

November 14, 2014

TO: Healthcare Providers, Hospitals, and Local Health Departments

FROM: NYSDOH Bureau of Immunization

HEALTH ADVISORY:

**LIVE ATTENUATED INFLUENZA VACCINE (LAIV) EFFECTIVENESS AND
VACCINATION OF CHILDREN**

For healthcare facilities, please distribute immediately to the Infection Control Department, Emergency Department, Infectious Disease Department, Director of Nursing, Medical Director, Director of Pharmacy, and all patient care areas.

PURPOSE

The Centers for Disease Control and Prevention (CDC) recently released new information on LAIV vaccine effectiveness among children during the 2013-14 influenza season. This advisory describes the new information on LAIV vaccine effectiveness against the strains anticipated to circulate in the 2014-15 influenza season, summarizes current influenza surveillance data, and provides guidance on vaccination of children for the 2014-15 influenza season.

SUMMARY

- New data from the United States (U.S.) Influenza Vaccine Effectiveness (Flu VE) Network unexpectedly showed no measureable effectiveness for LAIV against influenza A (H1N1) among children studied during the 2013-14 influenza season.
- The 2013-14 season LAIV VE estimates suggest that LAIV may not protect against influenza A (H1N1) viruses during the 2014-15 season because the same influenza A (H1N1) strain from the 2013-14 season is included in the 2014-15 vaccine.
- LAIV has been demonstrated to provide good protection against influenza A (H3N2) and influenza B viruses and may offer better protection than inactivated influenza vaccine (IIV) against antigenically drifted viruses.
- Early-season U.S. surveillance data for the 2014-15 influenza season show a predominance of influenza A (H3N2) and influenza B viruses. In addition, some of the influenza A (H3N2) viruses have drifted from the influenza A (H3N2) strain used in this season's vaccine.
- All persons 6 months of age and older should continue to be vaccinated against influenza at the earliest opportunity.
- Earlier this year, the Advisory Committee on Immunization Practices (ACIP) issued a preferential recommendation for the use of LAIV for healthy children 2 through 8 years of age. Based on the early season surveillance data, high LAIV VE against influenza A (H3N2), influenza B, and antigenically drifted strains, as well as data suggesting that more than half of flu vaccines are administered by the end of October, the CDC and ACIP have **not** changed the current influenza vaccination recommendations.

INFLUENZA VACCINE EFFECTIVENESS

The CDC conducts vaccine effectiveness studies with the Flu VE Network each season to estimate flu vaccine VE. Interim estimates for the 2013-14 season had estimated an approximately 60% VE against influenza A and B virus infections among all influenza vaccines, with similar effectiveness across all age groups. Final overall VE estimates were similar to the interim estimates, however end of season data also allowed separate estimates for LAIV and IIV. This analysis showed that during 2013-14 there was no measurable effectiveness for LAIV against influenza A (H1N1) among children enrolled in the study. In contrast, VE estimates during the previous three influenza seasons demonstrated good LAIV VE against influenza A (H3N2) and influenza B viruses. In addition, there is some data to suggest that LAIV may offer better protection than IIV against antigenically drifted viruses.

The new LAIV VE estimate for the 2013-14 season was unexpected and different from earlier studies, which had suggested that LAIV may be more effective than IIV in younger children. The reasons behind the lack of LAIV effectiveness against influenza A (H1N1) infections among children during the 2013-14 season are not fully understood. The CDC is working with ACIP and other partners to collect more information to better understand these data and to determine what actions might be appropriate.

INFLUENZA SURVEILLANCE SUMMARY

The CDC and New York State Department of Health (NYSDOH) have been monitoring surveillance data closely. So far, seasonal influenza surveillance data indicate substantially greater circulation of influenza A (H3N2) and influenza B viruses and little circulation of influenza A (H1N1) viruses. Of the subtyped viruses reported to CDC through the week ending October 25, 2014, 387 (31%) have been influenza A (H3N2) viruses, 387 (31%) have been influenza B viruses, and 16 (1%) were influenza A (H1N1) viruses. Another 466 (37%) influenza A viruses were not subtyped. Of the influenza viruses detected by the NYSDOH Wadsworth Laboratory so far this season, 7 (87.5%) were influenza A (H3), 1 (12.5%) was influenza B, and none were influenza A (H1).

In addition, there are indications that some of the circulating influenza A (H3N2) viruses have antigenically drifted from the influenza A (H3N2) strain used in the 2014-15 vaccine. Of the 141 influenza A (H3N2) viruses that were antigenically characterized by the CDC from May 18 through September 20, 2014, 69 (49%) were antigenically similar to the influenza A (H3N2) strain used in the 2014-15 vaccine. Of the 10 influenza A (H3N2) viruses that have been antigenically characterized by the CDC since October 1, 7 (70%) were similar to the vaccine strain and 3 (30%) were characterized as an antigenic variant virus. All data are preliminary and may change as more reports are received.

INFLUENZA VACCINE GUIDANCE

All persons 6 months of age and older should continue to be vaccinated against influenza at the earliest opportunity. For the 2014-15 influenza season, the ACIP issued a preferential recommendation for the use of LAIV in healthy children 2 through 8 years of age who do not have a contraindication or precaution to vaccination. At this time, the ACIP and CDC have **not** changed the current influenza vaccination recommendations. This determination was based on the early season surveillance showing substantially more circulation of influenza A (H3N2) and B viruses and very little circulating influenza A (H1N1) and the good protection provided by LAIV against these circulating strains.

If LAIV is not immediately available, then children should be vaccinated with IIV. Vaccination should not be delayed in order to procure LAIV. Although vaccine coverage data is not yet available for the 2014-15 season, past trends suggest that more than half of flu vaccines given to children are administered by the end of October, suggesting that many children may have already been vaccinated this season. Individuals that have already received LAIV this season do not need to be re-immunized with IIV.

ADDITIONAL INFORMATION

Other resources on influenza are available on the NYSDOH public website at <http://www.health.ny.gov/diseases/communicable/influenza/seasonal/> and on the CDC website at <http://www.cdc.gov/flu/>.

For additional information, please contact the NYSDOH Bureau of Immunization at 518-473-4437 or at immunize@health.ny.gov.