



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

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To: All North Carolina Clinicians
From: Erica Wilson, MD, MPH, Medical Epidemiologist
Subject: 2022-2023 Influenza Season: **Update for NC Clinicians (6 pages)**
Date: October 25, 2022

This memo provides information and guidance to NC clinicians regarding updates for the 2022-23 influenza season. As guidance may change during the influenza season, up to date information will be available at flu.nc.gov.

This year, preventive measures to reduce the spread of influenza are critical. Decreased Covid-19 mitigation measures and lack of natural immunity to flu and other respiratory viruses that were at low levels during the past 2 years might lead to an increased flu activity.

CLINICAL MANAGEMENT

- Decisions regarding treatment for influenza should be based on clinical and epidemiologic information and should not wait on test results for patient who are hospitalized, have severe, complicated or progressive illness, or are at high risk for influenza complications. Rapid antigen tests cannot rule out influenza infection, and more time may be required for other test types (e.g., PCR or viral culture). When available, rapid molecular assays are preferred for outpatients. If clinically indicated, treatment should not be delayed while awaiting laboratory confirmation.
- Co-infection with influenza A or B viruses and SARS-CoV-2 can occur and should be considered, particularly in hospitalized patients with severe respiratory disease. Guidance for testing and treatment of influenza when a co-infection is suspected can be found [here](#).
- Influenza, COVID-19, and other viral respiratory illnesses have overlapping signs and symptoms. [Testing](#) can help distinguish between influenza virus infection and SARS-CoV-2 infection. However, clinicians should not wait for the results of influenza testing, SARS-CoV-2 testing, or multiplex molecular assays that detect influenza A and B viruses and SARS-CoV-2 to initiate empiric antiviral treatment for influenza in the following groups: a) hospitalized patients with respiratory illness; b) outpatients with severe, complicated, or progressive respiratory illness; and c) outpatients at higher risk for influenza complications who present with any acute respiratory illness symptoms (with or without fever).
- Certain patients are at increased risk for influenza-related complications. These include:
 - Adults 65 years and older.
 - Children younger than 2 years old.

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AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

- People with certain medical conditions including:
 - Asthma
 - Neurologic and neurodevelopment conditions
 - Blood disorders (such as sickle cell disease)
 - Chronic lung disease (such as chronic obstructive pulmonary disease [COPD] and cystic fibrosis)
 - Endocrine disorders (such as diabetes mellitus)
 - Heart disease (such as congenital heart disease, congestive heart failure and coronary artery disease)
 - Kidney diseases
 - Liver disorders
 - Metabolic disorders (such as inherited metabolic disorders and mitochondrial disorders)
- People who are obese with a body mass index [BMI] of 40 or higher.
- People younger than 19 years old on long-term aspirin- or salicylate-containing medications.
- People with a weakened immune system due to disease (such as people with HIV or AIDS, or some cancers such as leukemia) or medications (such as those receiving chemotherapy or radiation treatment for cancer, or persons with chronic conditions requiring chronic corticosteroids or other drugs that suppress the immune system).
- People who have had a stroke.
- Pregnant people and people up to 2 weeks after the end of pregnancy.
- People who live in nursing homes and other long-term care facilities.
- People from certain racial and ethnic minority groups are at increased risk for hospitalization with influenza, including non-Hispanic Black persons, Hispanic or Latino persons, and American Indian or Alaska Native persons.

- Patients should seek medical attention for any of the following:
 - Difficulty breathing or shortness of breath.
 - Pain or pressure in the chest or abdomen.
 - Sudden dizziness or confusion.
 - Severe or persistent vomiting.
 - Severe muscle pain.
 - Flu symptoms that improve but then return with fever and worse cough.
 - Worsening of medical conditions.
 - In babies, fever above 104° F, bluish gray skin color, lack of responsiveness, or extreme irritation.
 - Any other symptom that is severe or concerning.

- Clinical judgment is an important factor in treatment decisions. Treatment is recommended as early as possible, including prior to testing, for individuals with suspected or confirmed influenza who have any of the following:
 - Illness requiring hospitalization.
 - Progressive, severe, or complicated illness, regardless of previous health status.
 - Increased risk for severe disease (e.g., persons with certain chronic medical conditions, persons 65 or older, children younger than 2 years, and pregnant women).

Treatment is most effective when started within 48 hours of illness onset. However, treatment of persons with prolonged or severe illness can reduce mortality and duration of hospitalization even when started more than 48 hours after onset of illness.

Antiviral treatment can also be considered for any previously healthy, symptomatic outpatient not at high risk for influenza complications with confirmed or suspected influenza based on clinical judgment if treatment can be initiated within 48 hours of illness onset.

