

## Influenza A H1N1 (Swine Flu)—Clinician Guidance #2

### Updated Investigation and Interim Recommendations Influenza A H1N1 (Swine Flu)

#### BACKGROUND

To date, human cases of swine influenza A (H1N1) virus infection have been confirmed in the United States. Illness signs and symptoms have consisted of influenza-like illness - fever and respiratory tract illness (cough, sore throat, runny nose), headache, muscle aches - and some cases have had vomiting and diarrhea. These cases had illness onset during late March to mid-April 2009. However, cases of severe respiratory disease, including fatal outcomes, have been reported in Mexico. The potential for exacerbation of underlying chronic medical conditions or invasive bacterial infection with swine influenza virus infection should be considered.

The swine influenza A (H1N1) virus that has infected humans in the U.S. and Mexico is a novel influenza A virus that has not previously been identified in North America. This virus is resistant to the antiviral medications amantadine and rimantadine, but is sensitive to oseltamivir and zanamivir. Investigations of these cases suggest that ongoing human-to-human swine influenza A (H1N1) virus is occurring.

University students may be more likely to have recently traveled to Mexico or another affected region therefore a heightened awareness of your students' travel history is important.

Additionally, parents of your students may be concerned regarding the health of their children, and we would suggest updating your parents if you have not done so already.

#### INTERIM RECOMMENDATIONS

##### Definition

*Acute respiratory illness* is defined as recent onset of at least two of the following: rhinorrhea or nasal congestion, sore throat, cough (with or without fever or feverishness).

Clinicians should consider swine influenza A (H1N1) virus infection in the differential diagnosis of patients with febrile (>100.0°F) respiratory disease and who 1) live in San Diego and Imperial Counties, California, or Guadalupe County, Texas, or traveled to these counties or 2) who traveled recently to Mexico or were in contact with persons who had febrile respiratory illness and were in the two U.S. counties or Mexico in the 7 days preceding their illness onset.

##### Specimen Collection and Reporting Procedures

Specimens should be collected **ONLY** on patients who meet the above criteria. Clinicians should obtain a nasopharyngeal swab in viral media for swine influenza testing and keep cool (not a freezer). Please include patient name, date of birth, date of collection, and provider name and contact information. For every specimen sent to Public Health, the clinician must complete and fax the attached Suspect Swine Influenza (H1N1) Case Report Form to the Los Angeles County Department of Public Health at 213-482-4856.



## Suspect Swine Influenza (H1N1) Case Report Form

ACDC ID: \_\_\_\_\_ VCMR ID: \_\_\_\_\_

Clinicians should consider swine influenza infection in the differential diagnosis of patients with:

- Influenza-like illness (ILI) defined as fever  $\geq 37.8^{\circ}\text{C}$  ( $100^{\circ}\text{F}$ ) and a cough and/or sore throat

AND at least one of the following (check all that apply):

- Are a contact to a confirmed swine influenza A (H1N1) case
- Are part of a cluster of people reported with ILI
- Traveled to affected areas including Mexico [check [www.cdc.gov/swineflu/investigation.htm](http://www.cdc.gov/swineflu/investigation.htm) for affected states/countries and [www.cdph.ca.gov/healthinfo/discond/pages/swineinfluenza.aspx](http://www.cdph.ca.gov/healthinfo/discond/pages/swineinfluenza.aspx) for specific affected California counties] in the 7 days preceding illness onset
- Were in contact with persons with ILI who were in affected areas during the 7 days preceding illness onset
- Are hospitalized with ILI or pneumonia

Tests will not be performed on isolates of cases that do not meet above case definition.

Patient Name-Last	First	Middle Initial	Date of birth	Age	Sex
Address- Number, Street, Apt #		City	State	ZIP Code	
Home phone ( ) ( )		Work phone ( ) ( )	Cell phone ( ) ( )		
Race (check one) <input type="checkbox"/> African-American/Black <input type="checkbox"/> Asian/Pacific Islander <input type="checkbox"/> Native American <input type="checkbox"/> White <input type="checkbox"/> Other: _____			Ethnicity (check one) <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> Non-Hispanic/Non-Latino		
Occupation		Student? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Specify school. _____			

