

Protecting Vulnerable Patients from Influenza During the COVID-19 Pandemic

An Urgent Call to Action for Health Care Professionals

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Abstract: The 2020–2021 US influenza season, although mild, initially raised concerns about an unprecedented dual threat of SARS-CoV-2, the virus that causes COVID-19, circulating alongside seasonal influenza viruses. Although everyone is susceptible to influenza infection, adults with chronic health conditions (including heart disease, lung disease, and diabetes) are particularly vulnerable to influenza-related complications including hospitalization, disability, and death—as are older adults (65+ years) and adults in underserved communities, in which rates of chronic health conditions are higher. Many of the chronic health conditions associated with an increased risk of influenza-related hospitalization and mortality are the same conditions that increase the risk of severe COVID-19 outcomes. Given the impact of the COVID-19 pandemic, health care professionals must prioritize influenza vaccination for all patients, especially those with chronic health conditions.

Key Words: influenza, COVID-19, chronic health conditions, vaccine, immunization, heart disease, lung disease, asthma, COPD, diabetes

Infect Dis Clin Pract 2021;29: e202–e203

Every year, influenza (flu) is responsible for millions of illnesses and hundreds of thousands of deaths worldwide. During the 2020–2021 flu season, we are facing an unprecedented dual threat of SARS-CoV-2, the virus that causes COVID-19, circulating alongside seasonal influenza viruses. In the United States, new COVID-19 cases continue to spike while straining an already overburdened health care system.

Given the impact of the COVID-19 pandemic, health care professionals must prioritize influenza vaccination this season for all patients—especially those with chronic health conditions. Although everyone is susceptible to influenza infection, adults with chronic health conditions (including heart disease, lung disease, and diabetes) are particularly vulnerable to influenza-related complications including hospitalization, disability, and death—as are older adults (65+ years) and adults in underserved and marginalized communities, in which rates of chronic health conditions are higher. During the 2019–2020 respiratory season, an underlying medical condition was present in 92.9% of laboratory-confirmed influenza hospitalizations among adults, led by cardiovascular disease (46.6%) and metabolic disorders (42.8%), obesity (40.9%), chronic lung disease (36.5%), and asthma (22.3%).¹

Many of the chronic health conditions associated with an increased risk of influenza-related hospitalization and mortality are the same conditions that increase the risk of severe COVID-19 outcomes. Of US adult patients hospitalized with laboratory-confirmed COVID-19 thus far, 42.9% had metabolic disorders (which includes diabetes), 34% had cardiovascular disease, 19.3% had chronic lung disease, and 10.7% had asthma.² From February to May 2020, of patients who died of COVID-19 in the United States, 60.9% had cardiovascular disease, 39.5% had diabetes mellitus, and 19.2% had chronic lung disease.³ In addition to adversely impacting the same vulnerable populations, influenza and COVID-19 can share clinically similar presentations, analogous transmission mechanisms, and similar dynamics regarding latency periods and symptom onset. These similarities can complicate diagnosis and appropriate early supportive treatment.

Influenza and COVID-19 both trigger inflammatory processes that may exacerbate underlying health conditions or trigger cardiovascular events. COVID-19–induced inflammation may be particularly consequential for individuals with a diminished innate immune response, including adults 65 years and older and those coinfecting with influenza. In a study of 93 patients with laboratory-confirmed COVID-19 during the original outbreak in China, severity of inflammation and organ injury was observed to be greater in patients with influenza, suggesting that coinfection may have a synergistically damaging inflammatory effect.⁴

During the 2019–2020 season, influenza vaccination prevented an estimated 7.5 million illnesses, 105,000 hospitalizations, and 6300 influenza deaths in the United States.⁵ A growing body of evidence shows influenza vaccination can prevent heart attack and stroke, with efficacy estimates ranging from 15% to 45%, similar to the efficacy attributed to smoking cessation, statins, or antihypertensive therapy.⁶

Unfortunately, vaccination coverage of US adults remains suboptimal each year. Less than half of adults aged 50 to 64 years receive an annual influenza vaccine,⁷ despite the high prevalence of chronic health conditions. Although vaccination coverage is higher among adults 65 years and older, approximately one-third of older adults remain unvaccinated each year.⁷ Adult vaccination has become even more challenging during the COVID-19 pandemic, with coverage rates dropping substantially because of shelter-in-place and other infection control measures that may have caused delays in, or cancellation of, routine health care visits. Health care professionals must work together and communicate the urgent need for influenza vaccination among adults with chronic health conditions, even in this more challenging environment, to ensure that patients can safely receive recommended vaccinations. Influenza vaccination programs may have to adjust timelines and delivery modes. They may need to extend the timeline for influenza vaccination to accommodate stay-at-home and other COVID-19 mitigation and infection control measures.

It is more important than ever for primary care providers and specialists to ensure all adult patients, particularly those at increased risk of influenza and COVID-19 complications, receive

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The authors report the following conflicts of interest. W.S. served as an advisor or consultant for VBI Vaccines. R.A.G. is an advisor to Onduo, Lark, Health Reveal, and Vida. A.J.T. has no relevant financial relationships to disclose.

