



HEALTH ALERT

Thursday, July 23, 2009

To: Alameda County Health Care Providers and Clinical Administrators

From: Alameda County Public Health Department (ACPHD), Division of Communicable Disease Control and Prevention

main line 510-267-3250 • fax 510-268-2111 • after-hours communicable disease emergency line 925-422-7595

UPDATED ANTIVIRAL RECOMMENDATIONS FOR NOVEL INFLUENZA A H1N1 INFECTIONS (PANDEMIC H1N1 2009)

On July 22, 2009, the California Department of Public Health (CDPH) released a Health Alert Update for healthcare providers and clinicians on antiviral recommendations for Pandemic H1N1 2009 virus infections. (See attachment)

We concur with those recommendations. The new CDPH antiviral treatment and chemoprophylaxis recommendations replace those antiviral recommendations listed in our Alameda County *Guidance for Novel H1N1 Influenza Infections (Pandemic H1N1 2009)*, dated July 20, 2009. (Also, attached)

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.



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Director

State of California—Health and Human Services Agency
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**Pandemic (H1N1) 2009
Health Alert Update for Healthcare Providers and Clinicians
July 22, 2009**

This Health Alert Update for Providers addresses **Pandemic (H1N1) 2009** lessons learned and provides guidance for clinicians. Please note the name change from **novel influenza A (H1N1)** in keeping with the World Health Organization's nomenclature.

A. Summary of Interim Guidance on Antiviral Recommendations for Pandemic (H1N1) 2009 Virus Infection

The following is a summary of recommendations from the California Department of Public Health (CDPH) for the use of antiviral medications to treat or prevent pandemic (H1N1) 2009 virus infections (referred to below as H1N1). A complete revised guidance will be forthcoming.

CDPH recommends the selective use of oseltamivir or zanamivir to reduce severe disease and mortality caused by H1N1 virus infection while delaying development of drug resistance. Resistance to oseltamivir has occurred after its use in chemoprophylaxis but currently is sufficiently rare that either oseltamivir or zanamivir is recommended for treatment or chemoprophylaxis.

Persons at higher risk for severe H1N1 virus infection have:

- Underlying medical conditions associated with severe seasonal influenza; **OR**
- A Body Mass Index (BMI) ≥ 35 (very obese).

Antiviral treatment for five days is recommended:

- For cases who:
 - Are hospitalized; **OR**
 - Are at a higher risk for severe influenza; **OR**
 - Have pneumonia.
- For suspect cases in the categories above:
 - Treatment is recommended until any PCR testing for influenza is negative; **OR**
 - Testing for diseases other than influenza is positive, also considering the possibility of co-infection.

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- Prompt treatment is optimal, but beginning treatment more than 48 hours after onset of symptoms may still be beneficial and is also recommended.
- Higher (e.g., double) doses and extended (e.g., up to 10 days) courses of treatment should be considered for patients:
 - Requiring intensive care; **OR**
 - At higher risk (e.g., BMI >35) and either hospitalized or with pneumonia. Outpatients at higher risk should be monitored closely for pneumonia.

Antiviral chemoprophylaxis *for up to ten days after last exposure* can be considered for:

- Persons who are at high-risk for severe influenza and have been close (e.g., household) contacts of a confirmed, probable or suspect case.
- Healthcare workers or public health workers who were not using appropriate personal protective equipment during close contact with an infectious patient, co-worker, or household contact.
 - Most of these exposures can be prevented by using recommended infection control measures for healthcare settings.
(See “Infection Control” section of CDPH webpage for H1N1:
<http://www.cdph.ca.gov/HealthInfo/discond/Pages/SwineInfluenzaHealthPr os.aspx>)
- Patients at high risk for severe influenza who have had close contact with an infectious healthcare worker or patient who is a confirmed or probable case.

These recommendations also apply to most educational, residential, and correctional facilities. However, antiviral treatment and prophylaxis of residents and employees are recommended during outbreaks of confirmed H1N1 virus infection in nursing homes and other facilities where persons at high risk of severe influenza receive medical care or reside for longer stays (e.g., intensive care or transplant units).

