Report to the Boards of Health
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Mid-Michigan District Health Department, Wednesday, June 24, 2026
Central Michigan District Health Department, Wednesday, June 24, 2026
District Health Department 10, Friday, June 26, 2026

Hantavirus

Cruise Ship Outbreak

In May an outbreak of Andes hantavirus occurred on a Dutch expedition cruise ship that departed from Argentina in April. As of May 27, 2026, there have been 13 cases of Andes hantavirus (11 laboratory-confirmed and 2 probable), 3 which have been fatal. The investigation suggests the first case was infected on land before boarding the cruise and the other cases occurred from human-to-human spread. Over 600 contacts across 32 countries were monitored. In the US, 18 passengers from the cruise returned on May 10. Two were quarantined in Nebraska through May 31 and others were monitored. No travelers returned to Michigan and there have been no cases in the US.

Hantaviruses

Hantaviruses are a family of viruses that naturally infect rodents and are occasionally passed to humans. Andes virus, found in South America, is the only hantavirus known to spread human-to-human. The main way people get hantavirus is to inhale material from rodents, like their urine, droppings, and saliva. This usually happens when contaminated dust is disturbed during cleaning. It can also spread through a bite or scratch by a rodent, but this is rare.

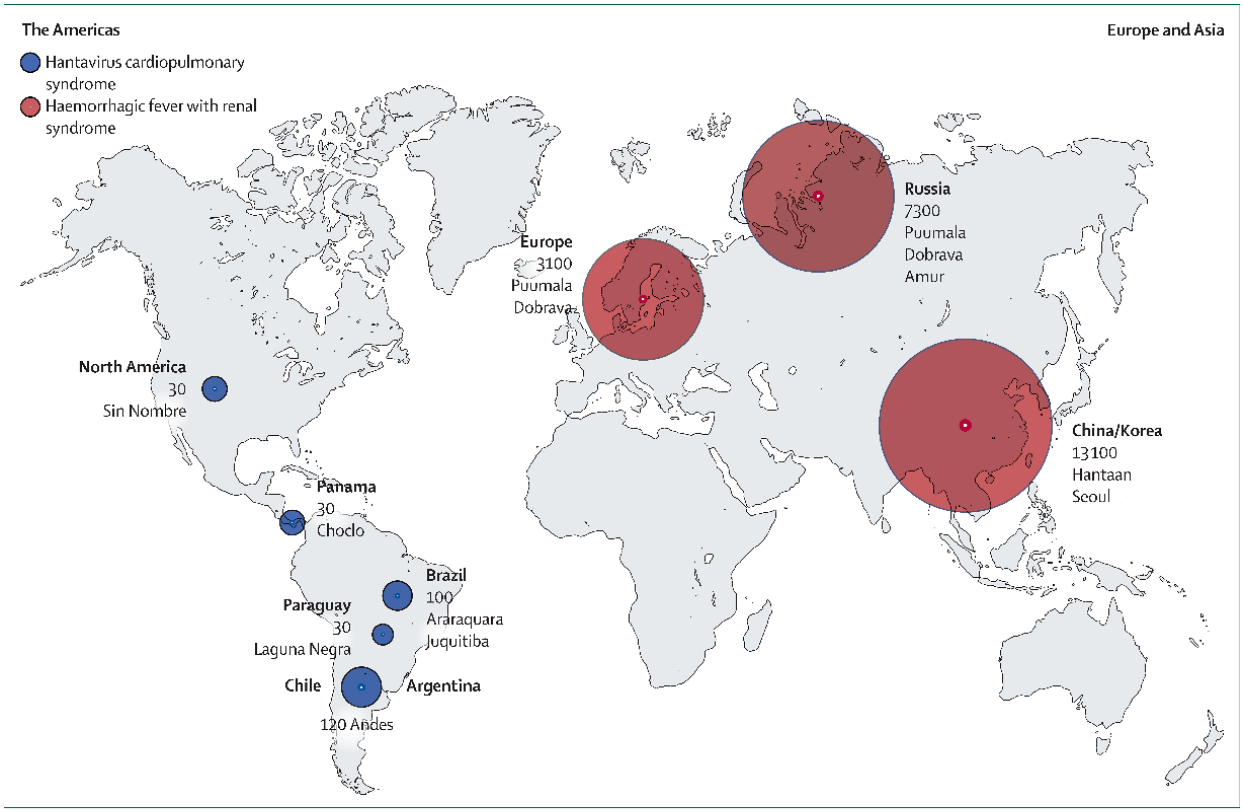


Figure 2: **Mean annual number of reported hantavirus cases in different regions and countries (2000–20)**
Unrecognised cases exceed reported cases for Puumala, Seoul, and Choclo virus.[3,23,28,39–41]

Hantavirus	Rodent Host	Syndrome	Death Rate	Country
The Americas ("New World")				
Sin Nombre virus	**Deer and white footed mouse; Rice and cotton rat**	**HCPS**	**35%**	**USA, Canada**
Andes virus	Long-tailed pygmy rice rat	HCPS	21·4–35·9%	Argentina, Chile
Araraquara virus	Hairy-tailed bolo mouse	HCPS	44·5%	Brazil
