

**New Jersey Department of Health and Senior Services**  
**Surveillance and Testing for Swine Influenza A (H1N1) in Humans**  
Protocol for Healthcare Providers and Local Health Departments

**Keys steps in case screening for swine influenza H1N1**

- 1. Identify if the case meets current SURVEILLANCE CRITERIA**
- 2. Ensure appropriate REPORTING of suspect case**
- 3. Ensure appropriate CONTROL MEASURES are implemented**
- 4. Ensure appropriate SPECIMEN COLLECTION AND TRANSPORT**

**SURVEILLANCE CRITERIA for swine influenza (H1N1) infection:**

**NJDHSS is asking that clinicians report any ill person meeting the following clinical and epidemiologic criteria:**

- Illness which is clinically compatible with swine influenza. Symptoms can include influenza-like illness (fever, cough, sore throat), mild respiratory illness (nasal congestion, rhinorrhea) with or without fever, vomiting, diarrhea, myalgia, headache, chills, fatigue, dyspnea and conjunctivitis.
- Has had at least one potential exposure within 10 days of symptom onset as listed below:
  - A.) History of travel to an area where swine influenza H1N1 documented in animals and/or humans (i.e., California, Texas); **OR**
  - B.) History of travel to an areas where other severe respiratory infections have been identified (i.e., Mexico); **OR**
  - C.) Close contact (within 6 feet) of an ill patient who was confirmed or suspected to have swine influenza; **OR**
  - D.) Close contact (within 6 feet) of a ill patient who has traveled to one of the areas above; **OR**
  - E.) Recent exposure to pigs; **OR**
  - F.) Works with live influenza virus in a laboratory.

Providers are reminded to test for other common respiratory pathogens that may be causing illness in the patient (e.g., seasonal influenza, RSV).

**REPORTING and AVIAN INFLUENZA SCREENING FORM**

**Healthcare Providers**

Cases meeting the above surveillance criteria should be reported **IMMEDIATELY** to the local health department (LHD) where the patient resides. If LHD personnel are unavailable, healthcare providers should report the case to the New Jersey Department of Health and Senior Services Communicable Disease Service (CDS) at 609-588-7500, Monday through Friday 8:00 AM - 5:00 PM. On weekends, evenings and holidays, CDS can be reached at (609) 392-2020.

No specimen will be tested by the New Jersey Division of Public Health and Environmental Laboratories (PHEL) until the case has been reviewed by the CDS. NOTE: If PHEL receives a specimen without CDS review and approval number, PHEL will hold the specimen and contact CDS. Preliminary and final results will be relayed to the submitting physician via telephone as soon as they are available. PHEL will mail a hard copy to the submitter of the final results when available.

### **Local Health Departments**

When a local health department receives a report of a suspect case of swine influenza in a human, the protocols contained within this document for screening, treatment, and collection of lab specimens should be followed. Information should be communicated **IMMEDIATELY** to the CDS at 609-588-7500, Monday through Friday 8:00 AM - 5:00 PM. On weekends, evenings and holidays, CDS can be reached at (609) 392-2020.

## **CONTROL MEASURES**

### **RECOMMENDATIONS FOR PUBLIC HEALTH PERSONNEL**

For interviews of healthy individuals (i.e. without a current respiratory illness), including close contacts of cases of confirmed swine influenza virus (SIV) infection, no personal protective equipment or antiviral chemoprophylaxis is needed. See section on antiviral chemoprophylaxis for further guidance.

For interviews of an ill, suspected or confirmed SIV case, the following is recommended:

1. Keep a distance of at least 6 feet from the ill person; or
2. Personal protective equipment: fit-tested N95 respirator [if unavailable, wear a medical (surgical mask)].

For collecting respiratory specimens from an ill confirmed or suspected SIV case, the following is recommended:

1. Personal protective equipment: fit-tested disposable N95 respirator [if unavailable, wear a medical (surgical mask)], disposable gloves, gown, and goggles.
2. When completed, place all PPE in a biohazard bag for appropriate disposal.
3. Wash hands thoroughly with soap and water or alcohol-based hand gel.

### **RECOMMENDATIONS FOR CLINICIANS**

#### **Infection Control**

Recommended Infection Control for a non-hospitalized patient (ER, clinic or home visit):

1. Separation from others in single room if available until asymptomatic. If the ill person needs to move to another part of the house, they should wear a mask. The ill person should be encouraged to wash hands frequently and follow respiratory hygiene practices.

Cups and other utensils used by the ill person should be thoroughly washed with soap and water before use by other persons.

