



**County of Sonoma
DEPARTMENT OF HEALTH SERVICES**

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HEALTH ALERT

TO: HEALTH CARE PROVIDERS

FROM: MARK NETHERDA, MD, DEPUTY HEALTH OFFICER
565-4567

SUBJECT: Influenza A (H1N1) Swine Origin Influenza Virus (S-OIV) Update

DATE: May 4, 2009

Sonoma County Situation Report

National and State epidemiologic data will not be included in Sonoma County Health Alerts as this information is available from other sources. <http://ww2.cdph.ca.gov/Pages/default.aspx>

As of 5 PM Sunday May 3, 2009, one case of probable H1N1 S-OIV (swine) flu had been diagnosed in Sonoma County. The case involves an adolescent girl, with recent travel history to Mexico, who became ill Sunday April 26th and was tested and treated by her primary care physician a few days later. Her nasopharyngeal specimen was tested using real time PCR technology at the Sonoma County Public Health lab on April 30th and was found to be an unsubtypable variant of Type A influenza virus, classifying this a “probable” case. Public Health disease control measures and contact investigation were activated late in the evening of April 30th to help reduce spread of the infection. Her specimen was forwarded to the California Department of Public Health lab where testing verified it was unsubtypable Type A influenza virus before forwarding the specimen to the CDC for final confirmation. Reports from the girl’s family on May 3rd indicate she has fully recovered and no additional family members have become ill. She will be allowed to return to school later this week at the end of her isolation period. Although she is a student at a Sonoma County public school, due to her illness, she had not attended school since returning to Sonoma County from Mexico. No schools in Sonoma County have been dismissed as result of this first case.

By the close of extended hours on Sunday May 3rd, the Sonoma County Public Health Lab had tested 217 Sonoma County specimens for influenza viruses. Only the specimen from the case discussed above has warranted further testing at the State lab. Interestingly, 6 additional specimens have tested positive for seasonal variety Type A influenza – 1 human H1 virus and 5 H3 viruses. Providers are reminded that seasonal flu is still circulating in our community and are advised to refer to the CDC’s interim treatment guidelines for seasonal flu which were published in February 2009. They are available for review at: www.cdc.gov/flu/professionals/antivirals/index.htm. Oseltamivir works well for both Type A H1N1 S-OIV (swine flu) and seasonal H3 virus, but was not effective against most strains of seasonal H1 virus this year. Zanamivir is effective against all 3 viruses, but may not be appropriate for some patients.

The Department of Health Services is polling all local hospitals on a daily basis regarding influenza-like illness activity in the ED and as admitting diagnosis. Minimal and no extraordinary activity has been reported. The Public Health Surge Center remains open and is operating 7 days a week. The Public Health lab is operating on a normal 8-5 schedule during the week and has added extended hours 9-1 on weekend for the receipt and processing of influenza samples.

Updated Prioritization of Influenza Testing

At this time, testing in Sonoma County should focus on patients with the greatest epidemiological significance (i.e., they are important to identify because of disease control implications). We are no longer attempting to identify all cases. Therefore, we are now recommending that the following patients should be prioritized for testing:

- **Hospitalized patients** with influenza like illness (ILI)
- **Direct care healthcare providers with ILI**
- **Outpatients with ILI** in the following categories should be prioritized for testing:
 - o **First case with ILI in a high-risk setting for transmission (e.g., homeless shelter, school)**
 - o **Patient is part of an outbreak or cluster** of people with ILI, such as a social or service club or a choir group who suddenly have several members develop ILI (although only one patient needs lab confirmation, in settings of epidemiological significance, specimens can be collected from >2 patients to increase the likelihood of detecting H1N1 S-OIV)
- **The following additional outpatients with ILI may be tested:**
 - o **Patient is a contact of a confirmed/probable swine influenza A (H1N1) case**
 - o **Patient returned from Mexico within 7 days of illness onset or cared for ill household members with this travel history**

Rapid tests for influenza are not recommended due to a high number of false negative rapid tests.

Directions for proper specimen collection and submittal to the Public Health lab are available in a document dated April 28th on the Public Health website:

http://www.sonoma-county.org/health/ph/phpreparedness/pdf/swineflu_testing.pdf

Note: Please follow the guidance in this document for prioritization of who should be tested, rather than the guidance in the April 28th lab document.

Interim Guidance on Treatment and Prophylaxis

As issued by the CDPH May 3, 2009.

CDPH recommends the limited use of treatment and prophylaxis with either oseltamivir or zanamivir to reduce the level of severe disease and mortality that may be caused by H1N1 S-OIV influenza. Antiviral treatment should be considered for confirmed, probable or highly suspected cases.

