# Conference Proceedings


## People Improving the Use of Medicines: What We Know and Don't Know

January 26 - 28, 2020

**International Society to Improve the Use of Medicines**

## Acknowledgements

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## Notes

**Use of people's titles**
It has not been possible to obtain complete, accurate and consistent information regarding the titles of all those named throughout the report. Therefore, we have made the decision to publish all names without titles. We do hope we are not inadvertently offending anyone in so doing!

**Abstract numbers**
The abstract numbers used throughout this report refer to those in the conference program, which can be found at https://www.isium.org/isium-conference-bangkok-2020-2/program/.

**Conference participants**
A list of people who registered for the conference can also be found in the conference program, bearing in mind that a few registrants were unable to attend and some late registrations were received.

Conference MCs:
Nucharin Tomacha
Werapong Prasoncheen

# Contents

# Executive Summary

A buzz was unmistakable all through the first conference of the International Society to Improve the Use of Medicine (ISIUM) held in Bangkok, Thailand on the 26-28th of January 2020. The buzz betrayed the longing and delight people had to exchange experience, debate and reflect on achievements and failures and propose perspectives from which new ideas can grow to contribute to health and the place of medicines in the many different societies of the world.

Showing how much a platform is needed to keep people connected in this field, the 175 participants from 34 countries created a mosaic of culture, evidence, experience, disciplines, questions, ideas, and wisdom in the quest to re-invigorate a global and local movement for improving the use of medicines – often referred to as rational use of medicines (RUM) or rational drug use (RDU). The hospitality, competence and creativity of our Thai partners infused the meeting with humour and scientific and social brilliance.

**New knowledge** presented at the conference showed much stronger evidence for the adverse commercial bias in research evidence, clinical and medical practice from financial dependence on industry. The medicalisation of society has correspondingly increased. Evidence exists for the effectiveness of policies, tools, methods and interventions as independent bases for health and medicines decisions, but they are not widely used either at national policy, health systems or local community levels.

Many examples of poor use of medicines from every continent were shared at the conference. These gave more insights into the known fact that over half of all medicines are not prescribed according to recommendations in standard treatment guidelines and protocols. This, combined with other forms of misuse of medicine, results in serious side effects, costly expenditure and phenomena such as antimicrobial resistance. The task of creating an independent culture for selection and use of medicines by everyone in society is difficult. However, many exciting, important and effective small-scale and large-scale initiatives, using both established and innovative methods – from working with children in communities to comprehensive national policy initiatives – showed the growing understanding, commitment and struggle for building health, preventing ill health and improving treatment of illness with appropriate selection and use of medicines when needed.

**New perspectives** emerged, the strongest of which was the need to broaden our concept of health to be able to respond to the social and economic determinants of health and the deep-going medicalisation of society where normal-life situations become pathological, death has lost its human dimension and the increased demand for healthcare leads to overworked health professionals, iatrogenesis and frustration of staff and patients. Thus the rational use of medicines framework will have to broaden from a focus on sickness and medicines. Health needs to be seen in a more ecological perspective that values harmony with the ecosystems on which we depend and values relationships for social, cultural and emotional wellbeing. New language for a contemporary culture – holistic and people-centred – is needed.

**Experiences in people's education and empowerment at local levels** showed many insights into empowerment. In essence, it is about walking on one's own feet, building the wellbeing of everyone and promoting autonomy, health and human dignity. Participation of people and communities is central to decision-making about health and solving the current crisis of health systems. Thus, redistributing power in the world of health and medicines is needed. Knowledge and education contribute to empowerment but require more interactive and creative processes of learning and engagement. Effective communication contributes to empowerment but requires more listening, respect and emancipatory approaches. Relationships and collaboration contribute to empowerment but need to be open to different types of power and knowledge intrinsic to each party. Understanding the bigger forces that shape health and medicines systems also contributes to empowerment.

**Governments have mandates to create policies that encourage healthy populations, provide access to health services and protect citizens from adverse forces beyond their control.** Essential medicines policies are an important example and are effective. Evidence was presented showing that the more core national policies a country implements, the better the rational use of medicines is. However, many governments are not implementing medicines policies and are struggling to balance commercial influences with rational and cost-effective selection and use of medicines. The 'RDU country' concept, proposed by Thailand was welcomed. Under this scheme, a country that is shown to be working to implement core policies to improve the use of medicines would be given the title 'RDU country'.

Civil society and the community of rational use of medicines activists have an important role to play in holding governments and other stakeholders to account. Assessment of medicines safety and efficacy require technical knowledge and regulation of vested interests for consumer protection. Many examples were given of crippling costs and wide variation in treatments and prices for common conditions such as diabetes showing how much effective universal health coverage programs are needed.

**ISIUM's future agenda** will include developing an effective platform for sharing information and experiences and connecting people. Much of the information on effective ways to improve the use of medicines is not widely available. So ISIUM will gather, organise and safeguard the 'rational use of medicines evidence base' and make it available.

A priority focus will be on people's perspectives to build better knowledge, methods and expertise in working with people and communities to improve the use of medicines, including expanding the concepts of health.

The conference identified many things we don't know in our efforts to improve the use of medicines and made a number of recommendations for governments, the World Health Organization, universities and also for ourselves as a rational use of medicines community. ISIUM will move to nurture a community of practice and advocate in many ways for better use of medicines including supporting the 'RDU country' initiative proposed by Thailand.

In summary, the main threads emerging from discussion in the conference were:

- the value of a holistic, ecological 'one health' approach to rational use of medicines,
- the importance of questioning the need for medicine and the medicalisation of society,
- creating capacity for sharing knowledge,
- safeguarding, improving and encouraging use of the evidence for rational use of medicines, both established methods and new approaches,
- building relationships,
- insights into empowerment,
- effective processes for building government and health institution medicines policies.

ISIUM hopes to hear a similar buzz when it organises a follow-up conference with its partners in two to three years.

# About the Conference

## Purpose and objectives

The purpose of the meeting was to reinvigorate the movement for Rational Use of Medicines (RUM) by sharing new knowledge and experiences on how to improve medicines use and to agree on a plan for future ISIUM work. The objectives were:

- To understand rational use of medicines and therapeutic practices in terms of new knowledge and perspectives.
- To share experiences in people's education and empowerment in improving the use of medicines and therapeutic practices.
- To explore what governments and other stakeholders should and could do to ensure the safe and effective use of medicines, and how they may be held to account.
- To define priority areas for future ISIUM work on improving the use of medicines and its promotion, with a focus on people's empowerment.

## Meeting goals

The impact of poor use of medicines on society, health and wellbeing are serious and lasting for individuals and their families, for communities, for countries and for refugees caught between countries or communities.

Vested commercial interests are closely involved in every aspect of medicines and these interests have a considerable and sometimes inappropriate influence on critical decisions such as defining the criteria for diseases, developing research agendas, and funding continuing education for health professionals.

ISIUM believes there needs to be better decision-making regarding the use of medicines. Good choices depend on context, on underlying determinants of ill health and on independent information and reliable advice and a 'medicines-smart' community. We believe it is essential that we put people's needs at the centre of our efforts to define the place of medicines in society, to provide equitable access to medicines and to ensure they are used properly.

We have a big bold vision … '*We want to build a better world where everyone has access to the medicines they need, and where medicines – if they are the best treatment option – are used wisely and safely.*'

We wanted to bring people together to share their experiences and showcase their work. We wanted to explore key issues particularly from the community perspective, such as: What is Health? What is Medicine? How aware are communities and health professionals of the influence of vested interests, and how can they best appraise and deal with them? How do we manage the unequal knowledge between providers and consumers to ensure appropriate use of medicines? Is a two-way process between the different kinds of knowledge and experience embodied by health professionals and 'lay' people needed?

These were some of the questions requiring objectivity, transparency and broad dialogue at community level, in the facilities of the official health system and in policy-making processes.

This meeting was the starting point to take up the new challenges in science and in the empirical experiences of communities that struggle for access to medicines as part of the right to health that belongs to every human being on the planet. We wanted to use this meeting to expand our network and promote tools and strategies suited to different country and community contexts to improve the use of medicines.

Intertwined with this overall theme were some specific issues that the Organising Committee wanted considered throughout the meeting and, possibly addressed in each working session. These were:

- Empowering people to improve the use of medicines, taking into account both community and provider, education and empowerment.
- Universal health coverage and use of medicines, including access, insurance and related issues.
- Antimicrobial medicine use, including antimicrobial resistance, stewardship and related issues.
- Government and stakeholder roles, health system infrastructure and policies, and the role of community in holding governments to account.
- Innovation, new and interesting initiatives to improve the use of medicines.

## Partner organisations

Two Thai organisations were important partners in this meeting.The first is the Drug System Monitoring and Development Centre (DMDC) in the Faculty of Pharmacy, Chulalongkorn University, Bangkok, which focuses on consumer protection, medicines safety monitoring, drug policy, antimicrobial resistance and the role of sciences in social development and sustainability.

The second is the Thai Rational Drug Use (RDU) Subcommittee of the Food and Drugs Administration (FDA) of the Thai Ministry of Public Health. The Thai RDU Subcommittee of the FDA has responsibility for developing the Thai Rational Drug Use Policy which is currently one of the priorities within the Ministry of Public Health.

Funding from both these organisations enabled workers in key networks and organisations involved in research, policy-making, education and health services who are involved in strengthening the drug system and developing the rational drug use policy in Thailand to participate. Thus ISIUM was able to expand its original goal of 100 persons to 175.

DMD

สำนักงานคณะกรรมการอาหารและยา
Food and Drug Administration

## Supporting organisation

The conference was kindly supported by some funding from the Therapeutic Guidelines Foundation – a charity that promotes the quality use of medicines and supports the creation and dissemination of independent, therapeutic information. The Therapeutic Guidelines Foundation aims to improve health outcomes in low- and middle-income countries by providing local health professionals with access to high quality guidelines and guideline development training programs.

Therapeutic Guidelines Foundation | For better use of medicines

# Conference Organisers

## International Organising Committee

Arturo Quizhpe Peralta (Chair, Ecuador)
Natalia Cebotarenco (Moldova)
Mary Hemming (Australia)
Kathleen Holloway (United Kingdom)
Niyada Kiatying-Angsulee (Thailand)
Mary Murray (Australia/Sweden)
Eva Ombaka (Tanzania)
Debra Rowett (Australia)
Budiono Santoso (Indonesia)
Nucharin Tomacha (Thailand)


ISIUM Board members and some of the members of the Conference Organising Committee. From L to R: Mary Murray, Krisantha Weerasuriya, Natalia Cebotarenco, Budiono Santoso, Dulce Calvo Barbado, Mirfin Mpundu, Kathleen Holloway, Mary Hemming, Debra Rowett, Yong Kwok, Niyada Kiatying-Angsulee

## Conference Secretariat

Mary Hemming, Mary Murray

## Local Scientific and Organising Committee

**From Drug System Monitoring and Development Centre (DMDC):** Niyada Kiatying-Angsulee, Yupadee Sirisinsuk, Thitima Pengsuparp, Suyanee Pongthananikorn, Suntaree Watcharradamrongkun, Weerapong Prasongchean, Khemika Tonaphothigool, Werawat Nimnual, Shinnawat Saengungsumalee, Nuttapon Matularprangsan, Chertalay Suwanpanich, Pissane Nimnual, Supapon Kirdsean, Sarintrontip Kirdsenag, Varisa Panpoo-nga, Kotchamon Chaisaen, Nasreen Dolohkaday, Matineekorn Singkhamkoon, Ekkpon Niroch

**From Thai Food and Drugs Administration (FDA):** Naphaphorn Puripunyavanich, Nucharin Tomacha, Pornthip Udomsub, Sunisa Sittikhun, Rosaphon Sirisopachot , Onchulee Phinturuk, Tikumporn Uaviseswong, Thanaphan Suksa-ard, Panta Thueaksuban, Thanakrit Mongkolchaipak, Suwee Siripraphawattana, Pawarut Wongmanovisut , Juthathip Martro, Buddhawatta Prasertsakul, Supasiri Lertwicha, Krissana Kuchaisit, Phattarakorn Siriboon, Jutarat Rochanaroon, Akkapol Paibulsiri

# Scholarship Recipients

- Emiliano Mariscal: *Dialogue of Shared Knowledge. What is Health? What is Medicine?* (Argentina)
- Sarah Kibira: *Antibiotic Prescribing Patterns at the Outpatient Department in a Regional Hospital in Kenya.* (Kenya)
- Luh Putu Wulandari: *Inside the Black Box of Antibiotic Dispensing by Private Drug Sellers in Indonesia.* (Indonesia)
- María Belén Mena: *Multimodal Strategy for Teaching Antimicrobial Pharmacology in Medical Schools.* (Ecuador)
- Erick Venant: *Participation of Youth and School Children as Agents of Change in Fighting Antimicrobial Resistance.* (Tanzania)
- Anita Kotwani: *Access Versus Excess Situation of 'Access' and 'Watch' Group of Antimicrobials in India.* (India)
- Tial Awi Thang: *Guiding and Transforming Health Care in Rural Myanmar: Current Practices of the Socially Engaged Monastery Schools Network.* (Myanmar) (Due to personal reasons he was not able to attend the meeting and take up the scholarship).


Mary Murray and Niyada Kiatying-Angsulee (centre) with scholarship recipients

# Day 1: Setting the Scene

## Setting the Scene

### SPEAKERS

**Welcome and conference objectives**

Arturo Quizhpe, Ecuador
Abstract: 95

**Reinvigorating a movement for improving use of medicines**

Mongkol Na Songkhla, Thailand

**Medicine use today**

Kathleen Holloway, UK
Abstract: 39

**Working with governments and communities in Africa: 30 years of experience**

Mirfin Mpundu, Kenya and Eva Ombaka, Tanzania
Abstract: 82

### CHAIRS

Mary Murray, Niyada Kiatying-Angsulee

### RAPPORTEURS

Krisantha Weerasuriya

The opening plenary was all about setting the scene for a productive and inspirational meeting.

**Arturo Quizhpe**, Chair of the International Conference Organising committee, opened the conference encouraging delegates to explore what we know and tackle what we don't know about improving medicines use. Arturo introduced the theme of small people doing small things to make a big difference and imploring us to use the coming days well, by paraphrasing the Argentinian singer song writer Facundo Cabral, 'this conference is an opportunity to learn, share, generate new projects, make visible new options to facilitate empowerment of the community and society'.

**Mongkol Na Songkhla** continued with the theme of small steps having global impact in his keynote presentation on the successes of Thai medicines initiatives especially to reduce antimicrobial resistance. He spoke of the importance of empowering communities to build centres of action and then supporting these community centres with policy and systems to support rational use of medicines.

**Kathleen Holloway** continued to set the scene, looking at the global history of rational use of medicines. She presented global evidence on continued irrational use of medicines – overuse of antibiotics, less than half of people in low- to middle-income countries treated in compliance with clinical guidelines, and prescribing worse in the private for-profit sector. She also identified what strategies and policies are effective in promoting rational use of medicines and highlighted the need for understanding why providers and consumers use medicines irrationally and the importance of taking this into account when choosing effective strategies to improve rational medicine use.

In the past, most strategies used to improve medicine use have consisted of geographically- and time-limited provider training and supervision which have had small impact. Therefore there is a need to build on collective knowledge and to understand, implement and evaluate new strategies for rational use of medicines. Development and implementation of government policy to support rational use of medicines and a focus on collaboration and partnerships were identified as critical elements for ensuring the rational use of medicines. The need for data for monitoring rational use of medicines was raised and the value of practical and sustainable data collection methods highlighted with an example of how snapshot data about rational use of medicines and supporting policy was collected in South-East Asia. Finally, ways forward for government policy and future research were discussed.

