

DIVISION OF PUBLIC HEALTH • COMMUNICABLE DISEASE • LABORATORY SERVICES
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////// PUBLIC HEALTH UPDATE ////

TO: Marin County Physicians, Clinics, and Infection Control Coordinators

FROM: Anju Goel, MD, MPH, Deputy Public Health Officer
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SUBJECT: Update on Pandemic (H1N1) 2009 Influenza

DATE: October 15, 2009

Dear Colleagues,

Influenza activity has increased in recent weeks throughout the United States, California, and Marin County (<http://www.marinflu.org/Flu%20Documents/MarinFluUpdate.pdf>). Nearly all flu detected this season has been Pandemic (H1N1) 2009 flu. Available information continues to suggest that novel virus symptoms and severity are similar to that for seasonal influenza viruses. However, as occurred in the spring, H1N1 is much more likely to affect the young than seasonal flu.

Please note that the Pandemic (H1N1) 2009 situation continues to change. As additional information becomes available, infection control, treatment and other recommendations may change. Please continue to check the websites listed on page 5 for the most up to date information.

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Situational Update

Flu activity is currently elevated, with 37 states, including California, reporting widespread activity as of October 3rd. This level of influenza-like illness (ILI) activity is very unusual for this time of year. Total influenza hospitalization rates for laboratory-confirmed influenza are higher than expected for this time of year for both adults and children. Note that both CDPH and CDC are now tracking hospitalizations and deaths due to H1N1, but are no longer counting individual cases that are not hospitalized. Marin County has also discontinued its count of individual cases.

Almost all of the influenza identified this season has been H1N1, which remains the predominant flu virus in circulation world-wide. The virus remains similar to the virus chosen for the 2009 H1N1 vaccine; it has not undergone any significant changes since first identified in April 2009.

As of October 2, the WHO had tested over 10,000 Pandemic (H1N1) 2009 samples world-wide for **resistance to oseltamivir**; 28 tested positive, including 11 from the U.S. The CDPH has tested over 500 samples and found only one sample to show resistance. Note that no samples have shown resistance to zanamivir (Relenza), the other neuraminidase inhibitor. Based on the low incidence of resistance, treatment and prophylaxis guidelines have not changed.

The symptoms and severity of illness due to H1N1 still appear to be similar to seasonal flu. The risk factors for severe disease remain similar (see page 3). However, H1N1 causes more illnesses in younger age groups, and is more likely than seasonal flu to cause nausea, vomiting and/or diarrhea.

While the severity and duration of the unfolding pandemic flu season are uncertain, Marin HHS planning and response teams are actively addressing vaccination, antiviral distribution, public information and outreach, screening and triage, and training. We are working with schools to monitor unusual patterns of absenteeism, and continuing ILI surveillance at Marin General and Novato Community Hospital emergency departments. Marin Medical Reserve Corps volunteers are engaged, and the Marin Medical Society is currently recruiting practicing physician volunteers who could provide patient care at an alternate care site that could be activated, should hospital capacity be exceeded in a healthcare surge situation. HHS has also activated an H1N1 Information Line to which you can refer patients with questions: (415) 473-6823.

Testing Update

The CDC changed its recommendations for testing on 9/29/09 to include the following three groups:

- Hospitalized patients with suspected influenza
- Patients who died of an acute illness in which influenza was suspected
- Patients for whom a diagnosis of influenza will inform decisions regarding clinical care, infection control, or management of close contacts

If your patient does not fit in one of the above categories but there are extenuating circumstances that you believe require testing, or if you believe your patient requires expedited testing (e.g., severely ill and hospitalized), please contact the Health Department at (415) 473-4163.

Rapid influenza antigen tests are widely available to clinicians. Some rapid tests can distinguish between influenza A and B virus types, while others cannot. Test accuracy for flu can be problematic with rapid antigen tests, with sensitivity for H1N1 in the 10-70% range. Thus, a negative test does not rule out a diagnosis of H1N1 flu and should not be the basis for treatment decisions. For more info on rapid influenza tests see:

http://www.cdc.gov/h1n1flu/guidance/diagnostic_tests.htm

Antiviral Treatment

Most healthy persons who develop an illness consistent with influenza, or persons who appear to be recovering from influenza, do not need antiviral medications for treatment or prophylaxis. However, persons presenting with suspected influenza and more severe symptoms, such as evidence of lower respiratory tract infection or clinical deterioration, should receive prompt empiric antiviral therapy, regardless of previous health or age. The priority use for antiviral drugs this season is to treat people who are very sick (hospitalized) or people who are sick with ILI and who are at increased risk of serious flu complications.

The CDC updated its antiviral treatment guidance 9/22/09 to include the following:

- Treatment with oseltamivir or zanamivir is **recommended** for all persons with suspected or confirmed influenza requiring hospitalization.

