

ONE HEALTH CAREER EXPLORATION DAY

AUGUST 16, 2016

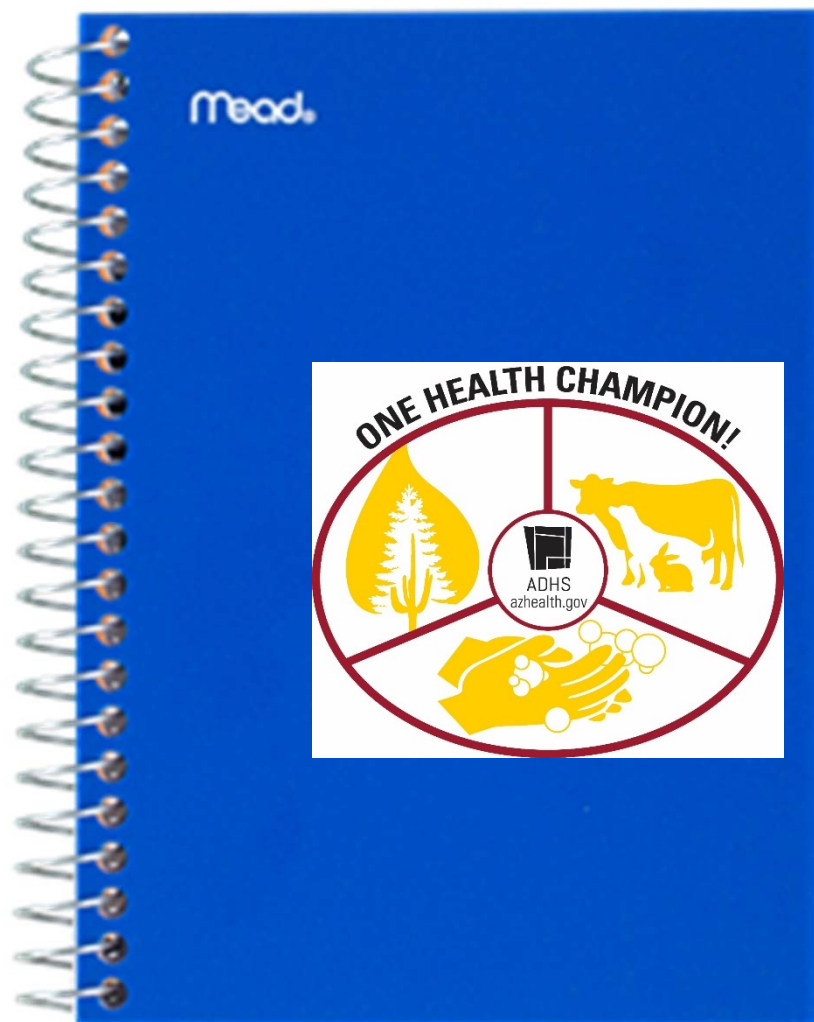
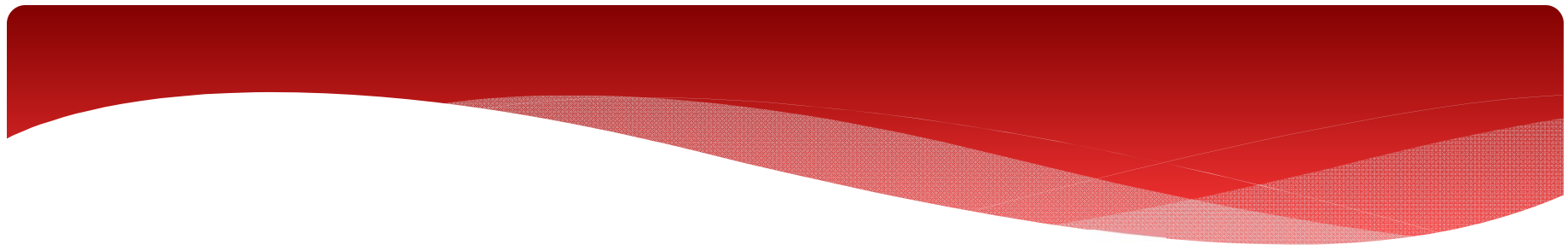


WELCOME

The word "WELCOME" is displayed in a playful, handcrafted style on a corkboard. Each letter is cut from a different colored piece of paper and is pinned to the corkboard with a matching colored pushpin. The letters are: 'W' (blue paper, white pin), 'E' (white paper, red pin), 'L' (red paper, blue pin), 'C' (yellow paper, yellow pin), 'O' (white paper, red pin), 'M' (light green paper, white pin), and 'E' (red paper, blue pin). The letters are arranged in a slightly staggered, horizontal line across the center of the image.







Agenda

- | | |
|-------------|---|
| 7:45-8:15am | Registration/Breakfast |
| 8:15-8:45am | Welcome, Review Structure of the Day,
Black Canyon Ballroom |
| 8:45-9:30am | Who's Who in Arizona One Health Panel,
Black Canyon Ballroom |
| 9:30-9:45am | Break |