**Mirfin Mpundu** and **Eva Ombaka** shared the lessons learnt from the Ecumenical Pharmaceutical Network. The Ecumenical Pharmaceutical Network supports 118 member groups from 37 countries. Learnings from three rational medicine use focus areas were presented: antimicrobial resistance and infectious diseases, maternal and child health and non-communicable diseases. The importance of partnerships between local government and other stakeholders was considered elemental to the success of the network. The healthcare and medicines provided by the network during the Ebola crisis when government facilities were closed was given as an example of the benefits that successful two-way relationships and partnerships can bring. Again, the strength of working with and empowering communities was described and the importance of building relationships at all levels based on trust discussed.

## Discussion and lessons learnt

Lessons learned included the need to share experiences and strategies for improving medicines use. The session set the scene for the coming days where we would learn more about how successful methods could be adapted and used in different countries and contexts to improve medicine use world-wide.

# Initiatives to Improve the Use of Medicines: Country Experiences

## SPEAKERS

### Australia

Libby Roughead
Abstract: 100

### Kazakhstan

Ubaidilla Datkhayev
Abstract: 20

### Cuba

Dulce Calvo Barbado
Abstract: 7

### Thailand

Prasit Watanapa
Abstract: 122

## CHAIRS

Hans Hogerzeil, Raikhan Tuleutayeva

## RAPPORTEURS

William Bannenberg, Liliya Ziganshina

This plenary session highlights specific country initiatives undertaken to promote rational use of medicines.

**Libby Roughead** described Australia's 30-year quality use of medicines (QUM) experience. It started in the 1980s and was driven by the consumer movement. Australia built on the Nairobi definition of rational use of medicines to include the way that medicines are used in society. This put the consumer at the centre of medicine use and established how Australia could work together to achieve our quality use of medicines goals. Over the next 30 years Australia developed a National Quality Use of Medicines strategy that was consumer-centred, and built partnerships that were multidisciplinary, consultative and collaborative. The Australian story speaks of many successes in implementation of quality use of medicines policy and strategy, yet one lesson learnt is the need for continued energy, investment and renewal post implementation. In the late 2000s, changes to government policy saw the loss of mechanisms to address emerging quality use of medicines issues and subsequently the loss of the collective quality use of medicines stakeholder voice and ownership.

**Ubaidilla Datkhayev** presented learnings from Kazakhstan, describing the changing role of the pharmacist in rational use of medicines. Pharmacists are considered to be ideally placed to improve rational use of medicines at the grassroots level, being able to increase awareness of rational use of medicines among their patients and help patients to choose safe, effective and affordable medicines.

Kazakhstan is a geographically large country, and pharmacists, located country-wide, are able to bring rational use of medicines to the community despite the huge distances. To support pharmacists, Kazakhstan has developed a range of policy measures supporting rational use of medicines, including policy around provision of medicines, infectious diseases and standards of accreditation of national organisations. Additionally a national formulary has been developed and adopted. The national formulary was developed as a partnership between the Ministry of Health and the World Bank and is digitally available free-of-charge within Kazakhstan. The WHO Vital, Essential, and Non-essential (VEN) analysis, which sorts medicines into categories according to their health impact, has been implemented to provide ongoing data and monitor rational use of medicines. To build local engagement and ownership, institutions self-assess their rational use of medicines internally, submitting their internal assessment to the Ministry of Health.

**Dulce Calvo Barbado** presented the Cuban rational use of medicines story which centred around the use of pharmacoepidemiology data to drive rational use of medicines. In Cuba, a national network of pharmacoepidemiology centres, including at local level, provides data on consumption of medicines. Provision of prescription monitoring data is compulsory for specified medicines including, among others, antibiotic and psychotropic medicines. Consumer-directed programs complement data on medicine use, presented using a

wide range of media. These programs use varied media to present simple messages such as ‘use medicines only when necessary’. A third arm in the Cuban approach is the provision of evidence-based information including guidelines, therapeutic information bulletins and national formulary information. Cell phones are the main form of communication in Cuba, so these resources are cell phone-accessible.

**Prasit Watanapa** shared the rational use of medicines story from Thailand. He described a multifaceted approach with policy, community engagement, government partnerships and data. Over the past four decades, Thailand has committed not just to implementing rational use of medicines but to becoming a rational use of medicines country, with rational use of medicines seen as a basic right of the people.


The Thai approach to this has three main elements: education to promote self-consciousness and awareness, administration of medicines, and an effective regulatory system. These have been considered at all levels; upstream (pharmaceutical industry), midstream (health care institution) and downstream (patient and community).

The critical success factors for Thailand were: supportive policy, key persons at each level, strong communication, active participation and networking, availability of resources and a national body to integrate and promote collaboration.

## Discussion and lessons learnt

An important lesson learnt was that sharing of stories and knowledge is critical if we are to improve medicines use for all. Understanding the journeys on promoting rational use of medicines from other countries and contexts was considered to provide inspiration and resources for countries looking to start their own journeys on promoting rational use of medicines.

# Parallel Public Exhibition: What is in Your Medicine?

## SPEAKER

**How can we design effective 'wide' public engagement activities and evaluate their impact to tackle widespread issues around medicine quality and use?**

**Anne Osterrieder, UK**
Abstract: 83

The 2020 travelling art exhibition 'What's in your medicines?' was shown in collaboration with the conference. It aimed to engage people in the issue of substandard and falsified medicines. **Anne Osterrieder** spoke about the link between medicines quality and rational medicines use.

Substandard (resulting from errors in manufacturing, transportation or storage) and falsified (deliberately or fraudulently misrepresenting their identity, composition or source) medicines and vaccines are a global problem, particularly affecting low- and middle-income countries. The World Health Organization estimates that approximately 10% of medicines in low- and middle-income countries are substandard and falsified, but the full extent of the problem remains unknown. They can cause serious side effects, prolong illness, contribute to antimicrobial resistance, put pressure on health care systems, and affect people's trust in medicines and health care.

Image credit: Sukuntak Piteak

The question posed as a conversation starter was: How can we design and evaluate effective wide engagement activities around medicine use that reach relevant larger audiences, are feasible and sustainable and, at the same time, provide a platform for people to share their perspectives and stories?

The speaker made a distinction between deep engagement that takes time and can be resource intensive and wide engagement that might be more transient. She raised the thorny challenge of paying attention to avoid the 'deficit model' mode, in which we wrongly assume that people would change their behaviour if they only knew all the facts.

Finding effective ways to raise awareness about substandard and falsified medicines is desperately needed. To stimulate discussion on this topic, the conference attendees were invited to visit the exhibition. Those with a shared interest in public and community engagement were invited to exchange ideas and create new collaborations.

The Exhibition was organised by the Medicines Quality Research and the Lao-Oxford-Mahosot Group Hospital Welcome Trust Research Group (LOMWRU) in Vientiane and the Infectious Diseases Data Observatory (IDDO) in Oxford, UK.

# Universal Health Coverage: Three Perspectives

## SPEAKERS

**Does the medical insurance system really help the population of Moldova?**

Natalia Cebotarenco, Moldova
Abstract: 132

**Inefficiencies of health service delivery system as possible barriers for universal health coverage policy (Indonesia)**

Firdaus Hafidz, Indonesia
Abstract: 34

**Keeping consumers at the centre of medicines use in Australia**

Kathryn Briant, Australia
Abstract: 10

## CHAIRS

Budiono Santoso, Zuzaan Zulzaga

## RAPPORTEURS

Dinesh Meena, Wilbert Bannenberg

This plenary session explored initiatives to both improve universal health coverage (UHC) and rational use of medicines.

**Natalia Cebotarenco** opened the session with a question. How can the medical insurance system be enhanced to help the population of Moldova? The mandatory Health Insurance System was created by law in 1998 and became operational in 2004. Administered by the National Health Insurance Company, the program provides access to an essential package of emergency, primary, and inpatient services without charge and a limited list of reimbursable medicines for outpatient care. Moldova has a Coalition on Rational and Safe Use of Medicines (CoRSUM). One of its goals is to analyse the quality of the reimbursement list of Moldova and find ways to improve it. An important issue in the work of this agency is ensuring stable management and transparency by the National Health Insurance Company in the decision-making process about the selection of medicines in the list. Currently, there is no consistent procedure and criteria for development of the reimbursement list of medicine or the ability to coordinate the reimbursement list with the essential medicines list. The suggested solutions focused on reinvigorating a multidisciplinary committee for the rational use of medicines with open and wide discussion within the society about the challenges of the reimbursement list of medicines, when medicines are found to be not appropriate for Moldova.

**Firdaus Hafidz** shared his findings from research examining the factors which determine the relative efficiencies at hospitals and health centres. Hafidz used interactive software, Mentimeter® to ask the ISIUM participants to name three


things when you hear 'inefficiency'.
Hafidz' research, which used linked national data from

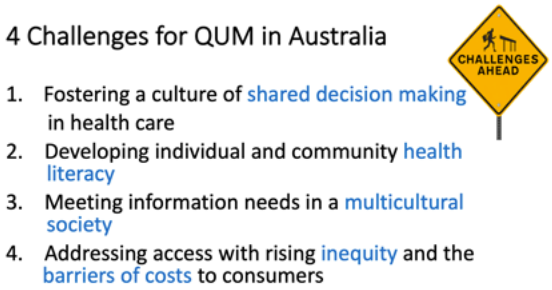
*"At a time when money is tight, my advice to countries is this: before looking for places to cut spending on health care, look first for opportunities to improve efficiency."*

Message from former World Health Organization Director-General, Dr Margaret Chan (2010)

facilities, households, and village-based surveys, measured the efficiencies in hospitals and primary care in Indonesia. The results demonstrated wide variation in health facilities' efficiencies. Efficiency was affected by factors including the size of the hospitals, the geographic location, medicine disruptions and health insurance coverage.

**Kathryn Briant** from the Health Care Consumer Association in Australia spoke of how medicines can help address health problems, but can also cause confusion for consumers. Confusion often results from not receiving the information that is needed or knowing what questions to ask about medicines. Consumers were pivotal in developing Australia's National Medicines Policy and, in Australia, the consumer voice is heard through a number of national and state-based

organisations. Despite a robust framework, Australia still has some way to go in achieving quality use of medicines. Kathryn highlighted four challenges ahead for the future.




Addressing these challenges will be key to improving the consumer experience. She presented an example of a consumer's story that illustrated not only medicine's problems but the person's situation and the relevant broader issues that health and care involved.

## Discussion and lessons learnt

This plenary session highlighted both the challenges and opportunities presented by a universal health coverage system. Common lessons learnt centred on the importance of a continued quality improvement cycle, such as with the Moldova review of the reimbursement list of medicines and the review of inefficiencies in Indonesia. A system cannot be implemented without review, revision and refinement to continue to reflect the population needs. The consumer voice and improving efficiencies were considered central to policy development and strategies to improve medicine use.

# Antimicrobial Resistance: Three Perspectives

## SPEAKERS

**Global situation and initiatives to contain antimicrobial resistance**

Mirfin Mpundu, Kenya
Abstract: 75

**'Antibiotic Smart Use' program in Thailand**

Nithima Sumpradit, Thailand
Abstract: 107

**Initiatives to improve antibiotic use in China**

Sun Jing, China
Abstract: 108

## CHAIRS

Niyada Kiatying-Angsulee, Meenakshi Gautham

## RAPPORTEURS

Mieke Hutchinson-Kern, Kadir Alam

This plenary session explored national and global initiatives to contain antimicrobial resistance through improving antimicrobial use.

**Mirfin Mpundu** from ReAct Africa, and a member of a WHO advisory group on antimicrobial resistance, highlighted that indiscriminate use of antimicrobials is a global issue.

In many countries antimicrobials are often sold without prescription via the unregulated private sector. Alongside this are shortages of effective antimicrobial agents in many settings. WHO's World Health Assembly Antimicrobial Global Action Plan was introduced in 2015. Strategic objectives of the plan include improved awareness and understanding of antimicrobial resistance, increased surveillance and research; reduced incidence of infections; optimisation of antimicrobial use and sustainable investment into containing antimicrobial resistance.

**Nithima Sumpradit** provided an overview of the Thai 'bottom up' approach to tackling antimicrobial resistance. Thailand built on a strong rational use of medicines program which was focussed on national medicine lists and medicine use evaluation. Two simple key messages were developed for antimicrobial resistance: 1) do not use antibiotics if not necessary and 2) if it is necessary to use an antibiotic, use it wisely. The program focused on antimicrobial use for three commonly occurring indications; upper respiratory tract infection, acute diarrhoea and simple wounds. A strength of the Thai program was the phased approach where the proposed strategy was piloted across a small number of sites and then scaled up with approaches including pay for performance and financial rewards for institutions that implemented the program, and networking and network management support across primary health care units. The final phase focussed on sustainability. An important element of the program was monitoring of health outcomes and patient satisfaction to ensure that there were no unanticipated negative effects associated with the program.

**Sun Jing** presented the third perspective within the session, speaking on China's National Action Plan for antimicrobial resistance. This plan uses a 'one health' approach aiming to improve antimicrobial use, control hospital-acquired infection and contain human and animal antimicrobial resistance. The plan comprises a policy framework, a mechanism by which 14 separate ministries work together, setting of targets, and monitoring and evaluation.

In addition, a network of antimicrobial resistance monitoring centres was established for both human and veterinary fields. Implementation of the plan has been successful with decreases in hospital antimicrobial use and hospital-acquired infection.

## Discussion and lessons learnt

The session highlighted the critical importance of antimicrobial resistance as a public health issue worldwide. It was recognised that strategies empowering the community and working in partnership with government and other organisations are needed to tackle antimicrobial resistance locally, nationally and globally.

# Medicines and Vested Interests in Society

## SPEAKER

**Medicines and vested interests in society**

Barbara Mintzes, Australia

Abstract: 69

## CHAIRS

Kathleen Holloway, Natalia Cebotarenco

## RAPPORTEUR

Agnes Vitry

In the final plenary session for day 1, **Barbara Mintzes**' keynote presentation focused on the significance and effects of pharmaceutical and medical device industry funding.

Industry funding of medical research outweighs public funding in most parts of the world. A clear cycle of bias operates involving study populations, choice of drugs, dose and duration for comparison, approach to reporting harm, and selective analysis. This enables the industry to set the agenda in medicines use under the guise of quality research.


Clinical practice is influenced though many forms of health professional funding by the pharmaceutical industry from travel expenses to attend meetings, membership of pharmaceutical advisory boards, speaking fees for pharma-funded talks, consulting fees and fees for participating in clinical trials.

Contrary to most physicians perception of themselves as being immune to industry influence, Barbara presented evidence of clear changes in prescribing habits associated with numbers of target-drug sponsored meals and gifts.

One-to-one sales visits are a regular feature of physicians' practice across the world. Evidence presented showed that drug promotion results in higher frequency of prescribing, often with higher associated costs and lower quality prescribing. Industry funding dominates continuing education of health professionals, shapes students' perceptions of medicines including overstating benefits and downplaying harms. Not only is trustworthy evidence needed for well-informed health decisions, but a major cultural change is needed.

## Discussion and lessons learnt

This session highlighted that a major cultural change globally towards financial independence is needed to build an evidence base for health care that is free from commercial interests and to minimise negative industry influences and allow strategies to improve use of medicines to succeed.

# Conference Dinner


Local pharmacy students performed a classical Thai dance and then proceeded to teach everyone how to perform the movements.

The conference dinner was a celebration of culture, sharing of talents, and an enjoyable night for all – local food, many laughs and great performances!

It was a chance to dance and catch up with old friends and new friends.

# Day 2: Bottom Up Approaches

## People as the Focus

### SPEAKERS

**Mobilising, organising, empowering communities**

Arturo Quizhpe, Ecuador
Abstract: 96

**Storytelling: personal stories of building communities to solve problems and overcome obstacles in relation to health and the use of medicines**

Mrs Kadesinee, Thailand
Somchart Sutjaritrungsee, Thailand
Erick Venant, Tanzania
Silvina Alessio, Argentina
Yong Kwok, USA/Australia

### CHAIRS

Niyada Kiatying-Angsulee, Steven Lanjouw

### RAPPORTEURS

Satya Sivaraman, Krisantha Weerasuriya

**Arturo Quizhpe**, ISIUM conference chair and head of ReAct Latin America, opened the session sharing his experiences from 10 years of work with ReAct.

