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NH DIVISION OF Public Health Services
Improving health, preventing disease, reducing costs *for all*
Department of Health and Human Services

Influenza Vaccination, Testing, and Treatment, 2020-21

Key Points and Recommendations:

Vaccination

1. Review updates in the publication: Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the ACIP – United States, 2020-21 Influenza Season
2. Offer and encourage influenza vaccination for everyone six months of age or older who does not have a medical contraindication. Vaccination is recommended by the end of October, but should be offered throughout the season as long as influenza is circulating.
    - This season's vaccines contain updated A(H1N1), A(H3N2), and B/Victoria strains.
3. Influenza vaccination will help prevent influenza illness and symptoms that might prompt investigation for coronavirus disease 2019 (COVID-19), so may help prevent a person needing to be excluded from work or school due to symptoms (see exclusion and testing recommendations for people with symptoms of COVID-19), and will help reduce burden on the healthcare system by preventing healthcare visits and hospitalizations related to influenza.

Testing

4. Symptoms of influenza are the same as symptoms of COVID-19 (with the exception of loss of taste and smell seen with COVID-19) and co-infection can occur. Therefore:
    - Test any person for COVID-19 with new or unexplained symptoms of COVID-19:
        i. Hospitalized patients should be preferentially tested using reverse transcription polymerase chain reaction (RT-PCR) for SARS-CoV-2 detection.
        ii. Symptomatic ambulatory patients should be tested with RT-PCR or antigen-based tests as soon as possible after symptom onset, ideally within 5 days of symptom onset for antigen testing (see prior antigen testing guidance).
    - Also test symptomatic patients for influenza under these circumstances:
        i. Outpatients where influenza test results will influence clinical management (e.g., people at high-risk for complications from influenza), and for infection control decisions (e.g., in congregate living settings).
        ii. Patients admitted to a hospital with acute respiratory illness or acute worsening of an underlying chronic cardiopulmonary medical conditions (e.g., COPD, asthma, heart failure).
        iii. Persons with influenza-like illness (ILI) associated with a respiratory virus outbreak at a facility (e.g., long-term care facility).
    - Review CDC's guide for considering influenza testing and algorithm to assist in the interpretation of influenza testing results. Review also the IDSA clinical practice guidelines for diagnosis and management of seasonal influenza:
        i. Influenza rapid *antigen* tests (e.g., rapid influenza diagnostic tests, immunofluorescence assays) have suboptimal sensitivities compared to molecular

assays (i.e., nucleic acid amplification tests), so providers should preferentially utilize influenza molecular tests where available, especially for hospitalized patients.

5. Hospitals and outpatient practices should plan to implement both influenza and COVID-19 testing utilizing normal local or reference laboratory testing mechanisms.
6. The NH Public Health Laboratories (PHL) has implemented a multiplex RT-PCR assay that is able to test for Influenza A/B and SARS-CoV-2 simultaneously. Resources for this multiplex testing are limited so the NH PHL is accepting specimens for multiplex testing in the following situations:
    - Providers unable to access influenza and SARS-CoV-2 testing through local mechanisms, and influenza testing is important for clinical diagnosis and management decisions.
    - Residents with influenza-like illness (ILI) at long-term care facilities (LTCFs) and other congregate living settings.
    - Respiratory illness outbreak testing to support infection control and public health investigations.
7. Influenza testing can be arranged at the NH PHL by calling 1-800-852-3345 x4605, or 603-271-4605. Specimen collection kits for influenza and SARS-CoV-2 testing are the same (see below for more information).
    - Submit an influenza laboratory test requisition form with any specimen.
    - The NH PHL will test any diagnostic specimens submitted for influenza testing for COVID-19 (even if not requested).
    - The NH PHL will only be subtyping/lineage typing a subset of influenza viruses this year, and will not be performing subtyping on a daily basis. Therefore, the NH PHL will not report influenza sub-typing results to providers (i.e., only influenza A/B results will be reported this year).
8. Hospital laboratories and outpatient practices should continue to send locally identified positive influenza specimens to the NH Public Health Laboratories (PHL) for influenza sub-typing to help with local and national surveillance.

Antiviral Medications

9. Antiviral therapy is recommended as early as possible for patients with confirmed or suspected influenza infection who are hospitalized; have severe, complicated, or progressive illness; or who are at higher risk of complications. Treatment should not be delayed while awaiting laboratory confirmation. Detailed guidance on use of antiviral medications is available at: https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm

Additional Information & Education

10. Review CDC's recent clinician webinar "Testing and Treatment of 2020-2021 Seasonal Influenza During the COVID-19 Pandemic" (CME available).
11. Review CDC's recent clinician webinar "Recommendations for Influenza Prevention and Treatment in Children: An Update for Pediatric Providers" (CME available).
12. Healthcare providers and facilities should report outbreaks of influenza-like-illness to the NH Division of Public Health Services (DPHS) at 603-271-4496 (after hours 603-271-5300).

