

EPI Update for Friday October 7, 2005

Center For Acute Disease Epidemiology

Iowa Department of Public Health

Items for this week's EPI Update include:

- **Rocky Mountain Spotted Fever in Iowa**
- **Iowa Environmental Health Practitioners Respond to Katrina Food Safety Issues**
- **An Early Halloween Story**
- **Meeting Announcements and Training Opportunities**

Rocky Mountain Spotted Fever in Iowa

Rocky Mountain spotted fever (RMSF) is a tick-borne bacterial disease caused by *Rickettsia rickettsii*. Sporadic cases have been reported in all 48 continental states, but most cases are reported from the South Central and Southeastern U.S. There were over 1800 cases reported nationally in both 2003 and 2004; Iowa averages two to three reported cases each year. So far this year, four cases (including one fatality) have been reported. The disease is maintained in tick populations by spreading from female ticks to their eggs and through the life stages of the ticks. Localized outbreaks of RMSF can occur where people have contact with infected ticks, including ticks on their pets.

The first signs of RMSF are body-wide aches and pains accompanied by headache and a sudden high fever, sometimes as high as 105 degrees Fahrenheit (40.5 degrees Celsius). Symptoms may also include sore throat and nausea. The spotty rash, which occurs in at least 85 percent of patients, does not appear until later in the infection, and resembles a pinpoint pattern of pink-to-red spots over the entire body. The rash is also noticeable on the soles of the feet and palms of the hands, where rashes do not usually appear. Infection can spread rapidly in the body, causing inflammation of the blood vessels, shock, and build-up of fluid in the lungs and brain. The first symptoms may be difficult to distinguish from other illnesses. The fatality rate can be up to 10 percent of those who contract the illness; successful treatment requires early diagnosis and antibiotics.

Currently, laboratory diagnosis is by serology, PCR or immunohistology of rash biopsy material. Serological testing requires both acute and convalescent serum. In RMSF, the antibody response may not appear until the second week of illness. More rapid and reliable tests to detect the disease need to be developed so that physicians can diagnose more quickly and begin treatment as early as possible. Because rapid testing is not available, antibiotic treatment should never be delayed while waiting for lab results.

Iowa Environmental Health Practitioners Respond to Katrina Food Safety Issues

Environmental health practitioners are the front-line troops in the protection of food.

They conduct regular inspections and provide education on a daily basis to prevent food-borne outbreaks. During emergency response activities, similar duties and emergency procedures and protocols are part of the front-line arsenal. Six state of Iowa Environmental Public Health Professionals were deployed to Louisiana September 3rd through the 18th. They were called to action immediately as the first state to respond to the Environmental Health (EH) needs in Louisiana. Cory Frank, IA Environmental Health Response Team (EHRT) coordinator, and other EH specialists met with the Louisiana Department of Health and Hospitals and EPA Region 6 to plan a strategy to address the many environmental health concerns presented to the state of Louisiana. Food safety and protecting the public water supplies were the first priorities identified by Louisiana Environmental Health Services Director Bobby Savoie. The Iowa team went to work on both priorities and worked extensively in the affected parishes of St. Tammany, Washington, Jefferson, and Orleans, conducting water sampling and commercial seafood and retail food establishment assessment and inspection.

Some of the issues concerning food safety involved identifying immediate public health threats to the commercial and retail establishments such as fire, flood, power interruption, contaminated water supply, extended interruption of water supply, sewage back-up and gross unsanitary conditions. The Iowa crew found all of these conditions present during their work in the affected areas. Another large concern was the structural damage to the food establishments such as missing roofs and windows - and in some cases, missing establishments. An assessment form was completed for each visited location that included questions concerning: duration of power loss, number of coolers and freezers, temperatures of coolers and freezers if operational, temperatures on new products and prepared food, amount of food in poundage and cost that was destroyed, where it was disposed of and whether the disposed food been picked up by a collection service. Structural damage was also assessed using this format.

The Iowa response group including Cory Frank, Aimee Devereaux, Tom Schlife, Ken Rasing, Tim Link and David Willprecht, responded to as many as 300 establishments in New Orleans alone in the final two days of their visit. The group assessed, inspected, and sampled as many as 1000 establishments in the other affected areas during their deployment. The Iowa team proved what Environmental Health response efforts consist of during emergencies and disasters. The valuable experience and knowledge gained during this catastrophe will be put to use here in Iowa.

An Early Halloween Story - Bats and SARS

Although our Iowa insect eating bats are known to transmit rabies, we may be fortunate to not have Chinese horseshoe bats here in the Midwest. Two research teams working in China have recently announced, in separately published research articles, that this bat is the likely reservoir for SARS virus. The outbreak of Severe Acute Respiratory Syndrome of 2002 and 2003 spread from China to other parts of Asia and subsequently to Europe and North America resulting in more than 8000 cases and 774 deaths in 26 countries. Palm civets, weasel-looking animals sold in live animal markets for food, were investigated for their role in transmitting the virus because a number were found to be

infected with SARS virus. Widespread infection was not found in wild or farmed palm civets, however, so civets were thought to be intermediaries in transmission.

Bats were investigated because they have been known to spread the recently discovered Nipah and Hendra viruses, which cause encephalitis and respiratory disease. The SARS virus researchers investigated wild caught bats and those sold in markets for food. Bats were found to be infected with a coronavirus, which is genetically indistinguishable from the virus which causes SARS. The virus does not appear to cause illness in bats, but antibodies to it are widespread, supporting that bats are carriers. The current investigations have not yet identified how the virus moved from bats to civets and then to humans.

Although the animals involved may seem exotic in Iowa, the recommendations for blocking spread of the disease are common sense public health measures. These include keeping civet farms a distance from bat colonies and making sure only uninfected civets go to market. And just in case anyone asks, no, we don't have either Chinese horseshoe bats or vampire bats in Iowa!

Meeting Announcement and Training Opportunities

- **8th Annual Iowa HIV/AIDS Conference** - October 11-12, 2005. The conference brochure is available via:
<http://www.trainingresources.org/displayconvention.cfm?conventionnbr=1472>
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- **Influenza Testing Update - ICN Workshop, Thursday, Oct. 13, 2005, from 1-3 p.m. This program will be an overview of influenza surveillance and testing in Iowa. For a full description of the program and registration information please go to:**
www.uhl.uiowa.edu/newsroom/upcomingevents/influenzaworkshop/index.html
<<http://www.uhl.uiowa.edu/newsroom/upcomingevents/influenzaworkshop/index.html>>>
- **Fall Epidemiology Updates brochure** is now online at the Iowa Department of Public Health's Website at:
http://www.idph.state.ia.us/common/pdf/conferences/disease_prevention_fall.pdf