



One Health & Disaster Epidemiology

One Health Office

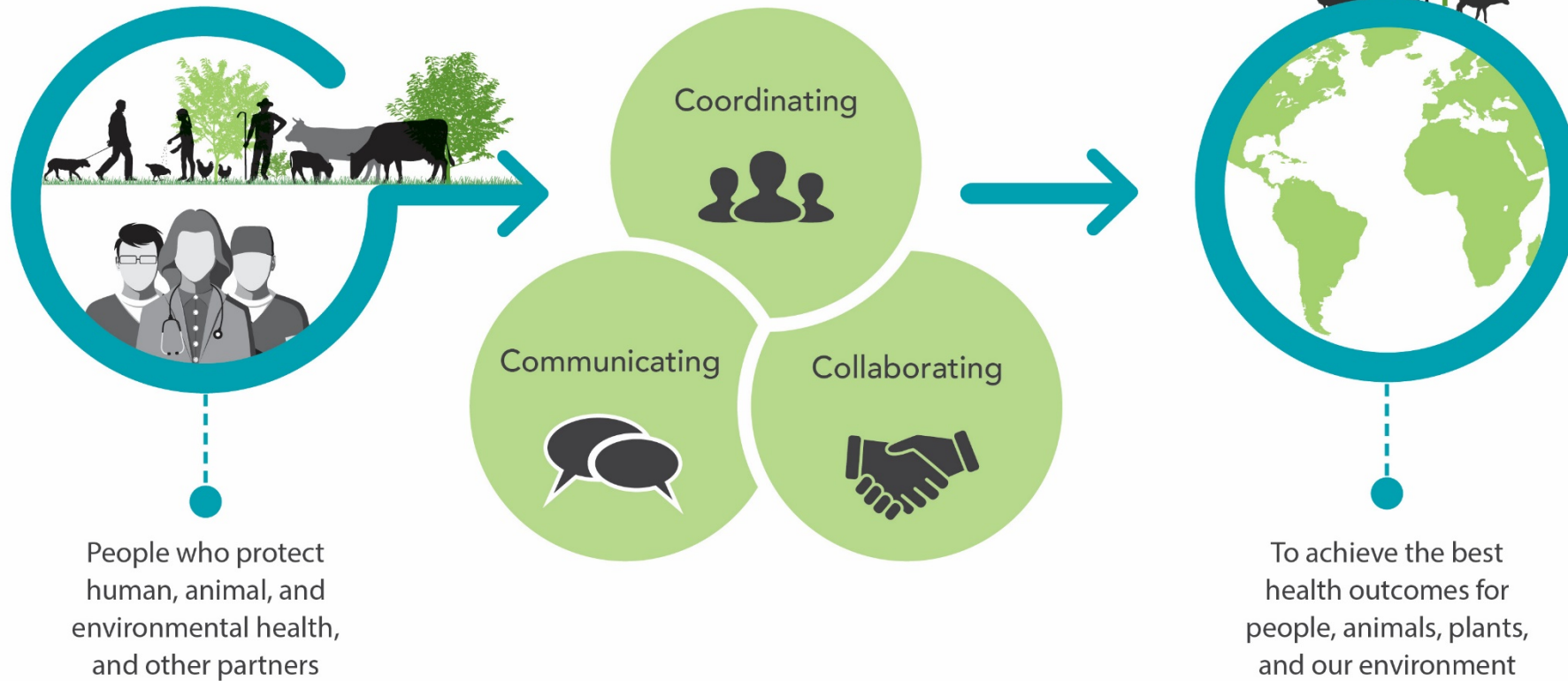
National Center for Emerging and Zoonotic Infectious Diseases

Centers for Disease Control and Prevention

The health of humans is connected to the health of animals and our shared environment.



