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TO: Local health departments and regional offices

FROM: IDPH Communicable Disease Section

DATE: January 18, 2017

SUBJECT: Seoul virus infection in rats

Six individuals who cared for rats from two locations in Illinois have tested positive for Seoul virus infection. Five persons were asymptomatic and one was ill in November 2016 but was not diagnosed at that time. Two Wisconsin residents also tested positive for Seoul virus. These individuals cared for domestic rats in northeastern Wisconsin.

IDPH is sending this notice because there is already quite a bit of information on social media about a “rat virus” or Seoul virus. It is possible that pet rat owners may become concerned and contact local health departments. In addition, health care providers may also be contacted and then reach out to their local health department.

Seoul virus is a species of hantavirus that can cause hemorrhagic fever with renal syndrome (HFRS). It is carried and transmitted from contact with infected brown or Norway rats. People can become infected with the virus after exposure to aerosolized urine, droppings, or saliva of infected rodents or after exposure to dust from their nests. Direct contact with these materials into mucus membranes or broken skin can also result in transmission. Bites from rats can also result in transmission. Human cases in the U.S. are rare.

Although Seoul virus is found worldwide, it is not believed to have been reported in pet rats in the U.S. Testing of some pet rats is underway. We will notify local health departments if any testing is positive. Rats remain asymptomatic and shed most often within the first few months of infection but infection is considered to be lifelong and intermittent shedding can occur. A rattery (which is a location where rats are bred for sale) is considered a confirmed Seoul infected facility if either rat caretakers or rats are Seoul virus positive. These ratteries can be present in private homes as well as outbuildings.

Symptoms of Seoul virus in people typically develop within 1 to 2 weeks after exposure to infectious material, but it can take up to 8 weeks for symptoms to develop. Symptoms include intense headaches, back and abdominal pain, fever, blurred vision and rash. Acute renal failure can occur. Platelets may also be low. Seoul virus causes a mild to moderate illness.

Diagnosis of Seoul virus in people is most commonly made through serologic testing available at one commercial laboratory and at CDC. CDC testing requires approval from the Illinois Department of Public Health.

People may want their rats to be tested or to have their rats euthanized. Further preparation is underway to ensure the safety of veterinary personnel. Local health departments may want to start preparing for this by considering how veterinarians can be fit tested for N95 masks if that becomes necessary locally. IDPH is preparing guidance for pet owners and veterinarians.

Local health departments will be contacted if we have identified anyone in their jurisdiction who may have been exposed. There is a web portal page on Seoul virus.

Local health departments may receive calls from citizens with rat contact who have read the social media postings and are concerned. Please collect information on whether they have experienced a clinically compatible illness, where they had contact with rats, and, if they purchased rats, where they purchased them from. Then contact the IDPH Communicable Disease section and review the information you have obtained with a staff member. Please provide the person who had rat contact with the links to safe rodent handling which are available at the bottom of the web portal page. Follow up may consist of completing a questionnaire on the exposed person, a questionnaire about the rats to determine if symptomatic people meet CDC criteria for testing depending on information obtained.

We will be providing more information as the situation evolves.