Choclo virus	Fulvous Pygmy Rice Rat	Fever, HCPS	12–15%	Panama
Laguna Negra virus	Small and large vesper mouse	Fever, HCPS	11·7%	Paraguay, Argentina, Bolivia, Peru
Juquitiba virus	Black-footed Pygmy Rice Rat	HCPS	32·5%	Brazil
Europe and Asia ("Old World")				
Hantaan virus	Striped field mouse	HFRS	1%	China
Puumala virus	Bank vole	HFRS (NE)	0·1–0·4%	Finland, Sweden, Belgium, Germany, France, Russia, NE Europe
Dobrava virus	Yellow-necked mouse, Black Sea field mouse	HFRS	9·8–12·0%	Balkans, southeast Europe
Tula virus	Common vole	HFRS	..	Russia, Europe
Seoul virus	**Brown or Norway rat**	**HFRS**	**<1%**	**Worldwide**

HCPS=hantavirus cardiopulmonary syndrome. HFRS=hemorrhagic fever with renal syndrome. NE=nephropathia epidemica.

Hantavirus infections

Worldwide, infection with hantavirus is uncommon but can cause serious illness. Hantaviruses cause two types of syndromes. The hantaviruses found **in the Americas (or the "New World")**, including the US, can **cause hantavirus cardiopulmonary syndrome (HCPS)**, a rapidly progressive condition affecting the lungs and heart. The hantaviruses i**n Europe and Asia (or the "Old World")** hantaviruses can **cause hemorrhagic fever with renal syndrome (HFRS)**, which primarily affects the kidneys and blood vessels, and is usually less deadly.

Symptoms of both HCPS and HFRS usually start within 1 to 8 weeks after contact with an infected rodent or infective materials. Early symptoms can include fatigue, fever, headache, muscle aches, and back and belly pain. This phase lasts about a week. The late symptoms of HCPS appear 4 to 10 days later. These symptoms include coughing and shortness of breath and patients might experience tightness in the chest as the lungs fill with fluid. About a third of people who develop lung symptoms die from the disease. Symptoms of HFRS include bruising, bleeding, kidney failure, and blurred vision. The death rate is usually much lower than HCPS. There is no specific treatment for any hantavirus infection.