Definitions:

Confirmed Case - a person with an acute febrile respiratory illness with laboratory confirmed H1N1 S-OIV infection by CDC or CDPH lab using real-time PCR or viral culture technologies.

Probable case - a person with an acute febrile respiratory illness who is positive for influenza A, but negative for H1 and H3 (unsubtypeable) by influenza RT-PCR at the Sonoma County Public Health or CDPH lab

Highly suspected case - a person with acute febrile respiratory illness with onset:

- within 7 days of close contact with a person who is a confirmed case of H1N1 S-OIV infection, or
- within 7 days of travel to Mexico.

High-risk groups - the same as for seasonal influenza:

- Children younger than 5 years old
- Adults 65 years of age and older

Persons with the following conditions:

- chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), or metabolic disorders (including diabetes mellitus);
- immunosuppression, including that caused by medications or by HIV;
- pregnant women;
- younger than 19 years of age and receiving long-term aspirin therapy;
- 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 for aspiration; and
- residents of nursing homes and other chronic-care facilities.

See MMWR: Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2008.

Treatment

Treatment is recommended for hospitalized patients and patients at higher risk for severe influenza or complications from influenza

Antiviral treatment with zanamivir (Relenza) or oseltamivir (Tamiflu) should be initiated as soon as possible after the onset of symptoms, within 48 hours if possible, however, some studies of treatment of seasonal influenza have indicated benefit, including reductions in mortality or duration of hospitalization when treatment was started >48 hours after illness onset. Recommended duration of treatment is five days. Recommendations for use of antivirals may change as data on antiviral susceptibilities and effectiveness become available. Information from the manufacturers' package inserts is summarized here. Please refer to package inserts for more detailed information regarding medication interactions and dosing changes in patients with renal or hepatic impairment.

Dosing: Antiviral doses recommended for treatment of H1N1 S-OIV in adults or children >1 year of age are the same as those recommended for seasonal influenza.

Zanamivir is dosed using a blister pack inhaler. The standard treatment dose for adults and children age >7 years is two inhalations, one blister each inhalation, twice daily for 5 days.

Oseltamivir is dosed in adults and adolescents >13 years for treatment at 75 mg twice daily for 5 days. For children >1 year and <13 years, treatment dosing is by weight (table 1).

Table 1: Dosing recommendations for antiviral treatment of children >1 year and <13 years using oseltamivir		
Weight in kg	Weight in lbs.	Recommended dose for 5 days
≤ 15 kg	≤ 33 lbs	30 mg twice daily
15 – 23 kg	33 – 51 lbs	45 mg twice daily
23 – 40 kg	51 – 88 lbs	60 mg twice daily
> 40 kg	> 88 lbs	75 mg twice daily

Oseltamivir use in children <1 year old was recently approved by the U.S. Food and Drug Administration (FDA) under an Emergency Use Authorization (EUA), and dosing for these children is age-based (table 2).

Table 2: Dosing recommendations for antiviral treatment of children <1 year using oseltamivir	
Age	Recommended dose for 5 days
<3 mon ths	12 mg twice daily
3-5 mon ths	20 mg twice daily
6-11 mon ths	25 mg twice daily

Children Under 1 Year of Age

Children under one year of age are at high risk for complications from seasonal human influenza virus infections. It is not known whether infants are at higher risk for complications associated with swine-origin H1N1 infection compared to older children and adults. Limited safety data on the use of oseltamivir (or zanamivir) are available from children less than one year of age, and oseltamivir is not licensed for use in children less than 1 year of age. Available data come from use of oseltamivir for treatment of seasonal influenza. These data suggest that severe adverse events are rare, and the Infectious Diseases Society of America recently noted, with regard to use of oseltamivir in children younger than 1 year old with seasonal influenza, that "...limited retrospective data on the safety and efficacy of oseltamivir in this young age group have not demonstrated age-specific drug-attributable toxicities to date." (See IDSA guidelines for seasonal influenza.) Because infants typically have high rates of morbidity and mortality from influenza, infants with swine-origin influenza A (H1N1) infections may benefit from treatment using oseltamivir.

Healthcare providers should be aware of the lack of data on safety and dosing when considering oseltamivir use in a seriously ill young infant with confirmed swine-origin H1N1 influenza or who has been exposed to a confirmed swine H1N1 case, and carefully monitor infants for adverse events when oseltamivir is used.

Prophylaxis

Prophylaxis is recommended for-

- **Household close contacts of a confirmed, probable or highly suspected case** who are at **high-risk** for severe influenza
- **Health care workers or public health workers who were not using appropriate personal protective equipment during close contact** with an infectious case that is confirmed, probable, or highly suspected.
- **Patients at high-risk for severe influenza who have had close contact with an infectious health care worker** who is a confirmed or probable case.

