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?

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.