Liberal use of antiviral prophylaxis for patients who are not in a category for whom it is currently recommended may increase the risk for development of antiviral resistance and is not recommended.

B. H1N1 Lessons Learned and Clinician Considerations

- Asthmatic patients with H1N1 infection may present with what appears to be an asthma exacerbation rather than an ILI.
- Rapid influenza test results should not be relied upon to identify patients who are not infected with H1N1.
 - At this time, data suggest that up to 50% of infected people may have negative rapid test results.

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- Patients at higher risk of influenza complications who present with ILI should receive antiviral treatment even if their rapid influenza test results are negative.
- CDPH continues to test isolates of the H1N1 virus for antiviral resistance. Guidance will be modified as needed to reflect changes in viral resistance.



HEALTH ALERT

Monday, July 20, 2009

GUIDANCE ON NOVEL INFLUENZA A H1N1 INFECTIONS (2009 PANDEMIC INFLUENZA)

EXECUTIVE SUMMARY

NEW INFORMATION SINCE LAST HEALTH ALERT

- Novel influenza A H1N1 virus (henceforth referred to as 'novel H1N1') is now the predominant circulating influenza virus in California.
- In Alameda County, 138 people have been confirmed to have and 18 probably have novel H1N1 infection, with 5 deaths.
- Change in focus on who should be tested and case reporting for novel influenza A H1N1 influenza. Concur with CDPH.
- Change in infection control recommendations from Airborne to Standard and Droplet precautions, unlike CDC & CPDH.
- WHO Pandemic Phase remains at Phase 6, a Pandemic.

CURRENT PUBLIC HEALTH GOALS

Surveillance Goals (ongoing)

- Identify severe disease and contribute information to better understand risk factors for complications
- Identify cases in long-term care and large group institutions¹
- Identify outbreaks² of cases

Disease Control Goals (ongoing)

- Slow spread, especially within large group institutional settings
- Encourage healthy habits in the general population to reduce transmission

SUMMARY OF ACTIONS REQUESTED OF HEALTHCARE PROVIDERS (See attached full Guidance for details)

1. Surveillance

- a. **Suspect** influenza in patients with acute febrile respiratory illness or community acquired pneumonia. Do NOT use rapid influenza antigen tests to rule-out influenza as they may be only 60-80% sensitive.
- b. **Laboratory Testing: Submit respiratory specimens for Influenza PCR testing only from patients with** influenza-like illness (ILI)³ (temperature $\geq 37.8^{\circ}\text{C}$ (100°F) and a cough and/or sore throat) or influenza A by a rapid diagnostic test AND who have died, been hospitalized in intensive care units (ICUs), or part of an outbreak in an institutional setting (first cases only need to be tested).
- c. **Report the above patients, including non-ICU hospitalized,** to our Acute Communicable Disease Control Unit by phone (510) 267-3250 or by fax (510) 268-2140. Report forms are available at www.acphd.org/H1N1/clinicians.htm.

2. Disease Control

- a. **Treat** patients who have febrile influenza-like illness, including those with presumed community acquired pneumonia, that are hospitalized and/or at high risk for complications from influenza with antiviral medication.
- b. **Provide prophylaxis** to close contacts⁴ of novel H1N1 cases.
- c. **Implement Standard and Droplet precautions.**
- d. **Provide** guidance about home care of persons with influenza. (See CDPH Guidance for [Taking Care of a Sick Person](#)).

¹ **Institutions** include facilities with household-like living arrangements (e.g., long-term care facility, dormitory, jail, shelter and group residential home) and facilities where people gather for significant amounts of time (e.g., daycare, school, university, and other types of campuses, etc.).

² **Outbreak**, for purposes of this document only, is defined as a greater-than-expected proportion of people from the same institution or setting with influenza-like illness who have illness onsets within 3 days.

³ **Influenza-like illness** is defined as fever ($>37.8^{\circ}\text{C}$ or 100°F) and cough and/or sore throat.

