

Best Practices for Visitor Interaction with Animals

Agritourism Series, SAREP

April 5, 2021

Alda Pires, DVM, MPVM, PhD, Dipl. ACVPM

Urban Agriculture & Food Safety, Extension Specialist

School of Veterinary Medicine, UC Davis

apires@ucdavis.edu



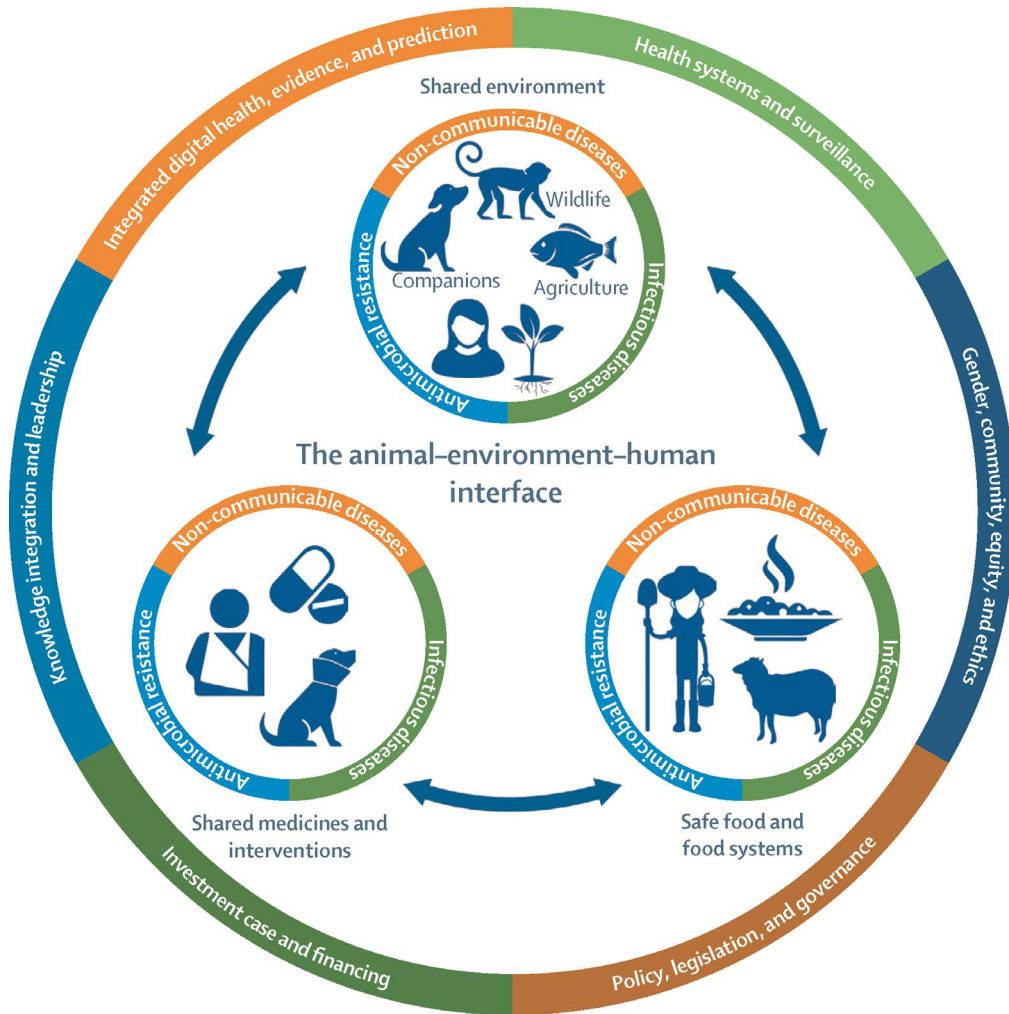
University of California
Agriculture and Natural Resources



Challenges with Agritourism & Interaction with Animals

- Farmers want to offer an experience on-farm settings & farm-fresh products
- **Risks:**
 - Lack of public/ visitors of a working farm
 - Farm equipment, animal behavior
 - Visitors can bring disease to the farm
 - Exposure of visitors to potential pathogens:
 - Direct/ Indirect contact
 - Agricultural products/ food served on-farm

