

**Statement from the
South East Asia Regional Meeting: Cooperative Campaign for Antibiotic Resistance Control
Bangkok, 11-12 March 2010**

Two alarming trends threaten the future use of antibiotics: the increasing prevalence of antibiotic resistance and the marked decrease in development of new antibiotics. This is a global public health concern no less because the bacterial infections causing most morbidity and mortality are also those in which antibiotic resistance is most evident.

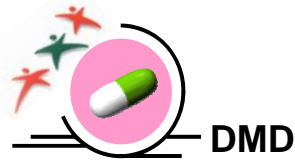
The implications are severe, both to the individual and the larger community. Infections by resistant microorganisms lead to higher rates of hospitalisation with patients staying longer in hospital thereby increasing the cost of treatment and the economic burden on the country. Treatment failures lead to longer periods of infection, which increase the numbers of mobile infected people and thus exposing the general population to the risk of contracting a resistant strain of infection. Deaths and suffering from infections caused by resistant microbes will continue to rise.

Even if innovations are stepped up to develop new replacement drugs immediately, current trends suggest that many diseases will have no effective therapies within the next few years.

Underlying socio-economic trends have accelerated the development of resistant microbes. On one hand, the region is rapidly developing with improved social protection, including better health provision and access to necessary antibiotics, which have greatly reduced the threat posed by infectious diseases and contributed to major gains in life expectancy in the region. However, access to health care has not improved to the same extent as pharmaceuticals, hence people commonly bypass the healthcare system and self-medicate with drugs bought from private pharmacies. This has led to inappropriate use of pharmaceuticals, based on demand rather than correct medical indications. Moreover, in South East Asia, home to more than a billion people who live on less than two dollars a day, poverty, growing inequity and its related problems of hunger and malnutrition, are major drivers of antibiotic resistance. Inadequate access to effective drugs, and poverty-driven practices such as truncated therapy for reasons of cost, sub-standard generics, and counterfeit medications, are burgeoning - a vicious cycle that promotes antibiotic resistance and can make treatment ineffective. Other trends include: urbanization, overcrowded housing and poor sanitation; climate change patterns that affect the incidence and distribution of infectious diseases; demographic changes that have resulted in a growing ageing population needing hospital-based interventions and thus at risk of exposure to highly resistant pathogens found in hospital settings; the enormous growth of global trade and travel that have increased the speed and facility with which both infectious diseases and resistant microorganisms can cross borders; the widespread routine use of antibiotics as growth promoters or preventive agents in food-producing animals and poultry flocks. In fact, more than half of all antibiotics are used for animals, much of it as growth promoters.

In this context, a panel of experts was convened to address the issue of antibiotic resistance in South East Asia. The meeting is part of a series of initiatives by ReAct (Action on Antibiotic Resistance) and its partners in the region to build partnerships, raise awareness and strengthen collaboration among all stakeholders to address the growing challenge of antibiotic resistance.

The Expert Panel recognised that the emergence and spread of antibiotic resistance are complex problems driven by several related trends, most of which are linked to the misuse of antibiotics. Antibiotic consumption, in turn, is influenced by interplay of the lack of knowledge, misguided expectations, power relations among doctors, prescribers and patients, economic incentives, characteristics of a country's health system, and governments' regulatory environment or lack of it. The Expert Panel shared and reviewed country evidence on the issue, which demonstrated that the overall consumption of antibiotics is the critical factor in selecting resistance. At the same time, underuse through lack of access, inadequate dosing, poor adherence, and substandard antibiotics also play a role as well as over consumption. Patient- and prescriber-related factors are also major drivers of inappropriate antibiotic use. Other key factors that worsen the already worrying situation include: overcrowding in hospitals, poor healthcare infrastructure, inadequate hospital hygiene, poor infection

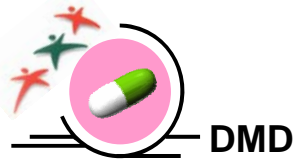


control practices in hospitals, and the lack of reliable diagnostic tools and laboratory facilities that result in prescribing patterns. For all these reasons, improving use is a priority if the emergence and spread of resistance are to be controlled.