⁴ **Close contact** to an ill person is defined as having cared for or lived with an ill person, or having been in a setting where there was a high likelihood of contact with respiratory droplets and/or body fluids of an ill person. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, physical examination, or any other contact between persons likely to result in exposure to respiratory droplets. Close contact typically does not include activities such as walking by an infected person or sitting across from a symptomatic patient in a waiting room or office.



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GUIDANCE FOR NOVEL INFLUENZA A H1N1 INFECTIONS (PANDEMIC H1N1 2009)

Public Health is responsible for monitoring and interpreting disease trends (surveillance) and providing jurisdiction-specific guidance to healthcare providers and the public in order to reduce disease transmission (disease control – prevention and treatment).

Surveillance Goals (ongoing)

- Identify severe disease and contribute information to better understand risk factors for complications
- Identify cases in long-term care and large group institutions¹
- Identify outbreaks² of cases

Disease Control Goals (ongoing)

- Slow spread, especially within large group institutional settings
- Encourage healthy habits in the general population to reduce transmission

BRIEF SITUATION UPDATE (updated July 20, 2009)

Novel influenza A H1N1 virus (henceforth referred to as 'novel H1N1') is now the predominant circulating influenza virus in California. Although our understanding of this virus (previously referred to as the 'swine flu' virus) is evolving, the method of transmission, symptoms and severity appear to be similar to seasonal flu, which are mild³ to moderate⁴ for most people. However, **unlike seasonal influenza**, the majority of reported cases of novel H1N1 to date have been individuals under 35 years of age and the **median age of people hospitalized with severe⁵ illness is 26 years.** Severely ill cases are now being increasingly detected,

potentially because of an increase in the total number of novel H1N1 cases and the focus on testing of severely ill cases.

Although many cases have been mild to moderate in severity and resolved without treatment, we have to remember that this virus is new in humans and there is a possibility that we could start seeing an increased frequency of severe illness and/or death from novel H1N1 infection, which would change our recommendations. Therefore, at this time, our focus is on identifying hospitalized or fatal cases or outbreaks in large group institutional settings.

ACTIONS REQUESTED OF HEALTHCARE PROVIDERS

(updated July 20, 2009)

1. **Surveillance**

- a. **Suspect** influenza in patients with acute febrile respiratory illness or community acquired pneumonia. Do NOT use rapid influenza antigen tests to rule-out influenza as they may be only 60-80% sensitive.
- b. **Laboratory Testing: Submit respiratory specimens for Influenza PCR testing only from the following patients** (specimens not meeting these criteria will not be tested):
 - i. Patients with influenza-like illness (ILI) (temperature $\geq 37.8^{\circ}\text{C}$ (100°F) and a cough and/or sore throat) **or** with influenza A as determined by a rapid diagnostic test **AND** who also meet at least one of the following criteria:
 - Died
 - Hospitalized in intensive care units (ICUs)
 - Part of an outbreak in an institutional⁴ setting (first cases only will be tested)

Specimens must be sent on cold packs within 5 days of collection to the *Alameda County Public Health Laboratory* at 499 – 5th Street, 4th Floor, Oakland, California 94607, Monday through Friday, 8:30am to 5:00pm, for submission to the State

¹ **Institutions** include facilities with household-like living arrangements (e.g., long-term care facility, dormitory, jail, shelter and group residential home) and facilities where people gather for significant amounts of time (e.g., daycare, school, university, and other types of campuses, etc.).

² **Outbreak**, for purposes of this document only, is defined as a greater-than-expected proportion of people from the same institution or setting with influenza-like illness who have illness onsets within 3 days.

³ **Mild**: sore throat, low grade fever, mild cough, does not look clinically ill.

⁴ **Moderate**: cough, fever, myalgias, sore throat, but not short of breath, does not require hospitalization.

⁵ **Severe**: cardiopulmonary distress or instability, shortness of breath or requires hospitalization.



