



Health Alert: Swine Influenza – Situation in Boston and Initial Recommendations

Summary: Human cases of swine influenza A (H1N1) infection have been identified in the United States and internationally. At this time, no cases have been identified in Massachusetts; the Boston Public Health Commission (BPHC) is working closely with state and federal health officials to increase surveillance and will continue to monitor the situation closely. This alert provides initial guidelines and recommendations for health care providers regarding diagnosis, infection control, treatment, and prevention of swine influenza. Please note that all suspect cases of swine influenza A (H1N1) infection (as defined below) diagnosed in Boston must be reported immediately to the Boston Public Health Commission at (617) 534-5611.

INTRODUCTION

This Health Alert provides information regarding the ongoing investigation of swine influenza A (H1N1) infections being conducted by the Centers for Disease Control and Prevention (CDC) as well as initial guidance for healthcare providers in the city of Boston. Because this is a rapidly evolving situation, this guidance should be considered interim and will be updated frequently. The following information is current as of 12:00 pm on April 27, 2009.

BACKGROUND & EPIDEMIOLOGY

Swine flu is a respiratory infection caused by influenza type A that regularly causes outbreaks of influenza in pigs. People do not normally get swine flu, but human infections can occur. Human cases typically involve people who have had direct contact with pigs, but person-to-person transmission is suspected among recent confirmed cases.

At this time, human cases of swine influenza A (H1N1) infection have been identified in the United States and internationally. At present, no cases have been identified in Massachusetts, however the Boston Public Health Commission (BPHC) is working closely with state and federal health officials to increase surveillance and will continue to monitor the situation closely.

SYMPTOMS, DIAGNOSIS, AND REPORTING OF CASES

The symptoms of swine flu in people are similar to normal human seasonal influenza and include fever, cough, headache, runny nose, lack of appetite, myalgias, lethargy, and sometimes vomiting and diarrhea. Conjunctivitis has been reported, but is not common. Like seasonal flu, swine flu may worsen underlying chronic medical conditions and predispose to complicating bacterial infection.

Clinicians should consider swine influenza infection in the differential diagnosis of patients with acute febrile respiratory illness who have either been in contact with persons with confirmed swine flu, or who traveled to an area where there are confirmed cases of swine influenza A (H1N1) infection within the 7 days prior to onset of illness. As of April 26th, confirmed cases have been identified in 5 U.S. states (California, Kansas, New York, Ohio and Texas) as well as Mexico. Case counts are updated daily by CDC and available at <http://www.cdc.gov/swineflu/investigation.htm>.

For the purposes of surveillance, the following case definitions have been developed by CDC:

- A **confirmed** case of swine influenza A (H1N1) is defined as a person with an acute respiratory illness with laboratory confirmation of swine influenza A virus infection done by the CDC.
- A **probable** case of swine influenza A (H1N1) is defined as a person with an acute respiratory illness with an influenza test that is positive for influenza A, but H1 and H3 negative.
- A **suspected** case of swine influenza A (H1N1) is defined as:
 - A person with an acute respiratory illness who was a close contact to a confirmed case of swine influenza A (H1N1) virus infection while the case was ill OR
 - A person with an acute respiratory illness who has traveled to an area where there are confirmed cases of swine influenza A (H1N1) within 7 days of suspect case's illness onset.

COLLECTION OF CLINICAL SPECIMENS

Clinicians who suspect swine influenza virus infections in humans should contact the Massachusetts Department of Public Health at 617-983-6800 (available 24/7) to arrange specimen testing and transportation to the William A. Hinton State Laboratory Institute (HSLI). Specimen collection guidelines are as follows:

- Collect 2 nasopharyngeal (NP) swabs using a flexible fine shafted aluminum swab with a polyester tip (Dacron or rayon or cotton; no wooden shaft swabs). Place them in 2-3 ml of viral transport media. [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 ideally no later than 5 days after onset of symptoms, but can be collected later.
- The specimens should be kept refrigerated at 4°C and sent on cold packs if they can be received by HSLI within five days of the collection date. If samples will be received by the HSLI in five or more days from collection, they should be frozen at -70 °C or below and shipped on dry ice. Be sure to completely fill out a state laboratory specimen submission form with each specimen and make sure the tubes are labeled. The HSLI specimen submission form can be found at: http://www.mass.gov/Eeohhs2/docs/dph/laboratory_sciences/general_submission_form.pdf
- Personal protective measures should be taken by medical personnel caring for, or obtaining specimens from, patients being tested for influenza or who have suspected probable or

confirmed swine influenza. See Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H1N1) Virus Infection in a Healthcare Setting:

http://www.cdc.gov/swineflu/guidelines_infection_control.htm

For updated information for laboratory workers, see Swine Influenza A (H1N1) Virus Biosafety Guidelines for Laboratory Workers: http://www.cdc.gov/swineflu/guidelines_labworkers.htm.

Little data are available on the use of rapid testing for swine influenza, and these tests should not be used to rule out swine influenza infection at this point.