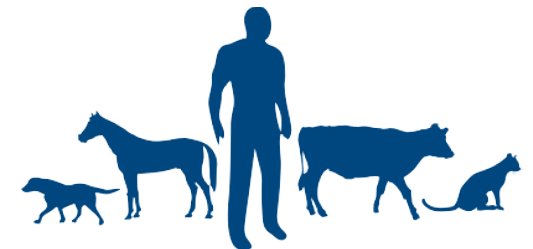
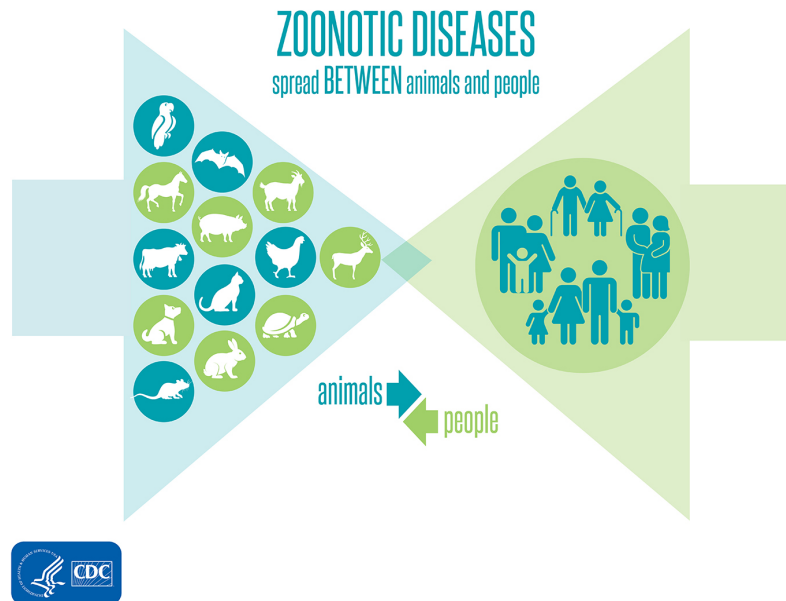
One Health



- **One Health** is the idea that the health of people is connected to the health of animals and our shared environment
- Prevention is the key!

Zoonotic diseases

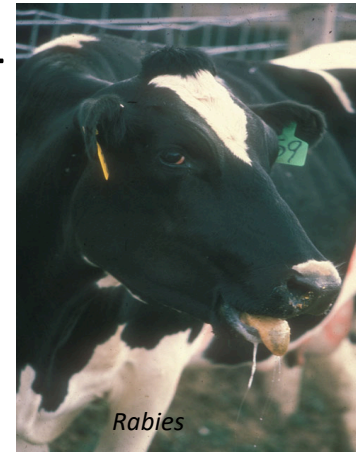
- Zoonotic diseases are **diseases or infections** naturally transmissible **directly** or **indirectly** between **animals and humans**
- More than half of all infections that people can get are zoonotic diseases



Zoonoses

Infectious Agents

- **Bacteria**
 - Leptospirosis, Q Fever, Enteropathogens
- **Viruses**
 - Influenza, Rabies, West Nile Virus
- **Fungi**
 - Aspergillosis, Blastomycosis, Dermatophytosis (Ringworm)
- **Parasites**
 - Cryptosporidiosis, Giardiasis, Toxoplasmosis, Toxocariasis, Trichinosis

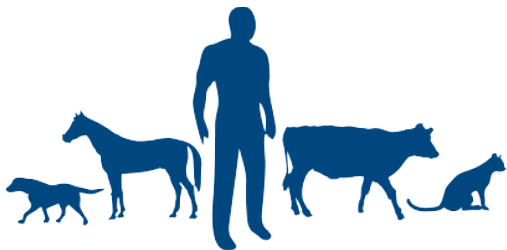
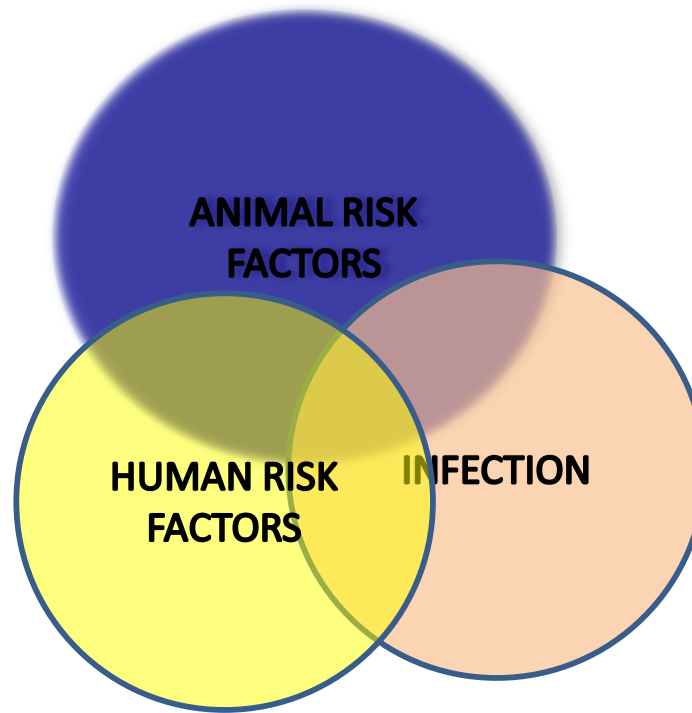


