For everyone concerned with the issues of pharmacovigilance | UPPSALA REPORTS | July 2014

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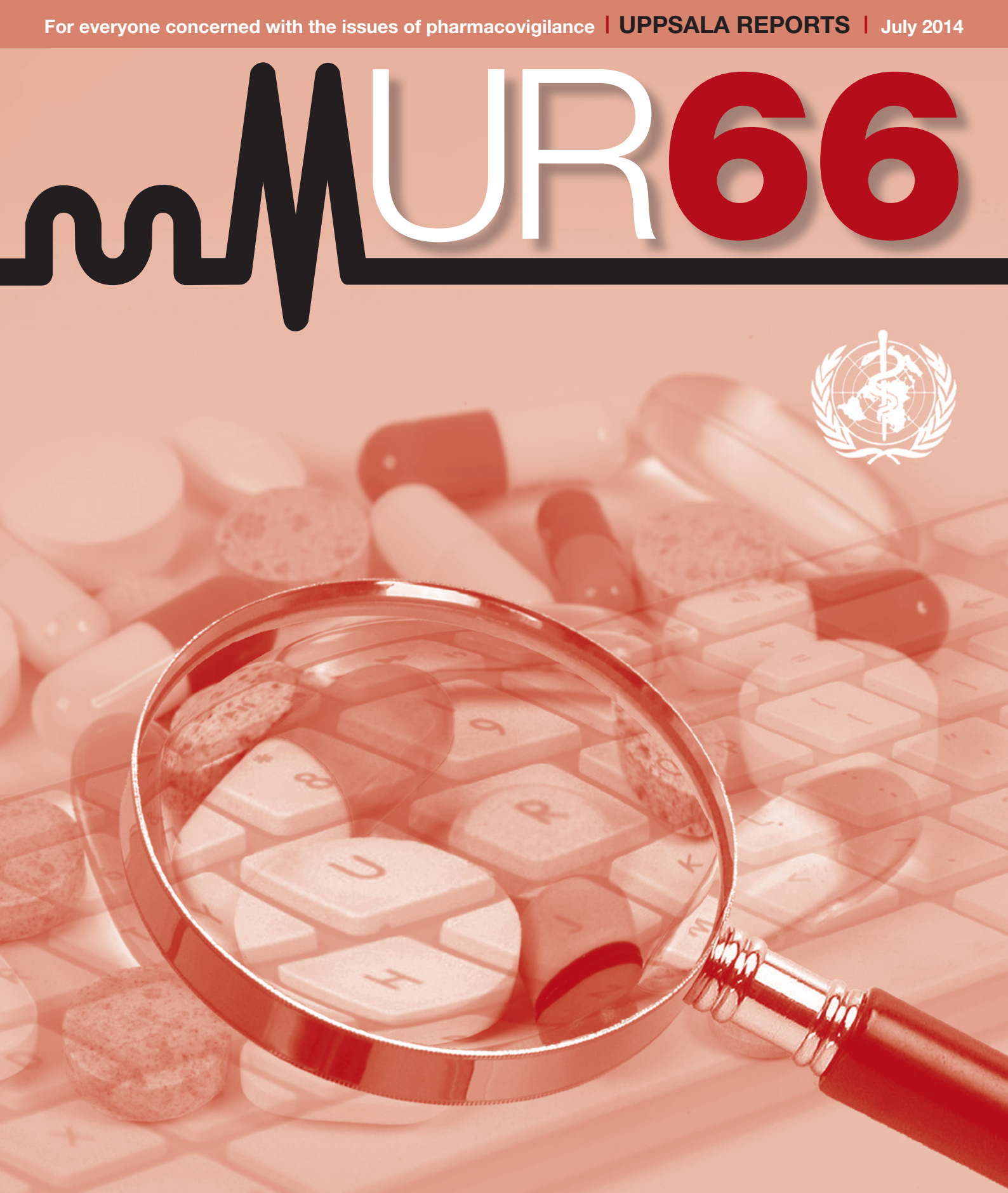

Patient reporting | New Fellows

Opening up VigiBase | Nine million milestone

Marie Lindquist
Director
Uppsala Monitoring Centre

Managing risks is part of human life; whether we recognise it or not, we are constantly making risk assessments in our daily lives: shall I cross the road against this red light? Shall I have a glass of wine before driving home? Shall I keep the kids off the street for fear of predators? Shall I ignore this pain in my stomach? Will I benefit from this medicine?

A great difference between us is our perception of risk and our attitude to risk. Some of us are natural risk takers – others prefer to play safe (when possible). Patients, naturally, have enormously varying feelings about risk and about their priorities and life-choices.

So, what do we mean by risk assessment? Simply speaking, it's weighing a potentially desirable outcome against a possible undesirable outcome. What is the likelihood of one or the other; and what level of risk am I prepared to take in order to enjoy the benefits of a positive outcome and the avoidance of a negative one? What level of evidence do I need to make such a choice?

Traditionally, pharmacovigilance has been concerned with identifying new risks with medicines. It is an essential first step: to define WHAT risks there are with a particular treatment. But much more can, and should, be done to characterise the risk more comprehensively.

We need to refine our methods and build up an evidence base that allows us to identify risk groups – what is the likelihood that individuals with particular characteristics will be affected by a certain effect – positive or negative? If we move from population-based risk estimates, to the identification of individuals at risk, we are in a better position to prevent unnecessary harm in individual patients. It is not very helpful to the individual patient or health professional to know that, overall, there is a risk of 1 in 1,000 of developing reaction X with drug Y. As a patient I want to know – will this happen to me? I also want to know what the effect of the treatment will be, and in what way it will benefit me.

In medicine, 'benefit' is often confused with 'effect' – it is not the same! Benefit is 'something that aids or promotes well-being'. Well-being is a subjective value-judgement, and our ideas of well-being can be very different. Benefit can be judged only if it includes patient expectations and adequately measures their fulfilment.

An aging patient with rheumatoid arthritis being prescribed an NSAID expressed disappointment in her treatment. The doctor was surprised, saying, "But didn't the medicine take away the pain?". The patient said, "Yes, it did – but what I need is to get rid of the stiffness. I am a pianist, and I can live with some pain, but I need to be able to move my fingers!"

Risk assessment for medicines is further complicated by the fact that, for most medicines, the possible benefits are limited to a few indications, but the potential adverse effects are wide-ranging. Sometime the benefit may not even be recognisable to the patient. For example, blood pressure lowering drugs may cause a number of troublesome adverse reactions, but if the high blood pressure did not cause any noticeable symptoms, its reduction may not be perceived as a success by the patient, especially if the medicine itself carries some risk.

Modern medical science is taking us closer and closer to being able to tailor therapy to the unique individuality of patients and to develop a much more refined characterisation of risk for any individual. We are gaining knowledge and tools to enhance patient safety and reduce the risk of harm. In this effort towards personalised medicine, pharmacovigilance has a special and important role.

We organised the UMC conference on risk and personalised medicine (see page 10), to provide a forum for new ideas and research that would take us further towards a more individualised approach to medicine treatment, risk assessment, and prevention of harm.

You'll see from the report in this edition of Uppsala Reports that there were many important issues raised at the meeting in Uppsala. Whilst there is still much to do, a great deal of important work is already underway that we must acknowledge and embrace in our thinking and practice.

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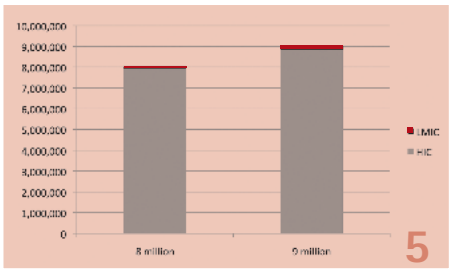
the UPPSALA MONITORING CENTRE



Another data milestone

The WHO Global ICSR Database passes 9 million reports.

Vaccine surveillance

Switzerland, Sweden and Sudan host vaccine safety initiatives.

Risk conference

Ethical, economic, legal, human-factor and regulatory issues in personalised medicine on the agenda.

Listening to patients

How patients have become accepted in adverse reaction reporting.

Count-down to Tianjin

Geoffrey Bowring

National centres participating in the WHO Programme for International Drug Monitoring are preparing for this year's meeting in Tianjin, China. From 14-17 October there will be a packed programme of lectures, discussions and workshops. In addition, the Global Vaccine Safety Initiative will hold one of its regular stakeholder meetings immediately before the drug monitoring meeting begins, and the annual scientific meeting of the International Society of Pharmacovigilance will be held from 19-22 October just after the WHO meeting, also in Tianjin. A joint session of WHO-ISoP is to be scheduled for the afternoon of Friday 17th October.

Pre-meeting

On Tuesday the 14th, The UMC will host the pre-meeting 'From then to now. The power of many: working together towards more effective patient safety practices'. During this full day event the participants will have the opportunity to further develop their adverse drug reaction reporting capacity, share and learn from other country success stories, discuss the evolution of the Yellow card and understand the regulatory framework of pharmacovigilance. This space for learning and collaboration will also address the importance of signal detection and the value of using international standard tools.

Comfort and convenience

The WHO meeting venue is the conference centre at the well-equipped Holiday Inn Tianjin Riverside hotel, by the Hai river. Being close to Beijing International Airport, transport to Tianjin is straightforward. There are also ample highspeed rail services from Beijing, and some direct international flights to Tianjin.

Communication

Further information about the programme and other arrangements continue to be circulated to all national centres via the restricted Vigimed site (which includes a 'registration' form), and the meeting should as always be an excellent opportunity for colleagues to make and renew contacts. Tianjin will be the heart of medicines safety this October.

Old and new in Tianjin

Mauritius joins the Programme

H.K.Bucktowar, Principal Pharmacist / Contact Person for Pharmacovigilance in Mauritius

The Republic of Mauritius is a Small Island Developing State (SIDS) off the south east coast of Africa in the southwest Indian Ocean, 900 kilometres east of Madagascar, with an estimated population of 1.2 million. In addition to the main island of Mauritius, the country includes the islands of Rodrigues, Agalega and the Cargados Carajos. Mauritius covers 2,040 km^2 with the city of Port Louis as its capital.

Expanding health sector

Whereas Mauritius is keeping abreast of fast technological development, it intends not to be a passive bystander in respect to pharmacovigilance where information about unsuspected and new adverse drug reactions should be sought on a consistent and dynamic basis.

There is a vibrant private sector which imports over 6,000 pharmaceutical products and a national essential medicines list containing about 750 items. An increasing number of Mauritian patients are being exposed to different types of drugs especially in non-communicable diseases, AIDS and oncology, leading to an urgent need to find early signals as well as to rapidly determine their true benefits and risks.

As there was no national pharmacovigilance system to provide information on the safety of pharmaceutical products, vaccines and herbal medicines a consultancy was undertaken (with the support of WHO) to assess the present hospital pharmacovigilance system, interact with stakeholders, organize training and make recommendations for the establishment of a national system.

Consultancy follow-up

Following the consultancy visit of Dr Alexander Dodoo in March 2011 and subsequent to recommendations in his report, the Ministry of Health and Quality of Life set up a pharmacovigilance committee chaired by a specialist of internal medicine and comprising a multidisciplinary team from both the public and private sectors. A National Pharmacovigilance Centre has been operational since December 2011.

Since then the centre has worked towards meeting the criteria to become a full member of the WHO Programme for International Drug Monitoring. The last visit of Dr Alex Dodoo and Mrs Hilda Ampadu in February 2014 (see *Uppsala Reports 65* p15) set the seal on this endeavour.

On 20th May the Head of Regulation of Medicines and other Health Technologies (Dr Lembit Rägo) confirmed that working relations has been established with Ministry of Health & Quality of Life in Mauritius, and that Mauritius was the 118th full member of the WHO Programme for International Drug Monitoring.