Epidemiology:

Influenza activity is currently low nationally, and there has not been any PCR-confirmed influenza activity detected so far in New Hampshire by DPHS. It is unclear how the COVID-19 pandemic will impact this year's influenza season. The Southern Hemisphere (influenza season from April – September) saw very low influenza activity over the summer when countries were implementing community mitigation measures for the COVID-19 pandemic (MMWR. 2020 Sept 18;69(37):1305-9), but given the relaxation of social distancing and face mask use in the U.S. and NH, we expect influenza activity will be higher than what was seen in the Southern Hemisphere. However, use of COVID-19 community mitigation measures combined with influenza vaccination are likely able to dramatically reduce the incidence and impact of influenza.

The previous 2019–2020 influenza season was a moderately severe influenza season overall with influenza B/Victoria viruses predominating early in the season, and influenza A(H1N1) predominating from January onward. The season was more severe for children, particularly young children 0 through 4 years old, who experienced the highest hospitalization rate (95.1 per 100,000) on record for this age group, and there were 189 pediatric influenza-related deaths, which is the highest recorded number of pediatric influenza-related deaths during a regular influenza season; nearly two-thirds of deaths were attributed to influenza B infections. Three peaks of influenza-like illness were observed nationally during the 2019-20 season – the first peak in early January, likely associated with influenza B circulation, the second peak in February when A(H1N1) became predominant, and the third peak in March associated with co-circulation of influenza and SARS-CoV-2. An abrupt decline in activity occurred in mid-March both nationally and in New Hampshire after the implementation of social distancing measures for mitigation of the COVID-19 pandemic.

There were no pediatric influenza-related deaths identified in New Hampshire during the 2019-20 season, and based on electronic surveillance of death certificates a total of 33 influenza-associated NH deaths were observed in adults in NH during the 2019-20 influenza season, which is within the range observed in previous seasons.

Vaccination:

For the upcoming 2020–21 influenza season, most vaccines available will be quadrivalent. Providers may choose to administer any licensed, age-appropriate influenza vaccine, including injectable and nasal spray vaccines. This includes inactivated influenza vaccine (IIV), recombinant influenza vaccine (RIV4), or live attenuated influenza vaccine (LAIV4). Refer to Table 2 of the recent MMWR publication for contraindications and precautions for the use of LAIV4. While the high dose inactivated influenza vaccine (HD-IIV) has accumulated evidence for superior efficacy in older adults, no preference is expressed by the ACIP for any one type of vaccine, and any age-appropriate formulation is an acceptable option.

2020–2021 influenza vaccine composition:

- For the 2020–21 season, U.S. egg-based influenza vaccines will contain:
    - A/Guangdong-Maonan/SWL1536/2019 (**H1N1**)pdm09–like virus
    - A/Hong Kong/2671/2019 (**H3N2**)–like virus
    - B/Washington/02/2019 (**Victoria lineage**)-like virus
    - Quadrivalent vaccines will also contain B/Phuket/3073/2013–like virus (**Yamagata lineage**)
- For the 2020-21 season, U.S. cell culture-based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines will contain:
    - A/Hawaii/70/2019 (**H1N1**)pdm09-like virus
    - A/Hong Kong/45/2019 (**H3N2**)-like virus

- B/Washington/02/2019 (**Victoria lineage**)-like virus
- B/Phuket/3073/2013 (**Yamagata lineage**)-like virus.

- Compared with the prior season, the composition for the 2020–21 vaccine represents changes in the A(H1N1), A(H3N2) and B(Victoria lineage) components of both the trivalent and quadrivalent vaccines.

- There have been two new licensures of influenza vaccines for persons ≥65 years of age, including Fluzone High-Dose Quadrivalent (HD-IIV4) and Fluad Quadrivalent (aIIV4), which contains an adjuvant (MF59).

All persons ≥6 months of age who do not have a contraindication should be vaccinated against influenza annually, especially people at high risk for flu complications, and those who live with or care for persons at higher risk for influenza-related complications, including healthcare professionals. Persons with a history of influenza illness or vaccination in past years should be encouraged to get the vaccine again this year due to natural waning of immunity and changes in circulating virus. It takes about 14 days for antibodies to form after vaccination, so vaccination is encouraged now given the likelihood that the virus will begin circulating soon in New Hampshire. Individuals should ideally be vaccinated by the end of October before influenza is widely circulating, and vaccination should be offered throughout the season as long as influenza is circulating.