Adapted from <http://coloradodisasterhelp.colostate.edu>

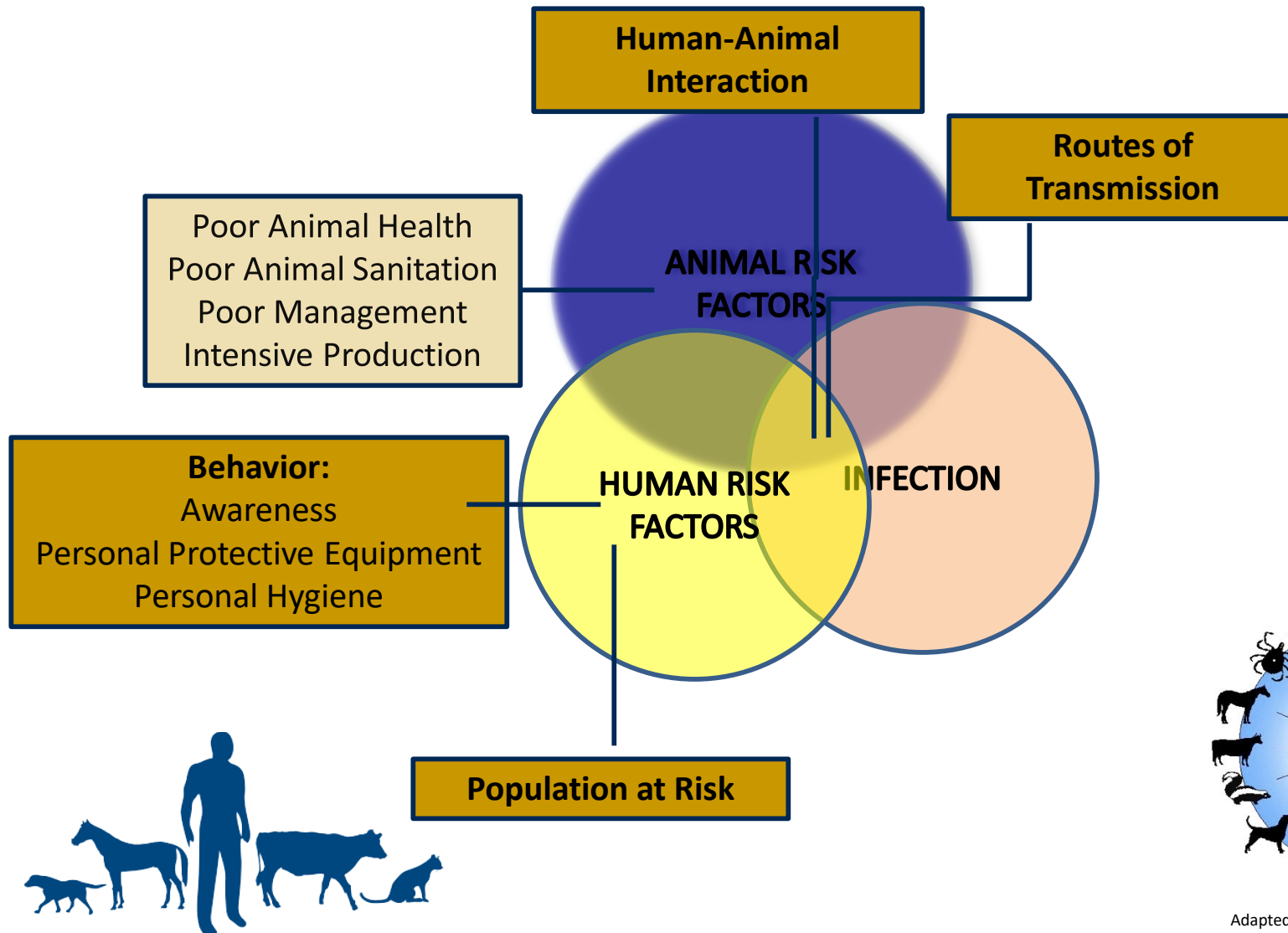


Adapted from <http://coloradodisasterhelp.colostate.edu>

Zoonoses: Disease Risk



Zoonoses: Disease Risk



Populations at Higher Risk

- Children under 5
- Adults older than 65
- People with weakened immune system
- Pregnant Individuals