The National Pharmacovigilance Centre and the National Pharmacovigilance Committee in Mauritius will further concentrate their efforts to be committed to this vital network to promote pharmacovigilance in the world.

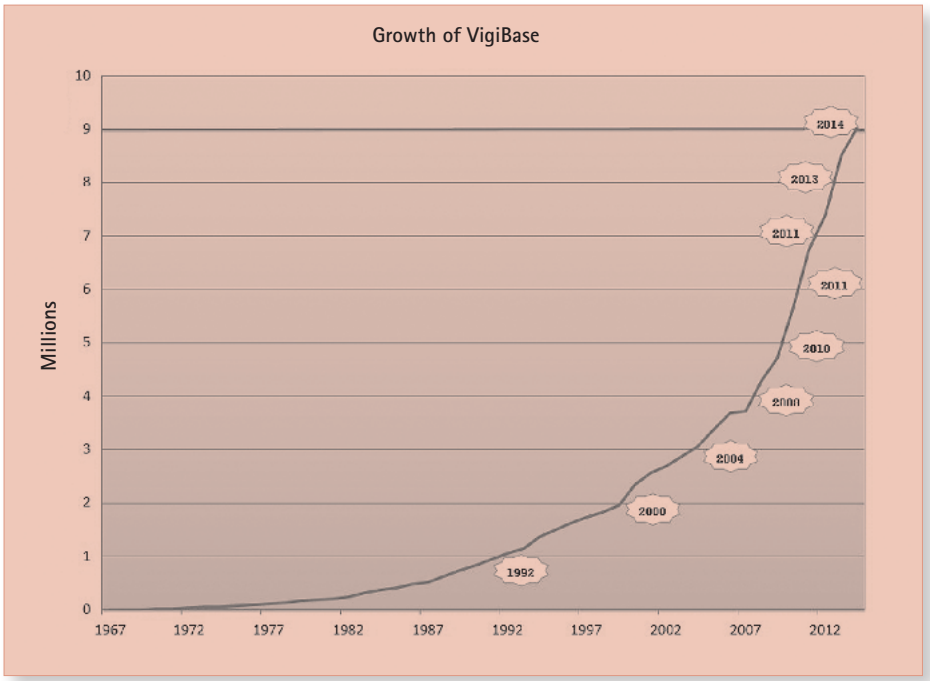
Nine million

Sara-Lisa Fors

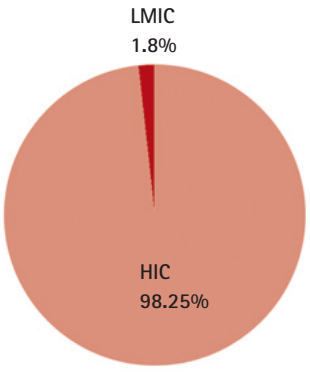
In June we passed the milestone of 9 million ICSRs in the WHO Global ICSR Database, VigiBase®. While it took almost 25 years to reach to the first million, the database has grown rapidly during the past five years. A new million milestone has been reached almost every year. This means that more than half of the database was received in the past five years.

Data distribution

We are still not satisfied with the distribution of data between HICs and LIMCs (High income countries and Low and middle income countries) though, with LIMC ICSRs representing only a fraction of VigiBase. However, the share of ICSRs from LIMCs is increasing steadily (from 0,4% in 2009 to 1,8% in 2014) and with some large LIMCs up and coming we hope that this picture will change even further when we reach 10 million ICSRs.



9 Million ICSRs



HIC = Upper middle and high income countries according to World Bank 2013 classification

LMIC = Low and Lower middle income countries

Patient reports

Within VigiBase, around 1,300,000 reports have been 'flagged' as being from patients or non-health professionals, according to information provided by national centres. Many of these are from the United States. A feature on the development of patient reporting appears on pages 12-13.

The last quarter witnessed the first submission of ICSRs from France since 2007. A sample batch of just over 900 ICSRs were sent by L'Agence nationale de sécurité du médicament et des produits de santé (ANSM) on 26 June. ANSM and UMC have together been trying to resolve technical problems that have prevented them from sending reports for seven years. Despite the extended pause, France is one of the top ten countries when comparing the number of ICSRs in VigiBase.

New name for Irish agency

On 1st July 2014, the Irish Medicines Board (IMB) changed its name to the Health Products Regulatory Authority (HPRA). First established in 1966, the National Drugs Advisory Board (NDAB) became the IMB in 1996. However, over the last 18 years its regulatory remit has expanded to include other health products, as well as a number of health related functions. In addition to medicines, the organisation is currently responsible for regulating a range of areas including medical devices, blood and blood components, tissues and cells, human organs for transplantation, and cosmetic products.

While the name has changed, the mission of the HPRA remains the same: to protect and enhance public and animal health through the regulation of medicines, medical devices and other health products. A new HPRA logo will also be seen from July 2014.

In addition to the name change, the imbpharmacovigilance@imb.ie e-mail address changes to medsafety@hpra.ie. The website www.hpra.ie offers details of current and replacement topic-based and departmental e-mail addresses.

Health Canada change

Heather Sutcliffe, who held senior positions at the Marketed Health Products Directorate of Health Canada and was a well-known at the WHO Programme meeting for many years, has retired. She is replaced by Sara O'Connor.

Ghana update

Abdul Malik Sulley, Bukola Atuyota and Ethel Atanley

A pharmacovigilance country support visit was made by UMC-Africa staff to the Ghana Food and Drugs Authority, the organisation that houses Ghana's national pharmacovigilance centre, on 3 March 2014.

Activities carried out included:

- Situational analysis of the pharmacovigilance situation in Ghana
- The PV Toolkit and its associated disease-specific toolkits
- UMC training videos, available freely on the UMC website
- Support in the use of CemFlow.

Ghana joined the WHO Programme for International Drug Monitoring in 2001 and it has a well-structured system, with strategic plans for ensuring patient safety. The national pharmacovigilance centre conducts periodic training for health workers across the country on pharmacovigilance and how to report ADRs. In addition, the centre intends to employ various methods to educate the public on medicines safety. Irene Frempong, from Ghana FDA attended CemFlow training in Uppsala in 2013, and participated in the 2014 UMC Pharmacovigilance Course.

At the end of the visit, the FDA's questions on CemFlow were also addressed and appropriate recommendations were made to them.

VigiFlow training for and by UMC-A

Elvis Brobbey and Ulrika Rydberg

On the morning of the 7th of April three people from the UMC went through a mixture of heavy rain and snow from Uppsala to Arlanda airport. Their plane landed the same evening in the warm and breezy dry heat in Accra, Ghana. The three people, Alem Zekarias, Elki Sollenbring and Ulrika Rydberg had prepared an intensive three-day VigiFlow® training schedule that started the next day in the offices of UMC-Africa.

Six people met them to be trained, to help train their colleagues and to share experiences and knowledge: Malik Sulley, Bernice Owusu-Boakye, Ethel Atanley, Adwoa Ohene, Bukola Atuyota, and Elvis Brobbey. The training started with an interactive session, where the trainers elicited the knowledge the participants had acquired and the questions they had after studying pre-reading material on VigiFlow.

The VigiFlow hands-on session.

As part of the experiences shared, some users believe that VigiFlow is the only way a country can send ICSRs to UMC to be included in the global ICSR database, VigiBase. It was discussed how to improve teaching of VigiFlow to avoid this misconception by for instance mentioning other ways of sending ICSRs to VigiBase. The training also had hands-on sessions to help the participants get practical experience of data entry in VigiFlow and data analysis in both VigiFlow (for national data) and VigiLyze™ (for global data).

At the end of the training, the participants who were new to VigiFlow had acquired knowledge on the ICSR management system; those who already had prior knowledge had learnt new methods to improve VigiFlow teaching during country visits. The three teachers had also learnt a lot, especially about the challenges for the African member countries that the UMC-A staff witnessed.

On the 11th of April, three tired but satisfied trainers landed again in cold and wet Sweden after three warm and intense days in Accra.

Two main messages from the training:

- VigiFlow is one of several possible ICSR management systems that countries can use and probably the system that makes it is easiest to also send ICSRs to VigiBase.
- The differences between doing searches and data analysis in VigiFlow and VigiLyze and how these two tools can complement each other.

New Initiatives in Yemen

Mohammed Alshakka

Yemen is an Arab country located in the southern Arabian Peninsula with a population of 24 million, 70% of whom live in rural areas. In general, the health services (either public or private) mainly focus on major cities; though primary health centres/units and polyclinics are scattered throughout the whole country, including some in rural settings.

There are critical health challenges in Yemen, including the high incidence of both communicable diseases (malaria, tuberculosis, schistosomiasis, sexually transmitted infections and vaccine-preventable diseases) and non-communicable diseases (such as cardiovascular diseases, renal problems, cancer, and eye diseases). In addition, Yemen exhibits higher prevalence of lifestyle risk factors (including tobacco use, 'qat' chewing, malnutrition, injuries and accidents) and lacks the necessary sanitation (especially water sanitation).

Pharmacovigilance

The monitoring of adverse drug reactions in Yemen was started by the establishment of a pharmacovigilance centre in 2011 by the Supreme Board of Drugs and Medical Appliances (SBDMA). So far there is no published information about its work, number of reports and how they are processed. In addition there exist problems related to drug smuggling, counterfeit drugs, improper and irrational use of drugs, importation of unnecessary drugs and medical errors.

New moves

Academics from the Faculty of Pharmacy at Aden University decided recently, with responsible officers from SBDMA in Aden, to initiate a pharmacovigilance programme in Yemen, to activate the pharmacovigilance centre of SBDMA to cover the whole country and implement the basic steps for establishing pharmacovigilance nationwide.

If this proposal succeeds, a plan of action should be developed to establish similar centres in order to extend the services to other governorates in Yemen.

A comprehensive view of the current situation in Yemen has been prepared by Dr Alshakka. Please apply for a copy.

A first look at Burundi

Bernice Owusu-Boakye

Since 2010 Burundi has been an Associate Member of the WHO Programme for International Drug Monitoring. This implies that it has a national pharmacovigilance centre designated by the Ministry of Health to the WHO. Becoming a full member of the Programme requires attainment of technical competence to manage individual case safety reports (ICSRs) and the regular submission of ICSRs to the WHO Global ICSR database, VigiBase®.

The UMC-A team paid an advocacy visit to Dr Sabine Ntakarutimana – Minister of Public Health, Republic of Burundi.

A country visit to Burundi was undertaken by UMC-Africa from 23rd to 28th April 2014 on behalf of the UMC in conjunction with WHO, Geneva. The aim was to assess the pharmacovigilance system, interact with stakeholders, advocate for pharmacovigilance at the highest level and provide advice and support to ensure that Burundi has a competent and strong national pharmacovigilance system.

The team from UMC-A/WHO-CC met high-level government representatives including the Hon. Minister of Health, Dr Sabine Ntakarutimana, Dr Liboire Ngirigi, Director-General of Public Health, officials of the Direction de la Pharmacie, du Medicament et des Laboratories (Department of Pharmacy, Medicines and Laboratory (DPML)) as well as the Country Project Director of Management Sciences for Health (MSH).

Early steps

While Burundi has a national ADR reporting form (in French) there is no physical office designated as the national pharmacovigilance centre. The Director of the DPML is the focal point for pharmacovigilance and leads such activities in Burundi in addition to his other roles in regulating pharmacists and pharmacies, regulating medicines and vaccines and carrying out inspections. There are no full-time staff for pharmacovigilance.

With support from the Burundi office of Management Sciences for Health, a National Pharmacovigilance Advisory Committee was established in 2013 with 19 members including the Head of the DPML as President and the Head of the National Malaria Control Programme as the Vice-President. There has been no formal training for the Advisory Committee on pharmacovigilance in general and the management of ICSRs in particular.

