

CDC Influenza and Influenza Vaccine Key Messages

December 16, 2003

Overall Key Messages

- **Influenza seasons can vary substantially in terms of timing and pattern of onset, peaking, decline, and overall severity.** In the United States, the 2003--04 influenza season began unusually early, with community activity first reported in early October, followed by continued spread of influenza activity during the weeks ending October 4--December 6. National activity levels have not yet peaked, and neither the duration of activity nor the season's eventual magnitude is known.
- **Influenza seasons dominated by A (H3N2) viruses (e.g., those in 1996--97, 1997--98, and 1998--99) typically are associated with high levels of severe illness and deaths.** No evidence exists to indicate that the A/Fujian-like viruses in circulation are more virulent than other influenza A (H3N2) viruses. However, reports of severe pediatric illnesses and deaths underscore the severe consequences that influenza infections can cause in children.
- **So far this season, influenza A/Fujian/411/2002-like viruses are predominating in the United States.** This strain differs from the influenza A (H3N2) virus contained in the 2003--04 vaccine (i.e., A/Panama/2007/99). Current influenza vaccines should provide some protection against A/Fujian-like viruses. However, the level of protection remains uncertain until vaccine effectiveness studies are completed. The vaccine also contains A/New Caledonia/20/99 (H1N1)-like and B/Hong Kong/330/2001-like viruses and should protect persons who are vaccinated against these viruses if they circulate more widely later in the season.
- **More Americans appear to have gotten vaccinations against flu this year than ever before.** We're pleased about the strong response and high consumer demand for influenza vaccine. We want everyone who wants a flu shot to be able to get one, especially those people who are at high risk for complications.
- **It looks like the demand for influenza vaccine this season may exceed the demand seen in previous flu seasons.** Some health care providers have used -- or may use -- all of their supplies of influenza vaccine. It's not easy to predict (months in advance) how many people will get an influenza vaccination. In past years, supply has generally been sufficient to meet demand, but this year, a strong demand has continued for longer than usual into the month of December. At a time when flu vaccination clinics are typically winding down, people are still seeking flu shots.
- **Three companies produce flu vaccine for the United States, two of these companies produce only inactivated injectable flu vaccine (i.e., flu shots).** The two companies that produce flu shots for the U.S. together made about 82 million doses of the injectable vaccine, which ordinarily would be enough to exceed U.S. demand. The third company makes a live attenuated influenza vaccine which is given as a nasal spray.

- **In a typical year, millions of doses of flu vaccine are discarded.** Typically, fewer than half the 185 million people for whom CDC recommends a flu shot actually get one. This year, more people than usual have sought flu vaccination. Public health officials hope this trend — growing numbers of people, particularly those at risk of complications getting a flu shot — will continue each year, matched by increasing supplies of vaccine.
- **Substantial numbers of influenza cases in children, including severe or unusual complications and deaths, have been reported in a number of states.** At this point, it is unclear whether influenza is impacting children more severely this season than in other years or if a heightened awareness of severe influenza disease in children has led to increased testing and reporting of pediatric cases. We are investigating these issues.
- **CDC has received reports of severe complications of influenza occurring in young infants, school-age children, and adolescents.** Complications have included encephalopathy, seizures, dehydration with severe hypotension, respiratory failure requiring mechanical ventilation, and secondary bacterial pneumonia, including necrotizing pneumonia with community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA). Three deaths (an infant aged 20 months with underlying reactive airways disease, a previously healthy infant aged 22 months, and a previously healthy child aged 16 years) have been associated with secondary pneumonia caused by CA-MRSA. Other influenza-related deaths not related to CA-MRSA in children have occurred. Fatal cases reported to CDC are being investigated by local and state health authorities. The vaccination status of the majority of the deceased children has not been determined.

Projections/Predictions Regarding the Influenza Season

- Influenza activity nationwide currently is moderate to severe and is expected to increase during the coming weeks.
- We cannot predict how long this flu season will last nor how many people will develop life-threatening complications or die.
- A characteristic of the epidemiology of influenza is that influenza seasons can vary substantially from year to year in terms of timing and pattern, predominant viruses and severity.

