



**PMAC** | PRINCE MAHIDOL  
AWARD CONFERENCE **2018**



## **PARALLEL SESSION 2.2**

**AMR: ADDRESSING EXCESSIVE AND INAPPROPRIATE USE OF ANTIBIOTICS**



## | BACKGROUND

The tripartite, Food and Agricultural Organization, World Health Organization and World Organization for Animal Health and other relevant organizations had declared Antimicrobial resistance (AMR) a serious and growing global public health threat. The loss of effective antibiotics is reducing an ability to protect people from infectious diseases, with profound impacts on healthcare systems, global trade, agriculture, environment and health sectors. Based on World Bank Group projections of the world economy in 2017-2050, if AMR problems continue at the current pace, the annual global GDP would fall by 1.1-3.8% by 2050 and the global healthcare cost would range from US\$ 300 billion to more than US\$ 1 trillion.

Though AMR is a natural mechanism of pathogen survival; the excessive and inappropriate use of antibiotics are key drivers of the emergence of antimicrobial resistance. Decision to prescribe antibiotics by health professionals still occurs in the absence of adequate information about the nature of the infection or before the results of diagnostic and sensitivity tests become available. Moreover, the regulation of antimicrobial use is poorly enforced in some areas, such as over-the-counter, unregulated use of antibiotic in agriculture, substandard medicines for both human and animal antibiotics.

Several attempts to optimize use of antibiotics in human and animal sectors have shown in the last decade at global, regional and national levels. To fulfill key action proposed by the Global Action Plan, countries need to strengthen the evidence base through surveillances of AMR and the consumption of antimicrobials, and strengthen regulation of the distribution and use of antibiotics in human and animals. The information on AMR and antibiotic consumption will guide the treatment of patients and inform local and national actions. Thus, antibiotic, as a global public good requires regulation on distribution and use.

It is imperative that PMAC audiences recognize the drivers contributing to excessive and inappropriate use of antibiotics; but more importantly, learn and share practical and successful solutions.

## | OBJECTIVES

The panelists in this session will address the following questions

### On problem streams

1. Why there are excessive and inappropriate use of antibiotics in humans, animals and crops (i.e. in citrus for treatment of greening disease), such as self-medication of antibiotic from over-the-counter purchases, inefficiently regulated the use of antibiotic. Stakeholder analysis are helpful to unpack the complexity. Key actors involved in the use of antibiotics:

- a) Demand for antibiotics: patients and farmers,
- b) Supply of antibiotics: pharmaceutical industry, professionals: veterinarians, physicians and pharmacists,

### On solution streams

- 2. What are the good practices and lessons for countries or regional organization such as ECDC and networks such as ESAC and ESVAC, to develop and maintain an effective system for surveillance of AMR, antimicrobial consumption and Point prevalence survey in human, and animal?
- 3. How evidences of surveillance of antimicrobial consumption are used:
  - a) To guide antibiotic prescribing decisions of health professionals
  - b) To formulate, support and monitor policies which curb down antimicrobial consumption and promote rational use of antibiotics
- 4. What are the challenges of use of antibiotics in crops? Is there any monitoring system on impacts of antibiotic use in crops, such as antibiotic resistance in food crops and environment, and antibiotic residue in environment and food crops?
- 5. How does the regulatory system support the control of antibiotic use?

### On recommendations

- 6. What are the policy interventions on “demand” and “supply” sides, which address the excessive and inappropriate use of antibiotics in developing countries?



Moderator

## Klara Tisocki

*Regional Advisor*

World Health Organization, regional Office for South East Asia  
Hungary

Dr Klara Tisocki B.Pharm.; M.Sc Clin. Pharm. Ph.D. Regional Adviser Essential Drugs & Medicines, World Health Organization South East Asia Regional Office, New Delhi, India. Experience: Klara Tisocki is trained as clinical pharmacologist and has over 25 years of experience in improving pharmaceutical systems in developing countries. She has worked in over 30 countries across Africa and Asia on pharmaceutical policy development, medicines and medical product regulation, procurement and supply management medicines access, pricing issues and governance and accountability as an employee and consultant to WHO and other global development organizations. Current work: Klara Tisocki, since joining WHO in 2012, is responsible for the regional level coordination of WHO's technical support to countries related to medical products, including pharmaceuticals, medical devices, biologicals, blood and other medical products of human origin. She works with countries on national medicine and health technologies related policies on regulation, pricing, procurement and supply management and appropriate use of these technologies and capacity development issues to strengthen national systems for medicines and health technologies. Klara also coordinates the work related to antimicrobial resistance in the areas of antimicrobial stewardship, consumption monitoring and education awareness raising on correct use of antibiotics. She is particularly involved with work on regulatory interventions, promotion of antimicrobial stewardship and other health system strengthening actions to ensure the quality and the responsible use of antimicrobials to prevent antimicrobial resistance.