Basic training

A half-day workshop was conducted for members of the Advisory Committee and Disease Control Programme managers, whilst working discussions and planning meetings were held with technical experts at the DPML to provide them with the technical skills required for pharmacovigilance.

At the end of the advocacy mission, six staff members of DPML as well as 16 members of the Pharmacovigilance Committee and the Disease Control Programmes had acquired some knowledge about the WHO Programme for International Drug Monitoring. The team was also taken through the requirements needed for Burundi to become a Full Member of the WHO Programme by acquiring the necessary technical competence and sending individual case safety reports (ICSRs) in the appropriate format. The WHO PV indicators were also deployed to assess the situation in Burundi.

A week in Windhoek

Assegid Mengistu (TIPC), Abdul Malik Sulley and Bernice Owusu-Boakye (UMC –A)

A landscape assessment of the Namibian pharmacovigilance system was conducted by Uppsala Monitoring Centre, Africa (UMC-A) to identify gaps and recommend potential interventions to bridge them. Technical assistance, in the form of face-to-face training, was offered to the national centre over five days this March in Windhoek.

Abdul Malik Sulley preparing for his presentation

The Therapeutic Information and Pharmacovigilance Centre (TIPC) is located within the country's Medicines Regulatory Council with one full-time member of staff dedicated to pharmacovigilance activities. TIPC was inaugurated in May 2008 and became a Full Member of the WHO Programme for International Monitoring in December that year.

UMC-A staff making a courtesy call at the WHO Country Office in Namibia.

Infrastructure

The country has a national AMR/ICSR form (in English) and receives adverse effect follow-up sheets for tuberculosis patients which it intends to add in the national database through VigiFlow. The TIPC receives funding from MoHSS through its parent organisation for daily activities and had financial and technical support from Management Sciences for Health (MSH).

Action plans

During the visit a situational analysis of the Namibian pharmacovigilance system using the WHO PV indicators was carried out. A draft action plan was also drawn up to assist the continued development and improvement of the pharmacovigilance system. The team also took the opportunity to seek advisory and financial support for the national centre from stakeholders (WHO country office and MSH). Two personnel were trained in VigiFlow, VigiLyze, CemFlow and the PV Toolkits. Finally, staff were introduced to the UMC pharmacovigilance training videos available freely on the UMC website. By the end of the week, 14 new ICSRs had been sent to VigiBase (the WHO Global ICSR database) by the pharmacovigilance staff.

Strengthening Vaccine Pharmacovigilance in Sudan

Dr Magdi Salahi[1], Dr Rahma Abdelrahman[1], Dr Salma Abdullah[1], Dr Salah Elhassen[2], Dr Hanan Abdou[3], Dr Madhava Ram Balakrishnan[4], Dr Christine Maure[4] and Dr Houda Langar[5]

Sudan initiated its national vaccine safety surveillance system in 2005. Considerable progress has been made since then (Fig 1). A first WHO review was conducted in 2007 and recommendations were made to guide the development of the system. In 2011, WHO conducted in-country training on AEFI (adverse events following immunization) causality assessment. WHO and US CDC (Centers for Disease Control and Prevention) also supported the establishment of an active surveillance system during the rotavirus vaccine introduction in Sudan.

All these measures resulted in increased reporting of AEFI (Fig 2). The country participated in several regional and global vaccine safety meetings to share its experience and further improve its capacity. Sudan recently joined the Global Vaccine Safety multi-country collaborative project, a network of hospital-based sentinel sites for vaccine safety evaluation and hypothesis testing.

WHO visit

To further support Sudan in strengthening vaccine pharmacovigilance and to strengthen the capacity of the national AEFI committee to perform AEFI causality assessment, a WHO team visited Sudan in April 2014. The WHO indicator-based national regulatory authority (NRA) assessment tool was used to review the vaccine pharmaco-vigilance system. Data were collected through site visits using questionnaires and in-depth interviews with staff involved in vaccine pharmacovigilance at all levels of the health system as outlined below:

- National level: Ministry of Health (MoH), National Medicine and Poison Board (NMPB) and the Expanded Programme on Immunization (EPI)
- Sub-national level (state): Director General Ministry of health of Gazeira state and state EPI managers
- 2 vaccination sites in Gezira state (Al Madani hospital and Addaneje health care facility)
- 2 vaccination sites in Khartoum state (Bahri teaching hospital and Samrab health care facility in a rural area).

The review identified the significant progress in Sudan in vaccine pharmacovigilance. This is evident by the presence of a good surveillance infrastructure, the functioning of vaccine pharmacovigilance system integrated with vaccine preventable diseases surveillance, the availability of national AEFI Guidelines, AEFI reporting form, and a national database. The presence of an active AEFI causality assessment committee, legal provision for pharmacovigilance, dedicated, knowledgeable and committed staff and collaboration between EPI and NRA ensures that the system is in place and operational.

Figure 1

AEFI Surveillance system milestones

2005	2006	2007
• Pilot phase in 4 states during catch up measles campaign	• AEFI surveillance guidelines, reporting forms developed and approved	• The reporting system expanded to include all states

2009	2011
• AEFI refresher training for states	• AEFI reporting system expanded to include all the fixed vaccination sites

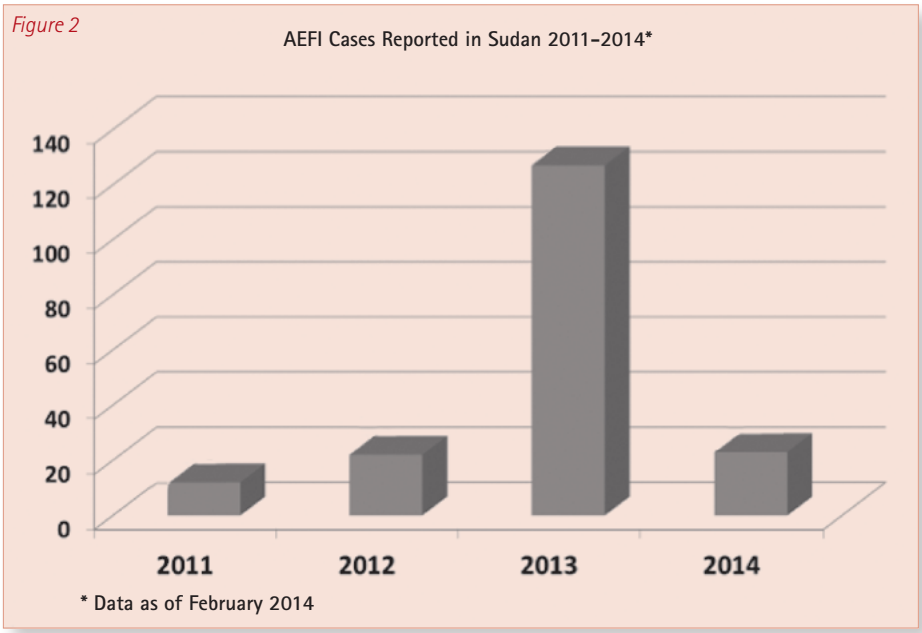
Even though the vaccine pharmacovigilance structure is in place, areas for improvement were identi-fied and recommendations provided accordingly.

Updates and future plans

Based on the feedback and the recommendations provided by the mission team, the country decided to update the national AEFI guidelines incorporating the revised AEFI definitions and the WHO AEFI causality assessment methodology. It was also decided to revise the national AEFI reporting and investigation forms ensuring the collection of appropriate information during notification and for causality assessment. The country evinced interest in piloting a Sudanese version of the Vaccine Adverse Event Information Management System (VAEIMS, the off-line version of WebVAEMS), to strengthen AEFI data reporting, management and analysis. National and sub-national trainings on vaccine safety will be conducted using the capacity building tools such as vaccine safety basics course, e-learning course on vaccine safety, advanced course on AEFI and causality assessment and scientific literature. They also assured the participation of the NRA, EPI and National AEFI causality assessment committee in regional training on vaccine pharmacovigilance planned in Oman in June 2014.

1 Expanded Program on Immunization Department, Ministry of Health, Sudan
2 National Medicines and Poison Board, Sudan
3 WHO Country Office, Sudan
4 Safety and Vigilance (SAV), Department of Essential Medicines and Health Products, World Health Organization, Geneva
5 Vaccines Regulation and Production (VRP), WHO/EMRO, Cairo

Figure 2



Blueprint updates

Sten Olsson

Two recent meetings on vaccine safety took place related to the WHO Vaccine Safety Blueprint and its implementation.

GVSI

The Global Vaccine Safety Initiative (GVSI) planning group, providing direction for the implementation of the Blueprint, meets face-to-face twice a year and has regular telephone conferences between those meetings. One of its primary objectives is to determine priorities of suggested vaccine safety projects to be included in the GVSI portfolio of activities (see www.who.int/vaccine_safety/news/highlight_3/en/).

The planning group had its fifth retreat in Sciez-sur-Léman, France, on 28–29 May, 2014. In addition to priority setting of activities, the group considered a suggested framework for project evaluation, how to promote GVSI activities, fundraising opportunities and the planning for the stakeholders meeting that will take place in Tianjin, China, on 13–14 October 2014.

GVSI in session

CIOMS

The CIOMS Working Group on Vaccine Safety was created in 2013 in response to Objective 8 of the Blueprint, with the aim of putting in place systems for interaction between national governments, multi-national agencies and manufacturers in the area of vaccine safety. The working group had its fourth meeting at the UMC office in Uppsala, on 20–21 May 2014. The 29 participants represented regulatory agencies, public health institutions, vaccine manufacturers, academic institutions, WHO and CIOMS. UMC was represented at the meeting by Marie Lindquist and Sten Olsson.

Several case studies were presented, leading to discussions on best practice in vaccine safety monitoring, roles and responsibilities of stakeholders and principles of information sharing.

One part of the meeting was devoted to an interaction with participants of the UMC Pharmacovigilance Course taking place in parallel in the nearby conference hall. The course participants were asked questions about vaccine safety data available to authorities in low- and middle-income countries at the time of introduction of new vaccines. The CIOMS group requested that course participants to assist them in responding to further questions to be distributed as a questionnaire at a later time.

CIOMS striding out for vaccine safety

Further work in the CIOMS group is progressing in three different topic groups. The next meeting will be held in Rabat, Morocco, in September, 2014.

IVI engineer

Helena Wilmar

In late May UMC hosted an IT engineer Deok Ryun Kim from the International Vaccine Institute (IVI), a non-profit organization located in the Republic of Korea.

IVI has been appointed by the vaccine unit within Safety & Vigilance: Medicines (WHO-SAV) to build a data management tool (called WebVAEMS) for the processing of adverse events following immunization (AEFI), adapted to the needs of national immunization programmes. The system is designed to allow data entry at local vaccination posts for consideration and assessment at central levels of the immunization programme.

Magnus Wallberg (UMC), Deok Ryun Kim (IVI) and Helena Wilmar (UMC) on a bridge over the river Fyris in Uppsala

The joint UMC/IVI effort is intended to make sure that WebVAEMS can produce correct ICH-E2B messages for transfer to other organizations. The intended process is for ICH-E2B case reports on AEFIs to be forwarded by the national immunization programme to the appointed national pharmacovigilance centre in a country, having the responsibility for sending a copy of AEFI case reports to VigiBase.

New science and ideas for patient safety

Torun Bromée and Bruce Hugman

UMC's 2014 research conference RISK: What risk? Whose risk? was held in Uppsala on 22-23 May and brought together some great minds and a large audience.

The focus of the conference was to assess and discuss the opportunities and implications of personalised medicine and patient safety in the post-genomic era. There were 120 participants from all parts of the world; nine principal speakers and fourteen rapid-fire short talks. A lively audience provided plenty of questions and debate.