- Early empiric treatment with oseltamivir or zanamivir **should be considered** for persons with suspected or confirmed influenza who are at higher risk for complications including:
 - Children younger than 2 years old
 - Persons aged 65 years or older
 - Pregnant women
 - Persons of any age with certain chronic medical or immunosuppressive conditions (see page 3)
 - Persons younger than 19 years of age who are receiving long-term aspirin therapy.
- Children 2 year to 4 years old are more likely to require hospitalization or urgent medical evaluation for influenza compared with older children, although the risk is much lower than for children younger than 2 years old. Children aged 2 years to 4 years without high risk conditions and with mild illness do not necessarily require antiviral treatment.
- Treatment, when indicated, should be initiated as early as possible because studies show that treatment initiated early (i.e., within 48 hours of illness onset) is more likely to provide benefit.
- Actions that should be taken to reduce delays in treatment initiation include:
 - Informing persons at higher risk for influenza complications of signs and symptoms of influenza and need for early treatment after onset of symptoms of influenza (i.e., fever, respiratory symptoms);
 - Ensuring rapid access to telephone consultation and clinical evaluation for these patients as well as patients who report severe illness;
 - Considering empiric treatment of patients at higher risk for influenza complications based on telephone contact if hospitalization is not indicated and if this will substantially reduce delay before treatment is initiated.
- **Treatment should not wait for laboratory confirmation** of influenza because laboratory testing can delay treatment and because a negative rapid test for influenza does not rule out influenza.

People at high risk for complications include:

- Children age 4 years and younger, especially children younger than age 2 years
- Adults age 65 and over
- Pregnant women
- Residents of nursing homes and other chronic-care facilities.
- Persons with the following conditions:
 - Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), or metabolic disorders (including diabetes);
 - Immunosuppression, including that caused by medications or by HIV infection;
 - Any condition (e.g., cognitive dysfunction, spinal cord injuries, severe seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration.
 - Obesity (appears to be a risk factor based on preliminary data)
- Persons younger than 19 years of age and receiving long-term aspirin therapy.

Treatment is for 5 days. A longer duration of treatment should be considered for severe illness that persists at the end of the usual 5 day course, particularly in obese patients. Clinicians may also consider **double dosing** for critically ill patients and possibly for hospitalized obese patients. For additional guidance on treatment, please see <http://www.cdc.gov/h1n1flu/recommendations.htm>.

Post-Exposure Chemoprophylaxis

Consideration for antiviral chemoprophylaxis should generally be reserved for persons at higher risk for influenza-related complications who have had contact with someone likely to have been infected with influenza. However, **early treatment is an emphasized alternative to chemoprophylaxis after a suspected exposure**. Household or close contacts (with risk factors for influenza complications) of confirmed or suspected cases can be counseled

about the early signs and symptoms of influenza, and advised to immediately contact their health care provider for evaluation and possible early treatment if clinical signs or symptoms develop.

Duration of antiviral chemoprophylaxis *post-exposure* is 10 days after the last known exposure to an ill confirmed or probable case. Post-exposure prophylaxis is not necessary if the exposure occurred more than 7 days earlier.

Duration of antiviral chemoprophylaxis for outbreaks is for a minimum of two weeks. If new cases continue to appear, duration should be extended until 7 -10 days after illness onset of the last case.

Availability of Antiviral Medications

At this time, CDC discussion with antiviral manufacturers indicates that supplies of adult formulation oseltamivir and zanamivir are meeting current demand for this product. However, the FDA and Roche have acknowledged that commercial supplies of Tamiflu® oral suspension (pediatric liquid formulation) are in short supply and pediatric capsules may be limited in some locations. In response to this, the FDA has published information on emergency compounding of an oral suspension from 75mg capsules. In addition, Tamiflu® capsules may also be opened and mixed with sweetened liquids, such as regular or sugar-free chocolate syrup, for children who are unable to swallow capsules. For more information, please see:

<http://www.fda.gov/Drugs/DrugSafety/PostmarketDrugSafetyInformationforPatientsandProviders/ucm183878.htm>

As occurred in the spring, Marin Health and Human Services may distribute antiviral medications this flu season from the local, state and federal stockpiles if needed. *Note that these medications are for use only when a patient is unable to get them otherwise, either because the medications are not available commercially or because the patient lacks the financial means to obtain them.*

Vaccine Information

Pandemic (H1N1) flu vaccine is being made by the same manufacturers that make seasonal flu vaccine. The FDA has licensed the vaccines, which are for use in persons 6 months of age and older (age groups vary with vaccine formulation). Thimerosal free formulations are being made for pregnant women and young children. Vaccine will be available in single dose and multi-dose vials.

The CDC recommends that persons under 10 years of age receive **two doses** of vaccine, separated by 28 days. However, if the second dose is separated from the first dose by at least 21 days, the second dose can be considered valid. Persons 10 years of age and older need to receive only **one dose**. Note that these recommendations differ slightly from seasonal flu vaccine, in which persons younger than 9 years old require 2 doses if they have not received the vaccine in the past. Because vaccine availability is expected to increase over time, vaccine should not be held in reserve for patients who received one dose and will return for a second dose.

