Report to the Boards of Health

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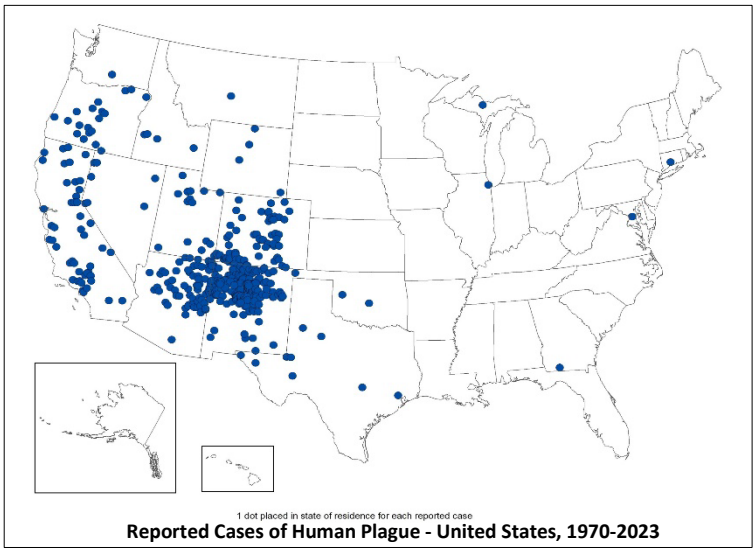
Mid-Michigan District Health Department, Wednesday, August 27, 2025
Central Michigan District Health Department, Wednesday, August 27, 2025
District Health Department 10, Friday, August 22, 2025

Plague

Arizona reported one of their residents died from pneumonic plague in July. New Mexico reported a death from plague in March 2024. On average, there are about 7 cases of plague each year in the United States and 17 deaths in the last 25 years. Since the mid–20th century, human plague in the United States is usually in the rural West. Some cases have been found in the eastern United States, but they have been in people who recently traveled in or from the west or from exposure to the plague germ in a laboratory.