Stephen Evans, Donald Singer and Niklas Norén in discussion with the audience

Here are some of the highlights:

- Sir Michael Rawlins spoke about risks in prescribing.
- Bruce Carleton presented results on how individual genetic variability could be used to develop a dosing model in the paediatric population.
- The complexity of dealing with biologics in relation to the immune system and the importance of risk-benefit assessment both at individual and population based levels was discussed by David Martin from the US Food and Drug Administration.
- David Jackson talked about three major molecular predictors of drug induced harm and argued that greater investment in studying extreme phenotypes could expedite the discovery of novel predictors.
- The role of network medicine in drug safety surveillance was assessed by Nicholas Tatonetti.
- Donald Singer presented a novel approach to re-profiling drugs to identify new targets for efficacy and toxicity.
- Stephen Evans highlighted the conceptual contradiction between personalised medicine and epidemiology, which by definition focuses on drug effects at the level of a population, and drew to light challenges related to subgroup analyses and identification of interactions.
- Niklas Norén reviewed the impact on pharmacovigilance of a shift towards personalised medicine.
- Deirdre McCarthy provided an industry perspective on EU Risk Management plans.

There were many other stimulating presentations from a world-class group of guest speakers. Between them, they provided insight into the complex scientific challenges of personalised medicine as well as some of the ethical, economic, legal, human-factor and regulatory issues to be considered.

Speakers and delegates interact during a break

In his end-of-conference summary, Ralph Edwards said he felt that pharmacovigilance was entering a new era of significance and usefulness, though there was still a need for purposeful collaboration and replication (not duplication) of studies among worldwide players, deeper analysis of safety issues, and a sharper focus on generating real benefit for patients.

Photos: Göran Ekeberg

The stage is set for great minds...

New ideas on course

Johanna Stenlund

This year the UMC pharmacovigilance course consisted of one single module (compared to several modules in previous courses). For the first time, all WHO Collaborating Centres within the area of pharmacovigilance were represented on the agenda.

Various pharmacovigilance methods were presented and discussed. Linda Härmark (from Lareb, Netherlands) contributed with intensive monitoring and Florence van Hunsel (also from Lareb) presented patient reporting in the Netherlands as well as the work within the Monitoring medicines project.

A new approach was used when teaching signal detection and causality assessment, with a very positive outcome. The mix of theory and workshops with practical case assessment was much appreciated among the participants.

All the 2014 course participants on the steps of the Orangery in the Uppsala Botanical Gardens

Course students at work

Toine Egberts ran an interactive pharmaco-epidemiology session where the participants created their own epidemiology studies.

US FDA-CBER covered vaccines over two days with a focus on case-based discussions, which were appreciated by the participants. As always, the scientific programme was combined with social activities such as a welcome reception, a course dinner in the Botanical Gardens and some sightseeing in Uppsala and Stockholm.

What happened next?

Elki Sollenbring

As in previous years, participants from the 2013 course told us what they achieved after attending the UMC course.

"The curriculum at the School of Pharmacy is being upgraded to make specific reference to pharmacovigilance.

The separation of the pharmacovigilance section from the Registration Department."

Liberia

"Drafting and circulation of 'Communication Guidelines for Building Vaccine Confidence around AEFI'.

Capacity-building workshops at national and regional level for national and state AEFI committee members."

India

"Obtaining a baseline measure of the competence of the RN at my hospital on reporting both ADR and ME via an electronic questionnaire: 339 questionnaires received back (45% response rate).

The results were presented as an oral communication at Latinfarma 2013 Conference in La Habana."

Spain

"Progress in integration of pharmacovigilance in Public Health Programmes (PHPs).

A five year (2015 – 2019) strategic plan with respect to TB, HIV/AIDS, Malaria & Neglected Tropical Diseases control programmes."

Eritrea

"Pharmacovigilance training introduced for final year students in health colleges in the region, the first completed on 13th March 2014.

I reviewed our training presentations to make them more interactive."

Ghana

"The Directorate of Medicines information and Pharmacovigilance developed a draft protocol for PSUR reports.

Communication and involvement of the media in enhancing the image of the regulator has been embraced."

Kenya

We look forward to hearing how the 2014 students get on!

Patient reporting – from controversy to best

Lena Westin and Jan Albinsson

The road to recognition

A recent review article showed that 44 out of 50 national pharmacovigilance centres surveyed now accept ICSRs (individual case safety reports) directly from patients.[1] In the European Union the Good Pharmacovigilance Practice regulations now require that all EU countries have systems in place to accept reports from the general public. We asked two of the early campaigners for consumer/patient reporting, Lena Westin and Jan Albinsson from the Swedish consumer organization Kilen ('the wedge' in English) to give their current perspective on the process that moved patient reporting from a sometimes heated debate to acceptance as best practice in pharmacovigilance.

Their views have been made particularly topical by a recent PhD thesis, 'A Pill for the Ill? Depression, Medicalization and Public Health' by Andreas Vilhelmsson, which is written on the basis of patient reports in the database created by Kilen.

How we learned about the problem

In the mid 1970s when we worked professionally with people abusing illegal drugs, some patients turned to us for help to break their addiction created by tranquillizing, hypnotic and analgesic medicines prescribed by physicians. Their problems were predominantly associated with benzodiazepines and barbiturates. They told us about effects/adverse reactions of their medicines at that time unknown both in the literature and by the national drug regulatory authority, and moreover, actively denied by a major part of the medical profession.

We found that without relying on and respecting the experiences of patients we could not help them with what they asked us for - breaking their addiction and liberating them from the tablets and the frightening symptoms they gave rise to. We realized that we had found an unknown and untapped but particularly valuable source of knowledge about adverse reactions.

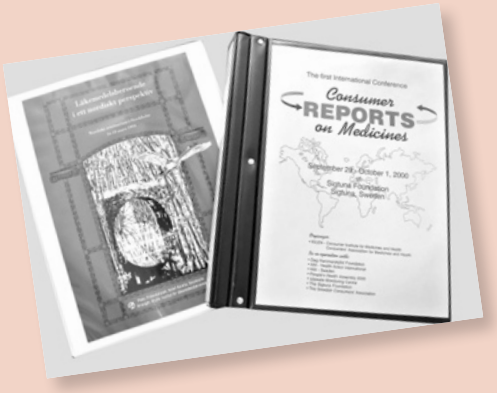
Fighting bureaucracies

We spent many years of work, meetings and discussions with several thousand individuals in a growing number of countries, primarily the Nordic countries but also in Spain, Luxembourg, Germany and the Netherlands. After a persistent struggle with authorities at governmental, county and municipality level to have the needs of our clients accepted, we found it necessary to work our way out of the narrow circle of experts and civil servants who spent their time denying the common knowledge and listening to people's experiences.

Lena and Jan from Kilen

A Nordic movement

In 1994 we organized a conference entitled 'Medicine Dependence in a Nordic perspective'. Delegations from Denmark, Finland, Iceland, Norway and Sweden represented control authorities, scientists, the medical profession and patients. This first conference resulted in all the Nordic countries starting activities to assist people dependent on prescription medicines.



At the second Nordic conference in 1995, organized by Kilen and the Icelandic drug control authority, it became evident that the experiences we had were shared by all the other Nordic countries. There was an important but untapped source of knowledge about medicines in the personal and very physical experiences of the patients themselves. It was evident that in the five countries the national control authorities completely ignored these experiences. A common wish was put forward that the knowledge expressed by patients be collected, systematized and assessed in the same way as was being done with adverse reaction reports from professionals. The conference commissioned the Kilen representatives to try to find methods and means for this. We applied for and were granted financial support by the European Commission to develop a database for consumer reports.

Global interest

The most important effect of our work was that direct patient reporting became an open discussion around the world. For our 'First International Conference on Consumer Reports on Medicines' in 2000, invitations included a number of questions about consumer reporting to consumer organizations, drug control authorities and other stakeholders in many countries. Only those who responded to the questions were admitted to the conference. Preparing for the conference we made a very well planned around-the-world trip during which we met representatives of consumer organizations, scientists, physicians, pharmacists, politicians, civil servants, pharmaceutical companies, etc. In some countries, e.g. Hungary, the issue was new while in others such as Australia, it had been discussed on and off for many years. The consensus document from the conference 'Consumer Reports – Policy and Practice' had a major impact; it was disseminated widely and cited in many international scientific articles.

Addressing WHO countries

Another major step forward was the invitation we received from WHO to contribute to the 24th Annual Meeting of the WHO Programme for International Drug Monitoring held in Dunedin, New Zealand, in 2001. We found both new allies and opponents, but it became clear to everyone, for or against, that direct consumer reporting was not something that could be decided on 'another day'.

Key support

The most important allies during our campaign were, without doubt, various patient groups around the world; those whose knowledge was being denied and ignored, those who every day devoted part of their life so that "nobody else should have to experience what I have been through"; those who were there all the time as evidence that science still didn't know everything, that life had a lot left to offer and surprise us with.

Our allies over the years emerged from all parts of the world and we found support for our work from WHO, UMC, Health Action International (HAI), the Dag Hammarskjöld Foundation, BEUC (the European Consumers' Bureau), the group around the French journal 'Prescrire', and many more. A significant group for our (and UMC's) work in the countries of the former Soviet Union was 'Drug Info Moldova', with its contact network opening doors to many of the newly-formed countries such as Moldova, Ukraine, Kyrgyzstan and Kazakhstan.

The opposition

Many of the arguments (and non-arguments) against consumer reporting were brought forward by the medical profession and drug control authorities. The most common was a non-argument: "You cannot work with adverse drug reactions in a background noise of patient experiences". Other views expressed were the perception that patients cannot distinguish between adverse reactions and symptoms of the underlying disease. We preferred to call that a perception since no trials had been made with consumer reporting. Other arguments were that patients are "lacking education", "have their personal agenda" or "may be decoys of a particular pharmaceutical company".

The campaign comes to an end

When a new government took office in Sweden in 2006 Kilen was forced into bankruptcy. No explanation was ever given from the Ministry to justify the dismantling of Kilen as a consumer institute in spite of such demands being raised from organizations and individuals, both nationally and internationally.

In essence we have not given up on our work with consumer reporting however. We still receive reports, requests for assistance, stories about the ignorance of the healthcare system etc, but we no longer have facilities to support individuals and spread information about the ongoing concerns that patients have about the effects of their medication.

Regrets?

We have often asked ourselves if we should have done things differently in our campaigning for consumer reporting and the answer has always been negative. We would certainly have been very happy if we had been able to continue our work for consumer reporting and our help and support to the thousands of people who turned to us. We would have liked a bit more appreciation for our work rather than the doubt and suspicion that we experienced. The fact that patient reporting is now introduced in many countries is good. The work to assemble, analyze and react to the facts that will be revealed remains. Consumer reporting can be used as a new source of knowledge but can also be a token 'test without value' to hide the explosive power that our work over soon 40 years demonstrates is embedded in it.

A PhD based on Kilen data

From the first day of the existence of Kilen, our ambition was that our work would become a source of research, analysis, critique and creation of new knowledge. We note that, irrespective of what has happened to Kilen as an institute, the knowledge and experiences are alive. Maybe the work that Andreas Vilhelmsson has done with 'A Pill for the Ill' will lead to more scientists digging into the complex matter entrenched in consumer reports. We have not created the database for ourselves. We persist in our belief that knowledge is a collective process and that formulated knowledge is only of archaeological interest.

Have we succeeded?