Arturo highlighted the need to empower and mobilise the community. He described how community action needs a base of social empowerment and concluded with the importance of viewing health as the responsibility of the community and all people.

The plenary continued with a storytelling session sharing examples of community actions and strategies to promote rational use of medicines.

**Mrs Kadesinee** shared her experience as a community member involved in a rational use of medicines program focused on three different diseases in Saraburi province in Thailand. The program used a five-phase approach. Phase one was changing the mindset of health professionals towards antibiotics. Phase two extended the approach to community members, working with villages to change the way the community thought about antibiotics. Phase three centred on innovation and sustainability. Phase four focused on building external partnerships and sharing learnings. Phase five was on bringing the program to local schools. The success of the program showcases the power of empowering communities to promote rational use of antibiotics.

**Somchart Sutjaritrungsee** continued the session presenting how his hospital in Thailand tackled rational use of medicines as a way to reduce unnecessary hospital costs. By adopting 'Antibiotic Smart Use' across the hospital, using local data for audit and feedback and simple measures including changing from warm light to white light flashlights and supplying patients with self-detection mirrors for throat examination, they were able to decrease medicine costs, increase prescriber confidence to not prescribe antibiotics and change community habits regarding the role and use of antibiotics.

**Erick Venant**, pharmacist, continued the storytelling sharing his grass roots approach to raising awareness of antimicrobial resistance in Tanzania. As a pharmacy student Erick had an interest in public health and in 2016 he started organising small public health campaigns empowering pharmacy students to provide education to communities about medicines and health. Starting small, he was able to

reach students at more than 100 secondary schools across three regions of Tanzania sharing messages about rational antimicrobial use and minimising antimicrobial resistance.

**Silvina Alessio**, a primary school teacher from Argentina shared her experience using cooking lessons and gardening in primary school to teach communities about the importance of microbes and the need to reduce antibiotic use. Silvina used a child empowerment approach in her teaching, allowing children to become empowered via their experiences. Allowing children to identify the health issues that are important to them was a direct enabler for them to find solutions and share their learnings

**Yong Kwok**, a consumer health activist working across Australia and the USA, shared the opportunities for consumers and consumer organisations to drive rational use of medicines. She shared the story of how a consumer organisation was able to lead the rational use of medicines movement in Australia, demonstrating how consumer empowerment can lead to national change.

The session concluded with a panel discussion, where the need to measure impact both in the short and long term was considered, along with the need to include community acceptance and engagement when we are measuring the impact of interventions.

## Discussion and lessons learnt

This plenary showcased stories about how individuals and organisations used bottom up approaches to improve the use of medicines. The session demonstrated approaches across a wide range of perspectives and showed the importance of sharing and listening to each other – it was about partnerships and empowerment.

# Empowering People to Improve the Use of Medicines

## Working Session 1: Medicines in Society

### SPEAKERS

**Achieving quality use of medicines: it's about the person, not the medicine**

Libby Roughead, Australia
Abstract: 99

**Dialogue of shared knowledge. What is health? What is medicine?**

Emiliano Mariscal, Argentina
Abstract: 66

**Are we delivering sickness care or health care? What is health?**

Alice Gilbert, Australia
Abstract: 33

**Opioid use among Australian nursing home residents from 2014-2015**

Lisa Pont, Australia
Abstract: 88

**Border medicine: border crossing and situation on problems of medicine and health products along Thailand's borders – the case of corticosteroids**

Supanai Prasertsuk, Thailand
Abstract: 93

**Improving the use of medicines in the humanitarian sector**

Yong Kwok, USA
Abstract: 130

### CHAIRS

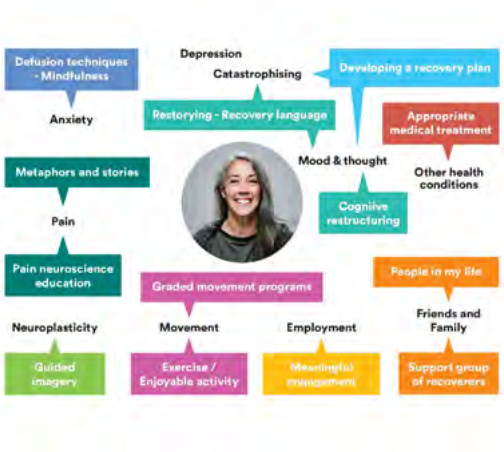
Mary Murray, Mary Hemming

### RAPPORTEURS

Satya Sivaraman, Steven Lanjouw

In this working session, the first of six working sessions on 'empowering people to improve the use of medicines', the participants shared concepts, knowledge and research on medicine use in society. The first three presentations explored the concept of health and the inter-relationship between medicines and our planet. The second three presentations explored medicine use in vulnerable populations, specific challenges and future areas to target.

**Libby Roughead** explored the multifactorial nature of ill health and the requirement of a multifaceted approach to improve health. This practical presentation talked through the complex process of non-cancer pain and discussed applying social cognitive theory to inform treatment approaches. With this holistic view and behavioural approach, Libby clearly demonstrated why medicines are only a small part of the recovery process.




**Emiliano Mariscal**, a scholarship recipient from Argentina, shared knowledge and learnings from workshops that were held at four Latin American universities as open dialogue on different perspectives and wisdom on What is Health? and What is Medicine? He discussed the paradox between

medicine designed to cure and its relationship to making the earth sick. Emiliano presented a broad concept of 'one health' which requires a balance of relationships and ecosystems, and how adopting such a 'one health' approach may be the path supporting rational use of medicines.

**Alice Gilbert** shared her learnings from working with Aboriginal and Torres Strait Islander people of Australia. This presentation questioned society's focus on ill health rather than wellness and why the Aboriginal definition of health, which encompasses more than an individual, may be helpful. This presentation highlighted the power of storytelling as a method to make information memorable and relatable.

> *'Health is not just the physical wellbeing of the individual, but the social, emotional and cultural wellbeing of the community and the land around it'*
>
> **National Abororiginal Health Strategy Working Party, 1989**

**Lisa Pont** focused on the need to reduce the inappropriate use of opioid medicines. She presented detailed research which has been conducted in Australian nursing homes over a five-year period. This work demonstrated that opioid use in our vulnerable elderly is increasing, and why future work to determine the benefits versus harm is needed.

**Supanai Prasertsuk** explained the new and complex issue of problems with medicines across borders. The example shared focused on steroids. The beliefs and understandings of a medicine varied between urban and rural sectors. The laws and regulations provide complexities between countries and socio-economic groups. This research highlighted how cross-border issues in Thailand can lead to misuse of medicines.

**Yong Kwok** discussed how refugees are increasing in numbers internationally and highlighted the need to focus on this vulnerable sector of our society. The health care to refugees is often provided by the humanitarian sector including the supply and oversight of use of medicines. Yong highlighted the need for the focus to shift to the rational use of medicine. Yong emphasised that as the refugee numbers continue to rise, we have a societal obligation to prioritise and improve the health care we are delivering to them.

## Discussion and lessons learnt

The primary discussion within this workshop identified that medicines use cannot be looked at in isolation. There was understanding that ancient cultures across multiple countries have identified that an individual's health is determined by the health of the earth and the community. Vulnerable populations, such as the elderly and refugees need decision-makers to move from a supply focus to one of rational use.

### Steven Lanjouw – In Memoriam

*Steven Lanjouw passed away the day after the conference on January 29, 2020, on his return to Myanmar.*

*We had the privilege to be with Steven in what was to be his last days, little did we know. His humour, stories, incisive and disrupting questions always brought freshness and pause to think.*

*His enormous experience and skill with language helped weave parts of the conference together. But what remains with us more than anything is the warmth of his heart and spirit.*

*A number of us had known him for some time, treasuring him as an inspirer, a connector of people, a teacher of immense passion and practicality. His boyish, twinkling enthusiasm will stay with us, as will his desire to link us to people on the ground who are innovating, doing things differently and working for peace and a better life. We will miss him sorely.*

*Mary Murray, Chair, ISIUM*

# Working Session 2:
# Improving Use at Local Level – Education and Empowerment

## SPEAKERS

**Improved medicine knowledge using a gamified approach in second-year medical students from two medical schools**

Ravi Shankar, Samoa
Abstract: 5

**Lived experiences in teaching medical students to use medicines rationally**

Ravi Shankar, Samoa
Abstract: 104

**Multimodal strategy for teaching antimicrobial pharmacology in medical schools**

María Belén Mena, Ecuador
Abstract: 67

**School gardens and the microbial world: healthy nutrition – an educational project to improve the use of antibiotics**

Silvina Alessio, Argentina
Abstract: 4

**Establishing a medicine use monitoring and training program at a tertiary multidisciplinary hospital: impact on antibiotic consumption and expenditure**

Liliya Ziganshina, Russia
Abstract: 3

**Knowledge, attitudes and practice about antimicrobial resistance and prevention strategies among healthcare professionals before and after an educational intervention**

Nisha Jha, Nepal
Abstract: 45

**The role of problem-based learning in improving the effectiveness of antibiotic use**

Elmira Satbaeva, Kazakhstan
Abstract: 103

## CHAIRS

Debra Rowett, Surusak Chaiyasong

## RAPPORTEURS

Josephine Maundu, Yupadee Sirisinuk

This working session on education and empowerment demonstrated examples from all levels of the community, from primary school education through to university and health professionals. Both the methodologies and the empowerment approaches shared brought joy for the teachers and students alike.

**Ravi Shankar**'s work was presented by the chair, Debra Rowett. This work set out to improve medicine knowledge using a game approach to learning based on three patient scenarios for second-year medical students. Pharmacological principles and concepts can be difficult to understand and extrapolate to patient practice. There was significant increase in knowledge immediately after the session and the knowledge remained three days post session.

> *Fun approach made me really think about what drug to give. Importantly concepts and knowledge stick easily in the brain.*

This novel approach to learning had positive feedback and was found to make learning memorable

**Ravi Shankar**'s second presentation was about using small group sessions to teach rational use of medicine in Nepal and the Caribbean. The sessions included an array of topics important to understand including analysis of drug promotion by the pharmaceutical industry, ethical issues, and the guide to good prescribing. The small group sessions began in Manipal, Nepal, in 2001 and are now used in multiple international universities.

**María Belén Mena** used innovative education strategies to connect with medical students that consisted of three components; social determination, playful participatory learning and use of the WHO Good Prescribing Guide.


Twenty games were created which empowered the students to further help with the creation process. María Belén demonstrated that this method was low cost, adaptive and put the student at the centre of their learning.


**Silvina Alessio** shared the learnings from the 'school garden and microbial world: healthy eating' project, which was developed as a strategy to engage children and teachers in the underlying causes of infection and antimicrobial resistance and the social and economic determinants of health. The key learnings included children identifying the determinants of their health; water, soil and environment; food, and health.

*... but also living with other beings, caring for the beings we love.*

The children made the association between healthy soil, healthy food, healthy eating, prevention of disease and a decrease in antibiotic use. The garden supported all aspects of the curriculum (e.g. science, maths), it empowered the children and it was fun.

**Liliya Ziganshina** evaluated antibiotic use and established a monitoring and training program in a Russian hospital. A team of clinical pharmacologists delivered a training program focusing on the issue of fluoroquinolone overuse and misuse. Over the four-year program there was a marked reduction of fluoroquinolone use and expenditure. Further work is required to look at the clinical outcomes of patients.

**Nisha Jha** assessed the knowledge, attitude, and practice amongst health care professionals in Nepal towards antimicrobial resistance and prevention strategies. Nisha emphasised that health professionals are important stakeholders for ensuring rational use of medicines and supporting antibiotic stewardship. Six sessions were run and pre- and post-scores indicated an improvement in all key areas towards improving antimicrobial use.

**Elmira Satbaeva** shared how the educational programs at Asfendiyarov Kazakh National Medical University in Almaty for different medical specialties have been updated. In particular, the learning for antimicrobials had a clinical focus in which all factors affecting the rational choice of antimicrobials was reflected utilising computer technology to assess antimicrobial prescribing. The practice-based learning combined with computer technology to assess decision-making was found to facilitate the learning for students in this complex area.

## Discussion and lessons learnt

From this session we learned that empowering people to develop education tools, and to learn and teach together makes the lessons memorable, meaningful, and contemporary. The examples shared were from different practice settings, different countries and different communities but appeared to be adaptable for others to replicate.

# Working Session 3:
# Antimicrobial Medicines Use from the Local Context Perspective

## SPEAKERS

**Implementation of antimicrobial stewardship in a resource-limited setting: experience of Siem Reap Provincial Referral Hospital, Cambodia**

Joe Hessell, Cambodia

Abstract: 35

**Inside the black boxes of antibiotic dispensing by private drug sellers in Indonesia (PINTAR study)**

Luh Putu Wulandari, Indonesia

Abstract: 126

**Antimicrobial stewardship in a regional hospital in Kenya**

Sarah Kibira, Kenya

Abstract: 53

**A study of the multiple drivers of antibiotic use by informal healthcare providers in rural India**

Meenakshi Gautham, India

Abstract: 32

**Public knowledge and awareness towards antibiotic usage in Yogyakarta: a cross-sectional study**

Susi Ari Kristina, Indonesia

Abstract: 109

## CHAIRS

Somying Pumtong, Anita Kotwani

## RAPPORTEURS

Mona Kheng, Erick Venant

This working session explored community initiatives to improve antibiotic use, including antibiotic stewardship programs in hospitals, and exploring knowledge, attitudes and practices of private dispensers and community members with a view to developing interventions to improve antibiotic use and decrease misuse.

**Joe Hessell** described how partnering with a non-government organisation and using a stepwise multidisciplinary approach was successful in implementing an antimicrobial stewardship program at the Siem Reap Provincial Referral Hospital. The intervention used point prevalence data on antimicrobial prescribing and consumption to demonstrate the intervention's impact.

**Luh Putu Wulandari** of Indonesia, described the PINTAR project which has the objective to develop and evaluate interventions to improve antimicrobial dispensing. Private medicine sellers are often difficult to engage in interventions to improve antimicrobial use. The PINTAR project in two regions in Indonesia explores antimicrobial dispensing among private medicine sellers. The high rate of antibiotic supply without prescription found in the study highlights the need to include private medicine sellers when developing strategies to improve antibiotic use.

**Sarah Kibira** discussed the experiences of setting up an antimicrobial stewardship program in a regional Kenyan hospital. The multifaceted intervention included classification of formulary antibiotics using the WHO Access, Watch, Reserve (AWaRe) criteria, mentoring, providing feedback on prescribing habits for prescribers and development of a local antibiogram to guide antibiotic choice within the hospitals.

**Meenakshi Gautham** talked of understanding the drivers of antibiotic use in the informal sector in India Using a mixed method design, informal drivers of antibiotic use among informal medicines providers in two regions in India were found to be an interplay between knowledge, attitudes and economics. The work highlighted the complexity of understanding the views of different stakeholders and the interdependencies that require consideration when designing successful interventions.

**Susi Ari Kristina** also talked of understanding the drivers of antibiotic use which was the focus of her work in Yogyakarta, Indonesia. She described a cross-sectional survey done to explore community knowledge and awareness of antibiotics and found that use of antibiotics was high but that understanding of what antibiotics can be used for was low. The work identified that the internet was an important information source for many respondents, and that use of internet-based public health messaging may be one strategy to empower communities about antibiotics and their use.

## Discussion and lessons learnt

The focus of this working session was on strategies to improve antibiotic use at the local level. Lessons learnt included the need to empower the community to tackle misuse of antibiotics, the strength of partnerships with organisations with shared goals and the importance of development of supportive policy which underpinned successful interventions.

