TIP SHEET For Local Boards of Health

Tularemia Case Investigations

Disease: Tularemia is a disease caused by the bacteria, *Francisella tularensis.* Tularemia has six clinical presentations depending on how the bacteria enters the body; most infections are successfully treated with antibiotics. Long-term immunity is acquired after exposure. People can become infected from:

- Tick and deer fly bites (ulceroglandular, glandular), or skin contact with infected animals (ulceroglandular, glandular, oculoglandular).
  - **Ulceroglandular** is the most common form of tularemia characterized by a skin ulcer at the site where the bacteria entered the body. The ulcer is accompanied by swelling of regional lymph glands, usually in the armpit or groin.
  - **Glandular** is like ulceroglandular tularemia but without an ulcer.
  - **Oculoglandular** occurs when the bacteria enter through the eye and symptoms include irritation and inflammation of the eye and swelling of lymph glands in front of the ear.
- Drinking contaminated water.
  - **Oropharyngeal** symptoms include sore throat, mouth ulcers, tonsillitis, and swelling of lymph glands in the neck.
- Inhaling contaminated aerosols or agricultural and landscaping dust or by laboratory exposure (pneumonic and typhoidal).
  - **Pneumonic** is the most serious form of tularemia. Symptoms include cough, chest pain, and difficulty breathing. It can occur when other forms of tularemia (e.g. ulceroglandular) are untreated and the bacteria spread to the lungs, or when bacteria are inhaled.
  - **Typhoidal** is characterized by any combination of the general symptoms, without the localizing symptoms of other syndromes.

Transmission & Incubation Period: *Francisella tularensis* is highly infectious and can enter the human body through the skin, eyes, mouth, or lungs. Transmission of tularemia from person to person has not been reported. The incubation period is 3–5 days (range 1–21 days). Tularemia is relatively rare in most of Massachusetts but known to be associated with Martha's Vineyard and Nantucket. The most commonly reported form is pneumonic tularemia. Most cases in MA occur among people who work or spend time outdoors, particularly landscapers.

Tularemia	
Initial Steps for LBOH	***Francisella tularensis* is a CDC Category A potential bioterrorism agent and requires <u>immediate</u> follow-up.** **LBOHs** have the primary responsibility to investigate cases of tularemia and are responsible for completing the Administrative, Demographic, Clinical, and Risk/Exposure Question Packages as part of the investigation. • LBOHs should monitor the "LBOH Notification for Immediate Disease" workflow, where tularemia events will appear following electronic reports of positive tularemia lab result. • Complete Admin Steps 1-3 to begin. • Familiarize yourself with the disease: Tularemia | Mass.gov
Role of DPH	**DPH Epidemiologists** are assigned to the case to ensure complete case follow-up and can provide guidance to LBOH as needed. **If there is an occupational laboratory exposure to a *F. tularensis* culture, DPH Epis** lead the investigation and notify LBOHs once follow-up has been conducted, or if assistance is needed. Most laboratory exposure notifications are reported directly to DPH.
LBOH Case Follow-up	**LBOH ensures data completion.** It is expected that all question packages in MAVEN be completed for every case. The goal of follow-up is to: 1. Confirm whether this is an acute case of tularemia (as titers can stay positive for years). 2. Identify severe presentations or if a cluster is suspected (is there something unusual about the case). 3. Monitor where and how cases were exposed to *Francisella tularensis* (non-Martha's Vineyard exposures are rare). <u>Begin by reviewing demographic and laboratory information available in MAVEN for the case.</u>

LBOH Case Follow-up	**To obtain clinical information:**
	1. **Call the provider or infection preventionist (IP)** at the hospital where the patient was seen to collect clinical information (this information can be found under "Ordering Facility" or "Ordering Provider" in the Lab tab in MAVEN).
	  ○ Review the history, onset and symptoms with the IP or healthcare provider.
	  ▪ Ask if ordering provider is interpreting this as acute tularemia.
	  • **If not, note in the event and no additional follow-up needed**.
	  ▪ Obtain the clinical presentation the patient has (ulceroglandular, glandular, oropharyngeal, oculoglandular, pneumonic, typhoidal) and note any localizing symptoms such as the presence of a skin ulcer, lymphadenopathy (enlarged lymph nodes), diarrhea, vomiting, cough, pneumonia, and conjunctivitis.
	  ○ Note which antibiotic the case is being treated with.
	  ○ Ask about possible exposures in the two weeks prior to onset of symptoms, including:
	  ▪ Occupation, tick bites, exposure to wild animals, eating wild game, cutting brush or mowing lawns, travel and contact with pets.
	2. **Call the case** to complete all remaining questions.

Control Measures	• Tularemia is treated with antibiotics (e.g., doxycycline, ciprofloxacin). No public health or control measures (including contact tracing, isolation, or quarantine) are necessary for tularemia. • Tularemia is not spread person to person.
Case Education	Taking steps to avoid tick bites is an important prevention strategy to reduce the risk of developing tularemia. Ticks that transmit tularemia include the American dog tick and the lone star tick; tick bite prevention recommendations are the same for all tick species in Massachusetts. More information can be found at Tick Prevention | Mass.gov. Other tularemia prevention strategies include: • Wearing gloves when handling wild animals, particularly rabbits, rodents, or hares. • Cooking game meat thoroughly before consuming (up to 165°F). • Avoiding sick or dead animals. • Wearing masks during mowing and landscaping to prevent inhaling bacteria from carcasses and avoiding mowing over dead animals. • Never consuming untreated surface water. • Using personal protective equipment (PPE) when working in higher risk occupations (laboratory, landscapers). **Note:** Cases should be referred to their doctor for treatment questions or concerns.
LBOH Case Review and Sign-Off	• Once Clinical and Risk/Exposure Question Packages have been completed, you may complete Steps 4-5 in the Administrative Question Package to sign off on the case.
Please call 617-983-6800 if you have any questions regarding case follow-up.	