CDC Influenza E-Brief

SEPTEMBER 2011

In This Issue

Subscribe to the Influenza E-Brief on CDC Washington's website:

www.cdc.gov/washington/flu_ebrief.html

2011–2012 Influenza season Kick-Off E-brief

Influenza (the flu) is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness, and at times can lead to death. Some people, including older people, young children, and people with certain health conditions (see below), are at a higher risk for serious flu complications. The best way to prevent the flu is by getting **vaccinated** each year.

The 2011-2012 flu vaccine will protect against the three influenza viruses that surveillance suggests will be most common during the season. This includes an influenza A (H1N1) virus, an influenza A (H3N2) virus, and an influenza B virus.

Vaccine manufacturers estimate a production level of between 166 – 173 million doses of vaccine will be prepared for this year's flu season.

Introduction to Center for Disease Control and Prevention's (CDC) Influenza Division

The Influenza Division provides the scientific and programmatic foundation and leadership for the diagnosis, prevention, and control of influenza domestically and internationally.

In addition, the Influenza Division along with other groups at CDC, state and local health departments, Department of Health and Human Services (DHHS), World Health Organization (WHO), and other partners:

- Conducts domestic influenza surveillance and supports global influenza surveillance to monitor the impact of influenza and guide influenza vaccine virus selection decisions;
- Develops better diagnostic tests, testing capabilities and tools to improve provider diagnostic skills;
- Distributes influenza diagnostic testing reagents and supplies to public health partners in the United States and globally;

- Conducts surveillance for human infections with influenza viruses of animal origin (also referred to as "novel influenza A virus infections") and conducts research at the animal-human interface to assess the risk of human infection with novel influenza A viruses and ways to prevent transmission of animal viruses to humans;
- Conducts surveillance and research on the susceptibility of influenza viruses to antiviral medications.;
- Develops methods for improving rapid reporting and identification of new human seasonal influenza virus variants and novel influenza A viruses;
- Enhances the use of existing surveillance data and identifies alternative data sources for monitoring influenza geographic spread, severity and high risk groups most seriously affected by influenza;
- Conducts state-of-the-art applied research to better understand the properties of influenza viruses, which could provide insight into influenza virus evolution, transmissibility, pathogenicity, and susceptibility to antiviral drugs, as well as the immune response to the viruses; this improved understanding of the antigenic and genetic properties of influenza viruses can lead to the development of better tools for preventing and controlling influenza;
- Influenza Division maintains the highest level of biosafety laboratories (BSL3+ and BSL4) to safely study highly pathogenic avian influenza and historic pandemic viruses. These high containment labs are one of the very few places in the world where these lethal viruses can be fully studied. This capability allowed for the reconstruction of the 1918 pandemic virus and for studies to determine why it was so lethal;
- Supports the development and production of better influenza vaccines that can be produced more quickly, including developing better-growing influenza viruses for use in vaccines, improving methods to more accurately and rapidly test the potency of vaccines; and, developing and evaluating new vaccines;
- Strengthens the foundation of influenza prevention practices through improving the evidence base regarding how influenza viruses spread;
- Supporting efforts by immunization programs and providers to increase vaccination coverage levels, monitor vaccine safety, improve appropriate use of influenza antiviral medications, and assess program effectiveness;
- Provides on the ground technical assistance for both domestic and international public health entities to conduct outbreak investigations and to expand influenza laboratory and epidemiologic capacity; and,
- Provides laboratory training both domestically and internationally to expand capacity for influenza diagnosis and surveillance and increase capacity for antiviral resistance testing and serologic testing.

New CDC-Developed Diagnostic Lab Test for Flu Approved

A laboratory diagnostic kit to diagnose human infections with seasonal influenza viruses and novel influenza A viruses with pandemic potential has been authorized for use by Food and Drug Administration. The in–vitro diagnostic, or IVD, kit was developed by the Centers for Disease Control and Prevention

"As the spread of the H1N1 pandemic slowed last year, we conducted an end–to–end review of our nation's medical countermeasure enterprise, which showed a clear need for better diagnostic tests," said Dr. Nicole Lurie, assistant secretary for preparedness and response in the U.S. Department of Health and Human Services. "In helping public health officials quickly identify seasonal flu as well as the flu viruses that could become pandemic, this kit can make a real difference in protecting health and saving lives in the United States and around the world."

The CDC test kit will be given at no cost to qualified international public health laboratories to improve global laboratory capacity for detecting influenza virus infections in human respiratory tract specimens.

