

5 THINGS TO KNOW ABOUT THE CORONAVIRUS

COVID-19, the disease caused by the new coronavirus (SARS-CoV-2), continues to spread around the world. The World Health Organization (WHO) has officially called the disease a pandemic—a disease outbreak occurring over a wide geographic area and affecting an exceptionally high proportion of the population. The United States has declared the pandemic a national emergency, and states throughout the country are taking unprecedented measures to slow the spread of the disease.

According to the WHO, there have been more than 150,000 confirmed cases of people sickened by [COVID-19](#) and almost 6,000 people have died from the disease—a death toll that has far surpassed that of the severe acute respiratory syndrome (SARS) epidemic that occurred in 2002 and 2003. Officials everywhere have implemented measures to contain the virus, including cancellations, closures, travel restrictions and quarantines.

While immediate risk for COVID-19 is still considered to be low for most Americans, the CDC expects that to change as the outbreak expands. People in the U.S. are already facing significant disruptions as reports of community transmission grow. In the coming months, the CDC expects most of the U.S. population will be exposed to the virus.

SARS-CoV-2 is a virus that scientists haven't seen before. Like other viruses—including Ebola (a deadly infectious disease that originated in Africa) and influenza—it is believed to have started in animals and spread to humans. (Specifically, SARS-CoV-2 is a betacoronavirus, which means it had its origins in bats.) Animal-to-person spread was suspected after the initial outbreak among people who had a link to a large seafood and live animal market in Wuhan, China.

Scientists and public health officials are working to find answers to key questions about the severity of the disease and its transmission.

Below is a list of five things you should know about the coronavirus outbreak.

1. Information about COVID-19 is still evolving

The name [coronavirus](#) refers to spikes seen (under a microscope) on the surface of the virus (corona is the Latin word for crown). Coronaviruses cause respiratory tract illnesses that range from the common cold to such potentially deadly illnesses as SARS, also first identified in China, and Middle East Respiratory Syndrome (MERS). According to the CDC, this is the first pandemic known to be caused by the emergence of a new coronavirus—novel influenza viruses caused four pandemics in the last century (which is why most of the research around pandemics is based on influenza).

According to the CDC, reported illnesses have ranged from very mild (with no reported symptoms in some cases) to severe, including illness resulting in death. Older people and people of all ages with severe underlying health conditions seem to be [at higher risk of developing serious illness](#). But doctors still don't have a complete clinical picture of COVID-19. "I think there are two main questions," says [Richard Martinello, MD](#), a Yale Medicine infectious diseases specialist and medical director of infection prevention at Yale New Haven Health. "First, we need to know how this virus is transmitted between people so we can be more precise in our efforts to stop its spread. Second, there needs to be a better understanding of the pathogenesis of the infection and resulting inflammatory response, so that knowledge can drive the development of therapeutic and preventive medications."

There is also more to learn about how COVID-19 spreads—and how contagious it is. “Data is needed not only to better understand when those who become ill shed the virus, but also which body fluids contain the virus and how those may contaminate surfaces and even the air surrounding them,” says Dr. Martinello.

2. Experts are taking steps to address COVID-19 and reduce infections

The number of cases in the U.S. has continued to rise. It includes imported cases diagnosed in travelers, people who were close contacts of other known cases, and community-acquired cases, meaning there was no known source of the infection.

Proper testing that is made widely available will be important in understanding how the disease is transmitted and the true infection and mortality rates. In addition to COVID-19 testing being done by the CDC in the U.S., state and local public health labs in all 50 states and the District of Columbia are currently using the CDC's COVID-19 diagnostic tests, although the number of available tests is limited at this point. Until there can be comprehensive testing for COVID-19, it's difficult to know how many cases may be here that have not been identified. "Testing is still very limited in Connecticut," says Yale Medicine infectious disease specialist [Manisha Juthani, MD](#). "This will hopefully change, but testing will have to be prioritized for those that are the sickest."

Meanwhile, doctors in the U.S. are keeping a close eye on the new virus. “With the new virus in a culture dish, they are looking at the biology and working to make drugs to treat it,” says Yale Medicine infectious diseases specialist [Joseph Vinetz, MD](#). There is also a great deal of effort underway to assess drugs in development (and some medications currently available) to determine if they are beneficial for treating patients infected with COVID-19, adds Dr. Martinello.

“There is a clinical trial evaluating different potential therapeutics at the University of Nebraska Medical Center in Omaha, the first of which is remdesivir,” says Dr. Juthani. Remdesivir is an antiviral treatment that, according to the National Institutes of Health, was previously tested in humans with Ebola virus disease and has shown promise in animal models for treating MERS and SARS.

Meanwhile, China currently is testing a number of therapeutics in clinical trials, and there are more than 20 vaccines in development for COVID-19, according to the WHO. But it could take as long as 12 to 18 months to develop a vaccine for the new virus, according to Anthony Fauci, MD, director of the National Institute of Allergy and Infectious Diseases.

3. If you feel ill, here's what you can do

So far, information shows the severity of COVID-19 infection ranges from very mild (sometimes with no reported symptoms at all) to severe to the point of requiring hospitalization. Symptoms can appear anywhere between 2 to 14 days after exposure. You should call your medical provider for advice if you have been in close contact with a person known to have COVID-19 or live in an area with ongoing spread of the disease and notice the following symptoms:

- Fever
- Cough
- Difficulty breathing

Seek medical attention immediately if you experience emergency warning signs, including difficulty breathing or shortness of breath, persistent pain or pressure in the chest, new

confusion or ability to arouse, or bluish lips or face. This list is not inclusive, so consult your medical provider if you notice other concerning symptoms.

