

Oklahoma  
Hospital  
Association



# Improving Health Care Worker Influenza Vaccination Toolkit



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# Introduction

Influenza is a highly contagious disease that can be spread before symptoms appear and results in about 150,000 hospital admissions and 24,000 deaths annually. Hospitalized patients are particularly vulnerable to the dangers of influenza because their immune systems are often compromised by the illness that caused their admission or the treatments they are undergoing. Vaccination of health care workers (HCWs) has been shown to prevent illness and death in patients, and reduce influenza infections and absenteeism among HCWs. While the Centers for Disease Control and Prevention (CDC) has recommended annual vaccination of HCWs since 1981, only about half of HCWs in the United States are immunized annually. In recent years, more and more hospitals and health care organizations are putting into place policies making seasonal influenza vaccinations mandatory for employees, affiliated medical staff, students, volunteers and contract workers as part of their commitment to patient safety. These policies often have resulted in vaccination rates above 90 percent.

Several key national professional organizations have endorsed mandatory policies for influenza vaccination as a condition of employment within health care facilities, including the American Hospital Association, the Association of Professionals in Infection Control, American Academy of Pediatrics, Infectious Disease Society of America, National Patient Safety Foundation and Society for Healthcare Epidemiology of America. The American Medical Association supports “universal” influenza vaccination of HCWs, but leaves it to each facility to decide whether or not a mandate is needed to achieve 100 percent vaccination coverage.

Hospitals have a long history of requiring proof of immunization for diseases such as measles, mumps and rubella as a condition of employment. Each hospital should consider including the influenza vaccination in to this policy.

The implementation of a mandatory policy requires careful consideration. Employee concern and resistance can be overcome through education and open communication between hospital leadership and staff, as well as policies that permit certain reasonable exclusions and allow employees who cannot receive influenza vaccination to wear masks when they are in the presence of patients during the influenza season.

In 2011, the Oklahoma Hospital Association Board developed a position statement regarding mandatory influenza policies. It states:

*The OHA Board of Trustees encourages hospitals to implement a mandatory patient safety policy that addresses influenza vaccination for hospital employees.*

Oklahoma hospitals work diligently to provide excellent care and a safe environment for their patients. Vaccination of health care workers against influenza not only protects patients and their families, but also protects our valuable workforce against illness.

Recommended by the OHA Council on Quality and Patient Safety, this toolkit includes resources that will assist you in the development and implementation of policies and procedures to improve your health care worker influenza vaccination rates.

## American Hospital Association Board of Trustee Recommendation

After discussion with its membership and other partnering organizations, in April of 2011 the American Hospital Association board of trustees endorsed a patient safety policy requiring influenza vaccination of health care workers. Their recommendation is:

America's hospitals are committed to protecting the health and well-being of patients and staff. Evidence has emerged over the past few years clearly indicating that health care workers can unintentionally expose patients to seasonal influenza if they (the workers) have not been vaccinated, and such exposure can be dangerous to vulnerable patients.

To protect the lives and welfare of patients and employees, AHA supports mandatory patient safety policies that require either influenza vaccination or wearing a mask in the presence of patients across health care settings during flu season. The aim is to achieve the highest possible level of protection.

## Oklahoma Hospital Association Board of Trustee Recommendation

At its July 21, 2011 meeting, upon considering information shared by the AHA, the Oklahoma Hospital Association board of trustees voted to support the American Hospital Association board of trustee's recommendation to endorse a mandatory influenza vaccination policy for their hospital employees.

The OHA board approved the following position statement:

*The OHA Board of Trustees encourages hospitals to implement a mandatory patient safety policy that addresses influenza vaccination for hospital employees.*

# First do no harm

## Protect patients by making sure all staff receive yearly influenza vaccine!

*The best way to prevent transmission of influenza to our patients is to mandate vaccination of health care workers. Leaders in medicine and infectious diseases have spoken: Mandatory influenza vaccination for all health care workers is imperative! You can refer to the position statements of these leading medical organizations to help you develop and implement a mandatory influenza vaccination policy at your health care institution or medical setting. Policy titles, URLs, publication dates, and excerpts follow.*

### American Academy of Family Physicians (AAFP)

AAFP Mandatory Influenza Vaccination of Health Care Personnel (June 2011)  
[www.aafp.org/online/en/home/clinical/immunizationres/influenza/mandatoryinfluenza.html](http://www.aafp.org/online/en/home/clinical/immunizationres/influenza/mandatoryinfluenza.html)

*"The AAFP supports annual mandatory influenza immunization for health care personnel (HCP) except for religious or medical reasons (not personal preferences). If HCP are not vaccinated, policies to adjust practice activities during flu season are appropriate (e.g. wear masks, refrain from direct patient care)."*

### American Academy of Pediatrics (AAP)

Policy Statement—Recommendation for Mandatory Influenza Immunization of All Health Care Personnel (October 1, 2010)

<http://pediatrics.aappublications.org/cgi/content/abstract/peds.2010-2376v1>

*"The implementation of mandatory annual influenza immunization programs for HCP nationwide is long overdue. For the prevention and control of influenza, now is the time to put the health and safety of the patient first."*

### American College of Physicians (ACP)

ACP Policy on Influenza Vaccination of Health Care Workers (October 1, 2010)

[www.acponline.org/clinical\\_information/resources/adult\\_immunization/flu\\_hcw.pdf](http://www.acponline.org/clinical_information/resources/adult_immunization/flu_hcw.pdf)

*"Vaccinating HCWs against influenza represents a duty of care, and a standard of quality care, so it should be reasonable that this duty should supersede HCW personal preference."*

### American Hospital Association (AHA)

AHA Endorses Patient Safety Policies Requiring Influenza Vaccination of Health Care Workers (July 22, 2011)

[www.aha.org/advocacy-issues/tools-resources/advisory/2011/110722-quality-adv.pdf](http://www.aha.org/advocacy-issues/tools-resources/advisory/2011/110722-quality-adv.pdf)

*"To protect the lives and welfare of patients and employees, AHA supports mandatory patient safety policies that require either influenza vaccination or wearing a mask in the presence of patients across healthcare settings during flu season. The aim is to achieve the highest possible level of protection."*

### American Medical Directors Association (AMDA)

Mandatory Immunization for Long Term Care Workers (March 2011)

[www.amda.com/governance/resolutions/J11.cfm](http://www.amda.com/governance/resolutions/J11.cfm)

*"Therefore be it resolved, AMDA - Dedicated to Long Term Care Medicine supports a mandatory annual influenza vaccination for every long-term health care worker who has direct patient contact unless a medical contraindication or religious objection exists."*

### Visit Immunization Action

Coalition's "Honor Roll

for Patient Safety" to view

stellar examples of influenza

vaccination mandates

in healthcare settings at

[www.immunize.org/honor-roll](http://www.immunize.org/honor-roll)



### American Pharmacists Association (APhA)

Requiring Influenza Vaccination for All Pharmacy Personnel (April 2011)  
[www.pharmacist.com/AM/Template.cfm?Section=House\\_of\\_Delegates&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=25910](http://www.pharmacist.com/AM/Template.cfm?Section=House_of_Delegates&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=25910)

*"APhA supports an annual influenza vaccination as a condition of employment, training, or volunteering, within an organization that provides pharmacy services or operates a pharmacy or pharmacy department (unless a valid medical or religious reason precludes vaccination)."*

### American Public Health Association (APHA)

Annual Influenza Vaccination Requirements for Health Workers (November 9, 2010)

[www.apha.org/advocacy/policy/policysearch/default.htm?id=1410](http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1410)

*"Encourages institutional, employer, and public health policy to require influenza vaccination of all health workers as a precondition of employment and thereafter on an annual basis, unless a medical contraindication recognized in national guidelines is documented in the worker's health record."*

### Association for Professionals in Infection Control and Epidemiology (APIC)

Influenza Vaccination Should Be a Condition of Employment for Health Care Personnel, Unless Medically Contraindicated (February 1, 2011)

[www.apic.org/Content/NavigationMenu/GovernmentAdvocacy/PublicPolicyLibrary/APIC\\_Influenza\\_Immunization\\_of\\_HCP\\_12711.PDF](http://www.apic.org/Content/NavigationMenu/GovernmentAdvocacy/PublicPolicyLibrary/APIC_Influenza_Immunization_of_HCP_12711.PDF)

*"As a profession that relies on evidence to guide our decisions and actions, we can no longer afford to ignore the compelling evidence that supports requiring influenza vaccine for HCP. This is not only a patient safety imperative, but is a moral and ethical obligation to those who place their trust in our care."*

### Infectious Diseases Society of America (IDSA)

IDSA Policy on Mandatory Immunization of Health Care Workers Against Seasonal and Pandemic Influenza (rev. July 28, 2010)

[www.idsociety.org/HCW\\_Policy](http://www.idsociety.org/HCW_Policy)

*"Physicians and other health care providers must have two special objectives in view when treating patients, namely, 'to do good or to do no harm' (Hippocratic Corpus in Epidemics: Bk. I, Sect. 5, trans. Adams), and have an ethical and moral obligation to prevent transmission of infectious diseases to their patients."*

### Society for Healthcare Epidemiology of America (SHEA)

Influenza Vaccination of Healthcare Personnel (rev. August 31, 2010)

[www.journals.uchicago.edu/doi/full/10.1086/656558](http://www.journals.uchicago.edu/doi/full/10.1086/656558)

*"SHEA views influenza vaccination of HCP as a core patient and HCP safety practice with which noncompliance should not be tolerated."*

# Influenza Vaccination Information for Health Care Workers

## Did You Know?

- CDC, the Advisory Committee on Immunization Practices (ACIP), and the Healthcare Infection Control Practices Advisory Committee (HICPAC) recommend that all U.S. health care workers get vaccinated annually against influenza.
- Health care workers include (but are not limited to) physicians, nurses, nursing assistants, therapists, technicians, emergency medical service personnel, dental personnel, pharmacists, laboratory personnel, autopsy personnel, students and trainees, contractual staff not employed by the health care facility, and persons (e.g., clerical, dietary, housekeeping, laundry, security, maintenance, administrative, billing, and volunteers) not directly involved in patient care but potentially exposed to infectious agents that can be transmitted to and from health care workers and patients.