The test kit is the only IVD for influenza that is FDA cleared for use with lower respiratory tract specimens. Several studies have shown that among hospitalized patients with severe lower respiratory disease, including critically ill patients requiring mechanical ventilation in the intensive care unit, testing lower–respiratory tract specimens can help detect influenza virus infections that can be missed by only testing upper respiratory tract samples.

Questions and Answers about the 2011–2012 Flu Season

What sort of flu season is expected this year?

Flu seasons are unpredictable in a number of ways. Although epidemics of flu happen every year, the timing, severity, and length of the epidemic depends on many factors, including what influenza viruses are spreading and whether they match the viruses in the vaccine.

When will flu activity begin and when will it peak?

The timing of flu is very unpredictable and can vary from season to season. Flu activity most commonly peaks in the U.S. in January or February; however, seasonal flu activity can begin as early as October and continue to occur as late as May.

What should I do to prepare for this flu season?

CDC recommends a yearly flu vaccine for everyone 6 months of age and older as the first and most important step in protecting against this disease. While there are many different flu viruses, the flu vaccine is designed to protect against the three main flu strains that are expected to widely circulate during this flu season. Getting the flu vaccine as soon as it becomes available each year is always a good idea, and the protection you get from vaccination will last throughout the flu season.

In addition, you can take everyday preventive steps like staying away from sick people and washing your hands to reduce the spread of germs. If you are sick with flu, stay home from work or school to prevent spreading influenza to others.

How are the viruses selected to make flu vaccine?

The influenza (flu) viruses selected for inclusion in the seasonal flu vaccines are updated each year based on information about which influenza viruses are being found, how they are spreading, influenza activity in the Southern Hemisphere, and how well the previous season's vaccine viruses might protect against any that are being newly identified. Currently, 125 domestic labs as well as 136 national influenza centers in 106 countries conduct year-round surveillance for influenza viruses and disease activity.

The seasonal flu vaccine is a trivalent vaccine (a three-component vaccine) with each component selected to protect against one of the three main groups of influenza viruses circulating in humans.

- an A/California/7/2009 (H1N1)-like virus;
- an A/Perth/16/2009 (H3N2)-like virus; and
- a B/Brisbane/60/2008-like virus.

These are the same viruses that were selected for the Northern Hemisphere for the 2010-2011 influenza vaccine.

Who is included in the group that makes the vaccine virus selections at WHO?

The World Health Organization (WHO) vaccine virus decision meetings include WHO representatives from the WHO Collaborating Centers, Essential Regulatory Laboratories, and others from the Global Influenza Surveillance Network (GISN). After WHO makes its recommendations, the Vaccines and Related Biological Products Advisory Committee (VRBPAC) of the U.S. Food and Drug Administration (FDA) meets to concur with or modify WHO's recommendation for the United States. The CDC is one of the five WHO International Influenza Collaborating Centers.

What is CDC doing to monitor vaccine effectiveness for the 2011–2012 season?

CDC carries out and collaborates with other partners to assess how well flu vaccines work. During the 2011–2012 season, CDC is planning multiple studies on the effectiveness of both the flu shot and the nasal–spray flu vaccine. These studies will measure vaccine effectiveness in preventing laboratory confirmed influenza among persons aged 6 months and older.

The influenza vaccine composition is the same for the upcoming season as it was last season; do I need to get vaccinated again?

Yes. People should get vaccinated every year because even if the viruses in the vaccine are the same as the year before, immunity to influenza viruses declines over time and may be too low to provide protection after a year.

Who should get vaccinated this season?

Everyone 6 months and older should get a flu vaccine each year. This recommendation went into effect for the 2010-2011 flu season. While everyone should get a flu vaccine each flu season, it's especially important that certain people get vaccinated either because they are at high risk of having serious flu–related complications or because they live with or care for people at high risk for developing flu–related complications. High risk groups include:

- Pregnant women
- Children younger than 5, but especially children younger than 2 years old
- People 50 years of age and older
- People of any age with certain chronic medical conditions
- People who live in nursing homes and other long–term care facilities
- People who live with or care for those at high risk for complications from flu, including:
  - Health care workers
  - Household contacts of persons at high risk for complications from the flu
  - Household contacts and out of home caregivers of children less than 6 months of age (these children are too young to be vaccinated)

Where can I get a flu vaccine?

