



Rapid Public Health Policy Response Project

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Should Influenza Vaccines Be Mandatory for Health Care Workers?



THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF PUBLIC HEALTH
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About this Paper

New York State imposed a new regulation in August 2009 requiring all personnel working in health care facilities to be vaccinated against both seasonal and H1N1 influenza viruses. Many health care workers opposed the measure and three separate lawsuits were filed to challenge it. In late October, New York Governor David Paterson suspended the regulation, citing shortages of H1N1 vaccine.

But the issue is likely to surface again, either in New York or in other jurisdictions around the country. Compulsory vaccination of health care workers involves two cherished interests that can be difficult to reconcile — protecting patient health and safeguarding the rights of individuals to make their own medical choices. This paper reviews the risks of influenza in health care settings, the availability of safe and effective vaccines to reduce that risk, and the inadequate health care worker compliance with immunization recommendations. Based on the obvious need to get more workers vaccinated, it then reviews the arguments for and against mandates.

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About the Rapid Health Policy Response Project

The Rapid Health Policy Response Project of the School of Public Health and Health Services at The George Washington University presents data and other background information on breaking public health stories. The goal is to educate the public, policymakers, legislators, health care providers, the media and others in order to promote informed decision making.

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In August 2009, New York became the first state in the nation to mandate that all personnel working in health care facilities be vaccinated against both seasonal flu and the H1N1 influenza virus.¹ Three months later, Governor David Patterson revoked the mandate.² Meanwhile, a number of large hospital systems around the country continue to require that anyone who comes into direct contact with patients receive flu vaccines.³

Public health officials are understandably eager to curb the spread of influenza, a sometimes-dangerous respiratory illness that is readily transmitted by casual contact. With two types of influenza poised to strike, this year's flu season is likely to result in higher-than-usual rates of disease and death. The uncertain virulence of H1N1 adds a further sense of urgency. But vaccine mandates pit two cherished interests against each other — protecting the public health and safeguarding the rights of individuals to make their own medical choices. Should health care workers be required to receive influenza vaccines?

The risks of influenza, the protections and limits of the vaccine

Disease risks: The risks of seasonal influenza are well-known. Every year, between 5 and 20 percent of the U.S. population is sickened, resulting in more than 200,000 hospitalizations and 36,000 deaths from flu-related complications. Older people, children, and people with other medical conditions are generally most vulnerable.⁴

The H1N1 virus has a somewhat different pattern, disproportionately affecting younger people and pregnant women. The older population has some immunity, presumably as a result of prior exposure to related viruses.

Because H1N1 is new, we don't yet know the severity of the disease it will cause. By mid-October, some 414,000 laboratory-confirmed cases and nearly 5,000 deaths worldwide had been reported, according to the World Health Organization.⁵ Just how far the H1N1 virus will spread, or how severe the pandemic will become, remains uncertain, but every individual infected with H1N1 can be expected to infect approximately 1.5 unvaccinated people⁶ (and perhaps more in school settings).

Effectiveness of vaccine: The seasonal flu vaccine does not confer 100 percent protection, especially in older people whose weaker immune systems may not respond fully to it. Effectiveness is also limited by the fact that flu vaccines are typically “best guesses” as to which will be the most virulent viruses in circulation, a guess that must be made months in advance of the flu season. Even after being vaccinated, only 30–70 percent of the elderly population is fully protected, underscoring the importance of protecting them from initial infection where possible.⁷

When the vaccine and the circulating seasonal flu viruses are well matched, higher levels of protection — on the order of 70–90 percent — are conferred on adults under 65.⁸ In line with population-wide studies, a trial that looked specifically at health care professionals reported that vaccines were 88–89 percent effective in providing protection against flu strains over three years.⁹

The H1N1 vaccine may confer more protection. A preliminary report from the *New England Journal of Medicine* found that a single dose of vaccine evoked a significant antibody response in almost 97 percent of the population tested.¹⁰

Protecting patients, reducing absenteeism

Infected personnel who come into regular contact with patients can spread influenza, especially in hospitals and nursing homes.⁸ Vaccinating health care workers means not only that they are protected against illness themselves, but that fewer infections will occur in health care settings and that absenteeism will be reduced, which is especially crucial when a pandemic imposes greater demands on the system.