We encourage patients to see their healthcare providers to receive both seasonal and H1N1 vaccine. Seasonal flu vaccine is available now. Providers were able to place orders online for H1N1 vaccine in August and September 2009. The first shipments of Pandemic (H1N1) vaccine were distributed this week. Note that this first batch includes only live attenuated influenza vaccine (LAIV), and therefore can only be used for healthy, non-pregnant persons between the ages of 2 and 49 years. We are expecting additional shipments of both live and inactivated, injectable vaccine as the season progresses. The CDPH has indicated that Marin will receive 40,000 doses by the end of October, which includes approximately 12,000 doses for Kaiser patients. We are not expecting a shortage of vaccine. However, since initial supplies will be limited, they should be used for priority groups only. For patients who do not have a provider or are un- or underinsured and fall into a high risk category, the health department will be holding a series of H1N1 vaccine clinics this fall. Dates and locations will be posted on our website once determined.

The first batches of LAIV should be used for:

Healthy children \geq 2 years old, especially those 2-9 years old that require 2 doses
Healthy household contacts (2-49 years old) of infants $<$ 6 months of age

The other **vaccine priority groups** (an estimated 148,000 persons or 57% of Marin residents) include:

1. Pregnant women
2. Persons who live with or provide care for infants < 6 months
3. Children and young adults aged 6 months through 24 years
4. Persons aged 25 through 64 years who have medical conditions that put them at higher risk for flu-related complications
5. Healthcare and EMS personnel

Persons 65 years of age and older are not included in the vaccine priority groups, as they are less likely to get infected with H1N1 than younger people. CDC's priority for people 65 years and older is to have them get their seasonal flu vaccine now, and H1N1 vaccine once the priority groups have been vaccinated.

Note that persons tested for flu after receiving LAIV may test positive on rapid tests, which detect flu virus and cannot differentiate between attenuated viruses that could be recovered following administration of live vaccine and wild-type flu viruses.

Infection Control

The CDC updated its infection control guidance for healthcare facilities on 10/14/09 to include the following:

- Use a hierarchy of controls to prevent influenza transmission, including:
 - Elimination of potential exposures (*ex. postponing elective visits by patients with suspected or confirmed influenza until they are no longer infectious*)
 - Engineering controls (*ex. installing partitions in triage areas and other public spaces, to reduce exposures by shielding personnel and other patients*)
 - Administrative controls (*ex. promoting and providing vaccination for healthcare workers*)
 - PPE
- Healthcare personnel who develop a fever and respiratory symptoms should be excluded from work for at least 24 hours after they no longer have a fever, without the use of fever-reducing medicines. (Previous guidance suggested exclusion for 7 days from onset of symptoms.)
- Isolation precautions for hospitalized patients who have influenza symptoms should be continued for 7 days after illness onset or until 24 hours after the resolution of fever and respiratory symptoms, whichever is longer.

The CDC continues to recommend the use of respiratory protection that is at least as protective as a fit-tested disposable N95 respirator for healthcare personnel who are in close contact with patients with suspected or confirmed 2009 H1N1 influenza. This recommendation is consistent with Cal-OSHA regulations. However, several Bay Area health departments, including Marin, have recommended that regular facemasks are sufficient protection against H1N1. Where a shortage of respirators exists despite reasonable efforts to obtain and maintain a sufficient supply for anticipated needs, in particular for very high exposure risk situations such as some aerosol-generating procedures, a facility should consider shifting to a **prioritized respirator use mode**. *Note that PPE is considered to be the last line of defense against hazards that cannot otherwise be eliminated or controlled.* The full guidance can be accessed at: <http://www.cdc.gov/h1n1flu/guidance/ill-hcp.htm>

Screening and Triage

The Health Department recognizes that emergency departments may be particularly affected by patients with flu this fall. We are working with community providers to develop a phone screening system to help alleviate the burden from EDs. We envision the phone system as being most effective in reducing the number of visits by patients who do not require emergency medical evaluation or treatment. Those who are deemed to need further evaluation will be referred to their healthcare provider, if they have one, or to the ED if they don't have a provider. *Please consider the impact on hospital emergency departments of*

referring non-emergency patients who might otherwise be managed in your practice. We are expecting that this system will be implemented next month.

The CDC has published a triage algorithm for use with adults with influenza like illness. It is designed to assist healthcare providers in identifying indicators of and responses to symptoms of flu-like illness. It can be found at: <http://www.cdc.gov/h1n1flu/clinicians/pdf/adultalgorithm.pdf>

Resources

Phone Contact:

- Marin County H1N1 Information Line at (415) 473-6823
- Marin County Communicable Disease Unit at (415) 473- 2623

Marin County Health and Human Services:

<http://www.co.marin.ca.us/depts/HH/main/hs/publichealth/Swine.cfm>

California Department of Public Health:

<http://www.cdph.ca.gov/HealthInfo/discond/Pages/SwineInfluenza.aspx>

Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov/h1n1flu/>

World Health Organization (WHO): <http://www.who.int/csr/disease/swineflu/en/index.html>