One Health



One Health: The Way Forward

One Health is the collaborative effort of multiple disciplines and sectors

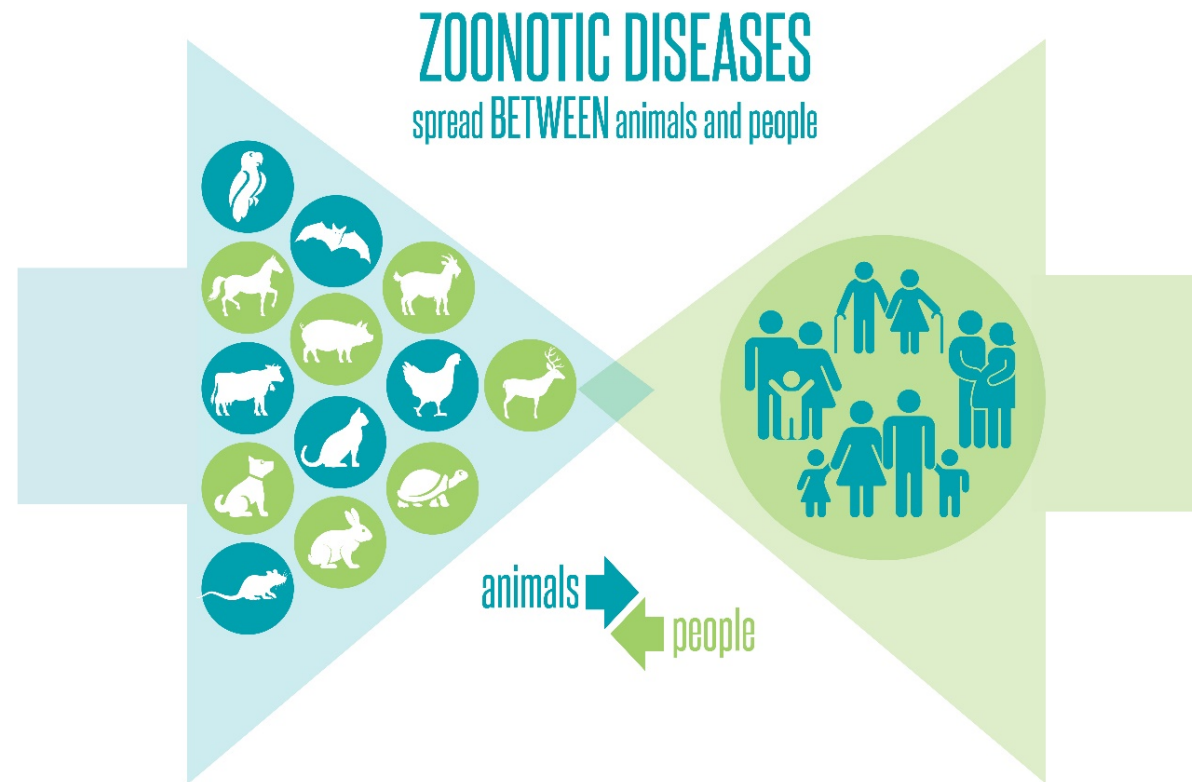
– **working** locally, nationally, regionally, and globally–

with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and our shared environment



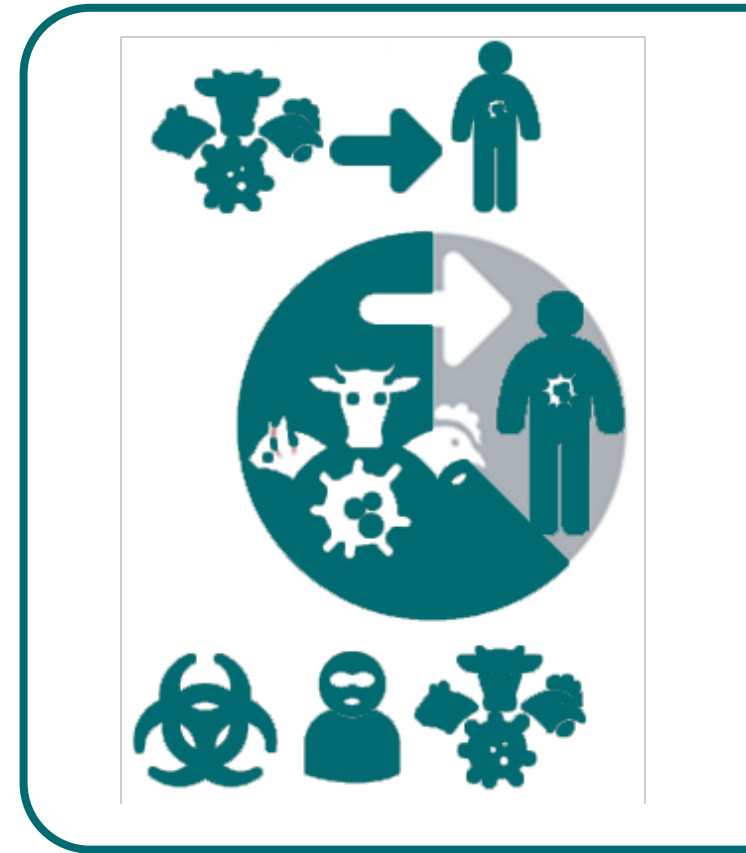
U.S. government definition of One Health
www.cdc.gov/onehealth

