

Novel H1N1 Influenza Questions and Answers for Healthcare Providers October 5, 2009

Novel H1N1 influenza is a newly emerging virus and there is an ongoing intensive national and international investigation to characterize its clinical and epidemiologic features. Providers should monitor the New Mexico Department of Health (NMDOH) Health Alerts, available in the Information for Providers page of our website at <http://nmhealth.org/H1N1/provider.shtml> and check www.cdc.gov for updates as they become available. Please note that NMDOH guidance may differ from the Centers for Disease Control and Prevention (CDC) guidance and is subject to change as we learn more about this novel influenza virus.

1. What are the symptoms of novel H1N1 influenza?

Symptoms of novel H1N1 influenza in people are usually similar to those seen with seasonal human influenza and may include:

- Fever (greater than 100.0°F or 37.8°C)
- Cough
- Sore throat
- Fatigue -Headache or body aches
- Chills
- Stuffy or runny nose
- Diarrhea
- Vomiting

To date, the great majority of confirmed cases in the United States have had mild illness and have not required hospitalization, although deaths have been reported. Severe illness (e.g. pneumonia, ARDS and respiratory failure) and death have been reported in some suspected and confirmed novel H1N1 influenza hospitalized patients in the United States. Like seasonal flu, novel H1N1 influenza may be more severe in the context of a chronic underlying medical condition.

2. What conditions would put a patient at higher risk for more severe illness?

- Children younger than 2 years of age.
- Adults 65 years of age and older.
- Persons with the following conditions:
 - o Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), neurologic, neuromuscular, or metabolic disorders (including diabetes mellitus).
 - o Immunosuppression, including that caused by medications or by HIV.
 - o Pregnant women.
 - o Persons younger than 19 years of age who are receiving long-term aspirin therapy.
 - o Residents of nursing homes and other chronic-care facilities.

3. What is the incubation period of the novel H1N1 influenza?

The estimated incubation period could range from 1-7 days, but more likely 1-4 days.

4. How long does a person remain contagious with novel H1N1 influenza?

The infectious period for a confirmed case of novel H1N1 influenza is estimated to be from 1 day prior to the case's illness onset to 7 days after onset. Persons who continue to be ill longer than 7 days after illness onset should be considered potentially contagious until symptoms have resolved. Children, especially younger children, and immunocompromised patients might potentially be contagious for longer periods. All patients with mild influenza-like illness (ILI) should be advised to stay at home for until at least 24 hours following complete resolution of symptoms. For purposes of infection control in hospital settings, patients or staff with unexplained ILI should be assumed to be infectious for 7 days or until 24 hours after a fever breaks without using a fever-reducing medicine, whichever is longer.

5. Is the current seasonal influenza vaccine effective against the novel H1N1 influenza?

According to CDC, the current seasonal influenza vaccine probably does not provide protection against the novel H1N1 influenza. However, seasonal influenza is also circulating and could increase this fall and winter, so the general public should be encouraged to get the seasonal influenza vaccine.

6. Who should be reported to the NMDOH?

The Health Department is prioritizing its surveillance efforts and laboratory testing resources for hospitalized cases of novel H1N1 influenza to promptly identify severe cases and better define the spectrum of illness. Please report any hospitalized patient with ILI. Providers are asked not to report individual patients with mild ILI.

7. How is NMDOH conducting surveillance for H1N1 influenza?

The NMDOH influenza surveillance system for the 2009/2010 influenza season consists of the following components:

- Sentinel provider surveillance (25 clinic sites statewide)
- Laboratory surveillance (33 laboratory sites statewide)
- Influenza hospitalization surveillance (all New Mexico hospitals)
- Confirmed influenza hospitalization research through the Emerging Infections Program (6 New Mexico counties accounting for greater than 50 percent of the state's population)
- Pneumonia and influenza death surveillance through the Office of the Medical Investigator and the Bureau of Vital Records and Health Statistics

8. How much of the influenza circulating in New Mexico at this time is H1N1?

Data collected by NMDOH indicates that H1N1 influenza is continuing to circulate throughout New Mexico. Since June of this year, 100 percent of recent influenza A specimens tested at NMDOH Scientific Laboratory Division (SLD) have been the novel H1N1 influenza.