## Why Get Vaccinated?

- Influenza (the flu) can be a serious disease that can lead to hospitalization and sometimes even death. Anyone can get sick from the flu.
- You can get the flu from anyone, including patients and coworkers who are sick with the flu.
- If you get the flu, you can spread it to others even if you don't feel sick.
- By getting vaccinated, you can help protect yourself, your family at home, and also your patients at work from getting the flu.

## What Does the Research Say?

- Health care workers who get vaccinated help to reduce the following:
  - transmission of influenza
  - staff illness and absenteeism
  - influenza-related illness and death, especially among people at increased risk for severe influenza illness
- Higher vaccination levels among staff have been associated with a lower risk of nosocomial (hospital-acquired) influenza cases.
- Influenza outbreaks in hospitals and long-term care facilities have been attributed to low influenza vaccination coverage among health care workers in those facilities.
- Higher influenza vaccination levels among health care workers can reduce influenza-related illness, and even deaths, in settings like nursing homes.

## How Many Health Care Workers Got Vaccinated Last Season?

- During the 2010-2011 influenza season, coverage for influenza vaccination among health care workers was estimated at 63.5%.
- Coverage was 98.1% among health care workers who had an employer requirement for vaccination.
- In the absence of requirements, increased vaccination coverage was associated with employers offering vaccination onsite, free of charge, for multiple days.
- During the 2009-2010 influenza season, an estimated 61.9% of health care workers received seasonal influenza vaccine.

## Influenza (Flu) Facts

- Influenza (the flu) can be a serious disease that can lead to hospitalization and sometimes even death. Anyone can get sick from the flu.
- People with flu can spread it to others. Influenza viruses are spread mainly by droplets made when people with flu cough, sneeze or talk. These droplets can land in the mouths or noses of people who are up to about 6 feet away or possibly be inhaled into the lungs. Less often, a person might get flu by touching a surface or object that has flu virus on it and then touching their own mouth or nose.
- Most healthy adults may be able to infect others beginning 1 day before symptoms develop and up to 5 to 7 days after becoming sick. Children may pass the virus for longer. Symptoms start 1 to 4 days after the virus enters the body. That means that you may be able to pass on the flu to someone else before you know you are sick, as well as while you are sick. Some persons can be infected with the flu virus but have no symptoms. During this time, those persons may still spread the virus to others.
- Some people, such as older adults, pregnant women, and very young children as well as people with certain long-term medical conditions are at high risk of serious complications from the flu. These medical conditions include chronic lung diseases, such as asthma and chronic obstructive pulmonary disease (COPD), diabetes, heart disease, neurologic conditions and pregnancy.
- Since health care workers may care for or live with people at high risk for influenza-related complications, it is especially important for them to get vaccinated annually.
- Annual vaccination is important because influenza is unpredictable, flu viruses are constantly changing and immunity from vaccination declines over time.
- CDC recommends an annual flu vaccine as the first and best way to protect against influenza. This recommendation is the same even during years when the vaccine composition (the viruses the vaccine protects against) remains unchanged from the previous season.

## Flu Vaccine Facts

- The 2011-12 flu vaccine provides protection against the three main viruses that research indicates will cause the most illness this season. The 2011-12 flu vaccine will protect against an influenza A (H3N2) virus, an influenza B virus, and the 2009 H1N1 virus that caused so much illness during the 2009-10 influenza season.
- Flu vaccines CANNOT cause the flu. The viruses in flu vaccines are either killed (the flu shot) or weakened (the nasal-spray vaccine).
- Flu vaccines are safe. Serious problems from the flu vaccine are very rare. The most common side effect

that a person is likely to experience is soreness where the injection was given. This is generally mild and usually goes away after a day or two.

## Is there more than one type of flu vaccine available?

There are two types of flu vaccines:

First, the “flu shot” — an inactivated vaccine (containing killed virus) that is given with a needle, usually in the arm. The flu shot is approved for use in people older than 6 months, including healthy people and people with chronic medical conditions.

There are three different flu shots available:

- a regular flu shot approved for people ages 6 months and older,
- a high-dose flu shot approved for people 65 and older, and
- an intradermal flu shot approved for people 18 to 64 years of age.

Second, the nasal-spray flu vaccine — a vaccine made with live, weakened flu viruses that is given as a nasal spray (sometimes called LAIV for “Live Attenuated Influenza Vaccine”). The viruses in the nasal spray vaccine do not cause the flu. LAIV is approved for use in healthy people 2 through 49 years of age who are not pregnant.

Nearly all healthy, non-pregnant health care workers, may receive LAIV if eligible, including those who come in contact with newborn infants (e.g., persons working in the neonatal intensive care unit, or NICU), pregnant women, persons with a solid organ transplant, persons receiving chemotherapy, and persons with HIV/AIDS.

However, health care providers should not get LAIV if they are providing medical care for patients who require special environments in the hospital because they are profoundly immunocompromised, for example if they work in bone marrow transplant units. This is intended as an extra precaution and is not based on reports of vaccine virus transmission in those settings. The flu shot is preferred for vaccinating health care workers who are in close contact with severely immunocompromised patients who are being cared for in a protective environment. These health care workers may still get LAIV, but they must avoid contact with such patients for 7 days after getting vaccinated.

No special precautions (e.g., masks or gloves) are necessary for health care personnel who have been vaccinated with LAIV and who do not work with patients undergoing bone marrow transplantation.

The role that you and other health care workers play in helping prevent influenza-related illness and death—especially in high-risk patients—is invaluable. By setting a good example and spreading flu facts (instead of the flu itself) among your colleagues and patients, you have the opportunity to save even more lives.

## How do flu vaccines work?

The seasonal flu vaccine protects against three influenza viruses that research indicates will be most common during the upcoming season. The 2011-2012 flu vaccine provides protection against the three main viruses that research indicates will cause the most illness this season. The 2011-2012 flu vaccine will protect against an influenza A (H1N1) virus, another influenza A (H3N2) virus and an influenza B virus.

Flu vaccines (the flu shot and the nasal-spray flu vaccine (LAIV)) cause antibodies to develop in the body about 2 weeks after vaccination. These antibodies provide protection against infection with the viruses that are in the vaccine.

## What viruses will the 2011-2012 vaccine protect against?

The Food and Drug Administration (FDA) recommended that the United States 2011–2012 seasonal influenza vaccine contain the following three vaccine viruses:

- an A/California/7/2009 (H1N1)-like virus;
- an A/Perth/16/2009 (H3N2)-like virus; and
- a B/Brisbane/60/2008-like virus.

The 2011–2012 influenza vaccine can protect you from getting sick from these three viruses, or it can make your illness milder if you get a related but different influenza virus. (For more information about how the viruses in the vaccine are selected, visit [Selecting the Viruses in the Seasonal Influenza \(Flu\) Vaccine.](#))

The viruses in this season's vaccine are the same viruses that were selected for the 2010-2011 influenza vaccine for the United States. More information about the vaccine virus selection process is available at <http://www.cdc.gov/flu/about/qa/vaccine-selection.htm>.

## If I got a vaccine in 2010-2011, why do I need to get another one this season if the vaccine formulation didn't change?

Your body's level of immunity from a vaccine received last season is expected to have declined. You may not have enough immunity to be protected from getting sick this season. You should be vaccinated again to raise your immune levels against the three viruses that research indicates are likely to circulate again this season.

**Protect yourself, your family, and your patients by getting a flu vaccine.**

For more information about flu information, updates, and access to free materials to assist with educating staff and patients about the impact of influenza and the benefits of vaccination, visit [CDC Seasonal Influenza \(Flu\)](#) or call the National Immunization Hotline at (800) 232-2522 (English), (800) 232-0233 (Español), or (800) 243-7889 (TTY).

## Additional Resources

CDC COCA Conference Call. Update on Influenza Vaccination for Health Care Personnel: Recent Coverage, Recommendations, Reporting, and Resources. November 15, 2011.

CDC. Influenza Vaccination Coverage Among Health-Care Personnel—United States, 2010-11 Influenza Season. *MMWR* 2011;60:1073-1077.

CDC. Telebriefing on Influenza Vaccination Among Health Care Personnel and Pregnant Women. Thursday, August 18, 2011.

CDC. Prevention and control of influenza with vaccines. Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010. *MMWR* 2010;59(No. RR-8).

Apisarnthanarak A, Uyeki T, Puthavathana P, Kitphati R, Mundy L. Reduction of seasonal influenza transmission among health care workers in an intensive care unit: A 4-year intervention study in Thailand. *Infect Control Hosp Epidemiol* 2010; 31(10):996-1003.

Turnberg W, Daniell W, Duchin J. Influenza vaccination and sick leave practices and perceptions reported by health care workers in ambulatory care settings. *Am J Infect Control* 2010; 38(6):486-8.

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(No. RR-2).

Salgado CD, Giannetta ET, Hayden FG, Farr BM. Preventing nosocomial influenza by improving the vaccine acceptance rate of clinicians. *Infect Control Hosp Epidemiol* 2004;25:923--8.

Saito R, Suzuki H, Oshitani H, Sakai T, Seki N, Tanabe N. The effectiveness of influenza vaccine against influenza A (H3N2) virus infections in nursing homes in Niigata, Japan, during the 1998--1999 and 1999--2000 seasons. *Infect Control Hosp Epidemiol* 2002;23:82--6.

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;21:449--54.

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. *Lancet* 2000;355(9198): 93--7.

Saxen H, Virtanen M. Randomized, placebo-controlled double blind study on the efficacy of influenza immunization on absenteeism of health care workers. *Pediatr Infect Dis J* 1999;18:779--83.

Wilde JA, McMillan JA, Serwint J, Butta J, O'Riordan MA, Steinhoff MC. Effectiveness of influenza vaccine in health care professionals: a randomized trial. *JAMA* 1999;281:908--13.

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.

# SAMPLE INFLUENZA VACCINE POLICY

<Hospital Name>

Approval:  
Eff. Date:  
Prev. Date

## PURPOSE:

The purpose of this policy is to minimize exposure to and transmission of the influenza virus in the workplace by providing occupational protection to employees and thereby preventing exposure to members of the community, which we serve. Annual influenza vaccination has been found to be both safe and effective in reducing the risk of influenza and health-care related transmission. The Centers for Disease Control and Prevention (CDC) recommend vaccination of all workers in health care settings. Research has shown that vaccination programs limited only to employees who actively seek the vaccine have lower effectiveness in protecting patients and employees.

