

2009 H1N1 Influenza and First Responders and First Receivers

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For the 2009–2010 influenza season, the Centers for Disease Control and Prevention (CDC) is seeing higher than normal influenza-like activity and hospitalizations early in the season with most of the viruses identified as 2009 H1N1 influenza (<http://www.cdc.gov/flu/weekly/>). The World Health Organization (WHO) also reports that 2009 H1N1 influenza virus has more or less replaced seasonal influenza viruses in many countries, which is informative for Southern Hemisphere countries that are just finishing their influenza season (<http://www.cdc.gov/h1n1flu/updates/international/map.htm>).

CDC began distribution of 2009 H1N1 vaccine at the beginning of October. Supplies of vaccine are expected to be increasingly available from mid-October to early-November.

Advisory Council for Immunization Practices (ACIP) recommended that as vaccine becomes available that it first be made available to 5 target groups including healthcare and emergency medical services (EMS) personnel (1). They further define that emergency medical services personnel might include persons in an occupation (e.g., emergency medical technicians and fire fighters) who provide emergency medical care as part of their normal job duties. Once providers meet the demand for vaccine among persons in these initial target groups, vaccination is recommended for all persons 25 through 64 years of age. The ACIP recommendations on 2009 H1N1 vaccination are not intended to deny 2009 H1N1 vaccine to anyone who wishes to be vaccinated.

One of the issues that continues to generate much discussion throughout this pandemic is respiratory protection for healthcare personnel (including first responders and first receivers). CDC initially issued the *Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H1N1) Virus Infection in a Healthcare Setting* in May and recommended NIOSH approved N95 respirators noting that this recommendation differs from current infection control guidance for seasonal influenza, which recommends that healthcare personnel wear surgical masks for patient care.

The rationale for the use of respiratory protection is that a more conservative approach is needed until more is known about the specific transmission characteristics of this new virus. The Institute of Medicine (IOM) convened a panel to address this issue and issued a letter report in September 2009 entitled *Respiratory Protection for Healthcare Workers in the Workplace Against Novel H1N1 Influenza A* (2). The IOM recommended use of fit-tested NIOSH approved N95 respirators for 2009 H1N1 influenza stating:

Healthcare workers (including those in non-hospital settings) who are in close contact with individuals with nH1N1 influenza or influenza-like illnesses should use fit-tested NIOSH

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approved N95 respirators or respirators that are demonstrably more effective as one measure in the continuum of safety and infection control efforts to reduce the risk of infection.

- The committee endorses the current CDC guidelines and recommends that these guidelines should be continued until or unless further evidence can be provided to the effect that other forms of protection or other guidelines are equally or more effective.
- Employers should ensure that the use and fit testing of NIOSH approved N95 respirators be conducted in accordance with OSHA regulations, and healthcare workers should use the equipment as required by regulations and employer policies.

IOM's second recommendation was for further research on influenza transmission and personal respiratory protection.

The IOM committee also published an editorial in the New England Journal of Medicine that further discussing the issue (3). It states:

The efficacy of any respiratory device, of course, depends on user compliance. We know that in this country, workers' tolerance for wearing most types of respiratory protective devices is poor and often declines over the course of a work shift; in one study, no more than 30% of workers tolerated these devices consistently throughout an 8-hour workday, citing difficulties with speaking and communication, discomfort, and other physical problems.

CDC issued an updated guidance for healthcare workers on October 14, and they continue to recommend NIOSH-certified N95 respirators for healthcare workers (including EMS and first responders) exposed to patients with confirmed or suspected 2009 H1N1 influenza. They also issued *Questions and Answers Regarding Respiratory Protection for Infection Control Measures for 2009 H1N1 Influenza among Healthcare Personnel* (7). This document addresses implementation of the healthcare guidance including what to do to conserve supplies of NIOSH-certified N95 respirators. It recommends four broad strategies:

- Minimize the number of individuals who need to use respiratory protection through the use of engineering and administrative controls;
- Use alternatives to disposable N95 respirators where feasible;
- Extend the use, and consider reuse of disposable N95 respirators; and
- Prioritize the use of N95 respirators for those personnel at highest risk of exposure.

