

CDC Influenza Division Key Points

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Summary Key Points

- Flu activity remains elevated in the United States according to the [most recent FluView report](#). (<http://www.cdc.gov/flu/weekly/>)
- H1N1 flu viruses have been most common in recent weeks.
- H1N1 in the past has caused severe illness in some children & young-and middle-aged adults.
- The Centers for Disease Control and Prevention has reported preliminary overall influenza vaccine effectiveness (VE) of 59 percent this season.
- This finding is comparable to [past estimates for seasons when](#) most circulating flu viruses have been similar to the seasonal flu vaccine. (<http://www.cdc.gov/flu/professionals/vaccination/effectiveness-studies.htm>)
- A press release on this topic is available at <http://www.cdc.gov/media/releases/2016/flu-vaccine-60-percent.html>.
- This season, influenza-like-illness levels and the numbers of influenza-positive laboratory tests became elevated the week ending January 16.
- ILI activity has now been elevated above baseline for six consecutive weeks.
- For the past 13 seasons, flu seasons have averaged 13 weeks in length, and have ranged in length from a low of one week to a high of 20 weeks.
- Flu seasons vary in their timing, duration and intensity, but it is likely that flu activity in the United States will continue for several more weeks.
- This means that vaccination now, can still offer protection against flu this season.
- CDC recommends an annual flu vaccine as the best way to prevent seasonal flu.
- Manufacturers report having shipped more than 146.4 million doses of flu vaccine as of February 26, 2016.
- 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 the flu, flu antiviral drugs can treat flu illness.

- CDC recommends that patients suspected of having influenza who are at high-risk or who are very sick should receive prompt treatment with influenza antiviral drugs without waiting for confirmatory testing.
- More information about influenza antiviral medications is available at: <http://www.cdc.gov/flu/antivirals/index.htm>
- Also this week, FDA VRBPAC announced the recommended vaccine virus composition of the 2016-2017 vaccine. (see [U.S. Vaccine Strain Selection](#))

FluView Activity Update

According to this week's FluView report, flu activity remains elevated in the United States. Influenza-like-illness levels remain above the national baseline, and there are now 33 states reporting widespread flu activity. [CDC reports](#) this season's vaccine is offering significant protection against circulating viruses this season. CDC recommends an annual flu vaccine for everyone 6 months of age and older. If you have not gotten vaccinated yet this season, you should get vaccinated now. Below is a summary of the key flu indicators for the week ending February 27, 2016:

- For the week ending February 27, the proportion of people seeing their health care provider (<http://www.cdc.gov/flu/weekly/#S4>) for influenza-like illness (ILI) decreased slightly to 3.2%, which is above the national baseline (2.1%). Nine of 10 regions (Regions 2, 3, 4, 5, 6, 7, 8, 9 and 10) reported ILI at or above their region-specific baseline levels. One way that CDC measures the length of the influenza season is the number of consecutive weeks during which ILI is at or above the national baseline. ILI has been at or above the national baseline for 7 consecutive weeks so far this season. For the last 13 seasons, the average duration of a flu season by this measure has been 13 weeks, with a range from 1 week to 20 weeks.
- Puerto Rico and eight states (Arizona, Arkansas, Illinois, Maryland, New Mexico, North Carolina, Tennessee, and Utah) experienced high ILI activity. New York City and nine states (Alabama, California, Florida, Hawaii, Kentucky, Mississippi, New Jersey, Oklahoma, and South Carolina) experienced moderate ILI activity. 13 states (Alabama, California, Florida, Hawaii, Kentucky, Mississippi, New Jersey, Oklahoma, and South Carolina) experienced low ILI activity. 20 states experienced minimal ILI activity. The District of Columbia did not have sufficient data to calculate an activity

level. ILI activity data indicate the amount of flu-like illness that is occurring in each state.

