State of Montana *Health Alert Network*

DPHHS HAN ADVISORY

MONTANA
Department of Public Health & Human Services

Cover Sheet

DATE: June 8, 2011

SUBJECT: Q-Fever among Montana residents with exposure to goats

For LOCAL HEALTH DEPARTMENT reference only

DPHHS Subject Matter Resource for more information regarding this HAN, contact:

Communicable Disease Epidemiology Program
444-0273

INSTRUCTIONS:

DISTRIBUTE to your local HAN contacts. This HAN is intended for general sharing of information. **Remove this cover sheet before redistributing and replace it with your own.**

DPHHS Health Alert Hotline:
1-800-701-5769

DPHHS HAN Website:
www.han.mt.gov

Remove this cover sheet before redistributing and replace it with your own.

Please ensure that DPHHS is included on your HAN distribution list.

Categories of Health Alert Messages:

Health Alert: conveys the highest level of importance; warrants immediate action or attention.
Health Advisory: provides important information for a specific incident or situation; may not require immediate action.
Health Update: provides updated information regarding an incident or situation; unlikely to require immediate action.

Please call DPHHS to update contact information at 444-0919 or 444-6906

Information Sheet

Date: June 8, 2011

Subject: Q-Fever among Montana residents with exposure to goats

Information:

Health Alert: Q fever among Montana residents with exposure to goats

Since May 27, 2011, six suspected cases of Q fever have been identified in persons from Cascade and Teton Counties. Assistance of local health care providers with case recognition and reporting is requested.

Action Recommended

- Be alert for patients with symptoms of possible *Coxiella burnetii* (Q fever) infection:
  - high fevers (up to 104-105°F)
  - severe headache
  - general malaise
  - myalgia
  - chills and/or sweats
  - non-productive cough
  - nausea, vomiting, diarrhea
  - abdominal pain
  - chest pain
- Ask patient with ≥ 2 of these symptoms about exposure to goats or other livestock
- Obtain blood specimen for Q fever serology on symptomatic patients when Q fever is suspected
- Obtain blood specimen for Q fever serology on asymptomatic patients with a known exposure to infected animals
- Begin appropriate antibiotic treatment immediately for symptomatic patients when Q fever is suspected
- Educate patients that the bacteria causing Q fever can be transmitted through inhalation of contaminated barnyard dust as well as direct contact with infected animals like goats and sheep

Background and Recommendations

Since May 27, 2011, six suspected cases of Q fever have been identified in persons from Cascade and Teton Counties. Many affected persons have documented contact with goats, but direct contact with animals may not be necessary to contract the bacteria causing Q fever.

Persons with acute Q fever typically present with the symptoms listed above, but combinations of symptoms may vary greatly from person to person.

Suspect diagnosis of Q fever is made based on signs and symptoms and a high index of clinical suspicion. If clinicians see patients with ≥ 2 of the symptoms listed above, be sure to ask about exposure to goats, sheep, or cattle, and consider a diagnosis of Q fever.

For Q fever confirmation, blood (serum) specimens may be sent to the Montana Public Health Laboratory for Q fever serology. Confirmation of Q fever is a two step process requiring an acute specimen taken upon symptom onset, and a convalescent specimen taken 2-3 weeks later.

A four-fold rise in Phase II IgG antibody titers between acute and convalescent samples provides laboratory confirmation of Q fever. Treatment should not be delayed pending the receipt of laboratory test results, or be withheld based on an initial negative result.

The recommended treatment for Q fever is Doxycycline.

Please refer to the attached sheet for more information on Q fever and recommended treatment. If a clinician suspects a diagnosis of Q fever, report case to the local health department.

Q-fever: Guidance for Local Health Departments and Clinicians

Local health departments — This form is intended to be given to those persons potentially exposed to Q-fever. The patient should then be instructed to give this form to their healthcare provider during their medical evaluation. The form summarizes Q-fever information, including diagnosis and treatment. Importantly, the Montana Public Health Laboratory encourages submission of laboratory specimens to the state laboratory and will support Q-fever testing.

SUMMARY: Q-fever is a zoonotic disease typically caused by transmission of the bacterium *Coxiella burnetii* to humans through contact with infected animals or exposure to contaminated environments.

RESERVOIR: Cattle, sheep, and goats are the most common reservoirs for *C. burnetii*. Most commonly, animals do not show clinical symptoms, although spontaneous abortions in sheep and goats can result from infection with *C. burnetii*. Asymptomatic animals can shed *C. burnetii* for long periods of time in their reproductive secretions, milk, urine, and feces. *C. burnetii* exist in high numbers in the reproductive tract and placenta of infected animals and the risk for disease transmission from these animals is highest during and shortly after the animal's birthing process.

EXPOSURE/TRANSMISSION: Persons most commonly become infected with *C. burnetii* through inhalation of organisms in small droplets or by inhalation of barnyard dust contaminated with *C. burnetii*. It is important to note that persons can be exposed to *C. burnetii* through inhalation of dust from contaminated environments located up to several miles from the site of contamination.

INCUBATION: Symptoms of Q-fever generally begin approximately 2–3 weeks after exposure, but can occur 3–30 days following exposure. The greater the number of organisms that infect the patient, the shorter the incubation period.

SIGNS AND SYMPTOMS: Approximately one-half of infected patients will be asymptomatic.
Q-fever is typically an acute febrile illness. Patients often present with the sudden onset of chills, headache, weakness, malaise, abdominal pain, and sweats, but clinical presentation varies significantly among patients. Abnormal liver function tests are common. Cough, chest pain, and abnormal chest x-ray findings occur infrequently. Chronic Q-fever is a severe disease occurring in <5% of infected patients. The most common manifestation of chronic Q-fever is endocarditis. Endocarditis occurs in about one-half of patients with pre-existing valvular disease.

LABORATORY TESTING: Patients suspected of being exposed to *C. burnetii* should be tested using laboratory methods. A laboratory diagnosis of Q-fever is made by demonstrating a rise in antibodies to *C. burnetii* between paired acute and convalescent serum specimens. A serum specimen should be collected during the first week of illness and tested for the presence of antibodies to *C. burnetii* (**acute phase**). <u>A follow-up serum specimen should be</u>

collected 3–6 weeks later and tested for antibodies (**convalescent phase**). Serum for testing can be collected using a yellow-top tube.

MORTALITY: If untreated, acute Q-fever has a case-fatality rate of less than 1%. The mortality rate of acute Q-fever is negligible if patients are treated with appropriate antibiotic therapy.

TREATMENT: Doxycycline is the first-line treatment for all adults, and for children with severe illness. **Treatment should be initiated immediately whenever Q-fever is suspected**. Treatment should not be delayed pending the receipt of a laboratory test or upon an initial negative laboratory result (most patients have negative laboratory tests the first 7–10 days of illness). Persons recently exposed to *C. burnetii* but who do not exhibit clinical symptoms **should not** be treated with antibiotics. For more specific treatment information, please visit http://www.cdc.gov/qfever.

REPORTING: In Montana, Q-fever is a reportable condition. Any patient suspected of having Q-fever should be reported immediately to the local health department.

If you have any questions, please call the Communicable Disease and Epidemiology Program office at 406-444-0273.