



Gavin Newsom
Mayor

HEALTH ALERT

SWINE INFLUENZA VIRUS DETECTED IN 8 RESIDENTS OF SOUTHERN CALIFORNIA AND TEXAS

REQUEST FOR ENHANCED FLU TESTING AND SURVEILLANCE

April 24, 2009

Six California residents and two Texas residents have been diagnosed with swine influenza A (H1N1) virus infection. The ongoing investigation of these cases suggests that human-to-human transmission has occurred. Although most cases were mild and all have recovered, enhanced national and statewide surveillance for influenza is requested to determine the extent of human transmission of this strain of swine influenza. San Francisco Department of Public Health (SFDPH) is requesting assistance from local clinicians and laboratories to enhance flu surveillance in patients who meet criteria for influenza-like illness (ILI).

The Centers for Disease Control and Prevention (CDC) has also confirmed that patients in Mexico have been infected by the swine influenza A (H1N1) virus. Mexican public health authorities have reported increased levels of respiratory disease in recent weeks. The CDC and the World Health Organization (WHO) are working with Mexican health authorities to better understand the situation in Mexico.

Information from the ongoing investigations in California, Texas and Mexico and CDC guidelines are rapidly evolving. Updated information is available at the CDC swine flu webpage (<http://www.cdc.gov/flu/swine/>) and San Francisco-specific information will be posted to: <http://www.sfdcp.org/swineflu.html>

Actions requested of all clinicians

1. **Collect respiratory specimens** from patients who meet ILI criteria and who:
 - a. are hospitalized for undiagnosed acute respiratory illness or suspect or confirmed influenza; OR
 - b. are presenting to emergency rooms with ILI.
 (See below for ILI definition and specimen collection and submission instructions.)
2. **Report** fatal or severe (requiring ICU) pediatric and adult cases of suspected or confirmed influenza to SFDPH Disease Control (415-554-2830).
3. In all healthcare settings, use **Respiratory Hygiene/Cough Etiquette for all patients with ILI**
 - a. All patients with ILI should wear a surgical mask at all times.
 - b. Place hospitalized patients in private rooms; implement droplet precautions per hospital protocol. (For info about droplet precautions visit: <http://www.sfdcp.org/infectioncontrolpractitioners.html>. For info about Respiratory Hygiene/Cough Etiquette see our Seasonal Flu Health Advisory of October 30, 2008, <http://www.sfdcp.org/healthalerts.html>.)

This advisory and past advisories are posted on the SFDPH website at: www.sfdcp.org/healthalerts. Additional reporting and reference materials (including specimen collection and submission instructions laboratory guidelines) are posted at: www.sfdcp.org/diseasereporting and www.sfdcp.org/influenzareporting.html.

BACKGROUND

Although seasonal influenza activity in California is declining, cases and routine influenza surveillance continue to occur. Surveillance identified the 6 California cases of swine flu.

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

As of April 24, 2009, six California residents (four children and two adults) have been diagnosed with swine influenza A (H1N1) virus infection. Four are residents of San Diego County and two are residents of Imperial County. Two patients are related (parent – child), but otherwise there are no epidemiologic links between the California cases or between the Texas and California cases. None of the cases have had known exposure to pigs. Five patients had mild disease; one patient with underlying autoimmune disease was hospitalized. All have recovered. The two Texas residents are from Guadalupe County, near San Antonio, and attend the same school. Close contacts are being investigated to determine whether person-to-person spread has occurred.

The viruses from the California cases are closely related genetically and contain a unique combination of gene segments that have not previously been reported in the United States or elsewhere. The viruses in the first two patients are susceptible to oseltamivir and zanamivir, but resistant to amantadine and rimantadine. Antiviral susceptibility on viruses from the additional cases is pending, but is anticipated to be the same.

Swine influenza is an endemic respiratory disease of pigs caused by type A influenza virus, typically H1N1 and H3N2 strains. Swine flu viruses do not normally infect humans. However, sporadic human infections with swine flu do occur. Since 2005, 12 human cases of swine flu have been detected in other parts of the United States; all patients recovered. Most commonly these cases occur in persons with direct exposure to pigs (e.g., workers in the swine industry). Although it has been documented, human-to-human transmission of swine flu is rare. Seasonal human influenza vaccine usually does not protect against swine influenza A H1N1 viruses, which are very different in their antigens from human H1N1 viruses.

ENHANCED TESTING FOR POSSIBLE SWINE INFLUENZA

Enhanced influenza testing will help identify whether there is transmission of swine flu in San Francisco.

Hospitalized patients with ILI and patients visiting Emergency Rooms with ILI should have specimens collected for enhanced swine flu surveillance testing (by Polymerase Chain Reaction) by the public health reference laboratory network, in addition to the usual specimens (e.g., rapid tests) that would be collected for clinical management of suspected seasonal influenza.