Agenda

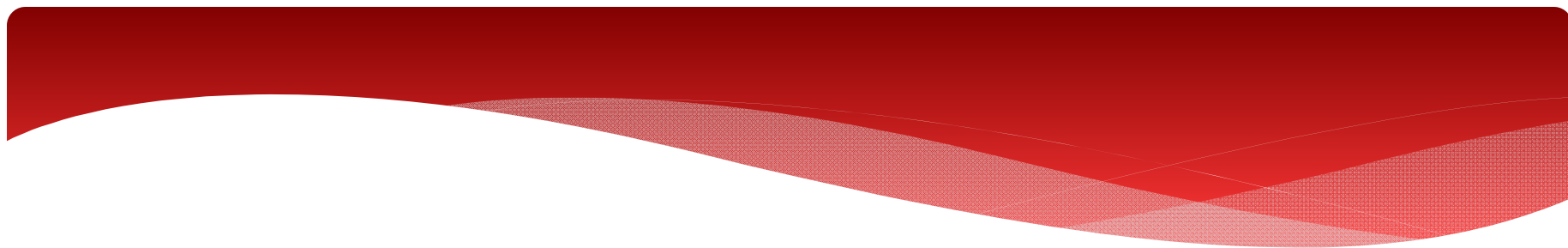
9:45-11:45am Modules A-D (45 min each)

A: Health and Safety at the Farm, *Horseshoe*

B: Environmental Health, Food Safety, and You, *Coyote*

C: The Tale of the Rabid Kitten, *Joshua Tree*

D: Love your Pets, Not the Germs, *Black Canyon Ballroom*



A

B

C

D



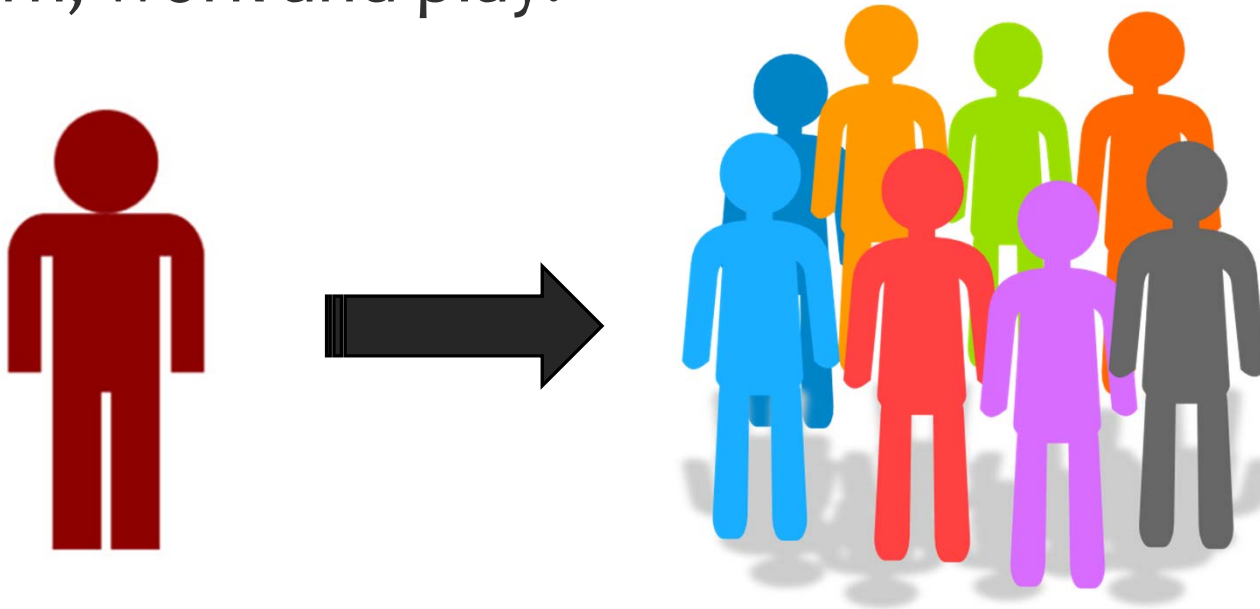
Agenda

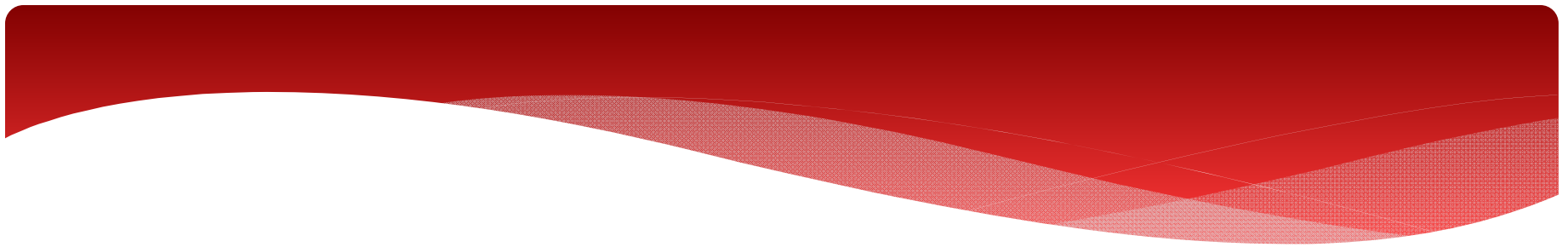
11:45-12:30pm	Lunch –One Health Trivia, <i>Black Canyon Ballroom</i>
12:30-2:30pm	Modules A-D
2:30-2:45pm	Break
2:45-3:45pm	Solve the Mystery Outbreak! <i>Black Canyon Ballroom</i>
3:45-4:00pm	Evaluations/Departure



What is Public Health?

Public health promotes and protects the health of people and the communities where they live, learn, work and play.