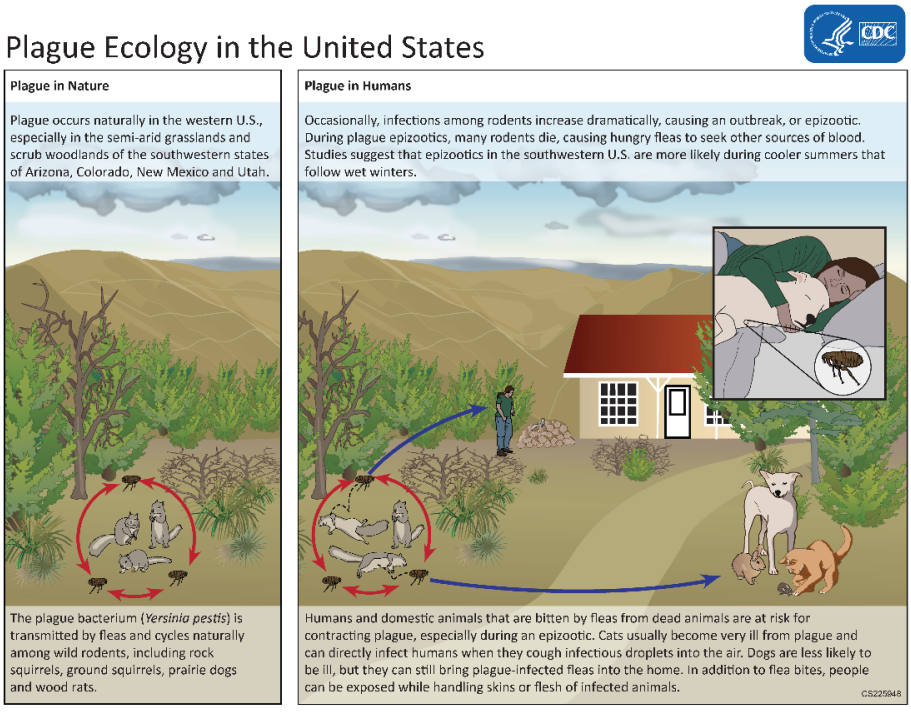


1 dot placed in state of residence for each reported case

Reported Cases of Human Plague - United States, 1970-2023

Plague is a disease caused by the bacterium, *Yersinia pestis.* Many types of mammals, including humans, can get the disease. In areas where the plague is found, the bacteria *Y. pestis* naturally lives in wild rodents, such as prairie dogs, chipmunks, wood rats, ground squirrels, deer mice, and voles. Plague spreads to other animals by infected flea bites. Carnivores, including domestic cats, can also get plague by eating infected rodents or being bitten by an infected animal.

Plague is still a serious illness, though can be treated with antibiotics. There are **three types of plague: Bubonic (boo-bon-ic) plague, Septicemic plague, and Pneumonic (new-mon-ik) plague:**



1. **Bubonic plague** is the most common form of illness. Signs include fever, chills, and very swollen, painful lymph nodes, called “buboes”. If the patient is not treated with the right antibiotics, the bacteria can spread to other parts of the body.
2. **Septicemic plague** occurs when the bacteria get into the blood and spreads throughout the body. Signs include fever, chills, extreme weakness, belly pain, shock, and possibly bleeding into the skin and other organs. Skin and other tissues may turn black and die, especially on fingers, toes, and the nose. Septicemic plague may be the first symptom of plague or may develop from untreated bubonic plague. This form results from bites of infected fleas or from handling an infected animal.
3. **Pneumonic plague** is less common but the deadliest form. It develops when bacteria spread to the lungs of a patient with untreated bubonic or septicemic plague, or when a person inhales infectious droplets coughed out by another person or animal with pneumonic plague. Signs include fever, headache, weakness, and a rapidly developing pneumonia with shortness of breath, chest pain, cough, and sometimes coughing up bloody or watery mucous. Treatment must be received quickly to survive. Pneumonic plague is the only form of plague that can spread from person to person and you can become sick with pneumonic plague as quickly as 1 day after you inhale infectious droplets.

History

The Plague hit the world in three pandemic waves from the 1300s to the 1900s and killed millions of people. This had huge and lasting impacts on society, religion, and economics. The first wave, called the Black Death in Europe, was from 1347 to 1351. During the second wave in the 1500s, a new more virulent strain of the disease emerged. The last pandemic at the end of the 1800s spread across Asia. During this pandemic, scientific medicine was finally able to identify the cause of the disease and how it spread. Plague was first introduced into the United States in 1900, from rat–infested steamships that had sailed from affected areas. By the 1930s plague epidemics were stopped. The disease is endemic in central Asia, and small pockets of infection remain around the world.

With modern antibiotics, the death rate from plague has fallen from over 60% to 11%. Antibiotic resistant forms of the bacteria have been identified but are not widespread. They were identified on the island of Madagascar in 1995 and in 2017, the deadliest outbreak in modern times killed 170 people and infected thousands on the island.

Bioterrorism and Plague

It is possible that *Y. pestis* could be released intentionally in a biological attack. If there were several cases of pneumonic plague in one area, this would be a public health emergency, and local public health and CDC would respond immediately. Public health has prepared for this possibility a bioterrorist attack using *Y. pestis*, though it is considered unlikely.

Recommendations:

1. If you are traveling or staying in areas where the plague is common, take steps to prevent infection (https://www.cdc.gov/plague/prevention/index.html) by: protect yourself from flea bites; avoid contact with wildlife, especially areas where large groups of rodents suddenly die; handling or skinning potentially infected animal, and; don’t allow dogs or cats that have roamed free in to sleep on your bed.
2. Using antibiotics appropriately helps to combat antimicrobial resistance and ensures these lifesaving drugs will be available in the future.
3. Support emergency preparedness and response efforts.

Sources

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- Science Museum. 2019. Bubonic Plague: The First Pandemic. https://www.sciencemuseum.org.uk/objects-and-stories/medicine/bubonic-plague-first-pandemic