Endemic and Emerging Zoonotic Diseases *are spread between animals and people*



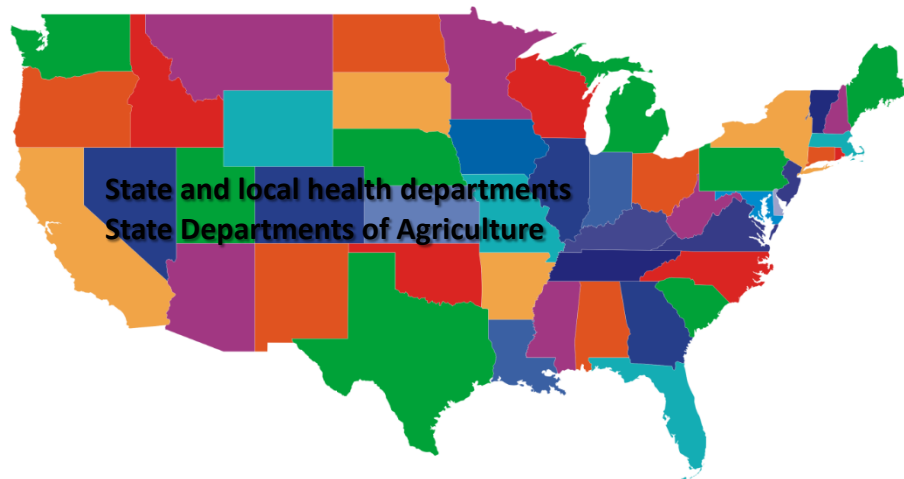
Zoonotic Diseases are a Threat to Health Security

- **60%** of existing human infectious diseases are zoonotic
- **At least 70%** of emerging infectious diseases of humans (including Ebola, HIV, and influenza) have an animal origin
- **5 new human diseases** appear every year. Three are of animal origin.
- **80%** of agents with potential bioterrorist use are zoonotic pathogens



One Health is a Team Sport – Partners are Key

No single person, organization, or sector can advance One Health alone.



One Health across CDC



- Zoonotic diseases
- Emerging infectious diseases
- Antimicrobial resistance
- Food Safety
- Vector-borne diseases
- Parasitic diseases
- Influenza
- Respiratory viruses
- Tuberculosis
- Global health
- Pandemic Preparedness
- Environmental Health
- Surveillance
- Laboratory Animal Medicine
- Occupational Health
- Obesity
- Opioid crisis
- Mental health
- Workforce
- Disasters and Beyond!

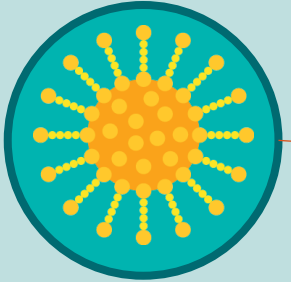
CDC's Role in One Health

- **CDC is the first federal agency** to have a dedicated One Health Office (est. 2009)
- **CDC's One Health Office** works in the U.S. and around the world to protect the health of humans, animals, and the environment.
- **Collaborate with One Health partners** representing government, NGOs, industry, academic partners, and others
- **Learn more** at cdc.gov/onehealth



CDC's One Health Office – Focus Areas

Achieving Optimal Health Outcomes for People and Animals



**Zoonotic and Emerging
Infectious Diseases**



Global Health Security



Pandemic Preparedness



**Advancing One Health in
the United States and
Globally**



**One Health Issues and
Emergencies at the Human-
Animal-Environment Interface**



**Preventing Zoonoses
Shared Between People
and Pets**

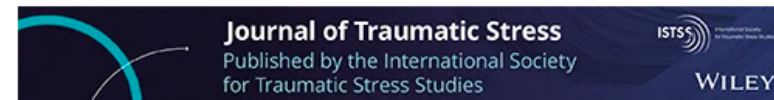
Examples of One Health and Disasters

Health Benefits of Pets

- Studies have shown that bond between people and their pets can increase fitness, lower stress, and bring happiness
- Some health benefits of having pets include:
 - Decreased
 - Blood pressure
 - Cholesterol levels
 - Triglyceride levels
 - Feelings of loneliness
 - Increased opportunities for
 - Exercise and outdoor activities
 - Socialization

Effect of Pets on Human Behavior and Stress in Disaster

• Aki Tanaka^{1,2*} • Jun Saeki³ • Shin-ichi Hayama¹ and



Brief Report

The impact of pet loss on the perceived social support and psychological distress of hurricane survivors[†]

Sarah R. Lowe, Jean E. Rhodes ✉, Liza Zwiebach, Christian S. Chan

Home » [AJPH](#) » September 2017

Evacuation of Pets During Disasters: A Public Health Intervention to Increase Resilience

Robin Chadwin DVM, MPVM

Hurricane Katrina

- Thousands of abandoned pets
- Many people refused to leave their homes unless they could take their animals with them
- Sparked a change in evacuation policy and a recognition of the strength of the human-animal bond



Legislation Passed After Hurricane Katrina

- Pets Evacuation and Transportation Standards Act of 2006 (PETS Act)
- Post-Katrina Emergency Management Reform Act (PKEMRA)
- National Response Framework (NRF)

Hurricane Katrina inspired a national pet evacuation policy. The plan could save human lives, too.

People are more likely to evacuate if they can find safe passage for their pets, too.