Flu vaccine shipments began in August 2011 and will continue throughout the fall until all vaccine is distributed. Doctors and nurses are encouraged to begin vaccinating their patients as soon as flu vaccine is available in their area. See your doctor or nurse to get the flu vaccine, or seek out other locations where vaccine is being offered. The following flu clinic locator is a useful tool for finding vaccine in your area. http://www.flu.gov/widgets/vaccinelocator.html

When should I get the 2011-2012 influenza vaccine?

CDC recommends that people get vaccinated against influenza as soon as vaccine becomes available in their community, but vaccination can take place at any time throughout the influenza season. Influenza seasons are unpredictable, and can begin as early as October. It takes about two weeks after vaccination for antibodies to develop in the body and provide protection against influenza virus infection, therefore, CDC recommends people be vaccinated as soon as vaccine becomes available to ensure that as many people as possible are protected before influenza season begins.

Influenza Resources

Recent highlights from the Morbidity and Mortality Weekly Report (MMWR) www.cdc.gov/mmwr/

Influenza-Associated Pediatric Deaths — United States, September 2010--August 2011 (September 16, 2011 / Vol. 60 / No. 36)

Although children and teenagers rarely die from flu-related causes, many of the deaths could have been prevented if the children had been vaccinated against the flu. This study reports 115 influenza-associated deaths of people younger than 18, from September 2010 through August 2011 and highlights the importance of both annual vaccination and rapid antiviral treatment. "It's vital that children get vaccinated," said Dr. Lyn Finelli, chief of the CDC's Surveillance and Outbreak Response Team. "We know the flu vaccine isn't 100 percent effective, especially not in children with high risk medical conditions. That's why it's essential that these two medical tools be fully utilized. Vaccinate first; then use influenza antiviral drugs as a second line of defense against the flu. Right now we aren't fully using the medical tools at our disposal to prevent flu illnesses and deaths in children."

The study provides details on the deaths. Since 2004, states have been required to report influenza-associated deaths in children and teenagers, giving the CDC a chance to look closely at factors that can increase risk. Among the most notable findings was the infrequent use of the most important influenza prevention measure — vaccination. Despite a recommendation for vaccination of all children 6 months of age and older having been in place since 2008, only 23 percent of the 74 children older than six months with a known vaccination history had received their flu vaccine last season. While many people believe that healthy children can withstand a bout of flu, this is not always the case. About half of the children who died last season were previously healthy and did not have a medical condition that would put them at risk for flu complications.

However, the report underscores the fact that young age in itself is a risk factor. The report identified that 46 percent of the children who died were younger than 5 years and 29 percent were younger than 2 years. The other half of the children who died did have a medical condition that predisposed them to being at greater risk of flu complications. Of 57 children with a medical condition, 54 percent had a neurological disorder, 30 percent had pulmonary disease, 25 percent had a chromosome or genetic disorder and 19 percent had congenital heart disease or other cardiac disease.

Maternal and Infant Outcomes Among Severely Ill Pregnant and Postpartum Women with 2009 Pandemic Influenza A (H1N1) --- United States, April 2009--August 2010 (September 9, 2011 / Vol. 60 / No. 35)

During the 2009 H1N1 influenza pandemic (April 15, 2009 – August 10, 2010), CDC requested reporting on pregnant/postpartum women with severe influenza. During this time, CDC received reports of 278 pregnant/postpartum women who were admitted to the intensive care unit and survived and 84 pregnant/postpartum women who died. Infants born during their mother's hospitalization for severe influenza illness were more likely to be born preterm and of lower birthweight than the general population, and infants born after their mothers had been discharged were more likely to be small for gestational age and of lower birthweight.

Consistent with earlier reports, pregnant women receiving prompt treatment with recommended antiviral medications were less likely to die than those treated later. The potential impact of severe influenza during pregnancy on mother and infant/fetus emphasizes the importance of influenza vaccination of pregnant women, regardless of pregnancy trimester, and the importance of prompt, empiric treatment with appropriate antiviral medications for pregnant women with suspected or confirmed influenza. Despite the Advisory Council on Immunization Practices' recommendations for all pregnant women to receive influenza vaccination and the recent increase in influenza vaccination among pregnant women, coverage remains lower than optimal and increasing vaccination coverage in this group continues to be a key public health priority.

Free Influenza materials for your State!

This season's flu materials include messaging to address the 2011-12 flu recommendations. All materials are **free for download** at www.cdc.gov/flu/freeresources/

Test Your Knowledge at The Flu I.Q.

www.flu.gov/individualfamily/about/index.html#fluquiz