9. Who should be tested for influenza?

Testing for influenza, by commercially available rapid testing (Enzyme Immunoassay (EIA), Direct Fluorescent Antibody (DFA) or Polymerase Chain Reaction (PCR)), can help inform decisions regarding antiviral treatment for management of patients with ILI. Current recommendations for testing patients with ILI are similar to those for seasonal influenza.

Testing for influenza is strongly recommended for patients who:

- Are hospitalized or are being admitted to the hospital with acute febrile respiratory illness, including ILI, pneumonia, ARDS or respiratory distress
- Develop unexplained acute febrile respiratory illness more than 48 hours after hospital admission suggesting possible nosocomial infection

Testing for influenza should also be *considered* for the following patients with ILI:

- Outpatients who are at high risk for complications from influenza
- All patients who are household contacts of persons who are at high risk for complications from influenza. While treatment may not be warranted for the patient with ILI, antiviral prophylaxis should be considered for the high risk household contacts.

10. How reliable are rapid tests for influenza?

Rapid tests for influenza vary in terms of sensitivity and specificity when compared with viral culture or PCR. There are over 10 Food and Drug Administration (FDA) approved kits on the market and product insert information and research publications indicate that sensitivity ranges between 50-70% and specificity between 90-95%. These sensitivity data are based on optimal specimen quality. Poor quality specimens will diminish the sensitivity even further. Specimens to be used with rapid tests generally should be collected as close as is possible to the start of symptoms and usually no more than 4-5 days later in adults. In very young children, influenza viruses can be shed for longer periods; therefore, in some instances, testing for a few days after this period may still be useful.

11. Is NMDOH recommending testing patients with mild ILI for influenza?

Clinicians are advised to use good clinical judgment when making decisions regarding the need for antiviral therapy. Patients with mild ILI with no risk factors for severe illness from influenza, and who are not close contacts of persons with risk factors for severe illness due to influenza, generally do not need to be tested for influenza. Most of these patients will recover without complications, and antiviral medications are often not indicated, thus testing will not alter the patient's course of care.

12. Who should be tested for novel H1N1 influenza?

NMDOH Scientific Laboratory Division (SLD) is currently only conducting free testing for novel H1N1 influenza for patients being admitted or currently hospitalized with ILI. Specimens from outpatients with ILI will not be tested at SLD.

13. Why is the NMDOH not testing all persons with influenza-like illness for novel H1N1 influenza?

NMDOH is using available laboratory capacity to ensure the rapid evaluation of serious illness that might be due to novel H1N1 influenza. Additionally, treatment recommendations for mild ILI do not depend on the results of a novel H1N1 influenza test. Your hospital may choose to use your own resources to test for influenza by usual methods, but NMDOH will not be able to do any confirmatory testing at this time. Diagnostic testing for novel H1N1 influenza is available in commercial laboratories.

14. What specimen should I collect and how do I collect it?

HOSPITALIZED PATIENTS: Until otherwise notified, we ask that nasopharyngeal specimens be collected from hospitalized patients who have INFLUENZA-LIKE ILLNESS (ILI) defined as fever greater or equal to 100 degrees F, oral or equivalent, AND a cough and/or sore throat in absence of a known cause other than influenza. Please collect up to 2 nasopharyngeal swabs (one for your in-house rapid influenza diagnostic test and one for SLD's PCR) from each patient with ILI, placing the swab in a standard container with 2-3 ml of viral transport media. If the patient is hospitalized with pneumonia, specimens from the lower respiratory tract should also be submitted to SLD if they are performed (e.g., tracheal aspirate, bronchoalveolar lavage). Specimens should be collected within the first 24-72 hours of onset of symptoms and no later than 5 days after onset of symptoms.

