

Introduction to One Health

IISPR Policy Panel

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**Melinda Wilkins, DVM, MPH, PhD
Assoc Prof One Health, Public
Health and Global Health
Education**



So What is One Health?



Definitions of One Health



(World Health Organization)

- 'One Health' is an approach to designing and implementing programs, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes.

Source: <http://www.who.int/features/qa/one-health/en/>



CDC Explains One Health

- One Health recognizes that the health of people is connected to the health of animals and the environment. It is a collaborative, multisectoral, and trans-disciplinary approach—working at the local, regional, national, and global levels—with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.



More Definitions of One Health

- *The One Health Initiative is a movement to forge co-equal, all inclusive collaborations between physicians, osteopathic physicians, veterinarians, dentists, nurses and other scientific-health and environmentally related disciplines, including the American Medical Association, American Veterinary Medical Association, American Academy of Pediatrics, American Nurses Association, American Association of Public Health Physicians, the American Society of Tropical Medicine and Hygiene, the Centers for Disease Control and Prevention (CDC), the United States Department of Agriculture (USDA), and the U.S. National Environmental Health Association (NEHA).*

Source: <http://www.onehealthinitiative.com/>

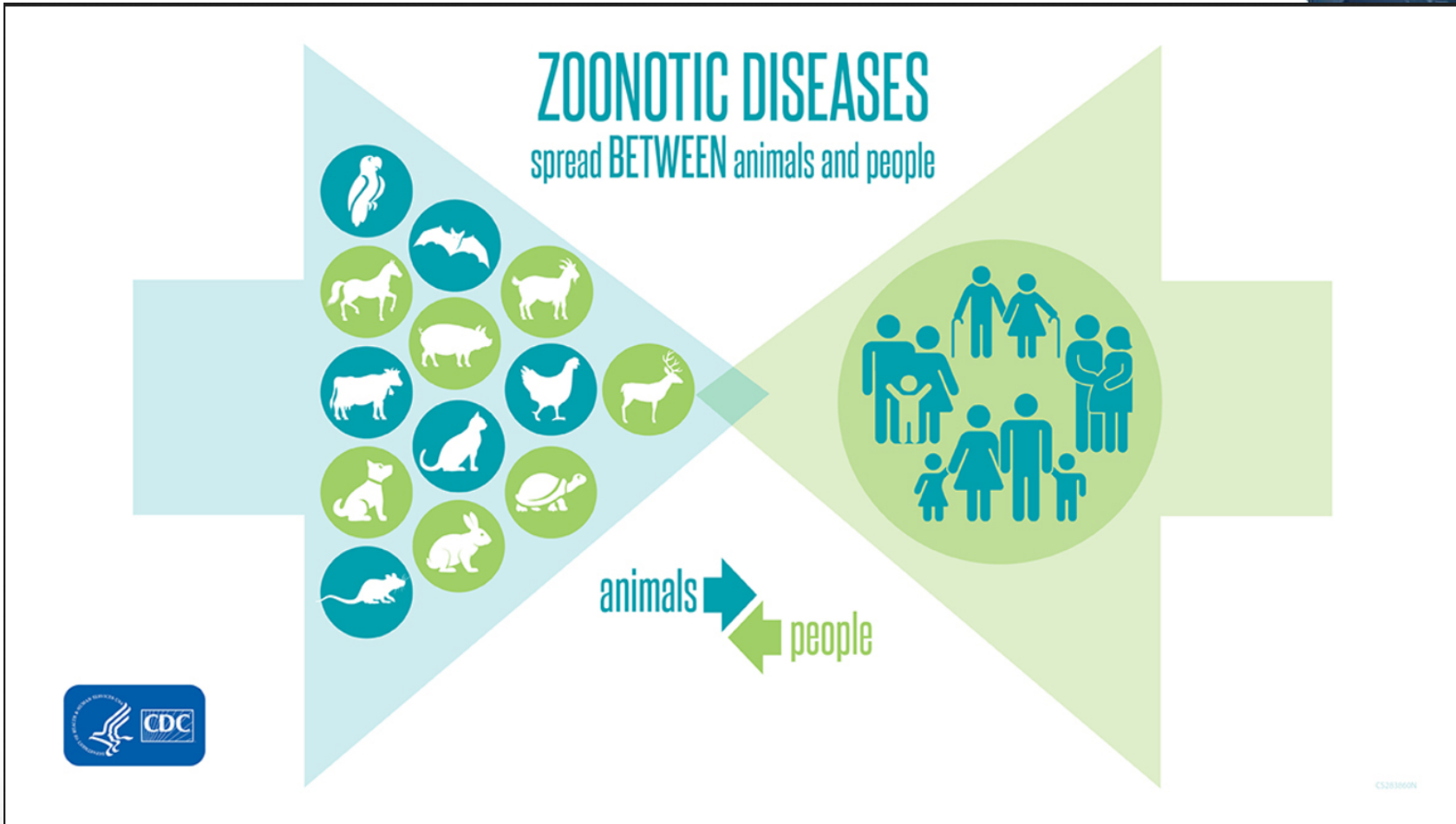
Why do we need a One Health approach?



