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HEALTH ADVISORY– H1N1 SWINE INFLUENZA A

February 19, 2010

The San Francisco Department of Health provides this guidance based on the best current information. Recommendations may change, and SF recommendations may sometimes differ from those issued by the national Centers for Disease Control and Prevention, or the California Department of Public Health. Visit our website for the most current updates, forms, FAQs and useful links: www.sfcdcp.org/swinefluforproviders.html.

SITUATIONAL UPDATE (AS OF 2/19/10)

In San Francisco most indicators for H1N1 swine flu suggest that illness levels continue to decline.

- The proportion of outpatient visits for influenza-like illness (ILI) has increased slightly but still remains low.
- Flu detections among specimens tested by the SF Public Health Lab have decreased; all influenza virus detected in SF continues to be H1N1 swine flu.
- 41 severe (ICU and/or death) influenza A cases in SF residents have been preliminarily reported between July 15, 2009-February 5, 2010.
- There have been 8 deaths in SF residents from influenza reported since April 2009.

Statewide, influenza activity has been downgraded to "sporadic". State indicators for H1N1 swine flu also indicate a decline in illness. Children under the age of one continue to have the highest hospitalization rates. A total of 527 deaths due to H1N1 swine flu have been reported to the state to date. The hospitalized case-fatality ratio is highest among individuals aged 50-64 years. Eight cases of oseltamivir resistance have been identified in California residents but overall prevalence appears to be quite limited in California and nationwide. Detection of respiratory syncytial virus (RSV) continues to rise.

Categories of urgency levels
Health Alert: conveys the highest level of importance; warrants immediate action or attention
Health Advisory: provides important information for a specific incident or situation; may not require immediate action
Health Update: provides updated information regarding an incident or situation; unlikely to require immediate action

ACTIONS REQUESTED OF ALL CLINICIANS (UPDATED 2/19/10)

1. **Submit respiratory specimens only from the following patients** for PCR testing by the Public Laboratory System (specimens not meeting these criteria will not be tested):

   a) Patients with influenza-like illness[1] OR
   b) Patients with influenza A as determined by a rapid diagnostic test

   AND who also meet at least one of the following criteria:

   - Died
   - Hospitalized (if info is available specific criteria will be "hospitalized for > 24 hours")
   - Live in a long-term care facility (first cases only will be tested)

   The SFDPH Public Health Lab has **reduced PCR testing to once a week, on Thursdays**
   For specimen collection/submission instructions go to: www.sfcdcp.org/swinefluforproviders.html
   For the H1N1 swine flu specimen submission form go to: H1N1 Swine Flu Specimen Submission Form

2. **Report** to SFDPH Disease Control (415-554-2830) patients with influenza-like illness[1] who have/are:
   - Died
   - Severely ill (hospitalized and requiring ICU care)
   - A resident of a long-term care facility
   - Part of an outbreak[2] of influenza-like illness[1] in an institutional[3] setting with high-risk residents

3. **Treat** (using oseltamivir or zanamivir) patients with suspected or confirmed influenza who are hospitalized for severe illness or who are at higher risk for influenza-related complications, as described below. Treat these patients early and empirically, without relying on lab test results.

4. **Vaccinate** high-risk patients, rather than prescribe prophylaxis for prevention, except in limited settings.

5. **Report all Adverse Events after vaccination** to VAERS. Report all cases of Guillain-Barre syndrome as described in the text below.

6. **Instead of chemoprophylaxis, consider emphasis on early treatment** if flu symptoms develop**,** for most close contacts[4] at risk for complications of influenza, independent of vaccination status.

7. **Implement** infection control precautions as described below.
   - ALL PERSONS with fever or cough should wear a surgical mask while present in any health care setting. This includes patients and family members. Quick identification and masking of persons potentially infectious with influenza will prevent exposures to staff and patients.
   - All persons (excepting patients requiring evaluation and medical care) with influenza-like illness should be instructed to stay at home until 24 hours after fever resolves. This includes health-care workers and family and friends of patients.

8. **Provide** guidance about home care of persons with influenza. SFDPH guidance is available at http://www.sfcdcp.org/fluill.html

9. **Encourage** and **facilitate** pneumococcal vaccination for those at increased risk of pneumococcal disease.

