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Note: Contact information for the Alaska Section of Epidemiology can be found at the end of this message.

Influenza surveillance data for the State of Alaska are available at:
http://www.epi.alaska.gov/id/influenza/fluinfo.htm

This is an official

CDC HEALTH ADVISORY

Distributed via the CDC Health Alert Network
December 03, 2014, 16:00 ET (4:00 PM ET)
CDCHAN-00374

CDC Health Advisory Regarding the Potential for Circulation of Drifted Influenza A (H3N2) Viruses

CDC is reminding clinicians of the benefits of influenza antiviral medications and urging continued influenza vaccination of unvaccinated patients this influenza season.

Summary

Influenza activity is currently low in the United States as a whole, but is increasing in some parts of the country. This season, influenza A (H3N2) viruses have been reported most frequently and have been detected in almost all states.

During past seasons when influenza A (H3N2) viruses have predominated, higher overall and age-specific hospitalization rates and more mortality have been observed, especially among older people, very young children, and persons with certain chronic medical conditions compared with seasons during which influenza A (H1N1) or influenza B viruses have predominated.

Influenza viral characterization data indicates that 48% of the influenza A (H3N2) viruses collected and analyzed in the United States from October 1 through November 22, 2014 were antigenically "like" the 2014-2015 influenza A (H3N2) vaccine component, but that 52% were antigenically different (drifted) from the H3N2 vaccine virus. In past seasons during which predominant circulating influenza viruses have been antigenically drifted, decreased vaccine effectiveness has been observed. However, vaccination has been found to provide some protection against drifted viruses. Though reduced, this cross-protection might reduce the likelihood of severe outcomes such as hospitalization and death. In addition, vaccination will offer protection against circulating influenza strains that have not undergone significant antigenic drift from the vaccine viruses (such as influenza A (H1N1) and B viruses).

Because of the detection of these drifted influenza A (H3N2) viruses, this CDC Health Advisory is being issued to re-emphasize the importance of the use of neuraminidase inhibitor antiviral medications when indicated for treatment and prevention of influenza, as an adjunct to vaccination.

The two prescription antiviral medications recommended for treatment or prevention of influenza are oseltamivir (Tamiflu®) and zanamivir (Relenza®). Evidence from past influenza seasons and the 2009 H1N1 pandemic has shown that treatment with neuraminidase inhibitors has clinical and public health benefit in reducing severe outcomes of influenza and, when indicated, should be initiated as soon as possible after illness onset. Clinical trials and observational data show that early antiviral treatment can:

- shorten the duration of fever and illness symptoms;
- reduce the risk of complications from influenza (e.g., otitis media in young children and pneumonia requiring antibiotics in adults); and
- reduce the risk of death among hospitalized patients.

Background

As of November 22, influenza activity has increased slightly in most parts of the United States. Surveillance data indicate that influenza A (H3N2) viruses have predominated so far, with lower levels of detection of influenza B viruses and even less detection of H1N1 viruses. During the week ending November 22, 1,123 (91.4%) of the 1,228 influenza-positive tests reported to CDC were influenza A viruses and 105 (8.6%) were influenza B viruses. Of the 85 influenza A (H3N2) viruses collected by U.S. laboratories and antigenically or genetically characterized at CDC since October 1, 2014, 44 (52%) are significantly different (drifted) from A/Texas/50/2012, the U.S. H3N2 vaccine virus. Drifted H3N2 viruses were first detected in late March 2014, after World Health Organization (WHO) recommendations for the 2014-2015 Northern Hemisphere vaccine had been made in mid-February. At that time, a very small number of these viruses had been found among the thousands of specimens that had been collected and tested, but these viruses have become more predominant over time. Most of the drifted H3N2 viruses are A/Switzerland/9715293/2013 viruses, which is the H3N2 virus selected for the 2015 Southern Hemisphere influenza vaccine. These drifted viruses will likely continue to circulate in the United States throughout the season. All influenza viruses tested for resistance to neuraminidase inhibitors this season have shown susceptibility to both oseltamivir and zanamivir. Given the likelihood that the drifted influenza A (H3N2) viruses will continue to circulate this season, CDC is issuing the following recommendations to remind clinicians of CDC's guidance for the use of influenza antiviral medications.

Recommendations for Health Care Providers

Clinicians should encourage all patients 6 months and older who have not yet received an influenza vaccine this season to be vaccinated against influenza. There are several influenza vaccine options for the 2014-15 influenza season (see http://www.cdc.gov/flu/protect/vaccine/vaccines.htm).

Clinicians should encourage all persons with influenza-like illness who are at high risk for influenza complications (see list below) to seek care promptly to determine if treatment with influenza antiviral medications is warranted.

Summary of CDC Recommendations for Influenza Antiviral Medications for the 2014-2015 Season:

Influenza Vaccination

Clinicians should continue to vaccinate patients who have not yet received influenza vaccine this season.

Antiviral Use

Clinical benefit is greatest when antiviral treatment is administered early. When indicated, antiviral treatment should be started as soon as possible after illness onset, ideally within 48 hours of symptom onset. However, antiviral treatment might still have some benefits in patients with severe, complicated, or progressive illness and in hospitalized patients when started after 48 hours of illness onset.

