

CDC Influenza Division Key Points

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Summary Key Points

- The most recent [FluView](#) report indicates that flu activity increased in the United States.
- The number of states reporting widespread flu activity increased from Puerto Rico and 29 states to Puerto Rico and 37 states this week.
- This week CDC also is reporting three additional influenza-associated pediatric deaths during the 2016-2017 season. (More information about those deaths is in "[Influenza-Associated Pediatric Deaths](#).") This brings the total number of pediatric deaths reported to CDC for 2016-2017 to eight at this time.
- Visits to health care providers for influenza-like illness have been at or above baseline for six weeks so far this season.
- 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.
- So far 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 still a good time to get vaccinated. It is likely that flu activity will continue for several more weeks this season, so getting vaccinated now can still provide protection this season.
- Manufacturers report having shipped more than 144.6 million doses of flu vaccine as of January 13, 2017. 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.
- Interim vaccine effectiveness estimates for this season should be available in mid-February.

FluView Activity Update

According to the FluView report for the week ending January 21, 2017 (week 3), flu activity continues to increase in the United States. The number of states reporting widespread flu activity increased from 29 states to 37 states. Also, CDC reported three additional flu-associated pediatric deaths for the 2016-2017 season. The proportion of people seeing their health care provider for influenza-like-illness (ILI) has been at or above the national baseline for six consecutive weeks so far this season. Influenza A (H3) viruses continue to predominate. Flu activity is expected to continue for several 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 January 21, 2017:

- **Influenza-like Illness Surveillance:** For the week ending January 14, the proportion of people seeing their [health care provider](#) for influenza-like illness (ILI)

increased to 3.4%. This remains above the national baseline of 2.2%. All ten regions 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 and 10 states (Alabama, Georgia, Kansas, Louisiana, Minnesota, Missouri, New Jersey, Oklahoma, South Carolina, and Tennessee) experienced high ILI activity. 10 states (Arizona, Arkansas, Colorado, Kentucky, Mississippi, New Mexico, Utah, Virginia, Washington, and Wyoming) experienced moderate ILI activity. Puerto Rico and 17 states (Alaska, California, Florida, Hawaii, Idaho, Illinois, Iowa, Maryland, Michigan, Nebraska, Nevada, New York, North Carolina, Oregon, Pennsylvania, South Dakota, and Texas) experienced low ILI activity. 13 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.
- **Geographic Spread of Influenza Viruses:** Widespread influenza activity was reported by Puerto Rico and 37 states (Alaska, California, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Texas, Virginia, Washington, Wisconsin, and Wyoming). Regional influenza activity was reported by Guam and 12 states (Alabama, Arizona, Arkansas, Colorado, Hawaii, Maine, Michigan, North Carolina, Tennessee, Utah, Vermont, and West Virginia). Local influenza activity was reported by the District of Columbia and one state (Indiana). No influenza activity was reported by the U.S. Virgin Islands. Geographic spread data show how many areas within a state or territory are seeing flu activity.
- **Flu-Associated Hospitalizations:** Since October 1, 2016, a total of 4,317 laboratory-confirmed influenza-associated hospitalizations have been reported. This translates to a cumulative overall rate of 15.4 hospitalizations per 100,000 people in the United States. This is higher than the hospitalization rate at this time (2.5 per 100,000) last season, when influenza A (H1N1)pdm09 viruses predominated. 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 (72.2 per 100,000), followed by adults 50-64 years (15.2 per 100,000) and children younger than 5 years (8.4 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 and represent 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 7.4% for the week ending January 7, 2017 (week 1). This percentage is above the epidemic threshold of 7.3% for week 1 in the National Center for Health Statistics (NCHS) Mortality Surveillance System.
- **Pediatric Deaths:**
 - Three influenza-associated pediatric deaths were reported to CDC during the week ending January 21, 2017.
 - Two deaths were associated with an influenza A (H3) virus and occurred during week 2 (the week ending January 14, 2017).
 - One death was associated with an influenza B virus and occurred during week 3 (the week ending January 21, 2017).
 - A total of 8 influenza-associated pediatric deaths have been reported for the 2016-2017 season.
- **Laboratory Data:**
 - Nationally, the percentage of [respiratory specimens](#) testing positive for influenza viruses in clinical laboratories during the week ending January 21 was 18.4%.
 - Regionally, the three week average percent of specimens testing positive for influenza in clinical laboratories ranged from 11.8% to 27.7%.

- During the week ending January 21, of the 4,813 (18.4%) influenza-positive tests reported to CDC by clinical laboratories, 4,306 (89.5%) were influenza A viruses and 507 (10.5%) were influenza B viruses.
- The most frequently identified influenza virus type reported by public health laboratories during the week ending January 21 was influenza A viruses, with influenza A (H3) viruses predominating.
- During the week ending January 21, 1,072 (93.2%) of the 1,150 influenza-positive tests reported to CDC by public health laboratories were influenza A viruses and 78 (6.8%) were influenza B viruses. Of the 998 influenza A viruses that were subtyped, 980 (98.2%) were H3 viruses and 18 (1.8%) 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 680 specimens (66 influenza A (H1N1)pdm09, 488 influenza A (H3N2), and 126 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 \(http://www.cdc.gov/flu/weekly/fluactivitysurv.htm\)](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 2016-2017 season can be found on the current [FluView\(http://www.cdc.gov/flu/weekly/\)](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 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 (Trade Name Tamiflu®), zanamivir (Trade Name: Relenza®, and peramivir (Rapivab®).
 - A generic version of Tamiflu® (oseltamivir phosphate) is available for the first time this season in the United States. More information is available at <http://www.fda.gov/Drugs/DrugSafety/PostmarketDrugSafetyInformationforPatientandProviders/ucm514854.htm>.
- 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>.

Influenza-Associated Pediatric Deaths

- Three pediatric deaths were reported to CDC during week 3 of the 2016-2107 season.

- Two deaths were associated with an influenza A (H3) virus and occurred during week 2 (the week ending January 14, 2017).
- One death was associated with an influenza B virus and occurred during week 3 (the week ending January 21, 2017).
- A total of eight influenza-associated pediatric deaths have been reported for the 2016-2017 season.
- Since 2004, when pediatric deaths associated with influenza infection became nationally notifiable, the number of deaths reported to CDC each year has ranged from 37 (2011-2012 season) to 171 deaths (2012-2013 season).
- Last season, 2015-2016, 89 influenza-associated pediatric deaths were reported to CDC.
- Because of confidentiality issues, CDC does not discuss or give details on individuals.
- These deaths are a somber reminder of [the danger flu poses to children](#).
- The single best way to protect against seasonal flu and its potentially severe consequences in children is to get a [seasonal flu vaccine](#) each year.
- Vaccination is important for children younger than 5 years. It is especially important for those younger than 2 years 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 2 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 2016-2017 flu season will be updated each week and can be found at www.cdc.gov/flu/weekly/.