## POLICY:

Employees (full time, part time, per diem, PRN, seasonal, occasional), employed physicians and volunteers will be required to either be vaccinated or provide a medical or religious waiver by December 1 of each calendar year. At the time of vaccination, employees, employed physicians and volunteers must complete the Mandatory Influenza Vaccination (MIV) form. Vaccine will be offered free of charge at various times to allow for 100% compliance.

## PROCEDURE:

### I. GENERAL REQUIREMENTS

All employees, employed physicians and volunteers must complete the MIV form by **<compliance date>** each calendar year.

- Employees, employed physicians and volunteers who decline the vaccination must provide a medical or religious waiver by **<compliance date>** of each calendar year.
- Any employee, employed physician and volunteer who is not compliant with this policy by **<compliance date>** of each calendar year will be placed on an unpaid administrative leave until documentation of vaccination or completed waiver is received.
- After 45 days, if the employee, employed physician or volunteer has not provided documentation of vaccination or completed waiver, she/he will be terminated.
- New employees, employed physicians and volunteers: Employees, employed physicians and volunteers who are hired during the influenza season must comply within 45 days of the hired date.

# SAMPLE INFLUENZA VACCINE POLICY

## A. Waivers

- Medical Waiver: A medical waiver must be signed by the health care provider and returned to **<name by compliance date>** each calendar year.
- Religious Waiver: A religious waiver must be signed by the religious/spiritual leader and returned to **<name by compliance date>**. This need not be renewed annually.

Records will be maintained documenting vaccinations and waivers. If national vaccine shortage occurs, System Management may suspend or revoke all or part of this policy.

The Live Attenuated Influenza Vaccine (LAIV) or the Trivalent Inactivated Influenza (TIV) will be administered to employees, employed physicians and volunteers based on vaccine availability and in accordance with the published CDC guidelines.

## II. RESPONSIBILITIES

### A. Entity

1. Complete full implementation of the program in order to obtain 100% compliance by all employees, employed physicians and volunteers.
2. Ensure ample supplies for all employees, employed physicians and volunteers.
3. Provide influenza vaccine, virus information and *MIV Form* to all employees, employed physicians and volunteers.
4. Collect the completed and signed *MIV Form* from all employees, employed physicians and volunteers.
5. Maintain electronic records to track:
  - a. Number of vaccinations
  - b. Number of waivers
    - i. Medical reasons
    - ii. Religious reasons
  - c. Number receiving vaccinations from another clinic
  - d. Number of terminations for failure to comply
6. Provide, annually, results via MIV report to the **<assigned person or department>** by **<compliance date>**.
7. Review and maintain annual mandatory influenza vaccination rates.
8. Recommend revisions to this policy to enhance and improve mandatory influenza vaccination rates within the system.
9. Include requirements of this policy in the local entity policy manual.
10. Determine influenza season based on CDC guidelines and influenza in the community.

### B. Employee Health/Human Resources

1. Provide each employee, employed physician and volunteer annually with a reminder of this policy.
2. Provide new employees, employed physicians and volunteers with information about

# SAMPLE INFLUENZA VACCINE POLICY

the annual mandatory influenza vaccination policy during orientation and where to obtain the vaccine if employment begins during the influenza season.

3. Notify managers/supervisors and entity Human Resources regarding those employees, employed physicians and volunteers who are not in compliance with the requirements of this policy.

## C. Manager/Supervisor

1. Require all employees, employed physicians and volunteers under supervision to comply with the Mandatory Influenza Vaccination policy. Address in a timely manner employees, employed physicians and volunteers who fail to comply with this policy.

## D. Employees, employed physicians and volunteers

1. Complete annually *MIV Form*, by **<compliance date>**.
2. New employees, employed physicians and volunteers hired during the flu season, as determined by the CDC, must participate in this policy.
3. Employees, employed physicians and volunteers who received exemptions due to waivers (medical/religious) are required to wear masks when working in patient care areas, when within 3 feet of patients during influenza season.

Download sample forms at [www.okoha.com/VaccinationToolkit/sample](http://www.okoha.com/VaccinationToolkit/sample).

# SAMPLE CEO MEMO TO EMPLOYEES

*This document contains sample verbiage for a letter from the CEO to the hospital staff. It must be carefully reviewed and changes made to reflect the policies of individual organizations.*

Beginning this year, <hospital name> will join the list of organizations that choose to make flu vaccinations mandatory for all employees unless a signed medical or religious waiver is completed. Like tuberculosis tests, <hospital name> will provide flu shots at no cost to staff, and we will develop a plan to make receiving the vaccination as easy as possible. You will be notified of the details as we move closer to flu season.

At my request, the executive leadership team reviewed recommendations concerning mandatory flu vaccinations. Findings indicate that numerous health care related organizations support mandatory vaccinations. The U.S. Department of Defense, and many individual and hospital systems, have already adopted mandatory vaccination policies for all employees.\*

Keeping staff healthy and free from the flu just makes sense. Our patients have the right to feel safe from exposure within our facilities while they are at their most vulnerable. That's our responsibility. You and your co-workers have the right to work in an environment of healthy employees with departments as fully staffed as possible.

Thank you for your commitment to this very important issue. We owe it to our patients – and to each other – to roll up our sleeves and be immunized against influenza.

*\*Support for mandatory influenza vaccinations comes from the Centers for Disease Control, the American College of Physicians, the Association of Professionals in Infection Control, the National Patient Safety Foundation and the American Hospital Association. In addition, the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America have come together to urge the U.S. Department of Health and Human Services to require all health care professionals be immunized against influenza.*

Download these sample forms at [www.okoha.com/VaccinationToolkit/sample](http://www.okoha.com/VaccinationToolkit/sample).

# SAMPLE ACCEPT OR DECLINE VACCINE FORM

<HOSPITAL NAME> MANDATORY INFLUENZA VACCINATION FORM

I agree to take the influenza vaccine.

I received influenza vaccine from another provider (must provide documentation with location, date and proof of vaccination).

I decline the influenza vaccine and have provided a medical or religious waiver.

Medical Waiver (see reverse)

Religious Waiver (see reverse)

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Employee ID

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date Signed

Download these sample forms at [www.okoha.com/VaccinationToolkit/sample](http://www.okoha.com/VaccinationToolkit/sample).

# SAMPLE MEDICAL AND RELIGIOUS WAIVER

<HOSPITAL NAME> MANDATORY INFLUENZA VACCINATION FORM

Name of Employee: \_\_\_\_\_

**Medical Waiver** - I \_\_\_\_\_ (Print Physician Name) certify that the above employee is under my medical care and should be exempt from receiving the influenza vaccination due to medical reason(s).

\_\_\_\_\_  
Physician Signature

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
Address

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**Religious Waiver** - I \_\_\_\_\_ (Employee Name), under my religious belief, decline to receive the influenza vaccination. This need not be renewed annually.

\_\_\_\_\_  
Religious/Spiritual Leader Name (Print)      Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
Address

# SAMPLE MASK REQUIREMENT SCRIPTING

## Script I:

### **For managers/employee health professionals speaking to employees who must wear masks:**

“Under the new flu policy, any employee, employed physician or volunteer exempt from taking the flu shot is now required to wear a mask when within three feet of patients in a patient care area during influenza season.”

“This requirement is based on a recommendation by the CDC (Centers for Disease Control and Prevention). As you know, masks are widely used in health-care settings to prevent patient exposure to respiratory infections.”

“Masks and gloves are among the best methods we have in preventing the transmission of the virus through coughing, sneezing or touching. We want to make every effort to protect our patients, hospital visitors, families and colleagues. I appreciate anything you can do to help in this effort. If you have some concerns, I’m happy to listen to them.”

## Script II:

### **For employees and volunteers required to wear masks if patients or others ask them why they’re doing so.**

“Since it’s flu season, I’m wearing the mask to protect you in the event I get the flu. Under a new hospital policy, any employee, employed physician or volunteer exempt from taking the flu shot is now required to wear a mask when we’re within three feet of patients in a patient care area during influenza season.”

“This requirement is based on a recommendation by the CDC (Centers for Disease Control and Prevention). As you know, masks are widely used in health-care settings to prevent patient exposure to respiratory infections.”

“Masks and gloves are among the best methods we have in preventing the spread of the virus through coughing, sneezing or touching. By wearing the mask, I’m doing my part in protecting you, hospital visitors, families and my colleagues from catching the flu. If you have any concerns, I’m happy to listen to them.”

# SAMPLE MANDATORY INFLUENZA VACCINATION EMPLOYEE FAQs

*This document is a resource that must be carefully reviewed and changes made according to the policies of individual organizations. All statements may not apply to all organizations!!*

This policy applies to employees (full time, part time, per diem, PRN, seasonal, occasional), employed physicians and volunteers.

**Core Message: This is the right thing to do for our patients and for one another.**

**1. Why is <hospital name> mandating influenza vaccinations?**

<Hospital name> wants to provide the safest environment possible for patients, employees and their families, and visitors to our facilities. Vaccinations protect patients, employees and others from the seasonal flu.

**2. When will this new policy go into effect?**

The policy goes into effect immediately. All vaccinations are required by <the compliance date>of each calendar year. Waivers for medical (and religious, if applicable) reasons must also be turned in by that date. If someone fails to get vaccinated or submit a waiver within 45 days of the compliance date, they will be terminated.

**3. I never come in contact with patients. Why do I have to get a flu shot?**

Even people who don't have direct contact with patients do have contact with caregivers who have direct contact with patients. So even if you don't have patient contact, you can inadvertently infect other people.

**4. I've never had the flu. I've never had the shot. Why do I have to do this?**

Our physicians tell us that the only way to ensure the safety of our patients and colleagues is for everyone in the organization to get a flu vaccination.

**5. How dare you tell me I have to get a flu shot? <Hospital name> has no right to tell me what I can and can't do with my body.**

Our infection control experts tell us that the only way to ensure the safety of our patients is for everyone in the organization to get a flu vaccination. So while it may seem harsh to a few people, it's the right thing to do for our patients and for one another. We are building immunity for the community.

