

**New Jersey Department of Health**  
**Surveillance Criteria and Testing for Influenza A (H7N9) in Humans**

Protocol for Healthcare Providers and Local Health Departments  
May 7, 2013

**Key steps in case screening for novel influenza**

- 1. Confirm that the case meets current SURVEILLANCE CRITERIA**
- 2. Ensure implementation of CONTROL MEASURES**
- 3. Ensure COLLECTION OF SPECIMENS for diagnostic testing**
- 4. Ensure NOTIFICATION procedures are followed**
- 5. Ensure completion of the NOVEL INFLUENZA INVESTIGATION FORM**

The following definitions are for the purpose of investigations of confirmed and probable cases, and reports of novel influenza A (H7N9) virus infection under investigation.

**Case Definitions<sup>1</sup>**

**Confirmed Case:** A patient with novel influenza A (H7N9) virus infection that is confirmed by CDC's Influenza Laboratory or a CDC certified public health laboratory using methods agreed upon by CDC and CSTE.<sup>2</sup>

**Probable Case:** A patient with illness compatible with influenza for whom laboratory diagnostic testing is positive for influenza A, negative for H1, negative for H1pdm09, and negative for H3 by real-time reverse transcriptase polymerase chain reaction (RT-PCR), and therefore unsubtypeable.

**Report Under Investigation:** A patient with illness compatible with influenza meeting either of the following exposure criteria and for whom laboratory confirmation is not known or pending, or for whom test results do not provide a sufficient level of detail to confirm novel influenza A virus infection.

- A patient who has had recent contact (within  $\leq 10$  days of illness onset) with a confirmed or probable case of infection with novel influenza A (H7N9) virus.

**OR**

- A patient who has had recent travel (within  $\leq 10$  days of illness onset) to a country where human cases of novel influenza A (H7N9) virus have recently been detected<sup>3</sup> or where novel influenza A (H7N9) viruses are known to be circulating in animals.

<sup>1</sup> <http://www.cdc.gov/flu/avianflu/h7n9-case-definitions.htm> <sup>2</sup> Confirmation of all novel influenza A (H7N9) viruses will initially be performed by CDC's Influenza Laboratory. Once appropriate diagnostic testing methodology has been identified by CDC, confirmation may be made by public health laboratories following CDC-approved protocols for detection of novel influenza A (H7N9) virus, or by laboratories using an FDA-authorized test specific for detection of novel influenza A (H7N9) virus. <sup>3</sup> Countries that have recently reported novel influenza A (H7N9) human cases include: China.

Reports under investigation with severe respiratory illness (including radiographically-confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness) of unknown etiology may be prioritized for diagnostic testing.

## **REPORTING AND NOVEL 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 patient residence is unknown, report to your own local health department. Contact information for local health departments is available at: [www.localhealth.nj.gov](http://www.localhealth.nj.gov). If LHD personnel are unavailable, healthcare providers should report the case to the New Jersey Department of Health, Communicable Disease Service (CDS) at 609-826-5964, Monday through Friday 8:00 AM - 5:00 PM. On weekends, evenings and holidays, CDS can be reached at (609) 392-2020.

### **Local Health Departments**

When a local health department receives a report of a suspect case of novel influenza A (H7N9) 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 609-826-5964, Monday through Friday 8:00 AM - 5:00 PM. On weekends, evenings and holidays, CDS can be reached at (609) 392-2020.

The healthcare provider or local health department should complete the **NOVEL INFLUENZA A CASE SCREENING FORM** (please see last page of this document). Completed forms should be faxed to CDS at 609-826-5972. This form will be reviewed by CDS staff who will make the final determination if the case meets surveillance criteria and if a specimen is required for testing.