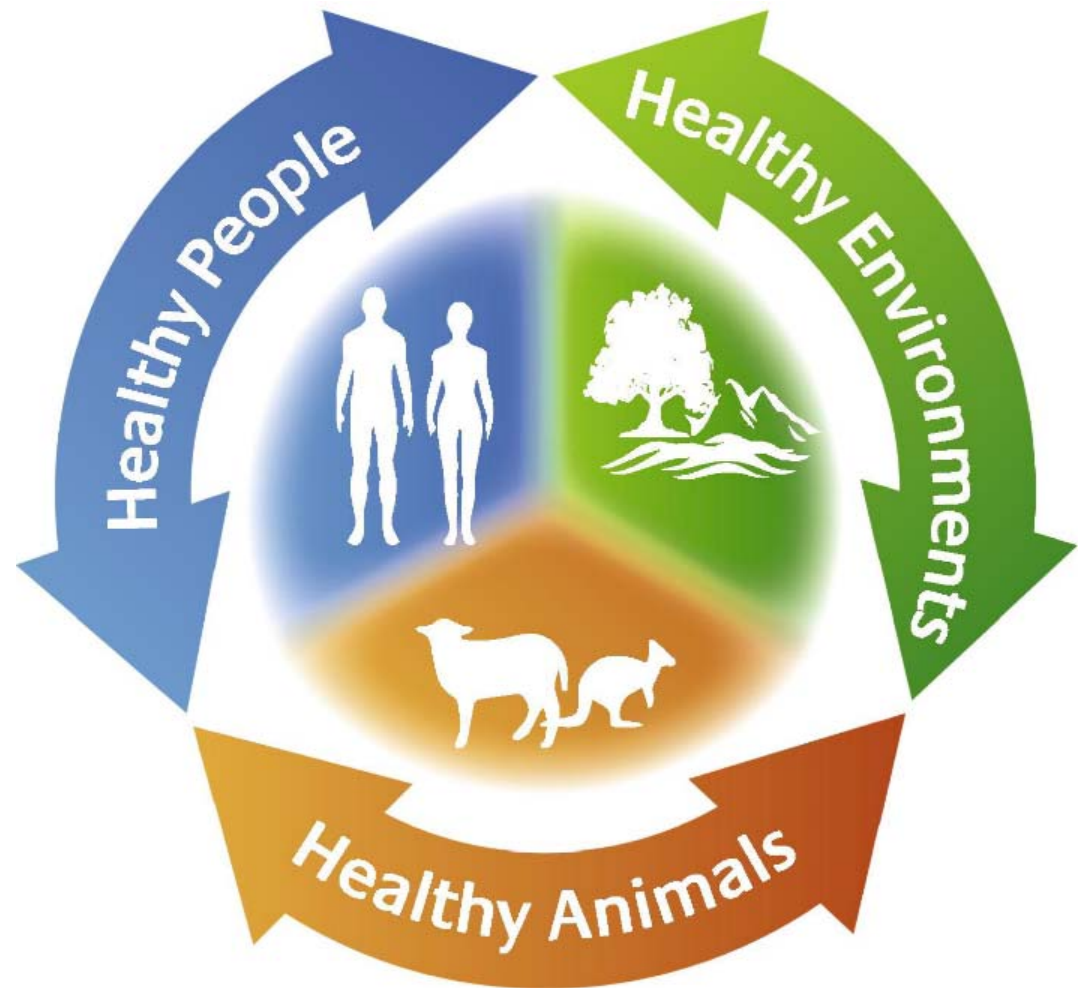


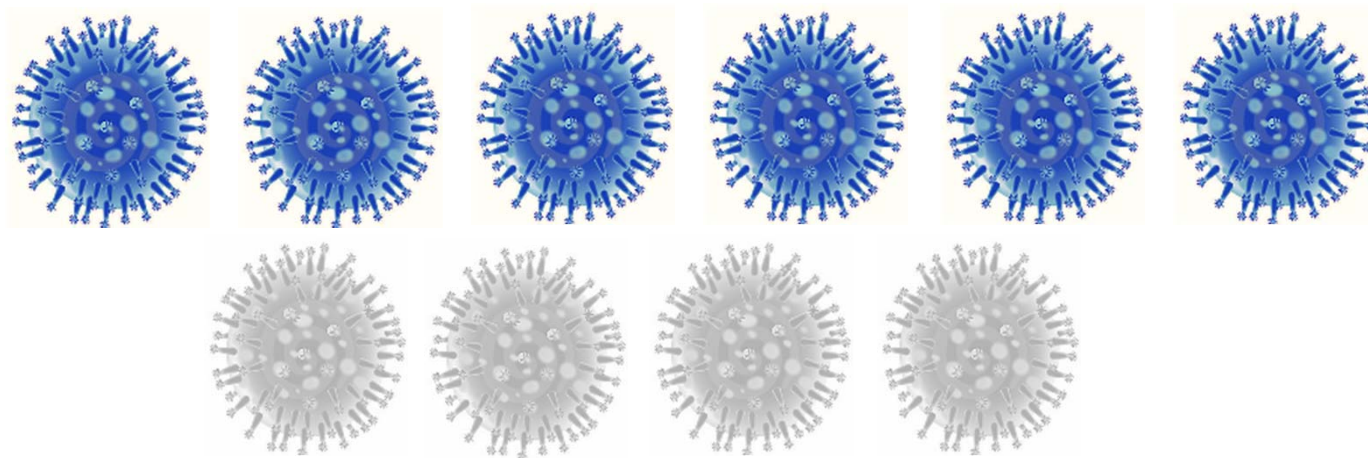
What is One Health?

One health is the idea that the health of humans, animals, and the environment are all connected.