### PRESENT ILLNESS

Onset date	Hospitalized? <input type="checkbox"/> Yes <input type="checkbox"/> No	Admit date	Discharge date	Medical record no.	Hospital Name		
Level of medical care (check all that apply): <input type="checkbox"/> Outpatient clinic <input type="checkbox"/> Emergency Room <input type="checkbox"/> Inpatient ward <input type="checkbox"/> Intensive Care Unit <input type="checkbox"/> None				Significant past medical history: No underlying medical conditions <input type="checkbox"/>			
Symptoms that occurred during current illness (check all that apply): <input type="checkbox"/> Fever ( $\geq 37.8^{\circ}\text{C}/100^{\circ}\text{F}$ ) <input type="checkbox"/> Nasal Congestion <input type="checkbox"/> Sore throat <input type="checkbox"/> Cough <input type="checkbox"/> Nausea/Vomiting/Diarrhea <input type="checkbox"/> Muscle ache <input type="checkbox"/> Other Specify: _____				Yes	No	Unk	
				Cardiac disease.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complications that occurred during acute illness(check all that apply): <input type="checkbox"/> Pneumonia/ARDS <input type="checkbox"/> Secondary bacterial pneumonia <input type="checkbox"/> Bronchiolitis <input type="checkbox"/> Encephalitis/encephalopathy <input type="checkbox"/> Myocarditis <input type="checkbox"/> Sepsis/Multi-Organ Failure <input type="checkbox"/> Other Specify: _____				Chronic pulmonary disorder (e.g. asthma, cystic fibrosis)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Immunosuppression (e.g. HIV, malignancy) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Died? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Date of death: _____				Metabolic disorder (e.g. diabetes mellitus, renal)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Developmental delay.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If Yes for any of the above, please specify in Remarks section.				Long-term aspirin therapy.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Steroids by mouth/injection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Cancer chemotherapy.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Radiation therapy.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Pregnancy.....If Yes, specify # of weeks _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Other conditions.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Specify: _____			



**DIAGNOSTIC TESTS**

**Laboratory studies:**

Chest X-ray:  Positive  Negative  Not done Findings: \_\_\_\_\_  
 Other pertinent labs (LFTs, MRI/CT, etc.), if available. \_\_\_\_\_

Previous Influenza/Microbiology testing:

Type of microbiology test (check all that apply)	Collection date	Influenza result
<input type="checkbox"/> PCR		<input type="checkbox"/> Influenza A non-typable <input type="checkbox"/> Influenza A typable <input type="checkbox"/> Influenza B <input type="checkbox"/> Neg
<input type="checkbox"/> Viral Culture		<input type="checkbox"/> Influenza A <input type="checkbox"/> Influenza B <input type="checkbox"/> Negative
<input type="checkbox"/> Rapid Influenza Test (EIA)		<input type="checkbox"/> Influenza A <input type="checkbox"/> Influenza B <input type="checkbox"/> Influenza A/B <input type="checkbox"/> Neg
<input type="checkbox"/> IFA/DFA		<input type="checkbox"/> Influenza A <input type="checkbox"/> Influenza B <input type="checkbox"/> Neg
<input type="checkbox"/> Other: Specify. _____		

Other viral/bacterial pathogens detected? :  Yes\*  No  Unk

If yes\*, specify source:  Sputum  ET asp  BAL  Pleural Fluid  Blood  Other, specify:  
 \_\_\_\_\_

If yes\*, specify pathogen:  
 \_\_\_\_\_

Blood culture:  Positive\*  Negative  Not done

If Positive\*,

pathogen: \_\_\_\_\_

Respiratory culture:  Positive\*  Negative  Not done

If Positive\*, specify specimen (n-p swab/wash, o-p swab, ET aspirate, sputum, BAL, pleural fluid) and pathogen: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Other micro results: \_\_\_\_\_

**REMARKS**

**CONTACT INFORMATION** Date of Report: \_\_\_\_\_

Physician/Infection Preventionist Name	Facility	Pager/Phone number ( )	E-mail address
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To report a case, fax this form to: Los Angeles County Department of Public Health  
 Acute Communicable Disease Control Phone 213-240-7941 Fax 213-482-4856

## Suspect Swine Influenza (H1N1)—Specimen Submittal Form

### Specimen Collection and Submittal Instructions

Specimens should be collected within the first 24-72 hours of onset of symptoms and no later than 5 days after onset of symptoms. Personnel collecting clinical specimens should wear an N95 respirator, goggles, disposable gown, and disposable gloves.

#### **Respiratory Specimens:**

- Each specimen should be labeled with: date of collection, specimen type, and patient name.
- At a minimum, collect a nasopharyngeal sample using a dacron-tipped swab (nasopharyngeal wash or nasopharyngeal aspirate are also acceptable). Oropharyngeal (throat) swabs are acceptable, but may not have as high yield. If oropharyngeal specimens are collected, they should be accompanied by a specimen from the nasopharynx. Place the swabs in a standard container with 2-3 ml of viral transport media (VTM). Only liquid based transport media is acceptable. Gel-based transport media are not acceptable.
- If the patient is hospitalized with pneumonia, specimens from the lower respiratory tract (e.g., tracheal aspirate, bronchoalveolar lavage) should also be obtained.

#### **Sera:**

- For cases or contacts of cases with confirmed swine influenza, collect as much blood as possible (recommended volumes 3- 10 cc from children and 10-20 cc from adults) in a serum separator tube (red top or tiger top). If possible, spin to separate sera before packaging.