This activity was supported by a grant from Sanofi Pasteur. NFID policies (<http://www.nfid.org/funder-engagement.html>) restrict funders from controlling program content.

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ISSN: 1056-9103

annual influenza vaccination throughout influenza season. Health care professionals should not only recommend but also insist upon influenza vaccination during each in-person and telehealth patient encounter and should encourage their staff to do the same. Automatic notifications can be included in electronic health record systems to alert staff to the vaccination needs of individual patients. Adults with chronic health conditions also need to be informed that influenza can exacerbate their underlying illness, precipitate cardiovascular events such as heart attack and stroke, and can lead to hospitalization.

Influenza vaccines can be integrated into chronic disease management—health care professionals can proactively reach out to patients with high-risk conditions without a scheduled appointment and encourage them to receive an influenza vaccination. Specialists should make sure to discuss influenza vaccination at each visit as part of managing a patient's chronic health condition. Community health workers, peer networks, social media influencers, and storytelling strategies can effectively relay the importance of receiving an annual influenza vaccine and dispel any misconceptions and rumors about vaccines and vaccination. Also, health care professionals need to schedule adequate time during patient visits to discuss any concerns patients may have about influenza vaccination, including cost and insurance coverage, which may be a barrier for underserved populations.

In addition to these strategies to increase influenza vaccination coverage, the following tactics are also important in addressing the unique circumstances that health care professionals may face during the 2020–2021 influenza season:

- Communicate the importance of influenza vaccination to prevent disease and protect individuals from complications resulting from influenza and COVID-19 coinfection.
- Emphasize that influenza vaccines are available to protect patients, their loved ones, and their communities. Share stories about the number of lives saved by annual influenza vaccination, and how that number can increase with higher vaccination coverage.
- Develop a multifaceted communications plan involving community organizations and influencers to relay the importance of receiving annual influenza vaccines, locations of vaccination sites, and COVID-19–related safety precautions (social distancing, face mask requirements, etc) being implemented at vaccination sites. For at-risk and underserved communities, trusted local sources and communications channels can help convey these messages in a more compelling way.
- Provide innovative influenza vaccination access points (e.g., drive-thru or walk-up vaccination clinics in local parking lots, pharmacies, and mobile vans).
- Ensure insurance coverage for vaccination and remove any financial barriers.
- Record all influenza vaccine administration in immunization information systems, particularly because nontraditional

vaccination access points will likely be used during the 2020–2021 season.

- Urge all ambulatory health care locations to offer influenza vaccination to expand timely vaccination options for patients.

The 2021–2022 influenza season may bring similar challenges, combined with a need to administer both influenza and COVID-19 vaccines during a similar timeframe. It will be important for health care professionals to stay apprised of the latest recommendations from the Centers for Disease Control and Prevention related to vaccination timing and coadministration. As additional information becomes available, there may be a need to sequence the timing of influenza and COVID-19 vaccines accordingly.

Although increasing influenza vaccination coverage is an annual challenge, cocirculation of influenza and SARS-CoV-2 viruses during the 2020–2021 influenza season precipitates an unprecedented need for innovative strategies for influenza vaccine administration. This dual public health threat emphasizes the importance of increasing influenza vaccination coverage, especially for those at higher risk including adults with chronic health conditions, older adults 65 years and older, and underserved minority populations. By communicating the need for annual influenza vaccination and providing safe and expedient services for all, we can help reduce preventable influenza-related complications, hospitalizations, and deaths, simultaneously preventing coinfection and potentially dire COVID-19 outcomes.

REFERENCES

1. Laboratory-Confirmed Influenza Hospitalizations. Available at: <https://gis.cdc.gov/grasp/fluview/FluHospChars.html>. Accessed November 18, 2020.
2. COVID-19 Hospitalizations. Available at: https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html. Accessed November 18, 2020.
3. Wortham JM, Lee JT, Althomsons S, et al. Characteristics of persons who died with COVID-19—United States, February 12–May 18, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69(28):923–929. doi:10.15585/mmwr.mm6928e1.
4. Ma S, Lai X, Chen Z, et al. Clinical characteristics of critically ill patients co-infected with SARS-CoV-2 and the influenza virus in Wuhan, China. *Int J Infect Dis*. 2020;96:683–687.
5. Estimated influenza illnesses, medical visits, and hospitalizations averted by vaccination in the United States—2019–2020 influenza season. Centers for Disease Control and Prevention. Available at: <https://www.cdc.gov/flu/about/burden-averted/2019-2020.htm>. Published October 6, 2020. Accessed November 6, 2020.
6. MacIntyre CR, Mahimbo A, Moa AM, et al. Influenza vaccine as a coronary intervention for prevention of myocardial infarction. *Heart*. 2016;102(24):1953–1956. doi:10.1136/heartjnl-2016-309983.
7. Recent Influenza Vaccination Trends across Influenza Seasons|FluVaxView|Seasonal Influenza (Flu)|CDC. Available at: <https://www.cdc.gov/flu/fluview/trends-summary.htm>. Published February 26, 2019. Accessed November 6, 2020.