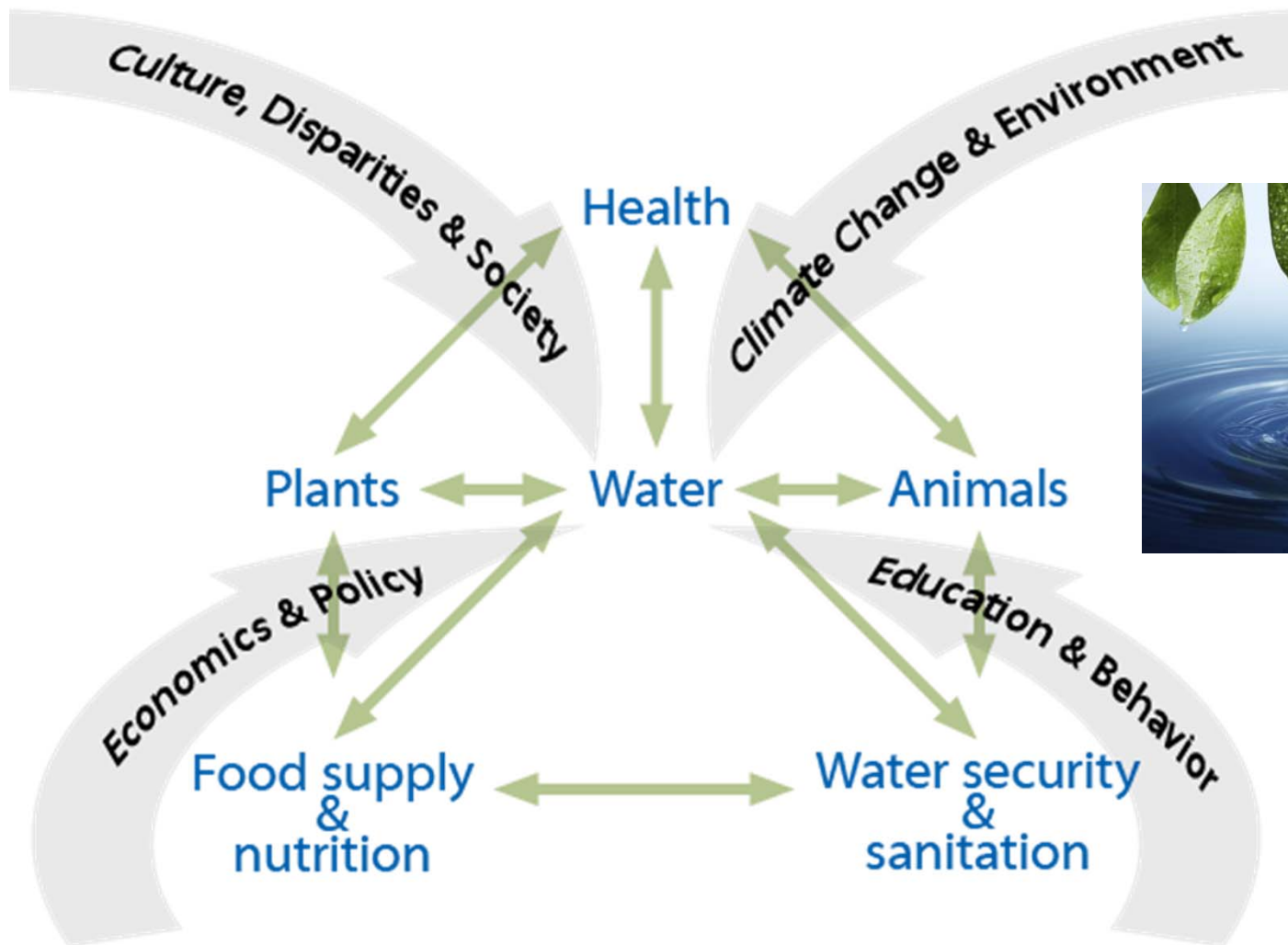
ONE HEALTH





6 out of 10 infectious diseases in humans are spread from animals



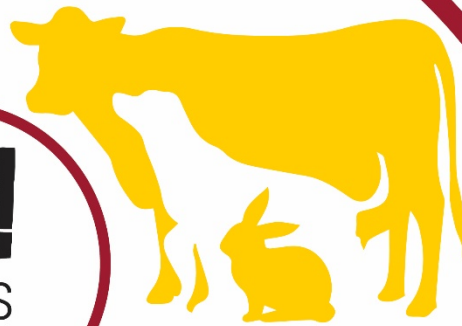


One Health Partners

- * Arizona Department of Health Services
- * Arizona Department of Agriculture
- * Arizona Game and Fish Department
- * United States Department of Agriculture
- * Centers for Disease Control and Prevention
- * County Public Health Departments
- * 4-H/Future Farmers of America
- * Veterinarians
- * Animal Control
- * Animal Rescues
- * Zoos

YOU!

ONE HEALTH CHAMPION!



Questions?





Who's Who in One Health

2-3 One Health Professionals per table
10 minutes per table (4 rounds)

Name

Agency

Job Title

Job Description (related to One Health)

Questions

Solve the *Mystery* Outbreak! Become a Disease Detective!