## **CONTROL MEASURES**

An interim guidance that provides recommendations for initial infection control in healthcare settings for confirmed, probable, or reports under investigation of novel influenza A(H7N9) virus infection can be found at <http://www.cdc.gov/flu/avianflu/h7n9-infection-control.htm>

These recommendations will be updated as additional information on H7N9, its transmissibility, epidemiology, available treatment, or vaccine options become available. These interim recommendations are based upon current available information and the following considerations:

- Lack of a safe and effective vaccine
- A suspected high rate of morbidity and mortality among infected patients
- Unknown potential for human to human transmission
- Absence of confirmed or probable H7N9 cases in the United States

This guidance recommends a higher level of infection control measures than for seasonal influenza. Among important differences from this seasonal influenza guidance are recommendations for contact and airborne precautions for patients with confirmed, probable, or a reports under investigation of H7N9 virus infection, which includes a higher level of personal protective equipment for healthcare personnel, including eye protection (i.e., required) and the expanded use of respirators (i.e., for all patient-care activities). For seasonal influenza, eye protection is not required in all instances and respirator use is recommended only during aerosol-generating procedures conducted on influenza patients.

Note that this interim guidance adds to existing infection control precautions (i.e., Standard Precautions) used every day in healthcare settings during the care of any patient. This interim guidance was developed by Centers for Disease Control and Prevention (CDC) subject matter experts, based on existing infection control guidelines, scientific evidence and expert opinion. After internal review at CDC, the document was reviewed by other relevant federal agencies.

### **COLLECTION AND TRANSPORT OF CLINICAL SPECIMENS for Patients Who Meet H7N9 Surveillance Criteria:**

The New Jersey Public Health and Environmental Laboratories (PHEL) has the ability to conduct PCR testing for influenza A unsubtypeable.

CDC has developed molecular diagnostic test to specifically detect the new avian influenza A (H7N9) virus found in China. Currently confirmatory testing on specimens positive for influenza A unsubtypeable can only be performed by the Centers for Disease Control and Prevention and may take several days. PHEL is currently validating the CDC provided H7N9 assay and should be able to conduct confirmatory testing in the near future. The timeframe in which testing is conducted by PHEL or CDC will be determined on a case-by-case basis. **No specimen will be tested by PHEL until the case has been reviewed and approved by the CDS staff.** NOTE: If PHEL receives a specimen without CDS review and approval, 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 H7N9 is more likely from specimens collected within the first 3 days of illness onset.

### **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 and specimen type.
- 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 and specimen type.
- 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 and specimen type.
- Place specimen vial onto ice or in refrigerator prior to and during transport. Do not freeze.

D. 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.

E. For fatal cases associated with possible novel influenza infection, autopsy and collection of appropriate postmortem specimens should be performed. Information on fatal cases should be communicated immediately to the CDS at 609-826-5964, Monday through Friday 8:00 AM - 5:00 PM. On weekends, evenings and holidays, CDS can be reached at (609) 392-2020.

## **Shipping**

CDS staff will carefully evaluate each report to determine the immediacy in which the specimen should be transported and tested. If CDS staff feels that immediate testing of the sample is warranted, the local health department and hospital will be asked to assist in transporting specimens to PHEL. In most cases CDS will ask the facility or LHD to hand carry specimens to PHEL on the same day the specimen was approved for testing. If CDS determines the case to be a low priority, 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).

## **REFERENCES**

CDC Information

<http://www.cdc.gov/flu/avianflu/h7n9-virus.htm>

Basic Information

<http://www.cdc.gov/flu/avianflu/h7n9-basic-information.htm>

Health Care Providers

<http://www.cdc.gov/flu/avianflu/h7n9-healthprofessionals.htm>

Travelers Health

<http://wwwnc.cdc.gov/travel/notices/watch/avian-flu-h7n9.htm>

### 2013 Novel Influenza A Case Screening Form

May be used by local health departments for report under investigation for possible human infection with novel influenza A viruses (e.g., variant H3N2v, avian H7N9). Please refer to case definitions for novel influenza A viruses for additional guidance.

