

IN THIS ISSUE: COVID-19 IN ANIMALS – PRECAUTIONS FOR THOSE IN REGULAR CONTACT WITH WILDLIFE

COVID-19 in Animals

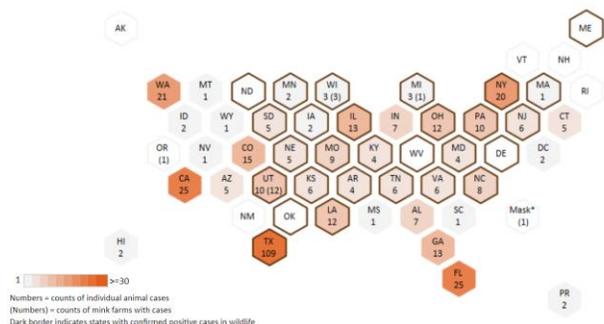
Introduction

COVID-19 (coronavirus disease 2019) is a disease caused by SARS-CoV-2, a virus in the coronavirus family first identified in December 2019. The coronavirus family is a large family of viruses causing a broad range of ailments in human populations from the common cold to pneumonia or acute respiratory distress syndrome. Some coronaviruses can only infect either humans or animals and some can be transmitted between humans and animals. Although zoonotic transmission is rare, it is hypothesized SARS-CoV-2 may have originated in bats, and through ongoing exposures, spread to the human population.^{1,2}

Epidemiology and Risk

COVID-19 has infected 97.1 million people and caused over 1 million deaths in the United States (as of October 24, 2022); it has also been identified in both domestic and wild animals.³ The risk of animals spreading COVID-19 to people is low and there is no evidence indicating they are playing a significant role in the spread of COVID-19 to people, however, transmission events are possible.^{1,4,5} Animal infections have been documented around the world and most have occurred due to close contact with persons who have COVID-19. SARS-CoV-2 has been detected in companion animals, animals in zoos and sanctuaries, minks in mink farms, and other wildlife.¹

Figure 1: Confirmed Positive Animals by State



Source: <https://www.aphis.usda.gov/aphis/dashboards/tableau/sars-dashboards>, data as of 10/24/2022

The United States Department of Agriculture (USDA) has reported 396 confirmed cases in companion animals and other animals in human care and 18 confirmed cases on mink farms in the United States.

Additionally, USDA identified 28 states with confirmed cases in wildlife. These include mink, mule deer, and white-tailed deer.⁶ A 2021 study conducted in Germany provided evidence indicating the transmission of SARS-CoV-2 from humans to cattle is possibly occurring by identifying 11 cattle positive for antibodies specific to SARS-CoV-2 from nine different farms. The low number of seropositive cattle per farm suggests intraspecies transmission did not occur and contact with human keepers infected with COVID-19 was the likely source of infection.⁷

There have also been reports of infected mammalian animals transmitting the virus to people. Farmed mink in Europe and the United States, white-tailed deer in Canada, pet hamsters in Hong Kong, and a cat in Thailand have been documented to transmit SARS-CoV-2 to humans.¹

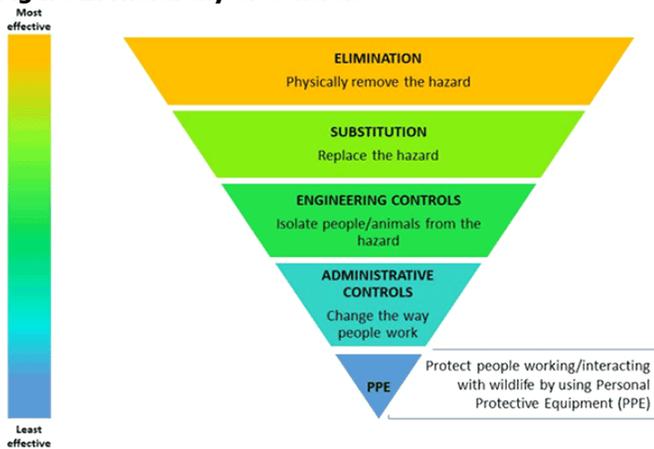
In the United States, investigations from a Michigan mink farm found a small number of people were infected with SARS-CoV-2 virus containing mutations in the genetic material considered unique to mink, suggesting mink-to-human transmission. This is not unexpected because mink-to-human transmission has been documented at mink farms in the Netherlands and Denmark. Further research is necessary to confirm these findings epidemiologically and genetically. Even though transmission from animals to humans is possible, there is no need to harm or euthanize any animal suspected or confirmed to be infected due to the low likelihood of occurrence and most cases to date occurring due to person-to-person transmission.¹