Notes & Definitions

[1] **Influenza-like illness** is defined as fever (>38°C or 100.4°F) and either cough or sore throat. Definition differs from CDC
[2] **Outbreak-** defined in Outbreak Reporting Thresholds for Special Settings below
[3] **Institutions** include facilities with household-like living arrangements (e.g., long-term care facility, dormitory, jail, shelter and group residential home)
[4] **Close contact** is described in the Antiviral Post-Exposure Prophylaxis Section

VACCINE RESOURCES

(2/5/10)
All restrictions on who is eligible to be vaccinated have been lifted in San Francisco - anyone wanting protection should be vaccinated. We are recommending that providers keep vaccinating through late spring if supply permits.

Important Information Regarding Vaccine:

SHORT DATING: Sanofi Pasteur has notified CDC and FDA that fifty (50) lots of monovalent 2009 (H1N1) influenza vaccine in prefilled syringes now have shorter expiration periods than indicated on the labels. This vaccine should be used by **February 15, 2010.** This is to ensure that the vaccine is administered while it remains within its potency specification. There are no safety concerns with these lots of 2009 H1N1 vaccine. A list of all lots affected can be found here: http://sfcdcp.org/fluproviders.html.

Providers that require additional H1N1 prefilled .5mL syringe vaccine after February 15 can still order it from www.CalPanFlu.org or can visit http://sfcdcp.org/H1N1VaccineProvider.html to complete the fax request form for the local office. If vaccine is ordered directly from SFDPH it will need to be picked up at 101 Grove Street.

RECALLED VACCINE: On January 29, 2010, there was a non-safety related recall of Sanofi Pasteur brand H1N1 Swine flu vaccine in both 0.25mL prefilled syringes and 0.5mL prefilled syringes.

- Providers should return or discard any .25mL Sanofi Pasteur prefilled syringes from lot numbers:
  - UT023AA
  - UT023BA
  - UT023CA
  - UT023EA
  - UT023FA
- Providers should return or discard any .5mL Sanofi Pasteur prefilled syringes from lot number:
  - UT037AA

Providers who received vaccine directly from McKesson should receive a statement with instructions on how to return the recalled Sanofi Pasteur vaccine.

Information on distribution and availability of Seasonal and H1N1 Swine influenza vaccine information is rapidly changing. Please see our website for the most up-to-date information: http://www.sfcdcp.org/fluvaccine.html.

Vaccine Dosing. A clear summary of H1N1 Swine flu vaccine brands, eligibility, dose, and route information can be found at: www.cdc.gov/h1n1flu/vaccination

LAIV Interaction with Influenza Antiviral Medications. Since influenza antivirals reduce replication of live influenza viruses, live attenuated influenza vaccine (LAIV) and influenza antivirals should not be given concurrently. Those on antivirals may receive trivalent injectable vaccine (TIV). Antivirals should be stopped 48 hours before giving LAIV, and not restarted until 2 weeks after; otherwise, revaccination is necessary to ensure adequate immune protection.

Surveillance for Guillain-Barré Syndrome (GBS) after Vaccination. Public health agencies are increasing surveillance for cases of GBS, which may be temporally associated with the H1N1 Swine flu vaccine. Timely detection of GBS cases is critical for post-licensure vaccine safety monitoring.

SFDPH requests San Francisco neurologists and other clinicians to report all cases of GBS (regardless of whether or when the patient has received H1N1 swine flu vaccine) by calling Celeste Prothro of the California Emerging Infections Program at 510-451-1344 and sending an e-mail to: GBSreport@CDPH.ca.gov. In addition, the California Department of Public Health's Viral and Rickettsial Diseases Laboratory is offering enhanced testing for possible infectious disease triggers for GBS. If you are interested in submitting specimens from a patient with GBS, please contact Cynthia Jean Yen at 510-307-8606.

Adverse Events (AE) after H1N1 Swine Influenza Vaccination. Safety of H1N1 Swine influenza A vaccine was reviewed by CDC (see www.cdc.gov/mmwr/preview/mmwrhtml/mm58e1204a1.htms). Based on data received by the Vaccine Adverse Event Reporting System (VAERS) from Oct. 1 – Nov. 24, 2009, no substantial differences between H1N1 swine and seasonal influenza vaccines were noted in the proportion or type of serious AE reported. As of Nov. 24, 2009 VAERS had received 10 reports of GBS and 2 additional reports of possible GBS were identified on further review. This number of cases is substantially smaller than expected from a population of 30-40 million persons, but the CDC noted that underreporting to VAERS and differences in vaccinated and background populations make the comparison complex.