A number of studies demonstrate that vaccinating health care workers reduces disease spread and patient mortality:

- ▶ Researchers assessed vaccination rates and their correlation to influenza in a 600-bed hospital over 12 influenza seasons. Vaccination rates among health care workers increased from 4 percent during the 1987–88 flu season to 67 percent in 1999–2000 while hospital-acquired influenza (nosocomial infections) decreased significantly. In 1987–88, almost one-third of patients with influenza had nosocomial infections, while none acquired influenza in the hospital during the 1999–2000 season.¹¹
- ▶ Nursing homes that offered vaccinations to staff at a chain of United Kingdom home care facilities experienced significantly less mortality and influenza-like illnesses than those that did not. Vaccinating these workers during a period of influenza activity “is equivalent to preventing five deaths, two admissions to hospital with influenza-like illness, seven general practitioner consultations for influenza-like illness, and nine cases of influenza-like illness per 100 residents,” according to the study authors.¹²
- ▶ A study of more than 1,200 health care workers found that patient mortality was substantially reduced at long-term care hospitals routinely offering influenza vaccine to staff — 102 deaths were reported among 749 patients (13.6 percent), compared to 154 deaths among 688 patients (22.4 percent) in hospitals that did not routinely offer vaccine.¹³

There is also evidence that vaccinating health care workers reduces disruptions in the workplace and saves money:

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- During the peak 2003–04 winter flu season, staffing shortages occurred at 35 percent of the nation’s hospitals, according to a Centers for Disease Control and Prevention (CDC) survey.¹⁴
- A study in a Finnish pediatric hospital found that vaccinating health care professionals against influenza reduced absenteeism from respiratory infections by 28 percent.¹⁵
- By reducing absenteeism and the need to pay for replacement staff, a vaccination program is cost-effective for employers, even after factoring in the cost of promoting and delivering vaccinations to health-care workers.¹⁶

Vaccines for health care workers are recommended

Data on the benefits of vaccines form the basis for recommendations that health care workers receive influenza vaccine, which have been advanced by numerous agencies and organizations:

- The CDC’s Healthcare Infection Control Practices Advisory Committee and its Advisory Committee on Immunization Practices recommend that health care workers be educated about the benefits of influenza vaccination and offered the vaccine at their work sites without charge.⁸
- The Joint Commission on the Accreditation of Healthcare Organizations developed a new standard, effective 2007, requiring health care facilities to offer influenza vaccination to staff and licensed independent practitioners.¹⁷
- The National Foundation for Infectious Diseases issued a Call to Action urging health care administrators to take specific measures to increase vaccination rates through educational programs and on-site immunization.¹⁸ Some 30 organizations, including professional societies, government agencies, and medical centers, have signed on to the foundation’s statement “that improving annual immunization rates among health care professionals is an important public health goal.” Among them are the:
 - American Medical Association
 - American Nurses Association
 - American Academy of Physician Assistants
 - American Hospital Association
 - American Society of Health-System Pharmacists
 - Centers for Medicare and Medicaid Services
 - Occupational Safety and Health Administration

In New York State, the Department of Health has made concerted efforts to encourage health care workers to be vaccinated over the past few years, forming a department-wide work group, developing educational materials, toolkits, and public service announcements, and

reaching out to health care partners across the state. The health commissioner also sent two letters, and a health advisory, to hospitals, long-term care facilities, providers, and local health departments advising them that the Department of Health strongly advocates that all health care workers receive an annual influenza vaccination.¹⁹

Most health care workers are not vaccinated against influenza

Despite these recommendations, influenza vaccination coverage rates remain low and outbreaks occur regularly. During the flu seasons from 2000 through 2007, 1,153 influenza outbreaks occurred in New York State’s hospitals and long-term-care facilities, resulting in 19,052 suspected and confirmed cases of nosocomial influenza among patients and 5,179 cases among staff.²⁰

In keeping with national trends, more than half of New York’s health care workers fail to receive a seasonal flu vaccine. Across the country, immunization levels for health care workers increased from 10 percent to 40 percent from 1989 to 2003, but have not risen substantially since then.⁸ The goal of the federal Department of Health and Human Services to have 60 percent of health care workers vaccinated by 2010 now seems an unlikely reach.²¹

A review of 25 studies dating back almost 30 years, from 1980 to 2009, yielded some insights as to why so many health care workers fail to be vaccinated against influenza.²² While the reasons are notably heterogeneous — none were mentioned by more than 60 percent of study subjects — the top five, beginning with the most common, were:

- Fear of adverse reactions (mentioned in virtually every study reviewed)
- Lack of concern about influenza (responses included “influenza is not a serious disease,” and “I do not think about it.”)
- Inconvenient access to vaccine (“too busy,” “inconvenient to obtain”)
- Lack of perception of own risk (“I am healthy and I don’t get sick”)
- Doubts about vaccine efficacy (“the vaccine does not work”)

The authors also sought to understand why some health care workers were willing to be vaccinated. Self-protection — “I don’t want to get sick” — was by far the most common reason given. A distant second was protecting patients, followed by protecting family members or colleagues, and convenient access to the vaccine.

