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SEIU
Stronger Together

May 27, 2008

NIOSH Docket No. 129
NIOSH Mailstop: C-34
Robert A. Taft Laboratory
4676 Columbia Parkway
Cincinnati, OH 45226

Re: Personal Protective Equipment (PPE) for Healthcare Workers (HCW) Action Plan, Docket No. 129

Dear Sir or Madam:

The Service Employees International Union (SEIU) appreciates the opportunity to provide comments to NIOSH on its draft document, Personal Protective Equipment (PPE) for Healthcare Workers (HCW) Action Plan. We're very pleased that NIOSH is preparing this research action plan in response to the Institute of Medicine's (IOM) report, *Preparing For An Influenza Pandemic: Personal Protective Equipment for Healthcare Workers.* The IOM's findings and recommendations for additional research on understanding influenza transmission, the need improve the use of PPE and create a culture of safety in the healthcare industry, and strengthening PPE design and testing are critically important for advancing the protections that healthcare workers will need from PPE when the pandemic occurs.

Our nation's ability to respond effectively in providing care for patients with pandemic flu rests squarely on our ability to protect the health and safety of health care workers responsible for giving that care. While PPE will play a substantial part in the effort to protect health care workers, the full hierarchy of controls will need to be implemented, first, engineering approaches (such as isolation rooms and UV lights) and secondly, applying administrative measures (such as minimizing the number of workers in an infected patients room). PPE will represent the last, and least effective, element of the exposure control hierarchy. Given the IOM's concern about the general lack of a safety culture in this industry, we believe NIOSH should clearly place this PPE research action plan within a larger plan to examine the current status of prevention efforts in this industry and provide recommendations for the entire hierarchy of controls. NIOSH has done excellent work on such reports on various industries in the past and these have been very useful in improving health and safety conditions.

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We do appreciate and support NIOSH's leadership in taking on IOM's recommendations and developing a thorough plan to identify existing research, as well as future short and long term research activities that are designed to respond to IOM's suggestions. This initiative by NIOSH will greatly help to ensure that the efforts of the IOM committee will bear fruit and assist in advancing protections for health care workers during an influenza pandemic. We are concerned however, that NIOSH have sufficient resources and personnel to carry out this research plan. Without adequate funding, NIOSH's ability to achieve its objectives will fall short.

Overall, we believe the research plan outlined by NIOSH responds well to the IOM recommendations. We're also pleased that the plan has identified a comprehensive set of both short and long term activities, as well as targeting other parts of NIOSH (besides NPPTL) and other federal agencies that can assist or lead in carrying out the necessary research. Below we would like to offer some suggestions for NIOSH to consider adopting in its final action plan. We believe our recommendations will strengthen NIOSH's plan.

1. In addition to carrying out the "cough" simulation research, assess particle size distribution generation and effectiveness of respirators and surgical masks in protecting workers from infectious aerosols produced by patients during sneezing and talking. Adding sneezing and talking to the cough scenario will cover the range of patient-generated aerosols that will typically occur.

2. Critically examine droplet and aerosol particle exposure – distance from the source relationship. This research gets at the commonly used "3 foot rule" for when healthcare workers wear personal protective equipment in the presence of a patient infected with the influenza virus (some OSHA guidance on pandemic flu has recently expanded this to the "6 foot rule"). Particle size distribution as a function of time following generation as well as particle travel distance and organism viability needs to be assessed. It is vitally important to scientifically understand this issue so that appropriate personal protective equipment can be recommended for use by health care workers and others who come into contact with infected patients – and determining what constitutes "close contact".

3. Prioritize the planning and carrying out of an effectiveness assessment of antimicrobial respirator technology. In the draft document, this research is listed as a "possible project" (page 28, line 957). We believe this technology needs to be thoroughly evaluated and if shown to be effective, then incorporated into respirators and recommendations for wear by health care workers who provide care for patients infected with pandemic flu. This research has the potential to elevate the level of protection that respirators can provide to health care workers.