By Matthew Zeitlin | Updated Nov 15, 2019, 10:02am EST

<https://www.avma.org/pets-act-faq>

Natural Disasters

- **Impact on food security and agriculture-based livelihoods through:**
 - Loss and injury of family members and workforce
 - Loss of crop yields and livestock
 - Damage to irrigation systems
 - Damage to people's homes, animal shelters, stock areas and business premises
- **Mass care / sheltering scenarios**
 - Human-animal bond
 - Emergency preparedness
 - Pet food shortages
- **Disease transmission**
 - Zoonotic disease spread from intermingling of animals and people
 - Compromised sanitation infrastructure



Hurricane Florence

Hog waste spilling from many concentrated animal feeding operations (CAFOs)



Families offered free housing for pets after Northwest Florida fire evacuations

Pet Safety in Emergencies

- Before an Emergency
- During an Emergency
- After an Emergency

PET DISASTER KIT CHECKLIST

DOCUMENTS

- ☐ Photocopied veterinary records
 - ☐ Vaccinations
 - ☐ Medical summary
 - ☐ Rabies certificate
 - ☐ Prescription for medications
 - ☐ Most recent FeLV/FIV test result (cats)
- ☐ Photocopied registration information (ex: proof of ownership or adoption records)
- ☐ Pet description(s) (ex: breed, sex, color, weight)
- ☐ Recent photographs for each of your pets
- ☐ Waterproof container for documents
- ☐ Microchip information (ex: microchip number, name and number of the microchip company)
- ☐ Your contact information (phone numbers and addresses for your family and friends or relatives you may be staying with)

WATER, FOOD, MEDICATIONS

- ☐ 2-week supply of food for each animal stored in waterproof containers
- ☐ 2-week supply of water for each animal
- ☐ Non-spill food and water dishes
- ☐ Manual can opener
- ☐ Feeding instructions for each animal
- ☐ 2-week supply of any medications (if applicable)
- ☐ Medication instructions (if applicable)

OTHER SUPPLIES

- ☐ Collar with ID
- ☐ Litterbox and litter (cats)
- ☐ Pet first aid book and first aid kit
- ☐ Appropriate-sized pet carrier with bedding, blanket, or towel
- ☐ Cleaning supplies for accidents (paper towels, plastic bags, disinfectant)



PET DISASTER KIT CHECKLIST

DOCUMENTS

- ☐ Photocopied veterinary records
 - ☐ Rabies certificate
 - ☐ Vaccinations
 - ☐ Medical summary
 - ☐ Prescriptions for medications
 - ☐ Most recent heartworm test result (dogs)
- ☐ Photocopied registration information (ex: proof of ownership or adoption records)
- ☐ Pet description(s) (ex: breed, sex, color, weight)
- ☐ Recent photographs for each of your pets
- ☐ Waterproof container for documents
- ☐ Microchip information (ex: microchip number, name and number of the microchip company)
- ☐ Your contact information (phone numbers and addresses for your family and friends or relatives you may be staying with)

WATER, FOOD, MEDICATIONS

- ☐ 2-week supply of food for each animal stored in waterproof containers
- ☐ 2-week supply of water for each animal
- ☐ Non-spill food and water dishes
- ☐ Manual can opener
- ☐ Feeding instructions for each animal
- ☐ 2-week supply of any medications (if applicable)
- ☐ Medication instructions (if applicable)
- ☐ One month supply of flea, tick, and heartworm preventative

OTHER SUPPLIES

- ☐ Leash, collar with ID, and harness
- ☐ Toys
- ☐ Appropriate-sized pet carrier with bedding, blanket, or towel
- ☐ Pet first aid book and first aid kit
- ☐ Cleaning supplies for accidents (paper towels, plastic bags, disinfectant)



Pet Disaster Preparedness Kit: <https://www.cdc.gov/healthypets/emergencies/pet-disaster-prep-kit.html>

Working Animals

- Service dogs and therapy animals
- Law Enforcement animals
 - Search and Rescue animals