Reporting AE to VAERS. Please report clinically significant adverse events after vaccination, whether or not the vaccine was administered in your practice, and even if you are not sure if the vaccine caused the adverse event. VAERS is the front-line monitoring system for collecting and analyzing voluntary reports of adverse events following vaccination. CDC and FDA analyze VAERS reports to identify potential vaccine safety concerns that may need further study or public health action. See vaers.hhs.gov/index. Patients who attend the free vaccination clinic on December 22nd will be given a receipt of their vaccination which will include the date of vaccination, vaccine type, manufacturer and lot number. If a patient develops an adverse event from vaccine given at the clinic, providers can use this document to submit a report to VAERS. If the patient is unable to provide this receipt, providers can call 415-554-2905 for assistance.

There are three ways to report to VAERS:
1) Submit online via a secure website at http://vaers.hhs.gov/esub/index
2) Fax a completed VAERS form to 877-721-0366, or
3) Mail a completed VAERS form to VAERS, P.O. Box 1100, Rockville, MD 20849-1100.

TRIAGE OF PATIENTS WITH INFLUENZA-LIKE ILLNESS:

(12/10/09)
The CDC has published two algorithms, based on age, to assist physicians in determining whether patients with ILI require emergency care, an office visit, or home care. These can be located at:

- www.cdc.gov/h1n1flu/clinicians/pdf/adultalgorithm.pdf
- www.cdc.gov/h1n1flu/clinicians/pdf/childalgorithm.pdf

DURATION OF ISOLATION FOR PERSONS WITH INFLUENZA-LIKE ILLNESS

(10/19/09)
For ill persons outside of the health care setting: Stay home and away from others until 24 hours after fever is gone (without the use of fever-reducing medicine).

For healthcare workers: Exclude from work and stay home and away from others until 24 hours after fever is gone (without the use of fever-reducing medicine).

For hospitalized patients: Isolate on appropriate precautions for 7 days after onset of symptoms or 24 hours after fever resolution, whichever is longer.

The recommended duration of isolation precautions for hospitalized patients is longer than that recommended for other populations because duration of virus shedding is likely to be longer than for outpatients with milder illness. Shedding of influenza viruses generally diminishes over the course of 7 days, with transmission apparently correlating with fever. Given this, if isolation resources (e.g. private rooms) become limited, these resources should be prioritized for patients who are earlier in the course of illness.

In some cases, facilities may choose to continue isolation precautions for longer periods such as in the case of young children or severely immunocompromised patients, who may shed influenza virus for longer periods of time and who might be shedding antiviral resistant virus. Clinical judgment should be used to determine the need for continued isolation precautions for such patients. Communications regarding the patient's diagnosis with post hospital care providers (e.g. Home-healthcare agencies, long-term care facilities) as well as transporting agencies is essential.) *Excerpted from* *http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm*

OUTBREAK REPORTING THRESHOLDS FOR SPECIAL SETTINGS

(12/10/09)
SFDPH has temporarily established new influenza outbreak reporting thresholds for special settings during the 2009-2010 influenza season. In general, an outbreak is defined as a sudden increase in acute respiratory illnesses over the normal background rate. However, during the H1N1 swine flu epidemic, acute respiratory illness rates are higher than normal throughout the country and state. In these unusual conditions, SFDPH is emphasizing community-wide outbreak prevention and control measures (see www.sfcdcp.org/infectmenot.html) and is focusing influenza outbreak investigation efforts on situations where a high proportion of persons are at risk for severe complications of influenza, or where the volume or severity of disease is much greater than expected.

Therefore, SFDPH requests clinicians to report the following outbreak situations by telephone to Communicable Disease Control and Prevention at 415-554-2830:

- In closed congregate living facilities where a high proportion of residents are at high risk for severe complications of influenza (e.g., long-term care facilities, long-term shelters with a high proportion of infants, pregnant women, or persons with AIDS): four or more cases of influenza-like illness (ILI, defined as fever over 100.4°F with cough and/or sore throat) occurring within 6 days.
- In non-residential institutions where attendees have close contact (e.g., schools): 40% of students and staff in a classroom or other epidemiologically-linked group have ILI, occurring within a 6 day period.

TESTING FOR SEASONAL AND H1N1 SWINE INFLUENZA VIRUS (UPDATED 2/19/10)

Most patients with clinical illness consistent with uncomplicated influenza do not require diagnostic influenza testing for clinical management.

