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**ReAct**  
Action on Antibiotic Resistance

# ReAct Quarterly

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*Spring has arrived and Action on Antibiotic Resistance is brewing around the world. In this edition of ReAct Quarterly, Kléver Calle of ReAct Latin America provides a first look at the post-graduate training and research program that is currently being developed in Ecuador aiming to strengthen the capacity of primary health care workers to deal with antibiotic resistance*

*But first, ReAct Secretariat member Michael Chai writes about the ReAct activities in South-east Asia, where years of assiduous networking is starting to bear fruit.*

## Walking the Talk on Antibiotic Resistance in South East Asia

**ReAct and its partners in South East Asia convened a regional meeting, in March 2010, to discuss the increasing prevalence of ABR and actions required in the region to address the problem. The meeting, part of a series of initiatives by ReAct and its partners in the region, was aimed at building partnerships, raising awareness and strengthening collaboration among all stakeholders to address the growing challenge of ABR.**

The meeting recognised that ABR is a crosscutting, cross-border public health issue influenced by societal, environmental, economic and political factors.

To affect changes to contain and control the ABR problem, the meeting recognised the necessity of a sustained and multi-pronged set of interventions in a range of settings and directed at actors and institutions whose practices and behaviours contribute to resistance.

Forty-five participants from five countries in South East Asia gathered in Bangkok, from 11 to 12 March 2010, to discuss the growing prevalence of



*Participants in a group session at the South East Asia Regional Meeting, "Cooperative Campaign for Antibiotic Resistance Control", jointly organised by ReAct; Chula Global Network; and the Chulalongkorn University Social Research Institute; and Drug System Monitoring and Development Program, Chulalongkorn University, Thailand."*

*By Michael Chai,  
ReAct South East Asia  
Coordinator*



ABR in the region and actions required to address it.

Participants included academicians, researchers, clinical practitioners in pharmacology and infectious diseases, microbiologists, consumer advocates and journalists from Thailand, Malaysia, Vietnam, Singapore and the Philippines.

The meeting represented a regional milestone in a process, over the past few years, which began with ReAct partners in the region recognising that antibiotic resistance was not accorded the policy priority attention it deserved at country level.

This had led to country partners in the region, beginning with Thailand and Malaysia, sharing experiences and developing country situational reports towards a regional policy platform that would lend support to country efforts at containing and controlling ABR.

The Meeting recognised that two alarming trends threaten the future use of antibiotics: the increasing prevalence of antibiotic resistance and the marked decrease in development of new antibiotics. It 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 meeting also recognised that underlying socio-economic trends have accelerated the development of resistant microbes. In Southeast Asia, home to more than half a billion people, most of whom 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: urbanisation, 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.

Participants shared data on resistance and research on the social influences and pharmacoepidemiology of antibiotic use and successful stories

of advocacy and education. These included the Antimicrobial Stewardship Program in Singapore and the Antibiotic Smart Use program in Thailand.

Both these programs relied on available evidence of the ABR problem but more importantly succeeded in their aims in the particular settings due to the dedication of tireless professionals committed to addressing the ABR issue. Not surprisingly, the presentations of these best practices generated energetic discussions in the meeting on how to replicate similar efforts in other countries.

Review of country evidence demonstrated that the overall consumption of antibiotics is the critical factor in selecting resistance. At the same time, under use 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.

A strong discussion was also generated on the need to change the undergraduate curriculum for doctors and pharmacists to train them to a much higher level of competence in the fundamentals of good infection disease diagnosis and antibiotic treatment.

Finding ways to support them to continue to practice to a high standard after graduations is also a high priority and to encourage their independence in the face of the pharmaceutical industry pressure to prescribe and that of their patients.



Participants at the The South East Asia Regional Meeting: Cooperative Campaign for Antibiotic Resistance Control in Bangkok, March 11 - 12.

The Meeting 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 Meeting 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 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 Meeting recommended, among other measures:

- 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 pro-

grams, taking into account the resistance data in the region, and directed at consumers and students in undergraduate health education programs and clinical practitioners;

- Advocate policy makers, with evidence-based data on the morbidity, mortality and monetary costs of antibiotic resistance;
- Commit and invest sufficient resources for evidence-based interventions aimed at containing antibiotic resistance;
- Regulate the interactions between pharmaceutical industries, doctors and pharmacists.

A working group has been set up to develop specific proposals based on the recommendations.

## New Post-Graduate Program to Manage ABR in Latin America

**ReAct Latin America and the Faculty of Medical Sciences of the University of Cuenca develop International Program for Research and Training, helping primary health care practitioners to deal with infectious disease and antibiotic resistance.**

Inappropriate use of antibiotics is one of the main causes of the emergence and spread of bacterial resistance, widely recognized as one of our time's greatest threats to public health.

In many countries, the inappropriate use of antibiotics occurs mainly in the Primary Health Care (PHC) context. However, to date there are no training programs aimed at improving PHC capacity to deal with the most prevalent problems.

For these reasons, ReAct Latin America and the Faculty of Medical Sciences of the University of Cuenca, with the support of ReAct Global, the Pan American Health Organization (PAHO) and other academic institutions, are developing an International Program for Research and Training in Comprehensive Primary Health Care.

The program is intended for the graduate level, and aims to strengthen the capacity of health professionals in PHC in Ecuador and Latin America to

manage major community health problems related to infectious disease and antibiotic resistance.

Through processes of education, communication and participatory action research, the program will provide

professional skills to enable communities and health workers to participate in the management of prevalent health problems.

The program, intended for physicians, nurses, pharmacists, dentists, commu-

nity health workers and other professionals concerned with public health will be conducted on a part-time basis, allowing participants to remain in their work places where they can share their knowledge and skills with their co-workers.

A more exhaustive report on the ReAct Latin America/University of Cuenca research and training program will appear in the next ReAct Quarterly.



*One of the meetings where the program was developed, took place in January in Cuenca, and was attended by representatives from ReAct Latin America and the Faculty of Medical Sciences of the University of Cuenca, ReAct Global, Pan American Health Organization, National University of Colombia, National Health Surveillance Agency of Brazil and other organizations.*

*By Kléver Calle, ReAct Latin America*