CDC Influenza Division Key Points
January 6, 2017

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Summary Key Points

- The most recent FluView report indicates that flu activity continues to increase in the United States.
- Visits to health care providers for influenza-like illness have been at or above baseline for three weeks so far this season, and the percent of laboratory specimens testing positive for influenza in clinical laboratories went from 10.4% to 13.7%.
- Flu activity is expected to increase further in the coming weeks.
- Flu is unpredictable. It's not possible to say how severe this flu season will be, what viruses will predominate or how long activity will continue.
- So far, however, influenza A (H3N2) viruses have been most common this season.
- Influenza A (H3N2)-predominant seasons are often associated with more severe illness, especially in young children and people 65 and older.
- Each flu season, flu causes millions of illnesses, hundreds of thousands of hospitalizations and thousands, or sometimes tens of thousands, of deaths.
- The Centers for Disease Control and Prevention (CDC) recommends annual flu vaccination for everyone 6 months and older by the end of October, if possible.
- People who have not yet gotten vaccinated against flu should get their vaccine as soon as possible.
- This season only injectable flu vaccines (flu shots) are recommended. The nasal spray vaccine should not be used.
- A flu vaccine is the best defense against getting the flu.
- While flu vaccine can vary in how well it works, vaccination can reduce flu illnesses, doctors' visits, and missed work and school due to flu, as well as prevent flu-related hospitalizations.
- Getting a flu vaccine yourself also can protect people around you who are more vulnerable to serious flu complications, like pregnant women, older people, young children and people with certain chronic conditions like asthma or diabetes. Flu can be more serious for these people and you can help protect them by getting vaccinated yourself.

- The composition of this season's flu vaccine has been updated to better match circulating flu viruses.
- Both four-component (quadrivalent) and three-component (trivalent) flu vaccines are available this season. Trivalent flu vaccines are designed to protect against three different flu viruses; quadrivalent flu vaccines protect against those three viruses plus an additional influenza B virus.
- CDC has not expressed a preference for any one flu shot over another. The important thing is to get vaccinated.
- It takes about two weeks after flu vaccination for antibodies to develop in the body that protect against flu virus infection.
- Now is a good time to get vaccinated. It is likely that flu activity will continue for many more weeks this season, so getting vaccinated now can still provide important protection this season.
- Manufacturers report having shipped more than 143.2 million doses of flu vaccine as of December 16, 2016. For more information, see http://www.cdc.gov/flu/professionals/vaccination/vaccinesupply.htm
- The original total projected supply of flu vaccine in the United States this season was between 157 million and 168 million doses of injectable flu vaccine.
- Early season supply projections can differ from the actual number of flu vaccine doses distributed at the end of the season based on a number of factors.
- Go to http://vaccine.healthmap.org/ or www.cdc.gov/flu to find a location near you where you can get vaccinated.
- While flu vaccine is the best way to prevent flu, influenza antiviral drugs are a second line of defense that can be used to treat flu illness.
- CDC recommends that people who are very sick with flu symptoms and people who are at high risk of serious complications and develop flu symptoms should be treated as soon as possible with influenza antiviral drugs.
- High risk people include people 65 and older, children younger than 5 years, pregnant women and people with certain long-term health conditions. Visit https://www.cdc.gov/flu/about/disease/high_risk.htm for the full list of high risk factors.
- Antiviral drugs can make flu illness milder and shorter and also can prevent serious flu complications.
- More information about antivirals is available in the section: Treatment of Influenza (below).

Summary of Influenza Virus Laboratory Data

- Laboratory data on flu viruses collected and analyzed since October 1, 2016, show that the majority of tested influenza viruses are similar to the reference vaccine viruses recommended for the production of 2016-2017 U.S. vaccines.
- Evidence of significant antigenic drift has not been identified.
- This suggests that vaccination with Northern Hemisphere flu vaccine should offer protection against the majority of circulating flu viruses.
- CDC will continue to carefully review the results of laboratory studies of currently circulating flu viruses to look for any evidence that viruses are changing.
- Laboratory results are published weekly in FluView, along with surveillance information related to flu activity.
- FluView is available at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.
- CDC also will conduct flu vaccine effectiveness studies to tell how well the flu vaccine is actually protecting against flu illness.

