

Plague

Information for the Public

What is plague?

Plague is an infectious disease that affects animals and humans. It is caused by the bacterium *Yersinia pestis*. This bacterium is found in rodents and their fleas and occurs in many areas of the world, including the United States. Plague is an ancient disease that occurs in irregular cycles. Millions of people in Europe died from plague during the Middle Ages when flea-infested rats inhabited human homes and places of work. In the United States, the last urban plague outbreak occurred in Los Angeles in 1924-25.

How do people become infected with plague?

People can get plague several ways:

- By the bites of infected fleas.
- By direct contact with an animal that has the plague.
- By inhaling infectious airborne droplets from persons or animals, especially cats, with plague pneumonia.
- In a bioterrorist attack.

What are the different forms of plague?

- **Pneumonic plague** occurs when plague bacteria infects the lungs. This type of plague can spread from person to person through the air. Pneumonic plague can be transmitted by breathing in plague bacteria in respiratory droplets from a person or animal with pneumonic plague. Respiratory droplets are spread by coughing or sneezing. Becoming infected in this way usually requires direct and close (within six feet) contact with the ill person or animal.
- **Bubonic plague** is the most common form of plague. This occurs when an infected flea bites a person or when materials contaminated with plague bacteria enter through a break in a person's skin. Bubonic plague does not spread from person to person.
- **Septicemic plague** occurs when plague bacteria multiply in the blood. It can be caused by a complication of pneumonic or bubonic plague or it can occur by itself. Septicemic plague does not spread from person to person.

Does plague occur naturally?

The World Health Organization reports 1,000 to 3,000 cases of plague worldwide every year. Although plague does not occur naturally in Michigan, about 5-15 cases occur yearly in the southwestern part of the U.S. (Arizona, New Mexico, Colorado, California, and Utah). These cases are usually scattered and occur in rural to semi-rural areas. Most cases are of the bubonic form of the disease. Naturally occurring pneumonic plague is uncommon, although small outbreaks do occur. Both bubonic and pneumonic plague are readily controlled by standard public health response measures.

How quickly would an exposed person get sick?

Someone exposed to plague bacteria would become ill within one to seven days.

What are the symptoms of plague?

- **Pneumonic plague** – People with plague pneumonia have high fever, chills, difficulty breathing, a cough, and bloody sputum. Plague pneumonia is considered a public health emergency because a cough can quickly spread the disease to others. Untreated pneumonic plague is usually fatal.
- **Bubonic plague** –When a person is bitten by an infected flea or is infected by handling an infected animal, the bacteria move through the bloodstream to the lymph nodes. The lymph nodes swell, causing painful lumps. Other symptoms are fever, headache, chills, and extreme tiredness. Some people have gastrointestinal symptoms.
- **Septicemic plague** – If bubonic plague goes untreated, the bacteria can multiply in the blood stream and produce plague septicemia, a severe blood infection. Patients with septicemic plague experience fever, chills, tiredness, abdominal pain, shock, and bleeding into the skin and other organs. Untreated septicemic plague is usually fatal.

What should someone do if they think they have the plague?

Someone who thinks they have the plague should get immediate medical attention. To prevent illness, a person who has been exposed must receive antibiotic treatment without delay. If an exposed person becomes ill, antibiotics must be given within 48 hours of their first symptoms to reduce the risk of death.

What is Michigan doing to combat this health threat?

The Michigan Department of Community Health is working closely with physicians to make them aware of the signs and symptoms of plague and laboratories to be able to identify the plague bacteria. Increased surveillance by local health departments is incredibly important in our efforts to detect bioterrorism, investigate potential cases, and ensure that patients will be cared for properly with minimal risk to other individuals. Hospitals, health care providers, and health departments throughout the state are prepared to follow the protocols and recommendations for care set by the Centers for Disease Control and Prevention to make sure patients are safe.

For more information on plague:

- Visit the Michigan Prepares website at www.michigan.gov/prepares.
- Visit the Michigan Department of Community Health website at www.michigan.gov/mdch.
- Visit www.malph.org/directory to find your local health department.
- Visit the Centers for Disease Control and Prevention (CDC) Plague webpage at <http://www.bt.cdc.gov/agent/plague>.
- Call the Centers for Disease Control and Prevention Public Response Service Hotline: 800-CDC-INFO or 800-232-4636, TTY 888-232-6348
- Disaster Distress Helpline Provides Immediate Counseling: 1-800-985-5990. Those affected by natural or manmade disasters can call 24 hours a day, 7 days a week.