# Working Session 4: Communicating in the 2020s

## SPEAKERS

**Communicating health messages: medicine and mythology**

Satya Sivaraman, ReAct Asia Pacific
Abstract: 105

**Strengthening and empowering network activities by internet conferences**

Natalia Cebotarenco, Moldova
Abstract: 11

**Media coverage of drug information: how to work more productively with journalists**

Anna Coretchi, Moldova
Abstract: 17

**Cochrane Russia Wikipedia initiative to empower Russian-speaking community in evidence-informed improving use of medicines**

Liliya Ziganshina, Russia
Abstract: 90

**Open discussion within society is a modern way for decision-making to introduce new specialties such as clinical pharmacist in Kazakhstan**

Ubaidilla Datkhayev, Kazakhstan
Abstract: 19

**Empowering patient communication**

Paula Nersesian, USA
Abstract: 131

## CHAIRS

Pornpun Prajaknate, Anna Coretchi

## RAPPORTEURS

Yong Kwok, Lynn Weekes

This working session explored the importance of communication for sharing and implementing rational use of medicine activities. The use of technology can facilitate people coming together to share ideas and help the efficiency of the process. Engagement with stakeholders and ensuring understanding of methods to communicate at different levels of health literacy is vital for shared individual and community outcomes.

**Satya Sivaraman** discussed the need to find a broader framework for health and medicine, coupled with the need to ensure health communication activities become more effective.

> *'Health is not necessarily a state of wellbeing ... not even a long life. It is, instead the condition best suited to reach goals that each individual formulates for himself'.*
>
> Rene Dubos

Thus Satya stressed that health-seeking behaviours are shaped by a variety of factors including faith, cultural traditions, economic and social considerations. These factors need to be considered when designing appropriate health activities and communication.

**Natalia Cebotarenco** shared the challenge of networks' ability to lead and unite people with common motivation across countries and continents. The Coalition on Rational and Safe Use of Medicines (CoRSUM) links a wide range of stakeholders mainly in the Newly Independent States using the Russian language. ISIUM established a platform to connect people across all continents. This presentation discussed how execution of activities within large complex networks has many difficulties especially where finance is scarce, but there are opportunities that digital communication and technology can

offer to facilitate connection. It was acknowledged that nothing can completely replace face-to-face communication, however, the ability to hold meetings without the need for travel can help drive networks' productivity. Video-conferencing can be a powerful tool.

**Anna Coretchi** focused on how rational use of medicines experts could work more productively with journalists. While new media channels such as YouTube, Twitter, Facebook, as well as TV channels and radio are the most powerful ways to reach people, interpersonal communication is the most influential. As a result of building personal relationships, a 7-year collaboration between doctors in CoRSUM and journalists developed a successful TV program promoting rational use of medicines. As a journalist, she saw CoRSUM as credible with links to the sources of information, open-minded, and courageous in talking about issues such as corruption. Journalists need news and a rating but they also need people who understand the information and can convince them and the audience of its credibility. It helps if such people are also charismatic and well-educated.

There is more room for non-profit organisations to play a role in the media. Journalists find it hard to figure out the world of medicines in an ocean of drug names and misleading information. Health is important and there are journalists who understand that people are interested, and thus ratings and objective information can create a win-win situation. She urged medicines experts to build skills and knowledge in working with journalists and gave practical hints for doing so.

*Information rules the world!*

**Liliya Ziganshina** described how billions of people use Wikipedia as a source of medicine information and how there is a partnership between Cochrane and Wikipedia to support the exchange of relevant Cochrane data in Wikipedia health articles in Russia. This includes the development of strategies to keep Wikipedia content up-to-date, impartial, and high quality. The study looked at a limited number of commonly used medicines to review the content of Russian Wikipedia articles against Cochrane evidence from systematic reviews. Page view statistics were used to compare uptake before and after 'Cochranising' of Wikipedia articles. The page views for the targeted medicines (that had been updated to ensure they were unbiased and promoted rational use of medicine) all increased – non-steroidal anti-inflammatory drugs by 16%, hyperglycaemic agents by 15%, and antimigraine medicines by 18%. The use of Wikipedia is ever increasing and this is a novel way to ensure access to unbiased, up-to-date medicines information.

**Ubaidilla Datkhayev** shared how he worked to develop clinical pharmacy in Kazakhstan. Previously pharmacists were more involved in manufacturing and compounding of medicines. Using conferences, roundtables and workshops, the need and value of changing the educational programs to develop clinical pharmacy as a specialty was demonstrated. After studying the educational system and functional responsibilities of a clinical pharmacist based on the experience of different countries of the world, Kazakhstan introduced the educational program in clinical pharmacy in 2016-17 at the undergraduate, masters and doctorate level.

**Paula Nersesian** defined literacy, numeracy and health literacy and described how these factors affect individuals, populations and health care systems. Patients with low health literacy are 50% more likely to die, after accounting for health status at onset. Other examples of the impact of poor health literacy and numeracy included: higher rates of hospitalisation, poorer overall health status, and $106-236 billion annually in avoidable health care costs. She found utilising methods such as 'teach back' have demonstrated improved outcomes at all levels.

## Discussion and lessons learnt

The discussions within this working session identified the need to share knowledge in new methods to educate and empower individuals and society. The use of technology, the media, and digital forums was found to engage a broader audience and allow the opportunity for connection among diverse stakeholders working towards rational use of medicines.

# Working Session 5:
# Improving Use at the Local Level – Empowerment

## SPEAKERS

**Participation of youth and school children as agents of change in fighting antimicrobial resistance**

Erick Venant, Tanzania
Abstract: 118

**Modern realities of the use of medicines in children from the point of view of school children and their parents**

Raikhan Tuleutayeva, Kazakhstan
Abstract: 116

**An effort for improving knowledge and perception regarding contraceptive drugs and devices among community in Yogyakarta, Indonesia**

Dwi Endarti, Indonesia
Abstract: 27

**Consideration of patient need in opioid prescribing at hospital discharge**

Lisa Pont, Australia
Abstract: 87

**Descriptive analysis of case for chronic obstructive pyelonephritis at smallest provincial level, Mongolia**

Zuzaan Zulzaga, Mongolia
Abstract: 106

**Analysis of drug availability at community health centre (Puskesmas) in the era of national health insurance and the factors that influence**

Ali Kusnadi Satibi, Indonesia
Abstract: 97

**Development of community-participated drug management system in child development center: case study of Pathum Ratchawongsa, Amnat Charoen, Thailand**

JanJaree Dokbua, Thailand
Abstract: 23

## CHAIRS

Niyada Kiatying-Angsulee, Alice Gilbert

## RAPPORTEURS

Siritree Suttajit, Luh Putu Wulandari

This working session detailed interventions that utilised community engagement and demonstrated the importance of understanding the needs of the community and involving them in interventions.

**Erick Venant** opened this working session sharing lessons learnt from an antimicrobial awareness campaign run by pharmacy students in Tanzania, mostly using their own money. The methods included visiting schools, radio presentations, social media, newspaper publications and community outreach. This work demonstrated what a powerful workforce motivated youth can be, and that youth are the ambassadors for the future of fighting antimicrobial resistance.

**Raikhan Tuleutayeva** investigated the understanding of using antibiotics in the treatment of colds and flu among schoolchildren and their parents. The majority of the children in the study reported episodes of colds as well as receiving antibiotics. 89% of the children in the 350-participant survey and 74% of parents believed that antibiotics kill viruses. This study demonstrated the need and want from school children and parents to be provided with educational programs and prevention measures for colds and flu.

**Dwi Endarti** looked at the effectiveness of the family planning program by evaluating participants' knowledge and perception of contraception at baseline and providing education strategies as an intervention. The study showed that the intervention improved knowledge regarding contraceptive medicines and devices, but there was no significant improvement in perception. For example, shyness to discuss contraception with their spouses did not change, nor perceptions that contraception reduces sexual satisfaction.

**Lisa Pont** reviewed the prevalence of opioid prescribing on discharge from hospital, and whether the prescribing was associated with opioid use in the 24 hours prior to discharge. The retrospective study found that one in four patients received an opioid on discharge and the quantities supplied were higher than the use prior to discharge and did not appear to consider individual need. Strategies to promote rational pain relief at discharge are required.

**Zuzaan Zulzaga** reviewed the interprofessional collaboration between pharmacists and doctors for the treatment of chronic tubule-interstitial nephritis, an inflammation in the kidney, in one of the remotest provinces in Mongolia. The study showed that doctors were not following standard treatment guidelines and no long-term treatments were prescribed to prevent recurrence. This study helped the pharmacists to follow up medicine adherence as often patients stopped their medicines after the acute phase of their illness.

**Ali Kusnadi Satibi** analysed 12 community health centres to identify factors that influence the availability of medicines. It was found that availability was influenced by the location of the health centre and the presence/absence of a supporting community health centre. The number of pharmacists, number of technical staff, accreditation, and inpatient service factors did not affect medicine availability.

**Jan Jaree Dokbua** shared the development of a community participated medicine management system in child development centres. When studying the problem, it was found that most of the centres did not have a first-aid room, had different medicine lists, inappropriate storage and low quality control (which included expiry checks). The community participated program showed that co-operation of a community network and government officers provided various strategies and methods to develop appropriate medicine management systems in each child development centre. Among 36 centres, 33 passed evaluation as a result of the program.

## Discussion and lessons learnt

The examples shared within this working session showed the power of bottom up approaches to improving rational use of medicines. All interventions detailed an observation or baseline phase to understand the community needs and where interventions and efforts should be made. Including the community was found to empower change and have a powerful impact for the success of the interventions.

# Working Session 6:
# Methods and Tools for Generating Knowledge

## SPEAKERS

**Does the patient voice matter? A randomised experimient exploring the role of patient knowledge in antibiotic prescribing in Tanzania**

Jessica King, UK
Abstract: 55

**Strategies to improve medication adherence among tuberculosis patients towards better patient outcomes**

Sampathkumar Madhusudhan, India
Abstract: 61

**Improving the use of medicines in geriatrics: what should we do?**

V P Maheshkumar, India
Abstract: 62

**Effect of a multidisciplinary approach for an antibiotic control program in a tertiary hospital in northern Thailand**

Surat Wannalerdsakun, Thailand
Abstract: 121

**Analysis of findings of a prescription audit performed for indoor cases in a tertiary care hospital**

Bharat Gajjar, India
Abstract: 31

**Dispensing practice and controlling system of antibiotics among medicine retailers in Butwal and Bhairawaha town: an intervention study**

Kadir Alam, Nepal
Abstract: 101

**Compliance to statin treatment in patients with ischaemic heart disease in combination with diabetes**

Nazira Narmukhamedova, Uzbekistan
Abstract: 79

## CHAIRS

Krisantha Weerasuriya, Tuan Anh Nguyen

## RAPPORTEURS

Libby Roughead, Judith Coombes

This working session focused on tools and methods used to promote rational use of medicines in the community.

**Jessica King** examined how patient knowledge might influence antibiotic prescribing in Tanzania, finding that patients' knowledge of the role of antibiotics in treating the common cough had a small but significant impact in the supply of antibiotics.

**Sampathkumar Madhusudhan** talked of the importance of understanding the factors contributing to sub-optimal medicine use to allow design of targeted interventions. He presented a study that examined the factors associated with non-adherence among individuals with tuberculosis, showing that literacy, socioeconomic status and gender were associated with non-adherence to treatment. Such knowledge allows interventions to improve medicine use to be targeted to those populations with the greatest need.

**V P Maheshkumar** talked of the value of building research into practice as demonstrated by his work from India. In this study pharmacists identified and resolved medicine-related problems among 520 geriatric patients in the hospital setting highlighting the role of pharmacists in improving medicines use.

**Surat Wannalerdsakun** from Thailand, described how data on antimicrobial use, cost and drug-resistant infections was used to determine the effectiveness of a multidisciplinary team intervention to improve antimicrobial use within the hospital. She described how a multifaceted intervention including medicine use evaluation, antimicrobial authorisation and prescriber audit and feedback was effective in reducing antimicrobial use and costs without an associated increased in hospital-acquired infection.

**Bharat Gajjar** described how audit and feedback was used on an ongoing basis within the Shree Krishna Hospital, Karamsad, Gujurat, India. A combination of implementation of the WHO model formulary and prescribing audit and feedback was implemented to support rational use of medicines. Audit results were used to provide feedback to prescribers regarding the use of generic names, choice of dose and the use of unnecessary and irrational medicines and prescribing feedback given at departmental meetings. The formulary implementation supports rational use of medicines within the hospital and ongoing audit and feedback provides insight into areas where formulary changes may be beneficial.

**Kadir Alam** from Nepal, described how an intervention based on the Donabedian structure, process, outcome framework (Donabedian, 2005, Millbank Quarterly) was used to target sub-optimal antimicrobial use. He discussed use of the framework in development of an intervention implemented across two community sites. While results of the intervention were mixed, using the framework enabled the research team to identify structural and process aspects contributing to poor antimicrobial use.

**Nazira Narmukhamedova** examined the use of statins among patients with ischaemic heart disease and diabetes. In this study the team looked at three aspects of statin use: prescribing; adherence and lipid levels. Lipid levels were considerably higher among those who were not prescribed a statin. Of those using a statin, only two-thirds adhered to treatment. This work highlighted the need for multifaceted interventions targeted at specific underlying factors and aspects of poor medicine use.

## Discussion and lessons learnt

This session had a common theme about how to generate evidence of what improves medicine use. Tools need to be adapted for local environments with attention to cultural norms. Measuring outcomes is essential to convince policy, administrative and professional colleagues to adopt effective strategies to improve medicine use, e.g. no change in mortality after interventions to reduce antibiotic use. The use of audit as a tool for understanding problems was a common strategy among the session presentations. Feedback to prescribers is an important step and was shown to change medication use (Thailand). Negative results can also be important to point to future directions, as is looking for opportunities for follow-up.

# Skills Workshops

## SPEAKERS

**Skills Workshop 1: How to write an abstract**

Hans Hogerzeil
Abstract: 38

**Skills Workshop 2: Communicating in the 2020s**

Anna Coretchi

**Workshop 3: Availability and rational use of opioid medicines in low- and middle-income countries**

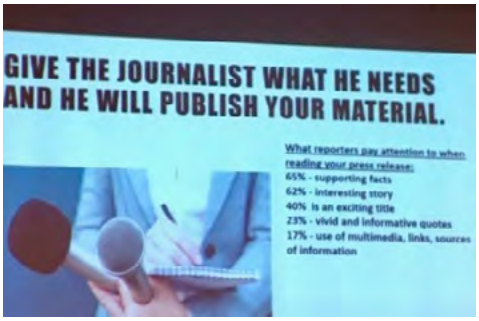
Agnes Vitry, Barbara Mintzes
Abstract: 120

The skills sessions completed the second day with the opportunity to learn from experts regarding three key areas; abstract writing, communication methods, and opioid use.

**Hans Hogerzeil** ran a practical workshop detailing how to write an abstract for a conference that gets accepted. He shared a working example of how to form a catchy title and reducing word counts to meet conference requirements whilst selecting the important and key features of your work.

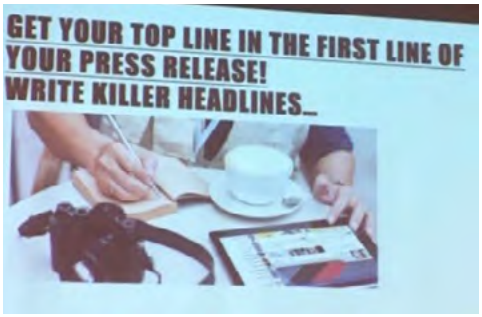
> *'Most of the work goes into the title. That is a sort of Haiku, with an absolute maximum of 102 characters'. 'Besides that, the summary must be excellent; in a nearly ritual way you have to mention everything you have found in 150 words. Every word must be a direct hit'. 'All good papers have one thing in common: you get it directly'.*
>
> **Hans Clevers, Henk Brinkhuis (top authors)**

**Anna Coretchi** shared her experience as a journalist to detail the different methods of communication important in 2020. No longer is communication reliant on journal articles to share learnings. Social media, elevator pitches, networking and mass media coverage were all discussed as important methods for sharing information in this skills workshop. The workshop included role play and participants worked in pairs to develop their elevator pitches before 'performing' in front of their new friends.