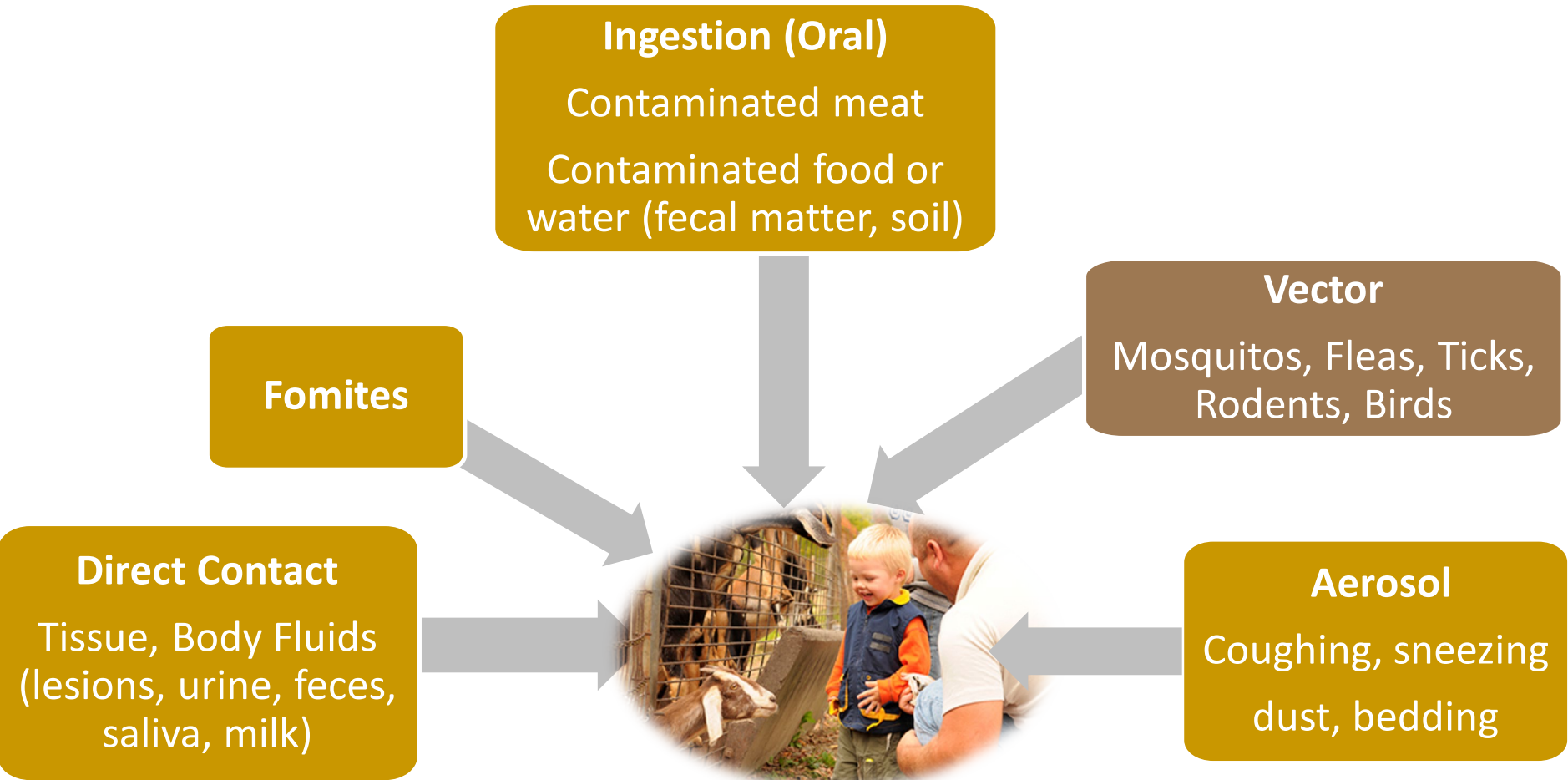


- People without previous livestock exposure more at risk (may not have immunity)



(Adapted from www.cfsph.iastate.edu/BRM)

Routes of Transmission



(Adapted from www.cdc.gov)

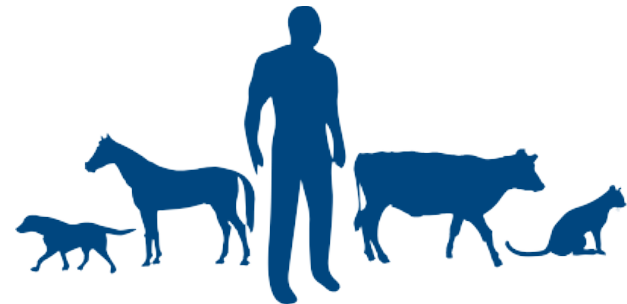
Introduction of Diseases and Transmission

There are multiple hosts and multiple routes of Transmission

(Adapted from www.cfsph.iastate.edu/BRM)

