

Name: _____

One Health Career Exploration Day



August 16, 2016

Hosted by:



AGENDA

7:45-8:15am	Registration/Breakfast
8:15-8:45am	Welcome, Review Structure of the Day, <i>Black Canyon Ballroom</i>
8:45-9:30am	Who's Who in Arizona One Health Panel, <i>Black Canyon Ballroom</i>
9:30-9:45am	Break
9:45-11:45am	Modules A-D (45 min each, time in between to switch) A: Health and Safety at the Farm, <i>Horseshoe</i> B: Environmental Health, Food Safety, and You, <i>Coyote</i> C: The Tale of the Rabid Kitten, <i>Joshua Tree</i> D: Love your Pets, Not the Germs, <i>Black Canyon Ballroom</i>
11:45-12:30pm	Lunch –One Health Trivia, <i>Black Canyon Ballroom</i>
12:30-2:30pm	Modules A-D (45 min each, time in between to switch) A: Health and Safety at the Farm, <i>Horseshoe</i> B: Environmental Health, Food Safety, and You, <i>Coyote</i> C: The Tale of the Rabid Kitten, <i>Joshua Tree</i> D: Love your Pets, Not the Germs, <i>Black Canyon Ballroom</i>
2:30-2:45pm	Break
2:45-3:45pm	Solve the Mystery Outbreak! Become a Disease Detective! <i>Black Canyon Ballroom</i>
3:45-4:00pm	Evaluations/Departure

Welcome to Arizona's One Health Career Exploration Day!

We have invited you to learn about the connection between human, animal, and environmental health from professionals working in those fields.

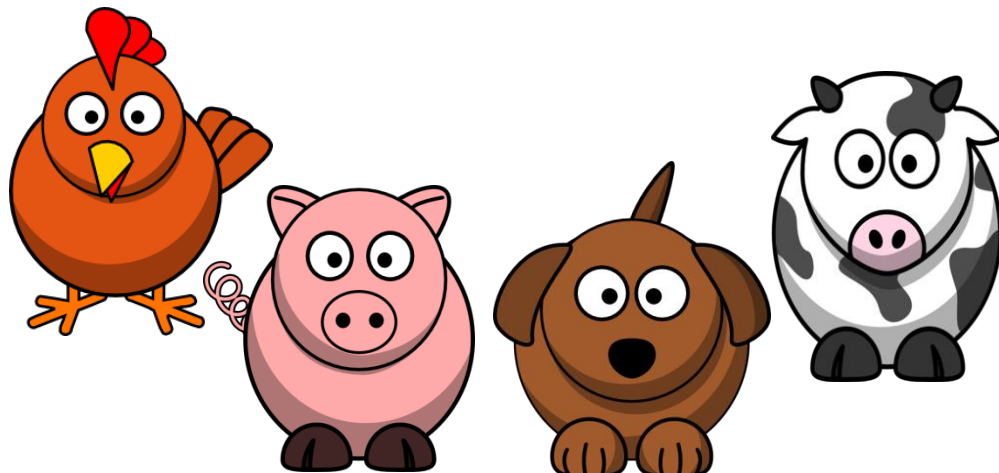
...that's One Health!

Today, there will be a variety of fun activities for you to participate in and questions to answer along the way. You will learn about diseases that people can get from bugs and animals, biosecurity and food safety, the role of wildlife in One Health, and how chemicals in the environment can be linked to health of people and animals. Most importantly, our goal is for you to understand the role you have in protecting health, preventing illness, and promoting One Health.

We hope you learn how all the partners work together to achieve One Health, are able to explore future career opportunities, and leave the day as One Health Champions!

The groups of people that you will be interacting with and learning from today are from different agencies that work in public health, animal health, veterinary medicine, wildlife health, environmental health, animal agriculture, food safety, and more.

Let's introduce them to you!