This session highlighted that shared enthusiasm and passion for enhancing rational use of medicines transcends spoken language; much laughter was had and friendships were formed.

Anna's take-home tips had similar themes to that of a good abstract, including a catchy title, and tailoring your information to the audience you wish to share your message with.




***Take-home messages***

- *Journalists receive from 25 to 100 letters every day*
- *Write a good press release with a 'killer' title*
- *Addressing a particular journalist works wonders*
- *Do not use the same approach for everyone*

**Agnes Vitry** and **Barbara Mintzes** addressed the factors that influence access and rational use of opioid medicines and examine potential policies to improve the current situation.

The limited access and use of opioid medicines in many low- and middle-income countries is due to a range of factors, including complex international trade controls

and national regulations, limited financial resources, and inadequate training and awareness among health professionals.

Some workshop participants were unaware of this situation as the media headlines are dominated by the opioid epidemic crisis in some high-income countries (especially the USA and Canada) associated with the overuse and misuse of opioid medicines for common non-cancer pain conditions, fuelled by aggressive marketing from drug companies.

They shared some examples of low- to middle-income countries (e.g.Sri Lanka) that have implemented successful regulatory and educational policies to promote access and rational use of opioid medicines.

The participants in this workshop were divided into smaller groups by region to discuss the main barriers to accessing opioids and potential solutions for improving quality of care. The workshop was such a success that the group continued over dinner and decided to collaborate closely in the long term.

# Day 3: Top Down Approaches

## Working Session 7: Improving the Use of Antimicrobials to Contain Antimicrobial Resistance

### SPEAKERS

**Access versus excess situation of 'Access' and 'Watch' group of antimicrobials in India**

Anita Kotwani, India
Abstract: 56

**Building anitbiotic rational use policy in Moldova based on WHO 'AWaRe' classification of antibiotics**

Paula Nersesian, Moldova
Abstract: 113

**Antibiotic prescribing pattern at the outpatient department in a regional hospital in Kenya**

Sarah Kibira, Kenya
Abstract: 52

**Dispensing practices of antibiotics by community pharmacies in two districts of Nepal**

Nisha Jha, Nepal
Abstract: 46

**Effects of rational drug use policy on antibiotic prophylaxis in normal vaginal delivery in Mahasarakham Hospital, Thailand**

Chutimaporn Chaiyasong, Thailand
Abstract: 14

**Findings of an antimicrobial point prevalence survey performed in Battambang Provincial Referral Hospital, Cambodia**

Mona Kheng, Cambodia
Abstract: 72

**Call for systems approach in promoting rational use of medicines: lesson learned from zooming out irrational antimicrobial use in Thailand**

Siritree Suttajit, Thailand
Abstract: 110

### CHAIRS

Anita Kotwani, Sarah Kibira

### RAPPORTEURS

Mirfin Mpundu, Alli Paterson

This working session discussed ways to improve antimicrobial use by sharing knowledge and building on the evidence base. The studies that were shared addressed whether an antimicrobial was actually needed, and that this baseline knowledge was necessary to reduce and prevent unnecessary use to help fight resistance. The interventions included a multifactorial approach and emphasised the need to include stakeholders in the interventions. It was recognised that incorporating understandings of the behavioural aspect of current practices could support change.

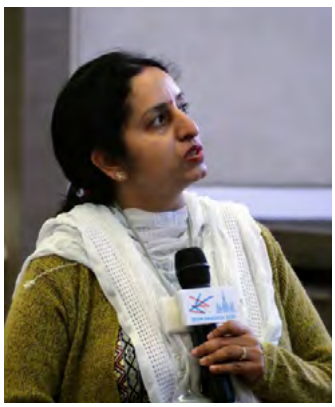
**Anita Kotwani** set out to determine the trends of antimicrobial use, availability, and resistance patterns in the community and hospitals for WHO Access, Watch, Reserve (AWaRe) criteria. One of the main drivers of antimicrobial resistance is inappropriate and overuse of antimicrobials. Anita determined that there was excess use and availability of 'Watch' antibiotics compared to 'Access' antibiotics. This was accompanied by higher resistance of some bacteria to 'Watch' antibiotics and lower resistance to 'Access' antibiotics. The high demand for 'Watch' antibiotics was driven by prescribers' lack of confidence in 'Access' antibiotics, economic incentives to prescribers and patient demand for 'stronger' antibiotics. She also showed that narrow spectrum antibiotics are not as available as those in the 'Watch' category, are more expensive, and fewer manufacturers are producing them, showing the impact of the demand-supply system. She reported that adopting principles of AWaRe could be applied in areas including procurement, education, and drug promotion to encourage rational use of medicines.

**Paula Nersesian**, presenting on behalf of the author who could not attend the meeting, talked of improving the use of antibiotics through stewardship as one of the key interventions necessary to stop the spread of resistance. The study compared the latest version of the Moldovan Insurance List and Therapeutic Guidelines to treat pneumonia in children,

focusing on five antibiotics which were from the 'Watch' group of antibiotics from the WHO AWaRe classification.. According to the WHO AWaRe classifications these antibiotics are indicated for certain conditions, however, they were not indicated for pneumonia in children. It was recommended that the national antibiotic policy be updated using the AWaRe classification system to help prevent resistance.

**Sarah Kibira** evaluated antibiotic prescribing patterns, compliance with treatment guidelines and the cost implications in order to establish an antimicrobial atewardship program in a regional hospital in Kenya. The audit demonstrated there was inappropriate antibiotic prescribing with many prescribers not adhering to guidelines which in turn introduced unnecessary treatment costs. Establishing an antimicrobial stewardship program can help mitigate the issues identified.

**Nisha Jha** evaluated antibiotic dispensing practices of community pharmacies in two districts of Nepal. Data were collected by questionnaire. Most antibiotics (86%) were dispensed without a prescription. Dispensing without a prescription can contribute towards resistance as not all diagnostic tools (such as pathology) are available and medicine selection can be influenced by other factors such as patient request. The findings of this study may lead to the re-evaluation of guidelines for improving safe and rational use.



**Chutimaporn Chaiyasong** discussed the impact of the Ministry of Public Health campaign on 'antibiotic use in vaginal delivery of normal term labour' in Mahsarakham Hospital, Thailand. Using a before and after review, the policy significantly decreased antibiotic use and decreased monthly expenditure. The findings indicated that implementation of the rational use of medicines policy significantly reduced the use of unnecessary antibiotics whilst not increasing the rate of infection.

**Mona Kheng** used an antimicrobial point prevalence survey to identify areas for improvement at a Cambodian hospital. The results showed over 60% of patients prescribed antimicrobials had no infectious disease diagnosis and 16% had no microbiology testing ordered. Safety factors were identified; among the 111 antimicrobial prescriptions, over 40% were written incorrectly. Mona demonstrated that the survey can provide valuable insight into antimicrobial prescribing behaviour and identified areas to target for improvement.

**Siritree Suttajit** shared how irrational medicine use, in two north-eastern provinces in Thailand, was driven by multi-level influential factors. One study looked at antibiotic use among ethnic groups and the other looked at medical non-adherence, leading to multidrug-resistant tuberculosis. The influencing factors ranged from individuals' values, beliefs, interpersonal relationships and past experiences, and community level factors such as ethnic culture, social support and health setting, to organisational and societal factors such as policies and organisational cultures in health. The concept of a rational use of medicines country campaign brings opportunity to integrate the concept of systems thinking into the framework. This can expand the focus from 'medicine' and 'health' system to a bigger picture encompassing all the complexities involved in change and developing tailored interventions to address real-life problems.

## Discussion and lessons learnt

Antimicrobial medicines were a key example discussed throughout the conference, and a focus of this working session was to demonstrate the need to continue to evaluate appropriate use and continue to provide multifactorial interventions to change prescribing behaviour and community understanding.

# Working Session 8:
# Methods to Generate Knowledge

## SPEAKERS

**Impact of essential medicines policies on outpatient public sector primary care prescribing in South-East Asia**

Kathleen Holloway, UK
Abstract: 42

**Cost-effectiveness of pravastatin and pitavastatin for atherosclerotic cardiovascular disease prevention in people living with HIV in Thailand**

David Boettiger, Australia
Abstract: 9

**ABC/VEN monitoring for improving use of medicines at a municipal out-patient clinic**

Liliya Ziganshina, Russia
Abstract: 54

**Medication safety and effectiveness in dementia: neurodegenerative diseases global epidemiology network (NeuroGEN)**

Simon Bell, Australia
Abstract: 44

**Antimicrobial resistance awareness survey in Timor-Leste, period 2018**

Suzana Soares Hendriques, Timor-Leste
Abstract: 57

**Validity of the ISMP Medication Safety Self-Assessment for Long-Term Care tool in Australian nursing homes: a RAND appropriateness method study**

Ramesh Sharma Poudel, Australia
Abstract: 91

## CHAIRS

Libby Roughead, David Boettiger

## RAPPORTEURS

Lisa Pont, Judith Mackson

This working session focused on tools and methods used to promote rational use of medicines by healthcare providers.

**Kathleen Holloway** started the session describing the use of a rapid two-week appraisal method, involving data collection by government staff using a specially designed workbook tool, and ending with a national workshop. This approach had been used to stimulate policy changes to promote rational use of medicines and build local capacity within South-East Asia. This pragmatic partnership approach taken with local ministries of health to monitor and evaluate medicine use and policy allowed rapid, widespread data collection, sufficiently accurate and comprehensive for both national and regional analysis. Working in partnership with local ministries facilitated the sharing of results and identification of local solutions to promote access to local health services and rational use of medicines.

**David Boettiger** talked of medicine cost as an important factor in ensuring universal access to medicines. He presented a cost-effectiveness analysis comparing two statins for the prevention of cardiovascular disease for people living with HIV in Thailand. The analysis showed that neither agent was cost-effective in the current Thai economic environment, highlighting the usefulness of locally based cost-effectiveness assessments.

**Liliya Ziganshina** presented work that had been undertaken in Russia using the WHO ABC/VEN (Vital, Essential, and Non-essential) analysis to monitor medicine expenditure at a municipal outpatient clinic across a three-year period. The analysis allowed identification of high cost items and the appropriateness of the items could then be assessed. Following the analysis, changes to a number of high cost items were made to promote more rational use of medicines and lower costs.

**Simon Bell** described the development and potential of the NeuroGEN network, a global epidemiology network focusing on dementia. He noted that people with dementia have higher risk of more than five co-morbidities and more than 10 regular medications. They also have poorer outcomes after stroke, myocardial infarction, diabetes and hip fracture. Dementia–specific evidence is needed to optimise medication treatments. This presently does not exist as clinical guidelines are based on evidence from younger patients without dementia. The network uses a common data model to analyse data from Australia, UK, USA and Hong Kong. Current projects within the network include international research into the use of guideline-recommended medicines following myocardial infarction, diabetes and stroke.

**Suzana Soares Hendriques** stated how working in partnership was one of the factors contributing to the success of a national antimicrobial resistance survey in Timor-Leste. A partnership between the WHO and the Ministry of Health supported the first national survey in 2018. Data from the survey has been used in the provision of education campaigns for health professionals and agricultural workers.

**Ramesh Sharma Poudel** presented work on the validation of a Canadian tool for measuring medication safety culture in nursing homes in the Australian context. The study used the RAND agreement method to examine the validity of the tool as perceived by nurses and pharmacists working in Australian nursing homes. Twenty-five of the 133 criteria were considered not valid in the Australian setting providing valuable information on how the tool could be adapted for Australian use.

## Discussion and lessons learnt

Learnings from this session centred on the use of robust methods, tools and analyses to design and evaluate strategies to improve medicine use. Pragmatic approaches to data collection, validation of tools from one context for use in another and the importance of data to inform policy were all highlighted.

# Working Session 9:
# Improving the Use of Medicines for Universal Health Coverage

## SPEAKERS

**The impact of insulin donations for children in 43 low- and middle-income countries**

Hans Hogerzeil, The Netherlands
Abstract: 37

**Using sales data to examine utilisation of diabetes medicines in India, Indonesia, Sri Lanka and Thailand**

Anna Kemp-Casey, Australia
Abstract: 48

**Cost analysis of different antibiotic brands available in India with reference to NLEM and Prime Minister's Jan Aushadhi Scheme**

Dinesh Meena, India
Abstract: 68

**Promoting quality use of insulin**

Hans Hogerzeil, The Netherlands
Abstract: 36

**Legislating for universal access to medicines: a rights-based cross-national comparison of UHC laws in 16 countries**

Katrina Perehudoff, Canada/Belgium
Abstract: 84

**Policies for access to essential medicines for a sustainable universal health coverage and the realisation of the right to health**

Charan Singh Verma, India
Abstract: 119

## CHAIRS

Hans Hogerzeil, Katrina Perehudoff

## RAPPORTEURS

David Newby,
Suntaree Watcharradamrongkun

This working session explored how rational use of medicines and universal health coverage are intertwined.

**Hans Hogerzeil** described the challenges facing those living with diabetes in low- and middle-income countries and the impact of donation programs. A literature review of peer-reviewed and grey literature, websites and conference presentations was conducted to explore the impact of diabetes support programs that include insulin donation on diabetes care and patient outcomes. Support programs which include insulin donation were associated with increases in both the number of diabetes clinics and the number of patients with diabetes registered with a clinic. In terms of health and other outcomes these programs were associated with improvements in body mass index (BMI), diabetes-related complications, school attendance and changes to national health systems.

**Anna Kemp-Casey** continued the discussion about diabetes, looking at the use of medicines sales data as a national data source for evaluating rational use of medicines. Comparison across Indonesia, India, Sri Lanka and Thailand showed variation in use of diabetes therapy across the different countries.

**Dinesh Meena** described the Jan Aushadhi Scheme (JAS) which provides access to low cost medicines throughout India via generic drug stores. He presented an analysis of cost variation of antibiotics in India, including those available via the scheme and those in other pharmacy shops. For example, the

variation in costs for oral quinolones was 67% to 2784%. The study findings confirmed that the cost of antibiotics available via the scheme was lower than the general market. This study highlighted the role of government and non-government organisations in facilitating access to low cost medicines.

**Hans Hogerzeil** presented the challenges facing low- and middle-income countries in terms of quality use of medicines and diagnostics for diabetes, with a focus on insulins. Data on the use of biosimilar insulins, especially in low-income countries is lacking, and there have been concerns around product potency. Collaboration between governments, industry and not-for-profit organisations is a potential way forward to ensure the quality of biosimilar insulins worldwide.

**Katrina Perehudoff** presented the challenge low- and middle-income countries are facing in developing laws to implement universal health coverage. There are no global guidelines. Framing laws for access to medicines combines elements of International Human Rights Law and WHO medicines policy guidance.

She undertook a cross-national analysis of legislation pertaining to universal health coverage from 16 mostly low- and middle-income countries. She developed a 12-point checklist as a tool for assessing policy covering three domains: legal rights and obligations, good governance, and technical implementation including medicines selection and financing.

She found that national laws often embed individual rights, government obligations, accountability and coverage for vulnerable groups, while other good governance and technical principles are infrequent. Affluent countries show three trends: embedding universal entitlements to access and government duties to provide medicines; a tendency to limit the scope of medicines provided by adopting the essential medicines principle and mechanisms for their selection; affirmation of the right to hold government accountable with procedures to seek redress for rights violations.

The first of a kind study provided legal text and an assessment tool which is not only a checklist for evaluating national law but also guidance for countries developing universal health coverage legislation.

**Charan Singh Verma** presented a comprehensive review of grey literature relevant to equitable access to essential medicines and described the changes that have occurred in health policy following the Nairobi conference in 1985 and World Health Assembly resolution in 1986. Many effective

policy options are currently underutilised and international public policy is needed in setting research and development priorities and in coordinating new approaches to promote accessibility and affordability of essential medicines.