The debate over mandatory vaccines

The risks of spreading influenza in health care settings, the availability of a safe and effective vaccine to reduce that risk, and the low compliance rate among health care workers clearly support the need for aggressive efforts to encourage workers to be vaccinated. There is little opposition to efforts to increase voluntary immunization.

Mandates are far more controversial, in essence pitting public health goals against protected rights of individuals to make their own medical choices.

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Mandate suspended in New York: In August, New York became the first state to require influenza vaccines, mandating that all personnel employed in health care facilities be inoculated against both the seasonal flu and the H1N1 virus by the end of November or risk losing their jobs.¹ The new regulation required each facility to provide or arrange for free vaccine, with an exception made for workers who have documented medical problems.

That regulation has substantial precedent. New York already requires that health care workers be vaccinated against rubella and measles²³ and hepatitis B, mumps and chicken pox vaccines are required in many other jurisdictions.²⁴

Nonetheless, the influenza mandate created an immediate stir. The New York State Nurses Association, the Public Employees Federation, the New York Committee for Occupational Safety and Health (a coalition of union locals), the New York State United Teachers Union, and the New York Civil Liberties Union were among the organizations who opposed the measure.²⁵

In response to three separate lawsuits filed by a group of nurses, the Public Employees Federation, and the teachers union, a New York Supreme Court judge issued a temporary restraining order halting enforcement of the vaccine mandate on Oct. 16, 2009.²⁶

Before a hearing scheduled for the end of the month could take place, Governor David Paterson suspended the requirement. The health department said the suspension decision was based on the current scarcity of supply — the state wanted to ensure that adequate H1N1 vaccine remain available to the pregnant women and children who are at special risk. The department also said seasonal influenza vaccine was in short supply.²⁷

Despite the shift in New York, which may or may not be temporary, the issue of mandatory influenza vaccines for health care workers is certain to surface again and the arguments on both sides warrant consideration.

Opposing a mandate: The broad argument against influenza vaccine mandates is that they represent an overreach of state authority. “Mandatory vaccination violates well-established principles of individual autonomy, including the right of competent adults to make decisions regarding their medical care,” said the New York Civil Liberties Union in testimony before New York State Assembly representatives.²⁸

The NYCLU makes three broad arguments:

- **A mandate does not strike the appropriate balance** between autonomy and the protection of public health. Because a vaccine is reasonably considered an intrusion on bodily integrity, the presumption is that individuals maintain the right to choose whether to be vaccinated. While acknowledging that curtailing individual freedoms may be warranted when dangers from a communicable disease are sufficiently grave, the NYCLU argues that H1N1 flu does not rise to that standard.

The civil libertarians also point out that vaccinating all health care workers does not guarantee that the flu will not be transmitted to others and that less coercive protective measures are available, including programs that strongly encourage vaccination and the use of face masks and infection control practices in health care settings.

- ▶ ***New York is an outlier.*** Voluntary vaccination is a widely endorsed as a “best-practice” principle. No other governmental entity currently requires H1N1 vaccines for health care workers, according to the NYCLU, and neither the World Health Organization nor the CDC have recommended a mandate.
- ▶ ***A mandate undermines trust in the public health system.*** Effective public health measures depend on cooperation among government policymakers, health care workers, and the public. The kinds of conflicts that have arisen in the battles over the vaccine mandate “can create confusion and inefficiency; it can also jeopardize public safety,” argues the NYCLU.

Favoring a mandate: Other analysts examining the same information reach very different conclusions. Given the evidence that health care workers can spread influenza, and that safe and effective vaccines are available to reduce the risk, Gregory Poland and his colleagues at the Mayo Clinic argue that the failure to act “is a dereliction of the responsibilities of the medical community to the safety of the public whose care they are entrusted with.”²⁴

Supporters of a mandate focus especially on the ethical duty not to harm others and the special obligations of health care workers to protect their patients. In one analysis, published in *Vaccine*, the authors advance the following arguments:²⁹

- ▶ ***The duty not to do harm*** implies that an individual is obligated not to infect others with influenza if that individual knows how to prevent transmission and doing so does not impose an undue burden. In assessing the balance between risks and benefits, the authors conclude that the risks of the influenza vaccine are small, although not entirely absent, the burden is limited primarily to the inconvenience and discomfort of being vaccinated, and the benefits include reducing, although not eliminating, the probability of spreading infection and lowering absentee rates.
- ▶ ***Health care workers have special obligations*** that go further than a generalized duty not to harm others, given the trust placed in their hands by both patients and the institutions for which they work. “It is the responsibility of health care workers to be attentive to the needs of the patients entrusted to them and to factors that may compromise their health,” write the authors. Indeed, health care workers “have a moral duty of care.”