The Expert Panel acknowledged that antibiotic resistance is a cross border issue and, therefore, no single country, however effective at containing resistance within its borders, can protect itself from the importation of resistant pathogens through travel and trade. Poor prescribing and consumption practices in any country threaten to undermine the potency of vital antibiotics everywhere.

The Expert Panel recommended interventions in a range of settings and directed at key stakeholder groups and institutions, whose practices and behaviours contribute to resistance and where changes are necessary in order to have a positive impact at both national and regional levels. These groups of people include consumers, prescribers, dispensers, managers of hospitals and diagnostic laboratories, as well as national governments, the pharmaceutical industry, professional societies, international agencies and institutions that teach and train doctors, pharmacists, dentists, nurses, veterinarians, healthcare workers and farmers. The recommendations of the Expert Panel are:

- Recognise that antibiotic resistance is an urgent issue that requires immediate actions from all stakeholders;
- Share and replicate best practices in the region such as antibiotic stewardship programs, antibiotics smart use programs and other relevant education and advocacy campaigns that can be developed into active cross-learning programs, taking into account the resistance data in the region;
- Advocate policy makers, with evidence-based data regarding the burden of antibiotic resistance (i.e., morbidity, mortality, and treatment costs).
- Develop theoretically grounded and tailored, multifaceted interventions with the aim to improve antibiotic use and contain resistance;
- Commit and invest sufficient resources for evidence-based interventions aimed at containing antimicrobial resistance. In this regard, political will, government commitment and significant levels of funding are crucial to ensure that the threat of antibiotic resistance does not grow out of control. By far the biggest challenge to development of successful and sustainable antibiotic stewardship program is funding. One of the ways to convince policy makers on the gravity of the situation is to conduct carefully designed regional level research projects focusing on the cost of infections caused by drug resistant bacteria. Findings of such research project would help to convince local policy makers to fund interventions aimed at containing antibiotic resistance; global networks such as ReAct should facilitate contact with international research foundations that could help fund such research projects;
- Research projects should be jointly developed, funding applied for, and implemented at a regional level with an aim to standardise and support systematic local data collection on antimicrobial resistance, antibiotic use and appropriateness of use, and costs of treating signal resistant infections;
- Link research projects with research training in order to promote research in the field of antibiotic resistance and promote development of strong research groups and research networks in South East Asia;
- To develop standardized methods for longitudinal monitoring of antibiotic use in community, the public/private health sector and in agriculture, as well as antibiotic resistance in common pathogens;
- Review and change financial incentives for antibiotic utilization among providers, dispensers, pharmaceutical industry, regulatory system and the public;
- All countries in the region should step up its attempts to educate the public regarding the appropriate use of antibiotics. In this regard, the role of the media is essential to achieve this objective;
- Review and revise all undergraduate health related education programs with the aim of increasing students' skills in rational prescribing and dispensing of antibiotics. Problem-based scenarios should be an integral part of the curricula in order to train clinical practitioners on the judicious use of antibiotics. In this regard, there is an urgent need to include topics or courses related to rational use of antibiotics and



issues related to antibiotic resistance in the existing medical and pharmacy curricula. Medical and pharmacy education should coordinate programs to give greater emphasis on appropriate antibiotic prescription, the threat of antibiotic resistance and support good clinical practice. As a necessary step towards developing a core curriculum on issues related to antibiotics resistance, a regional survey of undergraduate medical and pharmacy curricula should be undertaken as a baseline to develop strategies for improved competency by students;

- Regulate the interactions between pharmaceutical industries, doctors and pharmacists. In this regard, local and regional branches of pharmaceutical industries should adopt a code of conduct on interactions with physicians and pharmacists. While the panel recognizes that the code falls short of being ideal, it marks an important advance over previous interactions in managing physician- industry interactions. Developing national regulation policies is crucial to address the escalation of resistance.

Dr. Niyada Kiatying-Angsulee, Chair, Social Pharmacy Research Unit, Faculty of Pharmaceutical Sciences; Director, Social Research Institute; Manager, Drug System Monitoring and Development Program, Chulalongkorn University, THAILAND.

Prof. Dr. Nguyen Thi Kim Chuc, Health System Research Project Coordinator, Hanoi Medical University, VIETNAM

Dr. Mohamed Azmi Ahmad Hassali, Senior Lecturer, Discipline Of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang, MALAYSIA.

