

Commentary

Broadening our perspectives as physicians: one world-one medicine-one health

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There are no passengers on spaceship earth. We are all crew ! (Marshall McLuhan).
Understanding the emergence of new zoonotic agents requires knowledge of pathogen biodiversity in wildlife, human-wildlife interactions, anthropogenic pressures on wildlife populations, and changes in society and human behavior [1].

Keywords: Human-wildlife interaction, one-health, zoonoses

The growing interdependence with human medicine, veterinary medicine, and environmental health was again emphasized at a recent World Rabies Day (WRD) (www.worldrabiesday.org www.rabiescontrol.net; www.onehealthcommission.org) symposium at Kansas State University, USA, September, 2009. In conjunction with World Rabies Day efforts, Dr. Michael Cates raised awareness about the One Health Commission at the 2009 Merial Rabies Symposium held on Kansas State University's campus. Dr. Cates is director of the university's Master of Public Health Program, and One Health Commission's secretary-treasurer. He shared how zoonotic diseases, like rabies, are very much a "one health" concern'.

Examples of zoonoses that concern physicians, veterinarians, ecologists, and environmental scientists include [2-8] rabies, novel H1N1 influenza (mis-named swine flu) [9, 10], cat scratch disease (*Bartonella henslae*), MRSA (repeated infection between cats and their handlers), Q fever (*Coxiella burnetii*), and SARS. There are many others, and about 75% of new emerging infectious diseases are zoonoses.

The One Health web site (www.onehealth-commission.org) describes the concept in further detail, as exemplified by the following excerpts:

Mission

The mission of One Health Commission is the establishment of closer professional interactions, collaborations, and educational opportunities across the health sciences professions, together with their related disciplines, to improve the health of people, animals, and our environment.

Rationale

Emerging zoonotic diseases, food- and water-borne diseases, and environmental change pose increasing threats.

Of the 1,461 diseases now recognized in humans, 60% are due to *multi-host pathogens* that affect multiple species.

Approximately 75% of newly emerging human *infectious diseases* originates in animals.

Poor environmental health may affect human and animal health through contamination, pollution, and conditions conducive to the emergence and survival of new infectious agents.

Given the rise of *antibiotic resistance*, there is a need for a holistic approach and a better understanding of resistance related to the use of antibiotic drugs.

The spread of *food-borne and water-borne diseases* threatens human and animal health around the world.'

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The 'One Health' concept has also been emphasized in the HALI (HALI is from Swahili- 'State of Health') Project in Tanzania to address emerging zoonoses [11]. The authors again emphasize the interdependence of human, animal, and environmental health and the importance of collaboration among all players-government, NGO's, Public Health, and the Providers. One of the key tenets of the project is to assess wildlife/livestock and their water sources for zoonoses, including bovine tuberculosis, brucellosis, *Salmonella*, *cryptosporidium*, *Giardia*, *E. coli*, and *Campylobacter*.

As our planet's population grows to near-unsustainable numbers, and animals, plants, and humans compete for space and resources, there is urgent need for closer collaboration among scientists from several disciplines, health practitioners, and government to address these critical issues. ONE HEALTH is a concept whose time has come!

References

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