulf Janzon

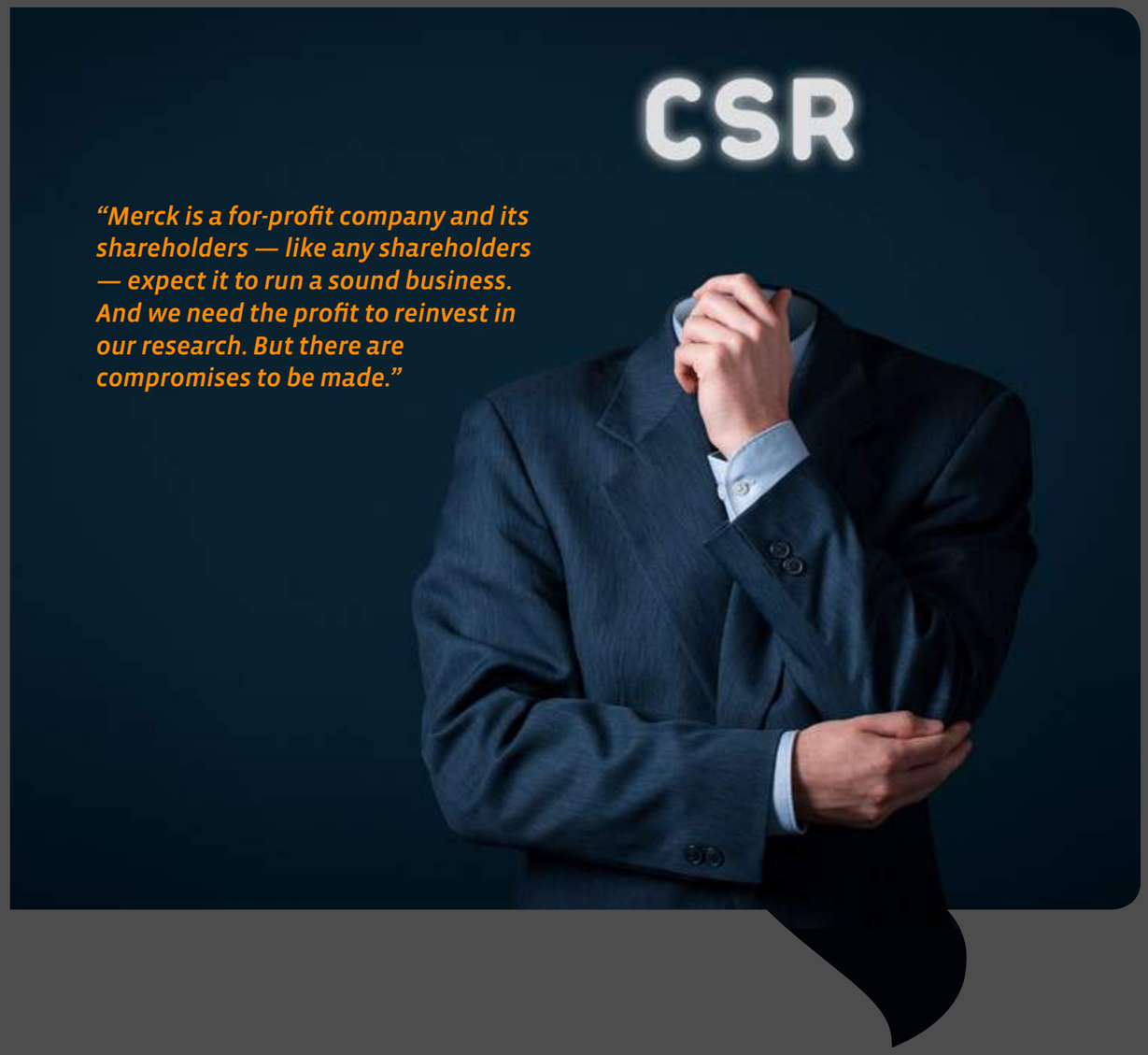
Coming into the MSD office in Stockholm you are met by a quotation by George W. Merck: "We try never to forget the medicine is for the people. It is not for profits. The profits follow, and if we have remembered that, they have never failed to appear. . . ."

In its simplicity it summarises the way I look at corporate social responsibility (CSR) — that it is part of the way we do business. To paraphrase the quotation: it is not trying to figure out how to get maximum media attention for non-commercial projects, it is taking social responsibility into every business decision. For me, the primary part of CSR for a health care company is to address unmet medical needs and to find new solutions to improve health. In our tagline we try to express this in a simple yet important way: "Be well".