Either oseltamivir or zanamivir are recommended. Duration of *post-exposure* prophylaxis is 10 days from the last known exposure to an ill confirmed case. Post exposure prophylaxis should be considered for contacts which occurred during the *infectious period* (e.g., one day before until 7 days after the case's onset of illness). If the contact occurred more than 7 days earlier, then prophylaxis is not necessary.

Zanamivir is dosed for prophylaxis for adults and children >5 years using a blister pack inhaler as two inhalations once daily for 10 days or longer as needed.

Oseltamivir is dosed for prophylaxis in adults and adolescents >13 years as 75mg once daily for 10 days. For children >1 year and <13 years the dosing of oseltamivir for prophylaxis is determined by weight (table 3).

Table 3: Dosing recommendations for antiviral prophylaxis of children >1 year and <13 years using oseltamivir		
Weight in kg	Weight in lbs.	Recommended dose for 10 days
≤ 15 kg	≤ 33 lbs	30 mg once daily
15 – 23 kg	33 – 51 lbs	45 mg once daily
23 – 40 kg	51 – 88 lbs	60 mg once daily
> 40 kg	> 88 lbs	75 mg once daily

Oseltamivir can also be used for chemoprophylaxis for children <1 yr under the EUA (Table 4). The same caveats as for treatment apply.

Table 4: Dosing recommendations for antiviral prophylaxis of children <1 year using oseltamivir	
Age	Recommended dose for 10 days
<3 months	Not recommended unless critical due to lack of data
3-5 months	20 mg once daily
6-11 months	25 mg once daily

Institutional Settings

Similar recommendations for treatment and prophylaxis apply to persons working, residing in or attending nonmedical institutions, including educational, residential and correctional institutions. Confirmed, probable or highly suspected cases of swine-origin influenza A (H1N1) virus infection associated with these settings should be considered for treatment, especially if at higher risk for influenza complications. Contacts who have shared the same bedroom or cell of a confirmed or probable case and who are at high-risk for complications of influenza can be offered antiviral prophylaxis. Additional institutional contacts of a confirmed or probable case can be considered for treatment once symptomatic, especially if at high risk for severe influenza.

Pregnant Women

Oseltamivir and zanamivir are "Pregnancy Category C" medications, indicating that no clinical studies have been conducted to assess the safety of these medications for pregnant women. Because of the unknown effects of influenza antiviral drugs on pregnant women and their fetuses, oseltamivir or zanamivir should be used during pregnancy only if the potential benefit justifies the potential risk to the embryo or fetus; the manufacturers' package inserts should be consulted. However, no adverse effects have been reported among women who received oseltamivir or zanamivir during pregnancy or among infants born to women who have received oseltamivir or zanamivir. Pregnancy should not be considered a contraindication to oseltamivir or zanamivir use. Because of its systemic activity, oseltamivir is preferred for treatment of pregnant women. The drug of choice for prophylaxis is less clear. Zanamivir may be preferable because of its limited systemic absorption; however, respiratory complications that may be associated with zanamivir because of its inhaled route of administration need to be considered, especially in women at risk for respiratory problems.

Availability and Dispensing of Antiviral Medications

ISSUE: The supply of antivirals available through the State and federal stockpiles is limited and will not be sufficient to meet the needs of the entire population during a pandemic, particularly if it extends over a prolonged period. Therefore, it is important to control the supply and use of influenza antiviral medications.

- Antivirals are and will be available through normal wholesale and retail markets.
- Antivirals from State and federal stockpiles are intended to be used as a last resort, when patients are not able to obtain them through third-party reimbursement. If there is a temporary local shortage of antivirals, however, any person needing antivirals may be eligible for medications from the stockpiles, which are controlled by Sonoma County Public Health.
- Sonoma County Public Health will assess the needs of community healthcare partners, based on reporting from these partners and will assure that community healthcare partners receive State and federally allocated antivirals to meet the needs of their patients.

At the current level of H1N1 S-OIV prevalence in the county, the need for antivirals remains low. Sonoma County Public Health is expanding the plan for the distribution of antivirals to healthcare partners should the need arise. If a provider has a case which is believed to warrant treatment or prophylaxis and all other sources of antivirals have been exhausted, please contact Public Health at 565-4567.

For further information please refer to:

Public Health Phone - Recorded answers to FAQs in English/Spanish:---565.4477

State Hotline - Recorded answers to FAQs in many languages:-----888.865.0564

Sonoma County Public Health Web Site:-----www.sonoma-county.org/health/ph/

CDC Web Site:-----www.cdc.gov/h1n1flu/

California Department of Public Health-----www.cdph.ca.gov