<b>Reporting county:</b>		<b>Case residence county:</b>		<b>Case phone:</b>	
<b>Interviewer name:</b>		<b>Phone:</b>		<b>Email:</b>	
<b>Case name:</b>		<b>Parent/guardian name (for minors):</b>			
<b>Date of report: (mm/dd/yyyy):</b> ___/___/___		<input type="checkbox"/> <b>New report</b> <input type="checkbox"/> <b>Update to previous report</b>			
<b>Unique ID (e.g., CountyName_###, Clark_001):</b>			<b>Specimen ID:</b>		
<b>Indicate how case was identified</b> <input type="checkbox"/> Clinician notified health department <input type="checkbox"/> Unusual lab result <input type="checkbox"/> Ill traveler identified returning to US <input type="checkbox"/> Other: _____					
<b>Age:</b> _____ <input type="checkbox"/> Years <input type="checkbox"/> Months <b>If Age Unknown:</b> <input type="checkbox"/> Child <input type="checkbox"/> Adult <b>Sex:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown					
<b>Date of illness onset (mm/dd/yyyy):</b> ___/___/___		<b>Symptoms:</b> <input type="checkbox"/> Fever (≥100°F) <input type="checkbox"/> Cough <input type="checkbox"/> Sore Throat <input type="checkbox"/> Fatigue <input type="checkbox"/> Vomiting <input type="checkbox"/> Headache <input type="checkbox"/> Muscle aches <input type="checkbox"/> Red/draining eyes <input type="checkbox"/> Other: _____			
<b>Was person hospitalized for this illness?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, date of admission: (mm/dd/yyyy): ___/___/___			<b>Did person die as a result of this illness?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, date of death: (mm/dd/yyyy): ___/___/___		
<b>Did person have contact with <u>swine</u> in the 10 days prior to illness onset?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <i>Contact may be directly touching swine or walking through an area where swine are present. (If Yes, describe):</i>			<b>Did person have contact with <u>poultry/birds</u> in the 10 days prior to illness onset?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <i>Contact may be directly touching poultry/birds or walking through an area where poultry/birds are present. (If Yes, describe):</i>		
<b>Did person travel ≤ 10 days prior to illness to an area where confirmed cases of novel influenza A were reported?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown    If Yes, list destination and dates of travel (including date of return to US):					
<b>Did person attend an agricultural event (such as a fair or live animal market) ≤ 10 days prior to illness?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown    If Yes, list events and dates of attendance:					
<b>Did person have contact ≤ 10 days prior to illness with someone who had fever or respiratory illness?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown    If Yes, describe relationship and dates of contact:					
<b>Was this person tested for influenza?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <b>Test type:</b> <input type="checkbox"/> Rapid antigen <input type="checkbox"/> RT-PCR <input type="checkbox"/> Other <b>Test result:</b> <input type="checkbox"/> Influenza A <input type="checkbox"/> Influenza B <input type="checkbox"/> Influenza A/B (type not distinguished) <input type="checkbox"/> Negative <input type="checkbox"/> Other: _____					
<b>Specimen collection date (mm/dd/yyyy):</b> ___/___/___ <b>Has a specimen been sent to CDC?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No					
<b>What PPE did healthcare personnel use when caring for patient or obtaining specimens?</b> <input type="checkbox"/> N95 mask <input type="checkbox"/> Surgical mask <input type="checkbox"/> Eye protection <input type="checkbox"/> Gloves <input type="checkbox"/> Gown <input type="checkbox"/> None <input type="checkbox"/> Unknown					
<b>Is this person a contact of another CUI, or probable or confirmed case?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, Unique ID of the other case and nature of the relationship (e.g., Case is the sister of Clark_002):					

- For CUIs, arrange for nasopharyngeal (NP) swab collection and RT-PCR testing at a state public health laboratory.
- Patients with influenza-like illness should discuss possible antiviral treatment with a healthcare provider.
- Healthcare facilities should use appropriate isolation precautions for reports under investigation for infection with novel influenza A viruses. Non-hospitalized reports under investigation should stay home from school, work, and social gatherings until fever is gone for at least 24 hours without the use of fever-reducing medications.
- If this case is later determined to be a confirmed case of infection with novel influenza A, please notify CDC and complete the CDC *Human Infection with Novel Influenza A Virus Case Report Form*.