Medical News & Perspectives

The Dreaded “Twindemic” of Influenza and COVID-19 Has Not Yet Materialized—Might This Be the Year?

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Epidemiologist Michael Osterholm, PhD, MPH, likens predicting a flu season’s severity to forecasting a hurricane’s strength and its exact path 5 days before it makes landfall.

With influenza, as with hurricanes, “we have to expect the unexpected,” Osterholm, founder and director of the Center for Infectious Disease Research and Policy at the University of Minnesota, explained in an interview with JAMA. “We have to plan as if this could be a severe flu season.”

Some experts, including National Institute of Allergy and Infectious Diseases Director Anthony Fauci, MD, have pointed to Australia’s 2022 flu season—in the temperate regions of the Southern Hemisphere, flu season typically runs from April to September—as a warning about what could be in store for the US. Influenza cases in 2022 peaked earlier and higher in Australia than in any of the previous 5 flu seasons, according to preliminary data in a government report, and children and teens were more likely to have been affected than adults.

Despite the high number of cases, the impact of the 2022 flu season in Australia, as measured by the number of patients hospitalized or patients unable to go to work or school as usual, was low to moderate, the government report noted. The number of patients hospitalized with influenza in Australia peaked early but not higher than in the previous 5 flu seasons.

Forecasting the severity of the US flu season based on the Australian flu season preceding it “is a fair thing to say but is never a 1-to-1 comparison,” virologist Richard Webby, PhD, director of the World Health Organization Collaborating Centre for Studies on the Ecology of Influenza in Animals and Birds, cautioned in an interview with JAMA. “I do think we’re likely going to have a big flu season,” Webby, a faculty member at St Jude Children’s Research Hospital in Memphis, added.

“Funky” Flu Season

For several reasons, some prognosticators had predicted that the 2021-2022 flu season would be severe. Its predecessor, the first full flu season since the pandemic began, was practically nonexistent, which many observers credited to COVID-19 mitigation measures such as remote learning and working, social distancing, and wearing face masks.

However, with so few cases, people were less likely to have been exposed to influenza viruses and to have built up immunity to them in the first year-and-a-half of the COVID-19 pandemic. Couple that with the return to school and work and the abandonment of social distancing and mask mandates, and the pieces were in place for a doozy of a flu season in 2021-2022, the feared “twindemic” of influenza and COVID-19.

But it never materialized.

The 2021-2022 flu season was mild compared with its prepandemic predecessors, according to a recent report from the US Centers for Disease Control and Prevention (CDC) in the Morbidity and Mortality Weekly Report (MMWR). “The adoption of COVID-19–related mitigation measures might have had an impact on the timing or severity of influenza activity,” the authors wrote.

However, the most recent flu season was mild even in countries with no COVID-19 risk mitigation, Osterholm pointed out. “I think we’re in this ‘we still don’t understand what’s happening with the whole evolution of respiratory viruses,’” he said.

Lynnette Brammer, MPH, a coauthor of the CDC report, has tracked influenza for years and has come to expect the unexpected.

“It’s so unpredictable. It’s not really a surprise anymore when it doesn’t do what you thought it might,” Brammer, leader of the Domestic Influenza Surveillance team in the CDC’s Influenza Division, told JAMA in an interview. “Last year probably didn’t play out the way a lot of people expected.”

The 2021-2022 flu season in the US started to take off at around the normal time in October, peaked the last week of 2021, and then dropped off, she said. Dropping off in early January isn’t unusual, given that students are out of school for the holidays,
Brammer explained. “But it didn’t bounce back that fast, not as quickly as in previous years,” which is usually in mid to late February, she said.

When asked about the 2021-2022 flu season, Vanderbilt University infectious disease specialist William Schaffner, MD, said in an interview with JAMA, “I use a very scientific word to describe it, which is ‘funky.’” He was only half-joking. “Funky” may not really be in the scientific lexicon, but 2021-2022 was unusual. Through the first week or 2 of January, the flu season looked like it was going to be severe, “and then to everyone’s surprise, it just plummeted,” said Schaffner, medical director of the National Foundation for Infectious Diseases and its liaison to the CDC’s Advisory Committee on Immunization Practices (ACIP).

Cases did peak again in March, April, or May, depending on the part of the country, according to the MMWR report. Many flu seasons have only 1 peak, and when they have a second, it’s usually a different strain than the first peak, Brammer said. Of course, influenza being influenza, both peaks in 2021-2022 were of the A(H3N2) subtype—“a little bit odd, but flu does odd things,” she said.

However, it smoldered for months, Schaffner noted. Several thousand people in the US were hospitalized for influenza in June, according to CDC surveillance data. “That prolonged tail was very unusual,” Schaffner said. “It didn’t fit any previous season.”

**Omicron vs Influenza**

Omicron cases were on their way up when influenza cases came down in January 2022.

That raises a number of questions, Schaffner said. “Do these viruses influence each other’s behavior? Do they sort of interfere with each other?”

Having 2 respiratory viruses peak at the same time would be unusual, Webby noted. The highly contagious Omicron variant “really blunted the flu season for reasons we don’t understand,” he said. One possible explanation is that “[w]hen you get infected with a virus you get this sort of nonspecific immunity,” Webby said. With a rapidly spreading competitor like Omicron, “flu just struggles to find that next host to infect.”

**Getting Shots in Arms**

Vaccine manufacturers have projected that they will produce 173.5 million to 183.5 million doses of influenza vaccines for the 2022-2023 flu season, according to the CDC. A record 193.8 million doses were distributed in 2020-2021, the CDC says.

Besides the composition of flu vaccines, which are updated annually based on the strains that are circulating, the other main change for 2022-2023 is that the ACIP is recommending that people 65 years or older receive any one of the following higher-dose or adjuvanted influenza vaccines: quadrivalent high-dose inactivated influenza vaccine (HD-IIV4), quadrivalent recombinant influenza vaccine (RIV4), or quadrivalent adjuvanted inactivated influenza vaccine (aIIV4). Only if none of the 3 is available when a person in that age group seeks a flu shot should an alternative be used, the CDC says.

Given the low severity of the last 2 flu seasons, “[w]e really have to remind people about influenza and how it’s so important,” Schaffner said. “The sense I have is that we vaccinated less than our targets.”

Indeed, fewer doses of flu vaccine were administered to adults 18 years or older in physicians’ offices and pharmacies in 2021-2022 than in 2020-2021, according to CDC data. Overall, less than half (45.4%) of US adults received a flu vaccine this past season, the CDC says.

The composition of annual flu vaccines must be determined months in advance to allow time for manufacturing. Sometimes that results in a mismatch with the flu strains that end up circulating during flu season. This year, though, Webby said, “so far, it looks like it’s going to be a pretty good match.”

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