

CDC Influenza Division Key Points

December 9, 2016

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Summary Key Points

- The most recent [FluView](#) report indicates that flu activity remains low in the United States but is beginning to increase.
- Influenza A (H3N2) viruses have been most common so far this season.
- Influenza A (H3N2)-predominant seasons are often associated with more severe illness, especially in young children and people 65 and older.
- 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.
- Each flu season, flu causes millions of illnesses, hundreds of thousands of hospitalizations and thousands or sometimes tens of thousands of deaths.
- On December 9, [CDC released new estimates on flu hospitalizations and deaths in the States since 2010](#).
- Since 2010, CDC estimates that flu-related hospitalizations since 2010 ranged from 140,000 to 710,000, while flu-related deaths are estimated to have ranged from 12,000 to 56,000. (See section "[Influenza Vaccine Program Impact Estimates for 2015-16](#)" for more information.)
- 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 week is [National Influenza Vaccination Week](#) and CDC urges anyone 6 months and older who had not yet been vaccinated yet this season to get vaccinated.
- [On December 9 CDC also released estimates of the number of people who had gotten their flu vaccination by early November of this season](#).
- There was little change in flu vaccination coverage compared to this time last year, but there are some groups we are concerned about.
- Despite the benefits of vaccination, more than 60% of the U.S. population have not yet been vaccinated against flu this season. (See section "[Early Influenza Vaccine Coverage Estimates for 2016-17](#)" for more information.)

- 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.
- On December 9, [CDC also released information on how many illnesses, hospitalizations were prevented by flu vaccination last season.](#)
- CDC estimates that for the 2015-2016 influenza season, influenza vaccination prevented approximately 5.1 million influenza illnesses, 2.5 million influenza-associated medical visits, and 71,000 influenza-associated hospitalizations. (See section "[Influenza Vaccine Program Impact Estimates for 2015-16](#)" for more information.)
- 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 vaccine has been updated to better match circulating viruses.
- Both four-component (quadrivalent) and three-component (trivalent) flu vaccines are available this season. Trivalent flu vaccine is designed to protect against three different flu viruses; quadrivalent protects 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 vaccination for protection to set in.
- Now is a good time to get vaccinated. There are still likely to be many weeks of flu activity this season, so getting vaccinated now can still provide important protection this season.
- Manufacturers report having shipped more than 133.3 million doses of flu vaccine as of December 2, 2016.
<http://www.cdc.gov/flu/professionals/vaccination/vaccinesupply.htm>
- The original total projected supply of 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 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.
- CDC also issued a press release summarizing the current situation on flu at this time and [a web spotlight highlighting CDC's work with private flu forecasters](#).
- All reports issued on December 9 are available at <https://www.cdc.gov/flu/spotlights/flu-vaccine-protected-millions.htm>

Summary of Influenza Virus Laboratory Data

- Laboratory data on flu viruses collected and analyzed since October 2 show that all circulating influenza viruses are similar to the reference vaccine viruses recommended for the production of 2016-2017 U.S. vaccines.
- No significant antigenic drift has been identified.
- This suggests that vaccination with Northern Hemisphere influenza vaccine should offer protection against the majority of circulating influenza viruses.
- CDC will continue to carefully review the results of laboratory studies of currently circulating influenza viruses to look for any evidence that viruses are changing.
- Laboratory results are published weekly in FluView, along with surveillance information related to influenza activity.
- FluView is available at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.
- CDC also will conduct vaccine effectiveness studies to tell how well the vaccine is actually protecting against illness.

FluView Activity Update

According to the [FluView](#) report for the week ending December 3, 2016 (week 48), flu activity increased slightly, but remains low overall in the continental United States. Influenza A (H3) viruses were most commonly reported during week 48 and have been the predominant virus so far this season. While the timing of influenza activity varies and is unpredictable, flu activity is expected to increase 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 3, 2016:

- For the week ending December 3, the proportion of people seeing their [health care provider](#) for influenza-like illness (ILI) was 1.8%. This is below the national baseline of 2.2%. Two regions (Regions 2 and 4) reported ILI at or above their region-specific baseline level.