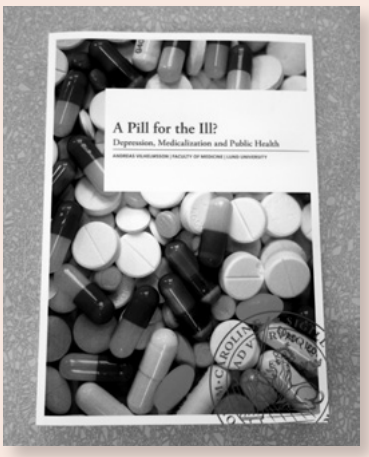
That 44 out of 50 countries are receiving consumer reports today is not to be seen as a victory for us in our work. With the background of 38 years of work with the issue the most important point is as stated in the consensus document from the conference back in 2000, that consumer reports should be managed 'at arm's length' from the medicine control authorities, in intimate collaboration, but with separate financial and human resources.

1 Margraff F., Bertram D. Adverse Drug Reaction Reporting by Patients: An Overview of Fifty Countries. *Drug Safety* 2014 DOI 10.1007/s40264-014-0162-y

A Pill for the Ill?

In his PhD thesis, defended at the Division of Social Medicine and Global Health, University of Lund, March 2014, Andreas Vilhelmsson described and analyzed experiences with anti-depressant treatment as expressed in adverse reaction reports from patients.

The source of information was the Kilen database in which 469 reports concerned antidepressants and 442 were complete enough to be included in the study. Important findings were that patients seemed to experience adverse psychiatric symptoms and mental disturbances, affecting them in many different ways, particularly during discontinuation. The reports also suggested negative doctor – patient interaction from the patient's perspective.



Risks leading to increased medicalization as a result of over-diagnosis of depression were found. There seems to be a potential problem as to how patients are diagnosed with depression and prescribed antidepressant medication. Increased drug treatment risks lead to increased healthcare costs and potential harm from adverse drug reactions.

HALMED's public education campaign

Marina Dimov Di Giusti, Ivana Šipić, Viola Macolić Šarinić

Literature reports and experience show that conducting a campaign and receiving extensive media coverage directly influence the rate of adverse drug reactions (ADR) reporting. This was one of the incentives for the Croatian Agency for Medicinal Products and Medical Devices (HALMED) to conduct a public education campaign promoting the importance of ADR reporting and the Patient Information Leaflet (PIL) reading. The campaign, directed primarily to the patients and medicine users, was intensively conducted on the national level throughout September and October 2013.

Main visual from HALMED's 2013 public education campaign : "You wouldn't take this lightly... ...report side effects of medicines!"

Channels of communication

The set of communication channels and mechanisms used was wide and closely adapted to the target group. During the first month of the campaign billboards were set up by main roads and highways with easy-to-remember messages promoting the importance of ADR reporting and PIL reading. In addition, the advertisements were repeated at regular intervals in daily newspapers, as well as on selected radio stations, while on-line banners were placed on news portals and on several patient organisations' websites. The second part of the campaign included setting up freestanding advertising pillars in pharmacies which contained information leaflets on how to report ADRs. Simultaneously, in many Croatian healthcare institutions, in waiting rooms of general practice, paediatric, dental and gynaecological offices in healthcare centres, posters inviting patients and medicine users to report ADRs were also set up.

Extensive supporting PR activities to the ongoing campaign included press conferences and sending press releases to healthcare and other journalists at the very beginning, aimed at presenting the goals of the campaign, while during the campaign media appearances were made for the same purpose.

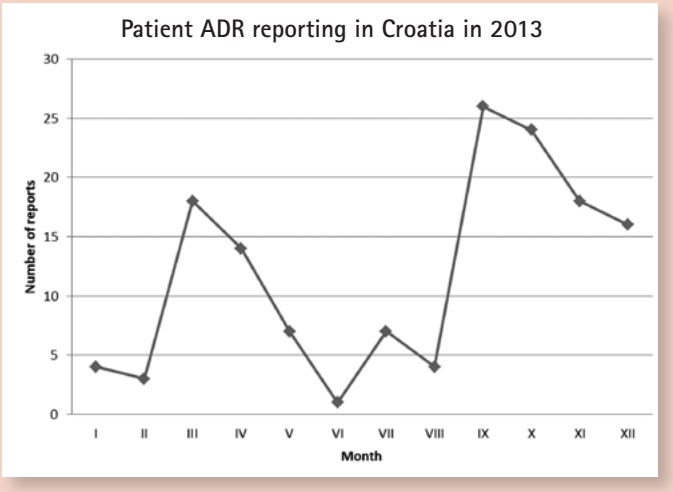
Effects on reporting

The previous two peaks in patient reporting rates were recorded in August 2012 and March 2013. In August 2012, Croatia became the first country to use Uppsala Monitoring Centre's (UMC) on-line application for patient reporting. This news was extensively covered in different media which immediately brought an increase in the number of patient reports. The second peak occurred following the publication of the Annual Report on Spontaneous Reporting of ADRs for 2012 which attracted extensive media coverage, and thus influenced the patient reporting rate once again.

This positive experience, which confirms the correlation between the media coverage and changes in patient reporting rate, has been taken in account in preparation of the 2013 campaign and the same impact has been observed. According to VigiFlow data, there were 59 patient reports received in 2013 prior to the campaign, (i.e., from 1 January to 4 September 2013). During the campaign period, which lasted from 5 September to 31 October 2013, (i.e., less than two months), 49 patient reports were received, around a 3.5-fold increase in number of patient reports per month compared to the pre-campaign period. Compared to the year before, in 2013 there was an overall three-fold increase in number of patient ADR reports. More than half of these reports in 2013 were received via the on-line application for patient reporting.

Health care and media

In addition to encouraging an active patient approach to treatment and to monitoring the safe use of medicines, which brings a great number of benefits, the campaign also brought an increase in health professional reports and contributed to a more comprehensive media approach to issues related to medicinal products safety. The increased rate of patient ADR reporting has been sustained, demonstrating that the campaign succeeded in achieving a more permanent impact on ADR reporting in Croatia. It has also shown that these and similar activities need to be continued in order to further contribute to Croatian patients obtaining a more active role in the healthcare system and in the treatment process, as well as in the monitoring of safe use of medicines.



Patient ADR reporting in Croatia in 2013. First peak in reporting rate in March 2013 induced by publication of the Annual Report on Spontaneous Reporting of ADRs for 2012, which was followed by the extensive media coverage. The second peak correlates with the start of HALMED's campaign in September 2013.

Academic research probes prevalence and economic impact

Sten Olsson

Using qualitative and quantitative methods, two new theses from Sweden have taken a detailed look at the impact on society and health care systems of adverse drug events.

Prevalence and nature of ADEs and potential for prevention

Katja Hakkarainen's aim in her thesis was to estimate the prevalence of adverse drug events (ADEs) in the general population, to investigate the nature of ADEs, including categories of ADEs, and to evaluate the potential for preventing ADEs.

Katja Hakkarainen

In her thesis she used different methods to create a picture of the extent of the problem:

- an expert panel of 19 Swedish physicians
- a population-based survey sent to over 7,000 adults
- analyses of nearly 5,000 medical records within a Swedish county, alongside regional and national registers.

ADEs were categorized as ADRs, drug intoxications from overdose, drug dependence and abuse, sub-therapeutic effects of drug therapy (STEs), and morbidities due to indications not treated with medicines. The physicians estimated the proportions of their patients with ADEs and preventable ADEs. Survey respondents reported ADEs they had experienced and estimated preventability of ADRs and STEs. In the medical record studies ADEs and their preventability were assessed manually by pharmacists and physicians.

The physicians estimated that half their current patients had experienced ADEs. The survey and medical record studies pointed to ADRs and STEs being equally most prevalent. Preventability was estimated by the physicians between 24-31% of all ADEs, and 39% in the medical records.

Based on the medical records, over half the serious ADEs or serious ADRs were preventable, more so than for non-serious ADEs and ADRs. Similarly, the meta-analysis showed that half the number of ADRs in hospitalised and emergency patients were preventable.

The burden of ADEs in adults is real and a significant public health concern and efforts to tackle the problem must remain a priority.

Economic impact of drug-related morbidity

Given the importance of drug-related morbidity as a public health concern, the aim of this thesis was to estimate the economic impact of drug-related morbidity in Sweden. Pharmacists' and physicians' opinions were elicited in order to estimate the direct costs of adverse drug events, identified from medical records or self-reported in a population-based survey.

The cost of the clinical outcomes of drug-related morbidity were assessed using healthcare professionals' expert opinions. For ADEs and resource use identified from medical records, costs were assigned using Cost Per Patient register data, while resource use reported by survey respondents and expert panels were assigned unit costs based on national costs statistics.

Hanna Gyllensten

Both pharmacists and physicians view drug-related morbidity to be common and to cause considerable healthcare resource use: up to 20% of all healthcare system costs. ADEs identified from medical records were estimated to cause 1.5% of all drug costs and 9.5% of healthcare costs. Two types of self-reported adverse drug events - adverse drug reactions and sub-therapeutic effect of medication therapy - caused 0.5% of all drug costs, 6.1% of all healthcare costs, informal care, lost leisure time, and sick-leave. Hanna Gyllensten argues that sub-therapeutic effects of medication therapy are equally as costly as ADRs, but that costs also result from other categories (e.g. drug intoxications). This group (STEs) had high overall resource use and costs resulting from drug use, healthcare encounters, transport, productivity loss from both short-term sick-leave and disability pension, and informal care.

Prevalence and nature of adverse drug events and the potential for their prevention – Population-based studies among adults
Katja M Hakkarainen, Department of Public Health and Community Medicine, Institute of Medicine, Sahlgrenska Academy at University of Gothenburg, Sweden

Economic impact of drug-related morbidity in Sweden – Estimated using experts' opinion, medical records and self-reports
Hanna Gyllensten, Department of Public Health and Community Medicine, Institute of Medicine Sahlgrenska Academy at University of Gothenburg, Sweden

Biosimilars in Kazakhstan

Nadja Jastrebova

Pharmacovigilance, biosimilars and falsified medicines were the focus of the IVth International Scientific and Practical Conference in Almaty on 17-18 April. 'Pharmacovigilance and falsification of medicines. Biosimilars in the light of modern requirements' was organized by the National Center for Drug Expertise together with a number of collaborators. Conference participants represented regulatory authorities and pharmaceutical companies from a number of neighbouring countries: Belarus, Kyrgyzstan, Russia, Ukraine, Turkey, Uzbekistan, as well as some EU countries.

Front from left: S. Bektasov (MDR-TB), Nadja Jastrebova, Raissa Kuzdenbayeva (Head of Pharmacology department and conference organizer), Banu Sultanbayeva (director of the agency), Tleuhan Abildayev (TB), Shahimurat Ismailov (Global Fund), Gulnaz Musabekova (TB), Zaure Aitbayeva (PV group staff)

Broader pharmacovigilance

Pharmacovigilance experts from Ukraine and Belarus shared experiences from active monitoring studies, showing benefits of an approach which broadens the scope of monitoring beyond spontaneous monitoring. Changes in EU pharmacovigilance legislation and pharmacovigilance audit procedures, knowledge of high interest for local pharmaceutical companies wanting to follow international standards were explained by experts from EU and Indian companies.

Representatives from pharmaceutical companies and health professionals presented new insights and challenges in the development and use of biosimilars. Work to detect and confiscate illegal medicines was also presented. Sten Olsson and Nadja Jastrebova represented UMC at this event. Sten shared his ideas on how pharmacovigilance can be used as a tool to quality assure the pharmaceutical management in healthcare systems, and Nadja presented UMC's work and the WHO Programme for International Drug Monitoring.

Kazakhstan's national plans

Sten and Nadja greatly appreciated the opportunity offered to visit the national pharmacovigilance centre in Almaty the day before the conference, seeing the centre staff and participating in a meeting with national tuberculosis experts and pharmacovigilance specialists. The main focus of the meeting was the cohort event monitoring study of multidrug resistant tuberculosis, which is being planned in Kazakhstan.

