



FACT CHECK

Fact check: Getting flu shot doesn't make you more (or less) likely to get the coronavirus

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The claim: The flu vaccine can cause people to test positive for coronavirus

As the novel coronavirus continues to spread across the United States, a handful of posts on Facebook have claimed those who received the influenza vaccine are either more likely to test positive for the virus or to become sick with it.

Some posts include snippets of scientific studies meant to back up the claim. An image clipped from one study, a 2008-2009 paper by researchers in Hong Kong, appears to show that children who received the trivalent (three-strain) flu vaccine that year had a higher incidence rate of coronavirus.

"FYI if you got the flu shot you will likely test positive for corona," said a March 21 post by Facebook user David Isham that cited the study. The post was shared more than 120 times.

A March 23 post by user Ash Arditi, which has more than 1,100 shares, also connected the vaccine to the virus.

"Remember ... they doubled the flu shot dose this year and even pushed it at the Golden Globes," the post said. "... The quadrivalent FLU SHOT for the 2019-2020 season has a 'trivalent' strain of CORONAVIRUS **IN IT**."

Among the citations in Arditi's Facebook post — which also implies that coronavirus outbreaks in China and Italy were due to increased vaccination — are sections of a second research paper that describe a 2017-2018 study of U.S. Department of Defense personnel comparing those who did and did not receive the flu vaccine.

The study in question analyzed "virus interference" between the influenza vaccine and respiratory viruses, including coronavirus.

"Vaccine derived virus interference was significantly associated with coronavirus," the study states.

Isham and Arditi did not immediately respond to USA TODAY requests for comment.

Coronavirus is not in the flu shot

Researchers update the flu shot annually to protect from strains of the influenza virus. Each shot protects from either three strains (trivalent) or four strains (quadrivalent) of influenza.

The vaccine does not include any of the coronaviruses, a family of viruses that includes some that give people upper respiratory illnesses. It also is not meant to protect someone from them.

The new strain of coronavirus that has turned into a global pandemic over the past four months can cause severe illness, with symptoms including fever, shortness of breath and coughing. More than 43,000 people had died of the virus worldwide as of Wednesday morning.

Since coronavirus isn't in the flu shot, the shot won't give anyone symptoms of the coronavirus or cause them to test positive, said Dr. Christie Alexander, president of Florida Academy of Family Physicians and associate professor for the Florida State University College of Medicine.

"If someone develops coronavirus symptoms, it may be because they came into contact with someone who had the virus a few weeks before they got their shot," she said. "There's no cause and effect between the two."

Experts: Research doesn't back up a connection

Alexander said that despite the citations in Facebook posts, academic research has also not shown a connection between the flu shot and coronavirus.

The Hong Kong study in question, she said, was a small study with limitations that shouldn't be extrapolated. The coronavirus mentioned in both studies is also not the new strain of coronavirus that has become a global pandemic.

The phenomenon of "viral interference" referred to in the second study wouldn't make anyone more likely to contract coronavirus, said Dr. Akiko Iwasaki, professor of immunobiology and molecular, cellular and developmental biology at the Yale University School of Medicine.

Viral interference, she said, is when a person already infected with one virus is resistant to infection with a second, because of how their immune system fights the first virus. The system isn't perfect, she said, and co-infection by multiple viruses can still occur.

While it's true that people who get the flu shot are still susceptible to infection by other respiratory viruses like the common cold, they are not more susceptible than those who do not get the vaccine, she said.

"I wouldn't think that the flu vaccine will make you more susceptible to these viruses," she said. "It's just that they're so prevalent that you might pick up the infection with that more often than the flu virus, obviously for which you're protected."

While flu shots will not make a person more susceptible to the coronavirus, they also will not protect a person from it. There is no available vaccine for the coronavirus, although researchers are working on it.

But the flu vaccine can help combating the coronavirus in one way, Iwasaki said. If everyone were to have the flu vaccine, fewer would catch the flu, theoretically freeing up hospital beds and resources for coronavirus patients, she said.

"In the population base, it makes sense for everyone to get the flu vaccine," she said. "But with the individual, no, there is no interference between the flu vaccine and the coronavirus."

Our ruling: False

There is no known connection between the flu vaccine and the novel coronavirus. The vaccine will neither give a person immunity to the virus nor make them more susceptible to it. Since coronavirus is not in the flu shot, it also will not affect whether a person tests positive for it or not.

Experts contacted by USA TODAY said the studies mentioned in these posts do not refer to the novel coronavirus, and research currently doesn't support a link between the two viruses.

Our fact-check sources:

National Institutes of Health: 2008-2009 study by Hong Kong researchers

National Institutes of Health: 2017-2018 study by U.S. Department of Defense

Centers for Disease Control and Prevention: Influenza (flu) vaccine: What you need to know

Centers for Disease Control and Prevention: Seasonal flu shot

Centers for Disease Control and Prevention: Symptoms of COVID-19

Johns Hopkins University: Coronavirus resource center

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