- Many of the same microbes infect animals and humans, as they share the eco-systems they live in.
- Approximately 75% of new emerging human infections have their origin in zoonotic agents, meaning that they are naturally transmitted from animals to humans. Ebola, HIV, dengue and MERS are but some of the most recent infectious agents that have moved from animals to humans, with a devastating impact on public health.
- Therefore health science professionals, key opinion leaders and public health officials need to work together to attain optimal health for people, domestic animals, wildlife, and our environment.

Source: One Health Platform, <https://www.onehealthplatform.com/>

Zoonotic Diseases



Factors that Affect Human and Animal Health



Factor (Cause)

Human populations are growing and expanding into new geographic areas.

The earth has experienced changes in climate and land use, such as deforestation and intensive farming practices.

International travel and trade have increased.

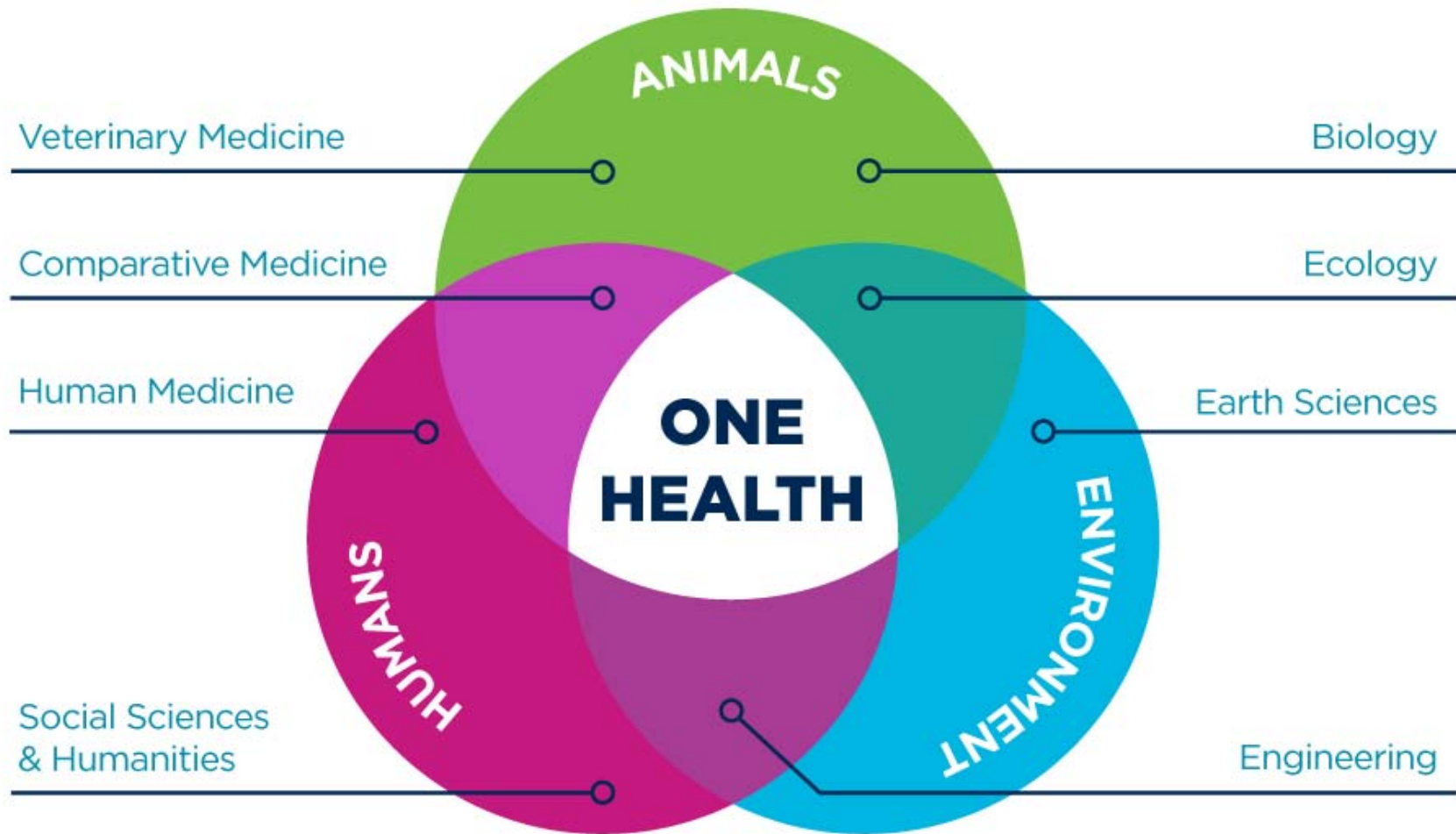
Change (Effect)