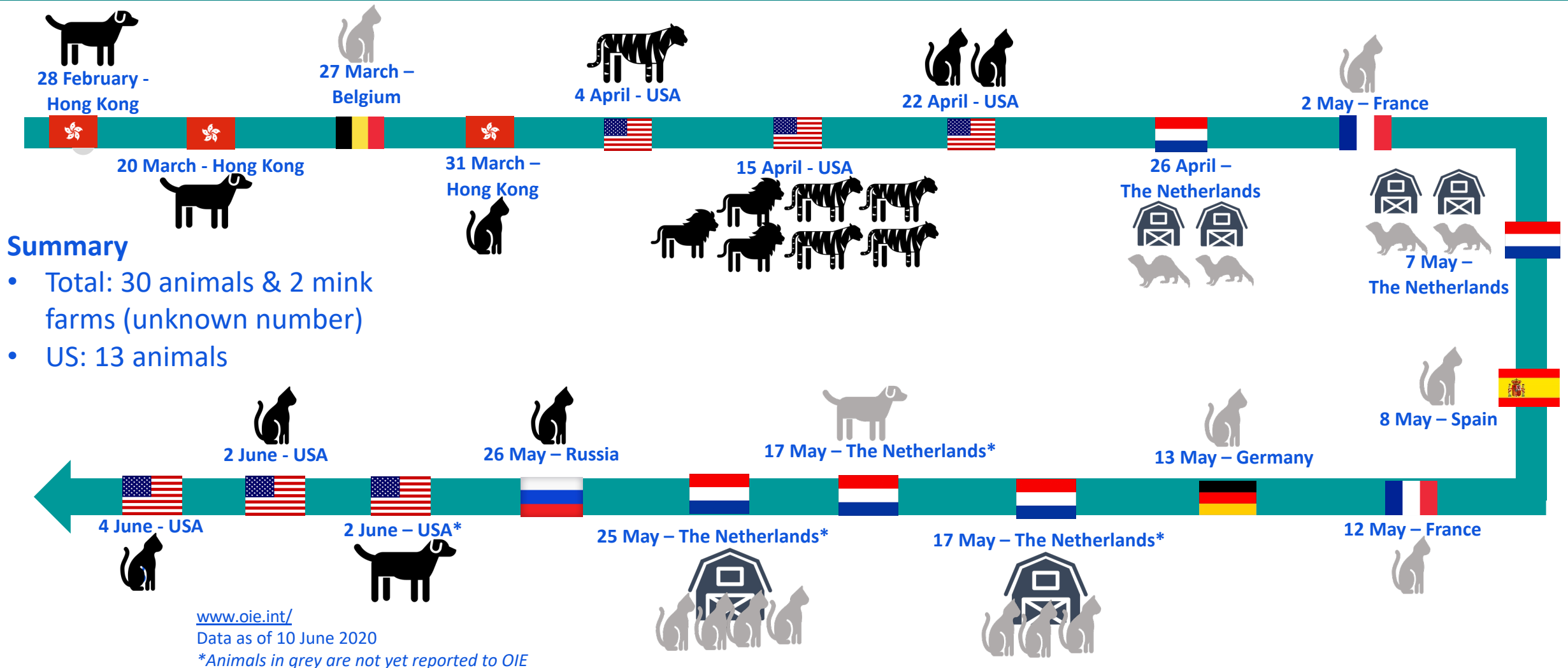
One Health and COVID-19

CDC's COVID-19 One Health Working Group

- Established at the start of the CDC COVID-19 response
- Addressing issues at the interface of human health, animal health, and environment in US and globally
 - One Health Coordination, Collaboration, and Communication
 - Epidemiology (Surveillance and Laboratory)
 - Research and Science
 - Veterinary Public Health
 - Consultations
 - Policy and Partnerships



Animals positive for SARS-CoV-2 globally reported

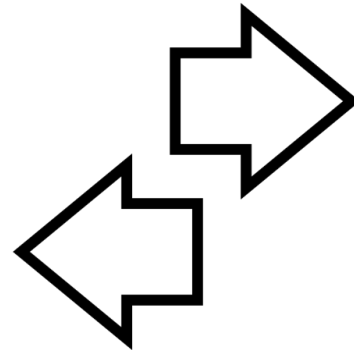


One Health Coordination for COVID-19 in United States



One Health Federal Interagency COVID-19 Coordination Group

Companion Animals/Mass Care
Wildlife and Zoo Animals
Livestock
Animal Diagnostic and Testing