FluView Activity Update

According to the FluView report for the week ending December 31, 2016 (week 52), flu activity continues to increase in the United States. The proportion of people seeing their health care provider for influenza-like-illness (ILI) has been at or above the national baseline for three consecutive weeks so far this season. Influenza A (H3) viruses continue to predominate. Flu activity is expected to increase further in the coming weeks. CDC recommends annual flu vaccination for everyone 6 months of age and older. Anyone who has not gotten vaccinated yet this season should get vaccinated now. Below is a summary of the key flu indicators for the week ending December 31, 2016.

- Influenza-like Illness Surveillance: For the week ending December 31, the proportion of people seeing their health care provider for influenza-like illness (ILI) increased to 3.4% (ILI was 2.9% during the week ending December 24, 2016). This is above the national baseline of 2.2%. Nine regions (regions 1, 2, 3, 4, 5, 6, 7, 8, and 10) reported ILI at or above their region-specific baseline level. For the last 15 seasons, the average duration of a flu season by this measure has been 13 weeks, with a range from one week to 20 weeks.
- Influenza-like Illness State Activity Indicator Map: New York City, Puerto Rico, and 10 states (Alabama, Georgia, Louisiana, Missouri, New Jersey, New York, Oklahoma, Oregon, South Carolina, and Utah) experienced high ILI activity. Ten states (Arizona, Illinois, Indiana, Kentucky, Minnesota, Mississippi, Nevada, North Carolina, Pennsylvania, and Virginia) experienced moderate ILI activity. Five states (Arkansas, California, Michigan, Tennessee, and Washington) experienced low ILI

activity and 25 states (Alaska, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Kansas, Maine, Maryland, Massachusetts, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Ohio, Rhode Island, South Dakota, Texas, Vermont, West Virginia, Wisconsin, and Wyoming) experienced minimal ILI activity. (The District of Columbia did not have sufficient data to calculate an activity level.)

- Geographic Spread of Influenza Viruses: Widespread geographic influenza activity was reported by 12 states (California, Connecticut, Idaho, Massachusetts, New Hampshire, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, Virginia, and Washington). Regional influenza activity was reported by Guam and 28 states (Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Georgia, Hawaii, Indiana, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Jersey, North Dakota, Ohio, Rhode Island, South Carolina, Texas, Utah, Wisconsin, and Wyoming). Local influenza activity was reported by the District of Columbia and 10 states (Delaware, Illinois, Iowa, Kansas, Missouri, New Mexico, South Dakota, Tennessee, Vermont, and West Virginia). Sporadic influenza activity was reported by the U.S. Virgin Islands. Puerto Rico did not report.
- Flu-Associated Hospitalizations: Since October 1, 2016, a total of 1,376 laboratory-confirmed influenza-associated hospitalizations have been reported. This translates to a cumulative overall rate of 4.9 hospitalizations per 100,000 people in the United States. Additional data, including hospitalization rates during other influenza seasons, can be found at http://gis.cdc.gov/GRASP/Fluview/FluHospRates.html and http://gis.cdc.gov/grasp/fluview/FluHospChars.html.
    - The highest hospitalization rates are among people 65 years and older (21.1 per 100,000), followed by adults 50 years to 64 years (5.0 per 100,000) and children younger than 5 years (4.2 per 100,000). During most seasons, children younger than 5 years and adults 65 years and older have the highest hospitalization rates.
        - Hospitalization data are collected from 13 states representing approximately 9% of the total U.S. population. The number of hospitalizations reported does not reflect the actual total number of influenza-associated hospitalizations in the United States.
- Mortality Surveillance:
    - The proportion of deaths attributed to pneumonia and influenza (P&I) was 6.3% for the week ending December 17, 2016 (week 50). This percentages is below the epidemic threshold of 7.1% for week 50 in the National Center for Health Statistics (NCHS) Mortality Surveillance System.
    - No influenza-associated pediatric deaths were reported to CDC during week 52.