For outpatients with acute uncomplicated influenza, if antiviral treatment is prescribed, a neuraminidase inhibitor (oseltamivir, zanamivir, or peramivir) or baloxavir should be used depending on approved age groups and contraindications. Detailed information on antiviral use- including chemoprophylaxis and treatment in adults with renal impairment is available at <https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>.

For outpatients with complications or progressive disease and suspected or confirmed influenza (e.g., pneumonia, or exacerbation of underlying chronic medical conditions), initiation of antiviral treatment with oral oseltamivir is recommended as soon as possible.

None of these antiviral medications are FDA approved for treatment of COVID-19. For treatment of confirmed or suspected COVID-19 please follow COVID-19 treatment guidelines which can be found here <https://www.covid19treatmentguidelines.nih.gov>.

TESTING

- Co-infection with influenza A or B viruses and SARS-CoV-2 can occur and should be considered, particularly in hospitalized patients with severe respiratory disease. Information on SARS-CoV-2 testing can be found [here](#).
- Several diagnostic tests are available to detect influenza viruses in respiratory specimens including molecular assays and antigen detection tests. Rapid influenza diagnostic tests (RIDT) are immunoassays that can identify the presence of influenza A and B viral nucleoprotein antigens in respiratory specimen; They have a moderate sensitivity (50–70%) when compared to molecular assays or viral culture. Therefore, a negative RIDT does NOT rule out infection and should not be used for treatment or infection control decisions during periods when influenza is known to be circulating. When available, rapid molecular assays are preferred over RIDTs because of increased sensitivity (90-95%) and specificity. Additional information is available at <http://www.cdc.gov/flu/professionals/diagnosis>.
- Testing to detect influenza and SARS-CoV-2 is available through a variety of commercial laboratories, health system laboratories, and the North Carolina State Laboratory of Public Health (SLPH). All specimens submitted to SLPH for influenza or SARS-CoV-2 testing from symptomatic patients will be tested for both influenza and SARS-CoV-2.
- Influenza testing at the North Carolina State Laboratory of Public Health (SLPH) is primarily intended for virologic surveillance, rather than diagnostic purposes. This testing will focus on the following groups:
 - Specimens from confirmed influenza cases with severe illness and a poor prognosis.
 - Specimens from influenza associated deaths.
 - Patients who die with influenza-like illness but have no laboratory evidence of influenza, SARS-CoV-2, or other respiratory infection on a multiplex panel.
 - Patients critically ill with influenza-like illness but have no laboratory evidence of influenza, SARS-CoV-2, or other respiratory infection on a multiplex panel.

- Patients with influenza-like illness, with or without confirmatory testing for influenza, who have had contact with domestic or wild swine (pigs) or poultry (birds).
- A sample of patients with influenza-like illness seen at facilities participating in the outpatient Influenza-Like Illness Network (ILINet).
- A sample of in-patients from hospitals participating in the Influenza Population-Based Hospitalization Surveillance Project (IHSP).

Testing at the SLPH should also be considered for other patients in outbreaks in institutional settings or congregate living facilities and clusters of severe or unusual respiratory illness. Please consult the local health department or Communicable Disease Branch epidemiologist on call (919-733-3419) with questions about whether such testing is appropriate.

INFECTION CONTROL

- During periods of SARS-CoV-2 circulation, clinicians should follow [CDC infection prevention guidance for COVID-19](#) in all clinical settings.

PREVENTION AND CONTROL MEASURES

- Annual vaccination against influenza is the best way to prevent infection and is recommended for everyone ≥ 6 months of age who does not have a medical contraindication to vaccination. Flu vaccine can be co-administrated with COVID-19 vaccine initial series or boosters. It's especially important for:
 - People who are at high risk of developing serious complications like pneumonia if they get sick with the flu, and
 - People who live with or care for others who are high risk of developing serious complications, including health care providers
- Flu vaccination should begin soon after vaccine becomes available. Vaccine should continue to be offered throughout the flu season, but ideally, everyone should be vaccinated by the end of October. Evidence from some clinical trials indicates that protection against viruses that are antigenically similar to those contained in the vaccine extends at least for 6–8 months, particularly in nonelderly populations. Detailed flu vaccine guidance and recommendations at <https://www.cdc.gov/flu/professionals/vaccination/vax-summary.htm#concurrent>
- It is especially important for high-risk patients to get the flu vaccine this year. Many people who are at high risk from flu are also at an increased risk of COVID-19. Preventing the flu can help keep high risk patients out of physicians' offices, urgent care centers, and hospitals.
- Flu vaccination should be deferred for people with suspected or confirmed COVID-19, whether or not they have symptoms, until they have met the [criteria](#) to discontinue their isolation.
- Post-exposure chemoprophylaxis with either oseltamivir, zanamivir, or baloxavir could also be considered for close contacts of people with influenza who are at high risk for complications of influenza, including pregnant women, if antivirals can be started within 48 hours of the most recent exposure. CDC does not recommend widespread or routine use of antiviral medications for chemoprophylaxis to limit the potential emergence of antiviral resistant viruses. An emphasis on close monitoring and early initiation of antiviral treatment if fever and/or respiratory symptoms develop is recommended after a suspected exposure for people at low risk for complications of influenza. However, chemoprophylactic use of antiviral medications is recommended to control outbreaks among high-risk persons in institutional settings.