Rapid Tests. Rapid influenza antigen tests are widely available to clinicians and provide test results at the point of care. Immunofluorescence tests (e.g., DFA) are also available at many laboratories. When influenza virus is circulating in the community (as is currently the case), a positive rapid antigen test or immunofluorescence test for influenza is predictive of infection. However, these tests have important limitations:

- Low sensitivity for detecting influenza (10 – 70% for H1N1 swine flu and 60 – 80% for seasonal flu with rapid antigen tests; sensitivities with immunofluorescence testing is slightly higher). Therefore, a negative rapid antigen test or immunofluorescence test does not rule out infection with seasonal or H1N1 swine influenza. Based on the clinical presentation, empiric antiviral therapy or confirmatory diagnostic testing may be appropriate.
- Some rapid antigen tests can distinguish between influenza A and B, while others cannot. Check the product information or www.cdc.gov/flu/professionals/diagnosis/rapidclin.htm to determine test capabilities.
- Currently, there is no rapid antigen test or immunofluorescence test for influenza A that can distinguish between seasonal influenza A virus and H1N1 swine influenza A virus.
- If a person has recently received the live attenuated influenza vaccine (LAIV), he or she could test positive on a rapid influenza antigen test.

For additional information on rapid tests, see: www.cdc.gov/h1n1flu/guidance/rapid_testing.htm

Confirmatory Tests. Real-time PCR is the recommended test for confirmation of H1N1 swine influenza cases. Viral culture is also diagnostic of influenza infection, but may not yield timely results for clinical management.

PCR is performed by the SFDPH Public Health Lab on specimens meeting the criteria outlined above (see: *Actions Requested of All Clinicians*). The lab tests specimens for Influenza A, Swine A and H1N1 2009 simultaneously:

- If all three tests are positive the specimen is reported as "Positive for Pandemic Influenza A (H1N1) 2009".

- A specimen that is positive for Influenza A and negative for Swine A and H1N1 2009 is then tested for Seasonal Influenza H1 and H3. If either seasonal test is positive then the specimen is reported as "Positive for Seasonal Influenza H1/H3" (depending on which test is positive).
- A specimen that is positive for Influenza A, negative for Swine A, H1N1 2009, and Seasonal Influenza H1 and H3 is reported as "Influenza A positive, unsubtypable".
- A specimen that is Influenza A positive, Swine A positive and H1N1 2009 negative is reported as "Influenza A positive, unsubtypable".

The SFDPH Public Health Lab has **reduced PCR testing to once a week on Thursdays**. The H1N1 swine flu specimen submission form can be downloaded here: H1N1 Swine Flu Specimen Submission Form

ANTIVIRAL TREATMENT (SEASONAL & H1N1 SWINE INFLUENZA)

(12/10/09)
As of October 22, 2009, 99% of circulating influenza viruses were H1N1 Swine Influenza viruses susceptible to both oseltamivir and zanamivir. Sporadic cases of oseltamavir resistance have occurred but remain rare. Therefore, based on viruses now circulating, treatment with either oseltamivir or zanamivir is appropriate. This recommendation is subject to change as new information emerges.

Because most H1N1 Swine flu infections have been self-limited respiratory illnesses similar to typical seasonal influenza, treatment is not recommended for most healthy persons who develop suspected or confirmed influenza and present with an uncomplicated febrile illness.

However some groups are at increased risk of influenza-related complications. In these groups, antiviral medications can reduce the severity and duration of influenza illness and can reduce the risk of influenza-related complications, including severe illness and death.

Treatment with oseltamivir or zanamivir is recommended for:

- Hospitalized patients with suspected or confirmed influenza, even if beyond 48 hours of illness onset, especially if at high risk for complications as noted below
- Persons with suspected or confirmed influenza who have evidence of severe illness (e.g. symptoms or signs of lower respiratory tract infection or clinical deterioration). This is an indication for immediate antiviral treatment, regardless of previous health or age.[1]
- Outpatients who are at higher risk for influenza-related complications. These include:
    - Children younger than 2 years old
    - Adults 65 years of age or over
    - Pregnant women and women up to 2 weeks postpartum (including after pregnancy loss)
    - Persons of any age with the following conditions:
        - Chronic pulmonary (including asthma), cardiovascular (excludes hypertension, but includes pediatric congenital heart disease), renal, hepatic, hematological (including sickle cell disease), or metabolic disorders (including diabetes mellitus and mitochondrial disorders)
        - Disorders that that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration (e.g., cognitive dysfunction including mental retardation or developmental delay, ventilator or tracheostomy-dependent disorders, spinal cord injuries, seizure disorders, cerebral palsy, or other neuromuscular disorders such as muscular dystrophy)
        - Immunosuppression, including that caused by medications (eg, certain cancer treatments) or by HIV or other deficiencies in immune function
    - Persons younger than 19 years of age who are receiving long-term aspirin therapy
    - Obesity (BMI >30) may be a risk factor for influenza-related complications as well; further data and studies are pending

[1] Clinicians should also consider possible bacterial co-infection that can occur during or after influenza illness

Duration of treatment is five days.