Antiviral treatment with oseltamivir or zanamivir is recommended as early as possible for any patient with confirmed or suspected influenza who:

- is hospitalized;
- has severe, complicated, or progressive illness; or
- is at higher risk for influenza complications. This list includes:
  - children aged younger than 2 years;
  - adults aged 65 years and older;
  - persons with chronic pulmonary (including asthma), cardiovascular (except hypertension alone), renal, hepatic, hematological (including sickle cell disease), and metabolic disorders (including diabetes mellitus), or neurologic and neurodevelopment conditions (including disorders of the brain, spinal cord, peripheral nerve, and muscle such as cerebral palsy, epilepsy [seizure disorders], stroke, intellectual disability [mental retardation], moderate to severe developmental delay, muscular dystrophy, or spinal cord injury);
  - persons with immunosuppression, including that caused by medications or by HIV infection;
  - women who are pregnant or postpartum (within 2 weeks after delivery);
  - persons aged younger than 19 years who are receiving long-term aspirin therapy;
  - American Indians/Alaska Natives;
  - persons who are morbidly obese (i.e., body-mass index is equal to or greater than 40); and
  - residents of nursing homes and other chronic-care facilities.

Clinical judgment, on the basis of the patient's disease severity and progression, age, underlying medical conditions, likelihood of influenza, and time since onset of symptoms, is important when making antiviral treatment decisions for high-risk outpatients. **Decisions about starting antiviral treatment should not wait for laboratory confirmation of influenza.**

Oseltamivir is approved for treatment of influenza in persons aged two weeks and older, and for chemoprophylaxis to prevent influenza in people one year of age and older, while zanamivir is approved for treatment of persons seven years and older and for prevention of influenza in persons five years and older. Because high levels of resistance to adamantane antiviral medications continue to be observed among circulating influenza A viruses, adamantanes (rimantadine and amantadine) are not recommended for treatment or prevention of influenza.

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

Special Considerations for Institutional Settings

Use of antiviral chemoprophylaxis to control outbreaks among high risk persons in institutional settings is recommended. An influenza outbreak is likely when at least two residents are ill within 72 hours, and at least one has laboratory confirmed influenza. When influenza is identified as a cause of a respiratory

disease outbreak among nursing home residents, use of antiviral medications for chemoprophylaxis is recommended for residents (regardless of whether they have received influenza vaccination) and for unvaccinated health care personnel. For newly-vaccinated staff, antiviral chemoprophylaxis can be administered up to two weeks (the time needed for antibody development) following influenza vaccination. Chemoprophylaxis may also be considered for all employees, regardless of their influenza vaccination status, if the outbreak is caused by a strain of influenza virus that is not well matched by the vaccine. Antiviral chemoprophylaxis should be administered for a minimum of two weeks, and continue for at least seven days after the last known case was identified.

To reduce the substantial burden of influenza in the United States, **CDC continues to recommend a three-pronged approach:**

(1) influenza vaccination. The influenza vaccine contains three or four influenza viruses depending on the influenza vaccine—an influenza A (H1N1) virus, an influenza A (H3N2) virus, and one or two influenza B viruses. Therefore, even if vaccine effectiveness is reduced against drifted circulating viruses, the vaccine will protect against non-drifted circulating vaccine viruses. Further, there is evidence to suggest that vaccination may make illness milder and prevent influenza-related complications. Such protection is possible because antibodies created through vaccination with one strain of influenza viruses will often "cross-protect" against different but related strains of influenza viruses;

(2) use of neuraminidase inhibitor medications when indicated for treatment or prevention. Antiviral treatment with oseltamivir or zanamivir is recommended as early as possible for any patient with confirmed or suspected influenza who: is hospitalized; has severe, complicated, or progressive illness; or is at higher risk for influenza complications. Antiviral chemoprophylaxis should be used for prevention of influenza when indicated for institutional influenza outbreaks, and may be considered for those who have contraindications to influenza vaccination. **CDC recommends antiviral chemoprophylaxis for a minimum of two weeks, and continuing for at least seven days after the last known case was identified.**

(3) use of other preventive health practices that may help decrease the spread of influenza, including respiratory hygiene, cough etiquette, social distancing (e.g., staying home from work and school when ill, staying away from people who are sick) and hand washing.

For More Information:

- Influenza Vaccines Available in United States, 2014–15 Influenza Season: http://www.cdc.gov/flu/protect/vaccine/vaccines.htm
- Information for healthcare professionals on the use of influenza antiviral medications: http://www.cdc.gov/flu/professionals/antivirals/
- Summary of Influenza Antiviral Treatment Recommendations for clinicians: http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm#summary
- Diagnostic Testing for Influenza: http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm#diagnostic
- Interim Guidance for Influenza Outbreak Management in Long-Term Care Facilities: http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm

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This message is sent to you as a service of the State of Alaska DHSS, Division of Public Health, through the Section of Epidemiology, 3601 C Street, Suite 540, Anchorage, Alaska 99503, (907) 269-8000. The Section of Epidemiology maintains a 24-hour Emergency Number, 1-800-478-0084. Internet site: http://www.epi.Alaska.gov.

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