

## Introduction

### One Health: more than just a catch phrase!

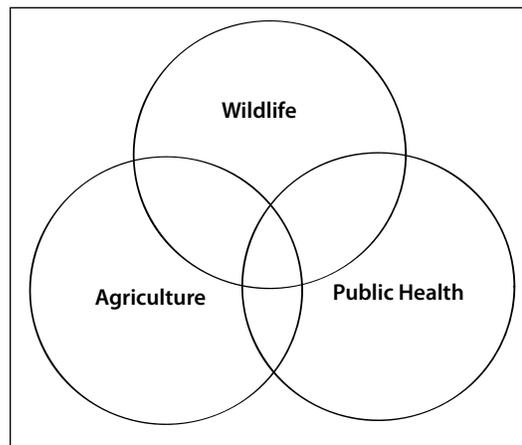
SHERMAN W. JACK, Department of Pathobiology and Population Medicine, P.O. Box 6100, College of Veterinary Medicine, Mississippi State University, Mississippi State, MS 39762, USA  
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**THE ONE HEALTH INITIATIVE** is a worldwide movement of physicians, veterinarians, and other scientists that recognizes the fundamental link among humans, wildlife, and the environment; the goal of the movement is to promote the health of all living things and the environment through an integrated, interdisciplinary approach to health management (One Health Initiative 2011). Today, emerging infectious diseases (EIDs) continue to attract much attention; nearly 75% of EIDs are zoonotic, and nearly half of them involve wildlife (Chomel et al. 2007). These facts underscore the need for increased cooperation between health care and wildlife professionals to address new health concerns. Much has been written about the encroachment of human populations into wildlife areas, the reduction of wildlife habitat, and the spread of diseases based upon environmental changes. Now, in the twenty-first century, we face the reemergence of lingering diseases (i.e., diseases that have been held in check for decades but now are increasing [Drotman 1998, Bengis et al. 2004, World Health Organization 2011]).

Brucellosis remains a contentious issue in the Greater Yellowstone Ecosystem. Plague deserves our attention, as evidenced by the death of a wildlife biologist in Grand Canyon National Park. The appearance of monkey pox is associated with prairie dog importation, and malaria remains a major health threat to many countries worldwide. West Nile virus spread with unprecedented ease across North America at the end of the twentieth century. Recent concern over Severe Acute Respiratory Syndrome (SARS) and avian influenza have captured the attention of health professionals and the public. Most recently, there have been several reports of rabies in humans linked to bat exposure (Centers for Disease Control and Prevention 2010, Goldberg 2011, McLeod 2011, Lazar 2012). These are zoonotic diseases that underscore the importance of interspecies

disease transmission, either between free-ranging species or between free-ranging and domesticated animals (livestock and pets).

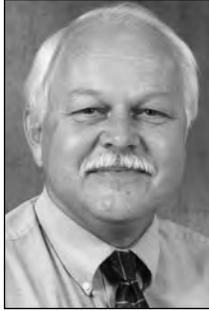
Besides the unintentional introduction of disease, we face the ever-present threat of an intentional or malicious introduction of a virulent pathogen (i.e., bioterrorism). Transportation, both intra-national and international, makes the dissemination of disease agents much easier and faster. Thus, we must remain vigilant, and encourage and maintain open lines of communication across jurisdictional and disciplinary boundaries among organizations that historically have not interacted much (i.e., human health professionals, veterinarians, and environmental and wildlife scientists). I present a modification of Virchow's epidemiologic triad (host, pathogen, and environment) for consideration of human–wildlife interactions (Figure 1). It is where the 3 circles overlap that we must contend with human–wildlife interaction and attempt to minimize the impact that each sphere has on the other two. Only through collaborative efforts can we address current and future issues that are important to the health of humans, domesticated animals, and wildlife. It is to this goal that this issue of *Human–Wildlife Interactions* is dedicated.



**Figure 1.** Modification of Virchow's epidemiologic triad for human–wildlife interaction.

### Literature cited

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