4. Develop a comprehensive research plan with the overall objective of developing recommendations for selecting respirators used to protect wearers against airborne infectious agents. The current APF's aren't appropriate for airborne infectious biological agents. Wearing N95 filtering facepiece respirators (with an APF of 10) are

not likely to adequately protect wearers against viruses or microorganisms that are highly pathogenic at infectious doses approaching one (1) organism. Far too many virus particles will enter the respiratory system of the wearer with death or serious illness likely to result. Such a comprehensive research plan might include some of the following elements:

- Determining the minimum infectious dose in humans for highly pathogenic influenza viruses.
- Assessing the filtration effectiveness of various respirator filtration media against virus particles, taking into account the most penetrating particle size.
- Take into account the additional effectiveness, if existent, for antimicrobial respirator technology, in conferring protection against infectious biological agents to the respirator wearer.
- Conduct simulated workplace protection factor studies using surrogate airborne biological agents.
- Determining the minimum level of respiratory protection health care workers would need given the information on infectious dose, filtration effectiveness, and effectiveness of antimicrobial technologies.
- Determining a practical change out schedule for filtering facepeices or filters that can be used by health care employers and workers.

5. Complete as soon as possible the total inward leakage (TIL) certification requirements for respirators. Filtering facepiece respirators ought not to be certified by NIOSH and subsequently sold in the commercial markets unless they can pass some minimum criteria for fitting the face of potential wearers. Certification based solely on filtration efficiency is necessary but not sufficient.

6. Assess the possibility of the creation of tight-fitting filtering facepiece respirators that can provide a proper fit without annual fit testing. If technically feasible, assess the economics of their use with a complete respiratory protection program.

7. Assess the economics and level of fit/protection of elastomeric respirators (equipped with particulate filters) versus filtering facepiece respirators for use by health care workers who provide care for pandemic flu patients. The most common, and apparently simple and cheap, decision for health care employers is to purchase and use filtering facepieces rather than the initially more expensive elastomeric respirators. However, there are circumstances where using elastomeric respirators are likely to have economic, protective and other advantages over that offered by filtering facepieces. Translating this research into the development of case studies or decision logic would be most helpful on this issue.

8. Assess the possibility of creating a class of powered air purifying respirators targeted for use in healthcare conditions to protect against airborne biological hazards, including pandemic flu (such as lighter weight, lower noise level, lower air flow rates

and improved visibility). Assess the advantages of this class of respirator over filtering facepieces with regard to level of protection, ease of use (no fit testing, facial hair permitted) and eliminating concerns with shortages of large quantities of disposable respirators in the event of a flu pandemic.

9. Conduct a thorough survey of the current state of the use of PPE, focused on respiratory protection, in the healthcare industry. This baseline data would then be helpful to track improvements in the industry as well as identify areas needing strengthening.

10. Initiate, coordinate, and catalyze the work of other segments of NIOSH outside of NPPTL and other federal government agencies around this action plan. While the plan has done a very good job of identifying important research needs relevant to PPE for health care workers, including research that falls outside of its focus and expertise (such as engineering and administrative controls), it will be necessary for NIOSH to assert its leadership to pull this research network together so that the plan can become realized. This undoubtedly will be a difficult task – but a necessary one in order to achieve success.

11. Develop mechanisms for involvement of health care workers and their unions in the aspects of this research plan where it will obviously be of significant benefit to outcomes. This involvement must include the full range of health care workers, from physicians and nurses to technicians, aides, engineering and environmental services (housekeeping). Health care worker input will be important information for NIOSH to gather as it conducts and evaluates many of the research projects outlined in this plan. SEIU can assist NIOSH with this effort by helping with access to our nearly one million health care members and their employers.

12. We found the organization of this document somewhat challenging to read and at times repetitious. The detailed outline format with multiple layered and numbered indents, dense timeline charts, and complex box/connection diagrams might be useful as an internal document for NIOSH use. However, in our view, we'd rather see a more broadly organized, bulleted rather than outlined, and less repetitious document be issued as a final product, at least for use by stakeholders outside of NIOSH. Such a document will be easier to read and understand.

Again, we'd like to thank NIOSH for sharing your plan that begins to undertake many of the excellent recommendations with the IOM report. Health care workers will benefit from this initiative. We hope NIOSH will find our thoughts helpful.

Sincerely,

Bill Borwegen, MPH
Occupational Health and Safety Director