

# Influenza **Immunization** Among Health Care Personnel



Call to  
Action

Improving Low Influenza Vaccination Rates  
Among Health Care Personnel Requires Comprehensive  
Approach, Institutional Commitment

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# Influenza Immunization Among Health Care Personnel

## Improving Low Influenza Vaccination Rates Among Health Care Personnel Requires Comprehensive Approach, Institutional Commitment

A continued, concerted effort by health care institutions, employers, insurers and allied professional organizations is essential to improve influenza vaccination rates among health care personnel (HCP).<sup>\*</sup> Since the National Foundation for Infectious Diseases (NFID) published its first “Call to Action” on this topic in 2004, many health care organizations have issued recommendations that HCP receive annual influenza vaccine.<sup>1-6</sup> Despite these recommendations, influenza immunization rates among HCP have not greatly improved. Rates have fluctuated in recent years, but even at their highest (42 percent in 2004 and 2006), they remain unacceptably low.<sup>1</sup>

Health care personnel can spread the highly contagious influenza virus to patients in their care.<sup>7-9</sup> In fact, unvaccinated workers can be a key cause of outbreaks in health care settings. This is particularly troubling for the many patients at high risk for influenza-related complications, hospitalization and death.<sup>1</sup>

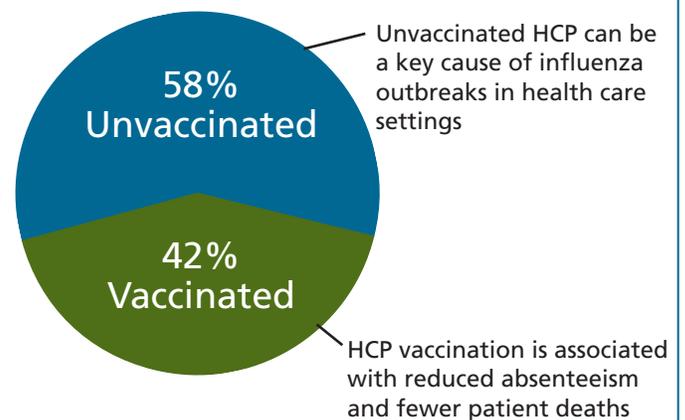
Since NFID first raised the issue of low influenza vaccination rates for HCP, groups such as the Joint Commission (formerly the Joint Commission on Accreditation of Health Care Organizations),<sup>2</sup> the Association for Professionals in Infection Control and Epidemiology (APIC),<sup>4</sup> the Infectious Diseases Society of America (IDSA),<sup>5</sup> the Society for Healthcare Epidemiology of America (SHEA)<sup>6</sup> and the National Influenza Vaccine Summit, among others, have taken steps to alert the immunization community to the important public health goal of vaccinating individuals who work in health care settings.

The Joint Commission has had a standard in place since 2005 requiring accredited hospitals and long-term care facilities to offer influenza vaccinations to staff, including licensed independent practitioners and volunteers.<sup>2</sup> Accredited organizations are required to establish annual immunization programs to educate employees about influenza and offer vaccine on site. At this time, the Joint Commission is reviewing its standard and is considering options to strengthen it.

\* In the context of this document, the term “health care personnel” extends to all persons working in health care settings, including home health care, who have contact with patients. This includes not only traditionally identified medical staff (e.g., physicians, nurses, physician assistants, etc.), but also therapists, technicians, laboratory personnel, pharmacists, students and trainees, volunteers and non-medical personnel who may come into contact with vulnerable patients (e.g., housekeeping, plant operations, dietary, secretarial, administrative, etc.).

The Centers for Disease Control and Prevention (CDC) recommends that health care facilities offer influenza vaccine to employees annually, provide vaccine at the work site at no cost and use the level of HCP influenza vaccination coverage as a measure of their patient safety quality program.<sup>1,3</sup> CDC also suggests that institutions encourage vaccination by obtaining signed statements from workers who refuse it.<sup>1,3</sup>

### Average Annual Influenza Vaccination Rates in Health Care Personnel



Source: CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2007. *MMWR*. 2007;56(RR-6):1-54.

