

# Pandemic and seasonal flu: What you need to know

These recommendations on prevention and treatment will help you prepare for the coming flu season.

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**T**his coming flu season will be interesting—and confusing. As of August 6, 2009, the Centers for Disease Control and Prevention (CDC) reported 6506 hospitalized cases and 436 deaths from the pandemic H1N1 flu virus since the first US cases were reported in April 2009.<sup>1</sup> (Reporting on individual confirmed and probable cases has been discontinued.) On July 31, the World Health Organization reported pandemic influenza in 168 countries, with 162,380 reported cases and 1154 deaths.<sup>2</sup> At the same time the pandemic was developing, the seasonal flu of 2009—a relatively mild year—was tapering off. The pandemic influenza has continued to cause widespread disease in the United States throughout the summer, a somewhat unusual pattern for influenza.

## So far, pandemic H1N1 flu is relatively benign, treatable

The pandemic virus, though highly infectious, has had a low case fatality rate up to now. Deaths have occurred predominantly in those with underlying medical conditions that put them at high risk of infection. Attack rates for those older than age 65 have been lower than expected, indicating that this age group may have some immunity based on past infection. The pandemic virus so far has been sensitive to both osel-

tamivir (Tamiflu) and zanamivir (Relenza). The resistance patterns of the key viruses from last flu season showed that the H1N1 seasonal virus was resistant to oseltamivir but sensitive to zanamivir and the adamantanes (rimantadine and amantadine), while the H3N2 virus that circulated last year was sensitive to oseltamivir.<sup>3</sup>

## Fall flu season: Be prepared

So, what can you expect this fall? With pandemic H1N1 still causing illness and strains of seasonal virus circulating elsewhere in the world, no one knows for sure. But it is very likely that we will experience much higher rates of pandemic influenza once schools reopen and children begin to congregate. It is also likely we will have pandemic influenza circulating along with seasonal influenza viruses this fall and into 2010.

## Immunize for seasonal flu, now

The 2009-2010 seasonal influenza vaccine will contain antigens from 3 strains: a nonpandemic H1N1 influenza A strain, an H3N2 influenza A strain, and an influenza B strain.<sup>4</sup> These 3 antigens will be in all seasonal influenza vaccine products, whether they are the trivalent influenza vaccine given by injection or the live attenuated influenza vaccine provided as a nasal spray. The CDC is recommending

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**TABLE**

**Who should get seasonal flu vaccine, 2009-2010?**

All children and adolescents ages 6 months through 18 years
Adults ≥50 years of age
Individuals at risk for medical complications
Women who will be pregnant during the influenza season
Adults and children who have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematologic, or metabolic disorders (including diabetes mellitus)
Adults and children who have immunosuppression (including immunosuppression caused by medications or by HIV)
Adults and children who have any condition (eg, cognitive dysfunction, spinal cord injury, seizure disorder, or other neuromuscular disorder) that can compromise respiratory function or the handling of respiratory secretions or increase the risk for aspiration
Residents of nursing homes and other chronic-care facilities
Individuals who live with, or care for, people at high risk for influenza-related complications
Health care personnel
Healthy household contacts (including children) and caregivers of children <5 years of age and adults ≥50 years
Healthy household contacts (including children) of individuals with medical conditions that put them at higher risk for severe complications from influenza.
<b>Source:</b> Centers for Disease Control and Prevention. <i>MMWR Recomm Rep.</i> 2009. <sup>4</sup>

immunization against seasonal influenza as soon as the vaccine is available.

The groups for whom seasonal influenza vaccine is recommended have not changed from last year. The recommendations are summarized in the **TABLE**.

**■ Pandemic flu vaccine will be available in the fall**

The vaccine for pandemic H1N1 is being produced, and the Department of Health and Human Services is projecting it to be available starting in mid- to late October. The supply will be limited at first, with increasing quantities produced as time progresses. The intent is to produce 600

million doses, or 2 per US resident, since 2 doses will be required.

**Who should get the vaccine for pandemic H1N1?** At its meeting at the end of July, the Advisory Committee on Immunization Practices (ACIP) recommended that vaccination efforts focus on 5 key populations:

- pregnant women
- people who live with, or care for, children <6 months of age
- health care and emergency services personnel
- individuals between the ages of 6 months and 24 years
- individuals 25 to 64 years of age who are at higher risk for novel H1N1 because of chronic health disorders or compromised immune systems.

In the event of initial shortages of the vaccine, the first 3 groups listed above should be given priority, along with children 6 months through 4 years of age and children 5 through 18 years who have chronic medical conditions.<sup>5</sup> In the event of a vaccine surplus (due to low demand and/or faster-than-expected supply), prioritization will not apply and the vaccine should be administered to anyone requesting it who does not have a contraindication.