Influenza-like illness is defined as fever (>37.8° or 100°F), and a cough and/or sore throat.

Please **collect nasal or nasopharyngeal swabs** (preferred) or oropharyngeal swabs (not preferred but acceptable) from patients who meet the definition for ILI and who:

1. are hospitalized for undiagnosed acute respiratory illness or suspect or confirmed influenza; OR
2. are presenting to Emergency Rooms with influenza-like-illness (ILI).

These specimens should be collected for all patients who meet the above criteria, whether or not swine flu is suspected.

Clinicians should consider swine flu infection in the differential diagnosis of patients with febrile respiratory illness who:

1. live in San Diego County or Imperial County, California, or Guadalupe County, Texas, or who traveled to one of these counties in the 7 days prior to their illness onset OR
2. who travelled to Mexico in the 7 days prior to their illness onset OR
3. in the 7 days prior to their illness onset, were in contact with persons who had febrile respiratory illness and who had been in San Diego, Imperial, or Guadalupe counties or in Mexico in the 7 days preceding their illness onset.

ENHANCED SURVEILLANCE FOR POSSIBLE SWINE INFLUENZA

Please **report fatal or severe** (requiring ICU) pediatric and adult cases of suspected or confirmed influenza or suspected swine flu cases to SFPDH Disease Control (415-554-2830).

LABORATORY: SPECIMEN COLLECTION AND SUBMISSION

Specimen submission for fatal or severely ill suspected or confirmed influenza patients, or suspected swine flu cases, **must** be coordinated through SFDPH Disease Control (415-554-2830). For other patients who are not severely ill or deceased, or in whom swine flu is not suspected, specimens can be submitted directly to the Public Health Laboratory for testing without consultation.

Collection of Influenza Specimens: Please collect up to 2 nasal or nasopharyngeal swabs from each patient with ILI, placing the swabs in a standard container with 2-3 ml of viral transport media. Use dacron swabs with an aluminum or plastic shaft. Cotton or alginate-tipped swabs may compromise performance of lab tests and are not recommended. Oropharyngeal (throat) swabs are acceptable, but may not have as high a yield. If the patient is hospitalized with pneumonia, specimens from the lower respiratory tract (e.g., tracheal aspirate, bronchoalveolar lavage) should also be obtained. Specimens should be collected within the first 24-72 hours of onset of symptoms and no later than 5 days after onset of symptoms. Healthcare workers who collect specimens for patients with ILI (and who are not known contacts of a laboratory-confirmed swine flu case) should use droplet precautions (i.e., wear a surgical or procedure mask) in addition to standard precautions, which include gloves, hand hygiene and the use of eye protection.

Specimen Storage: The specimens should be kept refrigerated at 4°C and sent on cold packs if they can be received by San Francisco Public Health Laboratory (SFPHL) within 5 days of the collection date. If samples will be received by SFPHL in five or more days from collection, they should be frozen at -70°C or below and shipped on dry ice.

Specimens are accepted Monday - Friday, 8am to 5pm, and must be accompanied by an SFDPH lab form. Detailed instructions and forms are available on our website: <http://sfcdcp.org/swineflu.html>.

INFECTION CONTROL PRECAUTIONS

See Actions Requested of All Clinicians box above. As previously described in our Seasonal Influenza Health Advisory, Respiratory Hygiene/Cough Etiquette is now a component of Standard Precautions. Ideally all health care providers should implement respiratory hygiene/cough etiquette and hand hygiene procedures in the health care setting and in the community throughout the year especially during influenza season. Refer to our previous Seasonal Influenza Health Advisory of October 30, 2008 for details about Respiratory Hygiene and Cough Etiquette <http://www.sfcdcp.org/healthalerts.html>

TREATMENT AND CHEMOPROPHYLAXIS FOR SEASONAL INFLUENZA

Seasonal influenza is still active in San Francisco and California. Clinicians should treat patients for seasonal flu unless there is a suspicion for swine flu. Please refer to our previous Health Advisory "Interim Recommendation for the Use of Antiviral Medications during the 2008-2009 Influenza Season" at <http://www.sfcdcp.org/healthalerts.html>, which contains information about neuraminidase resistance in currently circulating seasonal influenza strains. If swine flu is suspected, please call SFDPH at 415-554-2830 to discuss treatment recommendations.

RESOURCES

Swine Influenza Information

CDC website: <http://www.cdc.gov/flu/swine/>

General Influenza Information

SFDPH website: <http://www.sfcdcp.org/flu>

CDC website: <http://www.cdc.gov/flu/>