There is another quotation by George W. Merck: "We cannot step aside and say that we have achieved our goal by inventing a new drug or a new way by which to treat presently incurable diseases. . . . We cannot rest till the way has been found, with our help, to bring our finest achievement to everyone."

Of course Merck is a for-profit company and its shareholders — like any shareholders — expect it to run a sound business. And we need the profit to reinvest in our research. But there are compromises to be made. An example is that we provide our HIV drugs at very different prices depending on ability to pay for them.

The fact that the quotations by George W. Merck still have an impact in our company was illustrated in a wonderful way in December last year when we had a visit by a now retired Merck researcher, William C. Campbell. He was the 2015 Nobel laureate in physiology or medicine together with Satoshi Omura for their discoveries concerning a novel therapy against infections caused by roundworm parasites. When asked if the company decision in 1987 to donate ivermectin (Mectizan) for the treatment of river blindness "to all who needed it, for as long as needed" was done to improve reputation or to boost morale, Dr Campbell's answer was a blunt "no". He went on to say that if that would have been the reason it would not have worked. The decision was made because it was the right thing to do. And because it was, it did indeed benefit company reputation and employee morale. (Read more about the Mectizan Donation Programme at www.mectizan.org.)



"Merck is a for-profit company and its shareholders — like any shareholders — expect it to run a sound business. And we need the profit to reinvest in our research. But there are compromises to be made."

This is in deep contrast to the decision by Turing Pharmaceuticals last year to raise the price for pyrimethamine (Daraprim) from USD 13.50 per tablet to USD 750, creating an avalanche of criticism against the company and the pharmaceutical industry in general. This is a clear case of not including social responsibility and the invisible contract between companies and society in the decision-making process. Fortunately in this case, a generic company (Imprimis) together with a pharmacy benefits manager (Express Scripts) stepped in to offer pyrimethamine at USD 1 per tablet.

The lesson to learn from this is that not considering social responsibility in business decisions can lead to a lot of criticism. And, in this case, because it also provoked another company to step into the market, neglecting social responsibility was also a financial disaster.

Social responsibility and shareholder value can and should go hand in hand. When they do, the long-term prospects are bright.

Pharmacy and advocacy

THE SWISS WAY

pharmaSuisse, Switzerland's umbrella organisation for pharmacists, has been a member of FIP for 22 years. Graeme Smith spoke to Dominique Jordan, pharmaSuisse's immediate past president, about pharmacy in Switzerland and how his organisation is promoting pharmacy in the country.

Switzerland is such an evocative name. It calls to mind mountains, chocolate, cheese, watches, cuckoo clocks, bank accounts and, of course, its army's famous knives! But for pharmacists, Switzerland is noteable for another reason and that is the great advocacy that goes on there, much of which is due to the policies of FIP member organisation pharmaSuisse.

Dominique Jordan, pharmaSuisse's immediate past-president, says that advocacy is a very important role for the organisation. "Pharmacists must show their presence in the health care system and give information to politicians and authorities. . . . If we want to change a law, we have to convince the parliament and other stakeholders in the health system."

To that end pharmaSuisse organises political breakfasts with members of parliament four times a year. It even has a publication — *Dosis* — aimed specifically at policymakers. The topics in the publication, which summarises arguments for politicians to consider, are used as entry points for the breakfast discussions. "These arguments are short, precise, concise and logical," says Mr Jordan. "Other professions have meetings, discussions and statements, but I don't think that anything similar to Dosis exists with them."

Another means by which pharmaSuisse is involved in advocacy is through the training of its members. Last year, pharmaSuisse organised eight training events in different regions followed by a one-day follow-up course in the capital. Mr Jordan explained that such training was the idea of the organisation's current president Fabian Vaucher: "The aim was to increase the political sensitivity of our members and show them how to approach politicians and discuss things with them through using practical cases." There was a clear appetite for this training, with 500 of the country's 4,269 pharmacists attending.

Dominique Jordan: "If we want to change a law, we have to convince the parliament and other stakeholders in the health system."

Community specialists

Advocacy is also apparent through pharmaSuisse's involvement in the education of pharmacists. In particular, because it wanted to increase the quality of services offered and to improve patient safety, it advocated the official recognition of the title "specialist in community pharmacy", and the possession of the title is now mandatory for anyone in charge of a pharmacy.