Who's Who in Arizona's One Health



ARIZONA DEPARTMENT OF HEALTH SERVICES

The **Arizona Department of Health Services (ADHS)** is a state agency that works closely with county, tribal and community partners to achieve the mission to promote, protect and improve the health and wellness of individuals and communities in Arizona. The **Office of Infectious Disease Services (OIDS)** is responsible for monitoring more than 70 infectious diseases of public health importance, and working with local health departments to control and prevent spread of those diseases. The **Vector-Borne & Zoonotic Diseases** program is responsible for monitoring, controlling and preventing diseases transmitted from animals or arthropod vectors to humans. The goal of the **Foodborne Illness Surveillance Team** is to routinely monitor infectious diseases spread through food, which typically cause diarrhea and vomiting. Additionally, the Foodborne Illness Surveillance Team aims to find and stop foodborne illness outbreaks. The **Food Safety and Environmental Services Program** is dedicated to overseeing food safety and environmental sanitation monitoring and regulatory activities in the State of Arizona. The **Environmental Toxicology Program** assists communities in understanding potential public health effects from known or suspected environmental exposures.



The **Maricopa County Department of Public Health (MCDPH)** provides services to over 4 million residents and is the third largest public health jurisdiction in the nation. In order to achieve its mission, "to protect and promote the health and well-being of all of Maricopa County residents and visitors," the Department provides a variety of direct, clinical, and preventive health services including home visitations, immunizations, and health education. The MCDPH, **Office of Epidemiology (OE)** is a part of the Disease Control Division (DCD) using passive and active surveillance to track disease and illness in our community to implement interventions that prevent disease and promote health. The OE collects, analyzes, and distributes public health data to MCDPH programs, healthcare partners and to external organizations and individuals seeking information on diseases in Maricopa County. The Office of Epidemiology has two units devoted to investigating disease in Maricopa County, the **Data Services Epidemiology (DSE)** and the **Communicable Disease Epidemiology (CDE)**. The DSE provides Departmental support for increased chronic disease surveillance and data-driven prevention efforts. The CDE provides mandated services through the investigation of outbreaks and single cases of infectious disease including, but not limited to vaccine preventable diseases (VPD), vector borne & zoonotic diseases (VBZD), and food borne and waterborne illnesses. Cases are reported to us through positive lab reports and phone calls from partners and citizens.



The **Arizona Department of Agriculture** consists of three main divisions: Animal Services, Environmental Services, and Plant Services, with a mission to regulate and support Arizona agriculture in a manner that encourages farming, ranching, and agribusiness while protecting consumers and natural resources.

The **Office of the State Veterinarian** protects the livestock, poultry, and aquaculture industries directly, and the public indirectly, through the prevention, early detection, containment, and eradication of economically important livestock, poultry, and fish

diseases that, in many cases, are transmissible to people. In addition, welfare of farm animals is ensured by assisting the Livestock Inspection Program in the investigation and prosecution of cases of cruelty to animals. This Office watches over four areas: regulation of the importation of animals, control and eradication of livestock diseases, regulation of fish farming, transportation and processing and emergency response.

Midwestern University is a private degree-granting institution specializing in the health sciences with 10 colleges and two campuses located in Glendale, Arizona and Downers Grove, Illinois. The mission of the **Midwestern University College of Veterinary Medicine (CVM)** is to improve animal and human life through innovative veterinary education, state-of-the-art healthcare services, and scholarly work relevant to the concept of One Health. Many opportunities exist within veterinary medicine, including anesthesiology, dentistry, cardiology, food animal production medicine, small animal surgery, and wildlife medicine. Other opportunities outside of clinical practice include working in research at a university or company, or for a governmental agency in the areas of biosecurity, environmental quality, public health, or disease outbreak investigation.



The **Arizona Game and Fish Department** strives to conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations. The **Wildlife Health Program** provides expertise in disease surveillance and population health assessments, wildlife health related response and investigation, wildlife handling methods and disease recognition, and maintenance of veterinary pharmaceutical compliance requirements for the agency. Our program aims to detect diseases of concern, (e.g. pneumonia in desert bighorn sheep), emerging infectious diseases, (e.g. pigeon

paramyxovirus 1 in Eurasian collared doves), public health threats, (e.g. increase in the occurrence of rabies in skunks in Santa Cruz County), and illegal killing of wildlife, (i.e. killing of more than 50 Brazilian free-tailed bats in Tucson).



