Counterpoint: In Favor of Mandatory Influenza Vaccine for All Health Care Workers

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(See the point by Finch on pages 1141–3)

Health care workers (HCWs) who have contact with patients have an increased risk of exposure to vaccine-preventable diseases and of spreading those diseases to vulnerable patients. Maintenance of immunity against vaccine-preventable diseases is an essential part of disease-prevention and infection-control programs [1]. Influenza is the most common vaccine-preventable disease, and nosocomial transmission is frequently identified in health care facilities; yet, voluntary vaccination policies permit HCWs to put patients at risk of influenza, despite the availability of a safe and effective vaccine.

Together, influenza and pneumonia are the seventh leading cause of death overall in the United States. Deaths due to influenza and pneumonia greatly exceed the death toll from AIDS, and these illnesses rank in the top 10 causes of death for every decade of life. Annual epidemics of influenza result in ~40,000 deaths and >200,000 hospitalizations in the United States [2, 3], accounting for the winter increase in US mortality rates [4]. The greatest toll is on persons ≥65 years of age and those with underlying chronic illnesses—precisely the population in our hospitals, intermediate care facilities, and long-term care facilities.

Vaccination is the primary means of preventing influenza. Inactivated influenza vaccine is safe and effective in healthy persons <65 years of age, and it provides 70%–90% protection against infection [5, 6]. Similar high protection rates have been documented among HCWs. Immunologic response to inactivated influenza vaccine is not as effective among the older population, especially those with chronic illness in long-term care facilities [7]. This population needs the additional protection provided by ring vaccination, a well-established concept that is the basis for the recommendation to vaccinate household members and caregivers of both older persons and infants who are too young to be vaccinated. Studies conducted in long-term care facilities have demonstrated that vaccination of HCWs is associated with a statistically significant reduction of mortality among residents. In the study by Potter et al. [8], the benefit of HCW vaccination exceeded that of vaccinating the residents [9].

Nosocomial spread of influenza involving HCWs has been shown in many health care facilities, including long-term care facilities [10–12], oncology units [13], transplant units [14], neonatal intensive care units [15], general medical and pediatric wards [16, 17], emergency departments [18], and other facilities. These outbreaks have been reviewed by the National Foundation for Infectious Diseases and the Society for Healthcare Epidemiology [19].

Recommendations for vaccination and voluntary vaccination efforts have not achieved the desired result. Influenza vaccination coverage among HCWs was ~40% in 2003 [20], with coverage in many facilities as low as 15%–30% among HCWs. Within this variation in coverage, there are disparities; younger workers, African Americans, and health aides have lower rates of influenza vaccination [21]. These low coverage statistics persist, despite the fact that the Advisory Committee on Immunization Practices and Centers for Disease
Control and Prevention have recommended since 1984 that HCWs receive influenza vaccination. Even the tactics of strong promotion, provision of free vaccination, and use of a vaccination cart to make vaccination convenient by bringing it to the HCWs on their units commonly achieves only 40%–60% coverage [16, 22]. The highest reported coverage among HCWs, achieved in 1 academic acute care hospital after an aggressive, multiple-year campaign, is 76% [20].

During an average influenza season, ~15% of persons will become ill, but HCWs are likely at higher risk of infection because of close contact with patients who may have influenza. In 1 nosocomial outbreak, 35% of HCWs became ill [23]. The risk of nosocomial spread is compounded by the tendency of HCWs to work when they have an influenza-like illness. A survey showed that >75% of HCWs with an influenza-like illness continued to work in an acute care hospital [23]. Even staying home during symptomatic illness would not completely prevent HCWs from spreading influenza, because influenza virus may be shed for at least 1 day prior to significant symptomatic illness [24]. Moreover, only ~50% of persons develop classic symptoms of illness, yet they can shed the virus for 5–10 days [25, 26].

There is a moral imperative to vaccinate HCWs against influenza. The medical profession has an obligation to act in the best interest of patients and to protect patients from harm [27]. Vaccination against influenza is currently advocated as part of a comprehensive approach to patient safety and health care–associated infection. The National Quality Forum and the Leapfrog Group for Hospital Quality and Safety have listed influenza vaccination of HCWs as one of the safe practices for the protection of patients [28].

The safety of the influenza vaccine permits a mandatory vaccination policy. The only common side effect is minor injection site soreness for 1–2 days. Systemic effects are no more common than they are with placebos among older persons and healthy adults [29]. Severe reactions are very rare. In 1967, the swine influenza vaccine was associated with a slight increase in Guillain-Barré syndrome; however, studies during subsequent years have not documented a clear increase in incidence associated with receipt of the influenza vaccine [25]. The safety and benefits gained with the influenza vaccine are moving national vaccination policy toward a universal recommendation.

