



2009 INFLUENZA A H1N1

Agent Overview:

2009 Influenza A (H1N1): A new circulating strain of influenza that is causing illness in people internationally. While the disease has resulted in deaths, most cases appear to be mild. It was originally referred to as "swine flu" because it appeared to be similar to a virus that circulates among North American pigs. After genetic analysis, it was determined that this virus is dissimilar to the virus found in North American pigs. It contains two genes from viruses found in pigs from Europe and Asia, as well as avian and human influenza genes.

On June 11, 2009, the World Health Organization (WHO) signaled that a global pandemic of 2009 Influenza A (H1N1) was underway by raising the worldwide pandemic alert level to Phase 6. This action was a reflection of the spread of the new H1N1 virus, not the severity of illness caused by the virus. At the time, more than 70 countries had reported cases of 2009 Influenza A (H1N1) infection and there were ongoing community level outbreaks of 2009 Influenza A (H1N1) in multiple parts of the world. There is a vaccine available for 2009 Influenza A (H1N1).

Lab Specimen Submittal:

Use the following criteria for sending specimens to the Delaware Public Health Laboratory (DPHL) for subtyping. DPHL is using the real time reverse transcriptase-polymerase chain reaction (rRT-PCR) assay that was developed by the U.S. Centers for Disease Control and Prevention (CDC) to test for the 2009 Influenza A H1. CDC has obtained an Emergency Use Authorization from the Food and Drug Administration (FDA) for use of this assay. Any specimens that DPHL is unable to subtype as seasonal influenza or 2009 Influenza A (H1N1) will be sent to CDC's Influenza Division for further diagnostic testing.

ONLY specimens to be submitted to the DPHL for influenza testing are those meeting the following criteria:

- Hospitalized patients with screen positive or culture-confirmed results, including ante mortem specimens from patients who have died from influenza-like illness;
- Hospitalized patients for whom influenza infection is clinically suspected despite a negative result on a rapid influenza diagnostic test.
- Patients presenting to healthcare providers participating in the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) who meet the surveillance case definition of influenza-like illness. Influenza-like Illness is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat in the absence of a KNOWN cause other than influenza.

The primary purpose of submitting a specimen to the DPHL per the above criteria is disease surveillance. Indications for testing for clinical purposes have been published by the Centers for Disease Control and Prevention (*Interim Recommendations for Clinical Use of Influenza Diagnostic Tests During the 2009-10 Influenza Season*). According to this guidance, patients who should be considered for influenza diagnostic testing include:

- Patients for whom a diagnosis of influenza will inform decisions regarding clinical care, infection control, or management of close contacts.
- Patients who died of an acute illness in which influenza was suspected.

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While most patients with clinical illness consistent with uncomplicated influenza do not require diagnostic influenza testing for clinical management, specimens tested for clinical purposes should be sent to a commercial laboratory.

Antiviral resistance testing may be available, on a case-by-case basis. DPHL will work with the CDC Emergency Operations Center to obtain clearance to submit appropriate specimens. For further information about influenza, call the Division of Public Health at 1-302-223-1520 or visit our website: <http://www.flu.delaware.gov>.

Case Definition for Infection with 2009 Influenza A (H1N1) Virus: **A confirmed case** is defined as a person with an influenza-like illness confirmed as 2009 Influenza A (H1N1) virus infection by laboratory testing using real-time reverse transcriptase Polymerase Chain Reaction or viral culture.

Probable Case Definition of 2009 Influenza A (H1N1) Virus: **A probable case** is defined as a person with an influenza-like illness who is positive for influenza A, but negative for H1 and H3 by rtRT-PCR.

Types of Specimens Necessary for Testing:

Call DPHL (302-223-1520) for laboratory testing information and to coordinate submission of specimens for analysis. SPECIMEN COLLECTION from hospitalized patients:

Clinical specimens for testing: nasopharyngeal washes, nasopharyngeal aspirates, and nasopharyngeal and oral pharyngeal swabs are the only acceptable, approved sources for specimens. For collection of a nasopharyngeal specimen, insert the swab into the posterior nasopharynx and rotate it gently. Contact time should be 10 seconds or at least until the patient coughs. Lower respiratory specimens such as Bronchial Lavage and Bronchial washes are expected to be approved soon.

To diagnose 2009 Influenza A H1N1 infection, a respiratory specimen would generally need to be collected within the first 4-5 days of illness (when an infected person is most likely to be shedding virus). However, some persons, especially children, may shed the virus for 10 days or longer.

Influenza virus detection kits for specimen collection are available from the DPHL. These kits contain a requisition form, 1 screw-capped tube with 2 ml. of sterile transport media and 1 flexible slender nasopharyngeal swab. Contact the DPHL at (302) 223-1520 to obtain specimen collection kits.

Packaging Instructions:

Pack collected clinical specimens in a sterile tube with viral transport media and place it in a refrigerator (not a freezer). Arrange for transportation of specimens at 4°C (on ice or in cool van) to the DPHL Virology Laboratory within 24 hours after collection. Avoid manipulation of specimens.

Receiving Specimens at DPHL:

DPHL couriers pick up specimens daily at designated locations throughout the state. Specimens are also accepted at the back of the building by the loading dock. Submitter must present ID and have proper forms completed.

Handling of Specimens:

Specimens must be kept at refrigerator temperature (in a cooler, but not frozen) until delivered to the laboratory.

Reporting Results:

Test results will be available within 48-72 hours from time of receipt, depending on the number of specimens received.

Contact Information:

Jane Getchell, DrPH, DPHL Director; or Christina Pleasanton, Deputy Director: 302-223-1520 (24/7 coverage). Visit the DPHL website (www.dhss.delaware.gov/dhss/dph/lab/labs.html) for locations of courier pick-up sites, specimen submission forms, and other information.

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