

INFLUENZA BACKGROUNDER

Influenza Overview

Influenza, also called “the flu,” causes an average of 36,000 deaths and more than 200,000 hospitalizations in the U.S. every year.^{1,2} Combined with pneumonia, influenza is the seventh leading cause of death in the nation.³ Influenza can lead to serious complications by aggravating existing medical conditions; it can also result in infections of the brain, heart and other organs.¹

Influenza is a contagious virus that is spread from person to person, primarily when an infected individual coughs or sneezes. The virus can be transmitted even before influenza symptoms appear.¹

Symptoms can include the abrupt onset of fever (usually high), muscle aches, dry cough, headache, runny or stuffy nose, and sore throat. Hospitalizations and deaths are often related to bacterial infections that complicate the primary infection with the influenza virus. Even among individuals who are not hospitalized, influenza can cause extreme tiredness that may last days or weeks.

Vaccination Recommendations

Vaccination is the best way to protect against illness due to seasonal influenza. The Centers for Disease Control and Prevention’s (CDC) Advisory Committee on Immunization Practices (ACIP) recommends annual influenza vaccination for the following groups:¹

- Children from 6 months up to 5 years of age
- Persons aged 50 years and older
- Anyone 6 months of age and older with certain chronic medical conditions (e.g., diabetes, asthma, heart disease)
- Pregnant women
- Persons who live with or care for persons at high risk, including:
 - Those who are in close contact with high-risk individuals, such as those with chronic conditions and children under 6 months of age, who can transmit influenza to those at high risk
 - Health care workers

Anyone else who wishes to reduce their risk for influenza should also be immunized.

Influenza Among Infants and Children

Rates of influenza infection are highest among children. Moreover, those younger than 24 months are hospitalized with influenza-related complications at rates similar to those 65 years and older.^{4,5} Additional findings show that when influenza viruses are circulating in the community, for every 100 children younger than 15 years of age, six to 15 outpatient visits are attributable to influenza.⁵ High-risk children, in particular, face increased risks from influenza infection. These children are five times more likely than healthy children of the same age to be hospitalized with influenza-related illnesses.¹

The CDC recently expanded its pediatric vaccination recommendations to include all children from 6 months up to 5 years of age, broadening its initial recommendation beyond all children aged 6-23 months. Children between 24 and 59 months have a higher rate of clinic and emergency room visits due to influenza-related illness than other illnesses.¹

Despite the serious health threat, influenza immunization rates remain low for high-risk children. For example, more than eight million infants and children with asthma should receive influenza vaccine each year. However, nearly 70 percent do not receive an annual immunization – this is the lowest vaccination rate for any recommended childhood vaccine in the U.S.⁵ Viral respiratory infections, such as influenza, commonly lead to wheezing exacerbations in children with asthma.

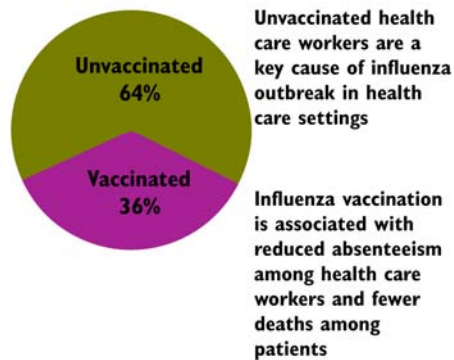
Missed opportunities for influenza immunization are also common among children with chronic medical conditions.⁶ Children can be immunized at the same time they are given other routine vaccinations during the influenza season.¹

Influenza Infection in Health Care Workers

The CDC has long recommended annual influenza vaccination for all health care workers, yet only 36 percent of this population is immunized annually, prompting the CDC to issue stronger recommendations earlier this year. The CDC's enhanced recommendations provide evidence-based guidance for health care institutions nationwide to assist in efforts to improve compliance with the longstanding recommendation that health care workers receive an annual influenza vaccination.¹

Health care workers infected with influenza can transmit the contagious virus to patients in their care, who may be at high risk for influenza-related complications, leading to serious morbidity and mortality.

