

# Are colds and flu coming back?

August 27 2021, by Kathy Katella

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A remarkable side effect of the pandemic has been the near vanishing of colds, flu, and other viruses. All of these can lead to general misery and, in some cases, serious illness and death. Fortunately, mask-wearing and other measures to prevent COVID-19 pushed those viruses to the background, if only temporarily.

But now we're about to enter a new cold and flu [season](#)—what will happen? We missed a year of building immunity against those illnesses. Meanwhile, guidance on COVID-19 prevention measures has been changing, and will likely continue to change as more people are vaccinated.

"Basically, we don't know what will happen," says Ellen Foxman, MD, Ph.D., a Yale Medicine immunobiologist and laboratory medicine specialist, and an expert in respiratory viruses. "It's like a big experiment."

Part of the challenge is that there is no precedent in recent memory in which colds and flu receded in the general population to the point of near nonexistence for at least a year, she says.

## **What changed since the last flu season?**

The dramatic dip in [flu activity](#) during last year's flu season is incredible to contemplate. Flu season runs from October to May, when the illness can claim tens of thousands of lives. But preliminary estimates from the Centers for Disease Control and Prevention (CDC) for the 2020-2021 flu season show only 1,675 (0.2%) of 818,939 respiratory specimens tested by U.S. clinical laboratories tested positive for flu. The figure is dramatically lower than the three previous seasons, when the proportion of positive flu tests peaked between 26.2% and 30.3%. The CDC also says hospitalizations for flu during the past season hit the lowest number since recording of that data began in 2005.

Explanations for last year's plummeting numbers could include the record number of flu vaccines distributed, and COVID-19 mitigation measures that included wearing [face masks](#), staying home, washing hands, and practicing physical distancing, the CDC says.

As colds and flu return this fall—and Delta or other new coronavirus variants continue to circulate—there could be confusion and even panic, since some of these illnesses share COVID-19 symptoms. Both COVID-19 and flu, for example, can cause cough, shortness of breath, runny or stuffy nose, fatigue, sore throat, and even loss of taste or smell (although the latter is more frequent with COVID-19).

## **Some pre-pandemic illnesses have returned already**

In normal years, experts watch for new strains of the flu moving from the southern hemisphere, where the season runs from April to September, to the north as they figure out how to develop a vaccine to best protect people during the northern flu season in the fall.

But the hints early this summer weren't about the flu; rather, they were about [respiratory syncytial virus](#) (RSV), an illness that has been known to cause severe sickness and sometimes death in older adults and young children. First Australia reported high spikes of RSV. Last winter, there were only a handful of cases of RSV in the U.S., but in early June, the CDC issued a health advisory about an uptick in interseasonal RSV activity across parts of the Southern United States.

In another puzzling scenario last October, children in Hong Kong, who had spent months at home as a pandemic precaution, went back to school wearing masks and maintaining six-foot distances from each other. There was no major spread of flu or COVID-19 in their classrooms, but there was significant transmission of rhinoviruses (which you can become infected with when you touch surfaces or forget to wash your

hands). This led to an explosion of colds, and some children had to be hospitalized, according to a [study](#) in *Emerging Infectious Diseases*, which is published by the CDC.

Lack of exposure to colds and flu last year could make people in the U.S. more vulnerable to these illnesses as well this year, says Carlos Oliveira, MD, Ph.D., a pediatric infectious diseases specialist. "In many ways, being exposed to a virus maintains your immunity over time even if you don't become infected by the virus," he says. "So, it's very possible there will be a huge number of people who will have very little to no antibodies to the incoming flu strain, and we might have a bad flu season."

## **What we don't know yet about the next cold and flu season**

There still isn't enough data on which to base solid predictions. "I would say there is no precedent for this situation," Dr. Foxman says, adding that even the Swine flu in 2009 didn't lead to the strict measures and reduced interaction among people that has taken place in the time of COVID-19.

