



MEMORANDUM

DATE: October 1, 2009

TO: Microbiology Laboratory Directors, Infection Preventionists, Primary Care Providers, Emergency Department Directors, Infectious Disease Physicians

FROM: Michael O.Vernon, DrPH, Director, Communicable Disease Control
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SUBJECT: Testing and Reporting Guidance for Influenza

A. Testing for 2009 H1N1 Influenza

The objectives of 2009 H1N1 influenza testing are to provide a) diagnoses for severely ill patients, b) information to guide infection control decisions, and c) information to protect populations at higher risk of complications from influenza infection.

1. Inpatient Testing

The Cook County Department of Public Health (CCDPH) recommends testing for novel 2009 H1N1 influenza when both of the following criteria are met:

- Patient has influenza-like illness (ILI- defined as fever of 100°F or greater PLUS cough and/or sore throat in the absence of a KNOWN cause other than influenza.) AND
- Patient is hospitalized

2. Outpatient Testing

Certain situations may require testing of outpatients so that appropriate infection control recommendations can be made or to protect populations at higher risk of complications from influenza infection. Examples include ILI among a group of healthcare workers or among children attending a daycare center. In order for the Illinois Department of Public Health (IDPH) laboratory to perform testing on outpatient samples, approval from the local health department on a case-by-case basis is required. Please call CCDPH at (708) 492-2150 to receive authorization for outpatient testing.

3. In-House Testing

In-house laboratory testing with a real time reverse transcriptase polymerase chain reaction (RT-PCR) assay capable of identifying influenza A hemagglutinin (H) proteins, is recommended. This information permits rapid implementation of infection control measures and informs timely treatment decisions for inpatients and for clusters of healthcare workers exhibiting signs and symptoms of ILI.

4. Rapid Antigen Tests

Rapid antigen tests, while convenient, lack specificity and sensitivity and are not reliable as a means of infection control and treatment decisions. A negative rapid test does not indicate lack of influenza infection. Further laboratory testing for hospitalized patients is necessary, regardless of the rapid antigen test result.

5. Testing by the State Laboratory

For hospitals without in-house testing capacity for influenza A RT-PCR, the IDPH Laboratory continues to provide testing on specimens meeting the criteria described above.

Confirmation of 2009 H1N1 influenza A still requires an additional RT-PCR assay performed at the IDPH laboratory. Hospitals with in-house RT-PCR capability may submit “probable” specimens or isolates to the IDPH laboratory for confirmatory testing.

Please see Section F. Web Links, page 3 for links to the proper IDPH laboratory submission form and further specimen submission instructions.

Influenza specimen collection kits can be requested from the IDPH lab by calling (312) 793-4365. All specimens should be received by the IDPH lab before 4:00 PM, Monday through Friday.

B. Case-based Reporting of 2009 H1N1 Influenza

The objectives of 2009 H1N1 influenza reporting are to a) monitor severe morbidity and mortality, and b) identify populations experiencing severe disease to monitor for epidemiological changes.

1. Reportable Conditions/Events

CCDPH requires that hospitals report the following conditions/events:

- (i) All hospitalizations (**≥24 hours**) and deaths due to **confirmed or probable** 2009 H1N1 influenza. (See Section E. Definitions, page 3).
- (ii) Pediatric deaths with illness that is clinically compatible with influenza for which there is any positive influenza test.¹ This includes pediatric deaths due to 2009 H1N1 as well as pediatric deaths due to seasonal influenza.

2. I-NEDSS Reporting

- (i) Case reports should be entered in I-NEDSS as soon as possible, preferably **within 24 hours**. If you are unable to enter the case report within 24 hours, please notify CCDPH (708) 492-2150 as soon as possible, during business hours.

¹ Rapid antigen test, DFA, IFA, culture, or PCR

- (ii) Please make sure the variables outlined in **Appendix I** (page 4) are completed in I-NEDSS before sending the case report to CCDPH.
- (iii) Hospitalized patients that are suspect 2009 H1N1 influenza cases do not need to be entered into I-NEDSS. Hospitals are to report 2009 H1N1 cases at the time that the case is determined to be probable or confirmed. For example, if a hospitalized patient tests positive for influenza A on a rapid test but has a specimen submitted for influenza RT-PCR test at the IDPH laboratory, report the patient only when the result of the IDPH RT-PCR is available.

