Infection Control Guidelines for Management of Patients with Influenza A (H1N1) Infections in Health Care Settings Wisconsin Division of Public Health

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The Wisconsin Division of Public Health has developed the following interim infection control guidelines for managing cases of influenza A (H1N1) virus infections based on current information from CDC and will update them as more is learned about these cases. Although the cases in the US to date have been mild, health care facilities should expect to receive both inpatients and outpatients with potential influenza A (H1N1) virus infections and be prepared to manage them with appropriate infection control measures to prevent transmission during health care delivery.

Patients for Whom These Guidelines Apply

In communities where influenza A (H1N1) transmission is occurring (based in information from state and local health departments):

These guidelines apply to all patients with influenza like illness (fever of 100 degrees or greater AND cough or sore throat).

In communities where influenza A (H1N1) transmission is NOT occurring (based in information from state and local health departments):

These guidelines apply to patients with influenza like illness AND

- close contact with a person who is a confirmed, probable, or suspected case of influenza A (H1N1) virus infection, within the past 7 days OR
- travel to a community either within the United States or internationally where there are one or more confirmed influenza A (H1N1) cases within 7 days

The Wisconsin Division of Public Health will assist in determining when all patients with febrile respiratory illness should be managed under these guidelines.

Infectious period

Persons with influenza A (H1N1) infections should be considered infectious from 1 day before illness onset to at least 7 days after illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered infectious until 24 hours after symptoms have resolved. Children, especially younger children, may be infectious for longer periods.

Non-hospitalized ill persons who have confirmed, probable, or suspected cases of influenza A (H1N1) infection should stay home under voluntary isolation for at least the first 7 days after illness onset except to seek medical care. They should consult their local health departments before returning to work, school, or day care.

Infectious period for confirmed cases = 1 day before onset to 7 days after onset of illness Day before onset = Day - 1Onset day = Day 0Days after onset = Days 1-7

Notification to Public Health Agencies

The local health department should be notified when persons with suspected, probable, or confirmed cases are seen in the outpatient setting, Emergency Department, or admitted to the hospital. If unable to contact the local health department, call the Wisconsin Division of Public Health at 608-267-9003 during normal business hours (7:45 a.m. to 4:30 p.m.) After hours use the emergency number of (608) 258-0099. This number is for facility staff only and should not be shared with patients or the general public.

Inpatient Settings and Long Term Care Facilities

Patients for whom these guidelines apply (see above) should be managed with standard and contact precautions plus eye protection for all patient care activities. Additionally, all healthcare personnel should wear a NIOSH-certified fit-tested N-95 filtering face piece (FFP) or powered air purifying respirator (PAPR) upon entry to isolation rooms.

Procedures that are likely to generate aerosols (e.g., bronchoscopy, elective intubation, suctioning, administering nebulized medications), should be done in a location with negative pressure air handling whenever feasible. An airborne infection isolation room (AIIR) with negative pressure air handling with 6 to 12 air changes per hour can be used. Air can be exhausted directly outside or be recirculated after filtration by a high efficiency particulate air (HEPA) filter. Facilities should monitor and document the proper negative-pressure function of AIIRs, including those in operating rooms, intensive care units, emergency departments, and procedure rooms.

Precautions should be observed until 7 days after illness onset or until 24 hours after symptoms resolve, whichever is longer.

Standard precautions

Hand hygiene and cough etiquette should be emphasized and enforced among healthcare workers, patients and their family members, and all visitors to healthcare facilities. In communities where influenza A (H1N1) is being transmitted, facilities should limit points of entry so screening for febrile respiratory illness among visitors can occur upon arrival to entrances.

No modifications of standard precautions are necessary when caring for patients with confirmed or suspected influenza A (H1N1) infections. Practice routine infectious waste management, environmental cleaning/disinfection, and handling of laundry and linens. Alcohol-based hand sanitizers may be used to decontaminate hands during care of patients with influenza A (H1N1) infections. Used dietary items such as cups, utensils, and dishes may be routinely sanitized and do not need to be replaced with disposable items. Environmental cleaning/disinfection may be done using any of the current EPA-registered, hospital approved disinfectants.

More details about standard precautions are at http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/Isolation2007.pdf

Hand hygiene guidelines are at http://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf

Contact precautions

Place patient in a private room when possible. If a private room is not available, place patient with a roommate who is able to remain at least 6 feet from the infected patient. Privacy curtains may be use to create a physical barrier between patients and their environments.

All healthcare personnel should wear gloves, gowns, and goggles or other type of eye protection each time they enter the room. Hand hygiene should be performed immediately after removing personal protective equipment (PPE).

Patients in contact precautions should not be allowed to leave their rooms unless medically necessary. If they must leave the room, they should wash hands or use alcohol hand sanitizer before leaving the room and should wear a surgical mask while outside the room.

Personnel in ancillary departments should be notified in advance when patients will be arriving in their departments.

All medical equipment, patient care items, and other items in the isolation room must be either disposed of or cleaned and disinfected before removing from the room.

