

# 2011-2012 Influenza Season Key Points (10.11.11)

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### **Overarching Framework of CDC Influenza Messaging**

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- Influenza (the flu) can be a serious disease.

#### Take 3 Messages

- CDC recommends a three-step approach to fighting the flu: vaccination, everyday preventive actions, and use of antiviral drugs if your doctor prescribes them.

#### 1. Take time to get a flu vaccine.

- CDC recommends a yearly flu vaccine as the first and most important step in protecting against flu viruses.
- While there are many different flu viruses, the flu vaccine protects against the three viruses that research suggests will be most common this season.
- The 2011-2012 flu vaccine will protect against an influenza A (H3N2) virus, an influenza B virus and the H1N1 virus that emerged in 2009 and caused a pandemic.
- Even though the vaccine composition is still the same, everyone needs to get vaccinated with this season's vaccine because immunity from last season's vaccine will have declined.
- Everyone 6 months of age and older should get a flu vaccine as soon as the 2011-2012 vaccines are available.
- Vaccination of high risk persons is especially important to decrease their risk of severe flu illness.
- People at high risk of serious flu complications include young children, pregnant women, people with chronic health conditions like asthma, diabetes, or heart and lung disease and people 65 years and older.
- Vaccination also is important for health care workers, and other people who live with or care for high-risk people to keep from spreading the flu to high-risk people.
- Children younger than 6 months are at high risk of serious flu illness, but are too young to get a flu vaccine. People who care for them should be vaccinated instead to protect them from getting the flu.

**See Vaccine section for more key messages related to influenza vaccination.**

#### 2. Take everyday preventive actions to stop the spread of germs.

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- Cover your nose and mouth with a tissue when you cough or sneeze. After using a tissue, throw it in the trash and wash your hands.
  - Wash your hands often with soap and water. If soap and water are not available, use an alcohol-based hand rub.
  - Avoid touching your eyes, nose or mouth. Germs spread this way.
  - Try to avoid close contact with sick people.
  - If you are sick with flu-like illness, CDC recommends that you stay home for at least 24 hours after your fever is gone except to get medical care or for other necessities. (Your fever should be gone without the use of a fever-reducing medicine.)
  - While sick, limit contact with others as much as possible to keep from infecting them.
  - For more information, see <http://www.cdc.gov/flu/protect/habits/>
3. Take flu antiviral drugs if your doctor prescribes them
- If you get the flu, antiviral drugs can treat your illness.
  - Antiviral drugs are different from antibiotics. Antiviral drugs fight influenza viruses in your body. Antibiotics fight against bacterial infections.
  - Everyone who has flu symptoms does not need antiviral drugs. Your doctor will decide whether antiviral drugs are right for you.
  - Antiviral drugs are prescription medicines (pills, liquid or an inhaled powder) and are not available over-the-counter.
  - Antiviral drugs can make illness milder and shorten the time you are sick.
  - There also is a lot of data showing that antiviral drugs may prevent serious flu complications. In someone with a high risk medical condition, treatment with an antiviral drug can mean the difference between having a milder illness versus a very serious illness that could result in a hospital stay.
  - Antiviral drugs are not a substitute for getting a flu vaccine. While not 100% effective, a flu vaccine is the first and best way to **prevent** influenza.
  - Antiviral drugs are a second line of defense to **treat** the flu if you get sick.
  - The earlier you can begin taking antivirals, the better. They work best if started within two days, but there is data to suggest they can still be beneficial even up to 5

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days after getting sick. This would be especially important in a high risk person that was very sick.

- Flu-like symptoms include fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills and fatigue. Some people also may have vomiting and diarrhea. People may be infected with the flu, and have respiratory symptoms without a fever.
- For more information about antiviral drugs, visit <http://www.cdc.gov/flu/antivirals/index.htm>
- For more information about the flu, call 1-800-CDC-INFO, visit [www.cdc.gov/flu](http://www.cdc.gov/flu), [www.flu.gov/](http://www.flu.gov/), or [m.cdc.gov/flu](http://m.cdc.gov/flu) on your mobile phone or PDA, or sign up for CDC flu texts at (URL).

### **Statements for General Audiences**

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### **Disease**

1. Influenza (the flu) can be a serious disease that can lead to hospitalization and sometimes even death. Anyone can get sick from the flu.
2. While the flu can make anyone sick, certain people are at greater risk for serious complications from the flu, causing hospitalization or even death, including:
  - a) adults 50 years of age and older
  - b) children younger than 5, but especially younger than 2 years old
  - c) people with chronic lung disease (such as asthma and COPD), diabetes (type 1 and 2), heart disease, neurologic conditions, and certain other long-term medical conditions,
  - d) those who are morbidly obese (BMI of 40 or greater)
  - e) pregnant women and women within the first two weeks after delivery (2 weeks post-partum)
  - f) other groups at increased risk of flu complications are listed at [http://www.cdc.gov/flu/flu\\_vaccine\\_updates.htm](http://www.cdc.gov/flu/flu_vaccine_updates.htm)
3. Much of the U.S. population is at increased risk from serious flu complications, either because of their age or because they have a medical condition like asthma, diabetes (type 1 and 2) heart conditions, or because they are pregnant.
  - a. For example, more than 30 percent of people 50 through 64 years of age have one or more chronic medical conditions that put them at increased risk of serious complications from flu.

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- b. For example, all children younger than 5 years (and especially children younger than 2 years), and all adults 50 years and older, are at increased risk of serious flu-related complications.
4. Symptoms of influenza can include fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills and fatigue. Some people may also have vomiting and diarrhea. People may be infected with the flu and have no symptoms at all or only respiratory symptoms without a fever.
5. Flu viruses are constantly changing. Each flu season, different flu viruses can spread, and they can affect people differently based on people's immune systems. Even healthy children and adults can get very sick from the flu.
6. In the United States, thousands of healthy adults and children have to visit the doctor or be hospitalized from flu complications each year. Flu vaccination can help protect you and your family from the flu and its complications.
7. Flu seasons are unpredictable. The severity of influenza seasons can differ substantially from year to year. Over a period of 30 years, between 1976 and 2006, estimates of yearly flu-associated deaths in the United States range from a low of about 3,000 to a high of about 49,000 people.
  - a) Each year in the United States on average: An estimated 5-20 percent of the population can be infected with the flu, and more than 200,000 people may be hospitalized during a flu season.
  - b) The 2009 H1N1 pandemic is an example of how unpredictable the flu can be. For more information about the 2009 H1N1 pandemic, see <http://www.cdc.gov/h1n1flu/>

## [Vaccine](#)

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1. The first and most important step in protecting against the flu is to get a flu vaccine each season.
  - a) Everyone 6 months of age and older is recommended to get the 2011-12 flu vaccine as soon as it's available, even if they got vaccinated the year before.
  - b) Get vaccinated as soon as vaccine becomes available in your community.
2. CDC recommends an annual flu vaccine as the first and best way to protect against influenza. This recommendation is the same even during years when the vaccine composition (the viruses the vaccine protects against) remains unchanged from the previous season.
3. There are two reasons for getting a yearly flu vaccine:

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- a) The first reason is that because flu viruses are constantly changing, flu vaccines may be updated from one season to the next to protect against the viruses predicted to circulate the most during the coming flu season.
  - b) The second reason that annual vaccination is recommended is that a person's immune protection from vaccination declines over time and annual vaccination is needed for optimal protection.
4. The composition of the flu vaccine is reviewed each year. If needed, the vaccine is then updated to protect against the three flu viruses that research indicates will be the most common during the upcoming season. New vaccine is manufactured every season.
- a) Research indicates that the same 3 strains that circulated most during the 2010-11 flu season will continue to be the most prominent 3 strains during the 2011-12 flu season.
  - b) Therefore the strains in the 2011-12 flu vaccine are the same as those included in the 2010-11 flu vaccine.
  - c) The 2011-2012 flu vaccine will protect against an influenza A (H1N1) virus, an influenza A (H3N2) virus and an influenza B virus. (See [Vaccine Formulation Section](#))
5. Protect your family from the flu by getting yourself vaccinated.
6. A flu vaccine reduces your risk of illness, hospitalization, or even death and can prevent you from spreading the virus to others.
7. Vaccination of high risk persons and their close contacts is especially important to reduce the risk of severe flu illness in high risk persons. For a list of high risk people who should get a yearly flu vaccination, visit:  
[http://www.cdc.gov/flu/flu\\_vaccine\\_updates.htm](http://www.cdc.gov/flu/flu_vaccine_updates.htm)
- a) People at high risk of serious flu complications include young children (those under 5 years of age, particularly those younger than two years of age), pregnant women, adults over 50 years of age, people who are morbidly obese (BMI of 40 or greater), and people with chronic medical conditions like asthma, diabetes, neurologic conditions, heart and lung disease.
  - b) In recent seasons, American Indian/Alaskan Natives also seemed to be at higher risk and may continue to be during the 2011-12 flu season.
8. Flu vaccines are offered in many locations, including doctor's offices, clinics, health departments, pharmacies and college health centers, as well as by many employers, and even in some schools.
- a) Even if you don't have a regular doctor or nurse, you can get a flu vaccine somewhere else, like a health department, pharmacy, urgent care clinic, and maybe your school, college health center, or work.