Influenza Vaccine Manufacturing and Supplies

- **Manufacturers of the flu vaccine, like manufacturers of consumer goods, use past history of consumer demand to determine how much product to produce.** This year demand exceeded their projections (i.e., about 82 million doses of the injectable vaccine). Flu vaccine manufacturers absorb significant financial losses when they have to discard unused vaccine. In fact, this year one company is no longer producing flu vaccine.
- **At the start of this flu season, vaccine supply was plentiful (i.e., enough to meet typical demand) There are at least three major reasons why manufacturers of flu shots have sold all of their supplies.**

- Early Influenza season: Earlier than usual outbreaks of influenza fueled a surge of vaccine orders later in the season than usual. In past seasons, manufacturers of flu vaccine have received relatively few orders in late November and December.
- Highly visible public awareness campaigns: Many public and private health providers have made increasing efforts to educate the public, particularly those people at high risk for serious complications from influenza, to get a flu vaccination.
- Extensive news coverage: The early flu season generated news stories about the potential for this year's flu season to be one of the most severe in the past few years. Much news coverage devoted to influenza-related deaths in children this year, has generated increased concern about influenza. In an average, year flu kills about 36,000 people in the United States. The news coverage may have motivated people who otherwise would not have to get flu shots and in sustaining interest in flu shots in December.

Influenza Vaccine Production

- **Making vaccine is a year-long process, involving several steps.** Once vaccine strains are selected, it can take more than four months to produce enough vaccine for the U.S. That is why the manufacturing process begins so early each year.
- **(Since it can take more than four months to produce influenza vaccine) The companies cannot make more vaccine in time for this flu season.** In addition, producing more vaccine now would jeopardize production capacity for next year.
- **Federal agencies are actively working with public and private sector partners to develop effective policies for vaccine purchase, distribution, and delivery.**

Guidance on Use of Available (Injectable) Vaccine

Vaccination

- Emphasis should be placed on targeting trivalent inactivated vaccine to persons at high risk for complications from influenza: all children aged 6-23 months; adults aged ≥ 65 years; pregnant women in their second or third trimester during influenza season; and persons aged ≥ 2 years with underlying chronic conditions.
- Persons at high risk should be encouraged to search locally for vaccine if their usual health-care provider no longer has vaccine available.
- All children at high risk, including those aged 6-23 months, who report for vaccination should be vaccinated with a first or second dose, depending on vaccination status. Doses should not be held in reserve to ensure that two doses will be available.
- Next priority should be given to vaccinating those persons at greatest risk for transmission of disease to persons at high risk, including household contacts and health-care workers.

- Healthy persons aged 5-49 years should be encouraged to be vaccinated with intranasally administered live, attenuated influenza vaccine.
- Decisions about vaccinating healthy persons, including adults aged 50-64 years, with inactivated influenza vaccine should be made on a case-by-case basis, depending on local disease activity and vaccine supply.
- Health departments and health-care providers should work together to reallocate influenza vaccine to health-care providers in need when possible.

Hygiene

- Good respiratory hygiene and cough etiquette should be encouraged, including cleaning of hands, and staying at home when symptomatic with fever and respiratory illness.

Medication

- Antiviral medications with specific activity against influenza A viruses are available. These should be considered either for treatment or chemoprophylaxis for influenza A, especially in persons at high risk for complications from influenza.

Other Protective Actions that Can Be Taken

Aside from getting vaccinated, people can take several, simple steps to protect themselves and their loved ones from influenza: Please pull from cleared language in fact sheet for the public for this.

- Wash your hands frequently with soap and warm water. Teach children the same healthy habits.
- Cover your nose and mouth when you cough and sneeze, preferably with a facial tissue or your arm, not your hands. Promptly discard used facial tissues.
- If you are sick with cough and fever, stay home from work or school until you recover.
- Contact your medical provider if you are experiencing severe symptoms that you believe require medical attention.

Those who have already received the flu should remember the following:

If you develop the flu, it is advisable to get plenty of rest, drink a lot of liquids, and avoid using alcohol and tobacco. Also, you can take medications to relieve the symptoms of flu (but *never* give aspirin to children or teenagers who have flu-like symptoms – and particularly fever – without first speaking to your doctor.)

- If, however, your flu symptoms are unusually severe (for example, if you are having trouble breathing), you should consult your health-care provider right away.
- If you are at special risk from complication of flu, you should consult your health-care provider when your flu symptoms begin. This includes people **65 years or older**, people

with **chronic medical conditions, pregnant women, or children**. Your doctor may choose to use certain antiviral drugs to treat the flu.

The most common symptoms of the flu include:

Influenza, also known as the flu, is a contagious disease that is caused by the influenza virus. It attacks the respiratory tract in humans (nose, throat, and lungs). The flu is different from a cold. Influenza usually comes on suddenly and may include these symptoms:

- Severe (usually high) fever
- Headache
- Tiredness (can be extreme)
- Dry cough
- Sore throat
- Nasal congestion
- Body aches