- Puerto Rico experienced high ILI activity. New York City and four states (Colorado, Georgia, Louisiana, and Nevada) experienced low ILI activity. 46 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 influenza activity was reported by Puerto Rico. Regional influenza activity was reported by Guam and two states (Alabama and North Carolina). Local flu activity was reported by 19 states (Arizona, Connecticut, Delaware, Indiana, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Nevada, New Hampshire, Ohio, Oklahoma, Oregon, Pennsylvania, Texas, Virginia, and Washington). Sporadic flu activity was reported by the U.S. Virgin Islands and 28 states (Alaska, Arkansas, California, Colorado, Florida, Georgia, Hawaii, Idaho, Illinois, Iowa, Kansas, Michigan, Mississippi, Missouri, Montana, Nebraska, New Jersey, New Mexico, New York, North Dakota, South Carolina, South Dakota, Tennessee, Utah, Vermont, West Virginia, Wisconsin, and Wyoming). No flu activity was reported by one state (Rhode Island). The District of Columbia did not report. Geographic spread data show how many areas within a state or territory are seeing flu activity.
- Influenza-associated hospitalization data from the Influenza Hospitalization Surveillance Network (FluSurv-NET) for the 2016-2017 influenza season will be updated weekly starting later this season.
- Due to data processing problems, the National Center for Health Statistics (NCHS) mortality surveillance data for the week ending November 19, 2016 (week 46) will not be published this week.
- No influenza-associated [pediatric deaths](#) for the 2016-2017 season have been reported to CDC.
- Nationally, the percentage of [respiratory specimens](#) testing positive for influenza viruses in clinical laboratories during the week ending December 3 was 3.5%.
- Regionally, the three week average percent of specimens testing positive for influenza in clinical laboratories ranged from 0.9% to 8.7%.
- The most frequently identified influenza virus type reported by public health laboratories during the week ending December 3 was influenza A viruses, with influenza A (H3) viruses predominating.
 - During the week ending December 3, 141 (91.6%) of the 154 influenza-positive tests reported to CDC by public health laboratories were influenza A viruses and 13 (8.4%) were influenza B viruses. Of the 118 influenza A viruses that were subtyped, 112 (94.9%) were H3 viruses and 6 (5.1%) 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 156 specimens (24 influenza A (H1N1)pdm09, 104 influenza A (H3N2), and 28 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/).

Early Influenza Vaccine Coverage Estimates for 2016-17

Summary Key Points:

- **Despite the benefits of vaccination, more than 60% of the U.S. population have not yet been vaccinated against flu this season.**
 - We have more to do in getting adults, particularly pregnant women and health-care personnel working in long-term care (LTC) facilities for whom vaccination is so important, vaccinated.
- **There was little change in flu vaccination coverage compared to this time last year, but there are some groups we are concerned about.**
 - Children: Children are an important focus this season because the nasal spray vaccine is not recommended for use during 2016-17. Because of this change, we're looking closely at coverage among children and are hopeful that we won't see coverage decline. We want to remind parents about the importance of flu vaccination to protect their children.
 - Adults 50+: People 65 and older are at high risk of serious flu complications because of their age. About one-third of people 50-64 are at high risk of serious flu complications because they have an underlying health condition. Last season vaccination coverage among both groups of people was about 3 percentage points lower than coverage in the previous years. We hope last season's decline was a dip, not a trend.
 - People who work in LTC settings: While there has been some increase in flu vaccination coverage among people working in long term care facilities, their rates continue to lag behind those in other healthcare settings. Lower coverage not only means they are at increased risk of flu, but they are putting themselves, their families, and their patients at increased risk.

- Pregnant women: The early vaccination coverage estimate shows that more than half of pregnant women remain unvaccinated. The best way for pregnant women to protect themselves and their babies from the flu is to get a flu shot. Infants younger than 6 months are at high risk of severe complications from the flu, but they are too young to be vaccinated. Infants whose mothers get the flu shot while pregnant have a lower risk of flu illness during the first several months after birth.