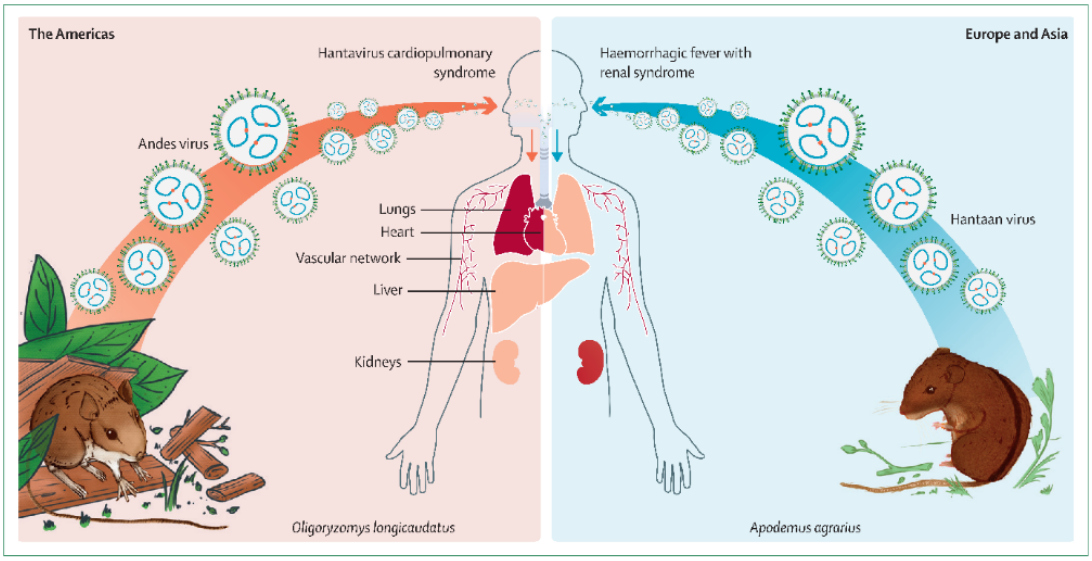
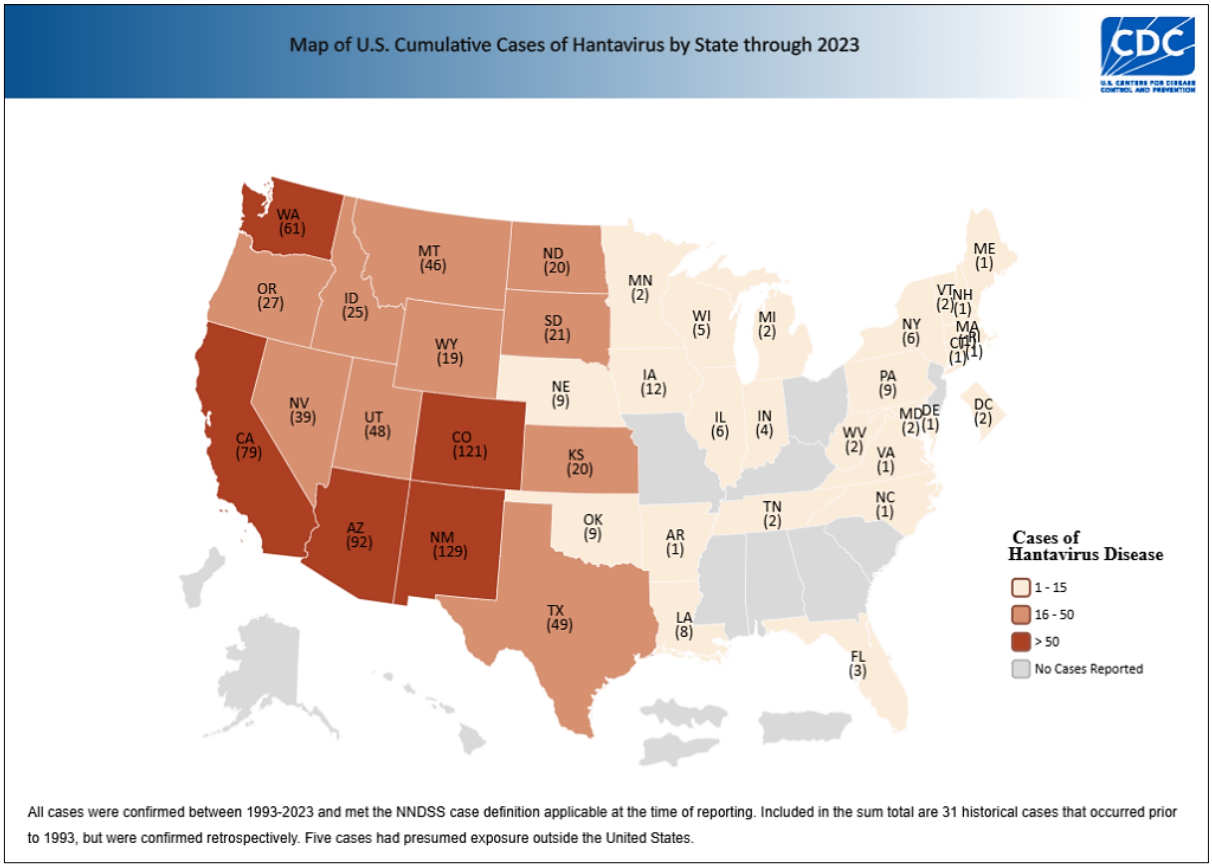