As a result, more people live in close contact with wild and domestic animals. Close contact provides more opportunities for diseases to pass between animals and people.

Disruptions in environmental conditions and habitats provide new opportunities for diseases to pass to humans and animals.

As a result, diseases can spread quickly across the globe.

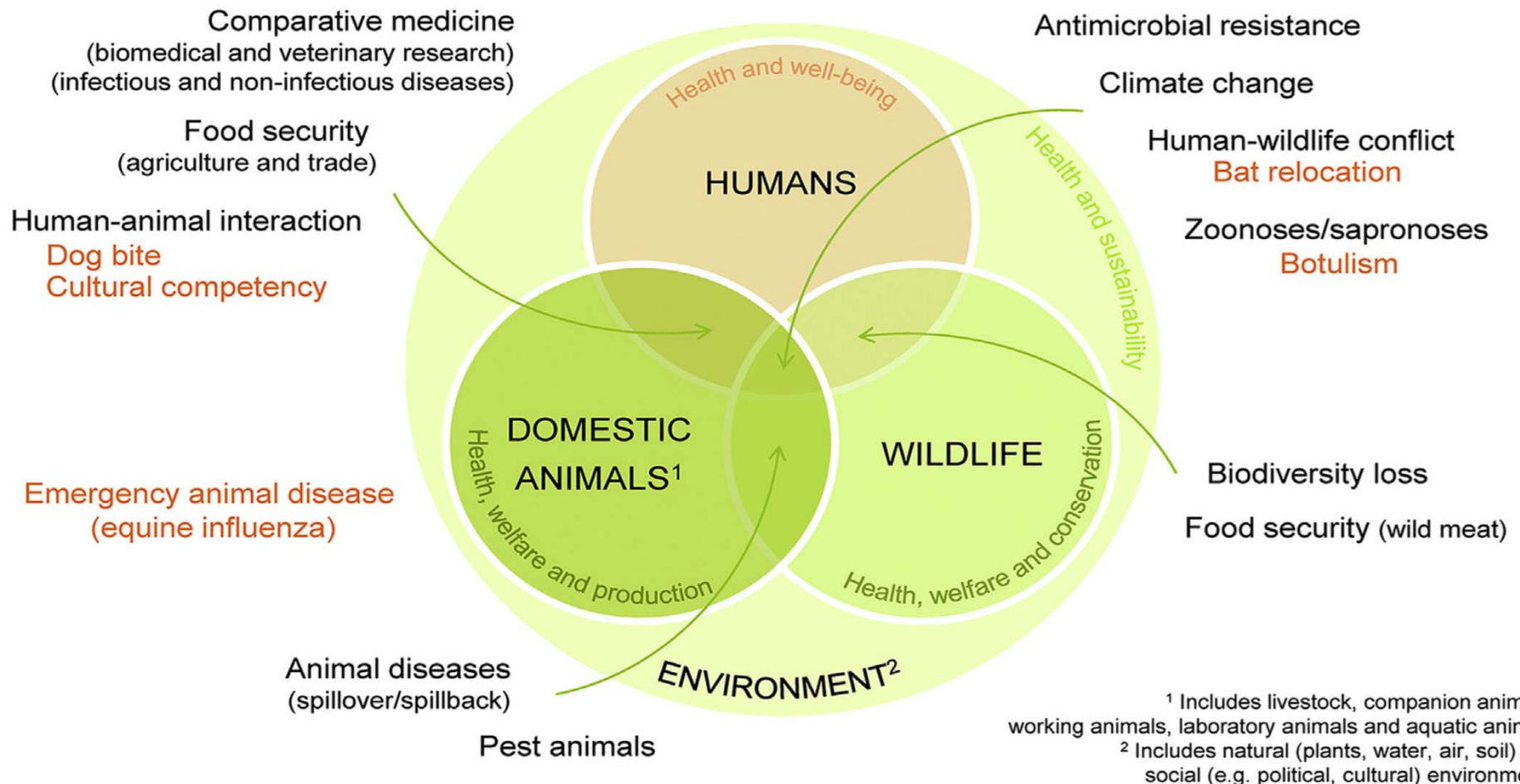
The Intersection: Human Health, Animal Health and the Environment