Mr Jordan explained that because Swiss pharmacy is highly advanced in terms of services offered, pharmaSuisse wanted to have the same level of competencies for all pharmacists working in Switzerland, including those with foreign diplomas. These competencies include vaccination, diagnostics, knowledge of Swiss medicines legislation, and prescribing, among others. "All these competencies need special training, which is provided with the acquisition of the title," he said.

"It is quite clear that the role of pharmacists in triage will grow in the next few years owing to demographic and economic trends."

The training curriculum is put together by pharmaSuisse and is a 50-day extra-occupational course of study over two years. Participants must pass an examination in order for the title to be conferred. "The cost of this postgraduate education — about CHF10,000 [EUR 9,148] per year — has to be considered as an investment in the future," Mr Jordan said. He added that without a visible means of pharmacists' quality and competence, recognition of and payment for pharmacy services would not have been possible: "The title was the only way to convince our politicians."

However, pharmacists in Switzerland have a long education to get through before they can become specialists in community pharmacy. There is a three-year undergraduate programme to obtain a bachelor's degree followed by two more years, one in practice, before the award of a master's degree. After the master's examination, students must pass a federal examination in order to be employed as a pharmacist. In order to work independently (under their own responsibility), they need to obtain the specialist title.

Dosis is a publication aimed specifically at policymakers

Dispensing doctors and a federal government

"As a health professional, the image of the pharmacist is excellent due to the services they provide to the population," Mr Jordan says. But not everything in the Swiss garden is rosy. Switzerland has a high proportion of dispensing doctors, who supply around 25% of medicines. This has caused tensions between the professions of pharmacy and medicine because, he said, "we are playing the same game but with different rules" and whether dispensing doctors are allowed or not is a cantonal matter, not a federal one. Fifteen of the 26 cantons allow it in some form. The worst consequence of doctor dispensing, he suggested, is that it makes collaboration with doctors difficult because of competition issues.

Another issue is that pharmacy law can differ in each canton. There are only three laws — concerning health insurance, medical professions and therapeutic products — that apply at a federal level, but each canton has great autonomy to decide how to interpret these. A major drawback of this system is that it can be difficult to implement new services nationally. For example, each canton needed to be convinced to change its own laws in order to give pharmacists throughout Switzerland the authority to provide vaccinations. Difficulties arise, too, if pharmacists want to work in different cantons, perhaps to provide holiday cover. "Such a system involves extra costs and quite a lot of administrative work," Mr Jordan says. "But a positive aspect is that new services can be introduced in a canton as a pilot and then, like a domino effect, these can be extended to other cantons."

Developing pharmacists' role

Swiss citizens have the highest life expectancy in the world (80.4 years for men and 84.7 years for women, in 2012). Everybody living in Switzerland is required to buy health insurance from private insurance companies, which are obliged to accept everyone. The costs are high and, with an ageing population and the emergence of new health technologies, they are likely to get higher. But pharmacists could have a role here in mitigating rising costs. Mr Jordan mentioned pharmaSuisse's NetCare project. The purpose of the project, which was piloted in 200 pharmacies, was to

convince politicians to change the law in order to allow pharmacists to provide professional triage services (that is, become an entry point to the wider health system involving doctors and hospitals) and to dispense prescription-only medicines for some defined diseases without a doctor's prescription. The project also tested the possibility of having a video consultation with a doctor from a pharmacy.

"FIP represents a great platform for the world-wide sharing of information."

Mr Jordan said: "The final vote on the law's changes should happen this year. When the change is accepted we can move on and begin negotiations with insurance companies to be paid for this service. . . . It is quite clear that the role of pharmacists in triage will grow in the next few years owing to demographic and economic trends." He added that a study associated with the project had shown that pharmacists could resolve up to 73% of the cases presented to them, and that this suggested a pragmatic solution to the problems of many health systems around the world.

With that in mind, Mr Jordan stated that FIP represents a great platform for the world-wide sharing of information. He believes pharmaSuisse's membership to be "a win-win situation". The annual congress is particularly useful, he added, in disseminating information about professional developments, new services and new ideas to adapt and integrate into one's own country's system. "FIP is definitely worth supporting," he said. "Pharmacy comprises little communities all over the world but, together, we are strong."

