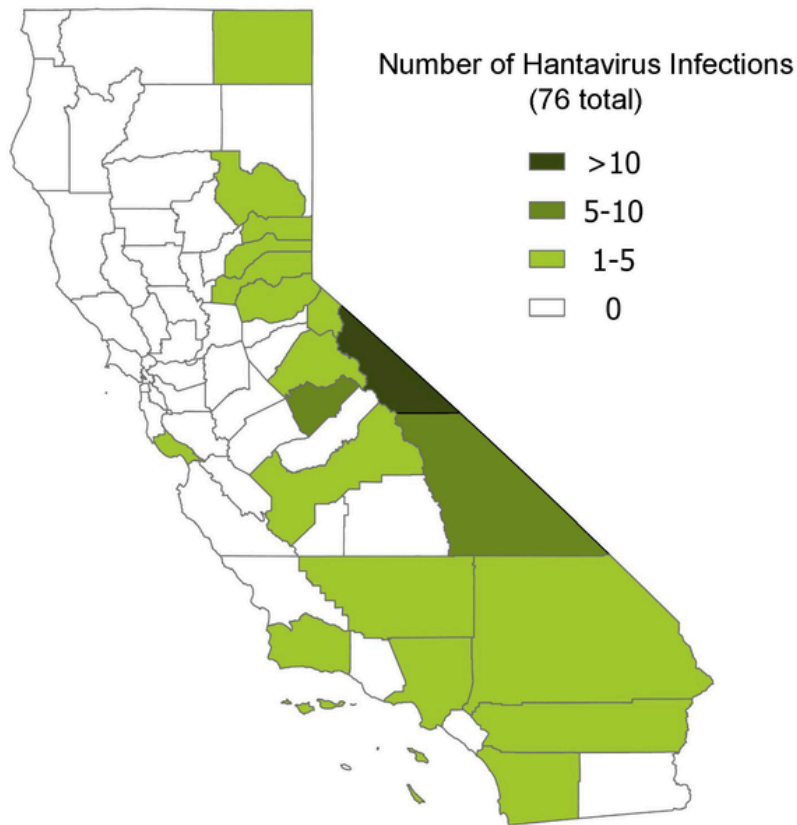


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County of Exposure for Reported Hantavirus Infections
in California, 1980 – 2023 *



* This map shows only those cases of hantavirus infection where the county of exposure was determined based on patient history, epidemiologic investigation, and environmental evaluation (76 cases total; since 1980, hantavirus infection has been diagnosed in 91 California residents). The exposure location is not able to be determined for all reported cases. Deer mice (*Peromyscus maniculatus*), the main source of infection that can spread hantavirus, can be found throughout California. People should take appropriate steps to avoid mice, their droppings, and nesting materials anywhere they are found to help reduce the risk of exposure to hantavirus.

Hantavirus Cardiopulmonary Syndrome

What is Hantavirus Cardiopulmonary Syndrome (HCPS)?

HCPS is a serious infection that affects the lungs and heart. It was first discovered in 1993 in the "Four Corners" area where Utah, Colorado, Arizona, and New Mexico meet. It is caused by a hantavirus. The type of hantavirus in our area is Sin Nombre Virus (SNV) and it causes HCPS. A lot of the cases in California have come from the Eastern Sierra area. Not everyone infected with SNV develops the lung and heart problems of HCPS, but most do. HCPS is a rare disease that can lead to death.

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Hantavirus Cardiopulmonary Syndrome

What are the signs and symptoms of Hantavirus?

Typically, infected people develop symptoms two or three weeks (range 1-7 weeks) after exposure. The first symptoms are usually fever, chills, headache, and muscle aches. Stomach problems are also common early on, often lasting days before breathing problems start. Patients who get HCPS next develop cough and shortness of breath. Their breathing and heart can quickly fail and they may die. About one-third of HCPS patients die from the disease.

How do you get Hantavirus?

Infected rodents spread hantavirus through their urine, droppings, and spit. In our area, deer mice (genus *Peromyscus*) carry SNV. People usually get exposed by breathing in air with rodent urine or droppings in poorly ventilated indoor areas, like when cleaning out a rodent-infested space. Vehicles may also expose people if mice build nests in the air vents.

The risk of getting hantavirus outdoors is small.

Other ways of getting infected are possible but not proven, like mouse bites, eating or drinking contaminated food or water, or getting the virus in your eyes, nose, or mouth from contaminated fingers.

You cannot get hantavirus from another person.

How is HCPS diagnosed?

Accurate blood tests exist but are not available locally. It generally takes longer than a day to get results in our area. Emergency doctors may have to make treatment decisions based on medical judgment without test results.

What is being done locally to prevent human cases?

Public education about hantavirus risks and precautions is important in areas like ours. The state and county investigate each case to evaluate risks to others and learn more about this disease.

What is the treatment for HCPS?

There is no specific treatment for HCPS. HCPS patients need high-level hospital care and should be transferred from small rural hospitals to major medical centers when possible. HCPS patients can get worse very quickly, but with the right intensive care, most people recover.

Hantavirus Prevention

Hantavirus infection is caused by a virus that people can get through contact with urine, droppings, or saliva of wild rodents, specifically **deer mice**. You can help prevent hantavirus infection by keeping wild rodents out of your home or workplace.

If you find live or dead mice, nests, droppings, or chew marks indoors, it is important to follow these steps:

1 SEAL
openings where mice can enter



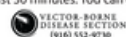
2 TRAP
mice with a snap trap



3 CLEAN
contaminated areas
with a disinfectant



Before entering a building or room that may be infested with rodents, allow the area to air out for at least 30 minutes. You can get hantavirus by breathing in air that is contaminated with the virus.



Learn more: bit.ly/HantavirusCDPH



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Tips for avoiding HCPS

It is believed that people get infected by breathing in the virus indoors, so reducing that risk is most important. Be aware of possible hantavirus exposure when entering poorly ventilated indoor areas where rodents may live, especially if closed up for a while. In our area, outbuildings and cabins may be closed in winter and reopened in spring and summer.

Vehicles can also have rodents and a few California cases were likely from cars.

- When dealing with indoor rodent infestation, first open windows and doors and let fresh air in for 30 minutes.
- Don't sweep or vacuum dry mouse waste because that spreads virus into the air you could breathe in.
- Spray or soak mouse nests and waste with a mix of 1 part bleach to 9 parts water or another disinfectant that kills viruses.
- Use gloves to wipe up the waste, seal it in bags, and disinfect the gloves before taking them off. Wash your hands.
- Using gloves and washing hands is highly recommended, although we don't know for sure if you can get hantavirus from contaminated hands.
- Well-fitted N-95 masks protect from breathing in airborne viruses like hantavirus. They are not always needed for hantavirus, but make sense for heavy infestations or areas hard to ventilate, in addition to the other steps.
- If mice build nests in your vehicle, check the engine area regularly. Some people leave the hood open when possible to discourage nesting.



Reduce mice in buildings:

- Look for small holes and cracks that mice use to enter and seal them, inside and out. Deer mice can sometimes get through pencil-sized holes (1/4 inch).
- Remove any food sources that attract rodents in or near buildings. Store food in rodent-proof containers. Put away leftover human or pet food.
- Move woodpiles away from buildings and clear brush around them.
- If trapping is needed, snap traps are safest. Use gloves to handle dead mice and dispose of them safely.
 - Glue traps are not humane and stressed mice release more virus.
 - Poisons or rodenticides harm other animals and build up in the environment, threatening wildlife.

More information is available from the [state health department](#) and [CDC](#).