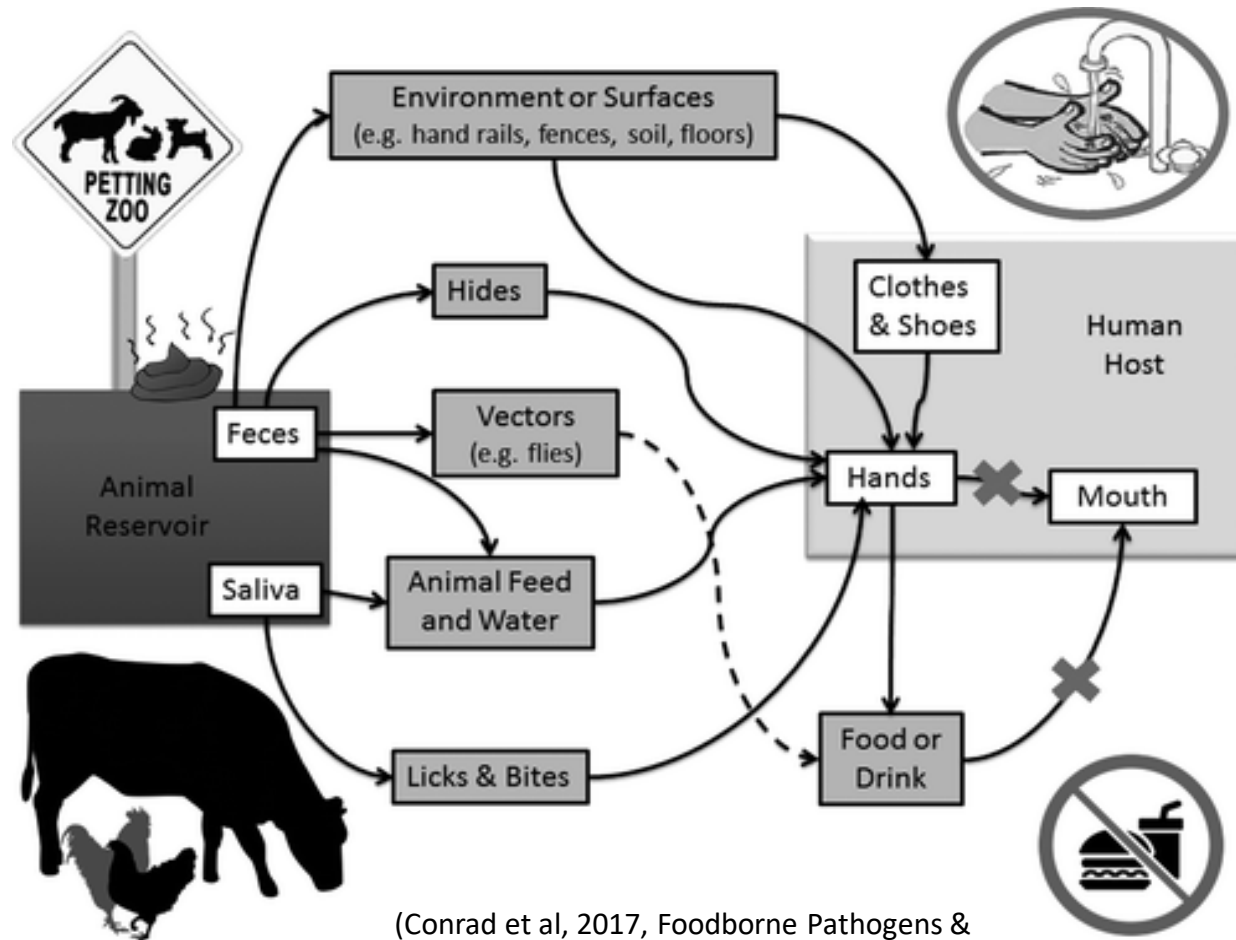
Human-Animal Interaction

- **Animal may not show obvious signs of illness**
- **Disease risk cannot be totally eliminated**
 - Animals & its environment
 - Decrease exposure
 - Infectious agent interactions
 - Many routes of transmission
- **Identify risk areas or risky behaviors**
- **Minimize the threat** to animals and humans