**6. How will the waivers work?**

Employees, physicians and volunteers who decline for medical or religious reasons will be required to complete and submit a waiver signed by either a physician stating they have a medical condition that would prohibit them from taking the shot or a religious leader. Employees will not be required to state the medical condition or to specify their religious beliefs.

(consider the use of a standard medical/religious waiver created by the hospital)

**7. Who needs to get vaccinated?**

All employees, employed physicians and volunteers must be vaccinated unless they submit a written medical or religious waiver by <compliance date> of each calendar year. The vaccinations and forms will be provided by <hospital name>.

**8. Can employees, employed physicians and volunteers decline the vaccination?**

Yes, if a medical or religious waiver is submitted.

**9. What if an employee, employed physician or volunteer refuses to be vaccinated?**

If they refuse to get vaccinated and they have not submitted a medical or religious waiver as required by the policy, they will have 45 calendar days from the compliance date to get vaccinated or they will be terminated.

**10. Will a new medical or religious waiver need to be submitted each year?**

A new waiver is required each year for medical reasons. For religious reasons, an employee need only submit the waiver one time.

**11. What if an employee starts working for <hospital name> during the influenza season?**

All new employees will have 45 days after their start date to get vaccinated if they are hired during the flu season.

**12. What if an employee starts working for <hospital name> after the influenza season has passed?**

They must get vaccinated or submit a waiver during the next vaccination period.

**13. When is flu season?**

The typical flu season starts in October, reaches its peak in January or February and runs as late as May, according to the CDC.

**14. Can the vaccination make someone sick?**

You can't get the flu from a flu shot, the CDC says. Viruses contained in flu shots are inactive, which means they cannot cause infection. However, sometimes after taking a flu shot, people experience some side effects: arm soreness, low-grade fever, muscle ache and weakness. These symptoms usually subside after a day or two. People can become sick, not from the vaccination, but from being exposed to the virus before the vaccination's protection kicks in or from other viruses that circulate during the flu season.

Unlike the flu shot, the nasal spray flu vaccine contains live viruses. But the viruses are weakened and can't cause the flu, the CDC says.

**15. If someone feels ill, should they get the flu vaccination?**

The CDC says: People who are moderately or severely ill should usually wait until they recover before getting the flu vaccine. If you are ill, talk to your doctor about whether to reschedule the vaccination. People with a mild illness can usually get the vaccine.

**16. Can employees, employed physicians and volunteers get vaccinated from another source besides <hospital name>?**

Yes. However, in order to ensure proper tracking, everyone must complete the mandatory influenza vaccination form and provide documentation of the date and alternate location where they were vaccinated. Proof of vaccination must be given to entity employee health or human resources departments.

**17. What if someone hates needles? Will <hospital name> offer employees the option of using the nasal spray instead of the flu shot?**

The CDC says that the nasal-spray flu vaccine is fine for healthy people ages two through 49 years of age who are not pregnant. However, the agency recommends that health-care workers who care for people with severely weakened immune systems -- who require a protected hospital environment -- should get the flu shot rather than the nasal spray. Limited supplies of the nasal spray, or mist, may be available through <hospital name>.

**18. Who should employees contact if they have any questions?** Employees should contact their manager/supervisor and/or their entity human resources department.

# Mandatory Influenza Vaccination of Health Care Workers: Translating Policy to Practice

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(See the editorial commentary by Pavia, on pages 465–7.)

**Background.** Influenza vaccination of health care workers has been recommended since 1984. Multiple strategies to enhance vaccination rates have been suggested, but national rates have remained low.

**Methods.** BJC HealthCare is a large Midwestern health care organization with ~26,000 employees. Because organizational vaccination rates remained below target levels, influenza vaccination was made a condition of employment for all employees in 2008. Medical or religious exemptions could be requested. Predetermined medical contraindications include hypersensitivity to eggs, prior hypersensitivity reaction to influenza vaccine, and history of Guillan-Barré syndrome. Medical exemption requests were reviewed by occupational health nurses and their medical directors. Employees who were neither vaccinated nor exempted by 15 December 2008 were not scheduled for work. Employees still not vaccinated or exempt by 15 January 2009 were terminated.

**Results.** Overall, 25,561 (98.4%) of 25,980 active employees were vaccinated. Ninety employees (0.3%) received religious exemptions, and 321 (1.2%) received medical exemptions. Eight employees (0.03%) were not vaccinated or exempted. Reasons for medical exemption included allergy to eggs (107 [33%]), prior allergic reaction or allergy to other vaccine component (83 [26%]), history of Guillan-Barré syndrome (15 [5%]), and other (116 [36%]), including 14 because of pregnancy. Many requests reflected misinformation about the vaccine.

**Conclusions.** A mandatory influenza vaccination campaign successfully increased vaccination rates. Fewer employees sought medical or religious exemptions than had signed declination statements during the previous year. A standardized medical exemption request form would simplify the request and review process for employees, their physicians, and occupational health and will be used next year.

Influenza infection is associated with 36,000 excess deaths and >200,000 hospitalizations in the United States annually [1, 2]. It is the leading cause of vaccine-preventable death in the United States every year [3]. The risk of complications associated with influenza is higher among older persons, young children, and patients with underlying medical conditions [2, 4]. Infected people may shed virus before symptoms develop [5–8], and health care workers often work while sick. Outbreaks of influenza in hospitals have been well described [3, 4, 9–12].

Influenza vaccination of health care workers reduces

employee illness and absenteeism [4, 13–15]. In nursing home settings, vaccination of health care workers has been shown to decrease morbidity and mortality among nursing home residents [16–18]. The impact of vaccination of workers in acute care settings is more difficult to study because of the short duration of most hospitalizations. Other evidence for the importance of herd immunity on influenza rates comes from a Japanese study in which the vaccination of school children against influenza resulted in decreased mortality associated with pneumonia or influenza in the general population [19].

Annual influenza vaccination was first recommended for health care workers by the Advisory Committee on Immunization Practices in 1984 [3, 20, 21]. The Society for Healthcare Epidemiology [22], the Association for Professionals in Infection Control [11], and the Infectious Disease Society of America [23] also strongly endorse health care worker vaccination. The US National Health objectives for 2010 include a health care worker influenza vaccination rate of 60%. Recommended prac-

Received 20 October 2009; accepted 9 December 2009; electronically published 11 January 2010.

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**Clinical Infectious Diseases** 2010;50:459–64

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1058-4838/2010/5004-0001\$15.00  
DOI: 10.1093/cid/cir0752

tices to improve vaccination rates include making the vaccine available without charge to employees at multiple convenient sites and times, using incentives and rewards, and having visible leadership support [21, 24–27]. More recently, declination statements have been suggested as a way to increase vaccination rates. The impact of these statements is still being studied [28–30]. Despite these efforts, vaccination rates among health care workers remain low across the United States; the influenza vaccination rate among US health care workers during 2006–2007 was 44.4% [3].

Mandatory vaccination is a controversial strategy that pits health care worker autonomy against patient safety [31–36]. Other vaccines, such as measles, mumps, and rubella vaccine and varicella vaccine, are already required by many health care facilities, as is annual tuberculin skin testing. Virginia Mason Hospital (Seattle, WA) implemented a mandatory influenza vaccination program in 2004, and there have been media reports of other individual hospitals instituting similar programs. There are no reports in the literature of large multihospital systems implementing a mandatory influenza vaccination policy.

Annual influenza campaigns at BJC HealthCare include free vaccine available at multiple sites and times, extensive publicity, incentives and educational programs, and more recently, declination statements. In 2007, influenza vaccination rates were added to the BJC patient safety and quality scorecard used at all hospitals in the organization. Hospital leaders receive incentives based on their hospital's performance on scorecard measures. Despite significant efforts by occupational health and infection prevention specialists, the vaccination rate among BJC employees remained below the BJC goal of 80%. In 2008, BJC HealthCare implemented a mandatory influenza vaccination policy for all employees.

## METHODS

**Setting.** BJC HealthCare is a large Midwestern health care organization with ~26,000 employees. Facilities include 11 acute care hospitals and 3 extended care facilities, as well as day care centers, employed physician groups, occupational medicine, home care, and behavioral health services. Hospitals are located in urban, suburban, and rural settings and range from 40 to 1250 beds. Of the acute care hospitals, 1 adult and 1 pediatric facility are teaching hospitals.

BJC Occupational Health Services coordinates and standardizes occupational health programs through the Council of Occupational Health Professionals, which includes a representative from each facility. Bimonthly council meetings are designed for education, policy, and procedure standardization, coordination of occupational health and safety surveillance, and development of interventions throughout BJC. Each facility uses the centralized BJC occupational health database for tracking employee vaccinations, immune status, and occupational

injuries and exposures. The database includes demographic and job information on all BJC employees.

**2008 Influenza policy.** In 2008, as a patient safety initiative, influenza vaccination was made a condition of employment for all BJC employees, regardless of job function, including clinical and nonclinical staff, contracted clinical personnel, and volunteers. Hospital-employed physicians, including hospitalists, residents, and fellows, were included in the policy. Most attending physicians affiliated with BJC HealthCare are in private practice or are employed by Washington University School of Medicine (St. Louis, MO) and are not covered by the policy. The policy was communicated to employees through their managers, with standardized educational materials and fact sheets provided; an Intranet site; letters mailed to employees' homes; articles in *BJC Today*, an in-house newspaper distributed at all facilities; and "Town Hall Meetings" scheduled throughout the vaccination campaign with infectious diseases physicians, infection prevention specialists, and occupational health nurses available for questions or concerns. The CEO of BJC published a letter in the BJC newspaper explaining the rationale for the policy. The multidisciplinary implementation team met regularly before and during the vaccination campaign to ensure timely, consistent, and coordinated communication and responses to any issues that arose.

Free vaccine, including thimerosal-free and intranasal preparations, was available at multiple locations at all facilities starting 15 October 2008. Vaccinations were tracked at each facility in real time. Multiple methods of tracking vaccination were available to each facility, including badge scanners, consent forms with carbon copies, a database into which managers could directly enter their vaccinated employees, and preprinted labels with bar codes. All data were entered in real time or were downloaded regularly into the BJC occupational health database. Feedback was provided not less than weekly to managers at the facilities. Managers interacted with their staff to ascertain reasons for noncompliance and to provide coaching about influenza, the vaccine, and the consequences of noncompliance.