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Laboratory. For more specimen collection/submission instructions go to: <http://www.acphd.org/H1N1>.

For Influenza sentinel surveillance providers (as designated by contract with the State) should continue to test as per the usual protocol.

- c. **Report the above patients, including non-ICU hospitalized**, to our Acute Communicable Disease Control Unit by phone (510) 267-3250 or by fax (510) 268-2140. Report forms are below and available at www.acphd.org/H1N1/clinicians.htm.

2. Disease Control

- a. **Treat** patients who have febrile influenza-like illness, including those with presumed community acquired pneumonia, AND are hospitalized and/or are at high risk for complications with antiviral medication as described below. This should be done regardless of the length of time since illness onset and with a pending diagnosis.
- b. **Provide prophylaxis** to certain close contacts⁶ of novel H1N1 cases, as described below.
- c. **Implement** infection control precautions as described below. Provide masks for patients with cough upon arrival.
- d. **Provide** guidance about home care of persons with influenza. CDPH guidance is available at <http://www.cdph.ca.gov/HealthInfo/discond/Documents/Takingcareofasickperson.pdf>.

SURVEILLANCE (updated July 20, 2009)

- **Epidemiology of Novel Influenza A H1N1 Infections**
As of July 17, 2009, in Alameda County, 138 people have been confirmed to have and 18 probably have novel H1N1 infection. Of these people, five have died. See Table 1 for more details.

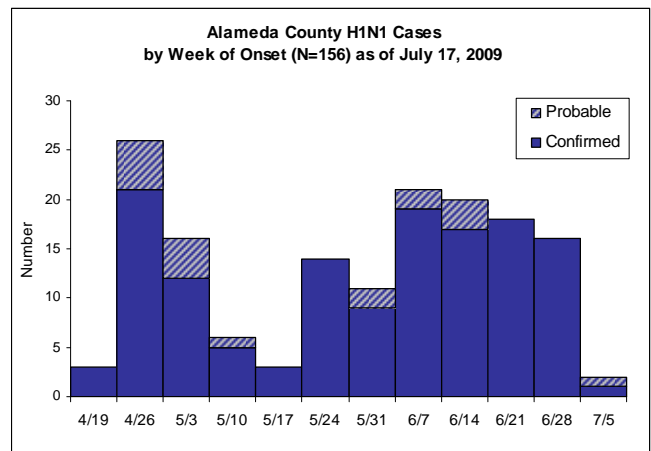
As of July 17, 2009, 40,617 confirmed and probable cases of novel H1N1 and 263 deaths have been identified in the United States, including American Samoa, Guam, Puerto Rico and the Virgin Islands. In California, as of July 16, 3,168 cases (2,655 confirmed, 513 probable) in 49 local health jurisdictions with 441 hospitalizations and 55 deaths have been identified.

The majority of reported cases to date have been individuals under 35 years of age. In recent weeks, the

⁶ **Close contact** to an ill person is defined as having cared for or lived with an ill person, or having been in a setting where there was a high likelihood of contact with respiratory droplets and/or body fluids of an ill person. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, physical examination, or any other contact between persons likely to result in exposure to respiratory droplets. Close contact typically does not include activities such as walking by an infected person or sitting across from a symptomatic patient in a waiting room or office.

Table 1: Characteristics of Alameda County Novel H1N1 Cases, N=156*, as of July 17, 2009

		Number	%
Total		156	100
Gender	Female	77	49.4
	Male	79	50.6
Age	<5 years	11	7.1
	5-19 years	64	41.7
	20-39 years	48	30.8
	40-59 years	30	19.2
	>=60 years	2	1.3
	Mean Age	24.6 Years	
Median Age	20.5 Years		
Age Range	0 - 67 Years		



median age of new reported cases has increased, probably reflecting current testing and reporting recommendations for hospitalized cases. The median age of hospitalized cases (26 years) is older than the median age for cases overall (17 years).