Specimens should be shipped to:

Scientific Laboratory Division
700 Camino De Salud, NE
Albuquerque, NM 87106
(505) 841-2500

The SLD submission form accompanying the specimen must be complete. The provider should write "HOSP" in the upper left-hand corner margin of the form to indicate the specimen is from a hospitalized patient.

SPECIMEN STORAGE: The specimens should be kept refrigerated at 4 degrees C and sent on cold packs if they can be received by SLD within 72 hours of collection. If samples will not be received by the laboratory within 72 hours of collection, they must be frozen at -70 degrees C or below and shipped on dry ice.

15. What if I have a critically ill patient whose symptoms are compatible with influenza but the rapid test is negative?

Rapid tests for influenza vary in terms of sensitivity and specificity when compared with viral culture or PCR. If you have a patient whose illness is compatible with influenza, empiric antiviral therapy, when indicated, should be started while awaiting additional test results. Additional diagnostics to consider include PCR or DFA and are more sensitive than the rapid test to help confirm a diagnosis. A negative PCR test essentially rules out influenza.

16. Where can I get more information about antiviral treatment?

NMDOH has distributed about 70,000 courses of antivirals to more than 150 hospitals and clinics statewide. Currently, these state antivirals should only be used for persons who can't afford antivirals through retail pharmacies and who are in one of the high risk groups described below. This will help ensure that health care providers throughout the State will be able to treat all hospitalized patients and high-risk outpatients with confirmed, probable or suspected novel influenza A (H1N1). Patients who are at higher risk for influenza complications include:

- Children younger than 2 years of age.
- Adults 65 years of age and older.
- Persons with the following conditions:
 - o Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), neurologic, neuromuscular, or metabolic disorders (including diabetes mellitus).
 - o Immunosuppression, including that caused by medications or by HIV.
 - o Pregnant women.
 - o Persons younger than 19 years of age who are receiving long-term aspirin therapy.
 - o Residents of nursing homes and other chronic-care facilities.

17. What about using antivirals for post-exposure chemoprophylaxis?

Antivirals may also be considered for post-exposure chemoprophylaxis (PEP) for:

- Close contacts of cases (confirmed, probable, or suspected), who are at high risk for complications of influenza.
- Health care personnel, public health workers, or first responders who have had a recognized, unprotected close contact exposure to a person with novel (H1N1) influenza virus infection during that person's infectious period.

18. What about pre-exposure chemoprophylaxis?

Pre-exposure chemoprophylaxis is not recommended.

19. Can antivirals be used for other purposes?

To conserve the State's antiviral supply, NMDOH requests that health care providers adhere strictly to these recommendations. NMDOH may ask health care providers and facilities to replenish stockpiles used for indications not listed above (Questions 16 and 17). **AT THIS TIME, ANTIVIRAL MEDICATIONS ARE ALSO AVAILABLE THROUGH RETAIL PHARMACIES. PATIENTS WITH THE ABILITY TO COVER THE COSTS SHOULD OBTAIN ANTIVIRALS THROUGH THESE OUTLETS.**

20. How do I access the state stockpile of antivirals for my patient?

A list of hospitals and clinics that have received stockpile antivirals (NMDOH Antiviral Shipments Hospitals, NMDOH Antiviral Shipments Clinics) and the NMDOH Antiviral Form (and a sample form already filled out) can be found at: <http://nmhealth.org/H1N1/forms.shtml>.

To help NMDOH monitor antiviral use, health care providers will be asked to report basic demographic information and identify a patient risk category for each antiviral course released from the stockpile. Clinicians who are not affiliated with a participating hospital or clinic can fill out a regular prescription form and a NMDOH Antiviral Form for the patient. Encourage a non-ill person to deliver the forms and pick up the antivirals at the local stockpile site on behalf of the patient.

