



## Workshop 4 – Singapore

11-13 November 2022

INGSA and NASEM successfully held their fourth workshop in Singapore at the Raffles City Convention Centre from November 11-13, 2022. NASEM and INGSA brought together a group of life science experts with diverse backgrounds to review work done by the group to date and further develop resilient strategies for surveillance, response, preparedness, and prevention of zoonotic spillover of high consequence pathogens across the Southeast Asian region. At workshops [one](#) and [two](#), Southeast Asia regional experts gathered by videoconference to discuss the key factors that lead to zoonotic spillover and initial strategies on how to combat spillover in the region. These workshops informed the drafting of an initial document on countering zoonotic spillover. At workshop [three](#), in Bangkok, Thailand, the participants reacted to and discussed the initial framework draft of the guidebook. In advance of workshop four in Singapore, project leaders used the data gathered and the feedback from participants at prior workshops to add to and improve the guidebook draft for presentation at workshop four.

This three-day workshop in Singapore with the theme “**Countering Zoonotic Spillover of High Consequence Pathogens: Adapting the Guidance to Local, National, and Region-Specific Needs**”, was aimed to improve the draft guidebook’s framework that was created based on the data presented and discussions of [previous workshops](#). On the morning of November 11, the group visited the closing session of the concurrently scheduled World One Health Congress. Then, the workshop began with an introduction and explanation of the agenda and goals by the chair of the NASEM project committee, Professor Meghan F. Davis, followed by an opening remark delivered virtually by Professor Abhi Veerakumarasivam, the chair of the INGSA project committee. The first day of the workshop featured five keynote presentations: (1) *Strategies to investigate and address interfaces associated with emerging zoonotic threats*, by Dr. Sarah Olson from the Wildlife Conservation Society, (2) *Transdisciplinary and social-ecological health frameworks: Novel approaches to combating zoonotic diseases*, by Dr. Bruce Wilcox from the Global Health Group International, (3) *Wildlife health as part of a transformative change to operationalize one health governance*, by Professor Carlos das Neves, who is the Chief Scientist at the European Food Safety Authority (EFSA), (4) *Participatory Epidemiology Network for Animal and Public Health*, by Professor Jeffrey Mariner from Tufts University, and (5) *Evidence-based control options for pandemic-causing zoonotic pathogens*, by Professor Malik Peiris from the University of Hong Kong. During the presentations, project participants were able to engage with the speakers and learn about their strategies for combating zoonotic spillover in the region.

The second day of the workshop was organized around the presentation and discussion of seven modules in the draft guidebook framework lead by the “co-leaders” of each module. The expert participant co-leaders representing Food and Agriculture Organization of the United Nations (FAO),

World Wildlife Fund (WWF), International Livestock Research Institute (ILRI) and other research institutions, organizations, and universities will each direct the creation and completion of one of the guidebook modules. The modules are: *(1) Introduction, (2) Overview and key moments – case examples in the fight to prevent zoonotic spillover, (3) Efforts to combat transboundary disease outbreaks in the Southeast Asia region, (4) Priority pathogens, their reservoirs and how to address them, (5) Strategies for engaging with diverse stakeholders across the key points, (6) Strategies to overcome barriers, fill gaps and address systemic issues, and (7) How to use this guidance: Applying participatory methodologies to countering spillover.* The module co-leaders presented their work on each module to the group for discussion. After the presentations, the participants signed up to work with a set of co-leaders to see the module through to completion through small group collaboration and collaborating with NASEM and INGSA on-line and by videoconference.

The third day of the workshop featured a keynote session on China's perspectives on evidence-based control options for preventing and mitigating zoonotic spillover, presented by Professor Lei Zhou, who is the Chief of Branch for Emerging Infectious Disease at the Chinese Center for Disease Control and Prevention (CDC), and a member of the WHO One Health High-Level Expert Panel (OHHLEP), and Professor Hongxuan He, from the Institute of Zoology, Chinese Academy of Science (CAS). During the presentations, the project participants were able to learn and ask questions about some strategies that China is utilizing to combat zoonotic spillover.

Overall, the aim of this workshop was achieved. Going forward each set of co-leaders and each team will work together to modify and finalize their module. The modules will make up the final guidebook on countering zoonotic spillover that will be published and posted on the INGSA website and distributed to key stakeholders in late spring 2023. The ultimate purpose of the project is to create a guidebook to prevent zoonotic spillover that can be used as a tool to assist those trying to regulate and improve the management and operation of the live animal supply chain in the Southeast Asian region. Leaders in the region can use the guidebook to raise awareness of key evidence-based solutions at the national and regional level so policymakers can better implement strategies and overcome barriers that may improve uptake across the region.