

IN THIS ISSUE: CDC HAN – INCREASED RESPIRATORY VIRUS ACTIVITY

## CDC HEALTH ALERT NETWORK (HAN) Increased Respiratory Virus Activity, Especially Among Children, Early in the 2022-2023 Fall and Winter

**Distributed via the CDC Health Alert Network**  
**November 4, 2022, 3:30 PM ET**  
**CDCHAN-00479**

### Summary

*The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory about early, elevated respiratory disease incidence caused by multiple viruses occurring especially among children and placing strain on healthcare systems. Co-circulation of respiratory syncytial virus (RSV), influenza viruses, SARS-CoV-2, and others could place stress on healthcare systems this fall and winter. This early increase in disease incidence highlights the importance of optimizing respiratory virus prevention and treatment measures, including prompt vaccination and antiviral treatment, as outlined below.*

### Background

Many respiratory viruses with similar clinical presentations circulate year-round in the United States and at higher levels in fall and winter. In the past 2 years, respiratory disease activity has been dominated by SARS-CoV-2, and seasonal circulation of other respiratory viruses has been atypical or lower than preCOVID-19 pandemic years. Currently, the U.S. is experiencing a surge and co-circulation of respiratory viruses other than SARS-CoV-2. CDC is tracking levels of respiratory syncytial virus (RSV), influenza, and rhinovirus/enterovirus (RV/EV)

<https://emergency.cdc.gov/han/2022/han00474.asp>

that are higher than usual for this time of year, especially among children, though RV/EV levels may have plateaued in recent weeks. SARS-CoV-2 also continues to circulate in all U.S. states.

### RSV

CDC surveillance has shown an increase in RSV detections and RSV-associated emergency department visits and hospitalizations in all but two U.S. Department of Health and Human Services (HHS) regions (regions 4 and 6), with some regions already

near the seasonal peak levels typically observed in December or January <https://www.cdc.gov/surveillance/nrevss/rsv/index.html>. This year, rates of RSV-associated hospitalizations began to increase during late spring and continued to increase through the summer and into early fall. Preliminary data from October 2022 show that weekly rates of RSV-associated hospitalizations among children younger than 18 years old are higher than rates observed during similar weeks in recent years. While RSV activity appears to be plateauing in some places, the timing, intensity, and severity of the current RSV season are uncertain.

### Influenza

CDC has been tracking early and increasing influenza activity in recent weeks. The highest levels of influenza activity have been found in the southeast and south-central parts of the country. The most common viruses identified to date have been influenza A(H3N2) viruses, with most infections occurring in children and young adults. Cumulative influenza-associated hospitalization rates for children (age 0–4 years and 5–17 years) and all ages combined are notably higher compared to the same time periods during previous seasons since 2010–2011

<https://gis.cdc.gov/grasp/fluview/FluHospRates.html>.

Although the timing, intensity, and severity of the 2022–2023 influenza season are uncertain, CDC anticipates continued high-level circulation of influenza viruses this fall and winter.

### SARS-CoV-2

CDC data are available to monitor COVID-19 community levels, which are based on hospitalization and case data and can be used to track SARS-CoV-2 activity. SARS-CoV-2 activity is expected to increase in the winter as has been observed in previous years. Rates of COVID-19-associated hospitalizations among all age groups including children have decreased since August, but rates in infants younger than 6 months remain higher than in other pediatric age groups and higher than in all

adult age groups except those 65 years and older. CDC expects continued high-level circulation of SARS-CoV-2 this fall and winter.

### **Recommendations for Healthcare Providers**

CDC recommends that healthcare providers offer prompt vaccination against influenza and COVID-19 to all eligible people aged 6 months and older who are not up to date. Vaccination can prevent hospitalization and death associated with influenza and SARS-CoV-2 viruses.

Influenza vaccines have been updated for the current season.<sup>1</sup> Of influenza A(H3N2) viruses that have been analyzed in the United States since May 2022, most A(H3N2) viruses are genetically and antigenically closely related to the updated A(H3N2) vaccine component. These data suggest influenza vaccination this season should offer protection against the predominant A(H3N2) viruses to date.

Currently approved SARS-CoV-2 bivalent mRNA booster doses for use in patients 5 years of age and older offer protection against both the ancestral SARS-CoV-2 virus and the currently predominant Omicron BA.4 and BA.5 subvariants that cause COVID-19. Emerging evidence suggests that COVID-19 vaccination provides some protection against multisystem inflammatory syndrome in children (MIS-C) and against post-COVID-19 conditions, and that vaccination among persons with post-COVID-19 conditions might help reduce their symptoms.<sup>2</sup>

To prevent RSV-associated hospitalizations, eligible high-risk children should receive palivizumab treatment in accordance with AAP guidelines <https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/interim-guidance-for-use-of-palivizumab-prophylaxis-to-prevent-hospitalization/>. In brief, children eligible for palivizumab include infants prematurely born at less than 29 weeks gestation, children younger than 2 years of age with chronic lung disease or hemodynamically significant congenital heart disease, and children with suppressed immune systems or neuromuscular disorders.