State-Federal One Health Coordination Calls

State **Public Health** Veterinarians

State **Wildlife** Officials

State **Animal Health** Officials

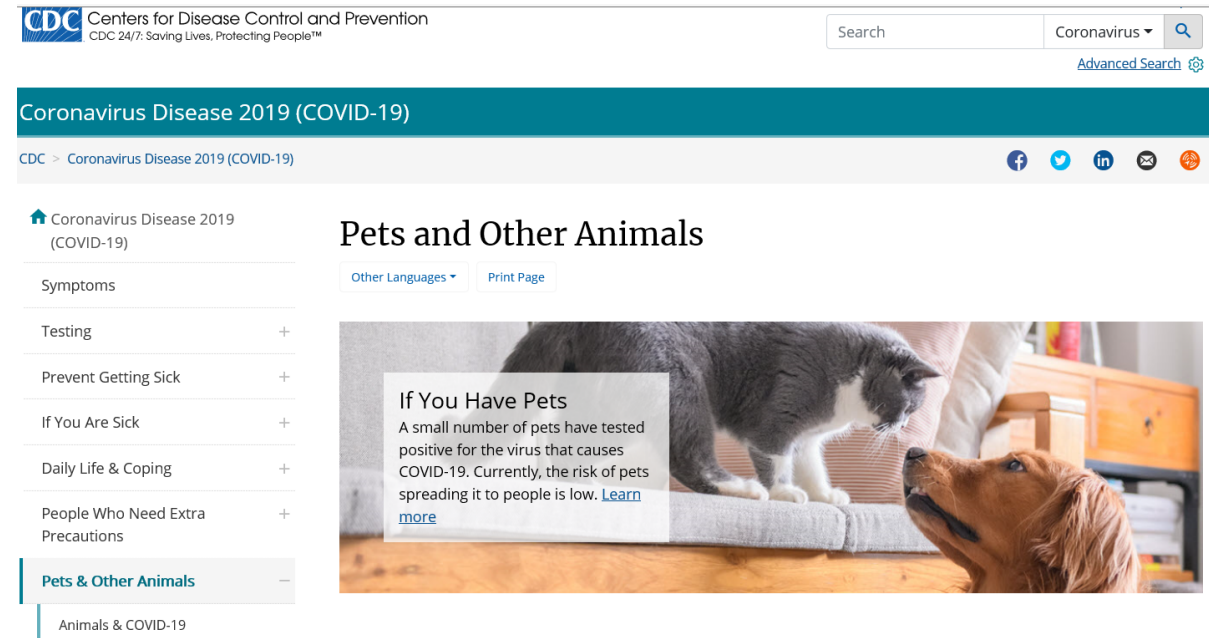
Bring together state and federal partners on the One Health aspects of COVID-19 to share updates, disseminate information, and address concerns.

Guidance and Consultations

- Development of One Health guidance

- COVID-19 and animals
- Pet owners
- Public health professionals
- Veterinarians
- And more!

- Provide consultations on COVID-19 and animals to international, federal, state, local, tribal, territorial, non-governmental organizations, industry partners, and others



COVID-19 Key Messages: Pets

- A small number of pets worldwide, including cats and dogs, have been reported to be infected with the virus that causes COVID-19, mostly after close contact with people with COVID-19.
- Based on the limited information available to date, the risk of animals spreading COVID-19 to people is considered to be low.
- It appears that the virus that causes COVID-19 can spread from people to animals in some situations.
- Treat pets as you would other human family members – do not let pets interact with people outside the household.
- If a person inside the household becomes sick, isolate that person from everyone else, including pets.

Guidance for Pet Owners

If You Have Pets

Other Languages ▼

Print Page

What you need to know

- A small number of pets worldwide, including cats and dogs, have been [reported](#)  to be infected with the virus that causes COVID-19, mostly after close contact with people with COVID-19.
- Based on the limited information available to date, the risk of animals spreading COVID-19 to people is considered to be low.
- It appears that the virus that causes COVID-19 can spread from people to animals in some situations.
- Treat pets as you would other human family members – do not let pets interact with people outside the household.
- If a person inside the household becomes sick, isolate that person from everyone else, including pets.
- This is a rapidly evolving situation and information will be updated as it becomes available.



For more information on COVID and Animals

See [COVID-19 and Animals](#) and [COVID-19 and Animals Frequently Asked Questions](#).

<https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/pets.html>

Working Animals and COVID-19

- [CDC Guidance for Handlers of Service and Therapy Animals](#)
 - Ways to protect service and therapy animals
- University of Pennsylvania's School of Veterinary Medicine
 - Using dogs for COVID-19 detection
 - Can the dog alert on COVID-19 positive persons by sniffing axillary sweat samples? Proof-of-concept study



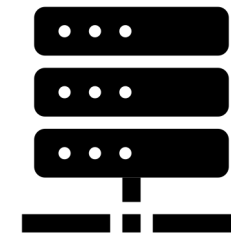
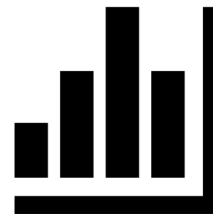
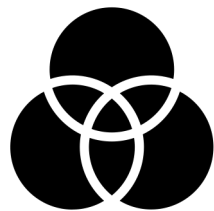
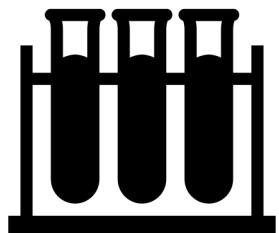
MMWR: First Reported Cases of SARS-CoV-2 Infection in Companion Animals – New York, March-April 2020

- Two domestic cats with respiratory illnesses lasting 8 and 10 days are the first reported companion animals with SARS-CoV-2 infection in the United States.
- Both cats were owned by people with suspected or confirmed COVID-19, and both cats fully recovered.
- Human-to-animal transmission of SARS-CoV-2 can occasionally occur.



