

Animal Surveillance Case Definition

Rabies

Clinical description

Rabies is a communicable disease of animals and people caused by rabies virus present in the saliva of rabid animals. The virus is transmitted primarily by the bite of an infected animal. The incubation period is variable and lengthy, ranging from 12 days to up to 5 or 6 months, and sometimes up to a year in wildlife reservoir species.

Pursuant to N.J.S.A. 26:4-78, suspected animal rabies cases are reportable to the local health department where the animal is housed. Although animal rabies cases are not specifically classified as “Immediately Reportable”, any person who suspects that an animal has rabies, or has been bitten or otherwise exposed to rabies, should immediately notify their local health department. The local health department can assist veterinarians and animal control officers with submission of specimens to the State Rabies laboratory for confirmatory testing.

In wild and domestic animals, rabies virus may affect the mid-brain which regulates behavior, causing the animal to potentially attack without fear or provocation. The rabies virus may also cause other changes in animal behavior, such as disorientation, impaired mobility, and unusual vocalizations. In domestic animals, rabies causes severe encephalitis, characterized by strange behavior progressing to aggression, neurologic impairment, and then paralysis and coma. In some animals, aggression may be absent and they have predominately a paralytic course of illness. From the first signs of illness to death is usually less than 7 days, despite treatment.

Currently both bat and raccoon rabies virus variants are present in New Jersey. Raccoons are the reservoir species that spread the virus to other terrestrial animals. Rabid animals have been found in all areas of the State, including urban centers. Suburban areas in which raccoons, people and pets are in close proximity have had the highest number of animal cases. From 1989 through 2010, over 6,000 New Jersey animals were confirmed through laboratory testing to have been infected with rabies. Raccoons account for 77% of the rabid terrestrial animals diagnosed; skunks 14%, cats 4%, foxes 2%, and groundhogs 2%. Twelve other species of animals have also been diagnosed with rabies, including deer, dogs, horses, cows, sheep, goats, rabbits and ferrets. Unvaccinated cats are considered a high risk of transmitting rabies to persons who handle them. Annually, there are from 30 to 60 bats confirmed positive through laboratory testing.

In humans, rabies virus also causes encephalitis and is almost always fatal, once symptoms develop. The last indigenous human rabies case in New Jersey was in 1997, in a man who had reportedly removed bats from his house 3 months prior to onset but never sought medical treatment. This was the first human case of rabies in New Jersey since 1971, when a man bitten by a bat and received only partial treatment with the previously used duck embryo rabies vaccine, succumbed to the disease. Currently used vaccines have never failed to prevent rabies when administered properly. In 2011, a Haitian resident developed rabies and died shortly after travelling to New Jersey to visit a relative. The patient had been bitten by a dog in Haiti approximately 2 months before her onset of illness and never sought medical treatment.

Case classification

Confirmed

- Detection of rabies virus in brain tissue by fluorescent antibody microscopy, performed or confirmed by the New Jersey State Rabies Laboratory

Suspect

- A clinically compatible case