Source: UC Davis

One Health One Welfare:

managing shared risks, maximizing well-being
at the human-animal-environment interface



Mor, Siobhan & Norris, Jacqueline & Bosward, Katrina & Toribio, Jenny-Ann & Ward, Michael & Gongora, Jaime & Vost, Meg & Higgins, Peter & McGreevy, Paul & White, Peter & Zaki, Sanaa. (2018). One health in our backyard: Design and evaluation of an experiential learning experience for veterinary medical students. *One Health*. 5. 10.1016/j.onehlt.2018.05.001. fppt.com

One Health Approach



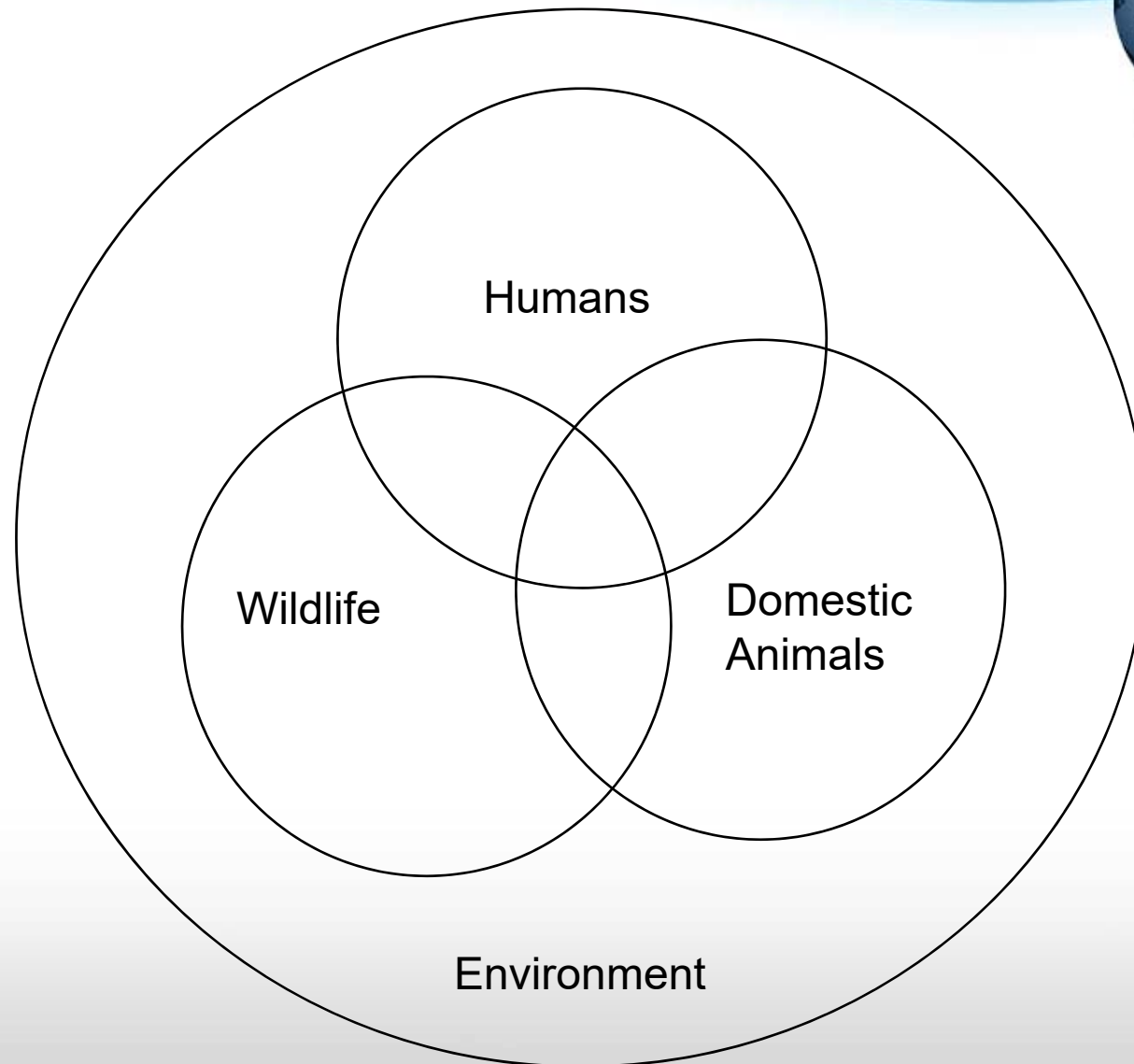
- “One Health” is not a new concept but it has risen in prominence since the early 2000’s
 - Driven by the Avian then Swine flu epidemics
 - As a concept, it is common sense
 - Difficult to argue the logic
- Can be difficult to realize the potential for a number of reasons