• **Laboratory Testing**

Due to the correlation between ‘unsubtypeable’ influenza results at local labs and confirmatory testing for novel H1N1 virus at the state lab (VDRL), California Department of Public Health (CDPH) is not recommending that all ‘unsubtypeable’ influenza specimens from local public health laboratories be forwarded to the VRDL for final confirmation.

As mentioned above, our current focus is on identifying hospitalized or fatal cases or outbreaks in high-risk institutional settings.

Rapid flu testing has poor sensitivity and specificity, and rapid flu testing results should not be relied upon to rule-



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out novel H1N1 infection.

- **Case Definitions for Infection with Novel H1N1**

Confirmed case: a person with an acute febrile respiratory illness with laboratory confirmed novel influenza A H1N1 virus infection by one or more of the following tests:

1. Real-time polymerase chain reaction (RT-PCR)
2. Viral culture

Probable case: a person with an acute febrile respiratory illness who is positive for influenza A, but negative for H1 and H3 by influenza RT-PCR.

Suspected case: Due to the widespread prevalence of novel H1N1 throughout California, any patient with an acute febrile respiratory illness.

DISEASE CONTROL (updated July 20, 2009)

- **Infection Control Recommendations**

All healthcare facilities, including private offices, clinics, and hospitals, should, at a minimum, use *Standard and Droplet Precautions* when caring for all patients with acute febrile respiratory illness (defined as temperature $\geq 37.8^{\circ}\text{C}$ (100°F) plus one or more of the following: rhinorrhea or nasal congestion; sore throat; cough).⁷ Some facilities may opt to use Airborne Precautions for novel influenza A H1N1 based on internal recommendations.

To prevent the transmission of **all** respiratory infections in healthcare settings, including novel H1N1, facilities should establish mechanisms to screen people for signs and symptoms of influenza-like illness at the first point of contact and to remind them to use respiratory etiquette and cough hygiene (see CDC's Guidance on [Respiratory Hygiene/Cough Etiquette in Healthcare Settings](http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm) at www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm). Some suggested mechanisms include

- Posting visual alerts instructing all persons to report symptoms of acute respiratory febrile illness at the first point of contact.

⁷ There are currently differences of opinion among various global, national, state and local public health and professional organizations regarding the scientific basis for recommendations about the level of protection required to prevent novel influenza A H1N1 transmission in health care settings. This topic is under discussion at the national level and several studies on transmission and the duration of infectiousness are reportedly under way. Due to evidence that novel influenza A H1N1 is comparable to seasonal influenza in its spectrum of illness and transmission pattern and does not appear to be causing unusual mortality compared to seasonal influenza, ACPHD now recommends that infection control measures for novel influenza A H1N1 be similar to those taken for seasonal influenza, with caveats regarding aerosol-generating procedures noted in this document. This recommendation differs from current CDC guidance. However, it is consistent with the most current scientific evidence available and is consistent with recommendations promulgated by the World Health Organization and several other state and local health departments.

- Using separated waiting areas for those with ILI, if possible.
- Providing and asking symptomatic persons to wear a surgical mask.
- Offering tissues.
- Providing a waste disposal container.
- Instructing persons to utilize hand hygiene.
- Ensuring that supplies for hand hygiene are available; soap and clean paper towels where sinks are located or dispensers of alcohol-based hand sanitizers.
- Establishing provisions to room and assess these patients promptly.

Confirmed, probable and suspected novel H1N1 virus patients may be placed in a single room, or cohorted with other similarly infected patients, and do not necessarily require a negative pressure room.

Airborne precautions should be employed for all aerosol-generating diagnostic and treatment procedures.

A shift from standard and droplet precautions to airborne precautions for novel H1N1 should be considered if and when the novel H1N1 virus becomes more virulent, i.e. shifts from producing predominantly mild illness to moderate or severe illness.

- **Vaccination**

At this time, there is no approved novel H1N1 vaccine, however, it is expected that one may become available this fall/winter.

Ensure that patients recommended to receive pneumococcal vaccine are up-to-date.

