

Understanding Influenza

Influenza (flu) is a contagious disease that can cause mild to severe symptoms and life-threatening complications, including death, even in healthy children and adults. Influenza viruses usually spread from one individual to another through coughing or sneezing. Less often, they can also spread through touching a contaminated surface and then touching the mouth, eyes, or nose. Individuals can pass influenza on to others even before their own symptoms start and for a week or more after symptoms begin.

Influenza Severity and Symptoms

The severity of influenza varies depending on the specific viruses circulating. The number of individuals affected depends on how easily the circulating viruses are transmitted from person to person. The best protection against influenza is annual vaccination. Even if the influenza viruses circulating in a particular season are different from the vaccine strains selected for that season's vaccine, the vaccine can still provide some protection and make flu illness less severe. For more information, visit: www.cdc.gov/flu/about/season/vaccine-selection.htm.

Influenza can be distinguished from other common respiratory infections by the presence of some or all of the following symptoms and their sudden onset¹:

- Fever or feeling feverish/chills
- Aches (muscle, body, and headaches)
- Chills
- Tiredness (fatigue)
- Sudden onset
- Other symptoms may include a cough, runny or stuffy nose, and/or sore throat
- Some individuals may also experience vomiting and diarrhea, though this is more common in children than adults

Influenza-Related Complications

An individual's response to being infected with influenza is difficult to predict. Some will experience mild symptoms, while the virus may cause serious infection or even death in others. Influenza complications that can affect anyone include:

- Pneumonia
- Bronchitis
- Sinus infections
- Ear infections
- Worsening of chronic medical conditions such as asthma, diabetes, and heart disease

Impact of Influenza

Unlike many other viral respiratory infections, such as the common cold, flu can cause severe illness and life-threatening complications. While the numbers vary, in the United States, millions of people are sickened, hundreds of thousands are hospitalized, and thousands or tens of thousands of people die from flu every year. Additionally, parents of sick children typically spend between \$300 and \$4,000 treating children and they miss between 11 and 73 hours of work.²

For more information about the burden of disease, visit: www.cdc.gov/flu/about/disease/burden.htm.

Here are some key facts about how influenza affects different populations:

- **Children and Infants:** Influenza is more dangerous than the common cold for children. Many children get sick with seasonal influenza; some of those illnesses result in death. The Centers for Disease Control and Prevention (CDC) estimates that since 2010, flu-related hospitalizations among children younger than age 5 years ranged from 7,000 to 26,000 a year in the United States.³ Children younger than 5 years of age—especially those younger than 2 years old—are at high risk of serious flu-related complications.³

- Infants up to age 6 months are at high risk of serious flu complications, but are too young to be vaccinated. The best way to protect them is to make sure people around them are vaccinated.³ In addition, there are studies that show that babies whose mothers were vaccinated during pregnancy are protected from flu infection for several months after they are born, before they are old enough to be vaccinated.⁴
- **Adults age 65 years and older:** Adults age 65 years and older typically are at greater risk compared to younger, healthy adults because of weakened immune systems. During most flu seasons, older adults bear the burden of disease and account for the majority of flu-related deaths and over half of all flu-related hospitalizations. Several vaccine options are available for adults age 65 years and older, including high dose and adjuvanted flu vaccines, both of which help them build a higher immune response⁵ (see [Influenza Vaccine Options](#)). For more information, visit: www.nfid.org/flu/olderadults.
- **Pregnant women (and women up to two weeks postpartum):** Influenza is more likely to cause severe illness in pregnant women than in women who are not pregnant. Pregnant women with the flu are not only at increased risk of hospitalization, but of having adverse pregnancy outcomes.⁴ Infants born to mothers who received the influenza vaccine during pregnancy have a lower risk of contracting influenza or being hospitalized because of influenza in their first 6 months of life.⁶
- **People with chronic health conditions**
 - **Asthma:** People with asthma, even if it is mild and well-controlled, are at increased risk from influenza complications. Influenza can increase inflammation in the lungs and airways, provoking an asthma attack and worsening asthma symptoms. People with asthma are also more likely to develop pneumonia and are at increased risk of other acute respiratory diseases.⁷
 - **Diabetes:** People with diabetes are at high risk of severe influenza complications, including hospitalization and death. This is true even when their diabetes is well-managed. Diabetes can interfere with the body's ability to fight influenza and the influenza virus can interfere with management of blood sugar levels.⁸
 - **Heart disease:** People with heart disease and those who have had a stroke are at high risk for developing serious complications from the flu.⁹ According to the American Heart Association, influenza puts more stress on the heart, making it work harder to pump blood through the lungs. In people with heart disease, influenza can cause serious complications that can lead to death.¹⁰
 - **Obesity:** People with a body mass index (BMI) of 40 or more are at high risk for developing flu-related complications and are hospitalized at a higher rate than those with a BMI of less than 40.^{11,12}
 - **Compromised immune system:** Immunocompromised individuals such as cancer patients, former cancer patients, and people living with HIV/AIDS are among those who are at high risk of developing serious flu-related complications, including hospitalization and death.^{13,14}
- **Healthcare workers:** The principal rationale for routine vaccination of healthcare workers is to keep their patients safe. Healthcare workers who are vaccinated reduce the incidence of influenza-related illness and death among their patients.¹⁵⁻¹⁷ The CDC and most major medical groups recommend that all healthcare workers be vaccinated annually against influenza.

For more information about individuals who are at higher risk for developing flu-related complications, visit: www.cdc.gov/flu/groups.htm.

Influenza Prevention and Treatment

Since it is not possible to know in advance how severe a flu season will be or how sick an individual will get due to flu, prevention and treatment are critical. The CDC "[Take 3](#)" [Actions to Fight the Flu](#) urges everyone age 6 months and older to get vaccinated as the first and best defense against flu, and also to follow everyday preventive actions like hand hygiene, covering coughs and sneezes, and staying away from people who are sick. Those who do get the flu should take antiviral medications if they are prescribed.¹⁸

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