Panelist

## Angkana Sommanustweechai

*Research Fellow*

International Health Policy program  
Thailand

She is currently a PhD student at London School of Hygiene & Tropical Medicine and a research fellow at International Health Policy Program (IHPP), Ministry of Public Health, Thailand. Her PhD study focuses on understanding the use of antibiotic in the swine production system in Thailand. She received her DVM and also a post-graduate degree in pathology from Chulalongkorn University, Thailand. Six years as a wildlife pathologist at the Zoological Park Organization, she contributed to the understanding of wildlife diseases, informed prevention and treatment policies including the development of molecular laboratory for the diagnosis of Chytridiomycosis in amphibians, the establishment of Thailand Elephant tuberculosis Task Force. Also, she was a program manager for the Field Epidemiology Training Program for wildlife veterinarian in 2010-2012. She joined the fellowship program at the International Health Policy Program in 2013 and started a career in health policy and systems research focusing the interface between human, animal and eco-system. She conducted several research projects such as "One Health" policy analysis, Thai hospital governance, strategic purchasing and universal health coverage. With her keen interest in the "One Health" approach, she had involved in Antimicrobial Resistance works since 2015. She is an active member of the working group on Health Policy and Systems Research on AMR—a multisectoral, multi-disciplinary platform addressing AMR in Thailand. This working group contributes significantly to the establishment of a national M&E platform, in particular the national surveillance of antimicrobial consumption and monitoring Thai households' knowledge about antibiotics and AMR awareness.



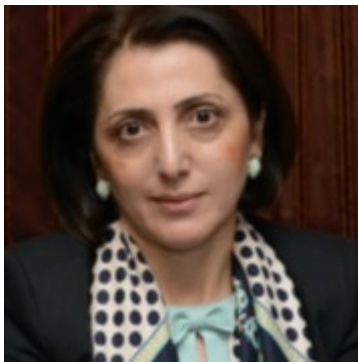
Panelist

## Jonathan Rushton

*Professor*

University of Liverpool  
United Kingdom

Jonathan Rushton is an agricultural economist who specialises in the economics of animal health and livestock production and food systems – interests that grew from living and working on the family dairy farm. He is currently involved in global research on One Health and food systems, and has 25 years of international experience of livestock production and the control of animal diseases in South America, Africa and Asia. During this time he has worked closely with FAO, OIE, OECD and the World Bank on major animal disease issues. His principal research interests include disease impact assessment, the use of food systems analysis to understand One Health problems and the economic analysis of health interventions. Whilst based at the Royal Veterinary College, London he was a founding member of the Leverhulme Centre for Integrative Research on Agriculture and Health. In October 2016 Jonathan joined the Institute of Infection and Global Health at the University of Liverpool to take the N8 professorship in the Economics of Animal Health and Food Systems, and in 2017 he became the Director of University's Centre of Excellence of Sustainable Food Systems (<https://www.liverpool.ac.uk/centre-for-sustainable-food-systems/>). His work focuses on the establishment of a project on the Global Burden of Animal Diseases (GBADs); methods and metrics on food quality; and AMU/AMR complex in livestock. He is also adjunct Professor in the School of Behavioural, Cognitive & Social Sciences of the University of New England, Australia.



Panelist

## Lilit Ghazaryan

*Deputy director*

Scientific Center of Drug and Medical Technology Expertise of Ministry of Health  
Armenia

Lilit Ghazaryan is a pharmacist graduated from Yerevan State Medical University in 1991. She began her career in a regional pharmacy and in 1997 started work in the Armenian Medicines Regulatory Authority under the Ministry of Health: Scientific Centre of Drug and Medical Technology Expertise. Since 2004 she is the deputy director and responsible for coordination the activities of the marketing authorisation, pharmacovigilance and information departments. She has taken part in developing of many pharmaceutical legislative documents and participated in several national and international programs in the field of medicines regulation. Since 2011 she is also focal point with the responsibility to create and maintain Antimicrobial consumption (AMC) monitoring system in Armenia, as well as for the development and implementation of the National action plan on Antimicrobial Resistance. She is a member of AMC network and coordination team lead by Health Technologies and Pharmaceuticals programme in WHO Regional Office for Europe.



Panelist

## Otto Cars

*Senior Professor, Founder and senior adviser*

ReAct-Action on Antibiotic Resistance, Uppsala University  
Sweden

Otto Cars is a specialist in infectious diseases. He was the head of the Department of Infectious Diseases at Uppsala University Hospital, Sweden during the years 1991-1999. In 2003, he became Professor of Infectious Diseases at Uppsala University, and since 2014 he holds a position as Senior Professor. His research has focused on pharmacokinetics and pharmacodynamics of antibiotics, optimal antibiotic dosing regimens, resistance epidemiology and antibiotic policies. Otto Cars was the chairman of the Swedish strategic programme against antibiotic resistance (Strama) from its inception in 1995 until 2011. In 2005 he initiated the international network ReAct -Action on Antibiotic Resistance. He has been actively involved in numerous European and international initiatives in the area of antimicrobial resistance and has served as an expert to European Commission, the European Centre for Disease Prevention and Control and the European Medicines Agency. He is a member of the WHO Strategic and Technical Advisory Group and the UN ad hoc Interagency Coordination Group on Antimicrobial Resistance.