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- b) Find a flu clinic near you with the flu vaccine finder at [www.flu.gov](http://www.flu.gov).
9. The influenza vaccine is used to prevent flu illness, not to treat it.
10. A flu vaccine protects against influenza. It will not protect against other respiratory viruses that may have symptoms that are similar to those seen with flu infection.
11. Influenza vaccination also may lessen the severity of illness if you are exposed to a flu virus that is related to the flu viruses in the vaccine.
12. Some people should talk with a doctor before getting an influenza vaccine:
- a) those with an allergy to [chicken eggs](#).
    - o Several recent studies have documented safe receipt of TIV (flu shot) in people with egg allergy, particularly those with a history of less severe reactions to egg. Persons with mild reactions to egg —specifically, those who have only experienced hives should receive the influenza vaccine with some additional safety measures.
    - o Persons who have severe reactions to egg (i.e., those listed above) should be referred to a health care professional with expertise in the management of allergic conditions for further risk assessment before being vaccinated. Detailed recommendations for vaccination of persons with egg allergy can be found at:  
[http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6033a3.htm#vaccination\\_eg\\_g\\_allergy](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6033a3.htm#vaccination_eg_g_allergy)
  - b) those who have had an allergic reaction to flu vaccines in past
  - c) those who have ever had Guillain-Barré Syndrome (a severe paralytic illness, also called GBS).
13. People who are ill with fever should wait until symptoms pass to get vaccinated.
14. Medicare covers both flu and pneumonia vaccines with no co-pay or deductible. Children eligible for Medicaid and CHIP are eligible for ACIP recommended vaccines.
15. For more information about the seriousness of influenza and the benefits of influenza vaccination, talk to your doctor or nurse, visit [www.cdc.gov/flu](http://www.cdc.gov/flu), [www.flu.gov/](http://www.flu.gov/), or call CDC at 1-800-CDC-INFO.

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1. All 2011-2012 vaccines are trivalent (three component) vaccines, which means they protect against three different influenza viruses.
2. There are trivalent inactivated vaccines (TIV) – given with a needle and most often called “flu shots” and a live attenuated influenza vaccine (LAIV), most often called the nasal spray vaccine. (See section “Available Vaccine Products and Indications” for more information.)
3. The 2011–2012 U.S. seasonal influenza vaccine virus strains are identical to those contained in the 2010–2011 vaccine.
4. These include: A/California/7/2009 (H1N1)-like, A/Perth/16/2009 (H3N2)-like, and B/Brisbane/60/2008-like antigens.
5. The influenza A (H1N1) vaccine virus strain is derived from the 2009 pandemic influenza A (H1N1) virus.
6. These vaccine virus strains were chosen by the U.S. Food and Drug Administration (FDA) in February 2011.
7. At that time, international surveillance indicated that these viruses continued to be the predominant circulating viruses, making them the ones most likely to cause illness during the upcoming 2011-2012 season.
8. CDC recommends an annual flu vaccine for everyone 6 months and older as the first and best way to protect against influenza.
9. This recommendation is the same even during years when the vaccine composition (the viruses the vaccine protects against) remains unchanged from the previous season.
10. There are two reasons for getting a yearly flu vaccine.
  - The first reason is that because flu viruses are constantly changing, flu vaccines may be updated from one season to the next to protect against the most commonly circulating viruses.
  - The second reason that annual vaccination is recommended is that a person’s immune protection from vaccination declines over time and annual vaccination is needed for optimal protection.

### Vaccine Availability and Indications

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1. Manufacturers estimate that between 166 and 173 million doses of influenza vaccine will be produced for the U.S. market this season. This is an increase from last season’s estimates of 160-165 million doses.
2. Manufacturers began shipping flu vaccines for the 2011-2012 season in August. Distribution will continue through the fall.
3. While some vaccine was available in August, ample supplies should be available in September and October and thereafter. (For information about the recommended timing of influenza vaccination, see section “Timing of Vaccination.”)
4. Multiple influenza vaccines are expected to be available during the 2011–12 season, including a new intradermally-administered flu shot, Fluzone Intradermal (sanofi pasteur), that was licensed in May 2011.
5. There are two types of vaccines:

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- The “flu shot” — an inactivated vaccine (containing killed virus) that is given with a needle, usually in the arm.

There are three different flu shots available:

- a regular flu shot approved for people ages 6 months and older
- a high-dose flu shot approved for people 65 and older, and
- the new intradermal flu shot approved for people 18 through 64 years of age.

The age indications for the different flu shots vary, but all may be given to people with chronic medical conditions.

- The nasal-spray flu vaccine — a vaccine made with live, weakened flu viruses that is given as a nasal spray (sometimes called LAIV for “Live Attenuated Influenza Vaccine”). The viruses in the nasal spray vaccine do not cause the flu. LAIV is approved for use in most healthy\* people 2 through 49 years of age who are not pregnant. (See <http://www.cdc.gov/flu/about/qa/nasalspray.htm> for a complete list of those who can and cannot receive the nasal spray flu vaccine.)
6. Those who care for or are in contact with persons who have severely impaired immune function (those who are so impaired that they require a protective environment) should receive TIV rather than LAIV.
  7. All influenza vaccines contain the same antigenic composition.
  8. There is no preferential recommendation between any of the formulations of TIV or LAIV, but clinicians should note the recommended age groups and possible contraindications for each vaccine.

### Intradermal Influenza Vaccine

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1. On Tuesday, May 10, 2011, Sanofi Pasteur issued a press release announcing a new flu vaccine for the U.S. market for the 2011-2012 flu season: “Fluzone Intradermal®”.
2. The new vaccine is a type of flu shot that injects a small amount of antigen into the dermal layer of the skin (the layer of skin beneath the epidermis).
3. This is different from the regular flu shot, which is injected into the muscle (an intramuscular vaccine). This vaccine uses less antigen than the regular flu shot, but produces a comparable immune response.
4. Development of intradermal vaccines has had appeal because of their “dose-stretching” benefit (more doses of vaccine can be produced with the same amount of antigen).
5. Fluzone Intradermal® is only approved for use in adults aged 18 through 64 years of age.
6. Fluzone Intradermal® will protect against the same three influenza viruses that the other flu vaccines protect against.

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7. Fluzone Intradermal<sup>®</sup> vaccine is given with a needle that is 90% smaller than the needles used for giving regular flu shots (and may be more appealing to needle-averse adults).
8. The most common adverse reactions to Fluzone Intradermal<sup>®</sup> include erythema (redness), induration (hardness), swelling, pain and pruritus (itching) at the vaccination site. Headache, myalgia (muscle ache) and malaise may also occur.
9. Fluzone Intradermal<sup>®</sup> vaccine should not be given to anyone with a **severe** allergic reaction (e.g. anaphylaxis) to any component of the vaccine, including egg protein.
10. Fluzone Intradermal<sup>®</sup> will be available for administration during the 2011-2012 influenza season.
11. For more information on the intradermal vaccine, see [http://www.cdc.gov/flu/protect/vaccine/qa\\_intradermal-vaccine.htm](http://www.cdc.gov/flu/protect/vaccine/qa_intradermal-vaccine.htm)

### Vaccine Effectiveness

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1. Influenza vaccines protect against infection and illness caused by influenza viruses.
2. Flu vaccines will NOT protect against infection and illness caused by other viruses that can also cause influenza-like symptoms.
3. There are many other viruses besides influenza that can result in influenza-like illness (ILI) that spread during the flu season.
4. Researchers try to tell how well a vaccine works in order to continually assess and confirm the value of influenza vaccines as a public health intervention.
5. Study results about how well a flu vaccine works can vary based on study design, outcome(s) measured, population studied and the season in which the vaccine was studied. These differences can make it difficult to compare one study's results with another's.
6. How well the flu vaccine works (or its ability to prevent influenza illness) can range widely from season to season and also can vary depending on who is being vaccinated.
7. While determining how well a flu vaccine works is challenging, in general, recent studies have supported the conclusion that influenza vaccination benefits public health, especially when the viruses in the vaccine and circulating viruses are well-matched. (See "Current Efforts to Study How Well Influenza Vaccines Work.")
8. Two factors play an important role in determining the likelihood that influenza vaccine will protect a person from influenza illness: 1) characteristics of the person being vaccinated (such as their age and health), and 2) the similarity or "match" between the influenza viruses in the vaccine and those spreading in the community.
9. In general, the flu vaccine works best among young healthy adults and older children. Lesser effects of flu vaccine are often found in studies of young children (e.g., those younger than 2 years of age) and older adults.