Treatment decisions should be made empirically, and should **not await lab confirmation**, because lab-based testing could delay treatment and because a negative rapid test does not rule out influenza. Treatment should be initiated as early as possible, as benefit is greatest when started within 48 hours of illness onset. To reduce delays in starting treatment, healthcare providers should counsel patients at higher risk for influenza complications to contact the provider if signs or symptoms of influenza develop; ensure rapid access to telephone consultation and clinical evaluation for these patients as well as patients who report severe illness; and consider empiric treatment based on telephone contact until additional medical evaluation can be arranged if needed.

Antiviral doses in adults or children 1 year of age or older are the same as those recommended for seasonal influenza (Table 1).

Table 1. Treatment or chemoprophylaxis of H1N1 Swine Influenza Virus infection.

Medication		Treatment (5 days)	Chemoprophylaxis (10 days)
Oseltamivir			
Adults		75-mg capsule twice per day	75-mg capsule once per day
Children ≥ 12 months[2]			
Body Weight (kg)	Body Weight (lbs)		
≤15 kg	≤33lbs	30 mg twice daily	30 mg once per day
> 15 kg to 23 kg	>33 lbs to 51 lbs	45 mg twice daily	45 mg once per day
>23 kg to 40 kg	>51 lbs to 88 lbs	60 mg twice daily	60 mg once per day
>40 kg	>88 lbs	75 mg twice daily	75 mg once per day
Zanamivir			
Adults		10 mg (two 5-mg inhalations) twice daily	10 mg (two 5-mg inhalations) once daily
Children[3]		10 mg (two 5-mg inhalations) twice daily	10 mg (two 5-mg inhalations) once daily

[2] If the child cannot swallow capsules, the appropriate-dose capsules can be opened and the contents mixed with a sweetened liquid such as chocolate syrup. For more information, visit http://www.cdc.gov/H1N1flu/antivirals/mixing_tamiflu_qa.htm

[3] Zanamivir is approved for treatment in children ≥7 years old and for chemoprophylaxis in children ≥5 years old

A history of receipt of H1N1 Swine or Seasonal influenza vaccine does not rule out influenza infection. Early empiric treatment should be initiated for vaccinated persons with suspected influenza infection when indicated.

Patients receiving treatment should be advised that they remain potentially infectious to others for up to four or more days while on treatment.

Hospitalized patients. For severely or critically ill individuals, and hospitalized obese patients, some experts have advocated giving double doses for 8-10 days, but no published data addresses this (see www.ama-assn.org/ama/pub/physician-resources/medical-science/infectious-diseases/topics-interest/swine-flu/swine-flu-treatment.shtml). Clinicians also should consider the possibility of bacterial co-infections that can occur during or after an influenza illness. On 10/23/09, the U.S. FDA issued an emergency use authorization (EUA) for the investigational antiviral drug peramivir intravenous (IV) in adult and pediatric patients with confirmed or suspected 2009 H1N1 influenza infection who are admitted to a hospital that meet specific criteria. For additional information on peramivir IV or to request this product please go to: http://www.cdc.gov/h1n1flu/eua/
Consider consultation with an infectious disease specialist for critically ill patients.

Pregnant Women (up to 2 weeks postpartum). The available risk-benefit data indicate that pregnancy should not be considered a contraindication to oseltamivir or zanamivir use. Due to its systemic activity, oseltamivir is preferred for treatment of pregnant women. Dosing for pregnant women is the same as for adults.

Pediatric Dosing. Oseltamivir dosing for children younger than 1 year old is based on FDA guidance under an Emergency Use Authorization (EUA) in response to the current public health emergency (Table 2).

When Tamiflu® oral suspension is unavailable, oseltamivir 75mg capsules can be compounded into a suspension upon request at some pharmacies. Note: Tamiflu® oral suspension concentration is **12 mg/mL**; the compounded suspension concentration is **15 mg/mL**. For more info: www.cdc.gov/H1N1flu/pharmacist/pharmacist_info.htm.

Warning: The oral dosing dispenser packaged with Tamiflu® oral suspension is marked in **mg** instead of **mL** and should be discarded. Instead, pharmacists and health care providers should provide a standard oral syringe and ensure that the dosing instructions are given in milliliters (mL).