It's also difficult to know how people will behave as far as practicing the same COVID-19 prevention strategies this fall that many adhered to last year. In late July, the CDC announced stricter recommendations for wearing masks when it learned that vaccinated people who develop rare "breakthrough" cases of the Delta variant can transmit the virus to others. Some companies, and state and local governments, followed up with mandates. At the same time, some states have banned any mandates.

Another wild card is how the viruses themselves will behave—and this

applies to both COVID-19 and any other virus in circulation. "There are models for this coming year, but we just don't know if they're right or not yet," says Dr. Foxman.

One thing that is missing from those models is the potential interactions of germs, a topic that Dr. Foxman and others have been studying. "If we want to really be able to predict how different germs are going to spread around and how they're going to behave so that we will be able to make plans, we have to think about interactions among germs as being a really important part of that mathematical equation," she says.

## What we've been learning

Viruses tend to spread themselves out, and that helps.

"Biologically—from the survival point of view of the viruses—they don't want to infect a host that is already infected with something else," Dr. Oliveira says.

Dr. Foxman and a team at Yale published a [study](#) in June in the *Journal of Experimental Medicine* showing that exposure to the rhinovirus, the most frequent cause of the common cold, can protect against infection from SARS-CoV-2, the virus that causes COVID-19. The researchers found the rhinovirus can jumpstart the activity of interferon-stimulated genes, which are early-response molecules in the immune system that can halt replication of the SARS-CoV-2 virus within airway tissues infected with the cold. "Basically, it doesn't matter which virus it is, all viruses trigger this rapid defense," Dr. Foxman says. The power of the cold virus to prevent the infection would depend on such things as the timing of the rhinovirus and the intensity of the COVID-19 infection, she adds.

"I guess one silver lining of our study is that it suggests that if common colds come rushing back like we expect they will this fall, it may provide

a protective buffer against some of the other viruses," Dr. Foxman says.

## **What we can do to stay healthy this fall and winter**

The best thing you can do to stay healthy this cold and [flu season](#) is get vaccinated—against the flu and COVID-19.

The COVID-19 vaccines available in the U.S. have proven to be highly effective against severe disease from the SARS CoV-2 virus. The flu vaccine also prevents severe disease. Although it is possible to get the flu after vaccination, in general you will have a milder flu and recover quickly because of the protection from the vaccine.

While the effectiveness of the flu vaccine varies from year to year, Dr. Oliveira says that even if the flu vaccine is different than the circulating flu strain, the vaccine can boost antibodies that are close enough so that the amount of virus that enters a person's respiratory tract will not be quite as high, symptoms will be less severe, and the course of illness will be shorter.

The flu vaccine is also still important for public health, he adds.

"Individuals who carry less flu [virus](#) for shorter periods of time are less likely to deliver an infectious dose to a close contact and propagate an outbreak."

The CDC recommends every adult and child who is six months or older get vaccinated against the flu in September or October (although the vaccine will be available through the end of the season in March 2022).

There should be plenty of flu vaccines available this season. In August, vaccine manufacturers projected they will supply 188 to 200 million doses of influenza [vaccine](#) for the 2021-2022 season. Those projections may change as the season progresses. And while Dr. Foxman's research

is intriguing, she emphasized that it doesn't mean that you should try to catch a cold to avoid flu or COVID—the best bet is vaccines.

Also, even though we only have vaccines for a handful of viruses, there are still things we can do to prevent getting sick, Dr. Foxman says. "I think we have two different things going on. One is immunology and the other is human behavior."

The latter can prevent infections by going back to the basics, she says. That includes strategies that can prevent not only COVID-19, but also colds and flu. They include washing hands, staying home from work when you are sick, and keeping kids home from school or daycare when they are sick.

"I think we should feel empowered by the fact that we showed that you can actually prevent illnesses that we took as a fact of life," she says.

Provided by Yale University

Citation: Are colds and flu coming back? (2021, August 27) retrieved 2 May 2024 from <https://medicalxpress.com/news/2021-08-colds-flu.html>

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