While vaccination is the primary means for preventing influenza and COVID-19, antiviral medications are important adjuncts used to treat illness in persons with severe illness and those at increased risk for complications. Both influenza and COVID-19 antiviral medications are most effective in reducing complications when treatment is started as early as possible after symptom onset.

### **Specific Considerations for Healthcare Providers**

#### **1. Recommend and offer vaccinations against influenza and COVID-19 for all eligible persons aged 6 months or older**

Anyone who has not received an influenza vaccine this season or who is not up to date with COVID-19 vaccination should be vaccinated now <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html>. Influenza and COVID-19 vaccines can be administered at the same visit. Vaccination is the best way to reduce the chance of illness and complications, including those resulting in hospitalization and death, from influenza and COVID-19. For the 2022-2023 influenza season, CDC recommends influenza vaccination with a licensed age-appropriate influenza vaccine for all people 6 months and older.<sup>3</sup> For COVID-19, CDC recommends that everyone 6 months and older complete a primary series of COVID-19 vaccines.<sup>4</sup> In addition, CDC recommends that people 5 years and older receive one updated (bivalent) booster, if it has been at least 2 months since their last COVID-19 vaccine dose, whether that was a primary series or original (monovalent) booster.<sup>4</sup> This recommendation includes people who have received more than one original (monovalent) booster. To date, uptake of both the current seasonal influenza vaccine <https://www.cdc.gov/flu/fluview/dashboard/vaccination-dashboard.html> and COVID-19 booster vaccines <https://covid.cdc.gov/covid-data-tracker/#vaccine-delivery-coverage> remains suboptimal.<sup>5,6,7</sup>

For COVID-19, preexposure prophylaxis with EVUSHELD™ <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/pre-exposure-prophylaxis.html>, a monoclonal antibody, may help prevent COVID-19 in persons 12 years and older who are moderately to severely immunocompromised who might not mount an adequate immune response after COVID-19 vaccination, as well as persons for whom COVID-19 vaccination is not recommended because of their personal risk for severe adverse reactions. These guidelines may be updated based on circulation of variants with reduced susceptibility to monoclonal antibodies <https://www.covid19treatmentguidelines.nih.gov/therapies/statement-on-omicron-subvariants/>.

#### **2. Use diagnostic testing to guide treatment and clinical management**

With multiple co-circulating respiratory viruses, particularly influenza and SARS-CoV-2, for which there are antiviral options recommended for specific groups, diagnostic testing can guide treatment and

management to improve patients' clinical course and outcomes. Diagnostic testing should be considered for patients with suspected respiratory virus infections, particularly among hospitalized patients, those with factors placing persons at high risk for severe outcomes from flu and COVID-19, and those with severe or progressive illness. Molecular assays are recommended when testing for RSV, influenza, SARS-CoV-2, and other respiratory viruses in hospitalized patients with suspected respiratory virus infections, and multiplex respiratory testing should be considered since multiple respiratory viruses may cause severe illness.

Information to assist clinicians about when to consider respiratory virus testing is available at Information for Clinicians on Influenza Virus Testing <https://www.cdc.gov/flu/professionals/diagnosis/index.htm>, Respiratory Syncytial Virus for Healthcare Professionals <https://www.cdc.gov/rsv/clinical/index.html>, and COVID-19 Testing: What You Need to Know <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/testing.html>. Information on RV/EV, EVD68 testing was described in detail in a HAN Health Advisory released on September 9, 2022 <https://emergency.cdc.gov/han/2022/han00474.asp>.

### **3. Treat patients with suspected or confirmed influenza who meet clinical criteria with influenza antivirals**

CDC recommends influenza antiviral treatment as early as possible for any patient with confirmed or suspected influenza who is: a) hospitalized; b) an outpatient at higher risk for influenza complications; or c) an outpatient with severe, complicated, or progressive illness. Treatment with influenza antivirals has been shown to be safe and have clinical and public health benefit for both children and adults. Evidence from observational studies, randomized controlled trials, and meta-analyses of randomized controlled trials shows influenza antivirals reduce illness and severe outcomes of influenza.<sup>8, 9, 10, 11, 12</sup> Clinical benefit is greatest when antiviral treatment is administered as early as possible after illness onset (ideally within 48 hours), although antiviral treatment initiated later than 48 hours after illness onset can still be beneficial for some patients (e.g., outpatients at increased risk for complications and hospitalized patients). Clinicians should not wait for laboratory confirmation to decide when to start influenza antiviral treatment in patients with suspected influenza.