Table 2. Treatment or chemoprophylaxis of children under 1 year using OSELTAMIVIR.

Age	Treatment dose (5 days)	Prophylaxis dose (10 days)
Younger than 3 months	12 mg twice daily	Not recommended unless situation judged critical due to limited data on use in this age group
3-5 months	20 mg twice daily	20 mg once daily
6-11 months	25 mg twice daily	25 mg once daily

Note: some experts prefer weight-based dosing for children aged under 1 year, particularly for very young or premature infants. If using weight-based dosing for treatment or chemoprophylaxis of infants under 1 year old, consider the following regimen: ≥ 9 months should receive 3.5 mg/kg/dose BID; ≤ 9 months should receive 3 mg/kg/dose BID.

EARLY EMPIRIC TREATMENT VS. POST-EXPOSURE PROPHYLAXIS (SEASONAL & H1N1 SWINE FLU)

(10/26/09)

In general, early recognition of illness and treatment when indicated is preferred to chemoprophylaxis for:

- close contacts[2] of persons with influenza during their infectious period[3] at higher risk for complications of influenza (see list above)

Exposed persons at high risk for complications can be counseled about the early signs and symptoms of influenza, and advised to immediately contact their healthcare provider for evaluation and early treatment when indicated if clinical signs or symptoms develop.

Post exposure antiviral chemoprophylaxis with either oseltamivir or zanamivir is recommended for:

- Pregnant women who have had close contact exposure to a person with suspected or confirmed influenza during that person's infectious period.
- Outbreaks in long term care facilities or nursing homes (see below for information regarding outbreaks in other settings

Antiviral post exposure chemoprophylaxis is not recommended:

- For healthy children or adults based solely on "potential" exposures

[2] **Close contact** is defined as living with a person, working within 3 feet of a person for an hour or longer, or being in a setting where there was a high likelihood of contact with respiratory droplets and/or body fluids of a person

[3] The **infectious period** for influenza is defined as from 1 day before until 24 hours after fever ends. Younger children and immunocompromised individuals may shed virus for longer

- For persons at high risk for complications who have been completely vaccinated against both seasonal and H1N1swine influenza greater than 2 weeks prior to exposure.
- If more than 48 hours have elapsed since the last contact with an infectious person
- Exposure occurred before or after, but not during, the ill person's infectious period[5].

Patients should be informed that chemoprophylaxis lowers but does not eliminate the risk of influenza and that protection stops when the medication is stopped. Patients receiving chemoprophylaxis should be encouraged to seek medical evaluation as soon as they develop a febrile respiratory illness that might indicate influenza.

For antiviral chemoprophylaxis of influenza infection in adults and children at least 1 year of age, either oseltamivir or zanamivir is recommended (Table 1). For children under 1 year of age, oseltamivir is recommended (Table 2). Duration of post-exposure chemoprophylaxis is 10 days after the last known exposure to influenza.

Pregnant Women (up to 2 weeks postpartum). The available risk-benefit data indicate that pregnancy should not be considered a contraindication to oseltamivir or zanamivir use. The drug of choice for chemoprophylaxis during pregnancy is unclear; zanamivir may be preferable due to 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.

Control of Outbreaks. To date, few H1N1 Swine influenza outbreaks have been reported in nursing homes or long-term care facilities in San Francisco. If influenza outbreaks occur[4]:

- in nursing homes or long-term care facilities, chemoprophylaxis with either oseltamivir or zanamivir is recommended and should be started as early as possible to reduce the spread of the virus
- in other closed or semi-closed settings where persons at higher risk for influenza complications are housed chemoprophylaxis with either oseltamivir or zanamivir may be considered after consultation with our Communicable Disease Control Unit at 415-554-2830.

Duration of antiviral chemoprophylaxis for outbreaks is for a minimum of two weeks. If new cases continue to appear, duration may be extended.

Outbreaks in schools, camps, workplaces and other group settings should NOT be managed by providing chemoprophylaxis to all persons potentially exposed to influenza viruses.