Make it Real: Rabies

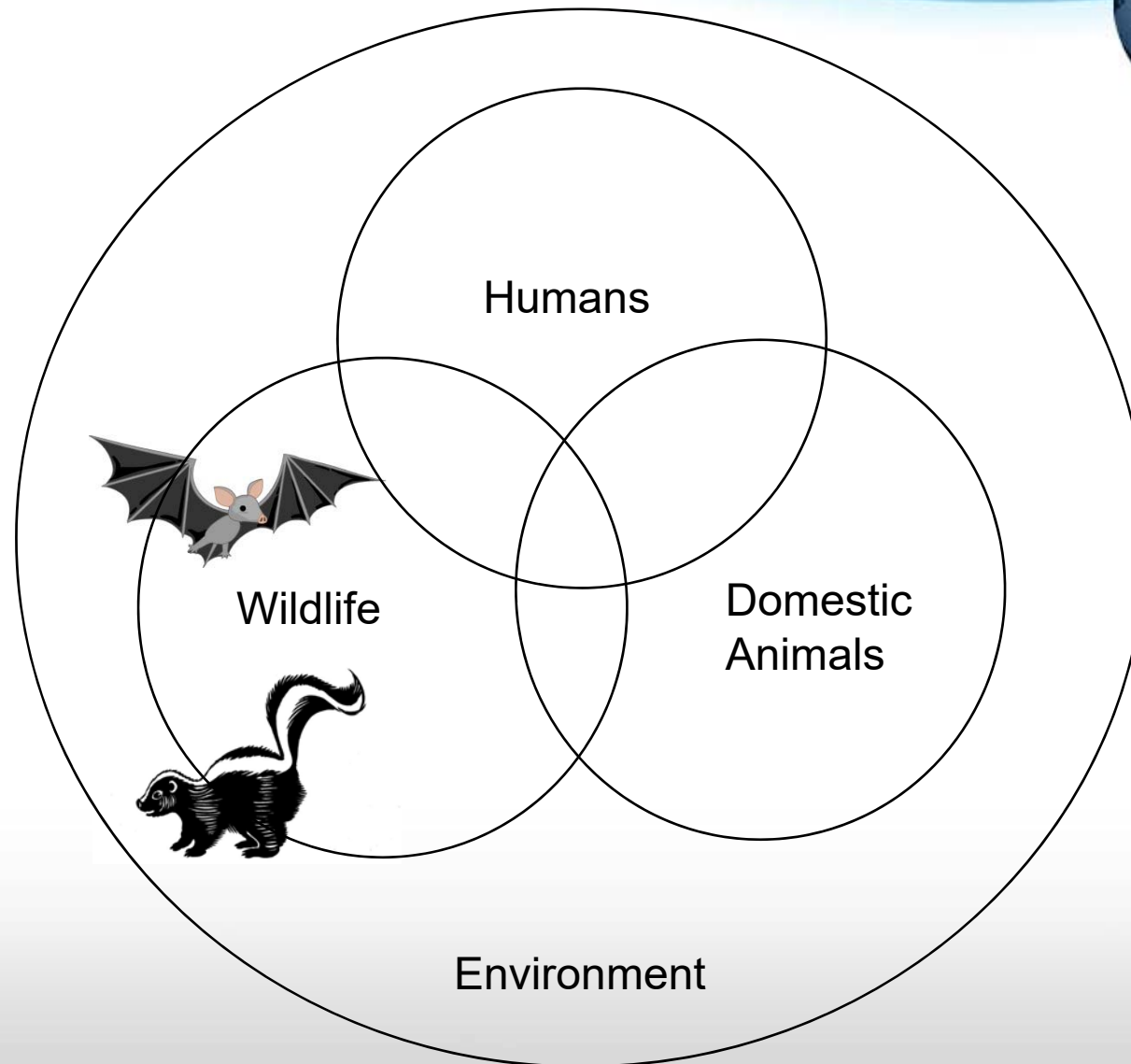


- Humans
- Domestic animals
- Wildlife - reservoirs
