How does the new coronavirus compare with the flu? Which one is more worrisome?

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The new coronavirus outbreak has made headlines in recent weeks, but there's another viral epidemic hitting countries around the world: flu season. But how do these viruses compare, and which one is really more worrisome?

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So far, the new coronavirus, dubbed COVID-19, has led to more than 75,000 illnesses and 2,000 deaths, primarily in mainland China. But that's nothing compared with the flu, also called influenza. In the U.S. alone, the flu has already caused an estimated 26 million illnesses, 250,000 hospitalizations and 14,000 deaths this season, according to the Centers for Disease Control and Prevention (CDC).

That said, scientists have studied seasonal flu for decades. So, despite the danger of it, we know a lot about flu viruses and what to expect each season. In contrast, very little is known about COVID-19 because it's so new. This means COVID-19 is something of a wild card in terms of how far it will spread and how many deaths it will cause.

"Despite the morbidity and mortality with influenza, there's a certainty … of seasonal flu," Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, said in a White House press conference on Jan. 31. "I can tell you all, guaranteed, that as we get into March and April, the flu cases are going to go down. You could predict pretty accurately what the range of the mortality is and the hospitalizations [will be]," Fauci said. "The issue now with [COVID-19] is that there's a lot of unknowns."

Scientists are racing to find out more about COVID-19, and our understanding of the virus that causes it and the threat it poses may change as new information becomes available. Based on what we know so far, here's how it compares with the flu.

Symptoms and severity

Both seasonal flu viruses (which include influenza A and influenza B viruses) and COVID-19 are contagious viruses that cause respiratory illness.

Typical flu symptoms include fever, cough, sore throat, muscle aches, headaches, runny or stuffy nose, fatigue and, sometimes, vomiting and diarrhea, according to the CDC. Flu symptoms often come on suddenly. Most people who get the flu will recover in less than two weeks. But in some people, the flu causes complications, including pneumonia. So far this flu season, about 1% of people in the United States have developed symptoms severe enough to be hospitalized, which is similar to the rate last season, according to data from the CDC.

With COVID-19, doctors are still trying to understand the full picture of disease symptoms and severity. In a small study of about 100 people with the virus, published Jan. 30 in the journal The Lancet, the most common symptoms were fever, cough and shortness of breath. Only about 5% of patients in that study reported sore throat and runny nose, and only 1-2% reported diarrhea, nausea and vomiting.

In a more recent study, considered the largest on COVID-19 cases to date, researchers from the Chinese Center for Disease Control and Protection, analyzed 44,672 confirmed cases in China between Dec. 31, 09 and Feb. 11, 2020. Of those cases, 80.9% (or 36,160 cases) were considered mild, 13.8% (6,168 cases) severe and 4.7% (2,087) critical. “Critical cases were those that exhibited respiratory failure, septic shock, and/or multiple organ dysfunction/failure,” the researchers wrote in the paper published in China CDC Weekly.

It’s important to note that, because respiratory viruses cause similar symptoms, it can be difficult to distinguish different respiratory viruses based on symptoms alone, according to WHO.

Death rate

So far this flu season, about 0.05% of people who caught the flu have died from the virus in the U.S., according to CDC data.

The death rate for COVID-19 appears to be higher than that of the flu.

In the study published Feb. 18 in the China CDC Weekly, researchers found a death rate from COVID-19 to be around 2.3% in mainland China. That’s much higher than the death rate linked to flu, which is typically around 0.1% in the U.S., according to The New York Times.

Even so, the death rate for COVID-19 varied by location and an individual’s age, among other factors. For instance, in Hubei Province, the epicenter of the outbreak, the death rate reached 2.9%; in other provinces of China, that rate was just 0.4%. In addition, older adults have been hit the hardest. The death rate soars to 14.8% in those 80 and older; among those ages 70 to 79, the COVID-19 death rate in China seems to be about 8%; it’s 3.6% for those ages 60 to 69; 1.3% for 50 to 59; 0.4% for the age group 40 to 49; and just 0.2% for people ages 10 to 39. Nobody 9 and under has died of this coronavirus to date.

Virus transmission

The measure scientists use to determine how easily a virus spreads is known as the “basic reproduction number,” or R0 (pronounced R-nought). This is an estimate of the average number of people who catch the virus from a single infected person, Live science previously reported. The flu has an R0 value of about 1.3, according to The New York Times.

Researchers are still working to determine the R0 for COVID-19. A study published Jan. 29 in the

New England Journal of Medicine (NEJM) estimated an R0 value for the new coronavirus to be 2.2, meaning each infected person has been spreading the virus to an average of 2.2 people.

It's important to note that R0 is not necessarily a constant number. Estimates can vary by location, depending on such factors as how often people come into contact with each other and the efforts taken to reduce viral spread, Live Science previously reported.

Risk of infection

The CDC estimates that, on average, about 8% of the U.S. population gets sick with the flu each season.

There are currently 29 cases of COVID-19 in the U.S. Still, newly emerged viruses like this one are always of public health concern, according to the CDC. It's unclear how the situation with this virus in the U.S. will unfold, the agency said. Some people, such as health care workers, are at increased risk for exposure to COVID-19. But for the general American public, the immediate health risk from the virus is low at this time.

Pandemics

It's important to note that seasonal flu, which causes outbreaks every year, should not be confused with pandemic flu, or a global outbreak of a new flu virus that is very different from the strains that typically circulate. This happened in 2009 with the swine flu pandemic, which is estimated to have killed between 151,000 and 575,000 people worldwide, according to the CDC. There is no flu pandemic happening currently.

The COVID-19 outbreak has not yet been declared a pandemic, as the majority of cases have occurred in China. But on Jan. 30, the WHO declared the COVID-19 outbreak a "public health emergency of international concern." The declaration was primarily due to concern that the virus could spread to countries with weaker health systems.

Prevention

Unlike seasonal flu, for which there is a vaccine to protect against infection, there is no vaccine for COVID-19. But researchers at the U.S. National Institutes of Health are in the early stages of developing one. Officials plan to launch a phase 1 clinical trial of a potential vaccine for COVID-19 within the next three months.

In general, the CDC recommends the following to prevent the spread of respiratory viruses, which include both coronaviruses and flu viruses: Wash your hands often with soap and water for at least 20 seconds; avoid touching your eyes, nose and mouth with unwashed hands; avoid close contact with people who are sick; stay home when you are sick; and clean and disinfect frequently touched objects and surfaces.

Rachael Rettner

P.S.

Livescience, Feb. 19, 2020:
https://www.livescience.com/new-coronavirus-compare-with-flu.html

Editor's note: This article was updated Feb. 19 with the latest information on COVID-19.

Articles of Rachael Rettner in Live Science:
https://www.livescience.com/author/rachael-rettner