Prevention

Due to the contagious nature of SARS-CoV-2 and ability to infect both humans and animals, precautions should be taken with animals, as well as humans. Individuals infected with COVID-19 should avoid coming into contact with pets, livestock, and/or wildlife.¹ If a person is sick with COVID-19, they should avoid contact with their pets, including petting, snuggling, kissing, licking, sharing food, sleeping in the same bed; similar to avoiding contact with other people.⁵

Hierarchy of Controls, a tool designed by the National Institute for Occupational Safety and Health (NIOSH) and implemented to mitigate the exposures and hazards in occupational safety and health practices, are set in place in agencies or programs conducting wildlife research, management, and control activities to minimize the spread of COVID-19 between people and wildlife. The primary focus is to reduce susceptible wildlife from being exposed to the virus by people, reduce the spread among wildlife, and reduce the possibility of infected wildlife transmitting SARS-CoV-2 back to people in the future. Similar approaches are taken when considering wildlife rehabilitation facilities.⁸

Figure 2: Hierarchy of Controls



Source: <https://www.cdc.gov/healthypets/covid-19/wildlife.html>

Hunters and members of the public interacting with wildlife should not allow domestic animals such as pets and hunting dogs to come in direct contact with wildlife. Animals that appear to be sick or are found dead should not be handled, harvested, or eaten. Currently, there is no evidence of infection with COVID-19 through preparing or eating food but, when harvesting and eating game, good hygiene practices are recommended for food safety:^{4,8}

- Keep game meat clean and cool as soon as possible.
- Wear disposable gloves.
- Do not eat, drink, or smoke while handling and cleaning the game.
- Avoid cutting through or eating any part of the wildlife's nervous system such as the backbone, spinal tissues, and brains.
- After processing the game, ensure hands, equipment, clothing, etc. are properly cleaned.

Diagnosis & Testing

Animals infected with SARS-CoV-2 may or may not get sick and those proven to be infected have very mild illness and fully recover. Symptoms documented

in sick animals are very similar to those of humans such as fever, coughing, difficulty breathing or shortness of breath, lethargy, sneezing, nasal discharge, ocular discharge, vomiting, and diarrhea.^{5,9} Owners should consult a veterinarian if a pet is believed to be ill with COVID-19.⁵

Figure 3: A researcher tries to swab a white-tailed deer at a wildlife center at Texas A&M University in College Station, Texas.



Source: <https://abcnews.go.com/US/scientists-find-1st-deer-infected-omicron-variant-york/story?id=82744120>

The decision to test animals such as companion animals, livestock, production animals, zoo animals, or wildlife, as part of epidemiologic investigation is to be made using a One Health approach with local, state, and/or federal officials. Confirmatory testing through the USDA is required for all animals with suspected COVID-19. The exception to this is domestic cats and dogs from jurisdictions already confirmed to have SARS-CoV-2 in cats and dogs. The clinical criteria for testing animals for SARS-CoV-2 can be found here:

<https://www.cdc.gov/coronavirus/2019-ncov/animals/animal-testing.html>.⁹

What CDC is Doing

Currently, there are no studies showing evidence of susceptibility in invertebrates, birds, reptiles, or amphibians. The CDC brings local, state, tribal, and territorial partners together with the One Health Federal Interagency COVID-19 Coordination Group to collaborate and share information on the characteristics of COVID-19. The CDC is also working with partners from the federal to the local level to conduct active surveillance of pets exposed to COVID-19 cases. The CDC is also working together in on-farm investigations into animals, both domestic and wildlife, with workers at the farms, and in surrounding communities to investigate the possible spread of SARS-CoV-2.¹

Reporting

The list of reportable communicable diseases and reporting forms can be found at:

<http://tinyurl.com/WashoeDiseaseReporting>

Report communicable diseases to the Washoe County Health District. To report a communicable disease, please call 775-328-2447 or fax your report to the WCHD at 775-328-3764.

Acknowledgement

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