*Only about four in 10 HCP receive influenza vaccine each year, while nearly six in 10 remain unvaccinated, contributing to institutional outbreaks that put vulnerable patients at increased risk of contracting influenza and suffering from its potentially major complications.*

IDSA supports mandatory annual HCP influenza immunization while allowing workers to decline for religious, philosophical or medical reasons.<sup>5</sup> Alternatively, the American College of Occupational and Environmental Medicine acknowledges that influenza vaccination is the most tangible and measurable strategy to control transmission of influenza between patients and staff, but does not feel mandatory vaccination is justified.<sup>10</sup> The annual immunization program recommended by SHEA includes educating HCP about the severity of influenza and correcting mistaken beliefs about the vaccine (that it causes the flu, for example).<sup>6</sup> Regulations regarding HCP influenza vaccination now exist in several states:

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influenza vaccination is mandatory in three states and must be made available in three states.<sup>11</sup>

Despite these efforts, vaccination rates remain too low and patients continue to be needlessly placed at increased risk. Therefore, NFID strongly encourages other professional, consumer and accrediting groups to increase their commitment to HCP influenza immunization and strengthen their health care standards and practices.

## Influenza Outbreaks in Health Care Settings

Documented outbreaks illustrate the problem of influenza transmission between HCP and patients:

- An outbreak in an organ transplant unit affected four patients. Each was in a single room and three of the four had no visitors to account for the spread. Three of 27 nurses also developed influenza.<sup>12</sup>
- Sixty-five residents in a long-term care facility developed influenza A. Over half developed pneumonia, 19 were hospitalized and two died. Only one out of 10 HCP was immunized.<sup>13</sup>
- In a neonatal intensive care unit, 19 infants were infected and one died. Health care personnel were the likely source of the spread. Only 15 percent of staff had been immunized.<sup>14</sup>

## Influenza Immunization Offers Economic Benefits

Preventing influenza spread between HCP and patients will not only contribute to societal cost savings, but will also reduce the economic impact for individual institutions. As an example, in an influenza outbreak in an internal medicine ward, 23 percent of staff became ill, resulting in 14 person-days of sick leave, postponement of eight scheduled admissions, suspension of emergency admissions for 11 days and an average additional cost per patient of \$3,798.<sup>15</sup> The total outbreak cost was \$34,179. Another problem for institutions that likely has an economic impact (though it is not easily quantified) is that peers, often working double shifts, or pool workers, must replace HCP who do not report to work due to influenza illness.<sup>16</sup>

## Influenza Immunization Reduces Patient Mortality

Influenza vaccination of HCP in nursing homes and institutions is associated with lower patient mortality rates:

- Staff offered influenza vaccine in 22 of 44 nursing homes was more likely to be immunized (48 vs. 6 percent). Significantly fewer patients in the facilities with higher immunization rates were admitted to the hospital with influenza-like illness and significantly fewer patients died.<sup>17</sup>
- In 12 geriatric medical long-term care facilities, a staff influenza immunization rate of 61 percent was associated with significant reductions of about 40 percent in total patient mortality and influenza-like illness.<sup>18</sup>

## What's Needed

Employers of HCP need to commit resources to institutionalizing immunization in the workplace. They need to demonstrate that immunization of HCP is critical to patient safety, and will protect HCP themselves, their families and close contacts.

Institutions must break down vaccination barriers to increase HCP immunization rates. Mobile vaccination cart programs have increased influenza vaccination rates among employees from less than 25 to 65 percent.<sup>19</sup> After the Mayo Clinic offered free vaccine, vaccinated coworkers at their work sites and during grand rounds, and used a gift incentive program, influenza immunization rates rose to 76 percent.<sup>19</sup> Standing orders have also been shown to improve vaccination rates.<sup>20</sup>

A variety of approaches on the part of top management/administration can help increase rates and lessen the burden of influenza illness in HCP:

- Make influenza vaccination convenient
  - Offer vaccine clinics at various times
  - Take the vaccine to employees
- Reduce or remove cost barriers by providing vaccine free of charge
- Remind HCP that the CDC recommends influenza vaccination annually
- Educate HCP that
  - Vaccines cannot cause influenza
  - Influenza virus is easily transmitted and they are putting their patients, themselves and their families at risk.

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## Organizational Supporters

The following organizations agree that improving annual influenza immunization rates among HCP is an important public health goal for the protection of HCP and their close contacts, including their at-risk patients.

- American Academy of Pediatrics
- American Academy of Physician Assistants
- American Association for Homecare
- American Association of Occupational Health Nurses
- American College of Occupational and Environmental Medicine
- American College of Physicians
- American Health Care Association
- American Hospital Association
- American Medical Association
- American Medical Directors Association
- American Nurses Association
- American Society of Health-System Pharmacists
- America's Health Insurance Plans
- Association for Professionals in Infection Control and Epidemiology
- Brigham and Women's Hospital
- Centers for Disease Control and Prevention
- Centers for Medicare & Medicaid Services
- Cleveland Clinic
- International Society for Vaccines
- The Joint Commission
- Kaiser Permanente Northern California
- National Association of Directors of Nursing Administration/ Long Term Care
- National Center for Assisted Living
- National Medical Association
- Occupational Safety and Health Administration
- St. Jude Children's Research Hospital
- Society for Healthcare Epidemiology of America
- Virginia Mason Medical Center
- Visiting Nurse Associations of America

## About the National Foundation for Infectious Diseases

The National Foundation for Infectious Diseases is a non-profit, tax-exempt (501c3) organization founded in 1973 and dedicated to educating the public and health care professionals about the causes, treatment and prevention of infectious diseases.