The **Animal and Plant Health Inspection Service** (APHIS) is a multi-faceted agency with a broad mission area that includes protecting and promoting U.S. agricultural health, regulating genetically engineered organisms, administering the Animal Welfare Act and carrying out wildlife damage management activities. These efforts support the overall mission of the **United States Department of Agriculture** (USDA), which is to protect and promote food, agriculture, natural resources and related issues. The mission of **USDA APHIS Wildlife Services** (WS) is to provide federal leadership and expertise to resolve wildlife conflicts to allow people and wildlife to coexist. WS conducts program delivery, research and other activities through its Regional and State Offices, the National Wildlife Research Center (NWRC) and its Field Stations, as well as through its National Programs.

Introduction to One Health

1. What is One Health?
2. Do you think you play a role in promoting One Health?
3. List 2 ways you think you play a role in One Health, or ways you could.

Who's Who in Arizona One Health Panel

4. Describe what role each of the people on the panel has in One Health.
 - a. Epidemiologist (how are each of their roles different):

 - b. State Veterinarian:

 - c. Veterinarian:

 - d. Wildlife Services:

 - e. Epidemic Intelligence Officer:

 - f. Food Safety Program Manager:

 - g. Climate Health and Environmental Toxicology Program Manager:

5. What career are you most interested in after hearing the panel?

Arizona Department of Agriculture, Office of the State Veterinarian
Midwestern University College of Veterinary Medicine

Activity Objectives

- Learn about biosecurity and why it is important
- Understand disease spread and traceability
- Describe personal protective equipment and its use

Introduction—Health of Humans and Animals

- Humans consume products from the land such as fruit, vegetables, meat and animal products such as eggs and milk.
- If our food sources are not healthy, want to make sure that they do not become food that will make us sick.
- We can sometimes recognize when food is not good to eat by appearance. Some diseases can be in food and we cannot tell. When working with animals we have to always practice biosecurity to help prevent spread of disease between animals and ending up in our food.

Questions

1. What role do veterinarians play in protecting human health?
2. What do you understand biosecurity to be?
3. Why is biosecurity important?
4. What is the role of the health care professional in biosecurity?

5. What do you think would happen if we did not practice biosecurity?
6. How do veterinarians protect themselves from different zoonotic diseases?
7. What is personal protective equipment?
8. Can you list some of the different careers available to veterinarians?

Biosecurity is the procedures we use to protect humans or animals against disease or harmful agents. Biosecurity includes proper purchase procedures to implementing them on and off of your farm.

Biosecurity in animals include:

- Barn sanitation
 - Cleaning and disinfection of barn and tools
- Rodent and wildlife control
 - Deterrents in place to prevent infestation and access to livestock and food
- Worker and visitor policies
 - Traffic control in and around animals with protocols to follow when in animal area such as barn clothes, foot baths, hand washing.
 - Limiting the flow of people as well as other animals through the area.
- General Security measures
 - Isolation areas for new and sick animals, safe environment for animals as well as people.
 - Areas marked clearly as in “No admittance without proper attire”.
 - Biosecurity on the farm as well as away from the farm.
- General Health Biosecurity
 - Isolation of any new or sick animals from population
 - Monitor the health and habits of new animals
 - Work with new animals last
 - Use of proper hygiene and personnel protection equipment (PPE)

Personal protective equipment:

- Gloves
- Boots
- Coverall
- Goggles
- Mask

What are ways to keep clean?

- Hand washing before and after handling animals
- Hand washing between animals
- Foot baths
- Barn only clothes

Arizona Department of Health Services, Office of Environmental Health
Arizona Department of Health Services, Office of Infectious Disease Enteric Team

Activity Objectives

- Learn how environmental chemicals can get in your body and affect your health
- Understand how to reduce exposures to chemicals
- Define biomonitoring and environmental toxicology
- Describe food safety and how products can be kept germ free from farm to table

Questions—Biomonitoring & Environmental Toxicology

1. What is biomonitoring?
2. What are the two chemicals mentioned in the presentation?
3. What are ways people can get exposed to environmental chemicals?
4. How can people reduce exposures to environmental chemicals?
5. What is environmental toxicology? What is a toxic substance?