August 16, 2016





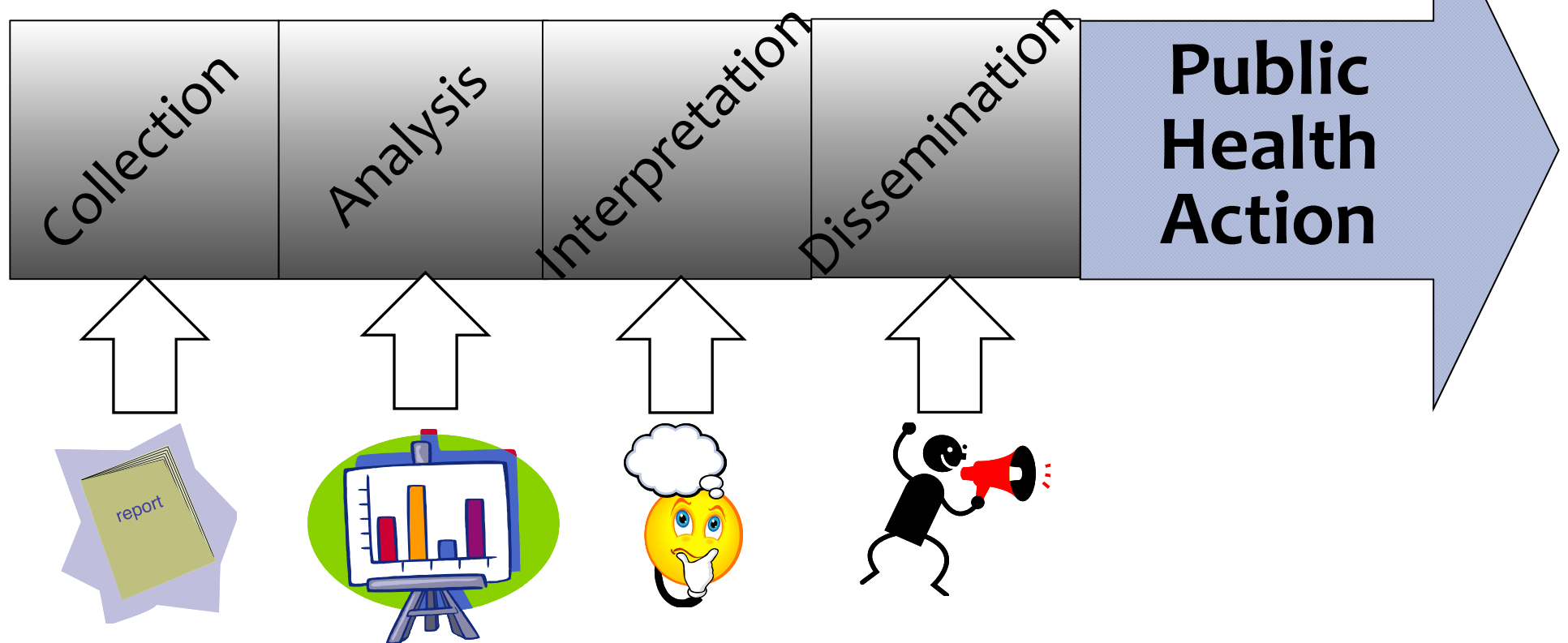
Infectious Disease Surveillance in Arizona

Surveillance is...
..... the foundation for many public health activities



Photo by Laura Erhart

Surveillance



Passive Surveillance:

the data gatherer is passive, reporting act initiated by reporter

Relatively easy, less resource intensive
But may be missing a lot of data



Photo by Christian CC BY –ND 2.0 Flickr

- adorab

Active: reporting initiated by data gatherer

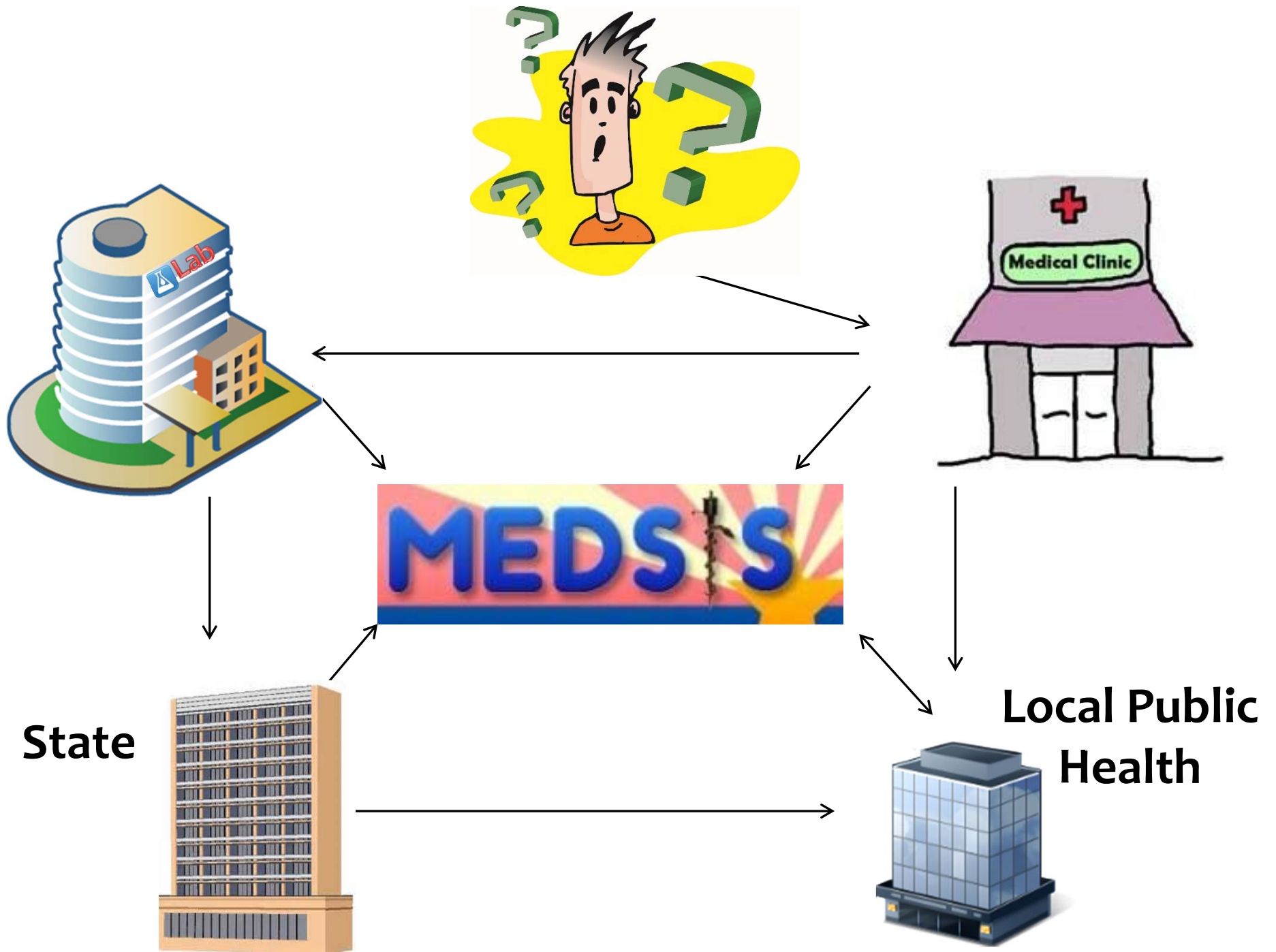
Data likely to be more comprehensive
Much more resource intensive