General Population Key Findings

- Only approximately two of every five children and adults in the United States were vaccinated by early November 2016:
 - 40% of the U.S. population 6 months and older
 - 37% of children 6 months through 17 years
 - 41% of adults 18 years and older
- Early 2016–17 flu vaccination coverage was similar to coverage at the same time last flu season for everyone 6 months and older.
- Among both children and adults, early flu vaccination coverage estimates showed no racial/ethnic differences.
- Among both adults and children, the most common places reported for receiving flu vaccination were medical locations like doctor’s offices (children: 85%, adults: 52%). For adults, retail settings like pharmacies (24%) and workplaces (18%) were also common locations for vaccination.

Health Care Professional (HCP) Key Findings

- Flu vaccination coverage among HCP has improved over the past six flu seasons, but remains below the national Healthy People 2020 target of 90%.
- By early November 2016, flu vaccination coverage among HCP was 69%, similar to early- coverage during the 2015–16 season (67%).
 - During the previous two seasons, flu vaccination coverage increased by 12 to 13 percentage points from early coverage estimates to the final coverage estimates.
- By occupation, early- flu vaccination coverage was highest among physicians (83%), nurse practitioners/physician assistants (83%), pharmacists (81%), nurses (81%), and other clinical professionals (72%).
 - Flu vaccination coverage was lowest among administrative and nonclinical support staff (65%) and assistants and aides (57%).

- By work setting, early flu vaccination coverage was highest among HCP working in hospitals (81%).
 - Flu vaccination coverage continues to be lowest among HCP working in long-term care (LTC) settings (55%).
- Early flu vaccination coverage was higher among HCP whose employers required (89%) or recommended (69%) that they be vaccinated compared with HCP whose employer did not have a requirement or a recommendation regarding flu vaccination (26%).
- Flu vaccination of HCP has been shown to reduce the risk of flu and absenteeism in vaccinated HCP and reduce the risk of respiratory illness and deaths in nursing home residents.
- Among unvaccinated HCP who did not intend to get the flu vaccination during this flu season, the most common reason reported for not getting vaccinated was fear of experiencing side effects or getting sick from the vaccine. The second most common reason was that they don't think that flu vaccines work.

Pregnant Women Key Findings

- The early vaccination coverage estimate for pregnant women shows that more than half of pregnant women remain unvaccinated.
 - By early November 2016, flu vaccination coverage before and during pregnancy among pregnant women was 47%, approximately 6 percentage points higher compared with 2014–15 early season vaccination coverage (40%).
 - In the previous two flu seasons, vaccination coverage increased by approximately 7 to 10 percentage points from the early coverage estimates to the final coverage estimates.
 - While the early vaccination coverage estimate for pregnant women is 6 percentage points higher than it was around this time last season, this year's estimate reflects data collecting during a slightly later time period (approximately 5 days later than last season).
- Younger pregnant women (18–24 years) had a vaccination coverage (42%) lower than pregnant women 25–34 years (47%) and those 35–49 years (52%).
- There were no differences in vaccination coverage by race/ethnicity among pregnant women in early November 2016.
- Vaccination coverage was lower among pregnant women with a high school diploma or less (38%) or some college (38%) compared with women with a college degree (49%) or more than a college degree (60%).

- Most women (99%) reported visiting a doctor or other medical professional at least once since July 1, 2016. Among these women, 60% reported receiving a recommendation for and offer of vaccination from a doctor or other medical professional, 14% received only a recommendation for and no offer of vaccination, and 24% did not receive a recommendation for flu vaccination, similar to the proportions in November 2015 (62%, 15% and 23%, respectively).
- Women who reported receiving a provider recommendation and offer for vaccination were more than twice as likely to be vaccinated compared with women who received only a recommendation but no offer of vaccination (66% vs. 30%) and six times more likely to be vaccinated compared with women who did not receive a recommendation for vaccination (66% vs. 11%).
- The best way for pregnant women to protect themselves from the flu is to get a flu shot.
- Infants younger than 6 months are at high risk of severe complications from the flu, but they are too young to be vaccinated. Infants whose mothers get the flu shot while pregnant have a lower risk of flu illness and influenza – related hospitalizations during the first several months of life.

