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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 Circulating in New Hampshire, 2018-2019

Key Points and Recommendations:

1. Influenza virus has begun circulating in New Hampshire for the 2018-19 season. Healthcare providers should 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.
2. The updated 2018-2019 influenza immunization recommendations can be reviewed here: https://www.cdc.gov/mmwr/volumes/67/rr/rr6703a1.htm.
3. Unlike the last two influenza seasons, the live attenuated influenza vaccine (LAIV) is an option this year recommended by the Advisory Committee on Immunization Practices (ACIP) for use in people 2 years through 49 years of age. LAIV should not be used for people with certain conditions, including in pregnant women.
4. While the ACIP has re-introduced LAIV as an option, the American Academy of Pediatrics (AAP) recommends inactivated influenza vaccine (IIV) as the primary choice for all children due to lack of effectiveness data for the new LAIV formulation, and LAIV use for appropriate children who would not otherwise receive a vaccination: http://pediatrics.aappublications.org/content/142/4/e20182367.
5. The New Hampshire Division of Public Health Services Immunization Program did not purchase the LAIV formulation this year for distribution to pediatric practices, so availability of LAIV will be more limited in New Hampshire.
6. There are now three different formulations of IIV recommended for children 6 months through 35 months of age. Care should be taken to administer the appropriate volume which is dependent on the vaccine used:
    - 0.5 mL FluLaval Quadrivalent (contains 15 μg of hemagglutinin per vaccine virus)
    - 0.5 mL Fluarix Quadrivalent (contains 15 μg of hemagglutinin per vaccine virus)
    - 0.25 mL Fluzone Quadrivalent (contains 7.5 μg of hemagglutinin per vaccine virus)
7. All pregnant women without a medical contraindication should continue to receive a flu vaccine during any trimester of their pregnancy to protect themselves and their babies (note: LAIV should not be used during pregnancy).
8. Antiviral therapy with neuraminidase inhibitors is recommended for individuals with confirmed or suspected influenza infection that is severe, progressive, results in hospitalization, or occurs in individuals who are at higher risk of complications. Treatment should not be delayed while awaiting test results.
9. Healthcare providers and facilities should report outbreaks of influenza-like-illness to the NH Division of Public Health Services at 603-271-4496.
10. Influenza testing can be arranged at the NH Public Health Laboratories (PHL).To acquire influenza specimen collection kits, contact the NH Public Health Laboratories office at 1-800-852-3345 x4605, or 603-271-4605.

Epidemiology:

Influenza activity in the United States has remained low throughout the summer months and into October. Localized outbreaks have been reported to CDC during the summer, mostly caused by influenza A (H1N1) virus. Influenza infection has been identified in New Hampshire residents this season, including detections of both influenza A (H1N1) and A (H3) viruses.

The 2017-18 season was a high severity influenza season with influenza A (H3N2) viruses predominating overall. This past season was characterized by high levels of outpatient clinic and emergency department visits for ILI, high influenza-related hospitalization rates, and elevated geographically widespread influenza activity across the country for an extended period of time. In New Hampshire we do not track outpatient visits or hospitalizations for influenza, but based on our death certificate review we identified sixty-four adult influenza-related deaths during the 2017-18 season; there were no pediatric influenza-related deaths identified during the 2017-18 season. This is the highest number of seasonal influenza-related deaths observed in NH dating back to 1997 when this measure was first tracked.

Vaccination:

For the current 2018-19 season, both quadrivalent and trivalent influenza vaccines are available. 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), which is the vaccine given via nasal spray.

2018–2019 influenza vaccine composition:

- Trivalent vaccines will contain
  - A/Michigan/45/2015 (H1N1)pdm09–like virus
  - A/Singapore/INFIMH-16-0019/2016 (H3N2)–like virus
  - B/Colorado/06/2017–like virus (Victoria lineage)
- Quadrivalent vaccines will contain the same three antigens as trivalent vaccines, plus B/Phuket/3073/2013–like virus (Yamagata lineage).
- Compared with the 2017–18 season, the composition for the 2018–19 vaccine represents changes in the A (H3N2) and B (Victoria) components of both the trivalent and quadrivalent vaccines.