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10. Older people, who may have weaker immune systems, often have a lower protective immune response after influenza vaccination compared to younger, healthier persons. This can result in lower levels of vaccine effectiveness in these people.
11. The other factor affecting how well the flu vaccine works is the “match” between the influenza viruses contained in the vaccine and those spreading in the community. The closer the match, the better the vaccine is likely to be in preventing influenza illness. If the viruses in the vaccine are very different from circulating influenza viruses, vaccine effects can be lower.
12. Influenza viruses are constantly changing – they can change from one season to the next or they can even change within the course of the same season.
13. Each year, experts must select the viruses to include in the influenza vaccine many months in advance of the influenza season in order for vaccine to be produced and delivered on time.
14. Because of the long lead time in selecting the viruses to be included in the vaccine and the fact that influenza viruses are constantly changing, selecting the right influenza viruses to include in the vaccine is a challenging task.
15. When combined, match and host factors mean that it is unlikely that any influenza vaccine will ever be 100% effective.
16. During years when the viruses in the vaccine and circulating viruses are not well matched, it’s possible that no benefit from vaccination may be observed.
17. During years when the viruses in the vaccine and circulating viruses are very well matched, it’s possible to measure substantial benefits from vaccination in terms of preventing influenza illness.
18. However, even during years when the vaccine match is very good, the benefits of vaccination will vary across the population, depending on host factors like the health and age of the person being vaccinated and even potentially which vaccine was used.
19. For information about recent studies evaluating how well flu vaccine works, see “Current Efforts to Study How Well Influenza Vaccines Work.”

### Ways to Measure How Well Vaccines Work -- Study Methods

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20. How well a vaccine works can be measured through different kinds of studies.
21. “Randomized studies,” in which people are randomly assigned to receive either vaccine or placebo (e.g., saline solution), and then followed to see how many in each group get influenza, are the “gold standard” (best method) for determining how well a vaccine works. The measurement of vaccine effect from a randomized (placebo-controlled) study is referred to as “efficacy”.
22. “Observational studies” are studies in which subjects who choose to be vaccinated are compared to those who chose not to be vaccinated. This means that vaccination of

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study subjects is not randomized. The measurement of vaccine effect from an observational study is referred to as "effectiveness".

23. Randomized studies are difficult to conduct and particularly undesirable in high-risk groups, where withholding vaccine from people recommended for vaccination would place them at risk for infection, illness and possibly serious complications.
24. For that reason, most recent studies to measure how well flu vaccine works have been observational studies.
25. Many observational studies use a case-control design, in which cases of influenza illness are compared with a group of people (control group) who did not get influenza.
26. One aspect of the design of observational studies that can influence results is the choice of the "control" (comparison) group. The control group can include people who did not have influenza, or who have no record of seeking care for influenza symptoms. In some studies, the control group may consist of people who had respiratory symptoms for which they sought medical care, but who tested negative for influenza.
27. Members of the control group who don't have influenza should ideally be similar to study subjects with influenza. If they are not similar, the study may show a falsely high or low result for how well the vaccine worked. Generally speaking, cases should come from the same population as controls.
28. In addition, it can be difficult to directly compare results between studies that used different comparison groups. Even if both studies were well-conducted, one would expect the results to be different because the choice of the comparison group in non-randomized studies can influence the estimate of the vaccine's effect.
29. Other factors that can affect results are the numbers of cases (people who developed flu illness) in the study and the number of people eligible for, or enrolled in a study (again, smaller numbers can make results less reliable.)
30. Therefore, when assessing how well a vaccine works, it is important to consider estimates derived from multiple studies, using different study designs.
31. Studies also can assess how well a vaccine works at preventing different outcomes.
32. For example, the outcomes can be more broad, like measuring influenza-like illness\* (which includes illness caused by other viruses in addition to flu viruses), or they can be more specific to flu, like measuring laboratory-confirmed influenza virus infection.
33. The use of laboratory-confirmed influenza cases is likely to yield more accurate estimates compared to studies that use non-specific case definitions (such as influenza-like illness).

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34. Generally, the lowest estimates of flu vaccine effectiveness are found in studies using non-influenza specific, non-laboratory-confirmed outcomes, such as studies using all deaths or all respiratory illnesses or all respiratory-related hospitalizations.
35. Higher (and more accurate) estimates are usually found in studies in which the outcome is laboratory-confirmed influenza.
  - Influenza infection can be confirmed in the laboratory by using a variety of tests, including using reverse transcriptase polymerase chain reaction (RT-PCR), rapid influenza diagnostic tests, immunofluorescence, viral culture and serology (which is measuring the presence and level of influenza antibodies in someone's blood).
  - Viral culture and RT-PCR testing are likely to provide more accurate results.
  - The sole use of serology to diagnose influenza infection may result in an overestimation of vaccine benefit. This happens because people with pre-existing influenza antibodies from prior infections or vaccinations may not make more antibodies if they become infected with influenza.
36. A study by Bridges et al (JAMA 2000) conducted among healthy adults illustrates how the outcome measured can impact estimates of how well a vaccine works. The results from this study showed that the inactivated influenza vaccine was 86% efficacious against laboratory-confirmed influenza, but only 10% efficacious against all respiratory illnesses in the same population and year.
37. Scientists continue to work on better ways to design, conduct and evaluate non-randomized (i.e., observational) studies to assess how well flu vaccines work.
  - CDC has been working with researchers at universities and hospitals since the 2003-2004 influenza season to estimate how well influenza vaccine works through observational studies using laboratory-confirmed influenza as the outcome.
  - These studies currently use RT-PCR confirmed medically-attended influenza virus infections as a specific outcome.
  - CDC's studies are conducted in five sites across the United States to gather more representative data.
  - To assess how well the vaccine works across different age groups, CDC's studies of vaccine effects include all people aged 6 months and older recommended for an annual influenza vaccination.
  - Similar studies are being done in Australia, Canada and Europe.
  - Preliminary data for the 2010-2011 influenza season indicate that influenza vaccine effectiveness was about 60% across all age groups, and that almost all influenza viruses isolated from study participants were well-matched to the vaccine strains. (Unpublished CDC data)

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- A randomized study by Monto et al looking at the 2007-2008 influenza season found trivalent inactivated vaccine (flu shot) protected 7 out of 10 people from influenza illness.
  - The results of studies looking at how well LAIV works are in the same range as the flu shot and vary in the same way and for the same reasons that studies of the flu shot vary.
  - The main study that led to the licensure of LAIV was one conducted in children that showed that LAIV protected up to 9 out of 10 children vaccinated from getting sick with the flu.
  - A recent meta-analysis of randomized clinical trials of LAIV in children found that 2 doses of LAIV in vaccine-naïve children prevented infection with 77% of antigenically similar viruses and 72% of all strains regardless of antigenic similarity.
38. The substantial burden of influenza-associated illness and death in the United States combined with the overall evidence from a variety of studies showing that influenza vaccines do offer protection against influenza illness support the current U.S. influenza vaccination recommendations.
39. It's important to note, however, that how well flu vaccines work to protect against flu illness will continue to vary each year, depending especially on the match between influenza viruses used to make vaccine and the influenza viruses that are spreading and causing illness in the community as well as the characteristics of the person being vaccinated.

*\*Influenza-like illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat.*

### Timing of vaccination against flu

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1. CDC recommends that influenza vaccination begin as soon as 2011-2012 flu vaccine becomes available and continue throughout the flu season. People should begin getting vaccinated as soon as vaccine becomes available in their community.
2. 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.
3. Therefore, CDC recommends vaccination efforts begin as soon as vaccine becomes available to ensure that as many people as possible are protected before flu season begins.
4. The timing of influenza outbreaks is unpredictable. They can occur as early as October and as late as May. Sometimes more than one influenza virus type or subtype will cause outbreaks in a community in a single year. As long as flu season isn't over, it's not too late to get vaccinated, even in January or later.

## **2011-2012 Influenza Season Key Points (10.11.11)**

### Background on Waning Immunity

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1. The decline in protective antibody against the flu that occurs after vaccination or after flu infection may be influenced by several factors, including a person's age, the antigen used in the vaccine, and the person's health situation (for example, chronic health conditions that weaken the immune system may have an impact).
2. This decline in protective antibody has the potential to leave some people more vulnerable to infection, illness and possibly serious complications from the same influenza viruses a year after being vaccinated.
3. So, for optimal protection against influenza, annual vaccination is recommended regardless of strain changes.

### Background on Vaccine Virus Changes

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1. It's uncommon for the same three influenza virus strains to be chosen for the flu vaccine from one season to the next, but this has happened before.
2. Since 1969, the viruses selected for inclusion in the flu vaccine have remained the same eight times (including the 2011-2012 season). Each time, CDC has stressed the importance of getting vaccinated each season.

### **Vaccine Safety**

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#### Flu Vaccine Safety Statements for General Audience

1. Influenza vaccines have been used in the United States for more than 50 years.
2. Hundreds of millions of people have safely received seasonal influenza vaccines.
3. Each year, CDC works closely with the U.S. Food and Drug Administration (FDA), health care providers, state and local health departments, and other partners to ensure the highest safety standards for influenza vaccines. CDC also works closely with the FDA to ensure systems are in place to promptly detect unexpected or unusual patterns of adverse events following vaccination.
4. The influenza shot (also called inactivated influenza vaccine) cannot give you influenza because the viruses in it have been inactivated and are not infectious. Most people generally do not experience any side effects from the influenza shot. When side effects do occur, they are usually mild. The most common side effects from the influenza shot

## 2011-2012 Influenza Season Key Points (10.11.11)

are soreness, redness, tenderness or swelling where the shot is given. Low-grade fever, headache and muscle aches also may occur.