- Detailed guidance regarding antiviral chemoprophylaxis is available at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.
- Educate patients regarding the importance of basic protective measures including good respiratory hygiene, hand washing, and staying home when sick. Measures that protect against COVID-19 also protect against the flu.
- Check that patients have appropriate preventive measures to protect against other respiratory illnesses, including that they are up to date on COVID-19 vaccination and pneumococcal vaccine.. Pneumococcal vaccine can be administered at the same time as COVID-19 vaccine.

SURVEILLANCE AND TRACKING

- **In North Carolina, all influenza-associated deaths (adult and pediatric), are reportable to the Local Health Department.** An influenza-associated death is defined for surveillance purposes as a death resulting from a clinically compatible illness that was confirmed to be influenza (any strain) by an appropriate laboratory or rapid diagnostic test. There should be no period of complete recovery between the illness and death. A death should *not* be reported if:
 1. There is no laboratory or rapid test confirmation of influenza virus infection,
 2. The influenza illness is followed by full recovery to baseline health status prior to death, or
 3. After review and consultation, there is an alternative agreed upon cause of death.
- North Carolina division of Public Health (DPH) conducts surveillance for influenza using several systems. In addition to reporting of all influenza-associated deaths, surveillance is conducted for all visits to emergency departments across the state for influenza-like illness (ILI), as well as ILI surveillance and laboratory testing of patients seen by clinicians in our Influenza-Like Illness Network (ILINet). Please consider [joining ILINet](#) if you have not done so. Additionally, this year and in partnership with CDC, NC DPH will conduct a population-based laboratory-confirmed influenza associated hospitalization surveillance in two large hospital networks. The testing and surveillance strategies used by NC DPH are consistent with [recommendations from CDC](#) and make use of the strong influenza surveillance systems in place in North Carolina.
- Please contact your local health department to report outbreaks of influenza-like illness (i.e., fever plus cough or sore throat), particularly among young children, and residents of Long-Term Care Facilities or other congregate living facilities. We strongly recommend sending specimen collected from these patients (as well as from any influenza-associated death) to State Laboratory of Public Health for further characterization.

NOVEL AND VARIANT INFLUENZA VIRUSES

- A novel influenza is an infection in a person with an influenza virus A that normally circulate in birds. During 2022, 40 U.S. states experienced an outbreak of H5N1 Highly Pathogenic Avian Influenza (HPAI), including North Carolina with 9 affected commercial premises. No human infection was detected in North Carolina. Clinicians should consider the possibility of avian flu infection in persons showing signs or symptoms of respiratory illness who have relevant exposure history. Additional avian influenza virus information is available at <https://www.cdc.gov/flu/avianflu/index.htm>
- A variant influenza is an infection in a person with influenza viruses that normally circulate in swine.

Swine/variant viruses were detected in 13 people in 11 states during 2021-22 season. No human detection in North Carolina. Investigations into these cases indicate that the main risk factor for infection is prolonged exposure to pigs, mostly in fair settings, especially for people at high risk of serious flu complications. Early identification and investigation of variant influenza virus infections are important to determine whether the virus is spreading efficiently among people. Please submit specimens from patients with influenza-like illness and recent swine exposure to NC SLPH for testing regardless of the results of initial influenza testing. Information on how to submit specimens is available here [put URL to SLPH specimen submission flyer her]. Additional information is available at <https://www.cdc.gov/flu/swineflu/index.htm>

Updates about influenza will be available at flu.nc.gov. North Carolina influenza surveillance data is updated weekly on Wednesdays at <https://covid19.ncdhhs.gov/dashboard/respiratory-virus-surveillance>. Clinicians should contact their Local Health Departments or the Communicable Disease Branch epidemiologist on-call 24/7 number (919-733-3419) for questions about influenza.

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