Only healthcare personnel providing direct patient care should be allowed to enter rooms of patients in isolation.

Eye protection

Goggles or face shields should be worn during all patient care activities and collection of clinical specimens to prevent conjuctival exposure.

Visitors

Visitors should be limited to one or two designated family members or contacts and should be instructed to practice good hand hygiene and wear gowns, gloves, eye protection, and either surgical masks or N-95 FFPs when entering isolation rooms (visitors do not need to be fit-tested). Visitors should also be instructed to limit their movement within the facility.

Persons with symptoms of communicable diseases should avoid visits to healthcare facilities when possible.

Outpatient Clinics, Emergency Departments, Urgent Care Centers

Good hand hygiene and cough etiquette should be observed by all patients, visitors and healthcare workers.

Patients with confirmed, probable, or suspected influenza A (H1N1) infection should be asked to wear a surgical mask upon entry to the facility and should be placed in an examination room or private area as soon as possible after arrival. Healthcare workers should wear gowns, gloves, eye protection, and a NIOSH-certified fit-tested N-95 FFPs or PAPRs during all direct patient care activities. Procedures that are likely to generate aerosols (e.g., bronchoscopy, elective intubation, suctioning, administering nebulized medications), should be done in a location with negative pressure air handling whenever feasible.

Transport Personnel

See separate guidelines for EMS and other pre-hospital transport personnel.

Laboratory Workers

See http://www.cdc.gov/h1n1flu/guidelines_labworkers.htm for guidance for laboratory workers who may be processing or performing diagnostic testing on clinical specimens from patients with suspected H1N1 influenza virus infection, or performing viral isolation. Also refer to Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition Section IV Laboratory Biosafety Level Criteria

Pregnant Health Care Workers (HCWs)

Pregnant women who will likely be in direct contact with patients with confirmed, probable, or suspected influenza A (H1N1) (e.g., a nurse, physician, or respiratory therapist caring for hospitalized patients), should consider reassignment to lower-risk activities, such as telephone triage.

If reassignment is not possible, pregnant women should avoid participating in procedures that may generate increased small-particle aerosols of respiratory secretions in patients with known or suspected influenza, including the following procedures: endotracheal intubation, aerosolized or nebulized medication administration, diagnostic

sputum induction, bronchoscopy, airway suctioning, positive pressure ventilation via face mask (e.g., BiPAP and CPAP), or high-frequency oscillatory ventilation.

Exposed HCWs

HCW exposure to suspect or known cases of influenza A (H1N1) infection is defined as any of the following and may warrant use of post exposure chemoprophylaxis. See guidance on post-exposure antiviral prophylaxis below.

- face to face contact (within 6 feet) without HCW use of a NIOSH-certified fit tested N-95 FFP or PAPR, or surgical mask on patient.
- splashes or sprays of respiratory/oral secretions onto HCW unprotected eyes, nose, or mouth
- direct physical contact with patient without use of gloves or gown

Post-exposure antiviral prophylaxis

Antiviral post-exposure prophylaxis is recommended for laboratory workers and healthcare or public health workers who were not using appropriate PPE during close contact with an ill patient who has a confirmed, probable, or suspected case of influenza A (H1N1) infection during the patient's infectious period.

For post-exposure antiviral prophylaxis of influenza A (H1N1) infection, either oseltamivir or zanamivir are recommended. Duration of antiviral prophylaxis is 7 days after the last known exposure to an ill confirmed or probable case of influenza A (H1N1) infection. Antiviral dosing and schedules recommended for prophylaxis of influenza A (H1N1) infection are the same as those recommended for seasonal influenza:

http://www.cdc.gov/flu/professionals/antivirals/dosagetable.htm#table.

Table: Management of healthcare and public health workers

Category	Antiviral treatment/prophylaxis	Watch for signs and symptoms of acute respiratory infections	Place on leave from work
Asymptomatic HCW with occupational exposure* to patient with confirmed, probable, or suspected influenza A (H1N1) infection during infectious period	Prophylaxis recommended if last exposure is within 7 days of evaluation	Yes	Only at first sign of respiratory illness
Symptomatic HCW with occupational exposure* to patient with confirmed, probable, or suspected influenza A (H1N1) infection during infectious period	Testing and treatment recommended	N/A	Yes, for 7 days after onset of illness or until 24 hours after symptoms resolve, whichever is longer
Asymptomatic HCW returning from area where influenza A (H1N1) is being transmitted	Consider prophylaxis only for HCWs at high risk for complications of influenza	Yes	Only at first sign of respiratory illness
Symptomatic HCW returning from area where influenza A (H1N1) is being transmitted	Follow Wisconsin guidance on testing and treatment—no additional considerations for HCWs	N/A	Yes, for 7 days after onset of illness or until 24 hours after symptoms resolve, whichever is longer

^{*}close contact without appropriate PPE with a patient who is a confirmed, probable, or suspected case of influenza A (H1N1) infection during the patient's infectious period