Bright outlook in Kuwait

Anki Hagström and Magnus Ekelo

UMC was invited as honorary contributor to the Kuwait Conference and Exhibition on National Pharmacovigilance Strategies on 12-14 May. Anki Hagström and Magnus Ekelo attended the conference on UMC's behalf and were in the good company of representatives from Ministry of Health, the GCC Health Ministers Council, pharmaceutical industry, academia and health care professionals. The conference was also attended by national centre staff from several neighbouring countries such as Saudi Arabia, Jordan, Qatar, Oman and Egypt. Some of them held presentations on activities and future plans for their centres. Hopefully one outcome of the conference will be that an official pharmacovigilance centre in Kuwait is established.

Status on the Gulf

The well-organized conference covered a wide range of topics, from international pharmacovigilance initiatives to medication errors and the role of health professionals in drug safety. The first day was dedicated to global efforts and enhancing the role of healthcare professionals in pharmacovigilance. UMC presented the WHO Programme and the global picture, and also a look at the regional issues from our perspective.

The Arabian Peninsula is a diverse region in terms of pharmacovigilance. Some countries have had advanced pharmacovigilance centres for many years, whereas some are beginners. The Cooperation Council for Arab States of the Gulf (GCC) started a pharmacovigilance initiative as early as 2002, and issued recommendations the following year that all member states should establish centres. Not all member states have had the resources necessary to follow these recommendations. GCC still wishes to involve pharmacovigilance as a cornerstone in the future work with the health ministries of the member states. The implications of the recently published common Arab PV guidelines (see UR65, page 15) were also discussed.

Key recommendations

The second day continued with experience in Europe and the USA, both in terms of regulatory work and the importance of robust and transparent decision-making processes. During the final day the focus shifted towards newer parts of the pharmacovigilance spectrum, with presentations on biosimilars and the struggle against counterfeit pharmaceutical products. One of the outcomes of the conference was a list of 12 recommendations from some of the key speakers.

Common cause

It is obvious that the region shares some common challenges. Medication errors, counterfeit medicines and harmonization of strategies and methods, to mention a few. The ADR reporting culture needs to be strengthened, both by lowering barriers to reporting and by enabling reporting through different channels, but also by creating an atmosphere where the health care workers are not afraid of repercussions of ADR reporting. Social media, which are widely used in the region, appear to be both friend and foe. Although being an asset to new pharmacovigilance techniques and ADR reporting, some media can also pose a threat to countries with limited recourses to refute misconceptions about drug safety issues.

Anki Hagström, Magnus Ekelo, Donia Al-Bastaki, Amr Saad, and Mohammad Al-Haidary in Kuwait

The centre in Kuwait

Donia Bastaki presented the pharmacovigilance initiatives of the Drug Registration Department. The current unit within the department is already carrying out several pharmacovigilance activities, including safety monitoring of medicines, receipt and basic evaluation of ADR and drug quality issue reports and communication with healthcare and patients. However the unit is not yet recognized as a pharmacovigilance centre with tasks and objectives related our specialty.

We were very encouraged to see the level of competence and number of pharmacovigilance related duties which this unit is already displaying. Establishing a well-functioning and sustainable national pharmacovigilance centre in Kuwait and strengthening the reporting culture are necessary steps for ensuring patient safety post marketing. The UMC supports such initiatives as part of regional and global pharmacovigilance capacity-building.

The presence of Kuwait in the WHO Programme for International Drug Monitoring would be of value for Kuwait, the region and all other Programme members. Hopefully the desire expressed by health care workers and pharmacists, in addition to interest from industry and the general public to energize Kuwaiti pharmacovigilance, will now be converted into action by the Ministry of Health.

Calling film enthusiasts!

Sten Olsson

Are you interested in new challenges in medicine safety communication? A film and photography competition has been announced by Polimedicado in Spain. The topics include 'Patient Safety with the use of medicines' and 'Medicalization of Life'. Films and photographs can be submitted until 15 September 2014. Any language may be used. Awards to the winning submissions will be announced in November. The rules are available from this link: http://polimedicado.org/wp-content/uploads/2014/03/Festival-Rules-2014.pdf

Since pharmacovigilantes within the WHO Programme and outside it have all the necessary knowledge, are creative and have talked about the necessity of good communication for decades, I think we should take this opportunity in showing what we can do and compete for the prizes. If one of you will be awarded a prize you will also feature in Uppsala Reports.

Training hub in Mysore

A Memorandum of Understanding has been signed between the Uppsala Monitoring Centre and JSS College of Pharmacy in Mysore, India. Both organizations have a common interest in promoting scientific research and practice. The Memorandum sets out a project of three joint training activities over the next two years, which aim to assist capacity-building for pharmacovigilance in Asia.

Partha Gurumurthy

Partha Gurumurthy, Dean of the JSS College of Pharmacy, spent a week at the UMC in May 2014, at which the Memorandum was agreed. During his stay he also discussed principles of signal analysis with the UMC signal review team, particularly as relevant to low-and middle-income countries. The optimal use of UMC data analysis tools in supporting the Indian national process for signal analysis was considered in detail.

Professor Parthasarathi also delivered a 'rapid-fire' presentation at the UMC risk conference, focusing on risk factors making the elderly population in India particularly vulnerable to medicine-related harm.

Opening VigiBase to the public – transparency for everyone's safety

Pia Caduff and Paula Alvarado

VigiBase®, the database of the WHO Programme for International Drug Monitoring, will contribute even further to patient safety by making information available to the general public by the end of the year. This step, as recommended by the WHO Advisory Committee on the Safety of Medicinal Products (ACSoMP) and announced at the 36th Meeting of the National Centres in Rome in October 2013, aims to facilitate the use of data in a more effective way by reaching health professionals and patients alike.

Over the past 10 years, many drug regulatory agencies have opened their safety databases to the public in an effort to increase their transparency. In 2002 the International Conference of Drug Regulatory Authorities agreed that WHO should make information from the Programme's database available to third parties. This was further endorsed by ACSoMP in 2011 and 2013. The National Centres were informed of UMC's plans to make summary statistics data from VigiBase available to the public last October in Rome.

Safety? Yes! But privacy as well!

Several National Centres have expressed their concern about patients' privacy and the risk to violate confidentiality if the patients could be identified. At the UMC, integrity and safeguarding confidentiality are of top importance. We commit to take all the steps needed to protect the information available. These concerns have been addressed by limiting the data set retrievable as follows:

- Only summary statistics will be accessible, no line listing or single case reports
- Searches can be performed entering the trade name of products but results will be displayed by active ingredient only
- Summary statistics will be stratified by gender, age group, ADR and for geographical regions but not for single countries.

In addition, information will be provided on the source and use of the data and the Caveat Document (www.who-umc.org/graphics/25027.pdf) will be reviewed and edited for the broader public. The users will be explicitly informed that if they think they might have experienced an adverse drug reaction they should not discontinue any medication without consulting a health care professional. VigiBase will be searchable only after confirming that the introductory information has been read. The UMC is confident that these search restrictions and conditions of use will allow a responsible and constructive use of data while ensuring that patient privacy is fully respected.

The technical development of widening access to VigiBase to the public is currently under way and the National Centres will be informed of progress at the 37th National Centres meeting in Tianjin, China in October. All National Centres will have the opportunity to explore this service in detail before it is released and launched for public use.

Making VigiBase data - including traditional medicines, herbal preparations and vaccines - accessible to the public is an important contribution to the safe use of medicines. **Easy and quick access** to additional information on reported ADRs around the world has the potential to complement the information provided by regulatory agencies and marketing authorization holders. The increased transparency will contribute to deepen awareness of and confidence in the safety surveillance programmes of the National Centres and public health programmes. Opening VigiBase to the public will encourage health care providers and the broader public to support these efforts by actively contributing to pharmacovigilance.

A Sales and Customer Relations snapshot

Madeleine Krig

The UMC has over 1,000 commercial customers, ranging from the world's largest pharmaceutical companies to small CROs and academic institutions, all using the WHO Drug Dictionaries in their daily work. License agreements for our products need to be signed, invoices paid and detailed questions from users need to be answered: this work is all done in the Sales and Customer Relations team at the UMC.

Today the WHO Drug Dictionaries with their related tools and additional features have over 10,000 users, who are served by our 12 staff members in different ways with any assistance they may need. The majority of the users apply the WHO Drug Dictionaries for coding and analysis of concomitant medications in clinical trials, but also for safety data. To guide our customers to using the products they need in the best way, our staff are always keen to help. You will often see members of the team at

the major data management and pharmacovigilance conferences around the world, giving users, and potential new users, a chance to get more information about our products face-to-face with our staff.

Because of the breadth of the content of UMC products, monthly webinars are held by our team. These are free-of-charge to all users of the WHO Drug Dictionaries. Our User Group Portal offers the user guide for the WHO Drug Dictionaries, the latest news of what is happening in the development of our products, together with much more information about our products and services. Please visit www.umc-products.com for more details.

All the revenue earned by the products our customers buy goes directly back into the WHO Programme for International Drug Monitoring, since UMC is a non-profit organization. In this way, the Sales and Customer Relations team are proud to contribute to the work that UMC can do every day, the work with the vision to improve patient safety across the world.

A dialogue for UMC products

Pekka Häkkinen and Ola Strandberg

The cornerstones of our work at the Uppsala Monitoring Centre are the collection of ICSRs into the database VigiBase, the maintenance of that database, the development of scientific methods for signal detection, and the signal detection itself, at a global aggregated level. To fulfil our mission, we help build capacity in the member countries of the WHO Programme for International Drug Monitoring by delivering training, education and consulting, and provide Programme members with free-to-use tools and terminologies that reflect best practices and the latest science. What makes this work possible is that we generate our own funding through making some of these offerings available commercially. For the past decades, the UMC has received no permanent outside funding, allowing us to act independently.

What does a product manager do?

Determining what these tools and terminologies (products) should consist of, and figuring out how they best serve the needs for the users is a discipline called product management. An additional component is developing the descriptions and messages about the products that are communicated to their users and potential users. The individuals performing this work are called product managers.

Inner workings of product management

A result of pioneering scientific work with the WHO global database was the development of the terminologies WHO Adverse Reaction Terminology (WHO-ART) and the WHO Drug Dictionary (WHO-DD). These terminologies are tailored and optimized for the capture and analysis of safety data to support best practices and are freely available to the members of the WHO Programme, but available at a cost to others, such as pharmaceutical companies and contract research organisations. Our other main products are: VigiFlow, a tool for data management and case assessment needs, as well as data submission to VigiBase; and VigiLyze, a tool for browsing and analysing VigiBase. We have product managers for each of these products.

Roles and goals

New products, or features of products, are developed from:

- Active market research and dialogue with potential users and customers
- Requests from Programme members and current customers
- The UMC's own research projects
- Development programmes where our knowledge and experience can aid the design and implementation of tools and training for additional purposes.

In these dialogues, the product manager ensures that appropriate questions are asked prior to starting development, to ensure that the solution will be fit for purpose, and also that the product will have support and maintenance functions in place once it has been developed.

Support, training and maintenance are vital aspects of the successful launch and implementation of any product. The product manager sets the wheels in motion for the organizational preparedness and infrastructure.

We strive to live up to our core values of "Innovation, Inspiration and Integrity", and always aim to ensure that the criteria for success can be met that will satisfy users and the UMC's responsibility for quality in routine use. This requires consultation and feedback from users during and after the development process.