Human-Animal Interaction

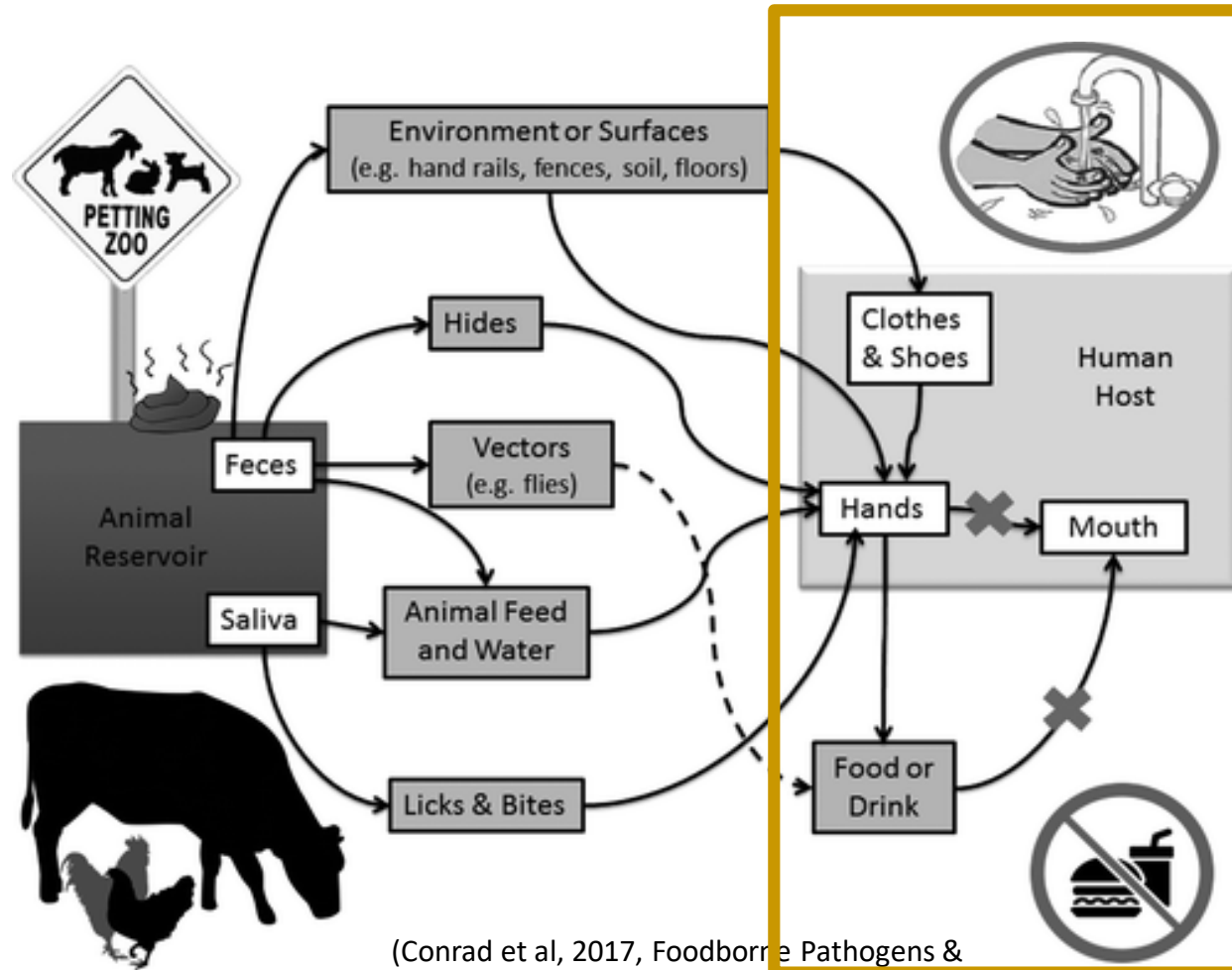
Routes of Transmission in Public Settings



(Conrad et al, 2017, Foodborne Pathogens & Disease)

Human-Animal Interaction

Routes of Transmission in Public Settings

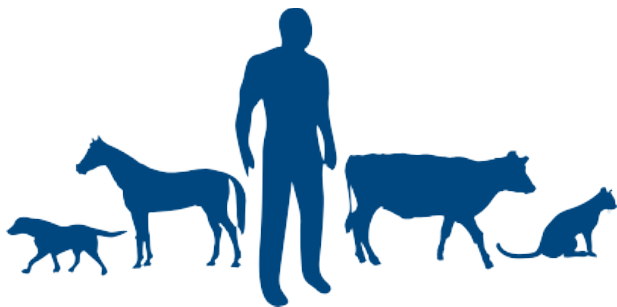


(Conrad et al, 2017, Foodborne Pathogens & Disease)

Human-Animal Interaction

Risk Management

- **Animal Health**
- **Public Settings & Activities**
- **Design/ Flow of Facilities**
- **Awareness education (employees & visitors)**
- **Personal hygiene**
- **Personal protective equipment (PPE)**



Human-Animal Interaction Risk Management

- Public Settings:
 - Farm Tours
 - Petting Zoos
 - Fairs
 - Livestock-birthing exhibits
 - Educational exhibits at schools



Human-Animal Interaction

Risk Management

- What are the activities offered?
 - Cuddling with kids/chicks
 - Milking
 - Feeding animals
 - Tasting products
- Flow of the activities?
- Number of visitors allowed ?

Volunteers will be used to cuddle, feed goats at Virginia farm

Published January 13, 2016 · Associated Press



A 2-year-old girl walks with goats at the Los Angeles County Fair in Pomona. (Reuters)

An Albemarle County farm is using volunteers to snuggle their baby goats. Media outlets report that [Caromont Farm in Eamont](#) expects 90 baby goats, kids, will be born by mid-February.

The farmers make goat cheeses, so 24-hours after the kids are born the far starts bottle-feeding the babies and milking the mothers. The kids have to be bottle-fed four times per day.