- Laboratory Data:
    - Nationally, the percentage of respiratory specimens testing positive for influenza viruses in clinical laboratories during the week ending December 31 was 13.7%.
    - Regionally, the three week average percent of specimens testing positive for influenza in clinical laboratories ranged from 5.5% to 27.4%.
    - During the week ending December 31, of the 2,995 influenza-positive tests reported to CDC by clinical laboratories, 2,702 (91.4%) were influenza A viruses and 253 (8.6%) were influenza B viruses.
    - During the week ending December 31 influenza A viruses were most frequently reported by public health laboratories, with influenza A (H3) viruses predominating.
    - During the week ending December 31, 405 (93.5%) of the 433 influenza-positive tests reported to CDC by public health laboratories were influenza A viruses and 28 (6.5%) were influenza B viruses. Of the 337 influenza A viruses that were subtyped, 333 (98.8%) were H3 viruses and 4 (1.2%) were (H1N1)pdm09 viruses.
    - Since October 1, 2016, antigenic and/or genetic characterization shows that the majority of the tested viruses remain similar to the recommended components of the 2016-2017 Northern Hemisphere vaccines.
    - Since October 1, 2016, CDC tested 285 specimens (43 influenza A (H1N1)pdm09, 176 influenza A (H3N2), and 66 influenza B viruses) for resistance to the neuraminidase inhibitors antiviral drugs. None of the tested viruses were found to be resistant to oseltamivir, zanamivir, or peramivir.

FluView (http://www.cdc.gov/flu/weekly/fluactivitysurv.htm) is available – and past issues are archived (http://www.cdc.gov/flu/weekly/pastreports.htm) – on the CDC website.

Note: Delays in reporting may mean that data changes over time. The most up to date data for all weeks during the 2016-2017 season can be found on the current FluView(http://www.cdc.gov/flu/weekly/).

Treatment of Influenza

Antiviral drugs can be used to treat flu illness and prevent serious flu complications.

- There are prescription drugs, called "influenza antiviral drugs" that can be used to treat the flu or to prevent infection with flu viruses.

- Treatment with antivirals works best when begun within 48 hours of getting sick, but can still be beneficial when given later in the course of illness.
- Treatment with flu antiviral drugs can make your illness milder and shorter. Treatment with antivirals can also lessen the risk of being hospitalized or dying from flu.
- Antiviral drugs become even more important when circulating flu viruses are very different from the vaccine viruses; which can mean that the vaccine's effectiveness is reduced against those viruses.
- Antiviral drugs are effective across all age and risk groups.
- Prescription antiviral drugs are under-prescribed for high risk people who get flu.
- Treating high risk people or people who are very sick with flu with antiviral drugs is very important. It can mean the the difference between having a milder illness instead of very serious illness that could result in a hospital stay.
- Multiple FDA-approved influenza antiviral agents are recommended for use in the United States during the 2016-2017 influenza season: oseltamivir, zanamivir, and peramivir.
- Visit http://www.cdc.gov/flu/professionals/antivirals/index.htm for information about how antiviral medications can be used to prevent or treat influenza when influenza activity is present in your community.
- A summary of antiviral recommendations for clinicians is available on the CDC website at http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm.
- As always, people who are at high risk for influenza complications should see a health care professional promptly if they get flu symptoms, even if they have been vaccinated this season.
    - People at high risk for serious flu complications include: people with underlying chronic medical conditions such as asthma, diabetes, heart disease, or neurological conditions; pregnant women; those younger than 5 years or older than 65 years of age; or anyone with a weakened immune system. A full list of high risk factors is available at http://www.cdc.gov/flu/about/disease/high_risk.htm.
- More information about everyday preventive actions that help fight flu is available at http://www.cdc.gov/flu/protect/habits.htm.