Recommended Infection Control for a *hospitalized* patient:

1. Standard, Droplet and Contact precautions for 7 days after illness onset or until symptoms have resolved.
2. In addition, personnel should wear N95 respirators when entering the patient room.
3. Use an airborne infection isolation room (AIIR) with negative pressure air handling, if available; otherwise use a single patient room with the door kept closed.
4. For suctioning, bronchoscopy, or intubation, use a procedure room with negative pressure air handling.

Recommended PPE for personnel providing clinical care to *ill individuals*:

1. Disposable gown, gloves, goggles, N95 respirator.

### **Antiviral Treatment**

Antiviral treatment for confirmed or suspected ill case of swine influenza virus infection may include either oseltamivir or zanamivir, with no preference given at this time. Recommendations for use of antivirals may change as data on antiviral susceptibilities become available.

Initiate treatment as soon as possible after the onset of symptoms.

### **Oseltamivir:**

1. The treatment dosing recommendation for children who weigh 15 kg or less is 30 mg twice a day. For children who weigh more than 15 kg and up to 23 kg, the dose is 45 mg twice a day. For children who weigh more than 23 kg and up to 40 kg, the dose is 60 mg twice a day. For children who weigh more than 40 kg, the dose is 75 mg twice a day.
2. For ages 13 years and older: 75mg twice a day for five days

**Zanamivir** is an alternative for treatment of influenza in patients aged 7 years and older; dosage varies by age. This drug is not approved for treatment of influenza in children aged <7 years. It is an orally inhaled drug that is administered using a disk inhaler device twice a day for five days.

1. The treatment dosing recommendation for persons aged 7 years and older is 2 inhalations twice a day for five days (2 inhalations of 5mg each twice a day for five days)

### **Antiviral Chemoprophylaxis**

Antiviral chemoprophylaxis (pre-exposure or post-exposure) can be considered for close contacts of a confirmed or highly suspected case of swine influenza virus infection.

Close contact is defined as: within about 6 feet of an ill person who is a confirmed case of swine influenza A virus infection (e.g. post-exposure chemoprophylaxis following unprotected close exposure).

Duration of antiviral chemoprophylaxis is 7 days after the last known exposure

**Oseltamivir:** Administered by mouth once a day for seven days following the last known exposure; dosage varies by age and weight for children aged 1 year to 12 years (available in suspension, 30mg, 45mg, 75mg capsules)

1. The chemoprophylaxis dosing recommendation for children who weigh less than 15 kg is 30 mg once a day. For those who weigh more than 15 kg and up to 23 kg, the dose is 45 mg once a day. For children who weigh more than 23 kg and up to 40 kg, the dose is 60 mg once a day. For children who weigh more than 40 kg, the dose is 75 mg once a day.
2. For ages 13 years and older: 75 mg once a day for seven days

**Zanamivir** is an alternative for chemoprophylaxis for patients aged 5 years and older; dosage varies by age. It is an orally inhaled drug that is administered using a disk inhaler device.

1. Dosing is 2 oral inhalations once a day for seven days (2 inhalations of 5mg each once a day for seven days)

### **Follow-up Monitoring of Exposed Close Contacts**

Close contacts are defined as persons who were within about 6 feet of the confirmed swine influenza case while the case was ill up to 7 days after the case's illness onset. Examples include household members, social contacts, public health care workers, medical health care workers, and others.

1. Close contacts should be monitored daily for fever (temp  $\geq 38.0$  °C) and/or any respiratory symptoms up to 7 days following the last known exposure to an ill person who is a confirmed case of swine influenza virus infection.
2. Close contacts of an ill person who is a confirmed case of swine influenza virus infection should be educated about the signs and symptoms of swine influenza virus infection and advised to contact public health staff if fever or feverishness or any respiratory tract symptoms occur up to 7 days following the last known exposure to the ill case.

### **COLLECTION AND TRANSPORT OF CLINICAL SPECIMENS for Patients Who Meet H1N1 Surveillance Criteria:**

PHEL has the ability to conduct PCR for novel influenza A viruses. Preliminary results can be obtained within a few hours after the specimen is received at PHEL. Confirmatory testing (i.e., viral culture) can only be performed by the Centers for Disease Control and Prevention and may take several days. The timeframe in which testing is conducted will be determined on a case-by-case basis. No specimen will be tested by PHEL until the case has been reviewed by the CDS. NOTE: If PHEL receives a specimen without CDS review and approval number, PHEL will hold the specimen and contact CDS.

