

## What is One Health?

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### Definitions of One Health

One Health is a collaborative, multisectoral, and trans-disciplinary approach - working at local, regional, national, and global levels - to achieve optimal health and well-being outcomes recognizing the interconnections between people, animals, plants and their shared environment.

Previous OHC definition:

One Health is the collaborative effort of multiple health science professions, together with their related disciplines and institutions – working locally, nationally, and globally – to attain optimal health for people, domestic animals, wildlife, plants, and our environment.

2019 Student's Description

"At its core, One Health ..... is rooted in understanding the interdependence of human and natural systems and promoting interdisciplinary collaboration. Some of the global issues One Health works to address include environmental contamination, habitat use conflicts, biodiversity loss, emerging infectious diseases, antimicrobial resistance and ecosystem function degradation. In addition, the social determinants of health (e.g. SES, education, neighborhood and built environment, social and community context) play a critical role in health and thus, there's a strong social and environmental justice aspect to One Health." Evan Griffith, M.S., DVM / MPH candidate at Tufts University Cummings School of Veterinary Medicine and Tufts School of Medicine, North Grafton and Medford, Massachusetts, USA

### Rationale

- Planetary Environmental health may affect human and animal health through contamination, pollution and changing climate conditions that may lead to emergence of new infectious agents.
- Worldwide, nearly 75 percent of all emerging human infectious diseases in the past three decades originated in animals.
- The world population is projected to grow from 7 billion in 2011 to 9 billion by 2050.
- To provide adequate healthcare, food and water for the growing global population, the health professions, and their related disciplines and institutions, must work together.
- Human-animal interactions / bonds can beneficially impact the health of both people and animals.

## Scope of One Health

Some people misunderstand and think that One Health is about everything therefore it must be about nothing. But the truth is that One Health thinking (see definition above) and implementation is needed in so many arenas that it just seems to be about 'everything'.

Here are a few areas that urgently need the One Health approach, at all levels of academia, government, industry, policy and research, because of the inextricable interconnectedness of animal, environmental, human, plant and planet health.

- Agricultural production and land use
- Animals as Sentinels for Environmental agent and contaminants detection and response
- Antimicrobial resistance mitigation
- Biodiversity / Conservation Medicine
- Climate change and impacts of climate on health of animals, ecosystems, and humans
- Clinical medicine needs for interrelationship between the health professions
- Communications and outreach
- Comparative Medicine: commonality of diseases among people and animals such as cancer, obesity, and diabetes
- Disaster preparedness and response
- Disease surveillance, prevention and response, both infectious (zoonotic) and chronic diseases
- Economics / Complex Systems, Civil Society
- Environmental Health
- Food Safety and Security
- Global trade, commerce and security
- Human - Animal bond
- Natural Resources Conservation
- Occupational Health Risks
- Plant / Soil health
- Professional education and training of the Next Generation of One Health professionals
- Public policy and regulation
- Research, both basic and translational
- Water Safety and Security
- Welfare / Well-being of animals, humans, ecosystems and planet

## Potential Outcomes from the One Health Approach

- More interdisciplinary programs in education, training, research, and established policy (See <http://bit.ly/2Hld7pl> )
- More information sharing related to disease detection, diagnosis, education and research
- More prevention of diseases, both infectious and chronic
- Development of new therapies and approaches to treatments

US Centers for Disease Control and Prevention (CDC) [One Health Infographic](#)

## One Health: A Ray of Hope for the Future



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