- Environment

OH Rabies Example - MI

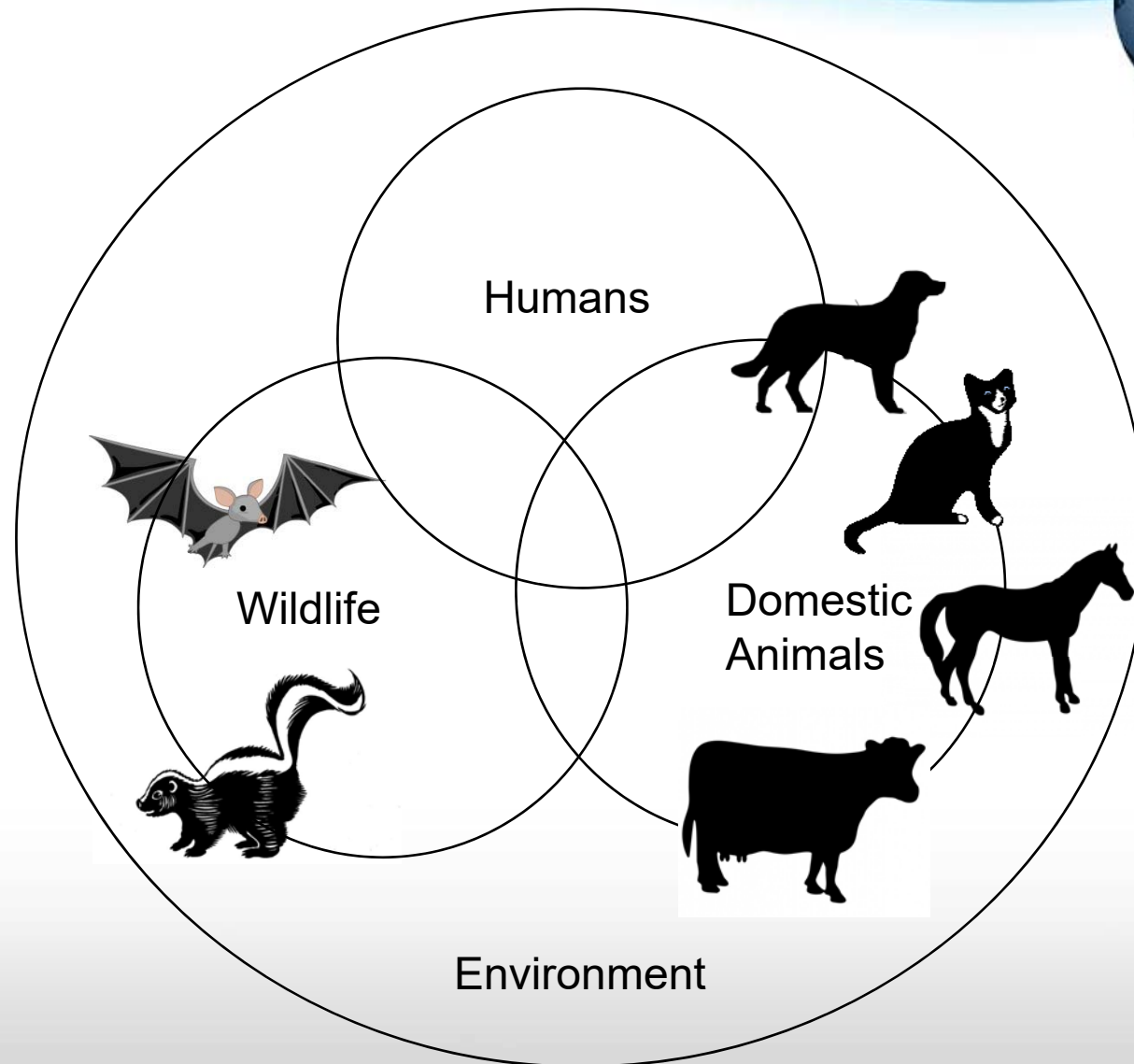


OH Rabies Example - MI