Employees who were neither vaccinated nor exempted by 15 December 2008 were suspended without pay. Those who were vaccinated before 15 January 2009 could return to work. Employees still not vaccinated or exempt by 15 January 2009 were terminated for failure to meet their conditions of employment.

**Exemptions.** Medical or religious exemptions could be requested. Religious accommodations required a letter from the employee to Human Resources that stated a religious conviction opposed to vaccination. Employees were notified within 5 days whether their request had been granted.

Medical exemptions required a letter from a licensed physician (MD or DO) that stated a medical contraindication to influenza vaccination. Predetermined accepted medical contraindications were based on the Advisory Committee on Im-

munization Practices recommendations [3]. These included hypersensitivity to eggs, prior hypersensitivity reaction to influenza vaccine, and history of Guillan-Barré syndrome. Pregnancy was accepted as a medical exemption if requested by the employee's physician, despite the vaccine being recommended during pregnancy, because the vaccine is listed as a category C agent. Occupational health nurses reviewed other reasons on a case-by-case basis with assistance from their medical director as needed. Employees received a form within 5 days that stated whether their request had been granted. Denials included an explanation of the reason for denial on the form. Second requests with clarifications could be submitted for review. Some physicians who had written exemption request letters were contacted directly by the facility occupational health medical director for clarification or at the request of the employee. Granted medical exemptions could be permanent or temporary (1 year only). Concerned employees not meeting criteria for exemption could discuss their concerns with the occupational health nurses or medical directors. Employees who were granted an exemption were encouraged to wear an isolation mask while providing patient care during the influenza season to avoid contracting or transmitting influenza. No specific enforcement was put in place, and no data on compliance were collected.

## RESULTS

Of 25,980 active employees, 25,561 (98.4%) were vaccinated (Table 1). Medical exemptions were granted to 321 employees (1.24%). Religious accommodations were granted to 90 employees (0.35%). Overall, 25,974 employees (99.96%) were compliant with the policy (vaccinated or exempt). Only 8 employees (0.03%) were terminated for noncompliance with the policy. At the 2 teaching hospitals, there were 907 residents and fellows in >27 graduate medical education programs. All of these trainees complied with the new policy: 902 (99.45%) were vaccinated, and 5 received exemptions (3 medical and 2 religious). Vaccination rates in 2008 increased by 43.4%, compared with rates in 2006, and by 26.5%, compared with rates in 2007 (Figure 1).

Of 372 requested medical exemptions, 321 (86.3%) were granted (188 permanent and 133 temporary). Reasons for medical exemption included allergy to eggs (107 [33% of exemptions; 0.4% of all employees]), prior allergic reaction or allergy to other vaccine component (83 [26% of exemptions; 0.31% of employees]), history of Guillan-Barré syndrome (15 [5% of exemptions; 0.05% of employees]), and other (116 [36%]). The majority (89 [77%]) of employees with other indications for a medical exemption received a temporary exemption: 50 for a prior vaccine reaction that was not further specified, 25 for medical reasons not further specified by their physician, and 14 for pregnancy. The remaining 27 (23%) of 116 employees

**Table 1. Summary of Employee Vaccination Status**

Vaccination status	No. (%) of employees
Vaccinated	25,561 (98.4)
Religious exemption granted	90 (0.35)
Medical exemption granted	321 (1.24)
Egg allergy	107
Prior reaction and/or allergy to other component	83
History of Guillan-Barré syndrome	15
Other	116
Policy compliant (vaccinated or exempt)	25,972 (99.96)
Noncompliant (neither vaccinated or exempt)	8 (0.03)
Total employees	25,980

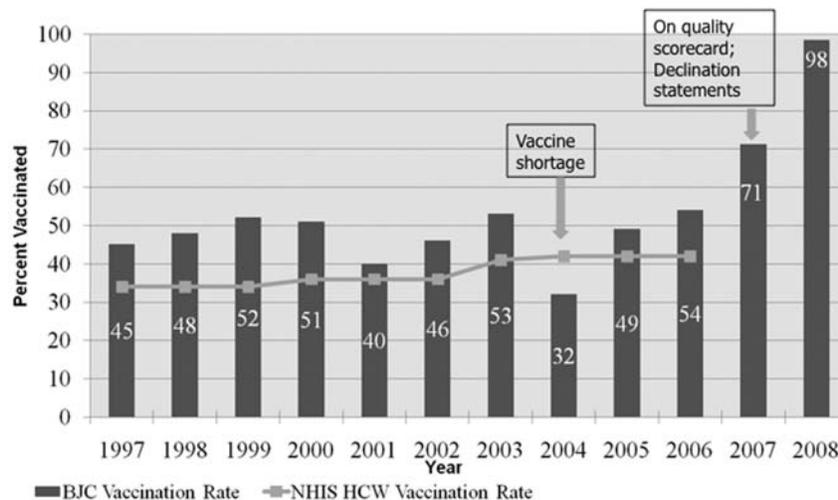
with other indications were granted permanent exemptions: 15 for a prior severe reaction to an influenza vaccine, 5 for a neurologic condition, 3 for concerns of triggering a flare of an autoimmune disease, 2 for being vegan, 1 for multiple food sensitivities, and 1 for concern for increased risk of rejection of a transplanted organ.

Eight employees (0.03%) were not vaccinated or granted an exemption, and their employment was terminated. Two employees worked with information systems in the corporate offices of BJC HealthCare. The other 6 noncompliant employees were from 4 acute care hospitals: 1 laboratory technician, 1 patient care technician, 1 paramedic, 1 nurse, 1 sitter, and 1 physical therapist. The remaining hospitals and service organizations had no noncompliant employees. Two employees were per diem employees, 3 were part-time, and 3 were full-time employees. The median duration of employment before termination was 37.5 months (range, 23–134 months). Of these employees, most did not submit an exemption request. One employee submitted a request for a religious exemption 2 days before termination, after being unable to obtain a doctor's note stating a medical contraindication; the request was denied.

Adverse events reported by employees were tracked in the occupational health database. Twenty-one employees (0.08%) reported a possible adverse reaction. Eleven reported a sore arm. Five reported a possible allergic reaction, and 1 reported a possible vagal response with fainting. Four events of uncertain relation to the vaccine were also reported by employees, including 2 cases of fever and myalgias, 1 with upper respiratory symptoms, and 1 case of a new neurologic syndrome diagnosed as chronic inflammatory demyelinating polyneuropathy, which could not be objectively linked to the influenza vaccine because of several other potential antecedent triggers.

## DISCUSSION

The mandatory vaccination program successfully increased vaccination rates at a large multihospital health care organization. Efforts during previous years included most recommended



**Figure 1.** BJC HealthCare annual influenza vaccination rates (percentage of total employees). The National Health Interview Survey rates of influenza vaccination among health care workers during 1997–2006 are shown with the trend line.

practices to maximize vaccination rates, including free, easily available vaccine, incentives, and leadership support. Despite these efforts, rates were still suboptimal (Figure 1). The mandatory program markedly increased vaccination rates across all facilities. Key factors that supported the success of the program included consistent communication emphasizing patient safety and quality of care, coordinated campaigns, leadership support, and medical director support to talk with any employee with concerns about the vaccine, on request. The program was established as a patient safety initiative; thus, no prospective attempts were made to link to absenteeism. Because of the way that employees are reimbursed for time off work, we were unable to distinguish between sick time and vacation time and, thus, could not assess the impact of the program on absenteeism. In addition, the year that the program was implemented had a mild influenza season; therefore, finding reduced absenteeism would be difficult to link to the vaccination program.

Few other organizations have established mandatory influenza vaccination programs. Virginia Mason Hospital implemented a mandatory program in 2004, with resulting vaccination rates of >98%. Several smaller hospitals were mentioned in the media for attempting mandatory campaigns, but no details have been published. To our knowledge, this is the first report of a large multihospital health care organization implementing a mandatory influenza vaccination program.

Some programs allow health care workers to sign declination forms stating that they understand the risks of not receiving the influenza vaccine to themselves, their patients, and their families. Declination statements have recently been publicized as a potentially valuable strategy for increasing vaccination rates [11, 21, 22], but data on their efficacy are mixed [28–30]. We found that many fewer employees sought medical or religious

exemptions than had signed declination statements in previous years. Requests for religious exemptions were reviewed by Human Resources at each facility. The letter from the employee had to state a sincere religious conviction opposed to vaccination. Some requests were only submitted after medical exemption requests had been denied, and some requests stated opposition to a mandatory policy, not to vaccination itself. These requests were denied.

Severe egg allergy is a contraindication to receipt of the influenza vaccine [3]. Virginia Mason Hospital provides free, on-site egg allergy testing for employees seeking an exemption on the basis of egg allergy. Our organization did not attempt to verify reports of significant egg allergy or allergy to other vaccine components. Egg allergy rates decrease with age, and reported rates in the medical literature range from 0% to 0.35% [37–39]. Overall, 107 (0.4%) of all employees reported a significant egg allergy.

Exemption requests often reflected misinformation about the vaccine and about influenza among employees and among their physicians. Several requests cited chemotherapy or an immunosuppressed state as reasons not to get the vaccine, even though these groups are at high risk for complications from influenza and are specifically recommended to be vaccinated. Several requests cited pregnancy, although the vaccine is recommended during pregnancy [3, 40]. Other requests did not include enough information to make a determination of the validity of the request. Some health care workers whose initial request for exemption was denied returned to their personal physician for a more detailed note or requested that occupational health contact their physician to discuss their request. Some community physicians felt beleaguered by these multiple contacts. A standardized form listing accepted contraindications and their definitions, with

checkboxes and space for additional information and contact information, would simplify the request and review process for health care workers, their physicians, and occupational health staff.

BJC HealthCare benefitted from strong leadership support for this initiative and a solid infrastructure for timely and consistent communication. The experience at our organization may not be completely generalizable. Economic factors at the time of the study may have limited the number of employees willing to lose their jobs. Influenza vaccination rates increased in 2007 (Figure 1) and may have continued to increase even without a mandatory vaccination policy, although we believe that such a dramatic increase would have been unlikely. Not all physicians affiliated with BJC HealthCare are employees of the organization and, thus, were not covered by the policy. All physicians employed by the organization, however, including ~900 residents and fellows, complied with the policy. In conclusion, a mandatory influenza vaccination policy was successful in increasing vaccination rates at a large multihospital health care organization with ~26,000 employees.