- Widespread flu activity was reported by Puerto Rico and 33 states. Regional flu activity was reported by Guam and 14 states (Alabama, Arkansas, Colorado, Florida, Georgia, Hawaii, Illinois, Indiana, Louisiana, Maine, Missouri, Oklahoma, South Carolina, and Tennessee). The District of Columbia and one state (Mississippi) reported local influenza activity. The U.S. Virgin Islands and 2 states (Oregon and West Virginia) reported sporadic influenza activity. Geographic spread data show how many areas within a state or territory are seeing flu activity.
- Since October 1, 2015, 2,163 laboratory-confirmed [influenza-associated hospitalizations](#) have been reported through FluSurv-NET, a population-based surveillance network for laboratory-confirmed influenza-associated hospitalizations. This translates to a cumulative overall rate of 7.8 hospitalizations per 100,000 people in the United States. This is significantly lower than the hospitalization rate at this time last season (55.9 per 100,000). More data on hospitalization rates, including hospitalization rates during other influenza seasons, are available 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 (21.3 per 100,000), followed by children younger than 5 years (11.8 per 100,000), and adults 50-64 years (10.6 per 100,000). During most seasons, children younger than 5 years and adults 65 years and older have the highest hospitalization rates.
 - FluSurv-NET [hospitalization data](#) are collected from 13 states and represent approximately 8.5% 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.
- The [proportion of deaths](http://www.cdc.gov/flu/weekly/#S2)(<http://www.cdc.gov/flu/weekly/#S2>) attributed to pneumonia and influenza (P&I) was below the system-specific epidemic threshold in the NCHS Mortality Surveillance System and above the system-specific epidemic threshold in the 122 Cities Mortality Reporting System.
- Four influenza-associated pediatric deaths were reported to CDC during the week ending February 27.

- Two deaths were associated with an influenza A (H1N1)pdm09 virus and occurred during week 7 (the week ending February 20, 2016). One death was associated with an influenza A virus for which no subtyping was performed and occurred during week 8 (the week ending February 27, 2016) and one death was associated with an influenza B virus and occurred during week 7 (the week ending February 20, 2016).
- A total of 18 influenza-associated pediatric deaths have been reported during the 2015-2016 season.
- Nationally, the percentage of [respiratory specimens](http://www.cdc.gov/flu/weekly/overview.htm#Viral)(<http://www.cdc.gov/flu/weekly/overview.htm#Viral>) testing positive for influenza viruses in clinical laboratories during the week ending February 27 was 17.6%. For the most recent three weeks, the regional percentage of respiratory specimens testing positive for influenza viruses in clinical laboratories ranged from 6.2% to 21.7%.
 - During the week ending February 27, of the 3,803 influenza-positive tests reported to CDC by clinical laboratories, 2,978 (78.3%) were influenza A viruses and 825 (21.7%) were influenza B viruses.
- The most frequently identified influenza virus type reported by public health laboratories during the week ending February 27 was influenza A viruses, with influenza A (H1N1)pdm09 viruses predominating.
 - During the week ending February 27, 791 (73.4%) of the 1,078 influenza-positive tests reported to CDC by public health laboratories were influenza A viruses and 287 (26.6%) were influenza B viruses. Of the 779 influenza A viruses that were subtyped, 72 (9.2%) were H3 viruses and 707 (90.8%) were (H1N1)pdm09 viruses.
 - Cumulatively from October 4, 2015-February 27, 2016, influenza A (H1N1)pdm09 viruses were predominant in all four age groups (0-4 years age group (69.9%), 5-24 years age group (48.3%), 25-64 years age group (71.2%), and in ages 65 years and older (45.2%).
- CDC has characterized 783 specimens (331 influenza A (H1N1)pdm09, 251 influenza A (H3N2) and 201 influenza B viruses) collected in the U.S. since October 1, 2015.

