

Heart failure hospitalizations spike when flu season peaks

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(HealthDay)—Weakened hearts grow weaker and fail when influenza

rages throughout the land, a new study reports.

Hospitalizations for [heart failure](#) increased dramatically in months when the [flu season](#) was at its worst: For every 5 percent monthly increase in [flu activity](#), researchers observed a 24 percent increase in hospitalization rates for heart failure.

On average, as many as 1 in 5 heart failure hospitalizations appear to be triggered by the flu during the months when [influenza viruses](#) are circulating widely.

"It was especially pronounced during the most virulent seasons that we studied," said lead researcher Orly Vardeny, an investigator with the Minneapolis VA Center for Care Delivery and Outcomes Research. "Those years had the most pronounced association between influenza and heart failure hospitalizations."

For example, researchers found a 22 percent increased risk of heart failure during the 2010-2011 season. The particularly nasty H3N2 strain of flu reigned supreme that season, hitting seniors hardest and likely exacerbating their existing heart problems.

Flu has previously been linked with an increased risk of [heart problems](#), but up to now few studies have compared the progress of the influenza season to heart-related hospitalizations at any given time, researchers said.

To examine these trends, researchers gathered data from a long-term heart study focused on four U.S. communities in Mississippi, Minnesota, North Carolina and Maryland. The study collected information on more than 451,000 adults aged 35 to 84 between 2010 and 2014.

The research team members compared hospitalization records from that

study with data kept by the U.S. Centers for Disease Control and Prevention on flu activity in each of the four communities.

They found that when flu activity spiked, more people suffered heart failure events that landed them in the hospital. Heart failure occurs when the heart grows so weak it can no longer adequately ferry blood to the rest of the body.

The researchers also looked at heart attack rates and flu activity, but found no statistically significant association.

The findings were published March 27 in the journal *JAMA Cardiology*.

The new study "really does raise our attention yet again that there is an inescapable association between influenza and heart failure," said Dr. Clyde Yancy, chief of cardiology at the Northwestern University Feinberg School of Medicine in Chicago. "That is an awareness that should not be overlooked, because the older population is particularly vulnerable to influenza."

There are a couple of potential ways that flu might increase risk of heart failure, said study co-author Dr. Scott Solomon, a professor with Harvard Medical School and Brigham and Women's Hospital in Boston.

The flu could directly impact the heart's ability to pump, either by the virus infecting the heart muscle or creating damaging inflammation throughout the body, Solomon explained.

Or the flu might simply put so much strain on the body overall that an already weakened heart can become taxed beyond its limits, he said.

Yancy agreed.

"Heart failure, even though we do a very good job of treating it, it is still a very fragile state physiologically," Yancy said. "With anything that is disruptive, we end up with the consequences of an exacerbation or worsening of heart failure."

These results "underscore the importance of getting a flu shot every year," Vardeny said. "Even if one doesn't get it in October or November, getting it later on in the season is beneficial."

Even now, with the flu season winding down, immunization could protect against some of the weaker flu viruses that remain in circulation, Vardeny said.

Doctors also should take heed of these results, and be ready to treat more heart failure cases during flu [season](#), Yancy added.

Solomon said researchers now are working on a federally funded clinical trial to see if the flu vaccine can reduce heart health problems in high-risk patients.

"Imagine the public health message if we can prove definitively that immunization can prevent [heart](#) failure hospitalization," Yancy said.

More information: Orly Vardeny, Pharm.D., investigator, Minneapolis VA Center for Care Delivery and Outcomes Research; Clyde Yancy, M.D., past president, American Heart Association, and chief, cardiology, Northwestern University Feinberg School of Medicine, Chicago; Scott Solomon, M.D., professor, Harvard Medical School and Brigham and Women's Hospital, Boston; March 27, 2019, *JAMA Cardiology*

The Mayo Clinic has more about [flu and heart disease](#).

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