If you have traveled to an affected country, taken a cruise in the past 14 days, or been exposed to another person with COVID-19, health officials will give you instructions on limiting your activities and movement for up to 14 days in order to help keep the virus from spreading. “If you are recovering well from a respiratory illness that you think might be COVID-19, we encourage you to call your doctor to see if you should be treated for influenza and remain at home as you continue to recover,” says Dr. Juthani. “As testing becomes more available in the next few weeks, it may be possible to be tested as an outpatient.”

Patients and members of the community can call the [COVID-19 hotline of Yale New Haven Health](#) at 203-688-1700 (toll-free, 833-484-1200) if they have questions.

4. There are things you can do to protect yourself

As with a cold, a flu vaccine won't protect people from developing COVID-19.

While doctors learn more about transmission, Dr. Vinetz says, “The best thing you can do at this point is take care of yourself the way you would to prevent yourself from getting the flu. You know you can get the flu when people sneeze and cough on you, or when you touch a doorknob. [Washing hands](#)—especially before eating and touching your face, and after going to the bathroom—and avoiding other people who have flu-like symptoms are the best strategies at this point.”

The CDC also recommends the following preventive actions:

- Wash hands with soap and water for at least 20 seconds. Dry them thoroughly with an air dryer or clean towel. If soap isn't available, use a hand sanitizer with at least 60% alcohol.
- Stay home if you're sick.
- Avoid touching nose, eyes, and mouth. Use a tissue to cover a cough or sneeze, then dispose of it in the trash.
- Use a household wipe or spray to disinfect doorknobs, light switches, desks, keyboards, sinks, toilets, cell phones, and other objects and surfaces that are frequently touched.
- If you must touch something, use a tissue or sleeve to protect your hand.
- It may also be important to create a household plan of action. You should talk with people who need to be included in your plan, plan ways to care for those who might be at greater risk for serious complications, get to know your neighbors, and make sure you and your family have a household plan that includes ways to care for loved ones if they get sick. This includes planning a way to separate a family member who gets sick from those who are healthy, if the need arises.

As for masks, there is little evidence supporting their widespread use for people who are not sick. “We generally do not recommend the use of masks for the general public,” says Dr. Martinello. “Masks may provide a modest degree of protection against fluids, including spray from a cough or sneeze, and they provide some filtration of the air. But, since the masks do not provide a tight seal around the wearer's nose and mouth, much of the air inhaled and exhaled remains unfiltered.” However, the CDC does recommend face masks for people who have symptoms of COVID-19, as well as for health care workers and others who may be caring for them. “Since we are experiencing mask shortages, it is important to save masks for health care

workers and patients that are sick in the emergency room to prevent other patients from getting sick,” says Dr. Juthani.

While everyone should take precautions, some people appear to be at higher risk for severe disease—a report external out of China suggests serious illness occurs in 16% of cases. Those most at risk include adults over 60 years old (the risk seems to gradually increase with age starting at age 40, according to the WHO) and those with chronic conditions (such as cancer, cardiovascular disease, chronic respiratory disease). People in these categories especially should avoid crowded places and stock up on household items, groceries, medications, and other supplies in case they need to stay home for an extended period.

5. Precautions remain extremely important

The CDC is taking measures to [prepare communities](#) to respond to any local or widespread transmission of the new virus. While medical facilities prepare for the possibility of large numbers of people needing medical care, it’s important for people to follow instructions regarding school closures, work shutdowns, event cancellations, or implementation of policies for working remotely.

Since threats like COVID-19 can lead to the circulation of misinformation, it’s important to trust information only from reputable health organizations and government sources such as the CDC and the WHO.

Guidelines will evolve as doctors learn more

Here’s the latest information everyone should have to minimize the risk of exposure to the new virus. “Whether it is the flu, which we see every winter, or an outbreak of an emerging infectious disease, the public health infrastructure in the U.S. is a critical resource for leading the federal, state, and local response,” Dr. Martinello says. Because knowledge about the new virus is evolving rapidly, you can expect recommendations to change, even frequently.

Global efforts are focused concurrently on lessening the spread and impact of the virus, according to the CDC, and this has included major restrictions on travel. [In addition to earlier travel restrictions covering China and Iran, the U.S. has suspended most incoming travel by foreign nationals from most of Europe.](#)

Anyone planning to travel out of the U.S. should check the CDC’s travel advisories concerning several countries that have had confirmed cases of COVID-19. The CDC’s latest recommendations include avoiding all nonessential travel to China, Iran, South Korea, and most of Europe. The CDC is recommending older adults and those with chronic medical conditions consider postponing any travel plans. “Given the declaration of a pandemic, it may be reasonable to avoid international travel in case returning home becomes problematic,” says Dr. Juthani.

The CDC recommends that all travelers postpone cruise ship travel, because the disease seems most likely to spread in close quarters if a fellow traveler is infected. It also advises people who are traveling in the U.S. to practice precautions, since they may be at higher risk of exposure if they visit an area that is experiencing community spread of COVID-19.

Infection prevention specialists at Yale New Haven Health (YNHH) have provided guidance for the screening of patients with acute respiratory infections to determine whether they have been to China or other hard-hit locations across the globe in the few weeks before they got sick, or if they’ve been exposed to anyone who may have been ill with COVID-19. YNHH is

taking a cautionary approach by putting masks on patients who may be at risk and placing them in a private room to ensure the safety of all patients and staff.

Meanwhile, public health authorities strongly advise everyone to get their annual flu shot if they have not done so already. “We continue to remain in the midst of a bad flu season,” says Dr. Juthani. In addition to preventing or mitigating the severity of flu, the vaccine will simplify the evaluation of patients with flu-like symptoms if potential cases of COVID-19 surface in the community.

[Click here to learn strategies for remaining calm during the coronavirus outbreak.](#)

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