



The challenges of implementing an integrated One Health surveillance system in Australia: A qualitative study

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Abstract

Background: One Health is an interdisciplinary approach to zoonotic diseases, which encourages structured collaboration and coordination between human, animal and ecological sectors. This interdisciplinary approach could be applied to zoonotic disease surveillance in Australia. Addressing zoonoses at the interface of human, animal and environmental health is considered to be the most holistic approach to zoonotic disease control. Seventy five percent of emerging infectious diseases are of animal origin, so an approach that links the health of humans, animals and the environment could provide an earlier opportunity for disease detection and therefore may help to reduce the burden of zoonotic diseases. Currently in Australia, human, animal and environmental health are managed by separate sectors with limited communication, acting as a barrier to effective and timely zoonotic responses. This study aims to explore how professionals in the field of human, animal and ecological health perceive a One Health approach to zoonotic disease surveillance, aiming to identify what the challenges are to the implementation of an integrated surveillance system in Australia.

Methods and results: Using a qualitative research method, ten semi-structured interviews were conducted with experts in the areas of human, animal and ecological health in order to gain an understanding of professional opinions regarding the challenges of implementing One Health surveillance in Australia. A thematic analysis of the data was undertaken to identify recurring themes. Findings showed that the absence of a clear definition of One Health acts as a barrier to collaboration, as well as siloed approaches by different sectors restricting the ability for professionals to work collaboratively across disciplines. Understanding disease transmission as a whole, as well as understanding the role of the environment on human and animal health were considered by participants to be vital requirements for a One Health approach to be successful. Additionally, political will was considered by participants to be an essential requirement for the integration of government systems.

Conclusions: This study demonstrates that for a One Health approach to be implemented in an Australian setting, those working in the fields of human, animal and ecological health must come together to agree on a 'One Health' definition. Restructuring of the traditional silos, which currently restrict intersectoral collaboration, could result in an improved and collective approach to zoonotic disease surveillance. This could be achieved through the establishment of a formal governance body. Regular communication may provide an avenue for interdisciplinary approaches, and could assist in overcoming the longstanding barriers of privacy and distrust between sectors. Further, developing interdisciplinary public health training in medical, environmental and veterinary degrees may encourage cross-disciplinary collaboration. Finally, illustrating the economic benefit of faster zoonotic detection will likely attract the attention of politicians, who could assist in implementing a formal and structured One Health approach in Australia.

Declaration

This thesis contains no material which has been accepted for the award of any other degree in any other university, and to the best of my knowledge, this thesis contains no materials previously published except for where due reference is made.

Isabella Johnson
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List of Abbreviations

CDCB:	Communicable Disease Control Branch
EIDs:	Emerging Infectious Diseases
Mers-CoV:	Middle East Respiratory Syndrome Coronavirus
NHMRC:	National Health and Medical Research Council
NNDSS:	National Notifiable Disease Surveillance System
PRISMA:	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
SARS:	Severe Acute Respiratory Syndrome
SARS-CoV:	Severe Acute Respiratory Syndrome–Associated Coronavirus
HREC:	Human Research Ethics Committee
WHO:	World Health Organisation

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