Dr. Andrea Kwa, Senior Principal Research/ Clinical Pharmacist and Director of Infectious Disease Pharmacy Residency, Singapore General Hospital; Team Leader, Antimicrobial stewardship program, SINGAPORE.

Prof. Dr. Isidro Sia, Department of Pharmacology and Toxicology, College of Medicine, University of the Philippines, Manila, PHILIPPINES

Dr. Heiman Wertheim, Oxford University Clinical Research Unit; GARP Coordinator Vietnam, National Institute of Infectious and Tropical Diseases, Bach Mai Hospital, VIETNAM.

Dr. Pisonthi Chongtrakul, Faculty of Medicine, Chulalongkorn University, Director of the Antibiotic Smart Use Project, THAILAND

Dr. Asrul Akmal Shafie, Lecturer, Discipline of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang, MALAYSIA.

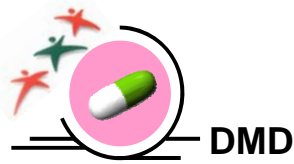
Dr. Maciej Piotr Chlebicki, Department of Infectious Diseases, Singapore General Hospital; Antimicrobial Stewardship Program, SINGAPORE.

Dr. Mahmoud Sadi Al-Haddad, Senior Lecturer, Discipline Of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang, MALAYSIA.

Dr. Mattias Erik Larsson, Hanoi Medical University (as representative for Karolinska Institutet, Department of Public Health Science, Division of International Health and Dept. of Infectious Diseases), VIETNAM.

Dr. Jaya Balan, Health Advisor, Consumers Association of Penang; Senior Lecturer, Discipline Of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang, MALAYSIA.

Dr. Nithima Soompradith, Project Manager, Antibiotic Smart Use, Division of Drug Control, Thai Food & Drug Administration, Ministry of Public Health, THAILAND



Miss. Pornpit Silkavute, Health Systems Research Institute, Ministry of Public Health, THAILAND.

Dr. Siritree Suttajit, Faculty of Pharmacy, Mahasarakham University, Kantarawichai, Maha Sarakham, THAILAND.

Dr. Anan Jongtaleng, Head of the Faculty of Veterinary Microbiology, Faculty of Medicine Chulalongkorn University, THAILAND.

Dr. Gayatri Ghadiok, Technical Officer (Essential Health Technologies Adviser), Division for Health Sector Development, Western Pacific Regional Office, World Health Organization, PHILIPPINES.

Mrs. Orawan Ketcharoen, King Chulalongkorn Memorial Hospital, THAILAND.

Ms. Cecilia Oh, Independent Consultant on IP and health issues, THAILAND

Mr. Manimaran Govindasamy, Journalist, SINGAPORE.

Mrs. Panadda Leesathapornvongsa, National Health Security Office, THAILAND.

Dr. Rungtiwa Maunpa, Lampang Hospital, THAILAND.

Dr. Somying Poomtong, Faculty of Pharmacy, Srinakharinwirot University, THAILAND.

Dr. Suntharee T. Chaisumritchok, Faculty of Pharmaceutical Sciences, Chulalongkorn University, THAILAND.

Mrs. Surang Detsirilert, The National Institute of Department of Medical Sciences, Ministry of Public Health, THAILAND.

Prof. Dr. Kunyada Anuwong, Faculty of Pharmacy, Srinakharinwirot University, THAILAND.

ReAct – Action on Antibiotic Resistance, International Secretariat:

Dr. Andreas Hedding, Director ReAct ; Deputy State Epidemiologist Centre for Microbiological Preparedness, Swedish Institute for Infectious Disease Control, SWEDEN

Dr. Liselotte Diaz Högberg, Deputy Director, ReAct, SWEDEN.

Prof. Dr. Otto Cars, Chairman, Swedish Strategic Programme Against Antibiotic Resistance, SWEDEN.

Prof. Dr. Cecilia Stålsby Lundborg, Division of Global Health, IHCAR Department of Public Health Sciences, Karolinska Institutet, SWEDEN.

Dr. Mary Murray, Global Network Coordinator, ReAct, AUSTRALIA.

Mr. Satya Sivaraman, Information and Communications Coordinator, ReAct, INDIA.

Dr. Michael Chai – Project Coordinator, ReAct SEA Project, THAILAND.