National Wildlife Health Center
Wildlife Health Bulletin 2004-02

Hantavirus Prevention Measures

To: **Natural Resource/Conservation Managers**
From: **Leslie Dierauf, Director, USGS National Wildlife Health Center**
Date: **2004**

Recent cases of hantavirus infection, or hantavirus pulmonary syndrome (HPS), have been reported in three states (WV, CO, CA). In one case, a 32-year-old graduate student conducting a field study on small mammals died shortly after being hospitalized. This bulletin is a reminder to people who handle rodents, or who work in areas where rodents are likely to nest, to be aware of the risks of infection from hantavirus, and take some simple measures to substantially reduce those risks.

HPS is a potentially deadly respiratory disease. Humans become infected by inhaling aerosolized virus-infected rodent droppings, urine, saliva, or blood. Several species of rodents are known to be carriers of hantavirus in the U.S.: deer mice, white-footed mice, cotton rats, and rice rats. These rodents can live in diverse environments and show no signs of infection. Biologists or natural resource managers working with these rodent species, or in buildings or environments where rodent droppings or urine are found, should be aware of hantavirus prevention measures (Centers for Disease Control and Prevention).

- Coveralls and rubber or plastic (latex, vinyl, or nytrile) gloves should be worn when handling rodents or working in rodent infested environments.
- All equipment, including gloves, traps, cages, etc., should be thoroughly disinfected with a 10 percent bleach solution (approximately 1½ cups household bleach per gallon of water) or other disinfectant after being in contact with rodents or rodent droppings.
- Respirators with high-efficiency particulate (HEPA) filters or powered air purifying respirators (PAPR) should be worn when working in close proximity to rodent droppings, urine, saliva, or blood. (The Occupational Safety and Health Administration has discontinued the use of the HEPA designation. Under the new system, the N-100 respirators are preferred.) *The use of respirators requires training and fitting to be effective.*
- Rodent carcasses should be double bagged and both the rodents and the bags, once sealed, should be sprayed with disinfectant.
- If you develop a fever or respiratory illness within 45 days of your last potential contact with rodents or rodent droppings, immediately seek medical attention and inform the proper health authorities of your rodent exposure.
- Buildings that have accumulations of rodent excretions or secretions should be avoided until cleaned using the proper precautions. Strict guidelines for cleaning rodent soiled enclosures can be found on the Centers for Disease Control and Prevention Website (below).

For more detailed information, visit the National Wildlife Health Center's Web site or the following Web sites:

Arizona State University/Department of Public Health:
Guidelines for Handling Animal Reservoirs of Hantavirus: Field Practices in Arizona
http://researchnet.asu.edu/animal_care/resources/hantavirus.html

Centers for Disease Control and Prevention: All About Hantaviruses
http://www.cdc.gov/ncidod/diseases/hanta/hps/

Centers for Disease Control and Prevention: Clean Up Infested Areas, Using Safety Precautions http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/prevent3.htm

Centers for Disease Control and Prevention: Hantavirus Case Map
http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/casemap.htm/

Centers for Disease Control and Prevention: Methods for Trapping & Sampling Small Mammals for Virologic Testing
http://www.cdc.gov/ncidod/dvrd/spb/mnpages/rodentmanual.htm/

National Wildlife Health Center
http://www.nwhc.usgs.gov/

outheastern Cooperative Wildlife Disease Study: Hantaviruses: *Are Biologists at Risk?* http://www.uga.edu/scwds/topic_index/1994/HANTAV%7E1.pdf

Additional Published Materials

Mills, J. N., T.L. Yates, J.E. Childs, R.R. Parmenter, T.G. Ksiazek, P.E. Rollin, and C.J. Peters. 1995. Guidelines for working with rodents potentially infected with hantavirus. Journal of Mammalogy 76(3):716-722

The National Wildlife Health Center extends its appreciation to the Centers for Disease Control and Prevention and all of the above groups for the preceding precautions and information.

USGS WILDLIFE HEALTH BULLETINS are distributed to natural resource/conservation agencies to provide and promote information exchange about significant wildlife health threats in their geographic region.