- **Treatment of Novel Influenza A H1N1 Infections**

Because testing is limited, most cases of novel influenza A H1N1 will not be formally diagnosed. Distinguishing between seasonal and novel H1N1 does not alter the appropriate care of patients with influenza-like illness. Most novel H1N1 flu cases in the US have been mild and have not required antiviral treatment.

Therefore, antiviral treatment is not specifically indicated unless the case is hospitalized OR at high risk for complications of influenza, as with seasonal influenza.

People at high risk for influenza 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 long-term care facilities
- Persons younger than 19 years of age and receiving long-term aspirin therapy
- Persons with the following conditions:

- Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematologic (including sickle cell disease), or metabolic disorders (including diabetes)
- Immunosuppression, including that caused by medications or HIV infection
- Any condition that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration (e.g., cognitive dysfunction, spinal cord injuries, severe seizure disorders, or other neuromuscular disorders)
- **Obesity (BMI > 30)** (appears to be a risk factor based on preliminary data)

Early empiric antiviral treatment is strongly recommended for all hospitalized patients with acute febrile respiratory illness, including hospitalized patients with presumed community acquired pneumonia. Antiviral treatment is generally for 5 days.

Some experts are recommending, based upon concerns about the potential for lower oseltamivir absorption, double-dosing of oseltamivir (150 mg twice daily) in hospitalized and/or obese patients (BMI > 30) and extending treatment duration to a total of 10 days. No comparative studies have assessed the effectiveness of higher doses or extended treatment.

See Table 2 for antiviral resistance from US influenza isolates.

See Table 3 for recommended antiviral treatment based on rapid influenza diagnostic test results.

See Table 4 for antiviral dosing recommendations for adults and children.

- **Post-exposure Prophylaxis**

Recommended for:

- People who are at high risk for complications of influenza and have been household close contacts of ill persons with confirmed, probable or highly suspected influenza
- People who are at high risk for complications of influenza and have been close contact with an infectious healthcare worker or patient with confirmed, probable or highly suspected influenza
- Healthcare workers who were not using personal protective equipment during close contact with a confirmed or probable case of novel H1N1 virus during the infectious period of that case (from 1 day before until 7 days after symptoms began)
- Employees and residents of a long-term care or large group institutions experiencing an outbreak of novel H1N1 virus

Duration of antiviral post-exposure prophylaxis is for 10

days following the last known exposure to a case of influenza.

Post-exposure prophylaxis is not necessary if the exposure occurred more than 7 days earlier.

COMMUNICATION (updated July 20, 2009)

- **Health Alerts**

Questions regarding the content of this health alert should be directed to the ACPHD Acute Communicable Disease Control Unit at (510) 267-3250.

Health alerts will be issued as needed as new information becomes available or recommendations change.

- **Plans for the Upcoming Flu Season**

Some time in August or September 2009, we plan to have a healthcare provider conference call to answer questions related to planning efforts, surveillance, clinical guidance, health alerts, novel H1N1 situation updates, and resource coordination. Announcements and conference call information will be made via California Health Alert Network (CAHAN).

Local health departments have been asked to continue planning for the distribution of a novel H1N1 specific vaccine during the winter. Currently, there is no approved novel influenza A H1N1 vaccine.

- **CDPH Novel Influenza A H1N1 virus (Swine Flu) Hotline**

The California Department of Public Health **toll-free H1N1 (Swine-Origin Influenza) hotline** in English and Spanish is available, from 8a to 5p daily, to answer general questions from the public. Assistance in other languages is also available. The phone number is **1-888-865-0564**.

RESOURCE COORDINATION (updated July 20, 2009)

All healthcare facilities should develop or review their medical surge, pandemic and infection control plans, evaluate their use of personal protective equipment (PPE) for infection control during the emergence of novel H1N1, and plan accordingly to stockpile additional supplies and PPE, including antiviral medications for prophylaxis of staff, to support these plans. **Promote vaccination of your staff!**

ADDITIONAL RESOURCES

ACPHD Updates: <http://www.acphd.org/H1N1>

CDPH Updates:

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

CDPH Facts and Information for the Public:

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

CDC Case Definitions:

http://www.cdc.gov/flu/swine/casedef_swineflu.htm

CDC Updates:

<http://www.cdc.gov/flu/swine/investigation.htm>



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Table 2: Antiviral Resistance 2008-2009, US Influenza Isolates*, as of July 7, 2009.