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## References

1. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2007. *MMWR*. 2007;56(RR-6):1-54.
2. Joint Commission on the Accreditation of Health Care Organizations. Joint Commission establishes infection control standard to address influenza vaccines for staff. Terrace, IL: Joint Commission on the Accreditation of Health Care Organizations; 2006. Available at [http://www.jointcommission.org/newsroom/newsreleases/nr\\_06\\_13\\_06.htm](http://www.jointcommission.org/newsroom/newsreleases/nr_06_13_06.htm).
3. CDC. Influenza vaccination of health-care personnel: recommendations of the Healthcare Infection Control Practices Advisory Committee (HICPAC) and the Advisory Committee on Immunization Practices (ACIP). *MMWR*. 2006;55(RR-2):1-17.
4. 2004 APIC Immunization Practices Working Group. APIC position paper: improving health care worker influenza immunization rates. *Am J Infect Control*. 2004;32:123-5.
5. Infectious Diseases Society of America. Pandemic and seasonal influenza. Available at: <http://www.idsociety.org/influenza.htm>. Accessed January 18, 2008.
6. Talbot TR, Bradley SF, Cosgrove SE, et al. SHEA Position Paper: Influenza vaccination of healthcare workers and vaccine allocation for healthcare workers during vaccine shortages. *Infect Control Hosp Epidemiol*. 2005;26:882-90.
7. Horcajada JP, Pumarola T, Martinez JA, et al. A nosocomial outbreak of influenza during a period without influenza epidemic activity. *Eur Respir J*. 2003;21(2):303-7.
8. Salgado CD, Farr BM, Hall KK, Hayden FG. Influenza in the acute hospital setting. *Lancet*. 2002;2(3):145-55.
9. Harrison J, Abbott P. Vaccination against influenza: UK health care workers not on-message. *Occup Med*. 2002;52(5):277-9.
10. American College of Occupational and Environmental Medicine. Influenza control programs for healthcare workers. A consensus opinion statement from ACOEM. Available at: <http://www.acoem.org/guidelines.aspx?id=730#>. Accessed January 25, 2008.
11. Lindley MC, Horlick GA, Shefer AM, Shaw FE, Gorji M. Assessing state immunization requirements for healthcare workers and patients. *Am J Prev Med*. 2007;32:459-65.
12. Malavaud S, Malavaud B, Sanders K, et al. Nosocomial outbreak of influenza virus A (H3N2) infection in a solid organ transplant department. *Transplantation*. 2001;72(3):535-7.
13. CDC. Outbreak of influenza A in a nursing home—New York, Dec. 1991-Jan. 1992. *MMWR*. 1992;Feb 4(18):129-31.
14. Cunney RJ, Bialachowski A, Thornley D, Smaill FM, Pennie RA. An outbreak of influenza A in a neonatal intensive care unit. *Infect Control Hosp Epidemiol*. 2000;21(7):449-51.
15. Sartor C, Zandotti C, Romain F, et al. Disruption of services in an internal medicine unit due to a nosocomial influenza outbreak. *Infect Control Hosp Epidemiol*. 2002;23(10):615-9.
16. Lundstrom T, Pugliese G, Bartley J, Cox J, Guither C. Organizational and environmental factors that affect worker health and safety and patient outcomes. *Am J Infect Control*. 2002;30:93-106.
17. Hayward AC, Harling R, Wetten S, et al. Effectiveness of an influenza vaccine programme for care home staff to prevent death, morbidity, and health service use among residents: cluster randomised controlled trial. *BMJ*. 2006;333:1241.
18. Potter J, Stott DJ, Roberts MA, et al. Influenza vaccination of health care workers in long-term-care hospitals reduces the mortality of elderly patients. *J Infect Dis*. 1997;175:1-6.
19. CDC. Interventions to increase influenza vaccination of health-care workers: California and Minnesota. *MMWR*. 2005;54(08):196-9.
20. Task Force on Community Prevention Services. Recommendations regarding intervention to improve vaccination coverage in children, adolescents, and adults. *Am J Prev Med*. 2000;18(suppl 1):592-596.

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