Photo by Adrian Jack Bunsby CC BY 2.0 Flickr

Communicable Disease Reporting





Who reports?

Health Care Providers

**Report to LOCAL HEALTH DEPT
88 morbidities/conditions**

<http://www.azdhs.gov/phs/oids/pdf/rptlist.pdf>

Arizona Administrative Code[★] Requires Providers To:

Report Communicable Diseases

to the Local Health Department

☒*O Amebiasis	☒ Hantavirus infection	☒*O Salmonellosis
☎ Anthrax	☎ Hemolytic uremic syndrome	O Scabies
☒ Aseptic meningitis: viral	☒*O Hepatitis A	☎ Severe acute respiratory syndrome
☒ Basidiobolomycosis	☒ Hepatitis B and D	☒*O Shigellosis
☎ Botulism	☒ Hepatitis C	☎ Smallpox
① Brucellosis	☒*O Hepatitis E	☒ Streptococcal Group A: invasive disease
☒*O Campylobacteriosis	☒ Herpes genitalis	☒ Streptococcal Group B: invasive disease in infants younger than 90 days of age
☒ Chagas disease (American trypanosomiasis)	☒ HIV infection and related disease	☒ <i>Streptococcus pneumoniae</i> (pneumococcal invasive disease)
☒ Chancroid	① Influenza-associated mortality in a child	☒ Syphilis
☒ Chlamydia infection, sexually transmitted	☒ Kawasaki syndrome	☒*O Taeniasis
①* Cholera	☒ Legionellosis (Legionnaires' disease)	☒ Tetanus
☒ Coccidioidomycosis (valley fever)	☒ Leptospirosis	☒ Toxic shock syndrome
☒ Colorado tick fever	☎ Listeriosis	☒ Trichinosis
O Conjunctivitis: acute	☒ Lyme disease	① Tuberculosis, active disease
☒ Creutzfeldt-Jakob disease	☒ Lymphocytic choriomeningitis	① Tuberculosis latent infection in a child 5 years of age or younger (positive screening test result)
☒*O Cryptosporidiosis	☒ Malaria	☎ Tularemia
☒ <i>Cyclospora</i> infection	☎ Measles (rubeola)	☎ Typhoid fever
☒ Cysticercosis	☎ Meningococcal invasive disease	① Typhus fever
☒ Dengue	① Mumps	☎ Unexplained death with a history of fever
O Diarrhea, nausea, or vomiting	☎ Pertussis (whooping cough)	① Vaccinia-related adverse event
☎ Diphtheria	☎ Plague	☎ Vancomycin-resistant or Vancomycin-intermediate <i>Staphylococcus aureus</i>
☒ Ehrlichiosis and Anaplasmosis	☎ Poliomyelitis	☎ Vancomycin-resistant <i>Staphylococcus epidermidis</i>
☎ Emerging or exotic disease	☒ Psittacosis (ornithosis)	☒ Varicella (chickenpox)
① Encephalitis, viral or parasitic	① Q fever	☒*O <i>Vibrio</i> infection
☎ Enterohemorrhagic <i>Escherichia coli</i>	☎ Rabies in a human	☎ Viral hemorrhagic fever
☎ Enterotoxigenic <i>Escherichia coli</i>	☒ Relapsing fever (borreliosis)	☒ West Nile virus infection
☒*O Giardiasis	☒ Reye syndrome	☎ Yellow fever
☒ Gonorrhea	☒ Rocky Mountain spotted fever	☒*O Yersiniosis
☒ <i>Haemophilus influenzae</i> : invasive disease	①* Rubella (German measles)	
☒ Hansen's disease (Leprosy)	① Rubella syndrome, congenital	

☎ Submit a report by telephone or through an electronic reporting system authorized by the Department within 24 hours after a case or suspect case is diagnosed, treated, or detected or an occurrence is detected.