Workers who forego vaccinations may also undermine the health care system, write the Mayo Clinic authors.²⁴ As the public becomes aware that workers can spread infection in hospitals and nursing homes by their failure to be immunized, “the health care system will lose trust and credibility Health care organizations must take responsibility for curbing yearly epidemics that profoundly influence the health of our patients, our health care workers, our communities, and our global health.”

Arthur Caplan, director of the Center for Bioethics at the University of Pennsylvania, offers a somewhat more colloquial perspective in an interview posted on a Century Foundation Group blog.³⁰ Asked about infringing on the rights of health care workers, he commented:

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What rights might those be? The right to infect your patients and kill them? The right to create havoc in the health care workforce if swine flu hits hard? The right to ignore all the evidence of safety and efficacy of vaccines, thus continuing to promulgate an irrational fear on the part of the public of the best protection babies, pregnant women, the elderly and the frail have against the flu? Those rights?

A further argument is purely practical — mandates work, according to the Infectious Diseases Society of America. The society supports universal influenza immunization of health care workers on the grounds that this is “likely to be the most effective means to protect patients.”³¹

While New York has suspended its vaccination mandate for now, it may be resurrected when adequate vaccine supplies vaccine become available. In any case the issue will continue to be raised around the country. Further government action will depend on the virulence of the H1N1 virus, the availability of vaccine, and the willingness of legislators and the public health community to take on the considerable opposition that mandates are certain to generate.

Endnotes

1. The text of the amendments to New York State Public Health Law requiring that workers in health care facilities be vaccinated against influenza is available [here](#).
2. Hartocollis A. and Chan S. “[Flu Vaccine Requirement for Health Workers is Lifted.](#)” *The New York Times* Oct. 23, 2009. See also, [Letter to Administrators](#) from Richard F. Daines, MD, Commissioner, New York State Department of Health, announcing the suspension. URL accessed Oct. 25, 2009.
3. Among the hospital systems that mandate flu vaccines are Emory University Hospital in Atlanta, Virginia Mason Medical Center in Seattle, and the Genesis Health System in Iowa and Illinois.
4. Centers for Disease Control and Prevention. “[Seasonal Influenza: The Disease.](#)” URL accessed Oct. 24, 2009.
5. World Health Organization. [Pandemic H1N1 2009 — Update 71.](#) URL accessed Oct. 24, 2009.
6. Pourbohloul B, Ahued A, Davoudi B, et al. “[Initial Human Transmission Dynamics of the Pandemic \(H1N1\) 2009 Virus in North America.](#)” *Influenza Respiratory Viruses* 2009;3 (5):215-22.
7. Centers for Disease Control and Prevention. “[Flu Vaccine Effectiveness: Questions and Answers for Health Care Professionals.](#)” URL accessed Oct. 26, 2009. Van Delden JJM, Ashcoft R., Dawson A. “[The Ethics of Mandatory Vaccination Against Influenza for Health Care Workers.](#)” *Vaccine* 2008;26:5562-66.
8. Healthcare Infection Control Practices Advisory Committee and the Advisory Committee on Immunization Practices. “[Influenza Vaccination of Health-Care Personnel.](#)” *Morbidity and Mortality Weekly Report* 2006 Feb 24; 55;RR-2.
9. Wilde JA, McMillan JA, and Serwint J. “[Effectiveness of Influenza Vaccine in Health Care Professionals: A Randomized Trial.](#)” *Journal of the American Medical Association* 1999 March 10;281 (10):908-13.
10. Greenberg ME, Lai MH, Hartel GF, and Wichems CH. “[Response after One Dose of a Monovalent Influenza A \(H1N1\) 2009 Vaccine — Preliminary Report.](#)” *New England Journal of Medicine*. Epub September 10, 2009.
11. Salgado CD, Giannetta Et, Hayden FG, and Farr BM. “[Preventing Nosocomial Influenza By Improving the Vaccine Acceptance Rate of Clinicians.](#)” *Infection Control & Hospital Epidemiology* 2004 Nov;25 (11):923-8.