5. Nasal spray influenza vaccine, called live attenuated influenza vaccine (LAIV), has been licensed in the United States for more than seven years and can be given to protect healthy people ages 2 through 49 years from the influenza.
6. The nasal spray vaccine cannot give you the influenza. It is made from weakened influenza viruses that only grow in nasal passages, not in the lungs. LAIV is well tolerated and the most commonly reported side effects after receiving the LAIV are mild and include runny nose, nasal congestion and cough.
7. Life-threatening allergic reactions from vaccines are very rare. If they do occur, it is usually within a few minutes to a few hours after the vaccination.
8. The Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA) hold vaccines to the highest safety standards.
9. The safety of influenza vaccines is closely monitored with long-established systems that have demonstrated their usefulness in detecting vaccine safety problems. See <http://www.cdc.gov/vaccines/vac-gen/safety/>.

### Thimerosal

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10. Thimerosal is a preservative that protects multi-dose vial vaccines against contamination. Influenza vaccines are available with and without thimerosal. Both options are safe for protecting you and your family from influenza. If you have questions, discuss them with your doctor or nurse.
11. There is a large body of scientific evidence on the safety of thimerosal. Data from many studies show that the low doses of thimerosal contained in vaccines are safe for adults and children.

### Guillain-Barré Syndrome (GBS)

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12. GBS is a rare disorder in which a person's own immune system damages the nerves, causing muscle weakness and sometimes paralysis.
13. Anyone can develop GBS; however, it is more common among older adults. The occurrence of GBS increases with age, and people older than 50 years are at greatest risk for developing GBS.

## 2011-2012 Influenza Season Key Points (10.11.11)

14. Each year, about 3,000 to 6,000 people in the United States develop GBS whether or not they received a vaccination. This would mean that about 60-120 cases of GBS are expected to occur each week regardless of whether those people received a vaccine or not.
15. While it is not fully known what causes GBS, it is known that about two-thirds of the people who get GBS do so several days or weeks after they have been sick with diarrhea or a lung or upper respiratory illness. An infection with the bacteria [Campylobacter jejuni](#), which can cause diarrhea, is one of the most common illnesses associated with GBS.
16. In 1976, an influenza vaccine made from a specific swine influenza virus was associated with GBS, but since then, influenza vaccines have not been clearly linked to GBS.
  - a) During the 1976 swine influenza vaccination campaign, the additional risk of getting GBS was one additional case of GBS per 100,000 persons vaccinated.
  - b) Since 1976, scientists have looked for an increased risk of GBS following seasonal influenza vaccination, as well as vaccination with the 2009 H1N1 vaccine. For most studies and seasonal influenza vaccines, no increased risk of GBS has been found. Some studies have estimated a possible risk of approximately 1-2 additional GBS case per 1 million vaccinated persons.
17. Influenza infection also can, in rare cases, lead to GBS.
18. The benefits of influenza vaccination continue to outweigh the possible risk of GBS.
19. People who have experienced GBS should consult with their doctor about getting a flu vaccine.

### Febrile Seizures

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20. Febrile means "relating to a fever" or an unusually high body temperature. In some children, having a fever can cause a seizure. Febrile seizures may occur with any common childhood illnesses that may cause fever, such as ear infections, colds, influenza and other viral infections, and they sometimes happen after influenza vaccination.
21. Febrile seizures are not uncommon. Approximately 1 in 25 (4%) young children will have at least one febrile seizure in their lifetime usually between 6 months and 5 years of age, with the peak age between 14 and 18 months of age.

## 2011-2012 Influenza Season Key Points (10.11.11)

22. A child who has already had a febrile seizure is at increased risk for having another febrile seizure. Also, if a member of a child's immediate family (a brother, sister, or parent) has had febrile seizures, that child is also at increased risk a febrile seizure.
23. Although febrile seizures can be frightening for the child's caregivers, nearly all children who have a febrile seizure recover quickly and have no long term effects.
24. During the past year, there was enhanced focus on monitoring for febrile seizures after influenza (flu) vaccine because in [Australia](#), during the 2010 Southern Hemisphere influenza season, one Australian influenza vaccine was found to increase the chance of febrile seizures in young children who received it. Because of this finding in Australia, one brand of vaccine made by the same manufacturer is not recommended for children under 9 years of age in the United States.
25. After monitoring for febrile seizures during the 2010-2011 influenza season, CDC, FDA, and the [Advisory Committee on Immunization Practices \(ACIP\)](#), reviewed vaccine safety data on febrile seizures in the United States following 2010-11 inactivated influenza and pneumococcal conjugate (PCV 13) vaccines. After thoroughly evaluating the available information, CDC has determined that no changes in the childhood immunization schedule are necessary at this time.
26. CDC studied the healthcare visit records of more than 200,000 vaccinated children 6 months through 4 years of age through its [Vaccine Safety Datalink](#) project during the entire 2010-2011 influenza season. The analyses found that febrile seizures following inactivated influenza and PCV13 vaccines given to this age group did occur, but were rare. The febrile seizures were most common in children ages 12 through 23 months when the two vaccines were given during the same healthcare visit. In this group, about one additional febrile seizure occurred among every 2,000 to 3,000 children vaccinated.

### Egg Allergy and Influenza Vaccination

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1. Serious allergic reactions can be caused by various components of influenza vaccine. Fortunately, the risk of such reactions is low.
2. A severe allergic reaction (e.g., anaphylaxis or a reaction involving angioedema, similar to hives but swelling is under the skin; respiratory distress; lightheadedness; or recurrent vomiting; or which required emergency medical care or epinephrine), no matter what component may have caused the reaction, is a contraindication to future receipt of the vaccine.
3. Because influenza vaccines are produced by inoculating influenza virus into eggs, the finished vaccine contains a trace amount of egg protein. This trace amount of egg protein could cause a reaction in susceptible people. However, several recent studies have documented safe receipt of TIV (flu shot) in people with egg allergy, particularly those with a history of less severe reactions to egg. Persons with mild reactions to egg—specifically, those who have only experienced hives should receive the influenza vaccine with some additional safety measures.

## 2011-2012 Influenza Season Key Points (10.11.11)

4. Persons who have severe reactions to egg (i.e., those listed above) should be referred to a health care professional with expertise in the management of allergic conditions for further risk assessment before being vaccinated.

Detailed recommendations for vaccination of persons with egg allergy can be found at: [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6033a3.htm#vaccination\\_egg\\_allergy](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6033a3.htm#vaccination_egg_allergy)

5. All vaccines should be given in settings in which personnel and equipment for rapid recognition and treatment of anaphylaxis are available. Providers should be familiar with the office emergency plan.
6. Some people who report allergy to eggs may not be egg-allergic. Those who are able to eat lightly cooked eggs (e.g., scrambled eggs) without reaction are unlikely to be allergic.
7. Egg allergic persons may tolerate eggs in baked products (e.g. bread and cake). Tolerance to such egg-containing foods does not exclude the possibility of egg allergy. Egg allergy may be confirmed by a consistent medical history of adverse reactions to eggs and egg-containing foods, in addition to a skin or blood test.

### Pregnant Women and Flu Vaccine Safety

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1. Pregnant women should receive the trivalent (inactivated) influenza vaccine (also known as TIV, or the flu shot) to protect both the mother and baby during the first six months of its life.
2. The influenza shot has been given to millions of pregnant women over many years and has not been shown to cause harm to pregnant women and/or their babies. The evidence that TIV is safe in pregnant women is continuing to grow.
  - a. In a review of reports to [VAERS](#) of pregnant women who received seasonal influenza and/or 2009 H1N1 influenza vaccines, no unusual patterns of pregnancy complications or fetal outcomes following receipt of influenza vaccines were observed.
3. Women who have just delivered (postpartum) are also at risk for influenza and should be vaccinated, if they have not yet received a flu vaccine.
4. Live attenuated influenza vaccine (also known as LAIV or the nasal spray vaccine) is not licensed for use in pregnant women, but postpartum women can receive LAIV or TIV. Pregnant and postpartum women do not need to avoid contact with persons recently vaccinated with LAIV. (Also see [Statements for Pregnant Women.](#))

### Simultaneous Vaccination

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## 2011-2012 Influenza Season Key Points (10.11.11)

5. "Simultaneous vaccination" is when more than one vaccine is given during the same medical visit.
6. To protect against infectious diseases and their complications, infants and young children are recommended to receive vaccinations according to the [routine immunization schedule](#).
7. For many vaccines, more than one dose is needed to achieve protection against the disease. To provide the best protection against these infections, it may be recommended that multiple vaccines be administered simultaneously, at the same visit.