Influenza Vaccine Program Impact Estimates for 2015-16

- CDC estimates of influenza disease burden (illnesses, medical visits and hospitalizations) and disease-averted by influenza vaccination have been published annually, beginning in 2010.
- On December 9, 2016, CDC released its estimates for the 2015-2016 season.
- The report is available online at <https://www.cdc.gov/flu/about/disease/2015-16.htm>.

2015-2016 Estimates

- CDC estimates that for the 2015-2016 influenza season, influenza vaccination prevented approximately 5.1 million influenza illnesses, 2.5 million influenza-associated medical visits, and 71,000 influenza-associated hospitalizations.
- This represents a 19 percent reduction in the burden of influenza illness in the absence of vaccination; which is similar to what has been seen in estimates for other seasons.
- The online report also provides the estimated number of illnesses, medical visits and hospitalizations associated with influenza last season.
- CDC estimates that last season there were 25 million illnesses, 11 million medical visits and 310,000 flu-associated hospitalizations; a substantial amount of illness.

- **The report underscores the benefits of the current vaccination program but it also highlights areas where improvements in vaccine uptake and vaccine effectiveness could deliver even greater benefits to the public's health.**

Range of Flu-Related Hospitalizations

- A summary table of estimates generated using this model from 2010-2011 to 2015-2016 is included.
- Based on this data:
 - "CDC estimates that from 2010-2011 to 2015-2016, flu-related hospitalizations in the United States ranged from a low of 140,000 (2011-2012) to 710,000 (2014-2015)."
- CDC has previously cited "[more than 200,000](#)" as an average for annual flu-related hospitalizations. That figure was based on data from 1979-2001.
- CDC believes that providing a range of flu-related hospitalizations from more recent seasons is a more complete representation of the variability and severity of influenza than an average.

Range of Flu-Related Deaths

- CDC also has added estimates of flu deaths and flu deaths prevented by vaccination to this report and will present those numbers annually going forward as well.
- CDC calculates flu-related deaths in two ways:
 - 1) using reports of pneumonia & influenza (P&I) deaths, and
 - 2) using reports of respiratory & circulatory (R&C) deaths.
 - P&I deaths represent only a fraction of the total number of deaths from influenza, which can also result from respiratory and cardiovascular complications.
 - CDC believes that estimates of flu-related deaths using R&C reports gives a more complete estimate of the actual burden of influenza; however, P&I data is available in real-time whereas R&C data lags three years behind.
 - CDC will provide estimates of flu-related deaths based on P&I annually (before R&C estimates are available).
 - ***Important note: Past comparative data suggest that the total number of influenza-associated deaths may be 2 to 4 times greater than estimated using only reported P&I deaths.**
 - Calculations based on R&C will be provided with a three-year delay.
- The online report finds that:

- “CDC estimates that during the 2015-2016 influenza season, influenza vaccination prevented about 3,000 P&I deaths.*
- CDC also is updating the range used to characterize flu-related deaths using data from more recent seasons.
- Since 2010 CDC has used a range (“[3,000 to 49,000](#)”) to describe flu-related deaths. These R&C-based influenza mortality estimates were derived from data from 1976 to 2007.
- This range is being updated based on R&C deaths reported from 2010 to 2014.
- The online report finds that:
 - “CDC estimates that from 2010-2011 to 2013-2014, influenza-associated deaths in the United States ranged from a low of 12,000 (during 2011-2012) to a high of 56,000 (during 2012-2013).”

National Influenza Vaccination Week (NIVW)

- NIVW is a national observance established in 2005 by the Centers for Disease Control and Prevention (CDC) to highlight the importance of continuing influenza vaccination after the holiday season and beyond.
- NIVW provides an opportunity for public health and health care professionals, health advocates, communities and families across the country to work together to promote flu vaccination.