Prediction is difficult, preparation is critical and possible

Zilli, Romano; Dalton, Luke; Ooms, Wim; Schobesberger, Hermann; Imberechts, Hein; Egan, John; Møller, Kristian; 'Astiz, Susanna; Black, Peter; Renwick, Shane; Nunn, Mike ; Bagni, Marina

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Problem Statement: Animal disease challenges appear to be ever increasing with new and emerging conditions rapidly becoming global problems due to factors such as climate change and globalisation of trade. Avian Influenza, Ebola, African Swine Fever and Porcine Epidemic Diarrhoea are just a few of the many transboundary diseases for which global cooperation in research is vital. These diseases can cause serious social, economic and environmental damage and in some cases also threaten human health. Various social, technological, economic, environmental, political and biological driving forces act at the level of the source of infection, transmission pathways, and the outcomes. Changes to such challenges and uncertainties are inevitable and foresight in identifying strategies is required for us to prepare for a sustainable future.

The EU-funded Global Network on Infectious Diseases of Animals and Zoonoses (STAR-IDAZ) conducted foresight studies as part of its objective to improve coordination of research activities on the major infectious diseases of animals (including zoonoses) to hasten the delivery of improved control methods. The aim of these studies was to identify the scientific and technological needs, including research capacity and support structures to prevent, control or mitigate animal health and zoonotic challenges for 2030 and beyond.

While our ability to predict the future is often limited, being prepared to engage with whatever may happen is critical.

Methods: Foresight workshops were initially conducted in the Americas involving consideration of scenarios developed in Canada, Asia and Australasia based on the seven questions method, and in Europe involving scenario building and back-casting.

Following these regional exercises, critical drivers already identified in a range of other related foresight projects were classified under eight categories and the top 3 – 5 drivers in each category were ranked with the level of uncertainty noted (high/medium/low) by experts from a range of backgrounds from Europe, Africa and the Middle-East, Asia and Australasia and the Americas. The likely impact of these drivers on various disease categories was considered, a preferred future scenario agreed and back-casting conducted at a workshop held in Moscow in June 2014. More than 40 veterinarians and animal health scientists from around the world outlined priorities in terms of research capability and capacity to attain the ideal future.

Results: In each of the regions, the research capacity and knowledge networks required to optimise enablers and ameliorate barriers to our ability to meet future animal disease challenges were identified then grouped and prioritised across the regions to give an overall list in which transnational data sharing, knowledge transfer, public-private partnerships, vaccinology/immunology, vector control, antimicrobial resistance, socioeconomics, genetics/bioinformatics and utilisation of big data rated highly.

Conclusion: The outputs of the STAR-IDAZ Foresight study will form the basis of a Global Strategic Research Agenda with which research funders and programme managers can prioritise and coordinate national research efforts to improve global collective preparedness for future animal, human and environmental challenges.

Disclosure of Interest: None Declared