### High-Dose Influenza Vaccine Safety (Fluzone® High-Dose)

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8. In December 2009, the Food and Drug Administration (FDA) licensed a new high-dose trivalent inactivated influenza vaccine (Fluzone® High-Dose) vaccine formulation for use in adults 65 years and older.
9. Fluzone® High-Dose contains 4 times as much of the antigenically active vaccine component as Fluzone® standard dose and other TIV products.
10. The Advisory Committee on Immunization Practices (ACIP) included Fluzone® High-Dose vaccine for adults 65 years and older in its recommendations for the 2010-2011 influenza season. It is also recommended for the 2011-2012 influenza season. There is no preferential recommendation between the high dose flu vaccine and other inactivated seasonal flu vaccines.
11. In a recent preliminary study of adverse event reports following Fluzone® High-Dose vaccination in adults 65 years and older, more than 90% of reports were not serious and resolved on their own. A higher proportion of the adverse events for vomiting and red eyes were reported after Fluzone® High-Dose compared to all other inactivated vaccines. There were some higher rates of adverse event reports for gastrointestinal disorders compared with standard dose influenza vaccines. However, for these reports most of these conditions had resolved by the time a report was submitted.
12. CDC and FDA continue to closely monitor the safety of Fluzone® High-Dose during the 2011-12 influenza season.

### Intradermal Influenza Vaccine Safety

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13. In May 2011, intradermal (injection into the skin) TIV was licensed for use in adults 18-64 years of age. In clinical trials, the safety of intradermal TIV was comparable to regular TIV. However, some injection site reactions were more frequent with intradermal TIV. These reactions tended to be mild and resolved on their own. (See [intradermal influenza vaccine information](#))

## 2011-2012 Influenza Season Key Points (10.11.11)

### Vaccine Coverage

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#### Overall Coverage

1. 43% of Americans age 6 months and over were vaccinated during the 2010-11 season, according to data from the National Immunization Survey and Behavioral Risk Factor Surveillance System ([http://www.cdc.gov/flu/professionals/vaccination/coverage\\_1011estimates.htm](http://www.cdc.gov/flu/professionals/vaccination/coverage_1011estimates.htm)).
  - a) That is almost 2 percentage-points higher than 2009-10 seasonal coverage.
2. Disparities in flu vaccination by race and ethnicity persisted during the 2010-11 season among Americans age 6 months and over, but were less than the disparities during the 2009-10 season.
  - a) Non-Hispanic white persons aged  $\geq 6$  months- 44.3% during 2010-11, 43.9% during 2009-10
  - b) Non-Hispanic black persons aged  $\geq 6$  months- 39.0% during 2010-11, 33.7% during 2009-10
  - c) Hispanic persons aged  $\geq 6$  months- 40.0% during 2010-11, 33.6% during 2009-10
3. Estimates on influenza vaccination among minority children increased for the 2010-11 season compared to 2009-10 seasonal (trivalent) coverage.
4. CDC's influenza vaccine coverage surveys indicate that challenges still remain to increase vaccination uptake as the minority adult population (older than 18 years of age) coverage remained unchanged:
  - a) Only 43.2 percent of non-Hispanic whites vaccinated
  - b) Only 32.3 percent of Hispanics vaccinated
  - c) Only 34.2 percent of non-Hispanic blacks vaccinated
5. To view the report, final state-level influenza vaccination coverage estimates for the 2010-11 season, visit:  
[http://www.cdc.gov/flu/professionals/vaccination/coverage\\_1011estimates.htm](http://www.cdc.gov/flu/professionals/vaccination/coverage_1011estimates.htm)
6. About half of our nation's children were vaccinated last season.
  - a) Among children 6 months-17 years, the estimated national coverage ( $\geq 1$  or more doses for children  $< 9$  years) was 51%, 7 percentage-points higher than 2009-10 seasonal coverage and 22 percentage-points higher than vaccination levels in 2008-09.
  - b) We are also pleased that we did not see racial/ethnic disparities in flu vaccination coverage among children last season.
  - c) It's critical to continue this progress. Let's not forget the 1,000 + pediatric deaths from influenza during the pandemic year, and more than 100 deaths among U.S. children that occurred last influenza season.

## 2011-2012 Influenza Season Key Points (10.11.11)

7. While we are very pleased with these successes, we remain concerned that vaccination coverage remains too low in some of the groups who are at highest risk of serious influenza complications and among the health care professionals who care for them.
8. More health care professionals must lead by example and protect themselves, their families, and their patients by getting an annual flu vaccine -- and strongly recommend it to your patients.
  - a) During the 2010-11 season overall influenza vaccination coverage among HCP was 63.5%, similar to coverage for the 2009--10 season.
9. Vaccination rates among people 18-64 years of age with high risk conditions remained low at 47%.
  - a) Vaccination is especially important for people with high-risk conditions, such as asthma, diabetes, chronic heart, lung, or kidney disease, or immunosuppression. Even if these diseases are well managed, people with them are still at high risk of complications from influenza.
  - b) Note: Last season, 80 percent of adults hospitalized with influenza complications had a long-term health condition; as about 50 percent of hospitalized children. Asthma, diabetes and chronic heart disease were the most common of these.
10. CDC is concerned that vaccination coverage among adults aged 65 and older decreased last season.
  - a) Among adults  $\geq 65$  years, the estimated national coverage for the 2010-11 season was 3.0 percentage-points lower than 2009-10 seasonal (trivalent) coverage (69.6%, CI 68.4-70.8), and was 7.0 percentage-points lower than 2008-09 coverage (73.6%, CI 73.0-74.2).
  - b) During the 2009 H1N1 pandemic, many seniors were asked to wait until those at higher risk could receive the first available doses of vaccine. This might explain the lower numbers. But most of the hospitalizations and deaths from seasonal influenza are among people 65 and older, so it is critical that they get an annual flu vaccine.

### Vaccination Coverage Among Pregnant Women

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The points below reflect findings from the *Influenza Vaccination Coverage among Pregnant Women in the United States for the 2010-11 Influenza Season* and is available at: [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6032a2.htm?s\\_cid=mm6032a2\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6032a2.htm?s_cid=mm6032a2_w)

1. The study estimated influenza vaccination coverage among pregnant women for the 2010-11 season.
2. To do this, CDC analyzed data from an internet panel survey conducted in April 2011 among women pregnant any time during October 2010 through January 2011. The results of this panel survey are summarized in this report.

## 2011-2012 Influenza Season Key Points (10.11.11)

3. This report found that for the 2010-11 season, 49% of pregnant women had received influenza vaccination: 32% during pregnancy and 17% before pregnancy or after delivery.
4. One very interesting finding of the survey was that women whose providers offered them a flu shot were five times more likely to get vaccinated than women who didn't receive a provider offer. However, four out of 10 women in this survey did not receive a provider offer, though they visited a provider at least one time.
5. These results indicate the uncharacteristically higher vaccination level achieved among pregnant women during the previous season (2009-2010) was sustained during the 2010-11 influenza season and emphasizes the critical role of health care providers in promoting influenza vaccination.
6. However, vaccination levels still remain below the Healthy People 2020 objective for influenza vaccination coverage of 80% for pregnant women.
7. The survey also looked at why pregnant women chose not to get vaccinated. The top two reasons that pregnant women gave for not getting vaccinated were: "I am concerned about possible safety risks to my baby if I got vaccinated" and "I am concerned that the vaccination would give me the flu."
8. Women who received a provider offer for influenza vaccination were more likely to have positive attitudes about vaccination effectiveness and safety.
9. The study underscores that fact that continued efforts are needed to encourage providers to 1) get vaccinated themselves **and** 2) to not only strongly recommend vaccination of their pregnant patients but to offer influenza vaccine on site so both pregnant patients and their infants are protected.

### Vaccination Coverage among Health Care Personnel

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The points below reflect findings from the *Influenza Vaccination Coverage among Health Care Personnel--United States, August 2010-April 2011* and is available at:

[http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6032a1.htm?s\\_cid=mm6032a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6032a1.htm?s_cid=mm6032a1_w)

1. The Advisory Committee on Immunization Practices (ACIP) and the Healthcare Infection Control Practices Advisory Committee (HICPAC) recommend that all health care personnel (HCP) be vaccinated annually for influenza.
2. Influenza vaccination among HCP has increased slowly over the past decade, and reached 63.5% in the 2010-2011 influenza season; however, coverage is still well below the Healthy People 2020 target of 90%.
3. Coverage was highest among physicians, HCP working in hospital settings, and older HCP.
4. Near universal coverage (98.1%) was achieved among HCP who reported being subject to an employment requirement for vaccination; however, a small percentage of U.S. HCP (13%) reported being subject to such a requirement.
5. In the absence of employer requirements, increased vaccination coverage was associated with vaccination being offered free of charge onsite at the workplace for more than one day.

## 2011-2012 Influenza Season Key Points (10.11.11)

6. Influenza vaccination coverage among HCP is important for patient safety, and health care facilities should make vaccine readily accessible to all HCP as part of a comprehensive infection control program.