Figure 1: **Hantavirus transmission from rodents to humans**
Transmission mainly occurs via inhalation of aerosolised viral particles shed in rodent urine, faeces, and saliva. Organ and organ system involvement differs in magnitude according to the infecting virus. Andes virus, Hantaan virus, and their rodent host species shown in the figure are representative of pathogenic hantaviruses and rodent hosts present throughout the Americas, Europe, and Asia.

Hantavirus in the United States

Hantavirus surveillance started in the US in 1993 during an outbreak of severe respiratory illness in the area where Arizona, Colorado, New Mexico, and Utah meet, known as the Four Corners region. Over the following 30 years, a total of 890 cases of hantavirus disease were reported in the United States, with most cases in the western part of the country. While cases can occur any time of the year, they peak in the spring and summer.



The Sin Nombre hantavirus is found in the US. The deer mouse is the primary host in western states and is found in the rest of the US. The white-footed mouse is the primary host in eastern states. The rice and cotton rat are also possible hosts in southeastern states. The Seoul virus, transmitted by rats, can be found worldwide and can cause HFRS.

Hantavirus in Michigan

Hantavirus is rare in Michigan. The first know case of Sin Nombre HCPS occurring in Washtenaw County in 2021 in an adult woman hospitalized after cleaning an unoccupied rodent-infested dwelling. She did recover. In 2017, Michigan was part of an investigation with multiple states and Canada of Seoul virus infections in humans from contact with pet rats. There were around 100 suspected rat breeding facilities (or ratteries) in 21 states identified. One of these was in the Mid-Michigan District Health Department area and they assisted in the investigation. Of these facilities, 31 in 11 states had laboratory-confirmed human or rat infections. Six of these facilities had been exchanging rats with Canadian ratteries. Michigan was not one of the affected states.

Resource

- CDC: You Can Prevent Hantavirus
- National Park Service Hantavirus Fact Sheet and Clean/Trapping Instructions
- Avoiding Diseases from the Dirt https://www.lung.org/blog/lung-diseases-from-dirt
- CDC. Small Mammals – Healthy Pets, Healthy People. https://www.cdc.gov/healthy-pets/about/small-mammals.html

Recommendations:

1. While the risk of hantavirus is low in Michigan and the US, education on proper rodent prevention and cleanup should be encouraged (as in the You Can Prevent Hantavirus Brochure), especially for those working in higher risk occupations. As much as possible, public areas should be kept free of rodent contamination.

2. Hantavirus is an example of a zoonotic disease, an illness that can spread from animals to humans. More than 60% of known infectious diseases in people can be spread from animals, and 3 out of every 4 new or emerging infectious diseases in people come from animals. It is a reminder of the need for continued support of One Health work. One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems.

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