12. 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.” *British Medical Journal* 2006 Dec 16;333 (7581):908-13.
13. Carman WF, Elder AG, Wallace LA, et al. “Effects of Influenza Vaccination of Health-Care Workers on Mortality of Elderly People in Long-Term Care: A Randomised Controlled Trial.” *The Lancet* 2000 Jan 8;35 (9198):93-7.
14. Poland GA, Tosh P, and Jacobson RM. “Requiring Influenza Vaccination for Health Care Workers: Seven Truths We Must Accept.” *Vaccine* 2005;23:2251-5. The CDC data cited by Poland is from an unpublished presentation at the Advisory Committee on Immunization Practices meeting in Atlanta, February 2004.
15. Saxen H and Virtanen M. “Randomized, Placebo-Controlled Double Blind Study on the Efficacy of Influenza Immunization on Absenteeism of Health Care Workers.” *Pediatric Infectious Disease Journal* 1999;18 (9):779-83.
16. Burls A, Jordan R, Barton P, et al. “Vaccinating Healthcare Workers Against Influenza to Protect the Vulnerable — Is it a Good Use of Healthcare Resources? A Systematic Review of the Evidence and an Economic Evaluation.” *Vaccine* 2006; 24:4212-21.
17. Joint commission on Accreditation of Healthcare Organizations. “New Infection Control Requirement for Offering Influenza Vaccination to Staff and Licensed Independent Practitioners.” *Joint Commission Perspectives* 2006 June; 6 (6):10-11.
18. National Foundation for Infectious Diseases. “Call to Action: Influenza Immunization Among Health Care Personnel.” URL accessed Oct. 24, 2009.
19. New York State Department of Health. [Health Care Personnel Influenza Vaccination Requirements - Emergency Regulation](#). See “Needs and Benefits” section. The letters from the health commissioner were dated October 2006 and September 2007. The health advisory was dated Dec. 14, 2007. URL accessed Oct. 24, 2009.
20. New York State Department of Health. [Health Care Personnel Influenza Vaccination Requirements - Emergency Regulation](#). See Table 1: Confirmed Influenza Outbreaks in New York State Hospitals and Long-Term Care Facilities, citing Department of Health surveillance data. Nosocomial data is available from Jan. 1, 2001 forward.

21. Department of Health and Human Services. [“Health Care Personnel Initiative to Improve Influenza Vaccination Toolkit.”](#) In this document, DHHS notes coverage rates “were less than 50 percent” in 2007.
22. Hollmeyer HG, Hayden F, Poland G, and Bucholz U. [“Influenza Vaccination of Health Care Workers in Hospitals — A Review of Studies on Attitudes and Predictors.”](#) *Vaccine* 2009;27:3935-44.
23. Part 405, Hospitals-Minimum Standards. 10 NYCRR §405.3 (2009).
24. Poland GA, Tosh P, and Jacobson RM. [“Requiring Influenza Vaccination for Health Care Workers: Seven Truths We Must Accept.”](#) *Vaccine* 2005;23:2251-5.
25. The organizations opposed to the mandate are mentioned in Matthews C. [“N.Y. Health Care Workers Protest Mandatory H1N1 Flu Shots.”](#) *USA Today* Sept. 29, 2009 and Chan S. and Hartocollis A. [“Judge Halts Mandatory Flu Vaccines for Health Care Workers.”](#) *The New York Times* Oct. 16, 2009. See also: New York Committee on Occupational Safety and Health. [Testimony](#) before the New York State Assembly Standing Committee on Health, Labor, Education, Higher Education and the Subcommittee on Workplace Safety. Oct. 13, 2009.
26. Chan S. and Hartocollis A. [“Judge Halts Mandatory Flu Vaccines for Health Care Workers.”](#) *The New York Times* Oct. 16, 2009.
27. [Letter to Administrators](#) from Richard F. Daines, MD, Commissioner, New York State Department of Health. URL accessed Oct. 25, 2009.
28. New York Civil Liberties Union. [Testimony](#) before the New York State Assembly Standing Committee on Health, Labor, Education, Higher Education and the Subcommittee on Workplace Safety. Oct. 13, 2009. See also: [Letter from Donna Lieberman](#), Executive Director and Robert Perry, Legislative Director, New York Civil Liberties Union, to Richard F. Daines, MD, Commissioner, New York State Department of Health. Oct. 13, 2009.
29. Van Delden JJM, Ashcoft R., Dawson A. [“The Ethics of Mandatory Vaccination Against Influenza for Health Care Workers.”](#) *Vaccine* 2008;26:5562-66.
30. Freundlich N. [“Should the Swine-Flu Vaccine be Mandated for Health Care Workers?”](#) Century Foundation Group blog. Oct. 19, 2009.
31. Infectious Diseases Society of America. [“IDSA Policy on Mandatory Immunization of Health Care Workers Against Seasonal and 2009 H1N1 Influenza.”](#) September 2009.