### **Statements for Parents**

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1. Flu can be a serious disease for children of all ages and can lead to hospitalization or, in rare cases, even death.
  - a) [Alternative] Flu can be a serious disease for children of all ages, causing them to miss school, activities, or even be hospitalized.
2. Every year in the United States, even healthy children are hospitalized or die from flu complications.
3. In the United States each year, an average of 20,000 children younger than 5 years old are hospitalized because of flu complications.
  - a) Influenza is one of the leading causes of infectious disease hospitalizations among young children.
4. Children younger than 5 years old and especially those younger than 2 years old, are at higher risk of serious flu complications, including hospitalization and death, compared to older children.
5. The risk of serious flu complications requiring hospitalization is highest among children younger than 6 months of age.
6. Children were hit particularly hard by the 2009 H1N1 virus. This virus is expected to continue circulating during the 2011-2012 flu season, along with other influenza viruses.
7. For the 2010-11 influenza season, 115 influenza-associated pediatric deaths were reported to CDC.
  - a) During the 2009-10 flu season, 347 influenza-associated pediatric deaths were reported to CDC as a result of the 2009 H1N1 pandemic.
8. Vaccination is the first and most important step in protecting your family against the flu.
9. Children 6 months and older are recommended to get a yearly flu vaccine.
10. Infants younger than 6 months old are too young to be vaccinated. Protect them by getting yourself, other children and family in the household, and other close contacts vaccinated. This will help prevent spreading the virus to infants.

## 2011-2012 Influenza Season Key Points (10.11.11)

11. Getting vaccinated during pregnancy can protect the mother and the baby for up to 6 months after its birth.

### Vaccine Doses for Children Aged 6 Months through 8 Years

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12. CDC recommends that children 6 months through 8 years of age getting vaccinated for the first time get two doses of flu vaccine spaced 4 weeks apart.
13. In addition, children in this age group who did not receive at least one dose of the 2010-2011 vaccine, or for whom it is not certain whether 2010-2011 vaccine was received, should receive 2 doses of the 2011-2012 seasonal vaccine, administered at least 4 weeks apart.
14. Those in this age group who did receive at least one dose of the 2010-2011 vaccine need only one dose of the 2011-2012 vaccine. This recommendation is being made this season because the strains for 2011-2012 are the same as those used in 2010-2011. Recommendations regarding the number of doses for this age group might change for the 2012-2013 season if vaccine strains change.
15. Everyone 9 years of age and older needs only one dose of 2011-2012 flu vaccine.
16. Vaccination is especially important for protecting children with asthma, diabetes (type 1 and 2), or certain other long-term medical conditions because they are at increased risk for serious complications from flu.
  - a) The flu can make some medical conditions worse. For example, children with asthma (even if it's mild or controlled by medication) are more likely to develop serious complications from the flu, such as asthma attacks or pneumonia, compared to children without asthma.
  - b) Children with asthma (even if the asthma is mild or controlled by medication) are more likely to be hospitalized for flu-related complications than children who don't have asthma.
  - c) If you live with or care for a child older than 6 months and at high risk of serious complications from flu, it is particularly important for you and your child to get vaccinated.
  - d) If your child is at high risk of serious flu complications and gets sick with the flu, your doctor may recommend treatment with antiviral drugs. (See [Antiviral Drugs messages](#))
  - e) For the full list of medical conditions that put someone at high risk, see [http://www.cdc.gov/flu/about/disease/high\\_risk.htm](http://www.cdc.gov/flu/about/disease/high_risk.htm).

## 2011-2012 Influenza Season Key Points (10.11.11)

17. Be sure to let the doctor know if your child has a severe allergy to eggs or any medical conditions like asthma, other heart or lung conditions, neurologic conditions, or other medical problems. ([See Egg Allergy messages](#))
18. Be sure to let the doctor know if your child has ever experienced a reaction to the flu vaccine.
19. Children also should be current on other vaccines, including those that can help prevent pneumonia, like pneumococcal and Hib vaccines.
20. Talk to your child's doctor or nurse about getting a flu vaccine.
21. CDC also recommends that parents and children take everyday preventive actions. ([See everyday preventive actions messages](#))

### **Statements for Pregnant Women**

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1. Getting a flu shot protects pregnant women from getting the flu. Studies have also shown that getting a flu shot while you are pregnant can decrease your baby's chance of getting the flu for up to 6 months after birth.
  - a) Pregnant women are more likely to become severely ill with the flu than women who are not pregnant.
  - b) Pregnant women with the flu have a greater chance for serious problems for their unborn baby, including premature labor and delivery.
  - c) Getting a flu shot is the best way to protect you from the flu and prevent possible flu-associated pregnancy complications.
  - d) When pregnant women get flu shots, they and their babies (after birth) get the flu less often.
2. Millions of pregnant women have safely received flu shots for many years.
3. The flu shot can be given at any time during your pregnancy.
4. The flu shot is safe for women who plan to breastfeed, and the vaccine (either the shot or the nasal spray) can be given to mothers who are breastfeeding.
5. If you have additional questions, talk to your doctor about flu vaccination during pregnancy.
6. Pregnant women are at high risk of serious flu complications. If you get sick with the flu, call your doctor right away. He or she may recommend treatment with antiviral drugs. ([See Antiviral Drugs messages](#)).

## **2011-2012 Influenza Season Key Points (10.11.11)**

7. Babies less than 6 months of age are too young to get the flu shot. To protect babies from getting the flu, their mothers should get the flu shot during pregnancy. An additional way to protect the baby is for all caregivers and close contacts (including fathers, brothers and sisters, grandparents and babysitters) to be vaccinated against the flu.

### **Statements for Young Adults (19-24 years of age)**

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1. Everyone, including adults between 19 and 24 years of age, is recommended to receive the seasonal flu vaccine, even if vaccinated the year before.
2. Getting sick with the flu can result in missed school, work, and extra-curricular activities.
3. Adults between the ages of 19 and 24 were hit particularly hard by the 2009 H1N1 virus. This virus is expected to continue circulating during the 2011-2012 flu season, along with other influenza viruses.
4. Vaccination of adults 19 through 24 years of age with certain long-term medical conditions is particularly important because they are at high risk of serious illness if they get the flu. This includes, for example, people with asthma (even if mild or controlled) and diabetes (types 1 and 2).
5. Adults 19 through 24 years of age may spread flu to friends and family who are at high risk for flu complications such as grandparents, younger siblings, or those with certain medical conditions like asthma or diabetes.
6. CDC recommends adults 19-24 years of age also follow everyday preventive actions. (See [everyday preventive actions messages](#).)
7. For the full list of medical conditions that put someone at high risk, see [http://www.cdc.gov/flu/about/disease/high\\_risk.htm](http://www.cdc.gov/flu/about/disease/high_risk.htm).
8. If you are at high risk of serious flu complications and get sick with the flu, your doctor may recommend treatment with antiviral drugs. ([See Antiviral Drugs messages](#))

### **Statements for Adults 65 years and older**

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1. As always, flu viruses will circulate this season. People age 65 and older are at high risk for serious flu complications and should get a yearly flu shot. The 2011-12 flu shot is recommended for older adults even if vaccinated during the 2010-11 flu season.

## 2011-2012 Influenza Season Key Points (10.11.11)

2. People 65 years and older have some of the highest rates of hospitalization and death as a result of influenza infection.
3. On average, nearly 90 percent of flu-related deaths occur among people 65 years and older, however, this pattern can change depending on what viruses are circulating.
22. Vaccination is the best protection against influenza and influenza-related complications.
23. You are at high risk of serious flu complications and can get seriously ill from the flu. Your doctor may recommend treatment with antiviral drugs. (See [Antiviral Drugs messages](#))
24. Pneumonia can be a serious complication of influenza infections.
  - a) Pneumococcal vaccine can be given at any time during the year and may be given at the same time as influenza vaccine.
  - b) Visits for seasonal influenza vaccination provide a convenient time to evaluate patients for the need for pneumococcal vaccination.
  - c) During this year's influenza season, work with your healthcare provider to determine when you can get your pneumococcal and seasonal influenza vaccines. Adults who cannot remember if they've ever had pneumococcal vaccine should still be vaccinated.
    - o Medicare covers both flu and pneumonia vaccines with no co-pay or deductible.
25. People 65 years and older have two flu vaccines available to them: a regular flu shot and a flu shot designed specifically for people 65 years and older with a dose higher than regular flu vaccine.
  - a) Data from clinical trials comparing Fluzone® to Fluzone® High-Dose among people aged 65 years or older indicate that a stronger immune response (i.e. higher antibody levels) occurs after vaccination with Fluzone® High-Dose. Whether or not the improved immune response leads to greater protection against influenza disease after vaccination is not yet known. An ongoing study designed to determine the effectiveness of Fluzone® High-Dose in preventing illness from influenza compared to Fluzone® is expected to be completed in 2014-15.
  - b) The higher dose vaccine may result in more of the mild side effects that can occur with standard-strength seasonal vaccines. Mild side effects can include pain, redness or swelling at the injection-site, headache, muscle ache and fever
  - c) The CDC and its Advisory Committee on Immunization Practices (ACIP) have not expressed a preference for either vaccine.
  - d) Talk to your doctor or nurse about the best option for you.
26. People 65 years of age and older are not recommended to receive the nasal spray flu vaccine or the intradermal flu shot.

