

CDC Influenza Division Summary & Technical Key Points

September 10, 2018

Summary Key Points

- *Flu season in the Southern Hemisphere is wrapping up and the United States is heading into its flu season, which can be serious as we saw last season.*
- *CDC recommends an annual flu vaccination as the best way to prevent influenza and its potentially serious complications.*
- *There are many benefits to vaccination, including reducing the risk of flu illness, doctor's visits, hospitalization and even death in children.*
- *For the upcoming 2018-2019 influenza season, there is updated flu vaccine and many vaccine options, including nasal spray vaccine.*
- *Get vaccinated by the end of October.*
- *Visit www.cdc.gov/flu for more information*

CDC 2018-2019 Guidance Published

- CDC guidance for the 2018-2019 is published and available at:
- [‘Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2018–19 Influenza Season’](#)
- CDC recommends annual influenza vaccination for everyone 6 months and older with any licensed, age-appropriate flu vaccine (IIV, RIV4, or LAIV4) with no preference expressed for any one vaccine over another.

More Information:

- [Expanded Summary Key Points](#)
- [What's New This Season](#)
- [“Take 3” Framework \(Vaccine, Everyday Preventive Actions, Appropriate Antiviral Use\)](#)
- [Antiviral Drugs](#)
- [A New Antiviral on the Horizon: Baloxivir Marboxil](#)

Expanded Summary Key Points

Activity update and projections for this season

1. Flu season in the Southern Hemisphere is wrapping up and we are heading into our flu season. It is hard to predict how bad the upcoming season will be, but flu can be very serious as we saw last season.
 - The U.S. had record-breaking levels of influenza illness, hospitalization rates and deaths in children last season. (180 pediatric deaths)
 - Summer activity in U.S. has been low, but localized outbreaks have been reported to CDC, mostly caused by H1N1.
 - Reported Southern Hemisphere flu activity has been relatively low and fairly mild, with H1N1 viruses predominating in most regions.
 - Flu is unpredictable; sometimes what happens in the Southern Hemisphere is predictive of what will happen here, but sometimes it is not.
 - It is not possible to predict what this flu season will be like. While flu spreads every year, the timing, severity, and length of the season varies from one season to another.

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- We do know that flu season is coming and we will likely have co-circulation of H1N1, H3N2 and B flu viruses and that flu vaccines offer important protection against all of these.

Call to Action

2. We have updated flu vaccine and many vaccine options, including nasal spray vaccine. Get vaccinated!
 - CDC recommends a yearly flu vaccine as the first and most important step in protecting against influenza and its potentially serious complications.
 - Flu vaccines this season have been updated to match circulating viruses.
 - There are [many different flu vaccine options](#), including nasal spray flu vaccine.
 - For the nasal spray recommendation this season, CDC's expert vaccines advisory group (ACIP) reviewed data from past seasons, and considered manufacturer data on changes to the vaccine, and recommended nasal spray vaccine as an option this season.
 - Other options include high dose and adjuvanted vaccine for people 65 and older.
 - While there are many different flu viruses, flu vaccines protect against the 3 or 4 viruses that research suggests will be most common.
 - Get vaccinated by the end of October.

Flu Vaccine Benefits & Repeated Call to Action

3. There are many benefits to flu vaccination.
 - Flu vaccine has been shown to reduce flu illnesses, hospitalization, ICU admission and even death in children.
 - During the 2016–2017 season, vaccination prevented an estimated 5.3 million illnesses, 2.6 million medical visits, and 85,000 influenza-associated hospitalizations. (Data from last season will be available in the fall.)
 - Flu vaccination is an especially important preventive tool for people with chronic health conditions. (heart disease, lung disease, diabetes)
 - Vaccinating pregnant woman helps protect them from flu illness and hospitalization, and also has been shown to help protect the baby from flu infection for several months after birth, before the baby can be vaccinated.
 - A 2017 study showed that flu vaccine can be life-saving in children.
 - More detailed information on flu vaccine benefits can be found at <https://www.cdc.gov/flu/prevent/vaccine-benefits.htm>.
 - Again, get vaccinated by the end of October.

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What's New This Season

- Flu vaccines have been updated to better match circulating viruses [the B/Victoria component was changed and the influenza A(H3N2) component was updated].
- For the 2018-2019 season, the nasal spray flu vaccine (live attenuated influenza vaccine or “LAIV”) is again a recommended option for influenza vaccination of persons for whom it is otherwise appropriate. The nasal spray is approved for use in non-pregnant individuals, 2 years through 49 years of age. There is a precaution against the use of LAIV for people with certain underlying medical conditions. All LAIV will be quadrivalent (four-component).
- Most regular-dose egg-based flu shots will be quadrivalent.
- All recombinant vaccine will be quadrivalent. (No trivalent recombinant vaccine will be available this season.)
- Cell-grown flu vaccine will be quadrivalent. For this vaccine, the influenza A(H3N2) and both influenza B reference viruses will be cell-derived, and the influenza A(H1N1) will be egg-derived. All these reference viruses will be grown in cells to produce the components of Flucelvax.
- No intradermal flu vaccine will be available.
- There were some changes in the age recommendation for two vaccines which are detailed in the 2018-2019 guidance.