6. How can people be exposed to these toxic substances and how are they harmful?

7. What state and federal environmental health partners did you learn about, and what do they do?

Arizona Department of Environmental Quality, Environmental Protection Agency, Food and Drug Administration

Questions—Farm-to-Fork Food Safety

1. What is food safety?
2. Farm
 - a. What are the risks?
 - b. Who oversees the operation?
3. Manufacturing
 - a. What are the risks?
 - b. Who oversees the operation?
4. Transportation
 - a. What are the risks?
 - b. Who oversees this activity?

5. Grocery Store or Distributor

a. What are the risks?

b. Who oversees the operation?

6. Home or Restaurant

a. What are the risks?

b. Who oversees the operation?

7. Who would you call if you think you have a foodborne illness?

Activity Objectives

- Describe activities performed by a local and state health department during a public health crisis
- Identify potential exposures of rabies in the scenario
- Conduct rabies risk assessment
- Discuss rabies post-exposure prophylaxis and prevention
- Enhance understanding of zoonotic disease and promote One Health concepts and collaborations

Questions

1. Rabies is a:
 - a. Virus
 - b. Bacteria
2. What does the word **endemic** mean?
3. What does the word **emerging** mean? What is an example?
4. What is a virus reservoir?
5. What animal has the most rabies in Arizona?
6. Who should you contact for a possible rabies exposure?

Activity Objectives

- Define zoonotic diseases
- Understand the different ways diseases can spread from animals to people
- Describe ways steps you can take to prevent infections and keep you, your family, and your pets healthy.

Introduction—Animals, Germs, and You

Did you know that 60% of animal diseases are zoonotic and can be spread to people?

Did you know that your pets can carry bacteria that could be passed to you or anyone else that touches and cares for them?

- For example, salmonella infections and outbreaks have been linked to pets including small turtles, reptiles, amphibians, and live poultry.
- Even if an animal may appear healthy, they could carry bacteria that is harmful to people.

Questions

1. What role do animals play in understanding the risks for people to get sick?
2. What is a zoonotic disease?
3. Have you heard about anything in the news related to zoonotic disease?

4. What are some ways diseases spread from animals to people?

5. How do you prevent the spread of diseases from animals to people?
Think about all the ways diseases can be spread.

Understanding the Role of Wildlife Health

United States Department of Agriculture, Wildlife Services

1. Is prevention and/or control of wildlife damage an essential and responsible part of wildlife management?
2. Why is monitoring and surveillance of wildlife disease important?
3. Why is it important to never approach wildlife, in particular, wildlife behaving abnormally?

Activity Objectives

- Define an outbreak
- Learn the steps of an outbreak investigation
- Become a disease detective
- Enhance understanding how One Health partners work together

*This scenario has been created for the purpose of this event, and is not based on a real outbreak. There is no right or wrong answers to the questions. Use your knowledge. *

Mystery Outbreak Scenario

You visit a petting zoo with a group of friends at the county fair. The petting zoo has three areas: chickens, pigs, and cows. After the petting zoo, you go on some rides and enjoy hotdogs and cotton candy. A few days later, you hear that some of your friends are feeling sick. They have a fever, body aches, and a mystery symptom.

Become a disease detective and help public health solve this mystery illness.

Questions

1. What is the first thing you would do/questions you would ask?
2. How do you know if this is an outbreak?
3. What is an outbreak?
4. What do all the people who are sick have in common?

5. What are the symptoms?
6. How do you know how people got sick: was it from the animals, food, or the environment?
7. Who should be included in the investigation?
8. How would you solve this outbreak?
9. What would you do to prevent people from getting sick?
10. What recommendations would you have for the county fair?