ADVERSE EVENTS FROM INFLUENZA ANTIVIRAL MEDICATIONS

(10/20/09)
Zanamivir, an inhaled medication, can induce bronchospasm and is not recommended for treatment for patients with underlying pulmonary disease. For more information about influenza antiviral medications, including contraindications and adverse effects, go to

- www.cdc.gov/flu/professionals/antivirals/side-effects.htm

Please report adverse events from influenza antivirals to the FDA: www.fda.gov/medwatch

INFECTION CONTROL PRECAUTIONS FOR HEALTHCARE SETTINGS

(1/21/10)

SFDPH joins with the CDC Healthcare Infection Control Practices Advisory Committee (HICPAC), the Society for Health Care Epidemiology of America (SHEA), the Infectious Disease Society of America (IDSA), the Association for Professionals in Infection Control (APIC), and the American College of Occupational and Environmental Medicine (OCEAM) in making the following recommendations:

All healthcare facilities should adopt standard and droplet precautions when caring for patients with influenza-like illness, seasonal flu, or suspected or confirmed H1N1 swine flu virus infection. Specifically:

[4] Please see section entitled **Outbreak Reporting Threshold for Special Settings** for definition of outbreaks

- Instruct persons with influenza-like illness to stay at home until they have fully recovered;
- Provide surgical masks, tissues, a no-touch receptacle (foot-operated or open, plastic-lined wastebasket), and waterless hand sanitizer in all patient areas and entryways;
- Place signs at entrances and in all patient areas instructing all persons to cover their mouths/noses with a tissue when coughing or sneezing (or use an elbow rather than hands if a tissue is not available), to throw the tissue into the wastebasket after use, and to sanitize hands (by washing or using waterless hand sanitizer) after contact with secretions;
- Request all persons with fever or cough to wear a surgical mask;
- Isolate patients with influenza-like illness as soon as possible, ideally in a private exam room or at a distance of at least 3 feet from others;
- Staff entering the exam room of any patient with influenza-like illness should either ensure the patient is masked or wear either a surgical mask or N-95 respirator pending diagnosis. Cal OSHA standards require the use of an N-95 respirator with patients who are confirmed or suspected to have influenza A of specific serotypes. Staff should wash their hands or use waterless hand sanitizer before and after interactions with the patient;
- For aerosol-generating procedures (e.g. bronchoscopy, intubation under emergent or controlled conditions, open airway suctioning and airway induction, cardiopulmonary resuscitation), wear a disposable fit-tested N95 respirator, eye protection (goggles or face shield), a clean, non-sterile, long-sleeved gown, and gloves. Consider using a negative pressure airborne infection isolation room, if possible, for elective aerosol-generating procedures.
- Collection of nasopharyngeal specimens for testing, closed suctioning of airway secretions and administration of nebulized medications are not considered aerosol-generating procedures, thus an N95 mask is not required.

See: www.cdc.gov/ncidod/dhqp/hicpac_h1n1.html (HICPAC). For a list of states and institutions following similar guidelines, see: www.shea-online.org/Assets/files/policy/H1N1_Grid_II.pdf

NEW! Recommendations and Checklist for Prevention & Control of Influenza in Long-Term Care Facilities (http://www.sfcdcp.org/h1n1facilities.html)

Note: Respiratory Hygiene/Cough Etiquette is now a component of Standard Precautions. To limit disease transmission year round, health care providers should implement respiratory hygiene/cough etiquette and hand hygiene procedures in the health care setting and, when possible, in the community.

Note: Please refer to CAL-OSHA for employee health and safety regulations.

Infection Control Guidelines for Post-partum women and their infants (Note: these differ from CDC guidelines)

- **Rooming-in with Mother:** Newborn infants of influenza-infected mothers may stay in the same hospital room as the mother, if possible.
- Once a pregnant women with ILI delivers, the mother should be encouraged to wear a facemask when within 3 feet of the infant, change to a clean gown or clothing, adhere to strict hand hygiene and cough etiquette when in contact with her infant, and begin breastfeeding (or if not breastfeeding, bottle feeding). She should continue these protective measures, both in the hospital setting and at home, until she is symptom-free (fever has resolved without fever reducing medicines) for 24 hours.
- Breastfeeding should be supported at all times because of the protection from respiratory infection that breast milk provides to the infant. The mother with influenza-like-illness should be encouraged and assisted to breastfeed.
- **Nursery:**

- If a newborn of an influenza-infected woman is housed in the hospital nursery instead of the mother's room, standard precautions (including good hand hygiene) should be used for the infant.
- Any visitor (including mother) with symptoms of viral illness (fever, cough, rhinorrhea, etc.) should NOT visit the nursery.

- Hospital visitors of influenza-infected mothers and their infants should receive infection control education on droplet precautions and hand hygiene and should be asked to practice appropriate measures during their hospital visit.

PNEUMOCOCCAL VACCINATION

(12/10/09)
Similar to previous influenza pandemics, infections with *Strep. pneumoniae* bacteria are contributing to fatalities among persons with H1N1 Swine influenza. Vaccination against pneumococcal infection with PCV7 (the 7-valent pneumococcal conjugate vaccine, Prevnar®) is part of routine childhood immunization before age 2 years. However, many adults today have never received this vaccine.