Take 3 (A three-pronged strategy to fight flu)

- **Take time to get a [flu vaccine](#) each year.**
 - While there are many different flu viruses, flu vaccines protect against the 3 or 4 viruses that research suggests will be most common. Three-component vaccines contain an H3N2, an H1N1 and a B virus. Four component vaccines have an additional B virus component. (See Vaccine [Virus Selection](#) for this season’s vaccine composition.)
 - Flu vaccination can [reduce flu illnesses, doctors’ visits, and missed work and school due to flu](#), as well as prevent flu-related hospitalizations.
 - Flu vaccination also has been shown to significantly reduce a child’s risk of dying from influenza.
 - Also, there are data to suggest that even if someone gets sick after vaccination, their illness may be milder.
 - Everyone 6 months of age and older should get a flu vaccine every year before flu activity begins in their community. CDC recommends getting vaccinated by the end of October. Learn more about [vaccine timing](#).
 - For the 2018-2019 flu season, CDC and its Advisory Committee on Immunization Practices (ACIP) recommend annual influenza vaccination for everyone 6 months and older with any licensed, age-appropriate flu vaccine (inactivated, recombinant or nasal spray flu vaccines) with no preference expressed for any one vaccine over another. (See [Types of Flu Vaccines](#)).

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- 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 flu to them.
- [Infants younger than 6 months](#) are at high risk of serious flu illness, but are too young to be vaccinated. Studies have shown that flu vaccination of the mother during pregnancy can protect the baby after birth from flu infection for several months. People who live with or care for infants should be vaccinated.

- **Take [everyday preventive actions](#) to stop the spread of germs.**
 - Try to avoid close contact with sick people.
 - While sick, limit contact with others as much as possible to keep from infecting them.
 - 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 for 24 hours without the use of a fever-reducing medicine.)
 - 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 and mouth. Germs spread this way.
 - Clean and disinfect surfaces and objects that may be contaminated with germs like flu.

- **Take [antivirals](#) to treat your flu if your doctor prescribes them.**
 - If you get sick with flu, antiviral drugs can be used to treat your illness.
 - Antiviral drugs are different from antibiotics. They 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. They may also prevent serious [flu complications](#).
 - CDC recommends prompt antiviral treatment of people who are severely ill and people who are at high risk of serious flu complications who develop flu symptoms.
 - For people with [high-risk factors](#), 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.
 - Studies show that flu antiviral drugs work best for treatment when they are started within 48 hours of getting sick, but starting them later can still be helpful, especially if the sick person has a [high-risk health condition](#) or is very sick from flu. Follow your doctor's instructions for taking this drug.
 - Flu-like symptoms include fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills and fatigue. Some people, especially children, may have vomiting and diarrhea. People may also be infected with flu and have respiratory symptoms without a fever.

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Antiviral Drugs

- Antiviral drugs are prescription medicines (pills, liquid or an inhaled powder) and are not available over the counter.
- Influenza antiviral drugs are the only drugs approved to treat influenza infection.
- Three FDA-approved influenza antiviral drugs are recommended for use in the United States during the 2017-2018 influenza season: oseltamivir (Tamiflu® and generic formulations), zanamivir (Relenza®), and peramivir (Rapivab®). Generic formulations of oseltamivir became available commercially last season.
- Antiviral drugs are not a substitute for getting a flu vaccine. The flu vaccine is the best way modern medicine currently has to prevent this potentially serious disease.

A New Antiviral on the Horizon: Baloxivir Marboxil

- Baloxavir is an investigational influenza single-dose antiviral drug that is **not** approved by the Food and Drug Administration (FDA).
- A [report](#) published September 6, 2018 in the *New England Journal of Medicine* details the results of two randomized, double-blind, controlled trials of early treatment with the new influenza antiviral agent baloxavir.
- The trials were conducted among otherwise healthy outpatients aged 12-64 years old with acute uncomplicated influenza.
- The study found the new drug reduced flu symptoms compared to placebo, and reduced flu virus replication and shedding in patients within 24 hours after just a single dose when started within 48 hours of illness onset.
 - While no safety concerns were identified, there was some evidence of development of drug resistance in some patients treated with baloxavir.
 - The study found baloxavir's clinical benefit to be similar to oseltamivir; a currently recommended five -day, twice-daily treatment course.
- An [editorial](#) by Dr. Tim Uyeki, CDC Influenza Division Chief Medical Officer, was published alongside the study.
- Dr. Uyeki notes the potential of baloxavir, but also emphasizes the need for additional research, particularly in persons who are at high-risk for influenza complications and in hospitalized influenza patients.