

EPI Update for Friday January 28, 2005

Center For Acute Disease Epidemiology

Iowa Department of Public Health

Items for this week's EPI Update include:

- **Uninvited House Guests**
- **Iowa Influenza Activity Increasing**
- *Legionella pneumophila*
- **Influenza in Iowa's History**
- **Local Board of Health Quarantine and Isolation Rules**
- **The Epi 5**
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Uninvited House Guests

Most of us prefer to stay indoors where it is warm when the wind is blowing and the snow is flying. Our small, furry rodent "friends" would also prefer to stay indoors, and may be "moving in." Many folks know that Hantavirus Pulmonary Syndrome is a disease that deer mice can carry and that they shed the virus in their urine, stool, and saliva. A relative of the deer mouse, our common house mouse, can carry another disease that we can be exposed to: Lymphocytic Choriomeningitis.

Lymphocytic choriomeningitis, or LCM, is a virus that can be carried by the common house mouse that can cause aseptic meningitis, encephalitis, or meningoencephalitis. Humans can become infected by inhaling the virus when they have direct contact with rodents and also when cleaning up rodent urine, feces, or saliva. The incubation period is usually between 8 and 13 days. Infection typically causes a "biphasic" (two phases) febrile illness. The "first" phase can last up to one week, and the individual may experience fever, general discomfort / tiredness, anorexia, muscle aches, headache, nausea, and vomiting. Then the individual will usually feel normal for a few days before the "second" phase begins when the person develops symptoms of meningitis or encephalitis. Treatment for LCM requires hospitalization and depends on the severity of disease. Therapy typically includes supportive care and may also include anti-inflammatory and anti-viral drugs. Fortunately, LCM is not usually fatal.

Anyone who comes in contact with urine, feces, saliva, or blood of a house mouse is potentially at risk for infection. Like many other diseases from rodents, avoiding or minimizing direct physical contact with the rodents and / or exposure to their urine, stool, or saliva can prevent LCM as can prompt handwashing if contact does occur.

For more information on Lymphocytic Choriomeningitis visit the CDC website at:

<http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/lcmv.htm> .

Iowa Influenza Activity Increasing

Iowa remained at regional activity for the week ending January 22, 2005, but influenza activity around the state is increasing. This week, health-care facilities within all six regions of the state have called to report rapid test positives with the majority of those being influenza A. Things are picking up at the University Hygienic Laboratory as they confirmed influenza (the majority influenza A (H3N2)) in all regions of the state for specimens collected in Week 3. Influenza is affecting schools in four regions of the state, and has reported absentee rates exceeding 10 percent with students out with classic flu symptoms. To view the latest Iowa Influenza Activity Map or read the Week 2 Iowa Influenza Surveillance Report, visit IDPH's influenza web site at <http://www.idph.state.ia.us/adper/flu.asp>. To voluntarily report a rapid test positive in your area or if you are a school reporting high absentee rates, call IDPH's disease reporting hotline at (1-800-362-2736) and select option 2.

Legionella pneumophila

The discovery of *Legionella pneumophila* dates back to the widely publicized outbreak of pneumonia in persons attending an American Legion convention in Philadelphia in 1976. Legionella are now recognized as an important cause of both community acquired and nosocomial pneumonia. Legionella are NOT transmitted from person to person but by the aerosols of water containing Legionella. It is found naturally in small numbers in lakes, streams, rivers, moist soil, and especially thermally heated bodies of water. This organism survives water treatment processes and can grow in water-cooling towers, air-conditioning systems, showerheads, spas, tap water, and sinks. For information on CDC recommendations regarding the culture of a hospital water supply see MMWR, June 6, 2003, 52 (RR-10), 1-42 and MMWR January 3, 1997, 46 (RR-1), 1-79.

Infection with Legionella can be diagnosed by culture, direct fluorescent-antibody (DFA) test, urinary antigen detection, and PCR (polymerase chain reaction). Special media and prolonged incubation is necessary to culture Legionella. Therefore, it must be specifically requested. Typically, culture takes five days for the organism to grow. DFA, urinary antigen and PCR are far more rapid. However, the DFA test, while only taking a few hours, is only 60-70 percent sensitive compared to culture. The urinary antigen test is more sensitive (80-90%), however, it only detects serogroup 1 of *Legionella pneumophila*, which is thought to cause approximately 80% of Legionella infection. PCR is as sensitive as culture. The antibody response to Legionella is delayed; therefore, serologic testing is not useful. At the University Hygienic Laboratory (UHL), culture, DFA, and PCR from clinical specimens are performed. Culture of hospital water for Legionella testing is available at UHL. Contact UHL for instructions on water collection and submission. However the mere finding of Legionella in water and an infected patient does not confirm the source of the infection, that determination can only be confirmed by molecular strain typing of both isolates. Strain typing is also a service that UHL provides.