UMC dialogue and analysis

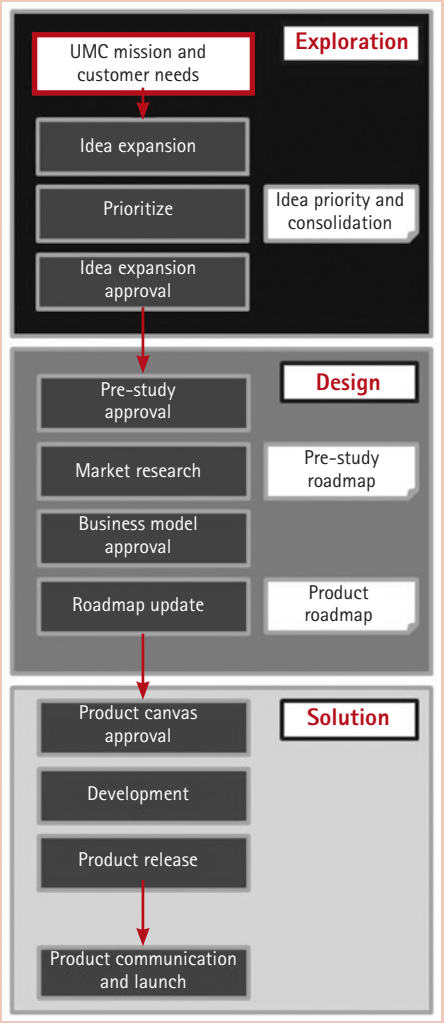
The definition and launch of a product is a result of multifaceted dialogue and analysis work. To get from an initial idea to an accepted product involves answers to a wide array of questions from several disciplines in the developing organization and end customers, such as developers, sales representatives, buyers and end users.

Most product decisions will affect several stakeholders and change many soft components, such as positioning and perception, which in turn leads to new interactions with the users. All aspects must be considered, to assure optimal resource use and a rewarding growth path.

An uncertain path

Sources for ideas challenge product managers in the quest for finding the best and most rewarding development path. In many cases it's a leap into the unknown even when many aspects have been taken into account. Most of us have seen obviously good ideas fail and simple ideas becoming very successful.

Arriving at the right decision encompasses gut feeling, experience, user data, risk assessment. The process at the UMC can be illustrated in three phases: Exploration, Design and Solution (see graphic).



The three phases

The main purpose of the Exploration phase is to discover ideas, put them in context and make a first consequence analysis in order to judge the best candidates.

The Design phase involves getting proof of the concept from potential users and assessing the effort needed to develop the solution. These analyses are consolidated into a use model that describes all input and output aspects of the proposed solution.

If the use model is fulfilling user needs and in line with UMC's mission, it will be taken further. In the Solution phase a more detailed product canvas will be developed to describe the properties of the final product. Development, launch preparations and preparation of communication tools will start when the final product outline is accepted by all stakeholders.

Getting products to our customers and users – both commercial and within the WHO Programme – is a complex dialogue involving many players. The goal of safer patients is where we hope to reach.

Honours for pharmacovigilance luminaries

Royal Colleges grant Fellowships

Bruce Hugman

The Royal Colleges of the UK, amongst the oldest professional associations in the world, play an important part in the maintenance and improvement of standards in medical science and practice. Membership of the Colleges is a sign of achievement; Fellowship, a sign of publicly-acknowledged distinction.

Two of leading lights of pharmacovigilance have recently been granted Fellowships: Dr Marie Lindquist, Director of UMC, becomes a Fellow of the Royal College of Physicians, London (founded in 1518), and Professor Ambrose Isah, a Fellow of the Royal College of Physicians, Edinburgh (1681). The Fellowships recognise exceptional life-time contributions to the fields of medical science in general, and pharmacovigilance and pharmaceutical science in particular.

Ambrose Isah FRCPE

Professor Isah has served on the academic staff of the University of Benin Medical School, Nigeria, since 1989. He is the immediate past Dean of the Medical School and a Consultant Physician and Clinical Pharmacologist at the University of Benin Teaching Hospital. He achieved his MD in the UK after postgraduate training in Clinical Pharmacology and Therapeutics at the University of Newcastle-upon-Tyne. Among his many achievements and responsibilities, at home and across Africa, he played a key role in the establishment of the pharmaco-vigilance system in Nigeria. He has done important work on outcome measurement for pharmacovigilance centres. He is the current Chairman of the National Drug Safety Advisory Committee as well as the National Essential Medicines List/Drug Formulary Committee and serves as a member of the WHO Expert Panel. He has been a friend and colleague of UMC for many years.

Professor Ralph Edwards, previous Director of UMC, had this to say:

"Ambrose Isah has had a long and distinguished career as a consultant physician, academic, researcher and participant in influential national and international forums. He has a quiet, understated but determined personality and has pursued his commitment to the welfare and safety of patients through often challenging and harsh conditions. He has made important contributions in toxicology, pharmacology and pharmacovigilance with a substantial legacy of achievement in Nigeria and across the world. It's a great pleasure to see a man of his quality and dedication receive such high profile recognition."

Pharmacovigilance Fellows Ambrose and Marie

Marie Lindquist FRCP

But for two short periods at the Swedish regulatory authority (MPA) in the early years, Dr Marie Lindquist has spent her entire working life with UMC, since it was formed as a tiny team in the late 1970s. Taking increasingly senior roles as the organisation expanded, she was appointed Director in 2009. She graduated from Uppsala University with an MSc (Pharm) and, in 2003, was awarded her PhD (cum laude) by the University of Nijmegen. She is now responsible for around one hundred staff and an organisation that has global reach and influence.

Niamh Arthur, Pharmacovigilance Manager at the Irish Health Products Regulatory Authority, UMC Board member and friend and colleague for a quarter of a century, said this about Marie's Fellowship:

"I was truly delighted to hear that Marie's outstanding contributions to pharmaco-vigilance over the past 35 years have been recognised in this way. As a real pioneer in the area of pharmacovigilance, Marie has extensive experience in every aspect of safety monitoring of medicines. Since the late 1970s, she has worked tirelessly to support the rapidly expanding WHO Collaborating Programme. Building on her knowledge and experience in all areas, she has been at the forefront in working to identify and understand the issues and concerns of the least developed countries and regions engaged in pharmacovigilance. She has contributed substantially to the development and improvement of methodologies for enhanced patient safety and public health, as well as the betterment of the global pharmacovigilance community. Always accessible, Marie makes light of her increasingly complex role covering a plethora of scientific, technical, political and strategic activities in her understated and modest way. This award is particularly well deserved and we congratulate her sincerely on her achievement."

Neither of these new Fellows is given to seeking the limelight or to self-promotion. Marie is keen to point out that her award symbolises the collective achievements of her team at UMC and collaboration over the years with hundreds of people across the world. Nevertheless, their individual distinction is a cause for celebration too.

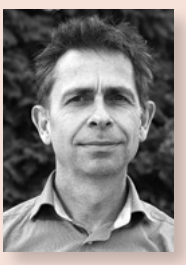
Chair for Eugène

Helga Van Boxtel

Eugène van Puijenbroek, head of the scientific department at the Netherlands Pharmacovigilance Centre Lareb, has been appointed Professor of Pharmacovigilance at the University of Groningen, The Netherlands.

He will have overall responsibility for the development of pharmacovigilance as a scientific discipline and to stimulate the scientific research on adverse drug reactions. The research focus is on adverse drug reactions and development of methodologies with regard to signal detection, with a special focus on the use of drugs during pregnancy. He will also be responsible for pharmacovigilance education for pharmacy and medicine students.

Eugène obtained his medical degree at the University of Nijmegen and trained as general practitioner at the University of Maastricht. In 2001 he completed his doctorate at the University of Utrecht on *Quantitative Signal Detection in Pharmaco-vigilance*. Since 1993 he has worked at Lareb; from 1995 to 2006 he was a general practitioner in Vught; in 2010 he registered as a clinical pharmacologist



A golden year for the MHRA's Yellow Card

Mick Foy

2014 marks the 50th anniversary of the UK's Yellow Card Scheme. The Scheme was introduced in 1964 after the public health importance of monitoring the safety of medicines was brought to the attention of the public by the thalidomide tragedy. In the wake of this tragedy, many countries introduced systems for the collection of reports of suspected adverse drug reactions (ADRs).

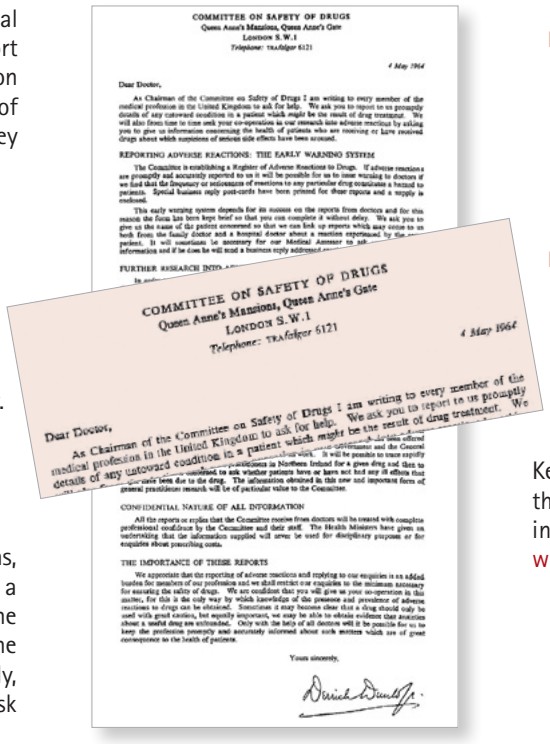
In the United Kingdom, the Committee on Safety of Drugs (now the Commission on Human Medicines (CHM)) was set up to collect and disseminate information relating to ADRs. Sir Derrick Dunlop, chairman of the committee at the time, wrote to all doctors and dentists in the UK to announce the launch of a new Scheme. Sir Derrick asked "every member of the medical/dental profession in the United Kingdom" to report "promptly details of any untoward condition in a patient which might be the result of drug treatment". This established four key principles of the Scheme:

1. Suspected adverse reactions should be reported; reporters do not need to be certain or to prove that the drug caused the reaction.
2. It is the responsibility of all doctors and dentists to report.
3. Reporters should report without delay.
4. Reports could be made and would be treated in confidence.

Evolution and expansion

Reports were made on yellow reporting forms, provided with Sir Derrick's letter, and as a result the Scheme came to be known as the Yellow Card Scheme. In the last 50 years the design of the form has changed progressively, to include guidelines on reporting and to ask for additional information. A web-form was introduced in 2008 and there are plans to launch a mobile App in the near future. Over the years, the Scheme has extended the authority to report to new reporter groups such as pharmacists and nurses, and to patients in 2005 - meaning that now anyone in the UK can send their suspicion of an ADR to the MHRA and CHM.

Each year around 60-80 safety signals are detected through the Yellow Card Scheme, around 40-50 of these lead to some sort of regulatory action. This could result in updating product information to inform healthcare professionals and members of the public of any safety concerns identified.



COMMITTEE ON SAFETY OF DRUGS
Queen Anne's Mansions, Queen Anne's Gate
LONDON S.W.1
Telephone: TRAfalgar 6121

4 May 1964

Dear Doctor,

As Chairman of the Committee on Safety of Drugs I am writing to every member of the medical profession in the United Kingdom to ask for help. We ask you to report to us promptly details of any untoward condition in a patient which might be the result of drug treatment. We will also from time to time seek your co-operation in our research into adverse reactions by asking you to give us information concerning the health of patients who are receiving or have received drugs about which suspicions of serious side effects have been aroused.

REPORTING ADVERSE REACTIONS: THE EARLY WARNING SYSTEM

The Committee is establishing a Register of Adverse Reactions to Drugs. If adverse reactions are promptly and accurately reported to us it will be possible for us to issue warnings to doctors if we find that the frequency or seriousness of reactions to any particular drug constitutes a hazard to patients. Special business reply post-cards have been printed for these reports and a supply is enclosed.