State-level Animal Reporting System for SARS-CoV-2

- Information is currently lacking on total number of suspect animal cases and number of animals recommended for SARS-CoV-2 testing
- These data are critical to understanding significance of positive test results in pets and other animals and examining their possible role in COVID-19
- To fill a temporary gap in formalized surveillance reporting, we have developed voluntary Excel-based form that state One Health partners can easily and quickly complete to help provide a national understanding on animal cases consulted on and tested for SARS-CoV-2
- Responses requested by the 1st and 15th of each month; email to onehealth@cdc.gov



One Health Working Group

Hurricane Planning



One Health Working Group

Hurricane Planning

Challenges

- **Reluctance to seek shared shelter options**
 - Fear of COVID-19 exposure
 - Fear of having to leave pets or livestock behind
- **Shortage of staff and volunteers**
 - Unable or unwilling to assist
 - Needed to ensure appropriate practices
- **Need to establish separate areas**
 - Residents with symptoms of COVID-19
 - Pets versus service or therapy animals



One Health Working Group

Hurricane Planning

Recommendations for Companion Animal Disaster Mass Care during the COVID-19 Pandemic

- **General mass care considerations** for local jurisdictions
- **Animal intake and housing** recommendations and levels of precaution
- **Resource management**



Healthy Pets, Healthy People

Preventing zoonoses spread between people and pets, livestock, and wildlife

www.cdc.gov/healthypets



Healthy Pets, Healthy People

Keeping Pets Healthy Keeps People Healthy Too!

Studies have shown that the bond between people and their pets can increase fitness, lower stress, and bring happiness to their owners. But there's something else you should know.

Pets sometimes carry germs that can make people sick. The diseases people get from animals are known as zoonotic (zoe-oh-NOT-ic) diseases. [Learn more about the benefits and risks of having pets.](#)

Stay healthy around pet reptiles

About Pets & People

Pets & Other Animals

Animal-Related Diseases

Information For You

Teachers & Daycare Staff	Organ Transplant Patients
Veterinarians	Animal Exhibit Managers & Visitors
Healthcare Providers	Pregnant Women
Parents & Caregivers	Media

Outbreaks

[Outbreak of *Salmonella* Infections Linked to Small Pet Turtles](#)

[Outbreak of Multidrug-resistant *Campylobacter* Infections Linked to Contact with Pet Store Puppies](#)

[See More Outbreaks](#)

Zoonoses and One Health Updates (ZOHU)



Earn free CE! Free Continuing Education is available for participating in live or recorded ZOHU Calls.



Join live ZOHU Calls on the first Wednesday of each month, from 2–3 pm ET. Connection instructions and recordings of past calls are available online.



Get the latest ZOHU updates by subscribing to our email newsletter. Enter your email address in the “Get Email Updates” box on the left side of the ZOHU Call home page.



Website: cdc.gov/onehealth/zohu
Contact us: zohucall@cdc.gov

The ZOHU Call audience includes multiple disciplines and sectors

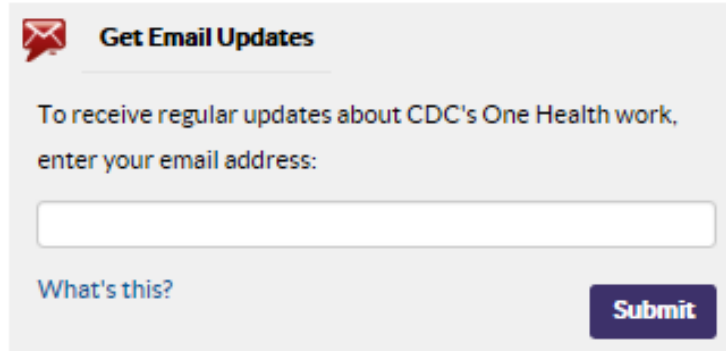
- Epidemiologists
- Laboratorians
- Nurses
- Physicians
- Scientists
- Veterinarians
- Public health officials
- Animal health officials
- Wildlife health officials
- Environmental health officials
- Federal, state, and local government professionals
- Industry partners
- Academic institutions
- Many others

Stay connected for future updates!

Get the latest news from CDC's One Health Office!

www.cdc.gov/onehealth

Enter your email on the bottom right of the screen to receive CDC One Health updates

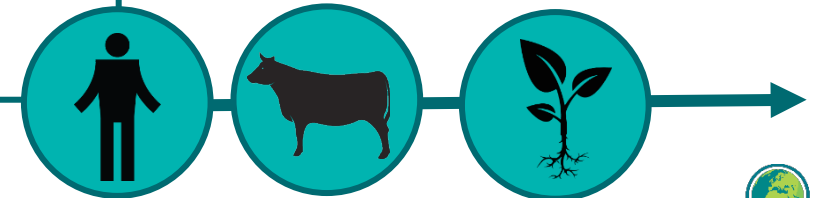


 **Get Email Updates**

To receive regular updates about CDC's One Health work,
enter your email address:

[What's this?](#)