#### **Specimen Storage and Shipment:**

- The specimens should be kept refrigerated at 4°C and sent on cold packs if they can be received by the laboratory within five days of the date collected. If samples cannot be received by the laboratory within five days, they should be frozen at -70 °C or below and shipped on dry ice. Specimens should be shipped per usual protocol to:

**Los Angeles County Public Health Laboratory, Attn: Virology, 12750 Erickson Ave., Downey, CA 90242-3456**  
**For courier assistance please call (562) 658-1341 or (562) 658-1460**

**Please DON'T send specimens on Friday or weekends unless special arrangements have been made with the lab.**

Patient's last name, first name				Patient's mailing address (including Zip code)		Route to: [ ] PCR [ ] ISOL [ ] FA
Age	DOB:	Sex (circle): M    F	Onset Date:	COUNTY: _____		
Disease suspected <u>or</u> test requested - <b>Check one:</b> [ ] Influenza    [ ] other rhespiratory virus						
<b>1<sup>st</sup></b>	Specimen type and/or specimen source		Date Collected	<b>1<sup>st</sup></b>		
<b>2<sup>nd</sup></b>	Specimen type and/or specimen source		Date Collected	<b>2<sup>nd</sup></b>		
Type or print submitter's complete mailing address				Sue Sabet, Ph.D; Dipl.ABMM Los Angeles County Public Health Laboratory 2750 Erickson Avenue Downey, California 90242-3456 Phone (562) 658-1333      Fax (562) 401-5994		
<b>Local Laboratory Results:</b>						
Was this specimen tested by a rapid antigen test? [ ] Yes [ ] No      If yes, result: [ ] Pos [ ] Neg						
Was this specimen typed as Influenza A? [ ] Yes [ ] No      If yes, was subtype identified? [ ] Yes [ ] No						
<i>If this sample can not be subtyped, please alert LAC-PHL by sending an e-mail to <a href="mailto:ssabet@ph.lacounty.gov">ssabet@ph.lacounty.gov</a></i>						
Epidemiologic and Clinical Information (Please attach clinic/hospital notes and laboratory data)						

**Submitting Physician:** \_\_\_\_\_ **Phone#** (\_\_\_\_) \_\_\_\_\_

**Submitting Facility:** \_\_\_\_\_ **Fax#** (\_\_\_\_) \_\_\_\_\_

### **Infectious Period**

Persons with influenza A H1N1 (swine flu) virus infection should be considered potentially contagious for up to 7 days following illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered potentially contagious until symptoms have resolved. Children, especially younger children, might be contagious for longer periods. The duration of infectiousness might vary by swine influenza A (H1N1) virus strain. Non-hospitalized ill persons who are a confirmed or suspected case of swine influenza A (H1N1) virus infection are recommended to stay at home (voluntary isolation) for at least the first 7 days after illness onset except to seek medical care.

### **Infection Control of Ill Persons in a Healthcare Setting**

Standard, Droplet and Contact precautions should be used for all patient care activities, and maintained for 7 days after illness onset or until symptoms have resolved. Maintain adherence to hand hygiene by washing with soap and water or using hand sanitizer immediately after removing gloves and other equipment and after any contact with respiratory secretions.

Personnel providing care to or collecting clinical specimens from patients with acute respiratory illness should wear disposable non-sterile gloves, gowns, and eye protection (e.g., goggles) to prevent conjunctival exposure.

The ill person should wear a surgical mask when inside a healthcare facility and may expose others, and should be encouraged to wash hands frequently and follow [respiratory hygiene practices](#). Cups and other utensils used by the ill person should be washed with soap and water before use by other persons. Routine cleaning and disinfection strategies used during influenza seasons can be applied to the environmental management of swine influenza. More information can be found at [http://www.cdc.gov/ncidod/dhqp/gl\\_environinfection.html](http://www.cdc.gov/ncidod/dhqp/gl_environinfection.html).

**Masks and respirators:** Until additional, specific information is available regarding the behavior of this swine influenza A (H1N1), the guidance in the October 2006 "Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Healthcare Settings during an Influenza Pandemic"

<http://www.pandemicflu.gov/plan/healthcare/maskguidancehc.html>,<sup>1</sup> should be used. These interim recommendations will be updated as additional information becomes available.

Interim recommendations:

- Personnel engaged in aerosol generating activities (e.g., collection of clinical specimens, endotracheal intubation, nebulizer treatment, bronchoscopy, and resuscitation involving emergency intubation or cardiac pulmonary resuscitation) for suspected or confirmed swine influenza A (H1N1) cases should wear a fit-tested disposable N95 respirator.\*
- Pending clarification of transmission patterns for this virus, personnel providing direct patient care for suspected or confirmed swine influenza A (H1N1) cases should wear a fit-tested disposable N95 respirator when entering the patient room.

\*Respirator use should be in the context of a complete respiratory protection program in accordance with Occupational Safety and Health Administration (OSHA) regulations. Information on respiratory protection programs and fit test procedures can be accessed at [www.osha.gov/SLTC/etools/respiratory](http://www.osha.gov/SLTC/etools/respiratory). Staff should be medically cleared, fit-tested, and trained for respirator use, including: proper fit-testing and use of respirators, safe removal and disposal, and medical contraindications to respirator use.

Additional information on N95 respirators and other types of respirators may be found at:

<http://www.cdc.gov/niosh/npptl/topics/respirators/factsheets/respfact.html>, and at [www.fda.gov/cdrh/ppe/masksrespirators.html](http://www.fda.gov/cdrh/ppe/masksrespirators.html)<sup>2</sup>.

For any questions please call Acute Communicable Disease Control at 213-240-7941.