	Zanamivir	Oseltamivir	Adamantanes
Novel Influenza A H1N1 (Swine) (as of April 25, 2009) [†]	S	S	R
Influenza A H1N1 (Seasonal)	S	R	S
Influenza A H3N2 (Seasonal)	S	S	R
Influenza B (Seasonal)	S	S	Not active

S= sensitive, R= resistant

* Modified from CDC's table with interim results of antiviral resistance testing performed on influenza viruses tested by CDC for the 2008-09 influenza season, including Novel H1N1 tests from April 25, 2009.

(<http://www.cdc.gov/flu/professionals/antivirals/dosagetable.htm#table>)

[†] Of note, as of July 8, 2009, three novel H1N1 cases, one from US, have been identified to have Oseltamivir resistance. We will continue to monitor the situation and change these recommendations as needed.

Table 3: Recommended antiviral drug(s) based on results of rapid diagnostic tests*

Rapid Diagnostic Test Result	Single Drug Option
Not done or negative, but clinical suspicion for flu	Oseltamivir or Zanamivir
Positive: Influenza A	Oseltamivir or Zanamivir
Positive: Cannot distinguish Influenza A vs. B	Oseltamivir or Zanamivir
Positive: Influenza B	Oseltamivir or Zanamivir

* Modified from CDC Interim Recommendations for the Selection of Antiviral Treatment Using Laboratory Test Results and Viral Surveillance Data, United States (www.cdc.gov/flu/professionals/antivirals/antiviraltable.htm).

Table 4: Recommended doses of antiviral drugs for adults and children¹

Agent	Treatment Dose X 5 days	Prophylaxis Dose X 10 days after last known exposure ²
Zanamivir (Adults; Children age > 5 years) ³	10 mg (two 5mg inhalations) BID	10 mg (two 5mg inhalations) QD
Oseltamivir (Adults; Children > 40 kg)	75 mg BID	75 mg QD
Oseltamivir (Children age >12 months) < 15 kg	30 mg BID	30 mg QD
16-23 kg	45 mg BID	45 mg QD
24-40 kg	60 mg BID	60 mg QD
Oseltamivir (Children <12 months) Age 6-11months	25 mg BID	25 mg QD
Age 3-5 months	20 mg BID	20 mg QD
Age <3 months	12 mg BID	Not recommended ⁴

1. Modified from Table in CDC Interim Guidance on Antiviral Recommendations for Patients with Novel Influenza A H1N1 Virus Infection and their Close Contacts (www.cdc.gov/h1n1flu/recommendations.htm).
2. Duration of antiviral prophylaxis for outbreaks is for a minimum of two weeks. If new cases continue to appear, duration may be extended.
3. Zanamivir is approved for treatment in children >7 years old and for prophylaxis in children >5 years old
4. Due to limited data in this age group, oseltamivir is not recommended for prophylaxis for children <3 months old unless the situation is judged critical. If deemed critical, the recommended dosage is 12 mg QD x 10 days after last exposure.

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Health UPDATE: provides updated information regarding an incident or situation; unlikely to require immediate action.