REPORTING OF CASES TO BPHC

Any suspected cases of *swine influenza A (H1N1) virus infection* diagnosed in Boston should be reported to the Boston Public Health Commission immediately at (617) 534-5611. In addition, any clusters of febrile respiratory illness in Boston should be reported immediately. Reporting forms and additional information for health care providers and for laboratories are available at:

www.bphc.org/cdc.

RECOMMENDATIONS FOR TREATMENT AND PROPHYLAXIS

At this time, CDC recommends the use of oseltamivir or zanamivir for the treatment and prophylaxis of infection with swine influenza viruses. The H1N1 viruses are resistant to amantadine and rimantadine. It is not anticipated that the seasonal influenza vaccine will provide protection against the swine flu H1N1 viruses. Recommendations for use of antivirals may change as data on antiviral susceptibilities and response to treatment becomes available.

Treatment

Antiviral treatment is *recommended* for confirmed cases and any ill person suspected to have swine influenza A (H1N1) virus infection.

- Antiviral treatment is recommended with either zanamivir alone, or a combination of oseltamivir and either amantadine or rimantadine if infection is with an influenza A virus and further identification is pending. Treatment should be initiated as soon as possible after the onset of symptoms and continue for 5 days.
- Antiviral doses and schedules recommended for treatment of swine influenza A (H1N1) virus infection are the same as those recommended for seasonal influenza.

Chemoprophylaxis

- Chemoprophylaxis should be *considered* for some close contacts who have *conditions that place them at increased risk of the complications of influenza* for 7 days after last known exposure to a *confirmed* case of swine influenza. Pre- and post -exposure prophylaxis can be considered for some non-high risk persons who travel to or are first responders in areas with confirmed cases.

See CDC's Interim Guidance on Antiviral Recommendations for Patients with Confirmed or Suspected Swine Influenza A and their Home Contacts is available at:

<http://www.cdc.gov/swineflu/recommendations.htm>

GUIDELINES FOR INFECTION CONTROL

Instruct patients to call ahead if they are experiencing symptoms suggestive of swine influenza and other respiratory illness so that the proper precautions can be taken. If possible have them come in at the beginning or end of the day and escort them to an exam room.

Surgical masks should be placed on patients with respiratory symptoms presenting at health care facilities, and other appropriate respiratory precautions and hand hygiene should be used.

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. Airborne precautions are also recommended in certain circumstances. Interim guidance on Infection Control in a Health Care Setting and Diagnostic Testing can be found at: http://www.cdc.gov/swineflu/guidelines_infection_control.htm

PREVENTION

Even though there have been no cases identified in Massachusetts up to now, there are steps that everyone can take to help prevent getting or spreading any type of influenza:

- Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hand cleaners are also effective.
- Practice good "cough etiquette" by coughing or sneezing into a tissue, or into your elbow instead of into your hands.
- Try to avoid close contact with sick people.
- If you get sick, stay home from work or school and limit contact with others to avoid infecting them.

STAYING AT HOME

Persons with febrile respiratory illness should stay home from work or school to avoid spreading any respiratory infections to others in their community. In addition, contacts of confirmed and probable cases should also stay home as described below. Frequent hand washing can lessen the spread of respiratory illness.

- Those with swine influenza who are stable can and should be cared for at home. CDC's Interim Guidance for Swine influenza A (H1N1): Taking Care of a Sick Person in Your Home is available at http://www.cdc.gov/swineflu/guidance_homecare.htm. See also Flu: What You Can Do at: http://www.mass.gov/Eeohhs2/docs/dph/cdc/flu/flu_care_booklet.pdf

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- Non-hospitalized ill persons who are a confirmed or suspected case of swine influenza A (H1N1) virus infection should **stay at home** (voluntary isolation) for at least 7 days after onset of illness or until 24 hours after resolution of respiratory symptoms.
- People who have swine flu, who are cared for at home, should:
 - check with their health care provider about any special care they might need if they are pregnant or have a health condition such as diabetes, heart disease, asthma, or emphysema
 - check with their health care provider about whether they should take antiviral medications
 - stay home for 7 days after the start of illness
 - get plenty of rest
 - drink clear fluids (such as water, broth, sports drinks, electrolyte beverages for infants) to keep from becoming dehydrated
 - cover coughs and sneezes
 - clean hands with soap and water or an alcohol-based hand rub often and especially after using tissues and after coughing or sneezing into hands.
 - avoid close contact with others – do not go to work or school while ill
 - be watchful for emergency warning signs (see below) that might indicate you need to seek medical attention

Get medical care right away if the sick person:

- has difficulty breathing or chest pain
- has purple or blue discoloration of the lips
- is vomiting and unable to keep liquids down
- has signs of dehydration such as dizziness when standing, absence of urination; or in infants, a lack of tears when they cry
- has seizures (for example, uncontrolled convulsions) is less responsive than normal or becomes confused

ADDITIONAL RESOURCES AND GUIDELINES

Centers for Disease Control and Prevention: <http://www.cdc.gov/swineflu/>

CDC Guidance for Healthcare Professionals: <http://www.cdc.gov/swineflu/guidance/>

Massachusetts Department of Public Health: www.mass.gov/dph

Boston Public Health Commission: www.bphc.org