

Influenza: Prevention, Recognition and Treatment

This Fact Sheet describes methods for preventing, recognizing and treating influenza.

The 2017-18 influenza season reached epidemic levels in the U.S. at about the same time people rang in the New Year.

Since then, a growing number of cases have resulted in serious illness, hospitalizations and deaths, particularly among vulnerable populations. With contagious viruses afflicting otherwise healthy employees and their family members, employers report impacts including higher than average rates of absence and costly related production lapses.

The incidence of influenza-like illness occurring this season in the U.S. reportedly is the highest it has been since the 2009 pandemic caused by the H1N1 influenza virus, commonly referred to as "swine flu." According to the World Health Organization, a pandemic or worldwide spread of disease occurs when a new influenza virus emerges and most people do not have immunity. Viruses that have caused past pandemics typically have had animal origins.

CDC Update

The [U.S. Centers for Disease Control and Prevention](#) (CDC) tracks flu activity and provides resources for employers and individuals. A [Health Alert](#) released Dec. 27, 2017, includes: 1) a notice about increased influenza A (subtype H3N2) activity and its clinical implications; 2) a summary of influenza antiviral drug treatment recommendations; 3) an update about approved treatment drugs and supply this season; and 4) background information for patients about influenza treatment.

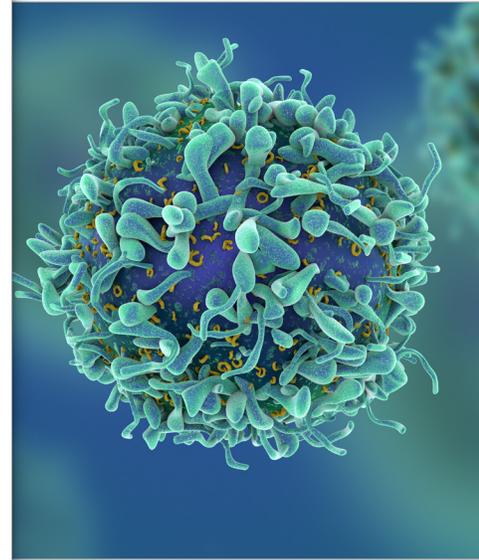
For the week ending Jan. 20, 2018, the CDC reported:

- The proportion of people seeing a medical provider for influenza-like illness was 6.6 percent, compared to the national baseline of 2.2 percent.
- Widespread influenza activity in 49 states and Puerto Rico and local (limited) activity only in Hawaii and the District of Columbia.
- Since Oct. 1, 2017, 11,965 confirmed flu-related hospitalizations – 42 per 100,000 people – with rates highest among people older than 65 (183 per 100,000), 50 to 64 years old (44.2 per 100,000) and children under age 4 (27 per 100,000).
- Deaths attributed to pneumonia and influenza reached 9 percent, compared to the epidemic threshold of 7.3 percent.

Virus Types

Flu symptoms are caused by various types of viruses. Among 13,421 influenza-positive tests reported to the CDC by clinical laboratories as of Jan. 20, 2018:

- 10,536 (78.5 percent) were influenza A viruses
- 2,885 (21.5 percent) were influenza B viruses



Seasonal Influenza Health Tips

- Get an annual flu shot
- Frequently wash hands
- Disinfect communal surfaces
- Cover coughs and sneezes
- Throw away soiled tissues
- Avoid contact when feeling ill

Among 1,349 influenza-positive tests reported to the CDC by public health laboratories, 1,136 (84.2 percent) were influenza A viruses and 213 (15.8 percent) were influenza B viruses. The most frequently identified influenza virus subtype was H3N2. Medical professionals say the H3N2 strain causes more serious health complications and hospitalizations than other types of viruses.

Prevention

Infection control experts consider vaccination the first line of defense against the flu. Routine annual influenza vaccination is recommended for all children over 6 months old and adults who do not have contraindications.

Widespread vaccination (community or herd immunity) reduces threats to vulnerable populations such as the elderly, people with chronic health conditions, pregnant women and infants. The vaccine is considered a helpful deterrent because:

- people can be contagious up to 24 hours before they experience symptoms
- some viruses can survive on surfaces for up to eight hours
- children and adults can build immunity to a range of flu strains

Injected vaccine contains inactivated virus – it does not cause the flu. Some people experience reactions that cause discomfort but they are usually mild and temporary. The most common side effects of a flu shot are tenderness, redness or a hard lump at the place of injection. Less common side effects include fever, general feelings of discomfort, aches or pain in the muscle.

