



American Industrial Hygiene Association Position Statement H1N1, Aerosolized Transmissible Diseases

The American Industrial Hygiene Association (AIHA) is an internationally recognized organization that supports the health and safety of workers. AIHA recognizes there is a very real possibility for a pandemic influenza outbreak throughout the world. After reviewing the evidence-based science, state-of-the-art research, and the Occupational Safety & Health Administration (OSHA) and National Institute for Occupational Safety Health (NIOSH) standards, AIHA has developed this supporting document to help ensure adequate control measures are implemented for the health and safety of individuals, including those working in the healthcare industry. AIHA recognizes this document may also apply to other novel or aerosol transmissible diseases.

Since individuals working in the healthcare industry have a primary responsibility for the protection of the population they should receive adequate protection when caring for those affected by H1N1. As of September 4, 2009, more than 254,206 individuals worldwide have been diagnosed with H1N1 influenza, and at least 2,837 deaths have resulted (1). As of August 27, 2009, in the United States alone, 9,079 cases were diagnosed with this disease, including 593 deaths (2). These estimates are considered an underestimation, since most countries no longer test and report individual cases. In the United States, the Centers for Disease Control (CDC) discontinued reporting of individual confirmed and probable cases of 2009 H1N1 infection on July 24, 2009. It is likely these statistics will get much worse (3). The World Health Organization has declared H1N1 a novel pandemic influenza. Experience in the US, Canada, and other countries indicate that younger populations, including those of working age are most vulnerable to contracting the H1N1 virus.

Regardless of their age, healthcare personnel will be more vulnerable to this disease during a pandemic. Healthcare personnel, including physicians, nurses, licensed vocational (practical) nurses, laboratory technicians, receptionists, nursing assistants, housekeepers, and technicians, provide care to patients. All of these individuals and others may encounter those communicable patients, relatives, and friends.

Given these difficult circumstances, we believe workers in the healthcare industry should be provided with as safe an environment as practicable. The current CDC infection control guidelines recommend the use of good hand hygiene, and the use of gloves, gowns, and eye protection, but differ most notably from seasonal flu guidance in

respiratory protection recommendations. CDC recommends at least a fit-tested disposable N95 respirator for “all healthcare personnel who enter the rooms of patients in isolation with confirmed, suspected, or probable novel H1N1 influenza” (4). In the U.S., many State and Local Health Departments and healthcare employers did not follow the CDC respiratory protection guidance during the previous outbreak.

At the request of the CDC and OSHA, the Institute of Medicine (IOM) convened a committee to provide recommendations regarding the necessary respiratory protection against novel H1N1 for healthcare workers in the workplace.

From August 11, to August 13, 2009, the IOM of the National Academies held a meeting entitled *Workshop on Personal Protective Equipment for Healthcare Workers in the Workplace Against Novel H1N1 Influenza A*(5). Though papers and presentations were available prior to this meeting, this meeting provided an international review of the best available scientific and empirical evidence. The IOM Committee conclusions and recommendations were published on September 3, 2009 (6).

AIHA supports several findings and recommendations discussed during the meeting and in the final report; they include:

- H1N1 and seasonal influenza are spread by the airborne route and not limited to “droplet” or contact spread.
- A current H1N1 infectious dose has not been established. This could vary for every organism, disease, and microbial strain; therefore, it is not effective to stratify protective measures.
- Healthcare workers are at increased risk of H1N1 infections. Healthcare organizations and workers need consistent and clear H1N1 guidelines that can be implemented across all healthcare facilities. In addition, employers must devote significant effort to assessing risk in their organization and to fully implementing those guidelines so needed practices are widely adopted. This should include ongoing education and training of healthcare workers.
- Respiratory protection is one component of an effective aerosolized transmissible disease program. Other components include appropriate administrative and engineering controls (i.e., triage, cohorting of patients, prompt identification, isolation, signage, patient masking in public or semi-public areas, covering cough & sneezes, hygienic practices, education, ventilation).
- Healthcare workers (including those in non-hospital settings) who are in close contact with individuals with H1N1 influenza or influenza-like illnesses should be provided with fit-tested N95 respirators or other respirators that are demonstrably more effective. This is one measure in

the continuum of safety and infection control efforts to reduce the risk of infection. Employers should ensure the use and fit testing of N95 respirators be conducted in accordance with OSHA regulations, and healthcare workers should use the equipment as required by regulations and employer policies. An effective respiratory protection program must include medical surveillance, fit testing and training as described in the NIOSH and OSHA documents and standards (7).

- Adequate respiratory protection is not provided by “surgical masks,” including most devices approved by the US Food and Drug Administration (FDA). In fact, surgical masks provide very little protection for the patient or healthcare provider and provide a false sense of security for those who believe they may be receiving adequate respiratory protection.
- Certain aerosolizing procedures may necessitate a higher level of respiratory protection than the N95 respirator. Potential risks of higher doses of organism are being studied by NIOSH and a higher level of respiratory protection may be feasible. This may include elastomeric facepieces with P100 designations or a powered air purifying respirator (PAPR) with P100 filter media.
- The supply of N95 respirators may be limited during a pandemic episode. Because of this, the use of additional types of NIOSH certified respirators may be required; however additional research to expand the capabilities of those respirators should be considered.
- NIOSH provides the entire workforce with critical research and resources of immense benefit. NIOSH’s research, quality of work, technical and educational materials tends to be comprehensive, scientific, and without political bias. Additional research should be funded and undertaken to resolve the unanswered questions regarding the relative contribution of various routes of influenza transmission, fully explore the effectiveness of personal respiratory protection technologies in a variety of clinical settings through randomized clinical trials, and design and develop the next generation of personal respiratory protection technologies for healthcare workers to enhance safety, comfort, and ability to perform work-related tasks.

References

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