All persons ≥6 months of age who do not have a contraindication should be vaccinated against influenza viruses annually, especially those who are at increased risk for severe 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 viruses. It takes about 14 days for antibodies to form after vaccination, so vaccination is encouraged now given the presence of circulating virus in New Hampshire. Individuals should ideally be vaccinated by October before influenza is widespread, and vaccination should be offered throughout the season as long as influenza virus 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, 2018, 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/67/rr/rr6703a1.htm

Dose volume for children aged 6 through 35 months: Children 6 months through 35 months of age may receive one of three different IIV4 products at the appropriate volume for each dose given. Care should be taken to administer the appropriate volume which is dependent on the vaccine used. The appropriate dose volume varies by product, as follows:

- 0.5 mL FluLaval Quadrivalent (containing 15 µg of hemagglutinin per vaccine virus)
- 0.5 mL Fluarix Quadrivalent (containing 15 µg of hemagglutinin per vaccine virus)
- 0.25 mL Fluzone Quadrivalent (containing 7.5 µg of hemagglutinin per vaccine virus)

Alternatively, healthy children ≥2 years of age may receive LAIV4, 0.2mL intranasally (0.1 mL each nostril). Refer to Table 2 of the recent MMWR for contraindications and precautions for the use of LAIV4.

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 (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

Vaccinating Persons with Egg Allergy:

The ACIP recommends the following:

1. Persons with a history of egg allergy who have experienced only hives after exposure to egg should receive influenza vaccine. Any licensed and recommended influenza vaccine (i.e., any IIV, RIV4, or LAIV4) that is otherwise appropriate for the recipient's age and health status may be used.
2. Persons who report having had reactions to egg involving symptoms other than hives, such as angioedema, respiratory distress, lightheadedness, or recurrent emesis; or who required epinephrine or another emergency medical intervention, may similarly receive any licensed and recommended influenza vaccine (i.e., any IIV, RIV4, or LAIV4) that is otherwise appropriate for the recipient's age and health status. The selected vaccine should be administered in an inpatient or outpatient medical setting, and vaccine administration should be supervised by a health care provider who is able to recognize and manage severe allergic reactions.
3. A previous severe allergic reaction to influenza vaccine, regardless of the component suspected of being responsible for the reaction, is a contraindication to future receipt of the vaccine.

Treatment:

Antiviral treatment with oseltamivir, zanamivir, or peramivir is recommended as soon as possible for patients with confirmed or suspected influenza who have severe, complicated, or progressive illness; who require hospitalization; or who are at higher risk for influenza-related complications. Antiviral therapy is most effective when started early in disease course, ideally within 48 hours of the onset of illness. Initiation of treatment should not be delayed while awaiting test results.

Detailed guidance on use of antiviral medications is available at:
http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm

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 using RIDTs should be aware that while useful, there are limitations to RIDTs (variable sensitivity) and negative RIDT results should be interpreted with caution given the potential for false negative results.

The NH Public Health Laboratories (PHL) performs RT-PCR for influenza virus detection and subtyping year round. Specimens from persons with ILI (defined as fever 100°F [37.8°C] or higher with cough and/or sore throat) may be tested at the NH (PHL) by RT-PCR.

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

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 droplet precautions.
- Place the sample in 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/molecular-assays.htm

Additional Resources:

- For additional information on the 2018-19 Influenza Season from CDC refer to their website at: https://www.cdc.gov/flu/about/season/current.htm

- For any questions regarding the contents of this message, please contact NH DHHS, DPHS, Bureau of Infectious Disease Control at 603-271-4496 (after hours 1-800-852-3345 ext.5300).

- To change your contact information in the NH Health Alert Network, contact Adnela Alic at 603-271-4499 or Adnela.Alic@dhhs.nh.gov

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Attachments: None

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