Email us:
onehealth@cdc.gov



Resources

One Health

- www.cdc.gov/onehealth
- <https://www.cdc.gov/healthypets/index.html>
- <https://www.cdc.gov/healthypets/emergencies/index.html>
- <https://www.cdc.gov/healthypets/emergencies/pet-disaster-prep-kit.html>
- <https://www.cdc.gov/healthypets/emergencies/pets-in-evacuation-centers.html>

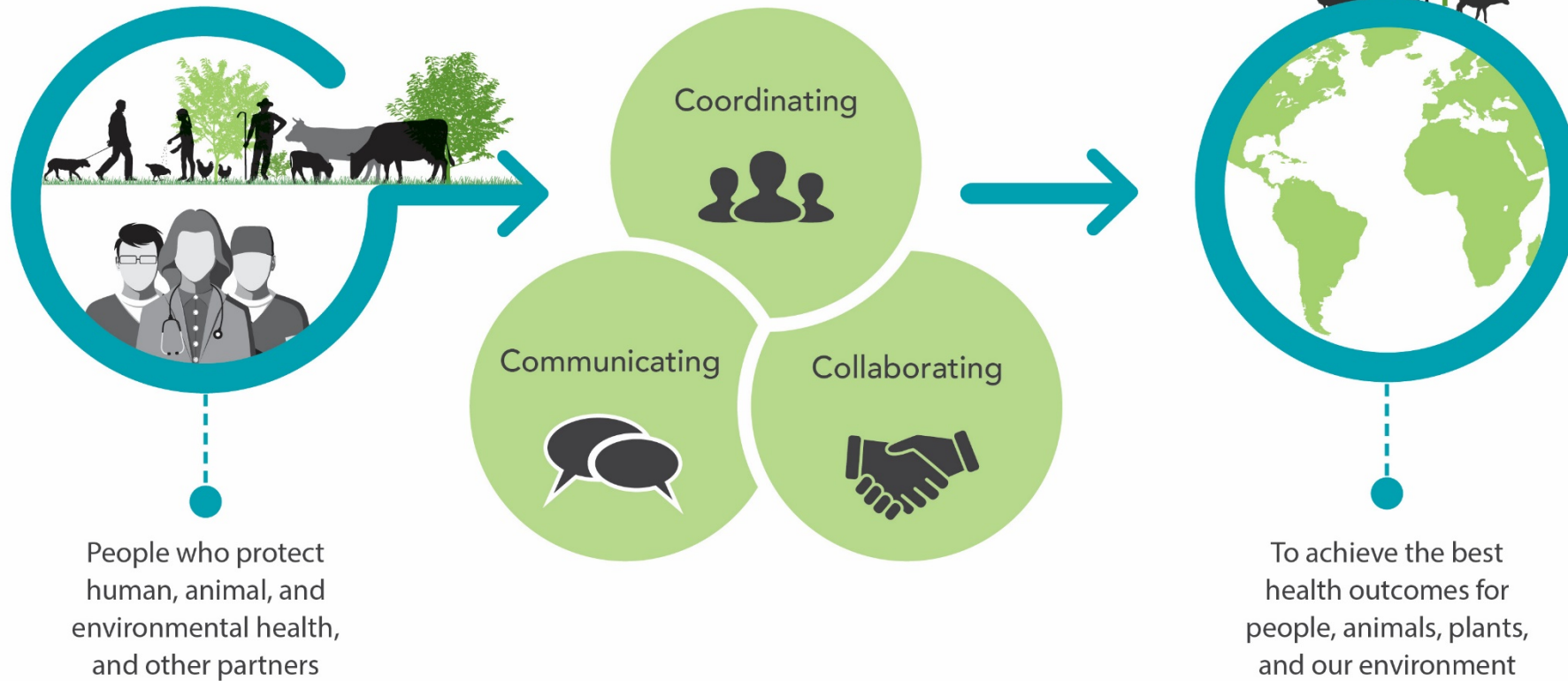
COVID-19 and Animals

- [FAQs: COVID-19 and Animals](#)
- [COVID-19 and Animals](#)
- [If You Have Pets](#)
- [What to Do if Your Pet Tests Positive for the Virus that Causes COVID-19](#)
- [Guidance for Handlers of Service and Therapy Animals](#)
- [Interim Infection Prevention and Control Guidance for Veterinary Clinics Treating Companion Animals During the COVID-19 Response](#)
- [Interim Guidance for Public Health Professionals Managing People With COVID-19 in Home Care and Isolation Who Have Pets or Other Animals](#)
- [Toolkit: One Health Approach to Address Companion Animals with SARS-CoV-2](#)
- [Interim recommendations for intake of companion animals from households where humans with COVID-19 are present](#)

Disaster Epidemiology Resources

- [Disaster Epidemiology: Public Health Emergency Management \(Web Based\)](#)
- <https://www.aphis.usda.gov/aphis/ourfocus/emergencyresponse>

One Health





For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

Contact: onehealth@cdc.gov

Subscribe to updates at www.cdc.gov/onehealth

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.