Annual flu shots are recommended because the composition of U.S. vaccines is updated annually to match flu viruses circulating in other regions. Vaccine effectiveness varies year-to-year depending on viruses that predominate or emerge. This season public health officials said the majority of influenza viruses “were characterized antigenically and genetically as being similar to the cell-grown reference viruses representing the 2017-18 Northern Hemisphere influenza vaccine viruses.”

For 2017-18, three-component vaccines contain:

- an A/Michigan/45/2015 (H1N1)pdm09-like virus (updated)
- an A/Hong Kong/4801/2014 (H3N2)-like virus
- a B/Brisbane/60/2008-like (B/Victoria lineage) virus

Most influenza vaccines are prepared by propagating viruses in embryonated eggs. Evidence suggests severe allergic reactions to egg-based influenza vaccines are unlikely. However, people who are allergic to any component of the vaccine, including egg protein and certain antibiotics, or who have experienced a serious reaction to previous administration, are advised to seek medical advice before vaccination.



Additional influenza prevention methods include:

- Frequent hand washing with soap and water (minimum of 20 seconds)
- Using alcohol-based hand sanitizer when water is not available
- Covering one's mouth when coughing or sneezing and throwing soiled tissues away
- Avoiding close contact with people who have symptoms (at least 3 feet away)
- Staying home when feeling ill (24 hours after fever is gone)
- Promoting a healthy immune system

In general, infectious disease prevention practices should include getting enough sleep, exercising on a routine basis, taking steps to manage stress, drinking plenty of water and eating nutritious foods.

Workplace Precautions

Public health officials strongly encourage employers to start workplace flu campaigns in the fall and continue them throughout the season.

According to government estimates, the spread of infectious diseases is annually associated with billions of dollars in losses associated with hospital and outpatient care, absence and productivity loss. With vaccination alone, it is estimated physician encounters can be reduced by up to 44 percent and lost workdays decreased by up to 45 percent, the CDC reports. Using these percentages, a company with 100 employees would have an average of 40 fewer lost workdays annually if the entire workforce was vaccinated.

In combination with annual vaccination, the spread of flu and other infectious diseases can largely be prevented by following recommended precautions including frequent hand-washing, disinfecting surfaces such as countertops, phones and door handles, and in certain workplaces using personal protective equipment (PPE).

PPE may include gloves, gown, mask, eye protection, total face shield and/or safe injection practices. Surgical masks or respirators may be used to help reduce the spread of disease via airborne or droplet contamination. Gloves are worn when there is the likelihood of contact with infected materials and when handling or touching contaminated items or surfaces.



Symptoms and Treatment

Influenza is a respiratory illness not to be confused with short-lived intestinal upsets or stomach flu. Some symptoms are similar to those that occur with a bad cold. Flu-like symptoms typically subside within a few days to two weeks. However, some people develop complications that result in serious illness.

Adults with suppressed immune systems and chronic conditions such as asthma, heart disease or diabetes tend to be more vulnerable to the effects of certain flu viruses.

Non-prescription and home remedies for flu-like symptoms include:

- Over-the-counter medications
- Staying warm and getting plenty of rest
- Drinking clear fluids such as water or broth
- Using a washcloth to cool the skin
- Gargling a 1:1 mixture of salt and water for sore throat

Antiviral drugs may be prescribed to help shorten the course of illness and reduce risk of serious complications. They are most effective when started within the first two days of experiencing symptoms. Antibiotics are not effective against flu viruses and should not be used. Misuse and overuse of antibiotics is linked to the development of potentially fatal bacterial infections.

There are three Food and Drug Administration-approved antiviral drugs recommended by the CDC to treat flu symptoms this season:

- oseltamivir (generic or trade name Tamiflu®)
- zanamivir (trade name Relenza®)
- peramivir (trade name Rapivab®)

Generic oseltamivir and Tamiflu® are available as a pill or liquid suspension and are FDA-approved for early treatment, starting at 4 days old. In response to a spike in demand, shortages of Tamiflu have been reported in a number of U.S. markets. Relenza® is a powder that is inhaled and approved for early treatment of flu in people 7 years of age and older. (Relenza® is not recommended for people with breathing problems.) Rapivab® is given intravenously by a health care provider and approved for early treatment of flu in people 2 years of age and older.

To learn more, visit:

- American Public Health Association report on [Communicable Disease](#)
- CDC [2017-18 Summary of Recommendations](#), including flu vaccine composition
- World Health Organization [Seasonal Influenza](#) and [Pandemic Preparedness](#)

Common influenza symptoms include:

- Headache
- Dry cough
- Runny nose
- Sore throat
- Muscle aches
- Fatigue
- Fever* or feverish/chills

**Not everyone with flu will have a fever*

Potential complications include:

- Pneumonia
- Bronchitis
- Sinus infection
- Ear infection
- Asthma attacks
- Dehydration