Although this document focuses on 2009 H1N1 influenza, The InterAgency Board intends for these recommendations to apply to any emerging respiratory-transmitted infectious disease. Universal precautions should be taken in all appropriate settings.

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The Health, Medical and Responder Safety SubGroup of The InterAgency Board (IAB) recommends the following for any responder¹ or receiver² in extended close contact (<6 feet) with patients with emerging infectious diseases and/or the 2009 H1N1 influenza virus:

1. Use NIOSH-approved N95 respirators or higher levels of respiratory protection as recommended by the CDC (5, 6, and 8) and the IOM (2) and including respirator fit-testing and training in accordance with OSHA's Respiratory Protection Standard (29 CFR 1910.134).
 - a. The US Government should increase research on influenza transmission and personal respiratory protection including reuse, comfort and extended wearability for EMS and first responders and ability to communicate while performing medical tasks.
2. The US Government should ensure an adequate supply of respirators including investing in enhancing production.
3. Vaccinate all first responders and first receivers for 2009 H1N1 and seasonal influenza in accordance with the Advisory Council for Immunization Practices.

**Please contact the InterAgency at info@interagencyboard.us with any comments, feedback, and questions. Additional information on the InterAgency Board is available at www.IAB.gov.

¹ The Department of Homeland Security defines a "first responder" as a trained or certified individual who, upon arriving early to an incident or emergency, assumes immediate responsibility for the protection and preservation of life, property, evidence and environment.

² Building on the OSHA Best Practices (2005) document, The InterAgency Board defines "first receiver" as personnel in the following roles: healthcare personnel who have a role in receiving and treating injured or exposed individuals (e.g. triage, decontamination, medical treatment, laboratory technicians, housekeeping and security) and those whose roles support these functions (e.g., set up and patient tracking).

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APPLICABLE GUIDANCE FOR EMS AND FIRST RESPONDERS

Advisory Council for Immunization Practices (ACIP):

1. Use of Influenza A (H1N1) 2009 Monovalent Vaccine: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2009
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr58e0821a1.htm>

Institute of Medicine (IOM):

2. Respiratory Protection for Healthcare Workers in the Workplace Against Novel H1N1 Influenza A: A Letter Report
http://www.nap.edu/catalog.php?record_id=12748
3. Editorial by the IOM Committee: Novel H1N1 Influenza and Respiratory Protection for Health Care Workers, *New England Journal of Medicine*, September 30, 2009,
<http://content.nejm.org/cgi/content/full/NEJMp0908437>

AHRQ:

4. Mass Medical Care with Scarce Resources: The Essentials
<http://www.ahrq.gov/prep/mmcessentials/>

CDC:

5. Interim Guidance for Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients with Confirmed or Suspected Swine-Origin Influenza A (H1N1) Infection
http://www.cdc.gov/h1n1flu/guidance_ems.htm
6. Interim Guidance on Infection Control Measures for 2009 H1N1 Influenza in Healthcare Settings, Including Protection of Healthcare Personnel
http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm
7. Questions and Answers Regarding Respiratory Protection for Infection Control Measures for 2009 H1N1 Influenza among Healthcare Personnel
http://www.cdc.gov/h1n1flu/guidelines_infection_control_qa.htm
8. Interim Recommendations for Facemask and Respirator Use to Reduce 2009 Influenza A (H1N1) Virus Transmission
<http://www.cdc.gov/h1n1flu/masks.htm>
9. CDC Guidance for Businesses and Employers To Plan and Respond to the 2009–2010 Influenza Season
<http://www.cdc.gov/h1n1flu/business/guidance/>

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OSHA:

10. Guidance on Preparing Workplaces for an Influenza Pandemic, OSHA 3327-02N 2007
http://www.osha.gov/Publications/influenza_pandemic.html

11. Pandemic Influenza Preparedness and Response Guidance for Healthcare Workers and Healthcare Employers, OSHA 3328-05 2007
<http://www.osha.gov/Publications/3328-05-2007-English.html>

12. OSHA Best Practices for Hospital-based First Receivers Of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances, 2005
http://www.osha.gov/dts/osta/bestpractices/html/hospital_firstreceivers.html