

Coronavirus vs. Black Plague: What Do These Infectious Diseases Have in Common?

Claire Gillespie August 18, 2020



California just recorded the first case of the plague in the state in five years, and a lot of people are wondering how it compares to COVID-19.

California has its first case of plague in five years, health officials announced on August 17. In a [press release](#), El Dorado County officials said that the California Department of Public Health told them of the positive test of a resident who is currently recovering at home under medical

care. Health officials believe the South Lake Tahoe resident may have contracted plague after being bitten by an infected flea during a dog walk.

According to the El Dorado County release, the last reported human cases of plague in California were in 2015, when two people were exposed to infected rodents or fleas in Yosemite National Park. After treatment, they both recovered. These were the first reported human cases since 2006.

"Human cases of plague are extremely rare but can be very serious," El Dorado County Public Health Officer Dr. Nancy Williams said in the release, adding that plague is naturally present in many parts of California, including the higher elevation areas of El Dorado County.

RELATED: [China Issues an Alert About Bubonic Plague—Here's What You Need to Know About This Deadly Disease](#)

Of course, COVID-19 is the disease on everybody's radar right now. But with the news of the California case and other cases of plague [recently diagnosed in China and Mongolia](#), many people are wondering whether there are similarities between COVID-19 and the plague. Here's how the symptoms, treatments, and outcomes of both serious infectious diseases compare.

Compared to COVID-19, the plague is super rare

Bubonic plague (the most common form of the plague), aka “black death,” wiped out [30-50% of Europe’s population](#) in the 14th century. Today, it’s much less common. In recent decades, an average of seven cases of human plague, which is caused by the bacteria *Yersinia pestis*, have been recorded each year in the US, the [Centers for Disease Control and Prevention](#) (CDC) reports. Globally, between 1,000 and 2,000 cases are identified each year—although the true number is likely much higher.

By comparison, there are more than 21 million confirmed cases of COVID-19 around the world as of August 18, according to data from [Johns Hopkins Coronavirus Resource Center](#). Of those, about 5.4 million cases have been confirmed in the US, and more than 171,000 Americans have died of the virus to date.

RELATED: [Is the Coronavirus Worse Than the Flu? Here's How These Two Illnesses Compare](#)

Are the coronavirus and plague transmitted in the same way?

No. The plague is a bacterial “zoonotic infection” in domestic and wild animals, [infectious disease](#) specialist

[Bruce Polsky](#), MD, chairman of medicine at NYU Winthrop Hospital, tells *Health*. "Humans are an incidental host, with the bacteria transmitted by flea bites—most typically rodent fleas such as those on field mice, chipmunks, squirrels, and rabbits," he says. "[Plague has] been reported among rabbit hunters, for example. But it can also be transmitted through cat scratches or bites."

[Charles Bailey](#), MD, medical director for infection prevention at Mission Hospital and St. Joseph Hospital in Southern California, tells *Health* that plague is "transmitted from animal reservoirs among small rodents endemic in the Western US, but can also be seen in other areas of the world, especially Africa," he says.

A flea bite is the most common form of transmission of the bubonic plague, says the [CDC](#). Other forms of the plague, septicemic plague and pneumonic plague, are far less common in humans; more than 80% of US plague cases are bubonic plague. People can also become infected via direct contact with an infected animal, but human to human transmission is rare.

On the other hand, COVID-19 is [caused by a virus that is transmitted from person-to-person](#), usually via close contact (within six feet). It might also be contracted through direct physical contact, such as shaking the hand of someone who has the coronavirus, or touching a

contaminated surface. Simply being near an infected person who coughs, sneezes, or talks can expose you to respiratory droplets containing viral particles, the [CDC](#) says. If those particles get into your eyes, nose, or mouth, you could become infected.

RELATED: [Lyme Disease and Coronavirus Have Some Similar Symptoms—Here's How to Tell the Difference](#)

Do coronavirus and plague have similar symptoms?

Symptoms of the plague typically appear within one week of exposure. "These include fever, headache, and the development of tender swollen lymph nodes" near the area bitten by an infected flea, Dr. Bailey says.

Fever is also one of the most common symptoms of the coronavirus, and some people report headache. [Other COVID-19 symptoms](#) include [shortness of breath](#), [dry cough](#), loss of taste and/or smell, conjunctivitis, skin rashes, and digestive issues like diarrhea. However, Anthony Fauci, MD, director of the National Institute of Allergy and Infectious Diseases, has said that [25% to 45% of people with COVID-19](#) are asymptomatic (have no symptoms at all).

How do the treatment methods

compare?

After a diagnosis is made, the plague is readily treated with antibiotics. "It's pretty easy to treat nowadays," Dr. Polsky says. The [CDC](#) recommends hospitalization as soon as someone is diagnosed with suspected plague, and antibiotic treatment should begin as soon as possible after lab tests confirm the diagnosis. People who were in close contact with someone diagnosed with the plague can take prophylactic antibiotics to prevent the infection, Dr. Bailey adds.

When it comes to COVID-19, mild symptoms can usually be treated at home by taking over-the-counter medicines to ease aches and pains and reduce a high temperature. But if symptoms are severe (for example, persistent pain or pressure in the chest, trouble breathing, or bluish lips or face), medical care may be required. Currently, no medication is recommended to treat COVID-19 itself, and no cure for the virus is available.

RELATED: [An Idaho Child Was Diagnosed With the Plague. How Worried Should You Be?](#)

What about potential complications?

If the plague isn't treated quickly enough, the bacteria can spread to other parts of the body and result in the more

serious illnesses, such as meningitis and pneumonia. Dr. Bailey says the most serious complications arise from septicemic plague (resulting in shock and bleeding disorders) and pneumonic plague (causing shortness of breath, cough, and [chest pain](#)).

Older adults and people with [underlying medical conditions](#) are more susceptible to [complications from COVID-19](#), such as acute respiratory failure, acute respiratory distress syndrome (ARDS), pneumonia, blood clots, and septic shock.

So are there any similarities between COVID-19 and the plague?

Aside from overlapping symptoms like fever and headache, it's fair to say that COVID-19 and the plague are very different diseases. "The only commonality is that like COVID-19, the plague can be transmitted person-to-person by respiratory droplets," Dr. Polsky says. (According to the [CDC](#), this type of spread hasn't been recorded in the US since 1924, although it occurs more frequently in developing countries.)

Plague killed millions of people around the world centuries ago. In 2020, it's safe to say that the plague is unlikely to become a global health threat like COVID-19 because it's easily prevented and treatment exists to cure it. Plague has

been around much longer, and researchers have a solid understanding of it—which as of yet, they don't have for the coronavirus.

The information in this story is accurate as of press time. However, as the situation surrounding COVID-19 continues to evolve, it's possible that some data have changed since publication. While Health is trying to keep our stories as up-to-date as possible, we also encourage readers to stay informed on news and recommendations for their own communities by using the [CDC](#), [WHO](#), and their local public health department as resources.

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