Cost should not be a barrier to health care institutions requiring influenza vaccination of HCWs. Influenza vaccination is the most cost-effective of all adult preventive health interventions. Over 3 influenza seasons, Nichol et al. [30] determined direct cost savings of vaccination of older persons to be $117 per person. Economic savings of $47 per person in the same season in which vaccination occurred was shown among a population of healthy, working adults; these savings resulted primarily from reduced rates of employee respiratory illness and absenteeism, including a general decrease in hospitalization for chronic illness [30]. In a randomized, double-blind, controlled trial over 2 seasons, Wilde et al. [5] demonstrated vaccine efficacy of 89% against serologically defined influenza infection, and they demonstrated a trend of 2 fewer days of absence due to respiratory illness (9.9 days for vaccinated persons vs. 21.1 days per 100 people among control subjects). Facilities are almost always short-staffed and short-bedded during the influenza season, so it is clearly to employers’ benefit to keep their employees in healthy, working condition by requiring them to be vaccinated. Even greater economic savings could be expected from vaccination of HCWs because of the additional benefit of patient protection; nosocomial outbreaks add significantly to the hospital cost of affected patients [15].

Multiple studies have examined the reasons why HCWs do not currently receive vaccine. The most common barriers include cost, convenience, concern about adverse reactions, perceived lack of susceptibility, and alleged lack of vaccine effectiveness [23, 31–34]. Common arguments include, “it’s just flu,” “I never get sick,” or “the shot gives you the flu.” Nearly 30% of nurses in the United Kingdom thought that vaccine was not needed, and 18% were not aware that there is a vaccine [35]. It is discouraging that the health care profession cannot overcome the weak arguments of its colleagues with appropriate health education campaigns. Influenza vaccination for HCWs is not merely an altruistic act. In addition to protecting patients, vaccination benefits protect the families (some of whom will be at high risk for complications from influenza) and the close, personal contacts of HCWs against illness and potential harm.

Vaccination requirements do work. Nearly all states have vaccination requirements for children attending day care and school that achieve 95% immunization coverage for the required antigens [36]. Moreover, there are precedents for employer mandates for HCWs. Many facilities require HCWs to demonstrate immunity to rubella and measles (a live vaccine) and hepatitis B to work in a hospital or to obtain staff privileges. After exposure to viruses such as rubella or measles, an HCW may be required to show proof of immunity, or he or she may be excluded from work or patient contact. For varicella-zoster virus, post-exposure restrictions at work for 10–21 days after exposure are recommended [1].

Policy and practice for influenza vaccination of HCWs are slowly being strengthened. “[The Advisory Committee on Immunization Practices] emphasizes that all health-care workers should be vaccinated against influenza annually, and that facilities that employ health-care workers be strongly encouraged to provide vaccine to workers by using approaches that maximize immunization rates” [37, p. 2]. This year, the Advisory Committee on Immunization Practices and the Healthcare Infection Control Practices Advisory Committee went a step further, and they now recommend that HCWs be required to sign
a declination if they do not want this vaccine [38]. Both the National Foundation for Infectious Diseases and the Society for Healthcare Epidemiology of America have reviewed the problem of influenza vaccine coverage among HCWs and its impact on health care facilities, and they have called for a strengthening of efforts to vaccinate HCWs [19, 39]. A survey of infection control practitioners in 5 different types of institutions that serve at-risk elderly populations in North Carolina indicated that only 38% had formal employee vaccination policies, but one-half of respondents would support a mandate for influenza vaccination for all HCWs with direct patient contact [40]. Each year that we allow HCWs to remain unvaccinated exposes more patients to risk of serious harm. It is ironic that influenza vaccination is still considered voluntary, although other, less-effective infection control and health care practices are expected and enforced in health care facilities to protect patients.

If the health care system does not take the initiative in requiring vaccination for its workers, it is likely to be mandated by legislation. Numerous states already have requirements to provide influenza vaccination for HCWs in long-term care facilities [41]. Even now, there is potential liability in knowing the benefits of this vaccine and not requiring that HCWs be vaccinated. Although there is little case law on this subject, it is well accepted that a health care facility owes a duty of care to patients to protect them against infections acquired at the facility. In one case, this duty even extended to a HCW’s wife who had a Staphylococcus infection [42]. In 2004, a mandatory vaccination policy was stopped in accordance with an arbitrated decision in a Seattle hospital on the basis that the hospital had violated the terms of the nurses’ contracts by implementing a unilateral policy [43]. However, this does not preclude legislative mandates or mandates negotiated in future contracts.

Thus, there are multiple reasons—from economic to medical and from moral to legal—for requiring all HCWs to be vaccinated against influenza. The well-established benefits of vaccination to both the HCW and their patients and the very low risk of adverse reaction to the vaccine support this as a standard and expected practice to protect patients. The Centers for Disease Control and Prevention, the National Center for Infectious Diseases, and the Society for Healthcare Epidemiology of America all recommend a multiple-prong approach that addresses HCWs’ perceived barriers to being vaccinated, provides access to free vaccine at the clinical work site, shows management and health care worker commitment and leadership, and measures results. The Joint Commission on Accreditation of Healthcare Organizations also released for review a new proposed infection control standard that would require accredited organizations to offer influenza vaccinations to staff, volunteers, and licensed independent practitioners with close patient contact [44]. Although this will increase vaccination rates, there is currently no evidence that these rates will routinely achieve levels beyond 60%–70%. Leaving one-third to one-fourth of HCWs susceptible to influenza is still unacceptable. Sometimes, coercive action is needed, and the failure to apply it is an abrogation of our responsibility of leadership. This active approach is appropriate in public health practice and other settings when used judiciously and applied fairly. HCWs should not have the right to harm patients by introducing disease to the most vulnerable populations that constitute the majority of our acute care hospital and long-term care patients.

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References