## Acknowledgments

We thank the BJC Council of Occupational Health Professionals; BJC Infection Prevention and Epidemiology Consortium; BJC pharmacists; Dale Reinhold; BJC Administration, Human Resources and Legal Services; and BJC Excellence in Patient Care Committee.

**Potential conflicts of interest.** All authors: no conflicts.

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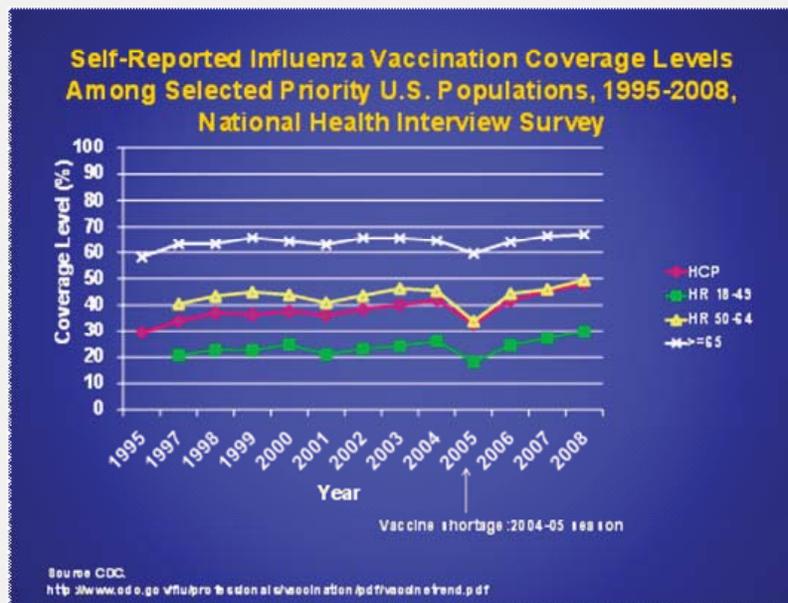
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# HHS Action Plan to Prevent Health Care-Associated Infections: Influenza Vaccination of Health Care Personnel

## I. Introduction

Influenza transmission to patients by health care personnel (HCP) is well documented.<sup>1-8</sup> HCP can acquire and transmit influenza from patients or transmit influenza to patients and other staff. Vaccination remains the single most effective preventive measure available against influenza, and can prevent many illnesses, deaths, and losses in productivity. Despite the documented benefits of HCP influenza vaccination on patient outcomes,<sup>9,10</sup> HCP absenteeism,<sup>11</sup> and on reducing influenza infection among staff, vaccination coverage among HCP has remained well below the national 2010 health objective of 60%.<sup>12</sup> (Figure 1) While preliminary data suggest 62% of HCP reported receiving seasonal influenza vaccine in 2009, only 37% reported receiving the pandemic A/H1N1 vaccine.<sup>13</sup>

Figure 1.



A goal of 90% coverage has been proposed to be included in Healthy People 2020 for HCP influenza vaccination. Several challenges lie ahead in meeting this high target. To identify and implement areas of strategic focus to increase immunization coverage of HCP, and to provide direction for future Departmental resources in this initiative with an overall goal of increasing influenza vaccination coverage among HCP, a federal work group, the Healthcare-Associated Infections (HAIs) Increasing Influenza Vaccination Coverage Among Healthcare Personnel Working Group has been convened. The group proposes a goal of 70% vaccination

coverage by 2015. Because most HCP provide care to, or are in frequent contact with, patients at high risk for complications of influenza, HCP are a high priority for expanding vaccine use. Achieving and sustaining high vaccination coverage among HCP will protect staff and their patients and reduce disease burden and health care costs.

## II. Background

### A. Definition of Health Care Personnel

The term health care personnel is broadly defined as all paid and unpaid persons working in health care settings who have the potential for exposure to infectious materials.[i] The settings for HCP include acute care hospitals, long-term care facilities, skilled nursing facilities, rehabilitation centers, physician's offices, urgent care centers, outpatient clinics, home health agencies, and emergency medical services. Thus HCP includes a range of those directly, indirectly, and not involved in patient care who have the potential for transmitting influenza to patients, other HCP, and others.

### B. Influenza Morbidity, Mortality, and Costs

The morbidity, mortality, and economic impact from influenza each year can be substantial as the following U.S. statistics demonstrate:

- Each year, between 5% and 20% of the population becomes ill with influenza;<sup>14</sup>
- Between 1976 and 2007, between 3,349 and 48,614 influenza-associated deaths occurred each year;<sup>15</sup>
- More than 200,000 hospitalizations due to influenza occurred each year between 1979 and 2001;<sup>16</sup>
- Annual influenza epidemics contribute to 610,660 life-years lost, 3.1 million days of hospitalization, and 31.4 million outpatient visits;<sup>17</sup>
- Rates of serious illness and death resulting from influenza and its complications are increased in high-risk populations, such as those over 50 years or under four years of age, and persons of any age who have underlying conditions that put them at an increased risk.<sup>18</sup>

### C. Influenza Among HCP

Several studies have documented serologic evidence of influenza infection after a mild influenza season. One study showed that among 23% of HCP with serologic evidence of influenza infection, 59% did not remember having influenza, and 28% could not recall any respiratory infection, suggesting a high proportion of asymptomatic illness.<sup>19</sup> Thus, HCP who are clinically or sub-clinically infected can transmit influenza virus to other persons at high risk for complications from influenza.

### D. Transmission of Influenza in Health Care Settings

Higher vaccination coverage among HCP has been associated with a lower incidence of nosocomial influenza cases.<sup>20</sup> Studies have shown when staff vaccination coverage increases, the proportion of laboratory-confirmed cases of influenza occurring among HCP decreases.<sup>21,22</sup> In addition, the proportion of nosocomial cases among hospitalized patients decreases as well, suggesting that increased staff vaccination can contribute to the decline in the number of nosocomial influenza cases.

### E. Influenza Vaccine Oversight

Preparing for the influenza season each year is a time-critical, highly orchestrated, collaborative effort between the Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDC), National Institutes of Health (NIH), the World Health Organization (WHO), vaccine manufacturers, and the health community. It is a year-round process that requires ongoing worldwide influenza disease surveillance, development of recommendations for immunization, selection of virus strains, and the manufacture and distribution of new vaccine.

### *Influenza Virus*

Influenza viruses are single-stranded, helically shaped RNA viruses of the family Orthomyxoviridae. The viruses can be divided into three types: A, B, and C. Type A influenza A has subtypes that are determined by the surface antigens hemagglutinin (H) and neuraminidase (N). Three types of hemagglutinin in humans (H1, H2, and H3) have a role in virus attachment. Two types of neuraminidase (N1 and N2) have a role in virus penetration into cells.

Type A influenza causes moderate to severe illness in all age groups and infects humans and other animals. Type B influenza causes milder disease, primarily affects children, and infects only humans. Type C influenza is rarely reported as a cause of human illness and has not been associated with any epidemics.

The nomenclature to describe the type of influenza virus is expressed in the following order: 1) virus type, 2) geographic site where it was first isolated, 3) strain number, 4) year of isolation, and 5) virus subtype.

Because seasonal influenza is dominantly caused by two types of influenza virus, (influenza A and B), and two subtypes of influenza A, A/H1N1, and A/H3N2, the vaccine includes a representative strain of the two A subtypes and a B virus. With the input of its Vaccines and Related Biological Products Advisory Committee, FDA selects the viral strains to be used in the annual trivalent influenza vaccines. Because the influenza virus mutates, each year's vaccine virus strains are usually different from the preceding year. The manufacturing demands are tremendous because there is no other instance in which a new vaccine is manufactured de novo every year. Influenza vaccines undergo the FDA review process for approval, which includes stringent manufacturing and quality oversight processes.

The FDA has licensed two forms of influenza vaccine for use in the United States: the inactivated vaccine (sometimes called the "flu shot") and the live attenuated vaccine (nasal spray). The inactivated vaccine contains inactivated, or killed, virus and is given with a needle in the arm. The nasal spray vaccine contains live viruses that are weakened, or attenuated, and is administered into the nose with a nasal sprayer. Neither vaccine causes influenza. CDC's Advisory Committee on Immunization Practices (ACIP) provides annual recommendations for the prevention and control of influenza, including use of vaccines.

### **F. Effectiveness and Safety of Influenza Vaccine**

FDA regulates vaccines for use in the United States; the agency is responsible for evaluating their safety and effectiveness, and whether they meet statutory and regulatory standards for licensure and use in the United States. Working to ensure an adequate, safe, and effective supply of influenza vaccine each year is one of the FDA's highest priorities.

In some cases vaccines and circulating viruses are not always an exact or even optimal match. Although a less-than-ideal virus match between the viruses in the vaccine and those in the circulating viruses can reduce vaccine effectiveness, it is known from studies that the vaccine can still provide enough protection to make illness milder or prevent flu-related complications.

Studies have shown that the inactivated influenza vaccine (administered as an injection), is 70% to 90% effective in healthy adults younger than 65 years of age when it is closely matched to the circulating virus strains. Even during influenza seasons during which the vaccine does not exactly match the circulating strain, studies have shown that the vaccine still may have protective effects and result in milder illness and/or can prevent flu-related complications. Vaccination in individuals 65 years of age and older reduces the likelihood of hospitalization for influenza-related complications by 30% to 70%. And for those living in nursing homes or other long-term care facilities, the vaccine can be up to 80% effective in preventing death from influenza. Vaccination can also save health care dollars by decreasing workforce absenteeism and use of health care resources.<sup>16,23</sup>

The most common side effects associated with the inactivated influenza vaccine, administered as an injection, include soreness, redness, tenderness, and swelling at the injection site. These reactions are transient, generally lasting one to two days. Local reactions are reported in 15% to 20% of vaccines. Fever, malaise, allergic, and neurologic reactions occur rarely.

The live attenuated influenza vaccine (LAIV), administered as a nasal spray, is recommended for healthy, non-pregnant adults younger than 50 years of age. The most common side effects reported include cough, runny nose, nasal congestion, sore throat, and chills. No serious adverse reactions have been identified in LAIV recipients.