C. Reporting Clusters of Influenza-Like Illness

Until further notice, clusters of three or more patients with ILI during a one-week period in a long-term care facility, homeless shelter, prison or other congregate living facility should be reported immediately to CCDPH, (708) 492-2150 for consultation.

E. Definitions

1. Influenza-like illness

ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or sore throat in the absence of a KNOWN cause other than influenza.

2. RT-PCR

Real-time reverse transcriptase polymerase chain reaction.

3. Case

- (i) A **confirmed case** of 2009 H1N1 influenza virus infection is defined as a person with a influenza syndrome (typically a febrile respiratory syndrome) and laboratory confirmed 2009 H1N1 influenza virus infection by one or more of the following tests:
 - (a) RT-PCR
 - (b) Viral culture
- (ii) A **probable case** of 2009 H1N1 influenza virus infection is defined as a person with an influenza-syndrome (typically a febrile respiratory syndrome) who is positive for influenza A, but negative for human H1 and H3 by influenza RT-PCR.

F. IDPH Web Links for Laboratory Submission Information

- 1. Request for Respiratory/Influenza Lab Submission Form & Instructions:
 - a. http://www.idph.state.il.us/h1n1_flu/Flu_form_and_instructions_0090109.pdf
- 2. Instructions for Influenza Virus Specimen Submission:
 - a. http://www.idph.state.il.us/about/laboratories/Resp_Virus_Specimen_Sub.pdf

Appendix I: Variables Required in 2009 H1N1 Case-based Reporting

I-NEDSS information **required** by CCDPH to be completed for all hospitalized laboratory confirmed or probable 2009 H1N1 influenza cases:

I. Demographics

- a. Last and First Name
- b. Date of birth
- c. Sex
- d. Deceased and deceased date
- e. Race and Ethnicity
- f. Phone
- g. Address

II. General Illness

- a. Disease onset date
- b. Hospitalization
 - i. hospitalized – yes/no
 - ii. Hospital name
 - iii. Admission date
 - iv. Discharge date (please call the health department when the patient is discharged)
 - v. Duration of stay
- c. Is the patient pregnant?– Yes/No
- d. If the patient died, did the patient die due to the disease? Yes/No

III. Clinical Information

- a. Encephalitis – Yes/No
- b. Myocarditis (Infection of heart muscle) – Yes/No
- c. Seizures– Yes/No
- d. Bacteremia– Yes/No
- e. Multi-Organ Failure– Yes/No
- f. Reye Syndrome– Yes/No
- g. Pneumonia: – Yes/No
- h. If pneumonia is present, was the etiology *Streptococcus pneumoniae* – Yes/No
- i. Acute Respiratory Distress Syndrome (ARDS): – Yes/No
- j. Active Cardiac Disease (e.g. congestive heart failure) – Yes/No
- k. Chronic Lung Disease (e.g. COPD, emphysema, asthma, lung cancer) – Yes/No
- l. Diabetes– Yes/No
- m. End Stage Renal Disease (or dialysis): – Yes/No
- n. Hemoglobinopathy (e.g. sickle cell disease) – Yes/No
- o. Immunosuppression– Yes/No
- p. Is the patient a child (<18 years) on chronic aspirin therapy? – Yes/No

IV. Treatment and Immunizations

- a. ICU admission – Yes/No
- b. Was the patient on a ventilator? Yes/No
- c. Flu vaccination
- d. Antiviral medication (Date initiated, discontinued, drug)

V. Laboratory Tests

- a. Were laboratory tests conducted? Yes/No
- b. Was a chest X-ray or chest CAT scan performed: Yes/No
 - i. If yes, did patient have radiographic evidence of pneumonia or respiratory distress syndrome (RDS)? Yes/No
- c. Was any additional non-influenza respiratory pathogens detected? Yes/No
 - i. If yes, specify.
- d. Was there a diagnosis other than respiratory infection? Yes/No
 - i. If yes, specify.
- e. Specimen number.
- f. Specimen collection date.
- g. Laboratory.
- h. Ordering facility name.
- i. Lab report date.
- j. Test type: Influenza virus RNA
- k. Test method: Probe.Amplification.Target
- l. Test result: Influenza A (H1N1) RNA
- m. Comment: rRT-PCR H1N1 comment

VI. Epidemiologic Data

- a. Epi Comment – Please include reason for admission and any underlying medical condition. Please be specific, e.g. if the patient has a chronic lung disease specify if the patient has asthma, COPD, etc.