## Discussion and lessons learnt

Within this working session the need for underlying legislation to support efforts towards rational use of medicines was explored. There was discussion about the impact of variation in medicine costs on access to medicines. The need for legislation and policy supporting and promoting universal health coverage was highlighted and differences in terms of need and progress between middle-income and low-income countries discussed.

# Working Session 10:
# Essential Medicines Selection, Formularies, Guidelines

## SPEAKERS

**Adapting 'point of care' prescribing guidelines for local use**

Rob Moulds, Australia
Abstract: 73

**Linking guidelines to an essential medicines list**

Rob Moulds, Australia
Abstract: 74

**It is time for proper standard treatment guideline design in NIS countries based on evidence-based sources**

Natalia Cebotarenco, Moldova
Abstract: 12

**Guideline host app: supporting access to local standard treatment guidelines in Fiji and Solomon Islands**

Mieke Hutchinson-Kern, Australia
Abstract: 43

**A subjective analysis of the current status of national drug formularies: the case for a dynamic, open access global resource**

David Woods, New Zealand
Abstract: 125

**Domperidone use for breast milk supply: does benefit outweigh harm?**

Barbara Mintzes, Australia
Abstract: 94

**Comparison of the recommendations on paracetamol and ibuprofen prescribing in Moldova with WHO and Australian therapeutic guidelines**

Carolina Romasco, Moldova
Abstract: 98

**What is the motivation for inclusion of nimesulide in the insurance list of Moldova for adults and as well for children especially?**

Natalia Cebotarenco, Moldova
Abstract: 13

## CHAIRS

Rob Moulds, David Woods

## RAPPORTEURS

Anna Kemp-Casey, Jane Robertson

This working session explored the role of the formulary tools and processes in promoting rational use of medicines.

**Rob Moulds** presented an overview of the considerations and challenges associated with adapting point of care guidelines developed in one context for use in another based on experiences from point of care guideline adaptation and development in a number of Pacific Island countries. Potential pitfalls described included a lack of local clinician engagement, dealing with vested interests associated with funding and insufficient consultation throughout the adaptation of existing guidelines.

**Rob Moulds** continued to share experiences in the Pacific Island region on the development of local treatment guidelines. In this presentation, the focus was on the importance of the relationship between standard treatment guidelines and the local essential medicines lists. While in theory only essential medicines should be included in standard treatment guidelines, however in practice this was found to be problematic. He proposed a pragmatic way of linking the two in the following way. Guideline writers should not be limited to recommendations based on the essential medicines list. He provided the basis on which they should make a preliminary judgement of priority for adding drugs they recommend to the essential medicines list if not currently listed. High priority drugs should be referred to the relevant committee for immediate clinical need and cost-effectiveness assessment.

**Natalia Cebotarenco** continued the discussions about developing standard treatment guidelines by describing the challenges of ensuring guidelines are evidence-based. A collaborative project to analyse standard treatment guidelines from Kazakhstan and Moldova identified a range of poor quality recommendations that were not supported by the current evidence base and this lack of evidence-based information was one factor associated with poor guideline adherence by health care practitioners.

**Mieke Hutchinson-Kern** looked at innovative ways to make standard treatment guidelines more accessible at the point of care. The use of a smart phone app for standard treatment guidelines was trialled in Fiji and the Solomon Islands. Evaluation found that health practitioners in both countries found the app useful and almost two-thirds of those surveyed used the app daily.

**David Woods** shared a global review of 80 national treatment formularies, looking at accessibility, currency of information and content. The review found that there was considerable variation in formulary content and that the currency of information of many national formularies was limited. The case for an open access, continually updated resource was proposed as a crucial tool to improve rational use of medicines globally.

**Barbara MIntzes** presented the challenges of linking the evidence base to practice using the case of domperidone for breastfeeding as an example. Despite no data on breastfeeding rates, no data on infant outcomes, unreliable data on the effect on milk volume and considerable evidence of significant cardiovascular harm, domperidone continues to be used off-label in breastfeeding.

**Natalia Cebotarenco** (on behalf of the author, Carolina Romasco, who was unable to attend the meeting) discussed the need for treatment guidelines to be evidence-based and described a comparison of recommendations for the use of ibuprofen and paracetamol in Moldova with those in the WHO and Australian therapeutic guidelines. She described how the availability of some agents and formulations affected the Moldovan guideline recommendations and limited the inclusion of evidence-based recommendations.

**Natalia Cebotarenco** continued the theme about the importance of using evidence-based information in the development of standard treatment guidelines. An analysis of the Moldovan insurance list of medicines and medicines registered in Moldova in 2019 found that nimesulide, a non-steroidal anti-inflammatory agent, was listed in multiple forms in both lists. In contrast, nimesulide use outside Moldova is limited and it is not registered anywhere else in the world, showing the need for evidence-based information to inform medicines policy.

## Discussion and lessons learnt

This session highlighted the importance of standard treatment guidelines and national medicines lists. Standard treatment guidelines are a fundamental tool supporting rational use of medicines, yet for many countries developing and maintaining local lists is resource intensive and problematic. Sharing of resources and strategies for adaptation of material developed in one country for use in another may be one way of overcoming local resource limitations. The second theme running through the session was the need for evidence-based information to support guidelines, medicines lists and medicine use.

# Working Session 11:
# New Roles For Pharmacists

## SPEAKERS

**Project-based learning to transform pharmacy students to be a system manager in promoting rational use of medicines in a community**

Puckwipa Suwannaprom, Thailand
Abstract: 111

**Clinical pharmacists medication counselling can reduce CKDu disease progression and improve medication adherence in pre-dialysis CKDu patients**

Dilmi Wickramasinghe, Sri Lanka
Abstract: 123

**Pattern of adverse drug reaction reporting by commuity pharmacists in Dharan, Nepal**

Kadir Alam, Nepal
Abstract: 2

**The role of a pharmacist in rational use of medicines**

Ubaidilla Datkhayev, Kazakhstan
Abstract: 21

**The role of accreditation standards in improving use of medicines: experiences from the Australian Pharmacy Council**

Josephine Maundu, Australia
Abstract: 16

**Cuba and Bolivia: pharmacoepidemiology improving the use of medicines**

Dulce Calvo Barbado, Cuba
Abstract: 8

## CHAIRS

Bundiono Santoso, Dilmi Wickramasinghe

## RAPPORTEURS

Alice Gilbert, Thitima Pengsuparp

This working session focused on the future, and shared new and innovative ways that pharmacists are practising. The presentations covered three broad areas of influence: influencing the curriculum for innovation, influencing adherence for improving outcomes; and monitoring and using data for improving medication safety.

**Puckwipa Suwannaprom** shared examples of moving education from lecture rooms to the community. The project-based learning strategy transformed pharmacy students into systems managers in promoting rational use of medicines in a community. This provided a win-win opportunity as the participating community had a tailored made intervention and students learned to problem solve in a systematic approach.

**Dilmi Wickramasinghe** shared research evaluating the impact of medicine counselling to reduce renal disease progression and medicine adherence in Sri Lanka. This research targeting pre-dialysis patients demonstrated that packaged medicine labels are not enough and there is a need for written and verbal education about the medicine. Providing education and written information improved adherence and prevented further deterioration of disease. In poorly resourced countries this may be the difference between life and death.

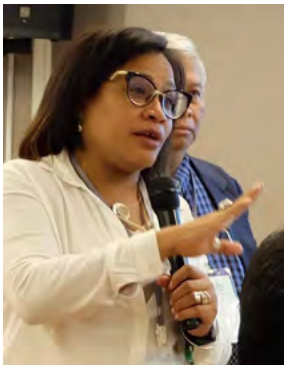
**Kadir Alam** explored the gap in adverse drug reaction reporting that can occur in the community sector. The study used the expertise of pharmacists to collect and report adverse drug reactions. Antibiotics and non-steroidal anti-inflammatory agents were the most commonly suspected medicine within the pharmacist-collected reports; 70% of reports were about mild reactions; and 100% were identified as being preventable. This demonstrated that adverse drug reaction reporting is feasible at a community level and upon strengthening the community-based pharmacovigilance system there can be more rational use of medicines in the community.

**Josephine Maundu** shared the experience of the Australian Pharmacy Council and the role that accreditation can play in improving use of medicines. The curriculum is influenced by accreditation, so there is an opportunity to improve quality use of medicines through accreditation standards. This presentation discussed the adoption of social accountability and performance outcomes into accreditation.

*'First do no harm ... but ... we are also obligated to do good'*

The accreditation standards allow for flexibility and train health professionals to observe current and future needs of the community.

**Dulce Calvo Barbado** explained the complex and fragmented health care system in Bolivia. While current universal health insurance tries to cover all people, it does not account for the intercultural gaps and differing levels of poverty and access among the population. There is a logistic management system which houses over 10 years of data but it is currently not being used to capacity. There are many opportunities for pharmacists to be involved in pharmacoepidemiology to inform rational use of medicines. Other elements to be strengthened for rational use of medicines are to establish functioning pharmacy and therapeutics committees, update therapeutic guidelines, integrate pharmacists within the health team, and change minds and behaviours.



## Discussion and lessons learnt

The discussions within this session identified the need to understand the community you are working with to influence and make informed change. There was an understanding that building and using data and evidence can demonstrate the impact of work, and also identify gaps that could be the focus of interventions. This session incorporated traditional methods (such as accreditation), with innovative approaches (such as social accountability as a guiding principle). All presentations showed the value of relationships and empowerment to understand the change that needs to occur and the importance of being a part of the community for the change to be meaningful and sustainable.

# Working Session 12: Role of Governments, Policies and Systems in Improving Use of Medicines

## SPEAKERS

**Identifying the most effective policies to encourage quality use of medicines in public sector primary care from three WHO datasets**

Kathleen Holloway, UK
Abstract: 41

**Strategies promoting rational drug use in hospital policy of governmental hospitals in Khon Kaen province, Thailand**

Sasitorn Eua-Anant, Thailand
Abstract: 28

**Pharmacoeconomic analysis of drug supply in paediatric hospital in Almaty**

Bibikhan Yeraliyeva, Kazakhstan
Abstract: 127

**Prevention of mother-to-child HIV transmission: barriers and enablers at a Russian regional HIV management centre**

Liliya Ziganshina, Russia
Abstract: 49

**Developing policy and regulation for use of cannabis-based medicines in Australia – challenges of community, industry and health practitioner knowledge and expectations**

Judith Mackson, Australia
Abstract: 60

**Starting to implement resolution WHA 60.16 on rational use of medicine: a story about remaining focussed, developing trust and overcoming fear**

Kathleen Holloway, UK
Abstract: 40

## CHAIRS

Kathleen Holloway, Bibikhan Yeraliyeva

## RAPPORTEURS

Hans Hogerzeil, Anita Kotwani

The focus of this session was health and medicines policy to support rational use of medicines.

**Kathleen Holloway** opened the session with an analysis of published and publicly available data on medicines use to explore if pharmaceutical policy is associated with improvements in rational use of medicines. The effectiveness of policies can vary across a range of domains but implementation of policies supporting rational use of medicines was correlated with improved use of medicines. The following policies were particularly important: a government unit to promote rational use of medicines, implementation of clinical guidelines and essential medicines lists, hospital drug and therapeutic committees, generic substitution, public education on medicines, medicines free at the point of care, disallowing prescriber revenue from drug sales and disallowing over-the-counter availability of some antibiotics.

**Sasitorn Eua-Anant** shared experiences from Khon Kaen Province in Thailand. In response to the identification of a number of medicine use problems including high antibiotic use and medicine wastage, Khon Kaen Province implemented and evaluated a hospital policy to improve medicine use. Formal evaluation of the implemented policies was an important aspect of the policy implementation and a multifaceted approach involving three key areas – managerial, educational and regulatory aspects – was used. Evaluation over a two-year period showed a decrease in antibiotic use, with 97% of hospitals meeting their antibiotic targets.

**Bibikhan Yeraliyeva** presented the use of pharmacoeconomic evaluation of data from the WHO ABC/VEN (Vital, Essential, and Non-essential) analysis used to support formulary development in Kazakhstan. Following

implementation of the WHO ABC/VEN analysis, an increase in the use of evidence-based medicines and a decrease in the use of medicines with no evidence base was observed.

**Liliya Ziganshina** stated that the reasons contributing to poor medicines use is an important step in the design of strategies to improve the quality of care. She shared analysis at a Russian HIV clinic that found that about 5% of all children delivered to HIV-positive mothers were born HIV-positive. Qualitative analysis of data over a 9-year period found that major factors contributing to mother-to-child transmission were late HIV diagnosis, delays with commencing treatment and late cancellation of breastfeeding. Understanding these factors provided the opportunity to develop targeted strategies to reduce mother-to-child HIV transmission.

**Judith Mackson** described how the evidence base of drug effectiveness plays a critical role in supporting rational use of medicines, and that tensions can arise when there is public demand for medicines where the evidence base is lacking. She illustrated this by sharing learnings from Australia where community demand for access to cannabis-based medicines required a robust policy approach to minimise potential risks. The approach taken was multifaceted and included systematic reviews to strengthen the evidence base, technology to streamline processes and collaboration between government departments and stakeholders.

**Kathleen Holloway** closed the session with an update on the implementation of World Health Assembly resolution WHA 60.16. Snapshot audits of medicine use, policies and practices helped countries to develop action plans based on their local needs and encourage collaboration between stakeholders to manage pharmaceuticals in a holistic way. The work has shown the importance of WHA 60.16 and also highlighted the need for future resolutions that reiterate the WHA 60.16 recommendations more clearly.

## Discussion and lessons learnt

This working session highlighted the need for strong pharmaceutical policy to underpin rational use of medicines strategies. To paraphrase Kathleen Holloway, development and implementation of robust medicines policy is about ‘remaining focussed, developing trust and overcoming fear’.

Presentations in the session demonstrated the tensions and complexities involved in development and implementation of robust policy. Medicine utilisation studies and pharmacoeconomic evaluation of policy were critical both in understanding the intended and unintended effects of policy and for identifying when policy is not supported by the evidence and may negatively impact practice.

# The Findings

ISIUM opened the conference with a call to put people at the centre of efforts to improve the use of medicines and reinvigorate a movement for rational use of medicines.

The objectives of the conference focused on people's perspectives and empowerment, and how governments and other stakeholders could create protective environments for safe, effective and appropriate use of medicines. Experiences, viewpoints, and analyses of efforts to improve medicines' use were shared. There was a strong feeling of excitement, joy and encouragement in the meeting, as evidenced in people's evaluation of the conference.

ISIUM sought new knowledge and thinking in the field. In particular, it sought insights into initiatives and processes for empowerment and education, universal health coverage in relation to medicines, appropriate antimicrobial medicines use, and societal and institutional support for better use of medicines through infrastructure, policies, systems and accountability.

The conference organising committee analysed all of the contributions making the following summary and recommendations.

## Broad Observations

Civil society has a central role to play in encouraging governments and other stakeholders to implement essential medicine policies. Recent evidence strongly shows the detrimental effect of commercial influences in medicalising society and on medicines use. There is also now strong evidence that most governments fail to fulfill their unique responsibility and do not use their power to promote scientifically sound and cost-effective use of medicine (in short: 'rational use of medicines', RUM, also known as 'rational drug use', RDU).

There is now clear evidence that medicines policies are effective. These policies should be included in regulation and require ongoing and holistic evaluation. Many effective rational use of medicines policy components and interventions are not used despite the availability of strong evidence. A new concept was proposed by Thailand, whereby a country would be awarded the title 'RDU country', if it can show it is working towards implementing key rational drug use policy components.

There has been too little focus on people's health and welfare as the central purpose for efforts to improve the use of medicines. A new paradigm is needed for the general approach to rational use of medicines that encompasses a broadening of the concepts of health and medicine, and an understanding of the nature and processes of empowerment. Effective relationships, as opposed to transactional approaches, are important in this paradigm for building trust and collaboration, and for moving to true interdisciplinary work. Our purpose in research, action and advocacy has not been adequate in looking at problems, processes and outcomes from people's and communities' points of view.