### **G. Cost-Effectiveness of Influenza Vaccination**

Influenza vaccination of adults has been shown to be cost-effective by reducing both direct medical costs and indirect costs from absenteeism. Several studies demonstrated that the vaccination of adults aged less than 65 years resulted in between 13% and 44% fewer health care provider visits, 18% and 45% fewer lost workdays, 18% and 28% fewer days working with reduced effectiveness, and a 25% decrease in antibiotic use.<sup>24,25,26</sup>

## **III. Addressing HCP Vaccination Rates**

Despite an increase in influenza vaccination coverage rates beginning in the early 1990s, HCP influenza vaccination coverage remained well below the HP 2010 goal of 60% until 2009-2010, when coverage with seasonal influenza vaccine was estimated at 62%.<sup>13</sup>

### **A. Factors Influencing HCP Vaccination**

Reported reasons for, and barriers to, HCP acceptance of influenza vaccinations include the following:<sup>27,28,29</sup>

*Reasons HCP accept the influenza vaccination:*

- Desire for self-protection;
- Desire to protect patients;
- Desire to protect family members;
- Previous receipt of influenza vaccine;
- Perceived effectiveness of the vaccine;
- Desire to avoid missing work;
- Peer recommendation;
- Personal physician recommendation;
- Strong worksite recommendation;
- Had influenza previously;
- Belief that receiving the vaccine is a professional responsibility;
- Access to vaccination/coverage;
- Vaccinations provided free of charge; and,
- Belief that the benefits of vaccination outweigh the risk of side effects.

*Reasons HCP decline the influenza vaccination:*

- Fear of contracting influenza/influenza-like illness from the vaccine;
- Fear of vaccine side effects;
- Perceived ineffectiveness of the vaccine;
- Perceived low or no likelihood of developing influenza;
- Fear of needles;
- Insufficient time, inconvenience, or forgetting to get the vaccination;
- Reliance on homeopathic treatments;
- Belief that their own host defenses would prevent influenza;
- Lack of physician recommendation;
- Belief that other preventive measures would minimize or eliminate influenza risk;
- Belief that influenza is not a serious disease;
- Lack of free vaccinations; and,
- Belief that the vaccine is not necessary for individuals younger than 65 years of age.

## **B. Strategies for Improving HCP Vaccination Rates**

Facilities that employ HCP should use evidence-based approaches to maximize vaccination rates. In general, multi-component interventions are shown to be the most effective. The following strategies are recommended by the Healthcare Infection Control Practices Advisory Committee (HICPAC) and ACIP.<sup>30,31,32,33</sup>

### *Education and Campaigns*

- Educational programs that emphasize the benefits of HCP vaccination for staff and patients; and,
- Organized campaigns that promote and make the vaccine accessible.

### *Role Models*

- Vaccination of senior medical staff, hospital executives, or opinion leaders.

### *Improved Access*

- Making vaccine readily available at congregate areas (e.g., clinics), during conferences, or use of mobile carts;
- Provision of incentives; and,
- Provision of vaccine at no charge.

### *Measurement and Feedback*

- Posting of vaccination coverage levels in different areas of a health care facility;
- Monitoring vaccination coverage by facility area (e.g., ward or unit) or occupational group;
- Use of HCP influenza vaccination coverage as a health care quality measure in states that mandate public reporting of HAIs; and,
- Use of signed declination statements from HCP who refuse vaccination.

### *Legislation and Regulation*

- Legislative and regulatory efforts have favorably affected hepatitis B vaccination rates among HCP and can be useful for increasing influenza vaccination rates among HCP;
- Four states (Maine, South Carolina, Rhode Island, and Tennessee) have “offer” laws for influenza vaccination of HCP, meaning that requirements for vaccine administration are optional[ii];
- Three states (Alabama, California, and New Hampshire) have “ensure” laws for influenza vaccination administration of HCP meaning that vaccination of non-immune persons is mandatory in the absence of a specified exemption or refusal; [ii] and,
- Additionally, numerous hospitals and other health care facilities have enacted mandatory influenza vaccination for their HCP and several report a significant increase in influenza vaccination coverage rates. [iii]

The HAI Increasing Influenza Vaccination Coverage Among Healthcare Personnel Working Group was formed in 2009 to address the less than optimal immunization coverage rates among HCP. The goals of the group are:

- Develop, synthesize, and/or enhance evidence and tools for improving influenza vaccination of HCP;
- Enroll stakeholders in the initiative; and,
- Enhance and/or develop quality standards for influenza vaccination of HCP.

By implementing the goals and the inaugural project discussed later in this module, the working group aims to not only increase awareness of the importance of influenza vaccination for HCP and patients, but also to make progress toward meeting the proposed national Healthy People 2020 objective of 90% influenza vaccination coverage for all HCP.

## **IV. Measurement of Influenza Vaccination among Health Care Personnel**

ACIP and HICPAC recommend that health care facilities regularly monitor vaccination coverage and provide feedback on unit-specific or occupation-specific rates to staff and administration. In addition to monitoring

vaccination coverage at the health care facility level, measurement of influenza vaccination coverage can be used to assess progress towards meeting national objectives.

Currently the “gold standard” for assessing influenza vaccination coverage among health care personnel is the National Health Interview Survey (NHIS). The NHIS – a nationally representative survey of the civilian non-institutionalized household population of the United States conducted throughout the year from January through December – uses in-person interviews to collect information on health and health care for all eligible members of the sampled households. Information on adult vaccinations is self-reported by one randomly sampled adult within a family, except in rare cases when the selected adult is physically or mentally incapable of responding. Results from the in-person interviews are published annually in the National Center for Health Statistics Health E-Stat.[iv] During the 2009-2010 influenza vaccination campaign, CDC surveyed HCP to assess influenza vaccination coverage, using a nationally representative internet panel of HCP. Interim results from these surveys were published in the April 2, 2010 Morbidity and Mortality Weekly Report (MMWR) weekly report.<sup>13</sup> Two national sample surveys of health care personnel are planned to supplement NHIS data for the 2010-2011 influenza season.

Another system that has the potential to collect influenza vaccination coverage of health care personnel is CDC’s National Healthcare Safety Network (NHSN). In September 2009, CDC released the Healthcare Personnel Safety (HPS) Component within its web-based surveillance system, NHSN. The HPS Component complements the Patient Safety and Biovigilance components that are already available in NHSN. The HPS Component replaced CDC’s National Surveillance System for Health Care Workers (NaSH) legacy system and is comprised of two modules: the Blood and Body Fluid Exposure and Management Module and the Influenza Vaccination and Management Module. Currently, participation in either module is voluntary. The modules feature basic, custom, and advanced analysis capabilities available in real-time, which allows facilities to compile and analyze their own data, as well as benchmark these results to aggregate NHSN estimates. The HPS Component can assist participating facilities in developing surveillance and analysis capabilities to permit the timely recognition of health care personnel safety problems and prompt interventions with appropriate measures.

Influenza vaccination data submitted to CDC will ultimately capture regional trends on the yearly uptake of the vaccine, prophylaxis and treatment for health care personnel, as well as the elements within yearly influenza campaigns that succeed or require improvement. Data may be further stratified by occupational groups, or facility type and size. At the state and national levels, NHSN’s HPS component will aid in monitoring rates and trends, identifying emerging hazards for health care personnel, assessing risk of occupational infection, and evaluating preventive measures, (e.g., use of engineering controls, work practices, protective equipment, post-exposure prophylaxis, and immunization uptake strategies).

The current Influenza Vaccination Module may soon offer options for health care facilities to submit vaccination summary data. NHSN will partner with vendor-based surveillance systems to permit periodic data extractions into NHSN.

## V. Coordination of Efforts: Interagency Working Group

The Department of Health and Human Services (HHS) is strategically positioned to catalyze multi-agency integration efforts and foster close collaboration with other public entities and private sector organizations that have a stake in increasing influenza immunization of HCP. This work depends on agency-wide collaborations which will be supported by this group. Representatives from CDC, the Office of the Assistant Secretary for Health (OASH) in the Office of the Secretary, Centers for Medicare & Medicaid Services (CMS), the Agency for Healthcare Research and Quality (AHRQ), FDA, NIH, Occupational Safety and Health Administration (OSHA), and Veterans Health Administration (VHA) serve as members of this group. Aligning data collection systems that track immunization rates across agencies and collaborating across agencies to identify a strategic communications strategy will continue to be priorities for this group. Initial surveys of ongoing efforts across HHS agencies allowed the working group to identify initial focus areas described below.

## VI. Work Group Goals and Tasks

### A. Develop, Synthesize and/or Enhance Evidence and Tools for Improving Influenza Vaccination of HCP

The rationale and evidence for the importance of influenza vaccination of HCP has been described throughout this module. Beyond causing significant illness among HCP themselves, HCP can transmit influenza to their patients quickly and efficiently due to the high volume of patient encounters, many of whom are also in at-risk populations. Influenza vaccination can prevent much of HCP illness, absenteeism, and transmission and has been shown by numerous studies to be cost-effective.<sup>17,19,34</sup> There are many successful strategies for implementing influenza vaccination programs for HCP, as previously described. Toolkits can provide convenient compilations of these rationales and strategies, and provide posters and other materials to implement HCP influenza vaccination programs. Some of these include:

- The HHS toolkit;[v]
- American Medical Directors Association toolkit “Immunizations in the Long Term Care Setting;[vi]
- Association for Professionals in Infection Control and Epidemiology (APIC) “Protect your Patients, Protect Yourself”;[vii]
- The Joint Commission’s monograph, “Providing a Safer Environment for Health Care Personnel and Patients through Influenza Vaccination: Strategies from Research and Practice”;[viii] and,
- Many others described by the National Influenza Vaccine Summit.[ix]

To assure the most recent data and resources are available for HCP and their supervisors for the implementation of influenza vaccination programs, the working group will execute the tasks below.