Influenza in Iowa's History

My name is Jill Kruse and I am a fourth year medical student from Des Moines University rotating through IDPH, Center for Acute Disease Epidemiology during the

month of January. This month I have been working with Dr. Buckler on pandemic influenza planning, as well as observing how IDPH is dealing with the influenza vaccine shortage.

I had the opportunity to look through archives of public health reports from previous Public Health Commissioners. Iowa influenza history included some articles on an Asian influenza outbreak that occurred in Grinnell, Iowa in 1957. In addition in 1957 there was a worldwide influenza pandemic, so I was curious to see how IDPH dealt with that outbreak. The Grinnell outbreak occurred at a gathering of 1600 students from 43 states attending a youth group convention. Severe symptoms occurred in 199 cases. The meeting was disbanded early and students were screened before being allowed to go back home. Those who were ill stayed in Grinnell until they recovered with the average length of illness being 3.2 days. The articles discussed how a limited supply of vaccine was available and how it should be distributed to high-risk persons. Their guidelines were very similar to the guidelines used during the vaccine shortage this year.

Local Board of Health Quarantine and Isolation Rules

On January 19, 2005 the State Board of Health adopted final administrative rules for local board of health quarantine and isolation processes. These rules will be published on Feb 2, 2005 in the Iowa Administrative Bulletin. If you would like to preview the rules they can be located on IDPH's web site: <http://www.idph.state.ia.us/adper/cade.asp>

The Epi 5:

Here are some more trivia questions on epidemiology and it's history:

1. What is secondary prevention?
2. What are the differences between an endemic, epidemic, and pandemic disease?
3. What are the three components of the "Epi Triangle?"
4. What fourth component can be considered part of the "Epi Triangle?"
5. What is the miasmatic theory of disease?

Meeting Announcement and Training

Opportunities: Partnering for a Healthy Iowa

The 2005 Public Health Conference 'Partnering for a Healthy Iowa' will be March 29-30, at the Iowa State Center Schemen Building in Ames, Iowa. The 2005 Public Health Conference is a great opportunity to explore the future of public health and ensure quality programs and services that reflect the core functions of public health: assessment, policy development, and assurance.

The intended audience for the 2005 Public Health Conference is public health professionals practicing in various settings. Practitioners include public health administrators, environmental sanitarians, nurses, dietitians, family and consumer science specialists, social workers, pediatricians, Boards of Health, Boards of Supervisors, family physicians, dentists, dental hygienists, health educators, statisticians, epidemiologists, laboratory scientists, parents, and others interested in assuring the health of individuals,

families, and communities. Students in public health, health education/promotion, or other allied health sciences are also welcome.

Early-bird registration is by March 1. For more information contact Sara Patkin at (515) 963-8664 or by e-mail m spatkin@yahoo.com <<mailto:m spatkin@yahoo.com>> or view the conference brochure:

http://www.idph.state.ia.us/common/pdf/conferences/2005_conference_brochure.pdf

Preparedness Training Program Now Accepting Applications

Disaster planning and response. Emerging infectious diseases. Risk communication. Are you up-to-speed with the latest preparedness topics? Applications are now being accepted for the 2005 Train-the-Trainer program sponsored by the Upper Midwest Center for Public Health Preparedness, based in the University of Iowa College of Public Health. The eight-month training program provides participants with current information in public health science and the systems of response. Participants represent a wide variety of disciplines and are selected from the states of Iowa, Nebraska, and South Dakota. For more information about the program or to fill out an online application form, visit http://www.public-health.uiowa.edu/icphp/ed_training/tt/, or contact Angela Harding at (319) 335-8451 or angela-harding@uiowa.edu <<mailto:angela-harding@uiowa.edu>>. Applications are due March 15, 2005, and the training program will begin in April 2005.

Spring 2005 Iowa AWWA Regional Meetings- Water Security Workshops

Bringing People Together for Safer Drinking Water

Safe drinking water is vital to sustaining our nation's infrastructure. This one-day workshop is designed to bring multiple disciplines together to discuss how to handle a water emergency. Whether it is a natural disaster or terrorist incident how will your community handle a loss of its water supply for 3 hours, 3 days, or 3 weeks? The purpose of this workshop is to bring people from a variety of disciplines and communities together for safer water. This workshop will benefit communities of any size.

Audience: Federal/State/Local Emergency Management Agencies (LEPCs, etc.), Public Utility Agencies, Emergency Responders, Local Fire/HAZMAT Personnel, Public Health Officials, Environmental Regulators, Law Enforcement Officials, Water and Wastewater Operators

Sponsored By: Iowa Section American Water Works Association, Environmental Protection Agency Region 7, Iowa Department of Natural Resources, and Iowa Department of Homeland Security and Emergency Management

Schedule:

City	Date	Location
Dubuque	March 2, 2005	NE Community College
Newton	March 9, 2005	DMACC - Newton
Burlington	March 16, 2005	Grand Orleans Hotel
Storm Lake	March 22, 2005	Buena Vista University
Creston	March 23, 2005	SW Community College Mason City
		April 7, 2005