Oral oseltamivir (generic formulation or Tamiflu®) is the recommended antiviral for outpatients with severe, complicated, or progressive illness and for hospitalized

influenza patients. Oral baloxavir marboxil (Xofluza®) is approved by the U.S. Food and Drug Administration (FDA) for treating acute uncomplicated influenza in people 5 years and older who are otherwise healthy or in people 12 years and older who are at high risk of developing influenza-related complications. Oseltamivir is available as both an oral suspension and as capsules, whereas baloxavir is available only as tablets in the United States this fall and winter. Inhaled zanamivir and intravenous peramivir are less commonly used influenza antiviral medications. There is additional information on influenza antiviral medications for clinicians on the CDC website.

### **4. Treat outpatients and hospitalized patients with confirmed SARS-CoV-2 infection who are at increased risk for severe illness and meet age- and weight-eligibility requirements**

COVID-19 antiviral agents reduce risk for hospitalization and death when administered soon after diagnosis. The antiviral medications nirmatrelvir and ritonavir (Paxlovid) or remdesivir (Veklury) are the preferred treatment options for COVID-19 in patients with mild to moderate illness who are at increased risk for severe illness, including older adults, unvaccinated persons, and those with certain medical conditions (14). The antiviral medication molnupiravir (Lagevrio) and monoclonal antibody bebtelovimab are alternative treatment options when Paxlovid and Veklury are contraindicated or not available.

Additional information is available about treatment options for the following groups:

#### **Hospitalized adults**

<https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-adults/hospitalized-adults--therapeutic-management/>

#### **Children**

<https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-children/hospitalized-children-therapeutic-management/>

#### **Outpatient adults**

<https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-adults/nonhospitalized-adults--therapeutic-management/>

#### **Outpatient children**

<https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-children/nonhospitalized-children-therapeutic-management/>. Guidelines may be updated based on information about susceptibility of circulating SARS-

CoV-2 variants.

## 5. Resources for patient education

In addition to practicing everyday prevention methods, like avoiding close contact with people who are sick, staying home when sick, covering coughs and sneezes, and hand washing, there are additional considerations for patients to help control the spread of and treat influenza, RSV, and COVID-19.

For patients and the general public who would like to know more about RSV, and clinicians who would like to learn about the impact of RSV infections among older adults, see Older Adults are at High Risk for Severe RSV Infection

<https://www.cdc.gov/rsv/factsheet-older-adults.pdf>.

Materials describing RSV prevention information in English and Spanish are also available.

<https://www.cdc.gov/rsv/references.html#factsheet>

Only about half of the U.S. population receives an annual influenza vaccine for various reasons, including misinformation about vaccination. Patient education materials are available at the Seasonal Flu Partner Resources Center. In addition, results from unpublished CDC qualitative research shows that many people are not aware that there are drugs to treat influenza illness. A fact sheet for patients is available. Symptoms of COVID-19, options when experiencing symptoms (including getting tested for COVID-19 and isolation guidance), when to seek emergency medical attention, and differences between influenza and COVID-19 are described here: Symptoms of COVID-19 | CDC <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>. CDC also provides easy-to-read COVID-19 materials.

## For More Information

### RSV

- RSV Information for Healthcare Providers <https://www.cdc.gov/rsv/clinical/index.html>
- RSV Trends and Surveillance <https://www.cdc.gov/rsv/research/index.html>
- RSV Symptoms and Care <https://www.cdc.gov/rsv/about/symptoms.html>

### Influenza

- Summary of Influenza Antiviral Treatment Recommendations for Clinicians <https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>
- Information for Clinicians on Influenza Virus Testing <https://www.cdc.gov/flu/professionals/diagnosis/index.htm>
- Interim Guidance for Influenza Outbreak Management in Long-Term Care Facilities

<https://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm>

- Influenza Preventive Steps

<https://www.cdc.gov/flu/prevent/prevention.htm>

### COVID-19

- CDC COVID-19 Data Tracker <https://covid.cdc.gov/covid-data-tracker/#datatracker-home>
- NIH COVID-19 Treatment Guidelines <https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-adults/>
- COVID-19: People with Certain Medical Conditions <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>
- COVID-19: Test to Treat Locator <https://aspr.hhs.gov/TestToTreat/Pages/default.aspx>
- Indicators for Monitoring COVID-19 Community Levels and Making Public Health Recommendations <https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/indicators-monitoring-community-levels.html>

### Rhinovirus/Enterovirus

- Severe Respiratory Illnesses Associated with Rhinoviruses and/or Enteroviruses Including EVD68 – Multistate, 2022 <https://emergency.cdc.gov/han/2022/han00474.asp>
- Increase in Acute Respiratory Illnesses Among Children and Adolescents Associated with Rhinoviruses and Enteroviruses, Including Enterovirus D68 — United States, July–September 2022 <https://www.cdc.gov/mmwr/volumes/71/wr/mm7140e1.htm>