About pharmaSuisse

pharmaSuisse represents pharmacists to the Swiss Government and to other professional organisations. Its 65 employees work in specialist teams. As well as administering the management of members and their qualifications, and providing legal support to them, the organisation is active in:

- Education — including undergraduate and postgraduate education, and mandatory continuing professional education
- Politics (see main text)
- Economics — including remuneration negotiations
- Quality — including the quality of infrastructure, procedures and services provided by pharmacies
- Interprofessional collaboration — including the creation of NetCare (see main text)
- Scientific support for pharmacists — including provision of drug information web tools and production of synopses of scientific articles relevant to pharmacy practice
- Communications — including publications and health promotion campaigns

DID YOU KNOW?

- There are five pharmacy schools in Switzerland, and in 2014 there were 1,794 pharmacy students.
- Records for 2011 give the number of pharmacists in the country as 4,269 (5.6 per 10,000 population). Most of these work in community pharmacy, 2,750 as employees. In hospital pharmacy practice there are around 200 pharmacists, and some 350 work in the pharmaceutical industry, which contributes around 30% of the country's exports.
- There are 1,743 pharmacies spread unevenly throughout the country's 26 cantons, in which eight million people live.
- Medicines are classified in six classes — narcotics, prescription-only medicines (no repeats allowed), prescription-only medicines (repeats allowed), over-the-counter medicines from pharmacies only, over-the-counter medicines allowed to be sold in drugstores, and over-the-counter medicines allowed to be sold in supermarkets.
- Patients must pay a proportion of their medicines costs, depending on circumstances; no medicines are provided free of charge.
- Swiss law forbids mail-order (in other words, internet supply) for all medicines, but authorisation may be given by cantons if there is a prescription for the medicine and other conditions are met.
- Pharmacy is the fourth most trusted profession in Switzerland, behind firefighters, airline pilots and nurses.

ABOUT **THE WORLD HEALTH ASSEMBLY**

Wherever and whenever decision-makers discuss any aspect of medicines on a global level, FIP is at the table. Every year we are present at the World Health Assembly (WHA) in Geneva, Switzerland, the biggest event of the year for health stakeholders. Here are nine things you should know about the WHA.

1. The World Health Assembly (WHA) is the forum through which the World Health Organization (WHO) is governed by its member states. The WHA currently has 194 member states and is composed of health ministers from those states.

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2. The executive board of the WHO has 34 elected members who are qualified in the health field. The main functions of the board are to give effect to the decisions and policies of the WHA, to advise it and generally to facilitate its work.

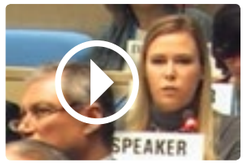
3. The WHA is the supreme decision-making body of the WHO and the world's highest health policy setting body. Its main tasks are to resolve major policy questions, to approve the WHO work programme and budget, and to elect its director-general.

4. The WHA generally meets every year in May at the WHO headquarters in Geneva. In preparation for the WHA, the WHO Executive Board holds a meeting in January, at which the agenda for the WHA is agreed and resolutions for forwarding to the assembly adopted.

5. Some of the main international frameworks adopted through WHA resolutions include the International Health Regulations, the Framework Convention on Tobacco Control, the Global Code of Practice on the International Recruitment of Health Personnel, and the Global Action Plan on Antimicrobial Resistance.

6. At the WHO Executive Board meeting in January 2016, global health issues including Ebola, child obesity, road safety, antimicrobial resistance, healthy ageing and health in the new international sustainable development agenda were addressed.

7. FIP attends both the WHA and the WHO Executive Board meeting. In January, we delivered statements focusing on the role of the health sector in the management of chemicals, antimicrobial resistance, promoting the health of migrants, counterfeit medicine products, and a framework of engagement with non-state actors, and addressed the global shortages of medicines and the safety of accessibility of children's medicines. Other areas FIP is working on include large-scale emergencies, a global vaccine action plan, and health & the environment.



8. This year's WHA (the 69th assembly) will be held from 23 to 28 May 2016. Following the discussions of the executive board, the assembly will address, among numerous other issues, strategies for HIV, viral hepatitis and sexually transmitted infections. The strategies will cover 2016–2021.

9. For the past two years, WHO has released a daily live, one-hour broadcast through which you can find out about the highlights of the WHA. Viewers can participate by posing questions on Twitter. FIP shares its WHA news on social media. Watch out for updates on fip.org and follow us on Twitter, Facebook and LinkedIn!