

Coronavirus: Is COVID-19 deadlier than we thought?

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Among the key questions shaping debate around restrictive health measures to combat COVID-19 is how dangerous is the new coronavirus. Is it more like a bad strain of influenza, or is it deadlier?

Health experts say it's too early in the pandemic for a definitive answer because the basic information to make that calculation—how many people contracted COVID-19 and how many died of it— isn't fully known due to testing limitations.

But on March 3, before the rapid spread of cases prompted lockdowns around the U.S., the World Health Organization's director-general reported that "globally, about 3.4% of reported COVID-19 cases have died," and "by comparison, seasonal flu generally kills far fewer than 1% of those infected."

Today, by the WHO's global case and fatality tally, the world's COVID-19 death rate is twice what it reported in March—7%. Other organizations tracking figures, such as Johns Hopkins University, show a similarly high global case fatality rate. Regionally, the figures vary more. WHO and Johns Hopkins figures for the U.S. show a rate around 6%, while the WHO's figures for Europe indicate a rate of 9%.

"COVID19 is a pretty severe disease," said Santa Clara Valley Medical Center Dr. Heng Duong, who rattled off similar case fatality rates to the Santa Clara County board of supervisors this week. "It is true most people do OK. But when folks get sick, they get really sick."

By comparison, SARS—Severe Acute Respiratory Syndrome—caused by a cousin of the new coronavirus killed 774—10% - of the 8,098 people it infected in a 2003 outbreak, according to the U.S. Centers for Disease Control and Prevention. But that virus proved not nearly as infectious, so it didn't spread far.

The 1918-19 influenza pandemic, one of the most severe in history, which killed an estimated 50 million globally and 675,000 in the U.S., is generally estimated to have had a case fatality rate of more than 2.5%.

Duong and other experts said the true case fatality rate for COVID-19 may be much lower because there likely are a large number of people who have been infected with mild symptoms and were not confirmed through testing, which has largely been focused on those seeking hospital treatment or in high-risk settings.

But Duong added that "even if the case fatality rate is closer to 1%, that's actually very high," noting that seasonal influenza's fatality rate is about a tenth of that.

What does all this mean for us? Dr. Robert Siegel, a Stanford University professor of microbiology and immunology, said the relative danger of the disease has been part of a tug-of-war between advocates and critics of public health lockdowns aimed at checking the virus' spread. But the specific case rate ultimately doesn't matter much—the public health response will be the same.

"There is a political component in how these things are being estimated," Siegel said. "The fact is, we know this is a serious disease. We already know this is more serious than the flu. If you get the disease and the case fatality rate is 1% or the case fatality rate is 5%, I think you'd treat those the same. That would be an alarmingly high rate—you wouldn't play Russian Roulette with those odds. If it's 1 in a million that's something else."

The debate comes amid [recent reports](#) acknowledging a wider array of symptoms and complications in many COVID-19 cases—from "COVID-toe" skin lesions and loss of smell to kidney, heart and neurological damage, blood clots and strokes. Duong noted that influenza can cause some of those symptoms in some cases too, though the frequency has been higher with COVID-19. Still, he said about eight in 10 infected with the disease are able to ride it out at home.

Dr. Stephen Luby, an epidemiologist and professor of medicine at Stanford University, believes broader testing will eventually increase the number of people who have been infected and pull down the case fatality rate.

"Some people do become very ill from this virus, but I do not see any evidence that this is substantially worse than the cases reported out of China early in the epidemic," Luby said. "I still expect the infection [fatality](#) ratio to remain less than 1%. I expect that it will be worse than a typical influenza year, but not as bad as the influenza pandemic in 1919."

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