CDC's Advisory Committee on Immunization Practices (ACIP) recommends a single dose of **PPSV23** (the 23-valent pneumococcal polysaccharide vaccine, Pneumovax®) for:

- everyone age 65 years and older;
- persons age 19 - 64 years who smoke cigarettes or have asthma; and
- persons age 2 - 64 years with chronic heart, lung, or liver disease, functional or anatomic asplenia, alcoholism, diabetes, immunocompromise, CSF leak, or who reside in long-term care facilities

All children under 5 years of age should continue to receive **PCV7** according to existing recommendations.

See: www.cdc.gov/H1N1flu/HAN/111609.htm and www.cdc.gov/h1n1flu/vaccination/provider/provider_pneumococcal.htm for further information

INFORMATION FOR INTERNATIONAL TRAVELERS

(12/10/09)
H1N1 Swine influenza virus is still the dominant influenza virus in circulation in the world. In November 2009, 89% of influenza specimens reported to WHO were H1N1 Swine. Influenza-like illness (ILI) activity due to H1N1 Swine remains high in temperate regions of the Northern Hemisphere, whereas in the tropics and in the Southern Hemisphere, influenza activity due to H1N1 Swine flu remains variable.

CDC is urging travelers to take the following steps: travel only when they are feeling well, get vaccinated for both seasonal and H1N1 Swine flu, wash hands often, and cover coughs/sneezes with a tissue or sleeve.

Travelers at increased risk for influenza complications should, with their physicians, review the influenza situation and available health-care options at their destination and determine whether to bring standby antiviral medications on their trip as a treatment option. Some travelers at increased risk of complications from flu may want to consider postponing travel.

Airport staff in some foreign countries, including Japan and China, are screening arriving passengers for symptoms of the flu; thus travel may be delayed. Persons with flu-like illness should not travel.

See: www.cdc.gov/h1n1flu/updates/international and wwwnc.cdc.gov/travel/content/outbreak-notice/novel-h1n1-flu-global-situation.aspx for further information

SOLICITATION FOR SENTINEL PROVIDERS FOR INFLUENZA SURVEILLANCE

(10/19/09)
Primary care providers (physicians, nurse practitioners, and physician assistants) are invited to enroll as sentinel providers for influenza surveillance in SF. The California Sentinel Provider Influenza Surveillance Program

(CSPISP) is a collaboration between local clinicians, local health departments, the California Department of Health Services (CDPH), and the CDC to conduct surveillance of influenza-like illness (ILI). Surveillance is important because it allows us to monitor the amount of ILI and the trends of influenza virus strains (including H1N1 swine flu) that are circulating in the community. Furthermore, surveillance aids the CDC and WHO in determining strains for inclusion in next year's influenza vaccine.

Sentinel Providers report the number of patients seen with ILI and the total number of patients seen for any reason on a weekly basis to the CDC by fax or internet. In addition, sentinel providers may provide nasal and throat specimens to the California Department of Public Health for influenza strain typing. This information will ultimately help us to appropriately disseminate public health guidance and interventions. Specimen collection materials and shipping to the California Department of Public Health are provided at no cost to the provider. Testing of specimens from Sentinel Providers is prioritized, and results are sent to participating providers within 7-10 days. Sentinel providers will receive regular updates on local, state and national influenza activity. Sentinel providers may also receive rapid influenza diagnostic tests and materials from SFDPH's "Infect Me Not" campaign such as "Flu Home Care Guides." If interested in becoming a Sentinel Provider, contact Mara Richardson at 415-554-2810 or mara.richardson@sfgov.org For more information, visit: http://www.cdph.ca.gov/programs/vrdl/Pages/CaliforniaSentinelProviderProgram.aspx

LOCAL RESOURCES

(10/20/09)
SFDPH website:

- Seasonal and H1N1 Swine flu page: http://www.sfcdcp.org/flu.html

Phone contact:

- Hospital-based clinicians should call their hospital's H1N1 Swine Flu Point of Contact. Most hospitals designated an Infection Control Professional as their H1N1 Swine Flu Point of Contact.
- For flu questions not answered on our website please call (415)554-2905, we will respond to messages within 24-48 hours of receipt.
- For reports of severe flu cases and outbreaks clinicians may call (415)554-2830.
- The public can call 311 for basic information about H1N1 swine flu.