It is not known how the pandemic influenza vaccine will be distributed and administered. The extent of involvement by physician offices and clinics is undetermined and may vary by locale. There may be extensive use of mass immunization clinics and school clinics to administer the vaccine quickly. Administration will be complicated by the need for 2 doses for protection and a perception by the public that the pandemic virus is not a major concern.

Medical practices may be administering 2 influenza vaccines with different dose requirements: a single dose for seasonal influenza vaccine (except for children <9 years who are being vaccinated for the first time; they get 2 doses), and 2 doses for pandemic vaccine.

## ■ Antivirals protect vulnerable patients

Antiviral medications can be used for chemoprophylaxis, both to prevent infection in patients with a high-risk medical condition who are not, or cannot be, vaccinated (chemoprevention), and for post-exposure prophylaxis (PEP) for those who are at risk for complications or want to avoid illness. PEP is time limited (5 days), while chemoprevention may be needed for the duration of potential exposure during an outbreak or epidemic.

PEP should be considered for residents in an assisted living facility during an influenza outbreak, and for individuals who are at higher risk for influenza-related complications and who have had recent household or other close contact with a person with laboratory-confirmed influenza. Chemoprevention is an option with limited applicability at this time. If the pandemic virus were to become more virulent, it might be considered for health care workers until they had received 2 doses of vaccine.

## ■ Follow recommendations for antiviral treatment

Because resistance patterns differ among flu viruses, the decision on which antiviral or combination of antivirals to use depends on the predominant viruses circulating in the community and on laboratory tests from the infected patient to determine the influenza type involved. Current recommendations for seasonal influenza can be found at <http://www2a.cdc.gov/han/ArchiveSys/ViewMsgV.asp?AlertNum=00279>, and recommendations for pandemic influenza are at <http://www.cdc.gov/h1n1flu/recommendations.htm#table1>. These recommendations may change as the season progresses and viral resistance patterns are determined.

Consider antiviral treatment for those at high risk for complications from the virus. These include anyone hospitalized for influenza, children <5 years of age (especially those <2 years), adults

≥65 years of age, and individuals with the following conditions:

- chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematologic (including sickle cell disease), neurologic, neuromuscular, or metabolic disorders (including diabetes mellitus)
- immunosuppression, including that caused by medications or by HIV
- pregnant women
- individuals <19 years of age who are receiving long-term aspirin therapy
- residents of nursing homes and other chronic-care facilities.

The evidence for antiviral effectiveness is strongest if it is given within the first 48 hours of symptom onset, although in hospitalized patients, there is some evidence of effectiveness if started after this time.

## ■ Be diligent about infection control

Physicians and other health care workers will need to practice good infection control this flu season. This has been the topic of a previous Practice Alert.<sup>6</sup> All health care workers should be fully immunized against influenza—seasonal and pandemic. In addition, each clinical practice should plan on implementing policies to prevent the spread of infection within the clinic or office. Such policies might include scheduling patients with respiratory illnesses for later in the day, separating patients with respiratory illnesses from other patients, requiring patients to cover their nose and mouth when they cough or sneeze, and providing tissues and hand sanitizers for patients and staff.

Physicians and staff will need to take measures to protect themselves from infection by frequent hand washing, avoiding work when ill, and using personal protective equipment when there is po-

### FAST TRACK

**We will likely have pandemic influenza circulating along with seasonal influenza viruses this fall and into 2010.**

tential exposure to respiratory droplets.<sup>7</sup> It will also be important to teach families to follow infection control practices at home whenever a household member has an influenza-like illness. Recommendations for home care can be found at [www.cdc.gov/h1n1flu/guidance\\_home\\_care.htm?x\\_cid=ccu071309\\_HomeCareGuidance\\_e](http://www.cdc.gov/h1n1flu/guidance_home_care.htm?x_cid=ccu071309_HomeCareGuidance_e).

### Stay on top of the situation

As this influenza season progresses, keeping current about influenza recommendations will be crucial. The 3 issues to say on top of are:

1. Who should receive the vaccine for pandemic influenza and where will it be administered?
2. What influenza viruses are circulating in the community?
3. What is happening to antiviral resistance patterns and how are changes in these patterns affecting recommendations for treatment and chemoprophylaxis?

### Web sites that will keep you up to date

- The CDC influenza Web site: <http://www.cdc.gov/flu>
- Your local and state public health department Web sites

- The American Academy of Family Physicians (AAFP) Web site: <http://www.aafp.org/online/en/home.html>. ■

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