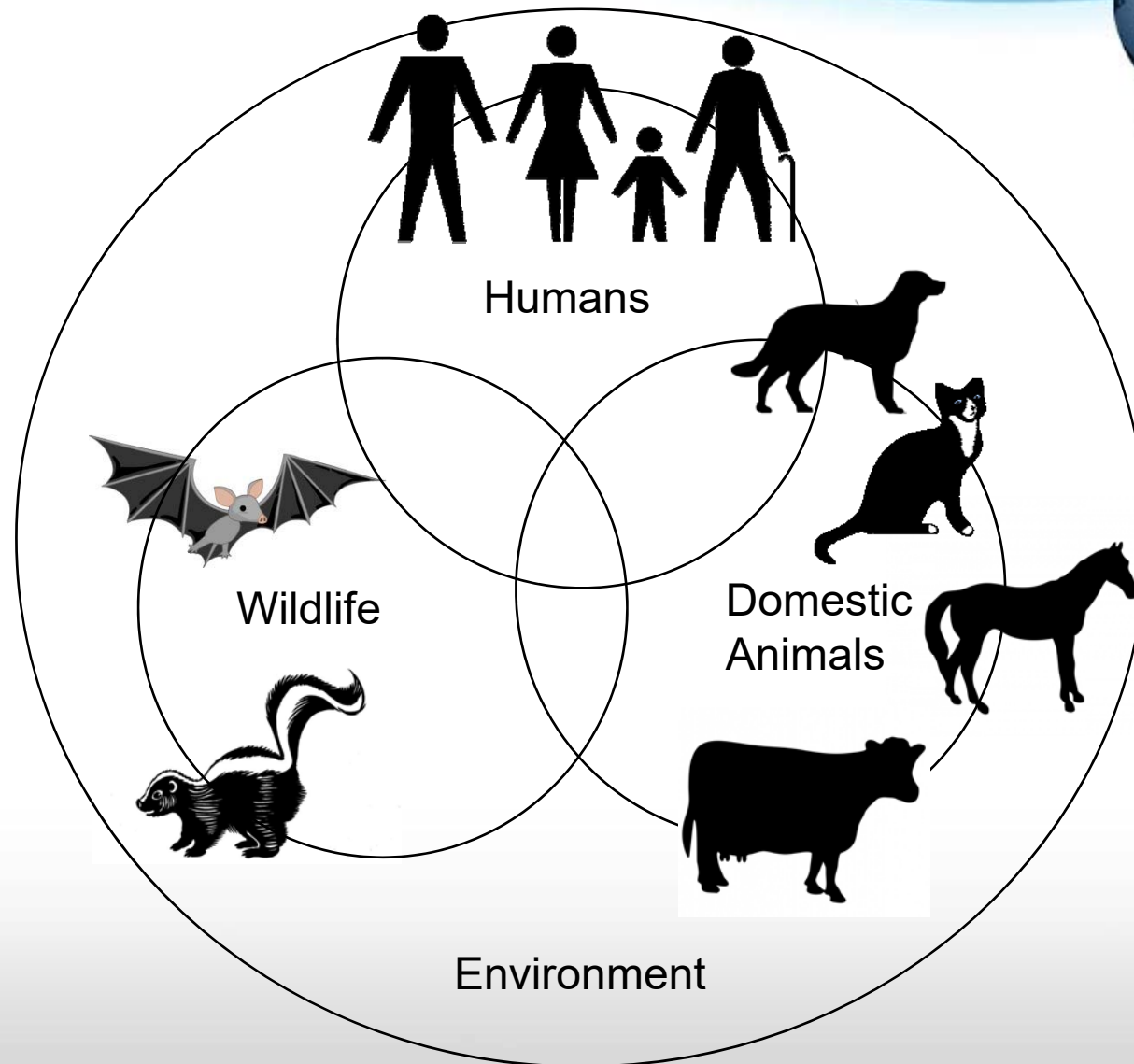
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OH Rabies Example - MI