Vaccinating Children:

Children 6 months to 8 years of age who are undergoing their first season of vaccination, or who have not previously received 2 or more total doses of influenza vaccine before July 1, 2020, or whose previous vaccination history is unknown, should receive 2 doses of influenza vaccine this season administered at least 4 weeks apart. The two previous doses need not have been given during the same season or consecutive seasons in order to qualify for only one dose of vaccine this season. Further guidance on which children should receive 2 doses is available at:
https://www.cdc.gov/mmwr/volumes/69/rr/rr6908a1.htm

Vaccinating Pregnant Women:

Pregnant and postpartum women are at higher risk for severe influenza illness and complications. Therefore, all women who are pregnant or might be pregnant during the influenza season without a contraindication should receive the influenza vaccine. LAIV4 should not be used during pregnancy. Vaccination will also help to protect newborns for whom vaccination is not recommended (i.e. children <6 months of age). Please review the following if there are questions or concerns about the safety of influenza vaccination during pregnancy: https://www.cdc.gov/flu/professionals/vaccination/vaccination-possible-safety-signal.html

Diagnostic Testing:

Several tests are available to help with influenza diagnosis, including rapid influenza diagnostic tests (RIDTs), immunofluorescence, viral culture, and RT-PCR. Healthcare providers should be aware that rapid tests vary in their ability to detect flu viruses, depending on the type of rapid test used, and on the type of flu viruses circulating. Also, rapid tests appear to be better at detecting flu in children than adults. Negative rapid antigen tests results should be interpreted with caution given the potential for false-negative results. Because of the lower sensitivity of the rapid influenza diagnostic tests, clinicians should consider confirming negative test results with molecular assays, especially during periods of peak community influenza activity. Hospital laboratories should continue to send positive influenza specimens identified at local facilities to the NH Public Health Laboratories (PHL) for influenza sub-typing to help with local and national surveillance.

The NH Public Health Laboratories (PHL) has implemented the CDC's diagnostic multiplex assay for Influenza and COVID-19. The CDC Influenza/SARS-CoV-2 (Flu SC2) Multiplex Assay is a real-time reverse-transcriptase polymerase chain reaction (RT-PCR) test that detects and differentiates RNA from SARS-CoV-2, influenza A virus, and influenza B virus in upper or lower respiratory specimens. The assay provides a sensitive, nucleic-acid-based diagnostic tool for evaluation of specimens from patients in the acute phase of infection. The NH PHL is accepting specimens for influenza and COVID-19 testing to assist with diagnosis of symptomatic individuals and for influenza surveillance in the situations described above. Any specimen submitted to the NH PHL for influenza testing will also automatically undergo testing for SARS-CoV-2. Any specimens submitted to the NH PHL for SARS-CoV-2 testing will only be tested for influenza if requested on the influenza Laboratory Test Requisition form.

The approved specimen types for RT-PCR testing at the NH PHL are nasopharyngeal swabs, nasal swabs, throat swabs, nasal aspirates, nasal washes, dual nasopharyngeal/throat swabs, bronchoalveolar lavage, bronchial wash, tracheal aspirate, sputum, and lung tissue from human patients with signs and symptoms of respiratory infection. See CDC guidance for additional information on specimen collection.

Any person undergoing testing for influenza this season should also be tested for COVID-19, and appropriate COVID-19 personal protective equipment (PPE) should be worn while collecting samples – NH DPHS recommends (see prior HAN recommendations for COVID-19 PPE) a minimum of a surgical mask, eye protection, gown, and gloves for outpatient evaluation, including for specimen collection.

To conduct RT-PCR testing for influenza at the NH PHL:

- Collect the specimen as soon as possible after illness onset.
- Collection should be by trained personnel using appropriate PPE
- Place the sample in 2-3 mL of viral transport media and store and transport at 4°C within 48 hours of collection.

To acquire influenza specimen collection kits, contact the NH Public Health Laboratories office at 1-800-852-3345, extension 4605 or 603-271-4605. Further guidance regarding influenza diagnostic testing is available at: https://www.cdc.gov/flu/professionals/diagnosis/rapidlab.htm.

Additional Resources:

- For additional information on the 2020-21 Influenza Season from CDC refer to their website at: https://www.cdc.gov/flu/season/index.html

- For any questions regarding this notification, please call the NH DHHS, DPHS, Bureau of Infectious Disease Control at (603) 271-4496 during business hours (8:00 a.m. – 4:30 p.m.).
- If you are calling after hours or on the weekend, please call the New Hampshire Hospital switchboard at (603) 271-5300 and request the Public Health Professional on-call.
- To change your contact information in the NH Health Alert Network, please send an email to DHHS.Health.Alert@dhhs.nh.gov.

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Attachments: None

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