21. What are the recommended treatment and prophylaxis dosages and regimens for antivirals?

Antiviral treatment and prophylaxis recommendations from CDC can be found at:

<http://www.cdc.gov/h1n1flu/recommendations.htm>.

22. Is treatment indicated for patients with mild ILI?

Providers are encouraged to use good clinical judgment when making treatment decisions. Patients with mild ILI do not require antiviral treatment, *unless* the patient meets the usual criteria for empiric influenza treatment based on underlying illnesses that put them at higher risk for complications of any type of influenza. Treatment is most effective if initiated within 48 hours of illness onset.

23. When should I initiate antiviral treatment?

Antiviral treatment should be initiated as soon as possible after the onset of symptoms. Recommended duration of treatment is 5 days. For patients with mild illness and underlying conditions, therapy should ideally be started within 48 hours of onset of illness. For patients with severe disease, treatment can be initiated at any point, but is most effective earlier in the course of illness.

24. Can antiviral drugs be helpful for people unable to take the flu vaccine? CDC and ACIP recommend use of antiviral drugs for people allergic to eggs (which can cause them to have an allergic reaction to the vaccine) or for people who previously have encountered complications from Guillain-Barre syndrome (GBS) associated with influenza vaccination. In addition, taking antiviral drugs may be recommended among persons that may not have a good immune response to the flu vaccine.

25. Should people use antiviral drugs before or after receiving the live attenuated influenza vaccine (LAIV) called FluMist? LAIV is one of two types of flu vaccine. It is given as a nasal spray and contains weakened, live virus. Flu antiviral drugs taken from 48 hours before through 2 weeks after getting LAIV can lower or prevent the vaccinated person from responding to the vaccine and the person may not get immune protection from the vaccine.

Antiviral drugs can be taken with the inactivated (i.e. killed) flu vaccine

26. Does NMDOH have guidance for health care workers (HCWs) who may be exposed to patients with ILI?

Yes, NMDOH guidance to HCWs regarding infection control and the use of personal protective equipment (PPE) during this year's influenza season reflects the principle that H1N1 influenza is spread mainly by droplets. This principle is supported in the literature and is consistent with guidance from several respected sources, including World Health Organization (WHO), the Society for Healthcare Epidemiology of America (SHEA) and Health Canada. The guidance for HCWs are based on the type of contact and procedures performed by individual HCWs and not on the specific sectors (e.g., hospitals, schools, prisons) in which the HCW is working. This guidance, therefore, applies to a variety of settings where HCWs are found.

27. What about HCWs with ILI?

HCWs with ILI (fever of 100 degrees F (37.8 degrees C) or greater plus at least cough and/or sore throat) at arrival to work or who become ill during the day should be given a surgical mask and sent home.

28. What should be done to protect HCWs and others in health care settings where there may be patients with ILI?

The importance of applying administrative (e.g., patient flow) and engineering (e.g., Plexiglass barriers in triage area) controls as the first strategy in protecting the HCW from exposure to infectious agents in the healthcare setting cannot be overemphasized. Healthcare organizations should complete assessments of each area of all their acute care facilities (outpatient, ambulatory care, emergency rooms, inpatient) regarding their physical settings, the types of patients seen, and the types of patient care activities undertaken.

The following are ESSENTIAL measures that apply to all settings caring for patients:

- Post signage outside and inside the setting that directs people with ILI to immediately inform a staff person if they have ILI. These individuals should be provided with a mask and alcohol-based hand sanitizer. If possible, these individuals should be directed to a waiting area (or private exam room) away from other patients in the office, clinic or emergency room. The area designated for ILI patients should be at least 6 feet away from other waiting patients and, if possible, should be separated from other patients by a physical barrier.
- Assign staff to triage individuals as they enter the setting and have staff direct individuals with ILI to a designated ILI area. If staff performing triage are not separated from patients with suspect ILI by a physical barrier (e.g., a Plexiglass partition), then the staff should wear a surgical mask if within 6 feet of the patient.
- Provide language appropriate educational materials to all suspect ILI patients that instruct them in hand hygiene, cough etiquette, and proper use and disposal of surgical masks. Ensure that suspect ILI cases have access to hand sanitizer, soap and water, and facial tissue.