- All 331 (100%) influenza A (H1N1)pdm09 viruses were antigenically characterized as similar to A/California/7/2009, the influenza A (H1N1) component of the 2015-2016 Northern Hemisphere vaccine.
- All 251 H3N2 viruses were genetically sequenced and all viruses belonged to genetic groups for which a majority of viruses antigenically characterized were similar to cell-propagated A/Switzerland/9715293/2013, the influenza A (H3N2) component of the 2015-2016 Northern Hemisphere vaccine.
 - A subset of 109 H3N2 viruses also were antigenically characterized; 102 of 109 (93.6%) H3N2 viruses were similar to A/Switzerland/9715293/2013 by HI testing or neutralization testing.
- All 142 (100%) of the B/Yamagata-lineage viruses were antigenically characterized as similar to B/Phuket/3073/2013, which is included in both the 2015-16 Northern Hemisphere trivalent and quadrivalent vaccines.
- Fifty-eight of 59 (98.3%) of the B/Victoria-lineage viruses were antigenically characterized as similar to B/Brisbane/60/2008, which is included in the 2015-16 Northern Hemisphere quadrivalent vaccine.
- Since October 1, 2015, CDC has tested 554 influenza A (H1N1)pdm09, 326 influenza A (H3N2), and 321 influenza B viruses for resistance to the neuraminidase inhibitors antiviral drugs. While the vast majority of the viruses that have been tested are sensitive to oseltamivir, zanamivir, and peramivir, so far this season, 2 (0.4%) influenza A (H1N1)pdm09 viruses have showed resistance to oseltamivir and peramivir (but both were sensitive to zanamivir).

[FluView\(http://www.cdc.gov/flu/weekly/fluactivitysurv.htm\)](http://www.cdc.gov/flu/weekly/fluactivitysurv.htm) is available – and past issues are [archived\(http://www.cdc.gov/flu/weekly/pastreports.htm\)](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 2015-2016 season can be found on the current [FluView\(http://www.cdc.gov/flu/weekly/\)](http://www.cdc.gov/flu/weekly/).

Influenza-Associated Pediatric Deaths

- Four pediatric deaths were reported this week, bringing the total number of flu-associated deaths to 18 for the 2015-2016 season.

- Because of confidentiality issues, CDC does not discuss or give details on individual cases.
- These deaths are a somber reminder of the danger flu poses to children.
- The single best way to protect against seasonal flu and its potential severe consequences in children is to get a seasonal flu vaccine each year.
- Vaccination is especially important for children younger than 5 years of age and children of any age with a long-term health condition like asthma, diabetes and heart disease and neurological and neurodevelopmental diseases. These children are at higher risk of serious flu complications if they get the flu.
- Yearly vaccination also is especially important for people in contact with high risk children in order to protect the child (or children) in their lives from the flu. In particular, children younger than 6 months are too young to be vaccinated themselves but are at high risk of flu complications if they get sick so the people around them should get vaccinated to protect the infant.
- Some children 6 months through 8 years of age require two doses of influenza vaccine. Children in this age group who are getting vaccinated for the first time will need two doses. Some children who have received influenza vaccine previously also will need two doses this season. A health care provider should be consulted to determine whether two doses are recommended for a child.
- Flu-related deaths in children younger than 18 years old should be reported through the Influenza-Associated Pediatric Mortality Surveillance System. The number of flu-associated deaths among children reported during the 2015-2016 flu season will be updated each week and can be found at www.cdc.gov/flu/weekly/#S3.
- Since 2004, when pediatric deaths associated with influenza infection became a nationally notifiable condition, the number of deaths reported to CDC each year has ranged from 37 (2011-2012 season) to 171 deaths (2012-2013 season).
- Last season, 148 influenza-associated pediatric deaths were reported to CDC.

U.S. Vaccine Strain Selection

- On March 4, 2016, VRBPAC met to review the WHO recommendations on the composition of 2016-2017 Northern Hemisphere seasonal flu vaccines, to discuss

the latest flu surveillance data and flu vaccine effectiveness studies, to hear remarks from vaccine manufacturers, and to select the composition of all U.S. seasonal flu vaccines for the 2016-2017 flu season.

- At the conclusion of the VRBPAC meeting, VRBPAC endorsed the WHO-recommended vaccine viruses for use in all U.S. seasonal flu vaccines for the 2016-2017 flu season.
- These recommendations are as follows:
 - It is recommended that trivalent vaccines for use in the 2016-2017 influenza season (Northern Hemisphere winter) contain the following:
 - an A/California/7/2009 (H1N1)pdm09-like virus;
 - an A/Hong Kong/4801/2014 (H3N2)-like virus;
 - a B/Brisbane/60/2008-like virus.
 - It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013-like virus.
- These recommendations are the same as the recommendations for the 2016 Southern Hemisphere influenza vaccine.
- More information is available on the [FDA VERBPAC web site](#).