### **General Considerations**

- Appropriate infection control procedures should be followed when collecting samples. This information can be found in the control measures, precautions in healthcare facilities section.
- Detection of H1N1 is more likely from specimens collected within the first 3 days of illness onset.
- Nasal or nasopharyngeal swab specimens are acceptable.
- Samples should be collected from multiple sites to improve diagnostic sensitivity.

## Collection

The following samples should be obtained:

### A. Nasopharyngeal (NP) and oropharyngeal (OP) swab

- Collect specimen with a sterile Dacron/nylon swab with a non-wooden shaft (do NOT use calcium alginate swabs or swabs with wooden sticks).
- For NP swab, insert swab into each nostril parallel to the palate and leave in place for a few seconds to absorb secretions. Swab both nostrils.
- For OP swab, swab the posterior pharynx and tonsillar areas, avoiding the tongue.
- Place swab immediately into sterile vials containing 2 ml of viral transport media.
- Label each specimen container with patient's FIRST AND LAST NAME, date of birth, medical record number, date of collection, specimen type and CDS approval number.
- Place specimen vial onto ice or in refrigerator prior to and during transport. Do not freeze.

### B. Nasopharyngeal wash/aspirates

- Have the patient sit with head tilted slightly backward.
- Instill 1ml-1.5ml of nonbacteriostatic saline (pH 7.0) into one nostril.
- Insert the tubing into the nostril parallel to the palate.
- Aspirate nasopharyngeal secretions. Repeat this procedure for the other nostril.
- Rinse the catheter into viral transport medium (syringe or bulb) or aspirate viral transport media through catheter into collection trap.
- Label specimen container with patient's FIRST AND LAST NAME, date of birth, medical record number, date of collection, specimen type and CDS approval number.
- Place specimen vial onto ice or in refrigerator prior to and during transport. Do not freeze.

### C. Bronchoalveolar lavage or tracheal aspirate

- During bronchoalveolar lavage or tracheal aspirate, use a double-tube system to maximize shielding from oropharyngeal secretions.
- Centrifuge half of the specimen, and fix the cell pellet in formalin. Place the remaining unspun fluid in sterile vials with external caps and internal O-ring seals. If there is no internal O-ring seal, then seal tightly with the available cap and secure with Parafilm®.

- Label specimen container with patient's FIRST AND LAST NAME, date of birth, medical record number, date of collection, specimen type and CDS approval number.
- Place specimen vial onto ice or in refrigerator prior to and during transport. Do not freeze.

#### D. Sputum

- Educate the patient about the difference between sputum and oral secretions.
- Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile screw-cap sputum collection cup or sterile dry container.
- Label specimen container with patient's FIRST AND LAST NAME, date of birth, medical record number, date of collection, specimen type and CDS approval number.
- Place specimen vial onto ice or in refrigerator prior to and during transport. Do not freeze.

#### E. Acute serum sample

- Collect 5-10 ml whole blood in a serum separator or red top tube. Allow the blood to clot, centrifuge briefly, and collect all resulting sera in vial with external caps and internal O-ring seals. Refrigerate at 4C.
- The minimum amount of serum needed for testing is 200 ml, which can easily be obtained from 5 ml of whole blood. A minimum of 1 cc of whole blood is needed for testing of pediatric patients. If possible, collect 1 cc in an EDTA tube and in a clotting tube. If only 1 cc can be obtained, use a clotting tube.
- Label specimen container with patient's FIRST AND LAST NAME, date of birth, medical record number, date of collection, specimen type and CDS approval number.

F. The SRD-1 form (available at <http://www.state.nj.us/health/forms/srd-1.pdf>) should be completely filled out for each specimen that is sent.

G. For fatal cases associated with possible avian influenza infection, autopsy and collection of appropriate postmortem specimens should be performed. Information on fatal cases should be communicated IMMEDIATELY to the CDS at 609-588-7500, Monday through Friday 8:00 AM - 5:00 PM. On weekends, evenings and holidays, CDS can be reached at (609) 392-2020.

### Shipping

Local health departments and hospitals will be asked to assist in transporting specimens to PHEL on initial reports of suspect H1N1 cases. Each report will be evaluated individually to determine the immediacy in which the specimen should be transported and tested.

Commercial carriers can be used to ship samples, which should be handled as Biologic Substance, Category B. Information on shipping regulations for these carriers can be found at [www.iata.org](http://www.iata.org) or [www.hazmat.dot.gov](http://www.hazmat.dot.gov).