

## Notes from the Field

### Plague in Domestic Cats — Idaho, 2016

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In May 2015, *Yersinia pestis*, the bacterium that causes plague, was identified in dead Piute ground squirrels (*Urocitellus mollis*) reported through the Idaho Department of Fish and Game's wildlife mortality monitoring program; in June 2015, the Idaho Division of Public Health (DPH) sent an advisory to veterinarians in four southwestern Idaho counties requesting that they notify their local public health officials of suspected plague in animals.\* *Y. pestis* was not confirmed in any pets during 2015.

During May 30–July 26, 2016, local veterinarians notified public health officials that five dogs and 12 cats were being evaluated for possible plague. Local veterinarians also performed necropsies, when applicable, to establish the diagnosis. Idaho's Central District Health Department and Eastern Idaho Public Health coordinated with DPH on submission of specimens to the DPH Bureau of Laboratories for *Y. pestis* testing and interviewed veterinary staff and pet owners. Specimens from blood, spleen, liver, and lymph nodes were screened using real-time polymerase chain reaction and confirmed by culture and phage lysis testing.

Among evaluated animals, *Y. pestis* was isolated from six of 12 cats; five of the six were from areas in southwestern Idaho where dead ground squirrels with confirmed *Y. pestis* had been reported in May 2016, and one was from eastern Idaho. Among these six cats, specimen collection occurred during May 31–July 12, 2016; cats ranged in age from 10 months to 14.5 years (median = 4 years), four (67%) were male, five (83%) resided both indoors and outdoors, and one resided outdoor only. All six cats were domestic shorthair breed and had been neutered or spayed. Fever and lymphadenopathy (n = 4, 67%) were the most commonly reported signs of illness. None of the cats had known pulmonary involvement. Three of the six cats were treated with appropriate antibiotics (1); of these, two survived and one was euthanatized. The three other cats had died or had been euthanatized. All six cats reportedly had contact with ground squirrels and other wild rodents or rabbits before becoming ill; one had flea control administered before illness onset.

\* [http://www.healthandwelfare.idaho.gov/Portals/0/Health/Epi/105073\\_HW\\_ID\\_Disease\\_Bulletin\\_SEPT\\_2015\\_WEB.pdf](http://www.healthandwelfare.idaho.gov/Portals/0/Health/Epi/105073_HW_ID_Disease_Bulletin_SEPT_2015_WEB.pdf).

Cat owners, their household members, and veterinary staff were advised to be alert for fever and other plague symptoms (2) in themselves and other pets that might have had contact with the ill cats. Veterinary staff members were reminded about methods to prevent occupational exposure when managing pets suspected of having plague (1). In June 2016, an updated plague advisory was sent to veterinarians in four southwestern Idaho counties and eight eastern Idaho counties.† Local public health districts used the Idaho Health Alert Network to enhance situational awareness among health care providers and issue guidance on management and reporting of plague cases. Public communication strategies to raise awareness about the risk for and prevention of *Y. pestis* transmission to persons and pets included an online map of plague-affected areas, warnings posted in affected public areas, and press releases advising residents about preventive measures. No human plague cases were reported.

Cat-associated human plague cases, including fatalities, have been reported in the western United States since 1977 (3). Compared with dogs, cats are highly susceptible to plague illness and can transmit disease to humans directly through exposure to respiratory droplets and infectious body fluids associated with bites or scratches (1). Cats could also carry infected fleas into households. *Y. pestis*-infected cats usually develop fever, anorexia, lethargy, and lymphadenitis (submandibular in approximately 75% of cases); approximately 10% of cases are pneumonic (4) and present the most risk to pet owners and veterinary staff members. During 1926–2012, six (43%) of all primary pneumonic cases of human plague that occurred in the United States had contact with domestic cats (5). No plague vaccine for pets is available.

Veterinarians should consider the diagnosis of plague in pets, including cats, with compatible signs and exposure to rodent habitats, rodents, or ill pets in areas where plague is endemic or epizootic. Suspicion of plague should trigger the following actions by veterinary staff: 1) implementation of personal protective measures, including wearing masks and gloves; 2) isolation of the ill pet; 3) assessment of pulmonary involvement; 4) initiation of diagnostic testing for *Y. pestis*; 5) prompt administration of antibiotic therapy; 6) implementation of flea control for affected animals and the hospital environment; 7) provision of advice on household flea control to pet owner; and 8) notification of public health officials (1).

† <http://healthandwelfare.idaho.gov/Health/Epidemiology/tabid/111/ItemId/11032/Default.aspx>.

Pet owners can reduce the risk for plague in pets by controlling pet roaming, implementing a flea control program, and minimizing rodent habitats and food sources inside and outside the home. Additional information on prevention of plague is available at <http://www.cdc.gov/plague/prevention/index.html>.

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