



One Health surveillance – More than a buzz word?



Katharina D.C. Stärk^{a,b}, Montserrat Arroyo Kuribreña^c, Gwenaëlle Dauphin^d,
Sandra Vokaty^e, Michael P. Ward^{f,*}, Barbara Wieland^g, Ann Lindberg^h

^a Royal Veterinary College, London, UK

^b SAFOSO Inc., Bern, Switzerland

^c World Organisation for Animal Health, Subregional Representation, Panama

^d Food and Agriculture Organization of the United Nations (FAO), Rome, Italy

^e PAHO/WHO Office in Trinidad and Tobago, Port of Spain, Trinidad and Tobago

^f The University of Sydney Faculty of Veterinary Science, Camden, NSW, Australia

^g Swiss Agency for Development and Cooperation, Ulaanbaatar, Mongolia

^h National Veterinary Institute, Uppsala, Sweden

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ABSTRACT

One Health surveillance describes the systematic collection, validation, analysis, interpretation of data and dissemination of information collected on humans, animals and the environment to inform decisions for more effective, evidence- and system-based health interventions. During the second International Conference on Animal Health Surveillance (ICAHS) in Havana, Cuba, a panel discussion was organised to discuss the relevance of One Health in the context of surveillance. A number of success stories were presented which generally focused on the obvious interfaces between human and veterinary medicine such as zoonoses and food safety. Activities aimed at strengthening inter-sectoral networking through technical collaboration, conferences, workshops and consultations have resulted in recommendations to advance the One Health concept. There are also several One Health educational programmes offered as Masters programmes. Continuing challenges to One Health surveillance were identified at both technical as well as organisational level. It was acknowledged that the public health sector and the environmental sector could be engaged more in One Health activities. Legal issues, hurdles to data sharing, unclear responsibilities and structural barriers between ministries prevent integrated action. Policy makers in the health sector often perceive One Health as a veterinary-driven initiative that is not particularly relevant to their priority problems. Whilst some funding schemes allow for the employment of scientists and technicians for research projects, the development of a sustainable One Health workforce has yet to be broadly demonstrated. Funding opportunities do not explicitly promote the development of One Health surveillance systems. In addition, organisational, legal and administrative barriers may prevent operational implementation. Strategies and communication across sectors need to be aligned. Whilst at the technical or local level the formal separation can be bridged, separate funding sources and budgets can jeopardise the overall strategy, especially if funding cuts are later required. To overcome such challenges, a strong business case for One Health surveillance is needed. This should include the costs and benefits of One Health activities or projects including consequences of different strategies as well as risks. Integrated training should also be further promoted.

* Corresponding author. Tel.: +61 2 9351 1607; fax: +61 2 9351 1618.
E-mail address: michael.ward@sydney.edu.au (M.P. Ward).

Future ICAHS conferences should continue to provide a platform for discussing surveillance in the One Health context and to provide a forum for surveillance professionals from all relevant sectors to interact.

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1. Introduction

“One Health” is a term that is used increasingly in a range of different contexts. There are several conferences held at regular intervals with a One Health focus (e.g. One Health Summit; International One Health Congress; International One Health Conference; International Conference on One Medicine One Science). A panel discussion was held during the second International Conference on Animal Health Surveillance (ICAHS) in Havana, Cuba to discuss the relevance of One Health in the context of surveillance. Here we aim to summarise that discussion. The authors were all members or facilitators of the panel.

Whilst we acknowledge the usefulness of an accepted definition of One Health surveillance, the time available at ICAHS did not allow for the in-depth discussion such a topic requires and therefore this was deliberately excluded by the panel. Building on general definition of surveillance, we propose to use the term as follows:

One Health surveillance describes the systematic collection, validation, analysis, interpretation of data and dissemination of information collected on humans, animals and the environment to inform decisions for more effective, evidence- and system-based health interventions.

The panel discussion was recorded and notes were also taken. The following summary is not only based on notes but also includes additional examples, references and points contributed by the authors after the conference. This discussion can be structured around the different activities relevant to surveillance (Fig. 1). These include the operational aspects such as field implementation, sampling and laboratory activities. We also consider the management component which is relevant at different levels (local, regional, national), including strategic, legal and communication aspects. Finally, there is an important interface with interventions because surveillance rarely achieves a benefit on its own but should be considered jointly with interventions (Häsler et al., 2011; Howe et al., 2013). This latter point was also highlighted in the panel discussion. Innovation in technological and scientific approaches is relevant in relation to any of the fields shaping future surveillance.

2. One Health surveillance: where are we?

During the ICAHS panel discussion, a number of examples of collaborative surveillance activities were mentioned that are conducted under the One Health umbrella (Goutard et al., 2015; Ward and Hernandez-Jover, 2015). The current success stories generally focus on the obvious interfaces between human and veterinary

medicine such as zoonoses and food safety. One specific published example is the joint implementation of surveillance for brucellosis in Mongolia in which sero-surveillance in people and monitoring of achieved vaccination coverage in livestock is conducted jointly with technical staff of both sectors, and in Kyrgyzstan joint brucellosis surveillance in people and livestock provided the basis for the development of an inter-sectoral cost-effective control strategy (Zinsstag et al., 2009). Thus there is an opportunity for surveillance systems for brucellosis in cattle only – such as one presented by Bronner et al. (2015) at ICAHS – to be linked to human health surveillance to increase benefit.

Successful One Health collaboration in surveillance was also reported in conjunction with infectious disease outbreaks. During one of the largest multi-country, food-borne outbreaks in Europe, many aspects of collaborative surveillance were discussed and recommendations made for improvements (Beutin and Martin, 2012). Also, examples of successful surveillance collaboration were reported during ICAHS for influenza (Bruhn et al., 2014) and for rabies (Mtema et al., 2014; Ward and Hernandez-Jover, 2015; Townsend et al., 2014). Such collaboration is, however, not necessarily common in animal influenza surveillance. A recent survey on national and regional animal influenza surveillance systems implemented worldwide revealed that, in the instance of influenza-positive poultry or pigs being identified, the public health sector would be alerted only in some occasions (Von Dobschuetz et al., 2014). Opportunities for closer collaboration in influenza surveillance were confirmed at ICAHS (Durr et al., 2015; Paul et al., 2015).

Triggered by incidents such as the threat of a global influenza pandemic, a number of high-level, multi-lateral activities were initiated by the Food and Agriculture Organisation (FAO), the World Health Organisation (WHO) and the World Organisation for Animal Health (OIE). These activities aimed to strengthen inter-sectoral networking through technical activities, conferences, workshops and consultations and have resulted in recommendations to advance the One Health concept.^{1,2,3,4,5} A further specific example of the international collaboration supported by OIE and FAO in practice and policy making of One Health, is the OIE and FAO network of expertise on animal influenza

¹ http://www.oie.int/fileadmin/Home/eng/Media_Centre/docs/pdf/Wildlife_Recommendations.EN.pdf.

² <http://www.oie.int/en/for-the-media/onehealth/oie-involvement/verona/>.

³ <http://www.oie.int/en/for-the-media/onehealth/oie-involvement/stone-mountain/>.

⁴ http://www.oie.int/fileadmin/Home/eng/Media_Centre/docs/pdf/00F9Fd01.pdf.

⁵ http://www.oie.int/fileadmin/Home/eng/Media_Centre/docs/pdf/12_09-project_report_JCLRA_FNLclean.pdf.

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