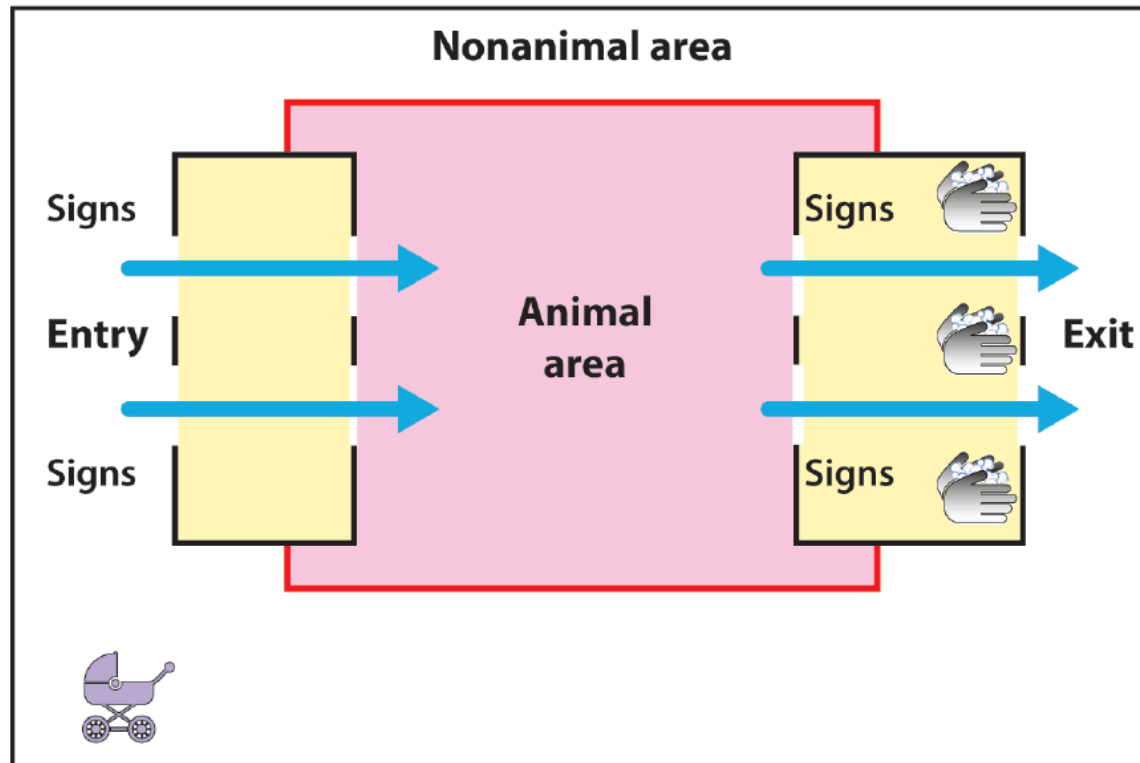



- High Risk Settings/ Practices:
 - Kidding
 - Milking
 - Barn cleaning
 - Ingestion of unpasteurized milk

Risk Management


Design & Flow of Facilities with Animal Exhibit Areas


Design 1



 Transition into or out of animal area (single entry and exit shown in Design 2)

 Flow of visitors

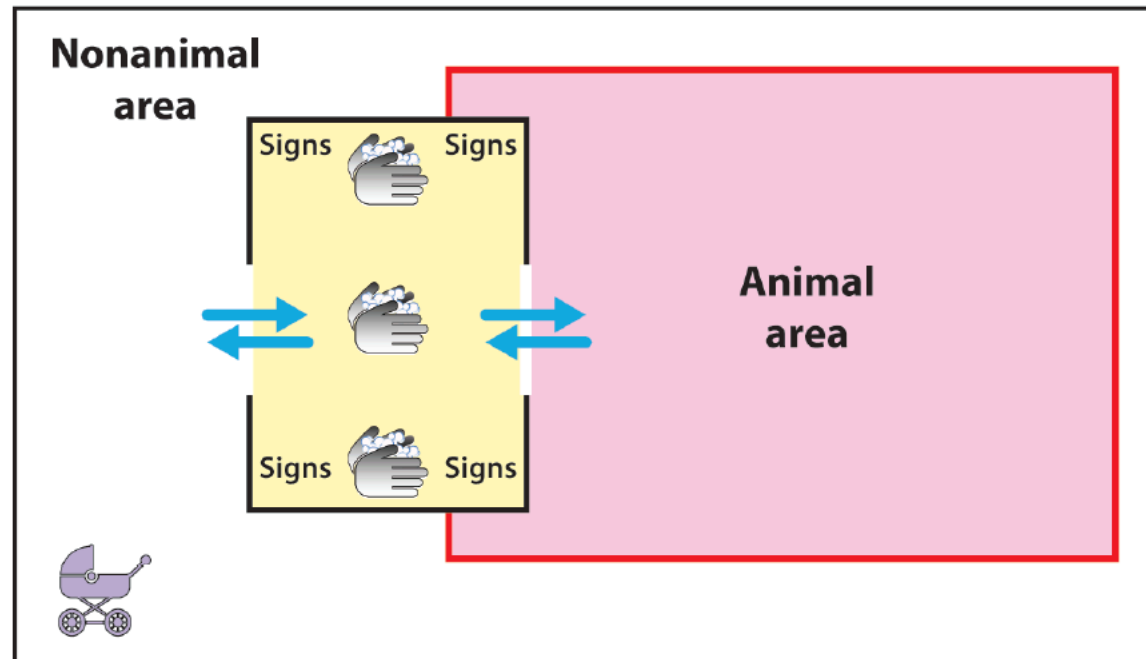
 Storage for strollers and other personal items

 Hand-washing station

Risk Management

Design & Flow of Facilities with Animal Exhibit Areas

Design 2



Transition into or out of animal area (single entry and exit shown in Design 2)



Flow of visitors



Storage for strollers and other personal items



Hand-washing station

Risk Management

Design & Flow of Facilities with Animal Exhibit Areas

Signage

For Your Safety

DO NOT bring these items into the animal area



ANIMAL HANDLING SAFETY TIPS



Stay healthy around animals!