New perspectives were given on: border smuggling of medicines and how they result in altered use of medicines in local communities; the need for rational use of medicines strategies in humanitarian and refugee work; the need to help people understand how falsified and substandard medicines affect people's health and welfare; and challenges of opioid access and prescribing.

## Conference objectives

1. To understand rational use of medicines and therapeutic practices in terms of new knowledge and perspectives.
2. To share experiences in people's education and empowerment in improving the use of medicines and therapeutic practices.
3. To explore what government and other stakeholders should and could do to ensure safe and effective use of medicines and how they may be held to account.
4. To define priority areas for future ISIUM work on improving the use of medicines and its promotion with a focus on people's empowerment.

## Conference themes

**Empowerment of people** to improve the use of medicines, taking into account both community and provider education and empowerment

**Enabling universal health coverage**, encompassing use of medicines, their access, insurance and related issues

**Driving appropriate antimicrobial medicine use**, taking into consideration antimicrobial resistance, stewardship and related issues

**Addressing government and stakeholder roles**, health system infrastructure and policies, and the role of the community in holding government to account

**Fostering innovation**, new and interesting initiatives to improve use of medicine.

The work going on in the field, as evidenced by the abstracts submitted for the conference, showed that many people are working on the ground with few resources. While much of this work may be small scale, it is done with a great deal of commitment and willingness to share. This is important in terms of showing the problems and possibilities in local contexts and in showing the potential of a growing movement for improving the use of medicines.

The abstracts were rich in term of content, with new insights on innovations and methodologies. In the past, interventions and remedial action to improve the rational use of medicines were mostly focused on educational and behavioural interventions. Nowadays, managerial, regulatory and economic interventions are being used and evaluated using tools richer in analytical methods, such as cost-effectiveness, and consumption efficiency analysis. Modern communication methods are being used and people's underlying motivations explored. The rise in antimicrobial resistance has led to antimicrobial stewardship programs in relation to hospital in-patients.

## What Do We Know and What Did We Learn?

### National policy, infrastructure, health systems and accountability

Core essential medicines policies have been established and promulgated by WHO, based on operational research and analysis of experiences in many countries.

Evidence now exists to show that all these core policies are associated with better medicines use and that the more of these policies are implemented, the better the medicines use overall, in particular: a government unit to promote rational use of medicines; appropriate pre-service and in-service education of health professionals; implementation of clinical guidelines and essential medicines lists; hospital drug and therapeutic committees; generic substitution; public education on medicines; medicines free at the point of care; disallowing prescriber revenue from drug sales; regulating drug promotion; and disallowing over-the-counter availability of some antibiotics.

Governments have a mandate to govern and protect populations from adverse situations that compromise public safety. Health and medicine policies are necessary for such protection. Strong government initiatives and follow-through are possible (as in Thailand and Australia), and can effectively be supported by regulations, as well as serve as a standard for monitoring performance and accountability (as in Kazakhstan, Thailand and Cuba). Citizen or consumer organisations can activate and then work with the government to develop and implement national health and medicines policy (as in Australia and Thailand). Trusted faith-based organisations (such as the Ecumenical Pharmaceutical Network in African countries) can also catalyse action, especially in rural areas.

Evidence-based essential medicines lists, formularies and clinical guidelines are fundamental to promoting rational use of medicines, but updating is often difficult due to vested interests. A global open access database of independent information to support local guideline development is needed. A welcome innovation is the smartphone app currently used in Fiji and the Solomon Islands. Developed in Australia, it makes therapeutic guidelines available, easy to use and easy to update.

Many technical questions on effective rational use of medicines interventions and policies, including tools and methods, particularly at policy and institutional systems level, have been resolved in the last three decades. However, although evidence on the usefulness of these tools exists, many are not being used or are not available where needed. Many examples shared in the conference of poor medicines use around the world, show the scale of the challenge.

Many of the technical tools and interventions have not been contextualised to local situations. Local data are needed for good local decisions, so it is important to measure medicine use and share the results. Diverse approaches, methods and partnerships are needed to engage all stakeholders including communities, providers, policy makers and government. Robust tools adapted to the local context and multidisciplinary work are needed to understand local contexts and influences. For example, snapshot data (quantitative and qualitative) of medicines use, policy implementation and health system factors influencing use, that was collected quickly and cheaply by a multidisciplinary government team (facilitated by WHO) and properly interpreted, was enough to inform local, national and regional action in South-East Asia.

Interprofessional collaboration is important for patient-centred health care. rational use of medicines is a great activity for interprofessional learning, leading to interprofessional practice and then to better patient outcomes. In recent years there have been more initiatives strengthening the critical contributions of the pharmacist to the health team for better use of medicines at all levels of service provision, as shown in the following examples. Clinical pharmacy is being structured into hospital systems and formal training programs are being developed (Kazakhstan). Private community pharmacists are willing and able to monitor adverse drug reactions (Nepal). Pharmacist counselling has helped rural workers understand their condition (CKDu kidney disease), take their medicines as intended and avoid clinical deterioration requiring dialysis (northern Sri Lanka). Pharmacy education accreditation bodies

(Australia) can play a strong role in building social responsibility standards into training to tune pharmacists into the needs of the communities they serve.

## Universal health coverage and medicines

Equitable access to effective medicines and their responsible use are an essential component of universal health coverage and require a national health systems approach. Universal health coverage requires comprehensive good legislation, adequate financing, contextualisation of international policies and efficient management of medicines including adherence to reimbursement lists and compliance with clinical guidelines. In the absence of global guidelines for laws promoting access to essential medicines in universal health coverage, a tool, with examples of legal text, has been developed to help countries assess and develop national universal health coverage laws. Based on human rights law and WHO medicines policy guidance, it has a checklist covering legal rights and obligations, good governance and technical implementation including medicines selection and financing.

Some national formularies (e.g. Moldova) recommend medicines that were considered to be unsafe in other countries or which are not indicated for certain conditions. Large variations between countries in use of medicines for diabetes was shown using national data sets in India, Sri Lanka, Indonesia and Thailand. This points to the need for continuous review of the reimbursement lists to ensure consistent criteria and procedures for selecting safe, effective and affordable medicines. Similarly, continuous review is needed to address wide variation in health facilities efficiency due to factors such as the size of the hospitals, geographic locations, medicines disruptions and health insurance coverage (Indonesia).

The cost of medicines remains a major challenge. In India, where the cost variability of antibiotics ranges from –40% to +2115%, a government scheme was shown to provide generally cheaper prices. However, universal access to key drugs such as insulin remains out of reach. A study on the quality of insulin use showed how half of patients needing insulin could not afford it, how the cost of insulin, syringes and glucose monitoring for one child with diabetes consumes 53% of the family income in Tanzania and how in Kyrgystan 12% of patients on high cost newer insulins consumed half the insulin budget. The high costs were linked to the fact that just three pharmaceutical companies produce and sell 95-97% of all insulin consumed in the world.

## Improving use of medicines at local level

Many activities are successful in promoting rational use of medicines. There are many small-scale, bottom up activities being done by motivated people with few resources in local communities, health centres and hospitals. Some examples include empowering youth and school children to be change agents about antibiotic use in the community (Tanzania and Kazakstan), and hospital pharmacy collaboration with child development centres in a district in northern Thailand to develop systems to manage medicines and first aid. Other activities were only partly effective such as education using a lecture with PowerPoint and a leaflet only (family planning program in Yogyakarta).

A number of tools and methods were successfully adapted to local situations, to document drug-related problems, understand patient adherence to drug therapy, and to plan interventions and evaluation measures.

Descriptive study is still important to understand the situation. Important insights were shared on poor prescribing for chronic pyelonephritis in the most remote province of Mongolia where local people had little idea of what rational use of medicines means. Likewise in Indonesia and India, in-depth study of the practices of informal providers and dispensers show the seemingly intractable forces which govern the prescriptions and free sale of antibiotics such as how formal providers teach informal providers bad habits in return for referrals. In Indonesia and Nepal, insights were given into the rampant over-the-counter sale of antibiotics in retail pharmacies where regulation is poorly enforced.

## Appropriate antimicrobial medicine use

Antimicrobial resistance is now a global priority for policy development and implementation. Some national programs have been instrumental in containing antimicrobial resistance (Thailand and China). The WHO Access, Watch, Reserve (AWaRe) classification of antibiotics is being used to measure lack of access to essential antibiotics and excessive access to inappropriate ones, but data are scarce. Antimicrobial stewardship programs were initiated with promising results in two hospitals in Cambodia and Kenya following documentation of high use of antimicrobial medicines, poor prescribing and little microbiological testing. ‘Antibiotic Smart Use’ interventions, with strong participation by communities and health professionals, have changed antibiotic prescribing and the social norm for common conditions not requiring antibiotic treatment in Thailand in community health centres and district and provincial hospitals. A new ratioal drug use policy in a tertiary hospital in northern Thailand (with effective involvement of staff) reduced antibiotic prophylaxis in vaginal delivery of normal-term women by 87%.

Innovative educational approaches and campaigns with children and youth in Tanzania, Kazakhstan and Argentina have successfully raised awareness about antibiotics and the relationship to antimicrobial resistance. A nationwide survey on antimicrobial resistance in Timor-Leste prepared the ground for a national strategy. Insights into local situations show the need to focus more specifically and locally on processes to improve the prescribing and open sale of antibiotics in the community, where the entry points are not clear. Deeper insights into the local vested interactions that drive poor antibiotic use were shared from several countries.

## Limits of existing approaches, tools and methods

The complexity of illness, multi-morbidity, interventions and care options, combined with the number of health workers and organisations involved, make health care the archetypal complex adaptive system. This complexity, a lack of integrated information systems, the range of diverse stakeholders (policy-makers, administrators, payers, clinicians, patients, families) and settings influence the conceptualisation, development and implementation of interventions designed for better patient outcomes.

The research methods chosen may not always be the most appropriate to help change actual practice to that which evidence shows is safer and more effective. Interventions are often limited and lack reflection on their scalability and sustainability as are the 'tool kits' used to evaluate the short- and long-term effects of interventions. Thus, we need better ways to conceptualise and develop sustainable interventions for lasting change. The need for community participation, acceptance and engagement when developing, implementing and measuring the impact of interventions was clearly highlighted. New methods are needed to engage people in designing local solutions to address the complex interacting forces that drive demand for, and choice of, medicines either prescribed by doctors or supplied over-the-counter by pharmacies or informal providers. Small-scale work in and by local communities is very important. New methods and collaborations are needed that demonstrate how to make progress, and that do not require significant resources, to support the work on the ground of these individuals and communities who need recognition and exchange of methods and knowledge to improve and continue.

Health and medicine policies are necessary for public protection but often planning does not consider citizens or consumers as ultimate beneficiaries. Non-health policies concerning finance, trade, education, agriculture, and human resources, often impact on health services but are not considered in the planning process. Therefore, a new paradigm is needed with greater community participation, less monitoring for donor requirements, more focus on solving people's health problems, and consideration of non-health policies.

We learnt that our tools are limited in helping us move towards a less medicalised society.

## Broadening our idea of health and medicine

There was a rich discussion about whether we really focus on health, or is it sickness that we conceptualise? Is it the person or the medicine we focus on? The deepening medicalisation of society makes the questions valid and urgent.

> *'People's health is determined as much or more by politics and the concentration of power as by medical care and prevention. It is possible for people and communities to empower themselves and to be empowered to respond to the increasingly aggressive process of the medicalisation of life, where normal situations become pathological, healthy people are transformed into sick people, death has lost its human dimension and the increased demand for healthcare leads to overworked healthcare professionals, iatrogenesis and frustration of staff and patients.*
>
> Arturo Quizhpe

The social and economic determinants of health are increasingly powerful in all societies, influenced by globalisation and the concentration of power. Efforts to improve the use of medicines must take account of this environment which has changed much since the 1980s when the concepts of essential medicines and rational use of medicines were developed. There are complex interplays at work illustrated by the example of pain. Social learning theory shows how the non-cancer pain cycle is influenced by factors such as mood and thought, relationships, employment and diet. It shows how pain is easy to learn and worsen and hard to unlearn. Opioids can keep people in this cycle.

The conference concluded that a critical change to enable more appropriate use of medicines is to broaden the concept of health. More integration is needed with approaches to protecting and promoting health and wellbeing of people and their environments. They should stress more the ability of people and communities to 'thrive' than only prevent, manage or recover from illness.

Working with communities and understanding health from their perspective shows the tension between the current mainstream concept of health and both older and newer emerging concepts that are being expressed in different ways by the community. Experience in Latin America and Australia,

for example, showed that acknowledging different conceptions of health would mean recognising the wisdom and intelligence of indigenous people with their vision of living in harmony with the earth where there is no distinction between health and life. Other examples illustrated concepts of health in the hands of the people and emphasis on equity, food and ecological sustainability. Medicine is not just a substance to repair the body but is also a process of establishing harmony with other beings. Health and medicine also include the concept of healing relationships with community and land for social, cultural, emotional wellbeing.

## A new language is required

A new language is needed to describe concepts and practices for health, where use of medicines is seen as a part of a larger more holistic and multifaceted system. Thus the language of 'rational use of medicines' may also need to evolve. The language of intervention might also change if existing and innovative methods for community participation in diagnosis of problems, analysis and solution are developed and used. There is a tension inherent in the relationship between objective and subjective methods for understanding medicines problems, proposing activities for change and measuring that change. This tension is also inherent in the engagement of people and communities themselves in the process and the objective distance required by methods used by most researchers and experts working to change the way medicines are used. What is effectiveness and from whose viewpoint? How does participation itself affect health and effectiveness? These tensions are evident also in the processes of collaboration between disciplines and between experts, health professionals and communities.

## What did we learn about empowerment?

Arturo Quizhpe challenged the meeting to think what empowerment for health really is, sharing observations from many years of working with communities locally and globally in the peoples' health movement.

> *'The essence of social empowerment is to walk on one's own feet, build the wellbeing of everyone, and promote autonomy, health, and human dignity. The participation of people and community is essential to solve the current crisis of health systems and to redistribute power. Communities, in many parts of the world are mobilising in search of dignity, liberty, freedom and empowerment'.*

Participation, organisation and mobilisation of communities are key factors in empowerment, as is participation in decisions that affect their lives through the entire process of planning, execution and evaluation. Understanding the bigger forces that shape health and medicines systems also contributes to empowerment. Examples were shared from Latin America of joint work between academia, social movements, professionals from various areas of knowledge, environmental activists, artists and native peoples in facing antibiotic resistance. The outcome showed that an emphasis on multidisciplinary, multilateral, holistic approaches and the vision of 'one health one earth' are requirements for a real process of social empowerment. This different approach has, for example, deeply engaged people in various environments in internalising how antimicrobial resistance is not primarily a problem of the microbes but of we human beings and how we live and use resources, and understanding the practices in our communities that drive it.

Personal stories of five people told of successful social empowerment through 'walking with their communities in their own shoes'. Their stories told how they raised awareness of antimicrobial resistance (Tanzania), contributed to changing social norms on antibiotic use (Thailand), and learning with primary school children about microbes, health, food and the proper use of antibiotics through gardening and cooking (Argentina). The final story described how consumer activists precipitated the development of the national medicines use policy by involving people from all sectors in processes they designed and sustained for long enough to respond to major medicines problems suffered by older people (Australia).

**Knowledge and education contribute to empowerment, but require creative processes of learning and engagement.** Education is still a critical process in the formation of health professionals, and for children and adults in the community to understand health and medicines. It is a powerful tool for cultural change and for developing knowledge, skills and commitment to improving rational use of medicines. Examples were shared that gave insights into creative techniques of enabling students to 'learn how to learn' – and teachers 'how to teach'. These innovative education programs with children (from kindergarten to high school in Argentina and Kazakhstan), and with health professionals (university training in Ecuador, Thailand, the Caribbean, Nepal, England and Samoa), showed how students benefit. They learn concepts in health and medicines and problem-solving skills with longer-term internalised understanding and retention of knowledge. These benefits appeared to result in better understanding of the place of medicines in society, and the use and stewardship of medicines. The WHO Good Prescribing Guide was found to be still a very important tool and needs to be updated.