Pandemic (H1N1) 2009 Case History Form (Hospitalized and Fatal Cases)

Case definition: 1) a clinical syndrome consistent with influenza or its complications; 2) either probable or confirmed pandemic (H1N1) by laboratory testing; and 3) been either hospitalized OR expired at any location (e.g. hospital, ER, home, etc)

LHD _____ Case Status: Probable Confirmed CDPH Case ID: CA _____

Last name _____ First name _____ DOB ____/____/____ Sex: Female Male

Street Address: _____ City _____ Zip Code _____

Race: White Black Native American Asian/PI Other Unknown Ethnicity: Hispanic Non-Hispanic

Date onset of symptom(s): ____/____/____

Level of medical care (check all that apply):

- Outpatient clinic ER Inpatient Ward
- ICU None Medical Record # _____

If hospitalized, Date of admission: ____/____/____
Date of discharge: ____/____/____

Weight _____ Height _____ BMI: _____

Symptoms that occurred during the current illness:

- Fever $\geq 38^\circ$ Cough Sore throat Rhinorrhea
- Chills Nausea/vomiting Diarrhea Muscle aches
- Shortness of breath Altered mental status Seizures
- Other; specify _____

Complications that occurred during the acute illness:

- Pneumonia/ARDS Bronchiolitis
- 2⁺ bacterial pneumonia Encephalitis/encephalopathy
- Myocarditis Sepsis/Multi-organ Failure
- Other, specify _____

Significant Past Medical History (check all that apply)

- Cardiac disease Yes No Unk
- Chronic pulmonary disorder Yes No Unk
- Immunosuppressed (e.g. HIV, cancer): Yes No Unk
- Metabolic disorder (e.g. DM, renal) Yes No Unk
- Neuromuscular disorder (e.g., seizure disorder, developmental delay/MR, hypoxic encephalopathy, etc) Yes No Unk
- Hemoglobinopathy (e.g. SCD): Yes No Unk
- Long-term aspirin therapy: Yes No Unk
- Genetic disorder (e.g. Downs,) Yes No Unk
- Immunosuppressive meds (e.g. steroids): Yes No Unk
- Prematurity: Yes No Unk *If yes, #weeks gestation: _____*
- Gastrointestinal disease (e.g. GE reflux) Yes No Unk
- Pregnant: Yes No Unk *If yes, EDC: _____*
- Obesity Yes No Unk
- Other conditions: Yes No Unk

If YES for **any** of the above, please specify:

Recent travel? Yes No *If yes, where: _____*

Recent ill contacts: Yes No *If yes, who: _____*

Health care worker? Yes No Unk

Vaccination Status

Vaccinated for influenza this season (≥ 14 days prior to onset)?

Yes No Unk *If yes, number of doses: One Two*

Vaccinated for influenza in prior seasons? Yes No Unk

Diagnostic/Laboratory Studies

CBC: Hct _____ Plt _____ WBC _____

Chest X-ray: Pos Neg Not done
Findings: _____

Lumbar puncture: Pos Neg Not done
Findings: _____

Other pertinent labs (LFTs, MRI/CT, etc.) _____

Microbiologic Tests [attach copy of microbiology reports]

Rapid test done: Yes No Unk *If yes: Pos Neg*

Was influenza diagnosed by other methods (check all that apply)

IFA/DFA PCR Viral culture Other: _____

Rapid RSV test result Pos Neg Not done

Influenza PCR result Unsubtypeable Pandemic (H1N1)

Laboratory name: _____

Other viral/bacterial pathogens detected? Yes No Unk

If yes, specify source: Sputum ET asp BAL

Pleural fluid Blood Other _____

If yes, specify pathogen: _____

Other micro results: _____

Clinical course

Antivirals (if any), type and dates started:

_____/_____/____

If hospitalized, intubated? Yes No Unk

Died: Yes No *If yes, date of death ____/____/____*

Hospital Contact Name: _____

Hospital: _____

Phone/Pgr: _____ E-mail: _____

LHD Contact Name: _____

Phone/Pgr: _____ E-mail: _____

Please forward any available medical records (e.g. H & P, micro reports, discharge summary, autopsy report). Please contact the Alameda County Public Health Department to report these cases ASAP so that we can assist with collection and shipment of specimens for further laboratory characterization.

TO REPORT A CASE, PLEASE CONTACT ALAMEDA COUNTY PUBLIC HEALTH DEPARTMENT ACUTE COMMUNICABLE DISEASE UNIT AT (510) 267-3250 AND FAX THIS FORM TO: (510) 268-2111.