Animals can carry germs that make people **sick**.



Never eat, drink, or put anything in your mouth around animals.



Older adults, pregnant women, and young children should be **extra careful** around animals.



Wash your hands with soap and water right after visiting animals.

www.cdc.gov/handwashing



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

Adapted from Behravesh and Dunn, 2011, CDC

Adapted from <http://coloradodisasterhelp.colostate.edu>

Risk Management

General Prevention Practices

- **Maintaining good personal hygiene:**
 - Provide hand washing facilities (running water, soap, clean towels) located next to animal contact areas
 - Post signs reminding people to wash hands after handling animals
- **Wash hands after petting/handling animals**



Adapted from Behravesh and Dunn, 2011, CDC

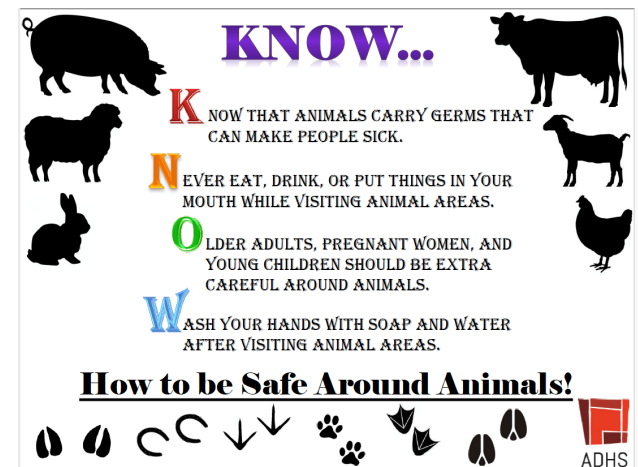


Adapted from <http://coloradodisasterhelp.colostate.edu>

Risk Management

General Prevention Practices

- **Footbaths, Personal Protective Equipment (PPE)**
 - Dedicated clothes, footwear for animals
 - For visitors:
 - Shoe covers or go through footbath
- **Wash hands after removing outwear, gloves, boots**



Risk Management

General Prevention Practices

- Keeping **equipment clean**

Pre-Cleaning Removal of debris (aka remove the dirt)

Apply soap (aka wet the dirt with a foamy soap)

Wash the dirt away

Let the surface drain and dry

Apply disinfectant (Right disinfectant, concentration, consistency, time)

80%

20%

Risk Management

Hazards to People

- **Physical Injury**
 - Animals (bite, kick, scratch, spitting)
 - Environment
 - Equipment

Pathogen Exposure

- Direct Contact
- Indirect Contact
- Foodborne pathogens



Risk Management

Direct Animal Contact

- Pathogen in animal (blood, milk, birth fluids) or feces



Adapted from Behravesh and Dunn, 2011 CDC



Adapted from Behravesh and Dunn, 2011, CDC



Risk Management

Indirect Animal Contact

- Contact with contaminated environment and fomites (contaminated objects: brushes, bucket, clothing, trimmers, needles, bedding)



Risk Management

Hazards to Animals

- **Foreign Objects**
 - Metal objects (jewelry)
 - Plastic objects (trash)
- **Dangerous food**
 - Excess of grains/ sugar (bread, candy, ice-cream)
 - Uncooked or foreign food (FAD -risk introduction)
- Injury
- **Diseases** (Avian and Swine Influenza, Porcine Epidemic Diarrhea (PED))
 - Visitors are sick with flu virus
 - Visitors with animals wearing some clothing/ footwear

Resources

- [Animal Contact Compendium And Resources](#)
 - Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2017)
 - Animals in Public Settings Toolkit
 - Fact Sheets
- [Healthy Farms Healthy Agriculture](#)
 - Livestock & Poultry in Public Settings
 - Excess of grains/ sugar (bread, candy, ice-cream)
 - Uncooked or foreign food (FAD -risk introduction)
- [UC ANR Small Farms & Urban Agriculture](#) (Pires webpage)

Best Practices for Visitor Interaction with Animals

Thank You!

Alda Pires, DVM, MPVM, PhD, Dipl. ACVPM
Urban Agriculture & Food Safety, Extension Specialist
School of Veterinary Medicine, UC Davis
apires@ucdavis.edu



University of California
Agriculture and Natural Resources