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OH Rabies Example - MI

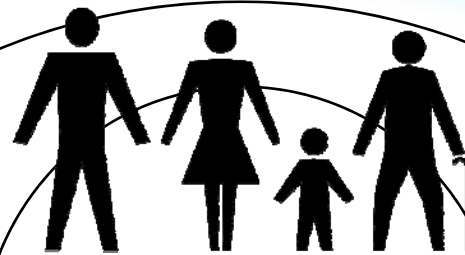


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OH Rabies - Who is involved?

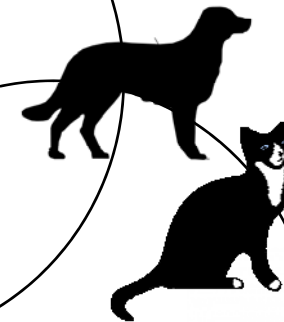


MDHHS, Local Health Departments, Health-Care providers, Hospitals, State Public Health Lab, Etc.



Humans

Animal Owners, LHDs, Licensing agencies Veterinarians Etc.



Domestic Animals



Wildlife

Michigan DNR, Wildlife rehab, Wildlife enthusiasts Animal welfare orgs Animal control officers Educators, Etc.

Physical environment
Regulatory environment

Environment

Shout out!



- The Michigan Rabies Working Group (RWG) is an interagency group that was formed in the late 1990's and whose members represent the Michigan Departments of Health and Human Services, Agriculture and Rural Development, and Natural Resources, the United States Department of Agriculture (USDA), Michigan State University, local public health agencies, animal control officers, wildlife enthusiasts, and animal welfare organizations. This group meets regularly to discuss rabies issues in Michigan.
- [Michigan Emerging Diseases Issues website](https://www.michigan.gov/emergingdiseases)
<https://www.michigan.gov/emergingdiseases>

One Health Resources



- Michigan Emerging Disease Issues
 - www.michigan.gov/emergingdiseases/
- Michigan Emerging and Zoonotic Disease Surveillance Summary 2018 (MDHHS)
 - www.michigan.gov/documents/emergingdiseases/2018_Annual_Summary_8-29-19_2_669979_7.pdf
- One Health Commission – nonprofit, networking, student org
 - www.onehealthcommission.org
- One Health Initiative – partnership building and events
 - www.onehealthinitiative.com
- One Health Platform - research
 - www.onehealthplatform.com/
 - Host One Health Congress
- CDC – One Health
 - www.cdc.gov/onehealth/index.html



Thank You

wilkinsm@msu.edu