## 2011-2012 Influenza Season Key Points (10.11.11)

### Statements for Adults with certain medical conditions

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#### General

1. Diabetes, asthma, and heart disease are among the most common long-term medical conditions that place people at higher risk for serious flu complications.
2. It is particularly important that all adults with chronic medical conditions like asthma, diabetes (types 1 and 2), and heart disease, should receive a flu vaccine every year.
3. Pneumococcal infection can be a complication of influenza infection. Pneumococcal disease can lead to pneumonia, meningitis and blood infections. Influenza and pneumococcal vaccines remain the best ways to prevent these infections.
4. People with medical conditions like asthma, diabetes, and heart disease should also get the pneumococcal polysaccharide vaccine (PPSV).
  - a) The vaccine is also for adults 18 and older who smoke or have certain conditions like heart, lung, liver, or kidney disease, diabetes, asthma, or a suppressed system.
  - b) PPSV can be given [at the same time](#) as the seasonal flu vaccine.
  - c) Ask your doctor about the importance of getting your flu and pneumococcal shots.
5. You are at high risk of serious flu complications and can get very sick from the flu. Your doctor may recommend treatment with antiviral drugs. (See Antiviral Drugs messages)
6. For the full list of medical conditions that put you at a higher risk for serious flu complications, see [http://www.cdc.gov/flu/about/disease/high\\_risk.htm](http://www.cdc.gov/flu/about/disease/high_risk.htm).
7. Stay in control of your health – Protect yourself by getting your flu vaccine.

#### Diabetes

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8. People with diabetes (types 1 and 2), even when well-managed, are at increased risk of severe disease and complications, like hospitalization, pneumonia and even death, as a result of getting the flu.
  - a. Diabetes can make the immune system more vulnerable to severe flu disease.
  - b. Illness can raise your blood glucose (sugar) level.
  - c. Not eating as a result of being sick can cause blood glucose levels to change.

## 2011-2012 Influenza Season Key Points (10.11.11)

9. People with diabetes need to have a plan for managing their diabetes when they get sick. They should talk with their doctor, nurse, or clinic about "sick day rules."
  - d. For additional information about "Sick Day Rules" for people with diabetes, see [http://www.cdc.gov/h1n1flu/diabetes/diabetes\\_factsheet.htm#e](http://www.cdc.gov/h1n1flu/diabetes/diabetes_factsheet.htm#e).
10. People with diabetes should get the flu shot, not the nasal spray.

### Asthma

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11. Flu is more serious for people with asthma, even when asthma is mild or the symptoms are well-managed.
12. People with asthma are more likely to develop serious complications and be hospitalized as a result of getting the flu. The flu can cause breathing problems and trigger asthma attacks or cause pneumonia and other acute respiratory diseases.
13. Adults and children with asthma are more likely to develop pneumonia after getting sick with the flu.
14. Asthma is the most common medical condition among adults and children hospitalized with the flu.
15. People with asthma should get the flu shot, not the nasal spray.

### Morbid Obesity

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16. During the 2009 H1N1 pandemic, morbid obesity (having a body mass index of 40 or greater) was shown to be an independent risk factor for serious complications related to 2009 H1N1 infection requiring hospitalization. Since the same H1N1 virus is expected to circulate during the 2011-12 flu season, people who are morbidly obese are strongly encouraged to get a flu vaccine this flu season.
17. People who are morbidly obese are now included in the Advisory Committee on Immunization Practices' (ACIP) list of people prioritized to receive influenza vaccination because of their high risk status.
18. People who are morbidly obese often suffer from other medical conditions that put them at high risk of influenza complications.
  - a) It is possible that some people who are morbidly obese could have unrecognized chronic medical conditions.

## 2011-2012 Influenza Season Key Points (10.11.11)

19. Getting a flu vaccine is the most important action a person can take to prevent influenza and its complications. Because people who are morbidly obese are at higher risk of flu complications, it is especially important that they get vaccinated every year to protect against influenza.
20. Among Americans 20 years and older, 5.7% are morbidly obese (BMI of 40 & greater).

### **Statements for African Americans and Hispanics**

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#### Disease Disparity and Impact

1. During the 2009 H1N1 pandemic, African Americans and Hispanics were hospitalized from flu complications at almost twice the rate of non-Hispanic whites.
  - a) Almost one-third of people hospitalized with complications from flu between April and September 2009 were persons with asthma. Asthma-related hospitalization and mortality rates from all causes, not just flu, are approximately 2 to 3 times higher among non-Hispanic blacks compared with non-Hispanic whites.
  - b) In 2009, approximately 10% of people hospitalized with complications from flu had diabetes. Diabetes is more prevalent among non-Hispanic blacks (12%) compared with non-Hispanic whites (7%) among adults 20 years of age and older.
2. The higher rates of hospitalizations among African Americans and Hispanics may be due to the fact that these groups have higher rates of asthma and diabetes, diseases known to increase the risk of flu complications.
3. Rates of influenza vaccination have consistently been lower among Hispanics and African Americans compared to non-Hispanic whites over the years.
4. Estimates on influenza vaccination among minority children increased for the 2010-11 season compared to 2009-10 seasonal (trivalent) coverage.
5. CDC's influenza vaccine coverage surveys indicate that challenges still remain to increase vaccination uptake as the minority adult population (older than 18 years of age) coverage remained unchanged:
  - a) Only 43.2 percent of non-Hispanic whites vaccinated
  - b) Only 32.3 percent of Hispanics vaccinated
  - c) Only 34.2 percent of non-Hispanic blacks vaccinated
6. To view the report, final state-level influenza vaccination coverage estimates for the 2010-11 season, visit:  
[http://www.cdc.gov/flu/professionals/vaccination/coverage\\_1011estimates.htm](http://www.cdc.gov/flu/professionals/vaccination/coverage_1011estimates.htm).

## 2011-2012 Influenza Season Key Points (10.11.11)

### Vaccine Protection

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7. CDC recommends African Americans and Hispanics get vaccinated against influenza. (See the [Vaccine](#) section for CDC's vaccine related messages)
8. This year, HHS, CDC, and state and local public health officials are continuing to work with leaders in African American and Hispanic communities on flu protection.
9. Flu vaccines can help protect everyone, regardless of their race/ethnicity, age and health status, against the threat of flu.
10. CDC has prepared general messages for how all people, including African Americans and Hispanics, can protect themselves and their loved ones from the flu. Please see the section entitled [Take 3](#), [Vaccine](#) and [Everyday Preventive Actions](#) for these specific messages.

### **Statements for American Indians and Alaskan Natives**

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### Disease Disparity and Impact

1. During the 2009 H1N1 pandemic, native populations from Australia, Canada, New Zealand, and the United States, including American Indians and Alaskan Natives, experienced a 3 to 8 times higher rate of hospitalization and death associated with infection with the 2009 H1N1 flu virus.
  - a) A study of 12 states, including Alaska, showed that the number of deaths from 2009 H1N1 in American Indian and Alaskan Natives was four times as high as in all other racial/ethnic populations combined.  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5848a1.htm>
2. According to Alaska health officials, American Indian and Alaskan Natives make up 16 percent of the state's population, but they represented almost 30 percent of all of the state's hospitalized flu cases occurring early in the 2009-2010 flu season.
3. While health officials were not able to find a specific reason why American Indian and Alaskan Natives were disproportionately affected by influenza during the 2009 influenza pandemic, studies by doctors in Alaska who serve the community suggest that household crowding, a lack of sanitary services, such as running water in remote villages, and limited access to timely medical care for persons living in remote areas, may play a part in increasing both risk of infection by, and serious complications of, viral and bacterial pathogens including influenza.

## 2011-2012 Influenza Season Key Points (10.11.11)

### Vaccine Protection

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4. American Indians and Alaskan Natives are included in the list of high risk persons for whom vaccination is especially important.
5. American Indians and Alaskan Natives can protect themselves by getting flu and pneumococcal vaccines offered through regional public health nurses, tribal health systems, and other services such as the Alaska Community Health Aide.
6. The flu vaccine can help protect American Indians and Alaskan Natives, including children, adults, and elders against the threat of the flu.
7. The flu has the potential to cause severe illness that may require hospital care, even in healthy adults and children. A flu vaccine reduces your risk of illness, hospitalization, or even death and can prevent you from spreading the virus to your loved ones. By reducing the risk of severe illness, a flu vaccine can offer life-saving protection, especially in communities that do not have a hospital with an emergency department or Intensive Care Unit (ICU).
8. CDC has prepared general messages for how all people, including American Indians and Alaskan Natives, can protect themselves and their loved ones from the flu. Please see the sections entitled [Take 3](#), [Vaccine](#) and [Everyday Preventive Actions](#) for these specific messages.

### **Statements for OB/GYNs**

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1. Pregnant Women who are infected with influenza during pregnancy and the first two weeks postpartum are at increased risk for severe illness and adverse outcomes.
2. To prevent influenza infection, recommend and offer vaccination to your pregnant patients to get vaccinated. They can be vaccinated during any trimester.
3. A recent study has shown that if a pregnant woman is offered vaccine by her provider she is 5 times more likely to get vaccinated. To review, Visit:  
[http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6032a2.htm?s\\_cid=mm6032a2\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6032a2.htm?s_cid=mm6032a2_w)
4. Healthy pregnant women, as well as pregnant women with certain medical conditions such as asthma, have been severely affected by the flu.
  - a) Pregnant women with influenza are at increased risk of developing serious complications, including hospitalization, intensive care unit admission, and death.