* If a case or suspect case is a food handler or works in a child care establishment or a health care institution, instead of reporting within the general reporting deadline, submit a report within 24 hours after the case or suspect case is diagnosed, treated, or detected.

① Submit a report within one working day after a case or suspect case is diagnosed, treated, or detected.

☒ Submit a report within five working days after a case or suspect case is diagnosed, treated, or detected.

O Submit a report within 24 hours after detecting an outbreak.

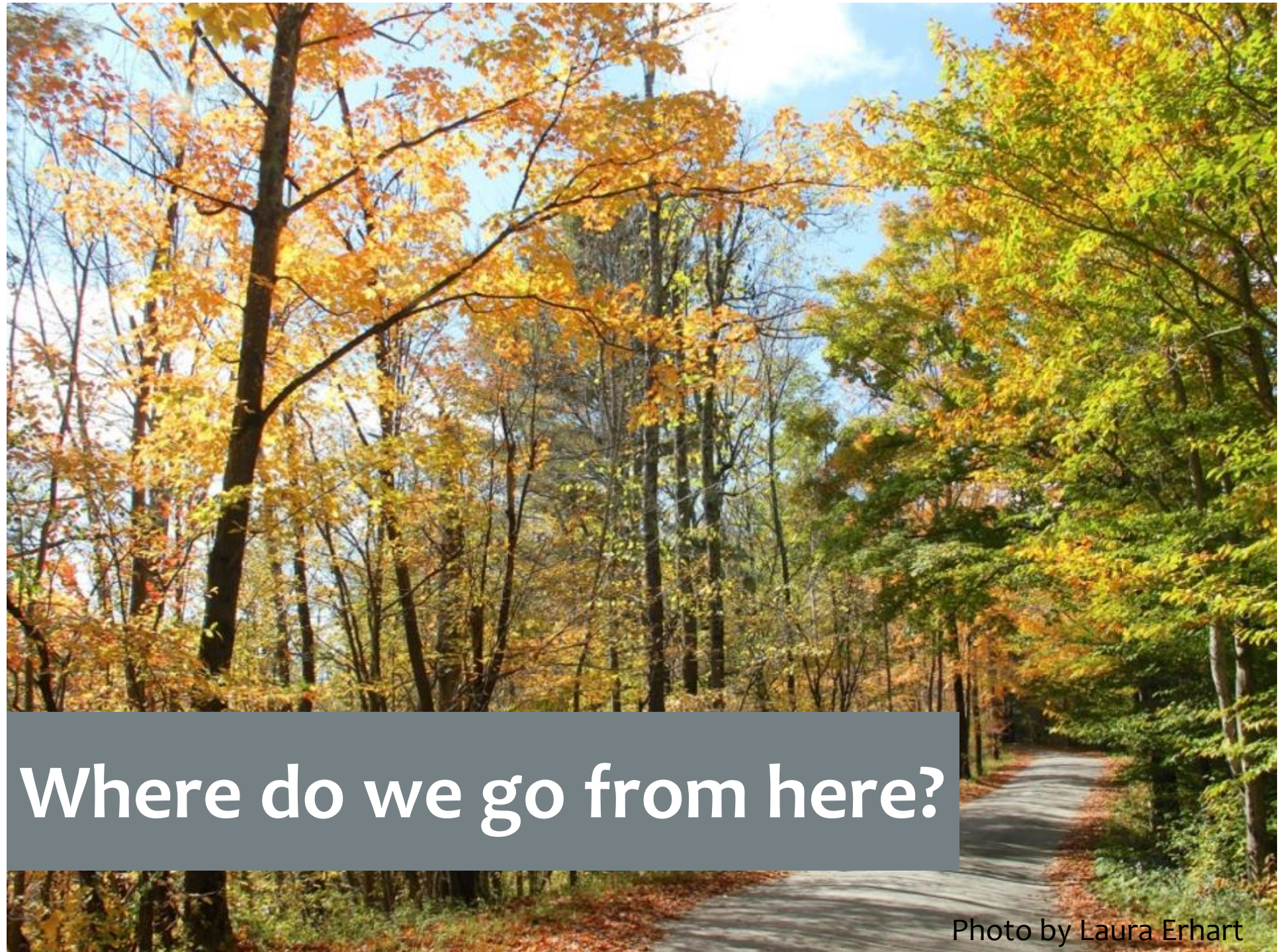
88 morbidities/conditions



Laboratories

**Report to STATE HEALTH DEPT
58 organisms/conditions**

<http://www.azdhs.gov/phs/oids/pdf/labrptlist.pdf>



Where do we go from here?

Photo by Laura Erhart

Case Investigations





What about outbreaks?

What is an outbreak?

A disease outbreak is the occurrence of a disease in greater numbers than what would normally be expected in a defined community, geographical area or season.