Average Annual Influenza Vaccination Rates in Health Care Workers



Source: CDC

Research suggests unvaccinated health care workers can be a key cause of outbreaks in a variety of health care settings. Institutional influenza outbreaks can have serious implications – patients are at risk of contracting influenza; staff shortages can result or be exacerbated; admissions may be curtailed; and increased costs may be incurred. Published studies clearly demonstrate these outcomes.^{7,8,9,10}

The CDC emphasizes that all health care workers should be vaccinated against influenza annually, and that facilities that employ health care workers be strongly encouraged to provide vaccine to workers by using approaches that maximize immunization rates.

Importance of Annual Vaccination

Annual vaccination is the most effective way to prevent influenza. Experts anticipate about 100 million doses of influenza vaccine will be produced for the 2006-2007 season. Americans should be immunized as soon as vaccine becomes available in their community. The optimal time to get vaccinated is in October and November, but immunization in December or even later can still be beneficial.

The season can begin as early as October and last as late as May. Disease activity usually peaks between January and March.

Vaccine Types

There are two types of influenza vaccine available: the injectable trivalent inactivated influenza vaccine (TIV), and live attenuated influenza vaccine (LAIV).

The influenza virus used in TIV is “killed” and cannot cause influenza. The vaccine is approved for use in anyone 6 months of age and older, regardless of health status.

The nasal vaccine (LAIV) is an option for non-pregnant healthy persons aged 5-49 years, including health care workers and other persons in close contact with groups at high risk and those wanting to avoid the spread of influenza.

Who Should Not Receive Influenza Vaccine

Individuals with egg allergies or those who have had a previous vaccine-associated allergic reaction should avoid immunization. Persons with acute febrile illnesses (high fever) should usually wait until their symptoms subside. However, vaccination can proceed during minor illnesses, with or without fever, particularly among children with mild upper respiratory tract infections or hay fever.

Certain groups should not receive LAIV, including persons younger than 5 years of age, those 50 years and older, children or adolescents taking aspirin, pregnant women and individuals with certain underlying medical conditions, such as asthma and diabetes.

Adverse Effects of Influenza Vaccination

The most frequent adverse effect of the injectable influenza vaccine is soreness at the injection site for one to two days. Occasionally, some people experience a period of mild fever and fatigue for a day or two following immunization. The injectable vaccine is made from an inactivated, or dead, virus and cannot transmit infection.

Studies show that side effects from the nasal influenza vaccine are generally mild and temporary. The most common is runny nose; others included various cold-like symptoms, such as headache, cough, sore throat, tiredness/weakness, irritability and muscle aches.

As with all vaccines, in rare instances an allergic reaction may occur in either the injectable or nasal influenza vaccine. Recipients cannot get influenza from the vaccine.

Vaccine Strain Selection

Each year, a new influenza vaccine is formulated to protect against predominant circulating influenza strains. The 2006-2007 influenza vaccine will include A/Wisconsin/67/2005 (H3N2)-like, B-Malaysia/2506/2004-like and A/New Caledonia/20/1999 (H1N1)-like antigen. Because circulating strains mutate (change) constantly, it is not unusual that in some years the circulating influenza virus strains may not match exactly those contained in the vaccine. However, research has shown the vaccine is still protective against infection and reduces severity of influenza-associated complications.¹

Both influenza vaccines and pneumococcal polysaccharide vaccine are fully reimbursable (no co-pay, no deductible) by Medicare Part B.

Antiviral Medications

Although vaccination is the first line of defense against influenza, prescription antiviral medications also play an important role in prevention and treatment, particularly for people who suffer from chronic diseases. Antiviral medications should not be considered a replacement for vaccination. The CDC currently recommends use of two antiviral medications, oseltamivir (Tamiflu) or zanamivir (Relenza), if antiviral treatment or chemoprophylaxis of influenza is indicated.

As with vaccines, prescription antiviral medications will be in ample supply during the 2006-2007 influenza season in pharmacies across the U.S. Antiviral drugs may be extremely helpful in preventing and controlling the spread of influenza.

Studies have shown that antiviral medications effectively treat the flu, reducing the duration of illness and risk of serious complications. In particular, people with chronic diseases, such as asthma, diabetes, and heart disease should consider seeing their doctor for antiviral treatment, since those people are at high risk

for complications. Antivirals can also be used in those patients who cannot receive a traditional influenza vaccine because of egg allergies.

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