## 2011-2012 Influenza Season Key Points (10.11.11)

- b) Changes in the immune, cardiac and pulmonary systems during pregnancy make a pregnant woman more prone to severe illness from the flu. This risk also extends at least two weeks postpartum regardless of pregnancy outcome.
  - c) Because flu vaccines can't be given to infants younger than 6 months of age, protecting the mother also protects the baby by preventing an infected mother from spreading flu to her baby following delivery and through passive antibody via the placenta.
5. Pregnant women should get the flu shot (trivalent, inactivated influenza vaccine).
  6. The FluMist® (live, intranasal influenza vaccine) is not recommended for pregnant women, but can be given to healthy, non-pregnant health care workers administering flu vaccine to pregnant women.
    - a) Pregnant and postpartum women do not need to avoid contact with persons recently vaccinated with LAIV.
  7. Although there are no contraindications for use of thimerosal-containing vaccines in pregnant women, a thimerosal-free seasonal flu vaccine option is available upon request in many locations.
  8. Millions of pregnant women have safely received the flu shot over many years.
  9. The flu shot has been recommended by the American Congress of Obstetricians and Gynecologists (ACOG) and CDC for pregnant women for many years.
    - a) These recommendations are based on the increased risks of influenza and its complications for pregnant women, the protection that influenza vaccines can provide for both pregnant women and their newborns, and the safety track record of the licensed inactivated seasonal influenza vaccines.
    - b) Influenza vaccines are not contraindicated for use in pregnant women. As with many other vaccine products, the manufacturers did not conduct clinical studies specifically to evaluate the influenza vaccines in pregnant women prior to approval of these vaccines. Therefore, the pregnancy section of the prescribing information for the licensed influenza vaccines carry either a Category B or C. This allows influenza vaccines to be given to pregnant women if there is a determination that the vaccine is clearly needed, as recommended by ACIP.
  10. FDA supports the recommendation of CDC and ACIP that pregnant women receive annual vaccinations to help protect them against influenza.
  11. Visit: <http://www.cdc.gov/flu/professionals/acip/> to view the 2011-12 ACIP Influenza Vaccine Recommendations.

## 2011-2012 Influenza Season Key Points (10.11.11)

### Statements for Physicians

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1. Influenza is a contagious disease that is caused by the influenza virus. The virus infects the respiratory tract (e.g., nose, throat and lungs).
2. People can spread influenza before they realize that they are sick. Most healthy adults may be able to infect others beginning 1 day before symptoms develop and up to 5-7 days after becoming sick. Children may spread the virus for longer than seven days. That means that you may be able to spread the flu to someone else before you know you are sick, as well as while you are sick.
3. Compared with many other viral infections, such as the common cold, influenza is more likely to cause severe illness and life-threatening complications in many people.
4. Influenza infection rates are generally highest in children. However, complications from the flu, including hospitalization, are usually highest in children younger than 6 months and in the elderly. Influenza-related deaths are most common among persons 65 years and older.
5. Certain medical conditions can put patients at higher risk of serious flu-related complications. These include chronic lung diseases, such as asthma and chronic obstructive pulmonary disease (COPD), diabetes, heart disease, neurologic conditions and pregnancy. (The complete list of conditions indicating high risk for flu complications can be found at [http://www.cdc.gov/flu/about/disease/high\\_risk.htm](http://www.cdc.gov/flu/about/disease/high_risk.htm).) Vaccination is the first and best way to protect against flu.
6. Serious side effects from the influenza vaccine are very rare. The most common side effect that a person is likely to experience is soreness where the injection was given. This is generally mild and usually goes away after a day or two.
7. Recommend a flu vaccine to all of your patients, and make plans to vaccinate your patients and staff.
8. Please see the [vaccine](#) section for CDC approved messages to communicate to patients related to influenza vaccination.
9. For the latest information on flu vaccine supply, including projections and doses distributed, visit <http://www.cdc.gov/flu/professionals/vaccination/vaccinesupply.htm>.
10. Treatment with influenza antiviral drugs is especially important for persons who are very sick or hospitalized, or people who are sick with flu symptoms and at increased risk of severe flu illness, such as pregnant women, young children, people 65 years old and

## 2011-2012 Influenza Season Key Points (10.11.11)

older, and people with certain medical conditions. However, clinical judgment, of course, is important in making treatment decisions about antiviral medications.

11. Key information for public health and healthcare professionals regarding vaccination, infection control, prevention, treatment, and diagnosis of seasonal influenza is available at <http://www.cdc.gov/flu/professionals>. (Also see [Statements for Workers in Health Care Settings](#)).
12. Free print resources can be ordered from <http://www.cdc.gov/pubs/ncird.aspx> or downloaded from <http://www.cdc.gov/flu/freeresources/>.
13. Visit: <http://www.cdc.gov/flu/professionals/acip/> to view the 2011-12 ACIP Influenza Vaccine Recommendations.

### **Messages for Pediatricians**

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1. Influenza causes more hospitalizations among young children than any other vaccine-preventable disease.
2. Each year an average of 20,000 children younger than 5 years of age are hospitalized because of influenza complications.
3. Children with asthma, diabetes, neurologic conditions and other health conditions are at especially high risk of developing serious flu complications.
4. For the 2011-2012 season, CDC recommends that children 6 months through 8 years of age get two doses of flu vaccine spaced 4 weeks apart if they are getting vaccinated for the first time or if they did not receive at least one dose of the 2010-11 flu vaccine. Children for whom it is not known whether the 2010-2011 vaccine was received should receive 2 doses in 2011-2012. (Also, See [Child Dosing section](#)).

(Also see sections on [Vaccine](#), [Everyday Preventive Actions](#), [Physicians](#), [Workers in Health care settings](#), and [Parents](#).)

5. Visit: <http://www.cdc.gov/flu/professionals/acip/> to view the 2011-12 ACIP Influenza Vaccine Recommendations.

### **Statements for Workers in Health Care Settings**

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## 2011-2012 Influenza Season Key Points (10.11.11)

1. Flu can spread rapidly in health care settings. Vaccination is the first and most important step physicians, health care workers, and vulnerable patients can take to protect against the flu.
2. Health care workers should take everyday preventive actions and suggest the same to their patients. (See [everyday preventive actions messages](#)).
3. Even if you're healthy, you can get sick and spread the flu. Get vaccinated to help protect yourself from influenza and to keep from spreading it to your family, co-workers, and patients. Studies conducted in health care settings show when a large number of health care workers get vaccinated, vulnerable patients are protected.
4. Health care workers should routinely offer seasonal influenza vaccination to everyone age 6 months and older as soon as it is available in their community, and throughout the flu season, which can last as late as May.
5. Visit: <http://www.cdc.gov/flu/professionals/acip/> to view the 2011-12 ACIP Influenza Vaccine Recommendations.

### **Infection Control in Health Care Settings**

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1. Health care facilities need a comprehensive approach to influenza.
  - a. Vaccinate your workforce
  - b. Enforce sick leave policies
  - c. Enforce respiratory hygiene and cough etiquette for patients and personnel
  - d. Establish facility access control measures and triage procedures
  - e. Manage visitor access and movement within the facility
  - f. Control patient placement and transport
  - g. Apply isolation precautions
2. Health care personnel and patient safety are paramount.
  - a. Health care personnel are the first line of defense in diagnosing, treating, and preventing further spread of the influenza virus.
  - b. CDC's goal is to ensure that health care personnel are kept safe and healthy, so they can do their important jobs.
3. By using a multi-faceted approach, facilities can prevent influenza virus transmission within healthcare settings by:
  - a. Promoting and administering seasonal influenza vaccine
    1. There are several systematic strategies that can be employed to improve vaccination rates.

## 2011-2012 Influenza Season Key Points (10.11.11)

2. Tracking influenza vaccination coverage among healthcare personnel can be an important component of a systematic approach to protecting patients and workers
- b. Taking steps to minimize potential exposures
    1. Instruct patients and persons who accompany them to inform healthcare personnel upon arrival if they have symptoms of any respiratory infection and to take appropriate preventive actions (e.g., wear a facemask upon entry, follow triage procedure)
    2. Ensure all persons with symptoms of a respiratory infection adhere to respiratory hygiene, cough etiquette, hand hygiene, and triage procedures throughout the duration of the visit.
  - c. Monitoring and managing ill health care personnel
    1. Develop sick leave policies for personnel that are non-punitive, flexible and consistent with public health guidance to allow and encourage personnel with suspected or confirmed influenza to stay home.
    2. Instruct ill health care personnel who develop fever and respiratory symptoms not to report to work, or if at work, to stop patient-care activities
    3. Enforce adherence to respiratory hygiene and cough etiquette after returning to work
  - d. Adhering to infection control standards
    1. Health care personnel should perform hand hygiene frequently
    2. Gloves should be worn for any contact with potentially infectious material
    3. Gowns should be worn for any patient-care activity when contact with blood, body fluids, secretions (including respiratory), or excretions is anticipated.
    4. Adhere to droplet precautions
    5. Adhere to enhanced precautions when performing aerosol-generating procedures on patients with suspected or confirmed influenza
  - e. Using engineering controls
    1. Consider designing and installing engineering controls to reduce or eliminate exposures by shielding health care personnel and other patients from infected individuals such as installing physical barriers such as partitions in triage areas or curtains that are drawn between patients in shared areas.