Reports from the public





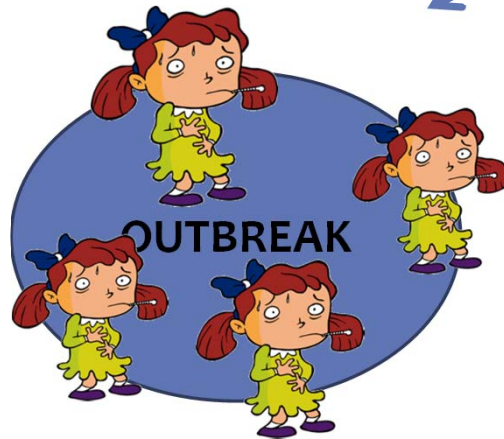
Reports from the public

Routine surveillance



Reports from the public

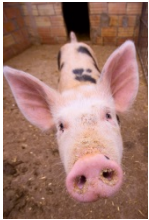
Routine surveillance



Routine interviewing



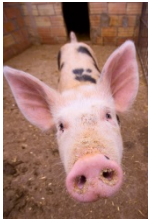
Raw (Unpasteurized) Milk





Stuart Bramley CC BY-NC-ND 2.0

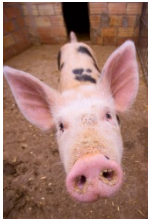
Animals, Fairs, Events



Daycares or Schools



Conolitated Construction CC BY-NC-ND 2.0



Restaurants



Meurthe et Moselle Tourisme CC BY-NC-ND 2.0

Reports from the public

Routine surveillance



Routine interviewing

PFGE match

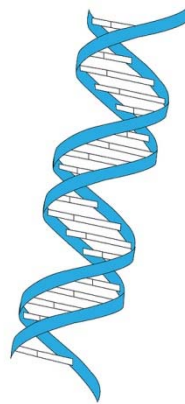
Pulse-field Gel Electrophoresis (PFGE)

Once at the state lab , will perform serotyping and PFGE.

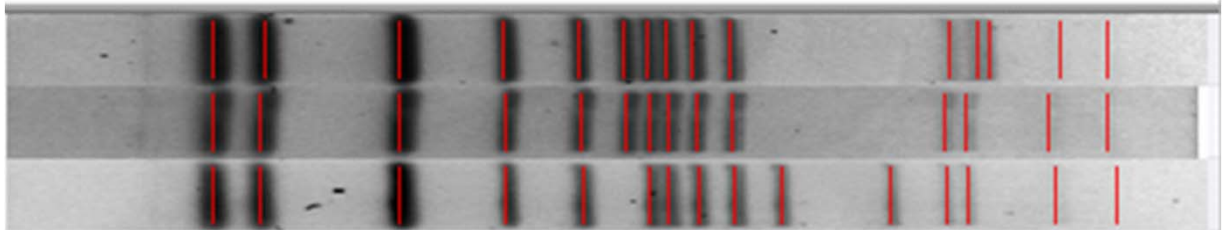
-PFGE: *Salmonella*, *E.coli*, *Listeria*

PFGE creates a “DNA fingerprint”

PFGE



shutterstock · 73553587



Ex: Poona, JL6X01.0018

OUTBREAK
ALERT!



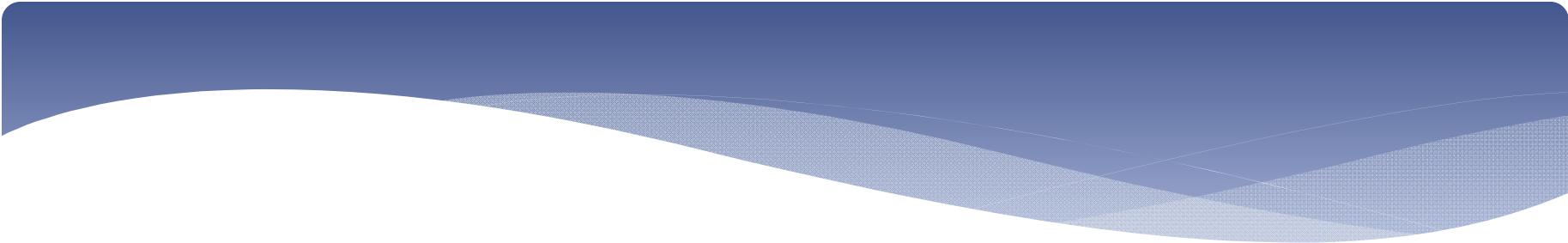
Mystery Disease Scenario

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.

- ✓ Identify the disease
- ✓ Identify the source
 - ✓ How is it spread?
- ✓ Stop the outbreak
- ✓ Prevent in the future
- ✓ **ONE HEALTH**





DISEASE DETECTIVES



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?

One Health Career Exploration Day Trivia

August 16, 2016

Question 1

Name one way you can prevent disease spread from animals to people.

Question 2

Which will protect against food-borne diseases?

- A. Washing produce before eating
- B. Thoroughly cook meats and eggs
- C. Storing perishable items in a cool, dry environment
- D. All of the above

Question 3

What is One Health?

Question 4

Epidemiology is the study of what....

- A. Diseases of the skin
- B. Disease trends in people
- C. Diseases in cows
- D. Diseases in reptiles

Question 5

What Arizona state agency is responsible for monitoring the health of wildlife?

Question 6

What United States agency is responsible for environmental health regulations?

Question 7

In the United States, how many people do you think are hospitalized each year due to foodborne illness?

- A. 125
- B. 1,250
- C. 12,500
- D. 125,000

Question 8

Salmonella can be a zoonotic disease, but what is the most common way for humans to get sick with Salmonella?

Question 9

What are zoonotic diseases?

Question 10

Name one type of personal protective equipment.

Question 11

Name one way diseases can be spread from animals to people.

Question 12

True/False

We can study disease trends in animals to learn about disease risks in humans.

Question 13

What is a common reservoir of rabies in Arizona?

Question 14

True/False

Hand-washing is the most effective way to prevent disease from spreading.

Question 15

True/False

Changes in temperature, precipitation, and other weather factors can influence our risks for infectious disease.