This early warning system depends for its success on the reports from doctors and for this reason the focus has been kept brief so that you can complete it without delay. We ask you to give us the name of the patient concerned so that we can link up reports which may come to us both from the family doctor and a hospital doctor about a reaction experienced by the same patient. It will sometimes be necessary for our Medical Assessor to ask for further information and if he does he will send a business reply addressed [illegible]

FURTHER RESEARCH INTO [illegible]

CONFIDENTIAL NATURE OF ALL INFORMATION

All the reports or replies that the Committee receive from doctors will be treated with complete professional confidence by the Committee and their staff. The Health Ministers have given an undertaking that the information supplied will never be used for disciplinary purposes or for enquiries about prescribing costs.

THE IMPORTANCE OF THESE REPORTS

We appreciate that the reporting of adverse reactions and replying to our enquiries is an added burden for members of our profession and we shall restrict our enquiries to the minimum necessary for ensuring the safety of drugs. We are confident that you will give us your co-operation in this matter, for this is the only way by which knowledge of the presence and prevalence of adverse reactions to drugs can be obtained. Sometimes it may become clear that a drug should only be used with great caution, but equally important, we may be able to obtain evidence that assertions about a useful drug are unfounded. Only with the help of all doctors will it be possible for us to keep the profession promptly and accurately informed about such matters which are of great consequence to the health of patients.

Yours sincerely,

Derrick Dunlop

Alternatively further discussion with relevant Expert Advisory Groups (EAGs) may be required which may lead to communication via our monthly Drug Safety Update (DSU) bulletin.

Future plans

To mark the 50th anniversary the MHRA are planning events for mid-November. Three themes have been identified to celebrate its achievements so far and to look ahead beyond the horizon at how the Scheme might change over the coming years.

- Theme one: 'The next evolution of the Scheme' will review the changing scientific methodologies and technologies that influence how we collect and analyse suspected ADRs.
- The second theme: 'Yellow Card as part of patient care' will examine how ADR reporting in the UK can be better integrated into the wider healthcare system with a particular focus on how we engage with other agencies responsible for patient care.
- Lastly, 'My Yellow Card' will look at how patients report suspected ADRs and how we engage with them, including what additional information access we can provide to make reporting a worthwhile experience.

Keep an eye out for further information from the MHRA on these events and the emerging information from the three themes at www.mhra.gov.uk .

An authentic message

Zhurong Liu

To push the message of drug safety, the head of the Tianjin ADR centre in north-east China has created short messages in Chinese style which adorn the walls of rooms and corridors in that centre.

Dr Song Li Gang was a member of the first delegation from the Chinese medicines agency to visit the UMC in the 1990s and Ralph Edwards and Mohamed Farah returned the visit to Tianjin. For many years he has been conducting many outreach and education sessions in schools, colleges and communities. He believes that education, training and prevention can be viewed as a more important focus for the centre's efforts.

This original hand-painted picture (right) invites the reader to consider that "If we take more responsibility, it might be possible to avoid or reduce incidence of ADRs". Adapting the message to the local scene is an important and valuable exercise.

Being part of it

Mónica Tarapués

Three months were too short; however I was keen to take advantage of this exceptional opportunity. Now I understand the whole process of the international pharmacovigilance programme. My country, Ecuador, has taken its first steps in drug surveillance, but we are not yet part of the WHO Programme for International Drug Monitoring. As a physician preparing for my PhD in pharmacology, my time at the UMC allowed me understand the relevance of being an active member of the Programme.

Mónica Tarapués at the bastion of Uppsala Castle

The method of working in the research team of UMC was an eye-opener. I learned the importance of working in a group. Meetings and the 'Clinical Innovation Coffee' meetings (open weekly internal seminars on emerging issues) were inspiring and useful. I felt part of the research section. The most exciting and challenging activity was being a part of the 'signal detection sprint' in May*; I was another researcher in the room.

Attending the annual UMC pharmacovigilance course and the UMC Risk Management conference were other highlights of my stay – all the lectures were very interesting and educational. After this experience, a true personal connection with pharmacovigilance is growing; my head resounds to the phrase 'patient safety', instead of drug safety, because patients are the start and the end point of the pharmacovigilance process.

Unfortunately, pharmacovigilance is still weak in the Latin America region. There are many problems as in other parts of the world. To overcome our limitations it is extremely important to have people committed to pharmacovigilance. They will support the process to go forward – I hope to be part of this effort in my country.

* A two-week focused multi-disciplinary team effort to identify potential signals.

Ambitions in the big data era

Anna Hegerius, Zhurong Liu

In the best sunshine season in Sweden, two visitors from the China Food and Drug Administration (CFDA), Chen Bao, a deputy director, and Dr. Chen Feng, a division director of the Information Centre of CFDA came in June to exchange and share their experiences in working with large databases.

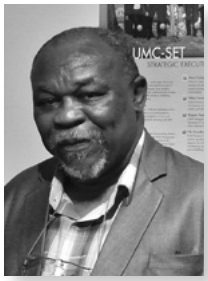
Over the past decades, around 50 databases have been established in various departments and centres at CFDA. These databases were maintained, managed and updated separately. In the era of big data, maintaining such databases may cause several problems. Data structure, standards used for databases and information in separated databases may not be consistent or precise, limiting their value for regulatory authorities and the public. To overcome such problems, CFDA has initiated a major project to reorganize their internal database systems with the Information Centre leading the work. They are conscious of the importance of international standards, whether used for regulatory affairs, international collaboration, or communication and information sharing. UMC has a long history developing databases, including internationally-known standards such as WHO Drug Dictionary and WHO-ART.

From left: Feng Chen and Cheng Bao

During their stay, our guests described their work and plans on restructuring their databases and UMC professionals presented our experience in management, open access of large databases for the public, and how we utilize international standards. Both parties hope to collaborate in data management in the future.

Uppsala, 18 years on

Professor Ambrose O. Isah



In the last two weeks of May 1996 I attended the UMC Pharmacovigilance Course. I noted then the enthusiasm of Ralph Edwards and his team: Sten Olsson, Marie Lindquist, Cecilia Biriell, Mohammed Farah and others. This enthusiasm and zeal to promote medicines / patient safety remains with the growing number of staff with a younger age profile. They are dedicated and focussed and very much prepared to render a global service, embracing the low- and medium-income countries (LMICs).

My comments appeared in the second edition of *Uppsala Reports* (August 1996) "*...sessions unravelled the operations of the Uppsala Monitoring Centre and its networks. It revealed the vastness of available information as well as the actual and potential uses of a well-coordinated international reporting scheme.*" A statement which remains as true today as it was then!

This year I was able to better acquaint myself with new technologies, from input of ICSRs into VigiBase to signal detection and aspects of data handling. Exploring the various applications including VigiLyze™, was most exciting, as were the brainstorming sessions on signal detection with various staff, especially in the Research Department, my hosts: Kristina Star, Niklas Norén and colleagues.

Deliberations focussed on how to get on board the LMICs, especially those in Africa with smaller databases, regarding the science of signal detection. The relevance and sustainability of pharmacovigilance systems in Africa depends on their ability to handle their data along this trajectory. We also discussed the pharmacovigilance indicators, which when fully implemented will give a clear cross-sectional view of pharmacovigilance.

I appreciated the cordial atmosphere, the warmth and hospitality during my stay in May and June. It was most intellectually stimulating and exciting.

DATES	TITLE	PLACE	ORGANISER/CONTACT
24–25 July 2014	Introduction to Pharmacovigilance	Accra, Ghana	UMC-Africa www.umcafrica.org/index.php/training-alert E-mail: info@umcafrica.org Tel: +233-302-268-746 / +233-289-014-000
10-11 September 2014	World Drug Safety Congress – Europe 2014 : Addressing the key challenges for safety professionals	London, UK	Health Network Communications www.healthnetworkcommunications.com E-mail: afairchild@healthnetworkcommunications.com Tel: +44 (0)20 7608 7054
10-11 September 2014	Back to Basics in Pharmacovigilance	Southampton, UK	Drug Safety Research Unit www.dsru.org/trainingcourses E-mail: jan.phillips@dsru.org Tel: +44 (0)23 8040 8621
22-26 September 2014	The First Arab Meeting of Pharmacovigilance	Rabat, Morocco	Centre Anti Poison et de Pharmacovigilance du Maroc www.smpv.ma E-mail: louammi@gmail.com Tel: +212 5 37 77 71 69 / +212 5 37 77 71 74
24-26 September 2014	Advanced Pharmacovigilance	London, UK	Management Forum Ltd www.management-forum.co.uk E-mail: registrations@management-forum.co.uk Tel: +44 (0)1483 730008
8-9 October 2014	Pharmacovigilance Planning and Risk Management	Fareham, UK	Drug Safety Research Unit (see above for contact details)
13-17 October 2014	Excellence in Pharmacovigilance: Clinical trials and post-marketing	London, UK	DIA Europe www.diahome.org/en-GB/Meetings-and-Training/
15-16 October 2014	Risk Benefit Assessment in Pharmacovigilance	Southampton, UK	Drug Safety Research Unit (see above for contact details)
19-22 October 2014	2014 ISoP Annual Meeting	Tianjin, China	International Society of Pharmacovigilance www.isop2014.org/ E-mail: administration@isoponline.org
24-27 October 2014	30th Anniversary ICPE	Taipei, Taiwan	ISPE www.pharmacoepi.org/meetings E-mail: ISPE@paimgmt.com
From November 2014 to April 2015	Certificate in Pharmacoepidemiology and Pharmacovigilance	London, UK	London School of Hygiene & Tropical Medicine www.lshtm.ac.uk/study/cpd/scpp.html
5-6 November 2014	Case Narrative Writing for Reporting Adverse Events	Southampton, UK	Drug Safety Research Unit (see above for contact details)
5–7 November 2014	Latin American PV Congress	Lima, Peru	E-mail: salvarez@digemid.minsa.gob.pe
10-11 November 2014	Benefit/Risk Management	Barcelona, Spain	DIA Europe www.diahome.org E-mail: diaeurope@diaeurope.org Tel: +41 61 225 51 51 | Fax: +41 61 225 51 52
11-12 November 2014	Risk Minimisation: Additional Measures and Monitoring Effectiveness	London, UK	Drug Safety Research Unit (see above for contact details)
1-3 December 2014	14th Annual Conference of Society of Pharmacovigilance, India	Aligarh, India	SoPI http://sopicon-2014.blogspot.in/ E-mail: pharma.jnmc@gmail.com
3-5 December 2014	2014 African Society of Pharmacovigilance conference : Pharmacovigilance in Africa : New Methods, New Opportunities, New Challenges	Accra, Ghana	African Society of Pharmacovigilance www.asop2014.com
14–17 October 2014	**37th Annual Meeting of representatives of national centres participating in the WHO Programme for International Drug Monitoring**	**Tianjin, China**	

the UPPSALA MONITORING CENTRE

The Uppsala Monitoring Centre (UMC) is a not-for-profit foundation and an independent centre of scientific excellence in the area of pharmacovigilance and patient safety. We provide essential research, reference, data resources and know-how for national pharmacovigilance centres, regulatory agencies, health professionals, researchers and the pharmaceutical industry round the world.

Many of our services and products have been developed as a result of our responsibility - as a World Health Organization Collaborating Centre - for managing the WHO pharmacovigilance network of over 100 countries and the WHO global individual case safety report database, VigiBase®. A core function is the screening and analysis of data with the aim of detecting potential issues of public health importance in relation to the use and safety of medicines. Other services include technical and scientific support to WHO and its member countries, and provision of tools, such as VigiLyze™ and VigiFlow®, for data entry, management, retrieval and analysis.

Our main commercially available products are the family of international WHO Drug Dictionaries, used by most major pharmaceutical companies and CROs.

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A list of UMC staff may be found via - About UMC > UMC staff - on our website.

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