

WS304

**PREVENTING, DETECTING, RESPONDING TO AND RECOVERING FROM FUTURE
THREATS**

| BACKGROUND

A. Problem Statement

COVID 19 has shown that pandemic can emerge any time, any place and with unpredictable results. It underlines the fundamental problem of the inability of the global community to be able to forecast the emergence of new disease threats, to prevent their emergence and respond rapidly if they do.

Pre-requisites in being able to forecast and mitigate the impacts of new high impact viral pathogens are:

- Prior knowledge of the zoonotic viruses that are present in the wild life population.
- The capacity to detect early spill over events.
- Criteria, mechanisms and decision support system to eliminate new incursions in humans and/or their livestock before they cause any harm locally, regionally and globally

B. Addressing the problem and challenges

In order to address these three areas this session will explore the following:

- Systems and capacities required for routine, monitoring of new zoonotic pathogens spanning wild life, livestock and human populations
- Drivers and risks that generate “hot-spots” of new viral spill over events and their spread
- Socio-economics, data analysis, risk assessment, forecasting, refining hot spots and developing evidence-based policies underpinned by appropriate international, regional and national level endorsement and financial resources.

Overview

The COVID-19 pandemic underscores the urgent need to transform our public health culture from one that responds to the latest outbreak, to one that is better able to prevent the spillover of new viruses, detect them immediately when they do, and preposition far more effective biomedical and non-biomedical countermeasures and the systems for their delivery to respond to and build back better from future outbreaks should they occur. This power to “prevent, detect, respond to and recover from” will protect against not only human infections but similarly protect livestock animal populations which share our vulnerability to emerging viral threats, and by extension protect against the devastating effects viral threats can have on global food security and livelihoods of farming communities of the world. The COVID-19 pandemic underscores the urgent need to transform our public health culture from one that responds to the latest outbreak, to one that is better able to prevent the spillover of new viruses, detect them immediately when they do, and preposition far more effective biomedical and non-biomedical countermeasures and the systems for their delivery to respond to and build back better from future outbreaks should they occur. This power to “prevent, detect, respond to and recover from” will protect against not only human infections but similarly protect livestock animal populations which share our vulnerability to emerging viral threats, and by extension protect against the devastating effects viral threats can have on global food security and livelihoods of farming communities of the world.

| OBJECTIVES

This session will discuss what is required to:

- Better characterize the global genetic makeup of viruses (virome) and other organisms with pandemic potential
- Ensure sustainable monitoring of spillover hotspots for early detection of emerging threats
- Target the animal-human interface to prevent future spillovers
- Build a more comprehensive ecologic database of potential viral and other organism threats while they are still circulating in animals to better predict future threats
- Transform the sciences of virology and bacteriology into big data sciences by generating a detailed genetic and ecologic profile of high consequence families
- Strengthen health systems’ capacities for early detection and containment of novel threats
- Develop and maintain sustainable public health and health care preparedness and response capabilities
- Build enhanced forecasting abilities for disease emergence, including a better understanding how the environment and a changing climate can contribute to emergence of threats and simultaneously decrease the ability to cope with a threat.



Moderator

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Dr. Subhash Morzaria is a veterinarian with an MSc and a PhD in Medical Parasitology from the London School of Hygiene and Tropical Medicine, Faculty of Medicine, UK. He has over 35 years of international experience in the areas of animal health, high impact zoonotic and non-zoonotic diseases, and livestock development. He has worked for several national and international organisations in Africa, UK and Asia and held senior research and managerial positions in various institutions that include the Veterinary Laboratories Agency (VLA) of the UK government's Department for Environment, Food and Rural Affairs (DEFRA), the International Laboratory for Research on Animal Diseases (ILRAD) and International Livestock Research Institute (ILRI) of the Consultative Group on Agriculture (CGIAR), and the Food and Agriculture Organization (FAO) of the United Nations.

In Africa, his work focused on addressing a range of animal disease problems focusing on the improvement and commercialisation of existing technologies and development of novel vaccines against a range of vector-borne pathogens using immuno-molecular approaches. Between 2003 and 2014, he worked for the FAO's Regional Office for Asia and the Pacific, Bangkok in various capacities including coordinating FAO's Emergency Centre for Transboundary Animal Diseases (ECTAD) programme addressing the crisis due to highly pathogenic avian influenza, and other high impact zoonotic and non-zoonotic infectious diseases.

In Asia he has also been involved in developing a number of regional and international strategies for prevention and control of avian influenza and other major transboundary animal diseases (TADs) including FMD and CSF, including the development and promotion of One Health concepts. He also played a leading role in coordinating and developing the multi-agency (FAO, WHO, UNICEF, UNSIC, OIE and WB) document: Contributing to One World One Health: Strategic Framework for Reducing Risks of Infectious Diseases at the Animal-Human-Ecosystems Interface.

Between 2015 and 2018, he has been the Senior Animal Health Adviser to the Animal for FAO based in Rome, Italy, as well as the Global Coordinator of the FAO component of the USAID-funded Emerging Pandemic Threats Programme, and supporting international efforts to address the severe problems of infectious diseases. Subhash has authored over 200 scientific papers in international refereed journals and has supervised a number of PhD students in the Africa, UK and Asia. He is also Adjunct Professor at University of Murdoch, Perth, Australia, and serves or has served as a member of scientific advisory committees of a number of institutions/organizations including GALVMED, EcoHealth Alliance, Institute of Infectious Animal Diseases of the Texas A&M University, and PREDICT-2 Programme of the School of Veterinary Medicine, University of California, and South African Centre for Infectious Diseases Surveillance (SACIDS) One Health Foundation.