29. What are standard precautions when working with patients with ILI?

Hand hygiene is a major component of standard precautions and the most effective method to prevent transmission of pathogens associated with health care. In addition to hand hygiene, the use of personal protective equipment (PPE) should be guided by risk assessment and the extent of contact anticipated with blood and body fluids, or pathogens. The control of spread of pathogens from the source is key to avoid transmission. Among source control measures, respiratory hygiene/cough etiquette is considered as part of standard precautions. HCWs should perform hand hygiene frequently (as per the healthcare organization's policies) using either alcohol-based hand sanitizers (60-90% ethanol) or soap and water.

- Wear gloves when entering the room of a suspect ILI case. Remove gloves just before leaving the room and dispose of them in a hands-free receptacle. Gowns are required as per routine practices if there is risk of contact with bodily fluids or splash incidents. When worn, remove the gown just before leaving the room and dispose of in a hands-free waste receptacle. HCWs should use alcohol-based hand sanitizer or soap and water after removing gloves and gown and after leaving the room. Ensure disposal or disinfection of patient equipment per local protocol.
- Suspect ILI cases should be taught to perform hand hygiene (e.g., wash hands vigorously for 15-20 seconds with soap and water) and respiratory hygiene practices (using tissues, coughing into sleeve if tissue not available, wearing a surgical mask if around other people). Suspect ILI cases should wear a surgical mask (if tolerated) when HCWs, or other staff or visitors are present. Provide educational materials (in appropriate languages) to ILI patients that instruct them in hand hygiene and cough etiquette and ensure that they have access to hand sanitizer or soap and water, facial tissue and trash receptacles.

30. Where should patients with ILI be placed in the health-care setting?

ILI cases should be examined and cared for in separate rooms. Hospitalized ILI cases should be admitted to private rooms, or cohorted with other ILI cases. Place infection control signage on the room door and the patient chart indicating the precautions required. Cases should only leave their exam or hospital rooms for medically necessary procedures. When a case leaves a room he/she must wear a surgical mask if tolerated and be instructed on how to perform respiratory hygiene.

31. What about droplet and other precautions?

HCWs should wear a surgical mask upon entry into an exam or hospital room with a case or when within 6 feet of a suspect or confirmed influenza case. For pediatric and immunocompromised patients, the duration of precautions should be the duration of their hospitalization since these two groups may shed influenza virus for extended periods.

AN N95 RESPIRATOR SHOULD BE WORN WHEN conducting an aerosol-generating medical procedure (AGMP) on an ILI case. In this situation, all individuals in the room should wear an N95 mask. Only essential personnel should participate and be present during an AGMP. AGMPs include: bronchoscopy, OPEN suctioning of airway secretions, resuscitation involving emergency intubation or

cardiopulmonary resuscitation, endotracheal intubation or extubation.

Whenever a surgical mask or respirator is required, AND there is a risk of exposure to body fluids/splashes, the HCW should also wear eye or face protection. Eye or face protection should be removed after leaving the case's room and disposed of in a hands-free waste receptacle.

Surgical masks and N95 respirators should be removed by the straps, being careful not to touch the mask or respirator itself, after leaving the case's room, and disposed of in a hands-free waste receptacle. HCWs should wash their hands after removing the respiratory equipment and after leaving the case's room.

All facilities, particularly acute care facilities, should limit visitation of patients and should develop procedures for screening visitors for illness. Visitors should be monitored for adherence to standard and droplet precautions. Visitors should be excluded from the room when AGMPs are performed.