What the examples shared in common was the ability to bridge the usual gap between instructors and their audience by using role play, games, problem-based learning and group work – activities that enable learning. In Ecuador this included

the social determination of antimicrobial resistance – for example, by going into the marketplace, being able to buy and document the open purchase of antibiotics (including last resort antibiotics) in the human, animal/pet sector, students internalised the problem and linked the widespread sale and use of these to antimicrobial resistance and global health.

Passion and resilience is needed by educators to change educational methods to be more effective and empowering for students. These approaches take more teacher and student time. Champions are needed. A group formed spontaneously at the conference following the working session on education to share resources, projects and support each other.

**Effective communication contributes to empowerment, but requires more listening, respect and emancipatory approaches.** The importance of language, the power of interpersonal communication and the need for meaningful connection between actors in bottom up approaches were key issues recurring in discussions. Experts and professionals need to listen to and respect more what patients and people need and expect.

Beyond two-way communication, an emancipatory approach in relation to health literacy was proposed. Emphasis on health literacy is mostly framed around the consumer, patient, or citizen learning and understanding health professional's language. However true empowerment requires the person to participate in the health dialogue where health and medicines knowledge is unequal, and to be motivated interactively with skills and knowledge as to what they need to know and need to do. Thus the patient's voice, expressing knowledge that antibiotics are not needed for coughs and colds, was a powerful force to reduce unnecessary prescribing in some places (USA) but only marginally in others (Tanzania).

In unpacking the notion of 'intervention' further and communicating about better use of medicines, it was made clear that one must know what one's audience cares about to ensure that messages are relevant and have meaning. Audiences are diverse and require investment of time to build relationships to understand them and the multiple channels relevant to them.

Similarly, in relation to the media participants were urged to invest time in building relationships between journalists and the medical world. The medical world should learn what is needed for media releases and what content is suitable for a range of communication channels. Journalists need access to evidence-based information and credible, open-minded, honest experts.

The increasingly technology-enabled world has power and potential for rational use of medicines. The CoRSUM network shared its experience of using various kinds of social media, relationships with journalists and commitment to frequent fresh approaches to communication to propose that ISIUM embrace these media. While face-to-face communication is the most powerful, and the basis of building effective relationships, networks at all levels need efficient and effective internet-based communication to build collaboration and momentum.

**Relationships and collaboration contribute to empowerment but require sharing of the different types of power and knowledge intrinsic to each party.** The power of acting collectively emerged as a key issue in future work for rational use of medicines. The challenge remains: to learn how to act collectively with respect, awareness of power relations and diversity of knowledge. Collaboration with communities was shown to be important in understanding the forces operating locally. In 36 child development centres in northern Thailand, local committees of network leaders, health staff, community health workers and school staff after training with an expert team, developed a drug management system for first aid, emergency management and medicine drug cabinet and household remedies, each tailored to its own needs and ideas. Again, in northern Thailand, pharmacy students working with the community on projects to promote rational use of medicines in the community learned that any drug use problem is complex with many interrelated factors requiring systems thinking and service and community-based learning. They gained real experience of community diagnosis of problems with community leaders and health teams, who together identified leverage points for moving in small but critical steps and prepare for the unexpected. Community leaders learned to work systematically on issues important to them.

The examples of collaboration and empowerment shared in bottom up approaches, particularly from Thailand and Latin America, illustrate the attention needed to working with complexity, storytelling, and taking small but critical steps that work for the communities involved. These issues may be important in rethinking the sustainability of rational use of medicines especially at community level.

## What We Don't Know

What is it we don't know in relation to the main objectives and themes of the conference? We present our analysis as short statements followed by questions to help set an exciting and relevant agenda for future work.

### National policy, infrastructure, health systems and accountability

- Trustworthy evidence is needed for well-informed health decisions. Widespread financial dependence on pharmaceutical industry brings commercial bias in research evidence, clinical practice and medical

practice. Such bias overstates benefits and downplays harms. To succeed, greater independence is desirable, and minimisation of negative industry influences and enablement of strategies to improve the use of medicines. Steps towards financial independence will involve a major culture change. How do we ignite and fan the winds of this change?

- Building an independent base for decision-making by society, government, health professionals, patients, people and communities, in the face of increasing commercial pressures on medicines selection and use, requires effort to produce and make available reliable information about medicines and methods to improve the use of medicines, and train people to access and use it. How do we do this? How do we solve the challenge of providing open-source reliable information to doctors and people around the world – as a core resource for local adaptation?
- There are some important gaps in our knowledge relating to political and policy agenda-setting. Why is there so little political will and public resources for promoting rational use of medicines? Why is the private sector so successful in undermining public and consumer rational use of medicines programs? How can we interest and motivate governments to start or strengthen national rational use of medicines programs? What are diverse approaches and pathways for moving forward when governments do not lead?
- Civil society has a role to play to encourage governments to implement effective policies for rational use of medicines and to hold governments accountable. What is needed to encourage and support civil society in this?
- Tools, methods, evidence for effective interventions and policies exist but this information is not always available and often not used – why not?
- We have learnt that attention to how medicines are used tends to come at the end of the process of planning for medicines rather than it being integrated from the start. How do we change this?
- Sustainability of actions to promote rational use of medicines is often lacking. What is needed? New advocacy based on longer-term evaluation? What kind of evaluation and who should it involve? What kind of advocacy and by whom?
- Existing tools are limited in helping us moving towards a less medicalised society. What tools are needed?

## Empowerment of people to improve the use of medicine

- Working with communities and understanding health from their perspective shows the tension between the current mainstream concept of health and both older and emerging concepts expressed in different ways by communities. How do we broaden our idea of health and bring everyone along?
- A new language is required to describe concepts and practices for health, where use of medicines is seen as a part of a larger more holistic and multifaceted system. How does new language emerge?
- Why have rational use of medicines interventions worked in some areas but not in others?
- New methods are needed to engage people in designing local solutions to address the complex interacting forces that drive demand for and choice of medicines. There is much small-scale work being done on the ground by committed people with little resources. New methods and collaborations are needed that do not require significant resources to support work on the ground and show how to make progress. How do we support people to either choose appropriate methods or develop new methods and tools to change actual practice to that which is appropriate, safe and effective? How do we help people reflect on scalability and sustainability of their activities? What does this mean in terms of locally grown solutions?
- Knowledge and education contribute to empowerment, but require creative processes of learning and engagement. How do we encourage and connect champions for this? How do we influence educational institutions to invest time in effective, problem-based and fun processes of learning and teaching?
- Effective communication and health literacy contributes to empowerment, but requires more listening, respect and emancipatory approaches. What are different ways of expressing or sharing knowledge?
- Multidisciplinary approaches are often limited within professional groups across countries, or to one stakeholder with one other. How do we achieve true multidisciplinary action?
- Rational use of medicines processes are often centralised rather than with distributed responsibility. How do we change this?
- The challenge remains to learn how to act collectively with respect, awareness of power relations and diversity of knowledge. How do we do this? How do we build a rational use of medicines movement with this culture?

## Universal health coverage and medicines

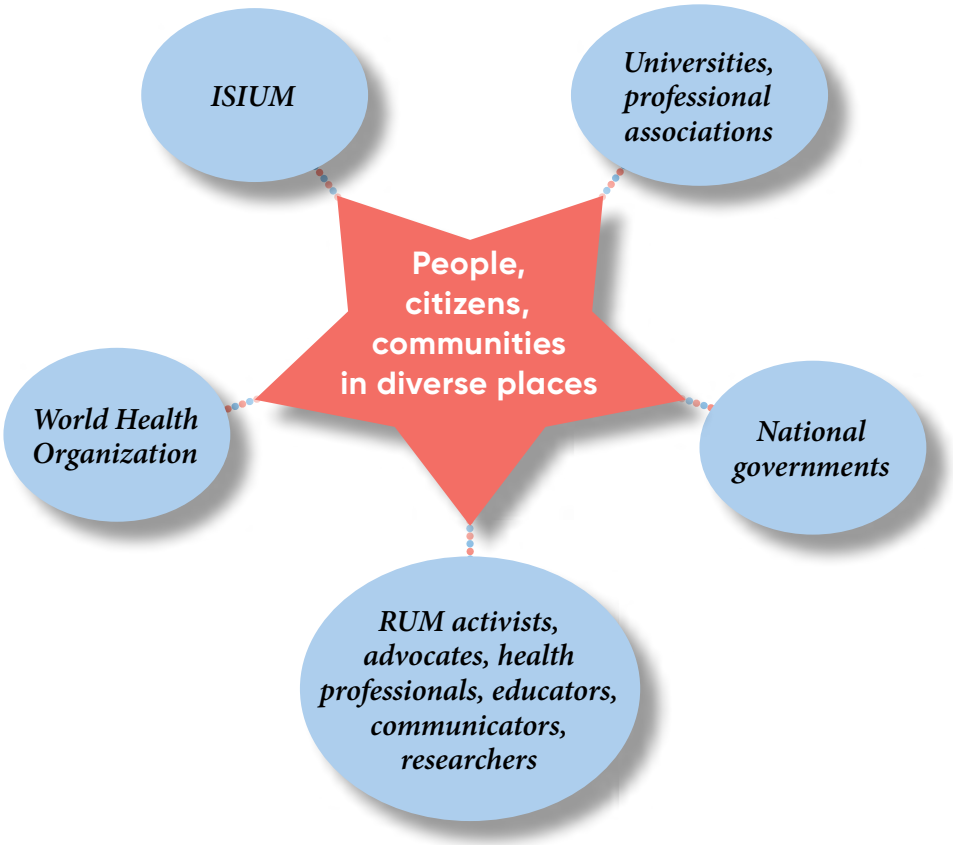
- To enable equitable access to medicines, universal health coverage requires comprehensive good legislation and regulation, adequate financing, contextualisation of international policies and efficient management of medicines, including adherence to reimbursement lists and compliance with clinical guidelines. How can more consistency in implementing universal health coverage policies and holistic evaluation of their impact, especially in relation to drug pricing and quality be achieved? Do changes in the public sector flow into the private sector? How can competition in the insulin market be stimulated?

## Antimicrobial resistance

- Antimicrobial resistance is a complex phenomenon requiring a systems approach across human, animal and plant health and through all levels of society. More insights are becoming available into the phenomenon of antibiotic use in communities in low- and middle-income countries which show the economic and social interdependencies between prescribers and sellers and local communities. Where entry points are not clear, how should we go about developing new approaches?

# Recommendations

## Recommendations: To Whom?




## Recommendations: What Should Be Done?

### Rational use of medicines activists, advocates, health professionals, educators, communicators and researchers

1. Broaden our ideas of health, medicines and empowerment.
2. Create new language that reflects a contemporary culture for improving medicines use that is more holistic, person-centred and community-centred. It should acknowledge and build on the foundations of prior knowledge and efforts to improve the use of medicines. Re-branding 'rational use of medicines' might be considered.
3. Respect and listen more to patients and people.
4. Be passionate! And build resilience! It takes time to create an independent health and medicines culture free of the negative effects of commercialisation, especially when it is so widespread through society.
5. Use effective innovative, multimodal strategies in teaching and learning techniques e.g. (games, role plays, problem-based learning) and continue to evaluate to show that learning has occurred and is sustained. Share successful curricula.
6. Work towards more effective and broader collaboration between health professionals, between health professionals and communities and with non-health stakeholders.
7. Become skilful in using new communication technologies, including social media and e-health services to promote rational use of medicines. Invest time in understanding different audiences in building relationships with journalists to create credible and fun programs on rational use of medicines.

## National governments

1. Establish or strengthen national programs to promote rational use of medicines, coordinated by a dedicated unit in the ministry of health with sufficient budget (1-3% of the national medicines budget), as has already been agreed in the World Health Assembly resolution WHA 60.16 adopted in 2007, using the policies, methods and tools that evidence shows are effective. Involve independent consumer and/or citizen organisations in the planning and execution through regular national consultative meetings.
2. Work towards a follow-up resolution through WHO aimed to encourage countries to commit to local action to implement rational use of medicines policy, measure medicine use and assess their country's performance in promoting rational use of medicines.
3. Support health insurance efficiency, e.g. through strict enforcement of national reimbursement lists, and verification of health claims with clinical guidelines.
4. Promote patient knowledge on patient rights and insurance benefits, and commit resources to controlling medicinal drug promotion.

## World Health Organization

1. Develop multidisciplinary approaches and methods, indicators and criteria for benchmarking country performance on promoting rational use of medicines and support countries to undertake self-assessment of their performance and act upon the information.
2. Update the WHO Good Prescribing Guide, which is still relevant and useful today, and make it applicable to other health professionals.

## Universities and professional associations

1. Develop institutional policies that are free of pharmaceutical and commercial medical industry funding and influence; students should assess the extent to which their medical schools are ‘pharma-free’.
2. Adopt, adapt or develop effective rational use of medicines curricular and teaching methods that empower learning and teaching.

## ISIUM

1. Provide an effective platform for sharing information, experiences and connecting people.
    a. Use diverse social media and other communication means effectively.
    b. Safeguard and make available all existing evidence on promoting rational use of medicines, facilitating open access where possible. Include the resources developed by WHO, the International Conference on Improving the Use of Medicines, and the International Network for Rational Use of Drugs.
    c. Organise and annotate the existing studies in rational drug use including the building of health systems that integrate rational drug use policies and programs, information about relevant research methods, teaching and education resources and lessons learnt.
    d. Provide access to readily available resources for training students using problem-based learning, and successful educational curricula relating to rational use of medicines for all levels of education from kindergarten to postgraduate training.
    e. Promote the information to young professionals across the world, especially in low- to middle-income countries, so that new generations can access the past evidence. Engage people in this knowledge, including through training in rapid assessment methods for country level rational drug use policy and programs.
2. Nurture a community of practice, that addresses human resource development in the field, with a culture promoting wellbeing, self-reliance, dignity and freedom.
3. Focus as a priority on people's perspectives, developing better knowledge and expertise in working with people and communities to improve the use of medicines, including broadening the conception of health itself and the building of networks based on storytelling and other methods for sharing and evaluating community work. Share expertise and knowledge on processes for community participation, acceptance and engagement when developing, implementing and measuring the impact of interventions.
4. Undertake advocacy to stakeholders to implement policies and actions that are known to promote rational use of medicines, presenting evidence and experience.
5. Support development of the concept of ‘RDU country’ being led by the Thai government.
6. Host with partners an international conference once every two to three years.
7. Develop infrastructure, resourcing and secretariat support for ISIUM to allow the momentum from the Bangkok 2020 conference to continue the organic growth of ISIUM.

# Conclusion

The conference provided a platform for those passionate about improving use of medicine to collaborate, listen and share knowledge and ideas. Key themes emerging from the ISIUM conference included:

- The value of a holistic, ecological 'one health' approach to rational use of medicines,
- The importance of questioning the need for medicine and the medicalisation of society,
- Creating capacity for sharing knowledge,
- Safeguarding, improving and encouraging use of the evidence for rational use of medicines, both established methods and new approaches,
- Building relationships,
- Insights into empowerment,
- Effective processes for building government and health institution medicines policies.

There were some key sayings or phrases that resonated with participants during the meeting, both in informal conversation and in the session reports.

*'What is difficult is not necessarily impossible; it is possible with more effort'*

**Professor Prasit Watanapa, Thai RDU Subcommittee**

*Remain focused, develop trust and overcome fear!*

**Kathleen Holloway**
**on developing and implementing medicines policies**

*'Many small people, in small places, doing small things, can change the world'*

**Eduardo Galeano, Uruguayan writer**

Those trying to bring about change should not imagine it is only governments and big institutions that influence health practices and medicines policy but very ordinary people everywhere can be agents of transformation in their own way and in many ways.