## References

1. World Health Organization. Recommended composition of influenza virus vaccines for use in the 2022–2023 northern hemisphere influenza season. Accessed October 27, 2022. <https://www.who.int/publications/m/item/recommended-composition-of-influenza-virus-vaccines-for-use-in-the-2022-2023-northern-hemisphere-influenza-season>
2. Zambrano LD, Newhams MM, Olson SM, et al. BNT162b2 mRNA Vaccination Against COVID-19 is Associated With a Decreased Likelihood of Multisystem Inflammatory Syndrome in Children Aged 5–18 Years—United States, July 2021 – April 2022, Clinical Infectious Diseases 2022; ciac637. <https://doi.org/10.1093/cid/ciac637>
3. Grohskopf LA, Alyanak E, Ferdinands JM, et al. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, United States, 2022–23 Influenza Season. MMWR Recomm Rep 2022;71(1);1–28. <http://dx.doi.org/10.15585/mmwr.rr7101a1>
4. Centers for Disease Control and Prevention. Use of COVID-19 Vaccines in the United States. Accessed November 3, 2022. <https://www.cdc.gov/vaccines/covid-19/clinicalconsiderations/covid-19-vaccines-us.htm>
5. Centers for Disease Control and Prevention. Weekly Flu Vaccination Dashboard. Accessed November 3, 2022. <https://www.cdc.gov/flu/fluview/dashboard/vaccination-dashboard.html>

6. Black CL, O'Halloran A, Hung M, et al. Vital Signs: Influenza Hospitalizations and Vaccination Coverage by Race and Ethnicity—United States, 2009–10 Through 2021–22 Influenza Seasons. *MMWR Morb Mortal Wkly Rep* 2022;71:1366–1373. <https://dx.doi.org/10.15585/mmwr.mm7143e1>
7. Saelee R, Zell E, Murthy BP, et al. Disparities in COVID-19 Vaccination Coverage Between Urban and Rural Counties — United States, December 14, 2020–January 31, 2022. *MMWR Morb Mortal Wkly Rep* 2022;71:335–340. <https://doi.org/10.15585/mmwr.mm7109a2>
8. Uyeki TM, Bernstein HH, Bradley JS, et al. Clinical Practice Guidelines by the Infectious Diseases Society of America: 2018 Update on Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management of Seasonal Influenza. *Clin Infect Dis* 2019;68(6):895–902. <https://doi.org/10.1093/cid/ciy874>
9. Hayden FG, Sugaya N, Hirotsu N, et al. Baloxavir Marboxil for Uncomplicated Influenza in Adults and Adolescents. *N Engl J Med* 2018;379(10):913–923. <https://doi.org/10.1056/NEJMoa1716197>
10. Muthuri SG, Venkatesan S, Myles PR, et al. Effectiveness of neuraminidase inhibitors in reducing mortality in patients admitted to hospital with influenza A H1N1pdm09 virus infection: a metaanalysis of individual participant data. *Lancet Respir Med* 2014;2(5):395–404. [https://doi.org/10.1016/S2213-2600\(14\)70041-4](https://doi.org/10.1016/S2213-2600(14)70041-4)
11. Venkatesan S, Myles PR, Bolton KJ, et al. Neuraminidase Inhibitors and Hospital Length of Stay: A Meta-analysis of Individual Participant Data to Determine Treatment Effectiveness Among Patients Hospitalized With Nonfatal 2009 Pandemic Influenza A(H1N1) Virus Infection. *J Infect Dis* 2020;221(3):356–366. <https://doi.org/10.1093/infdis/jiz152>
12. Ison MG, Portsmouth S, Yoshida Y, et al. Early treatment with baloxavir marboxil in high-risk adolescent and adult outpatients with uncomplicated influenza (CAPSTONE-2): a randomized, placebo-controlled, phase 3 trial. *Lancet Infect Dis*. 2020;20(10):1204–1214. [https://doi.org/10.1016/S1473-3099\(20\)30004-9](https://doi.org/10.1016/S1473-3099(20)30004-9)
13. CDC: Influenza Antiviral Medications: Summary for Clinicians. Accessed October 28, 2022. <https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>
14. CDC. Interim clinical considerations for COVID-19 treatment in outpatients. Atlanta, GA: US Department of Health and Human Services, CDC; 2022. Accessed November 4, 2022. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/outpatient-treatmentoverview.html>

*The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national, and international organizations.*

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### **HAN Message Types**

- **Health Alert:** Conveys the highest level of importance; warrants immediate action or attention.
- **Health Advisory:** Provides important information for a specific incident or situation; may not require immediate action.
- **Health Update:** Provides updated information regarding an incident or situation; unlikely to require immediate action.
- **Info Service:** Provides general information that is not necessarily considered to be of an emergent nature.