#### Work Group Tasks:

- Review available evidence for vaccination benefits, including improved health outcomes for HCP and patients. Weigh benefits against costs and any possible harms. Identify the patient populations at highest risk of influenza-related mortality (e.g. infants, older persons, persons with respiratory illnesses) in whom vaccination of HCP would potentially provide the greatest benefit and review evidence for balance between benefits and harms for those specific populations.
- Review available evidence on the factors that affect HCP vaccination as well as evidence-based strate-

gies and best practices to increase vaccination rates. These include but not limited to: recommendations or policies from medical and health organizations, state laws, improving access, educational efforts, employment mandates, declination forms, etc.

- Identify gaps in current knowledge about reasons for HCP receiving and declining influenza vaccination, and approaches to fill these gaps.
- Examine the potential impacts policy changes, such as mandating that influenza vaccination be offered or performed, may have on increasing influenza vaccination coverage for HCP.
- Align data collection systems that track immunization rates across agencies.
- Create and widely disseminate guidance, toolkits, and other materials for implementing evidence-based strategies to increase HCP vaccination rates.

## **B. Enroll Stakeholders in the Initiative**

It is important to enroll stakeholders, including health care-affiliated organizations, unions and collective bargaining units, in order to garner support towards the goal of increasing HCP influenza vaccination and to provide a mechanism to share best practices, as well as for the exchange of ideas and opinions.

Several professional organizations, such as the American College of Physicians (ACP),<sup>[x]</sup> the Infectious Diseases Society of America (IDSA),<sup>[xi]</sup> and APIC<sup>[xii]</sup> have put forth policy statements recommending mandatory influenza vaccination of HCP. Many other organizations, such as the American Nurses Association (ANA) and the American Medical Association (AMA), recommend voluntary HCP vaccination. For those organizations without a policy, we would like to encourage the professional organizations to develop a written policy supporting, at a minimum, voluntary influenza vaccination of HCP.

## **C. Enhance and/or Develop Quality Standards for Influenza Vaccination of HCP**

Currently the CDC's HICPAC and ACIP recommend that all HCP be vaccinated against influenza on an annual basis. These guidelines, however, are not mandatory, and influenza vaccination coverage levels among HCP remain low, as previously discussed. In 2006, The Joint Commission required that hospitals and long-term care facilities seeking accreditation establish an influenza vaccination program to educate about and provide influenza vaccination to HCP. It did not, however, go so far as to require mandatory vaccination of HCP with influenza vaccine. While OSHA has a Bloodborne Pathogens standard (§1910.1030) which includes hepatitis B vaccination for HCP as part of a worker safety regulation, they do not have a comprehensive standard that addresses occupational exposure to contact, droplet, and airborne transmissible diseases. OSHA does not currently include any vaccination besides hepatitis B as part of their worker safety regulation. The recent Request for Information released by OSHA includes a section on "Vaccination and Post Exposure Prophylaxis" to explore the potential inclusion of other vaccines recommended for HCP such as influenza, MMR, varicella, Tdap, and meningococcal as part of their worker safety regulations.<sup>35</sup>

To further enhance quality standards for influenza vaccination of HCP, other steps that could be taken include encouraging The Joint Commission to:

- Extend the standards for HCP influenza vaccination to outpatient and other healthcare settings;
- Establish a performance measure for the percent of HCP vaccinated against influenza; and,
- Establish a specific percentage goal of HCP vaccinated against influenza.

Additionally, this working group has established a suggested metric for influenza vaccination of HCP in 2015, to complement the Healthy People goal of 60% HCP vaccination in 2010 and proposed goal of 90% in 2020. This working group proposes the interim metric of 70% coverage of HCP influenza vaccination in 2015.

## VII. Inaugural Project

The working group will undertake an Inaugural Project that will address Goal A of the group's objectives – to develop and/or enhance evidence and tools for improving influenza vaccination of HCP. The purpose of the project is to examine the effect that policy changes, such as mandating that influenza vaccination be offered or performed, may have on increasing influenza vaccination coverage for HCP. The intended outcome of the project is to have a comprehensive report that identifies the existing policies in each State, allowing for comparisons between States achieving higher rates of influenza vaccination of HCP, as well as comparisons to model state and federal statutes that may be useful for States drafting future legislation. Collaborations with state and local policymakers, facility leadership, workforce representatives, professional associations, and patient advocates will be an integral component of this project and will address the goal of the group to enroll stakeholders in the initiative.

The proposed project will assist States in creating a legal environment that encourages influenza vaccination of all HCP. To facilitate creating this environment, a set of educational materials will be developed and disseminated to stakeholders interested in increasing influenza vaccination coverage rates of HCP. The materials will include a common definition of "health care personnel," describe the strategies that facilities have implemented to encourage voluntary vaccination, and outline the current coverage rates among HCP. The materials will also include a review of evidence-based practice of seasonal influenza vaccination of HCP as it relates to transmission of illness to patients (Goal A; Task A) and summarize the literature that addresses the relationship between vaccination of HCP and disease rates among patients.

The project will then review the legal environment surrounding requirements for influenza vaccination of HCPs, such as requirements for employers to offer vaccination to HCP, to obtain declination forms from those HCP who decline vaccination, or to mandate that vaccination be performed. Federal and state laws, individual facilities' policies, and judicial decisions will be reviewed. Summaries of each state's legal requirements will be prepared, which will:

- determine the essential elements for inclusion of HCP immunization in comprehensive state statutes establishing requirements for influenza vaccination of HCP;
- draft model state statute(s) taking into account variability between States and allowing for flexibility in language;
- develop tables that compare each state's existing policies to the model statute(s);
- invite federal and state partners to review all materials, develop consensus and make recommendations;
- develop an interactive website under the aegis of HHS or one of its agencies providing the above information, and;
- provide technical assistance to policymakers upon request.

The Project's findings will serve as the basis for developing recommendations and model language for federal and state statutes on HCP influenza immunization. The project will draft summaries of each State's legal requirements, determine the essential elements for inclusion in comprehensive state and federal statutes, and draft model state and federal statutes.

Upon completion, the inaugural project will provide a set of model policies defining a legal environment that encourages increased uptake of influenza vaccinations among all HCP.

## VIII. Challenges and Opportunities

The primary challenge the working group faces is how best to work with partners to substantially increase influenza vaccination coverage rates among HCP when, after many years of interventions, the coverage rate has barely exceeded the national Healthy People 2010 goal of 60%. This will become an even greater challenge if the proposed national goal for 2020 of 90% is adopted.

Additionally, rates of vaccination vary across settings and groups. For example, estimated vaccination coverage among physicians and nurses was above 60% in 2009-2010, while coverage among all other types of HCP was less than 50%. Coverage among HCP working in hospitals was over 60%, while for those HCP in long term care facilities coverage is well below 50%.<sup>36</sup> Healthcare settings should tailor their strategies to their setting, workforce, and region.

Finally, the definition of HCP is still not standardized in all settings, allowing variations for whom influenza vaccine is mandated, recommended, or provided in different settings and even institutions within those settings. A major opportunity for improvement in vaccination coverage can be achieved through a standardized, comprehensive measurement system. Several organizations such as the National Foundation for Infectious Diseases, The Joint Commission, the Society for Healthcare Epidemiology of America, and HICPAC have all recommended measurement of vaccination rates as an important component of health care facility influenza vaccination programs.<sup>17,18,37</sup>

However implementing such a system presents several challenges. A recent study conducted by Lindley et al.<sup>38</sup> found substantial variation in measurement practices among hospitals surveyed. They found that more than one-third of hospitals in their study did not include certain groups, such as contract staff, attending physicians, volunteers, students, and residents, in their influenza vaccination coverage measurements, although all of these groups are included in the ACIP/HICPAC definition of HCP. A standard definition of which groups should be included when assessing influenza vaccination coverage in health care facilities will facilitate comparisons between different types of health care facilities.

An opportunity to address this challenge is the National Quality Forum's (NQF's) time-limited endorsement of an HCP influenza vaccination coverage measure.<sup>39</sup> The measure specifies that information to be collected on influenza vaccination received at a facility and elsewhere for paid and unpaid persons working in health care settings, and that vaccine declination and contraindications to vaccination be measured and reported separately. The time-limited NQF-endorsed measure will be pilot tested in four locations for the 2010-

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[i]Definition of Health Care Personnel (HCP), March 2008\*

HCP refers to all paid and unpaid persons working in health-care settings who have the potential for exposure to patients and/or to infectious materials, including body substances, contaminated medical supplies and equipment, contaminated environmental surfaces, or contaminated air.

HCP might include (but are not limited to) physicians, nurses, nursing assistants, therapists, technicians, emergency medical service personnel, dental personnel, pharmacists, laboratory personnel, autopsy personnel, students and trainees, contractual staff not employed by the health-care facility, and persons (e.g., clerical, dietary, house-keeping, laundry, security, maintenance, billing, and volunteers) not directly involved in patient care but potentially exposed to infectious agents that can be transmitted to and from HCP and patients.

These recommendations apply to HCP in acute care hospitals, nursing homes, skilled nursing facilities, physician's offices, urgent care centers, and outpatient clinics, and to persons who provide home health care and emergency medical services.

\*Adapted from 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(RR02):1-16.

- [ii] This information was last updated May 2010. For additional information as well as any updated information on state influenza immunization laws for HCP, please see: <http://www2a.cdc.gov/nip/StateVaccApp/statevaccsApp/AdministrationbyVaccine.asp?Vaccinetmp=Influenza>
- [iii] For additional information regarding healthcare facilities' influenza vaccine policies, please see: <http://www.immunize.org/honor%2Droll/>
- [iv] Available at [http://www.cdc.gov/nchs/data/hestat/vaccine\\_coverage/vaccine\\_coverage.htm](http://www.cdc.gov/nchs/data/hestat/vaccine_coverage/vaccine_coverage.htm)
- [v] <http://www.hhs.gov/ophis/initiatives/vacctoolkit/index.html>
- [vi] <http://www.amda.com/resources/whatsnew2006.cfm#toolkit>
- [vii] [http://www.apic.org/Content/NavigationMenu/PracticeGuidance/Topics/Influenza/toolkit\\_contents.htm](http://www.apic.org/Content/NavigationMenu/PracticeGuidance/Topics/Influenza/toolkit_contents.htm)
- [viii] [http://www.jointcommission.org/patientsafety/infectioncontrol/flu\\_monograph.htm](http://www.jointcommission.org/patientsafety/infectioncontrol/flu_monograph.htm)
- [ix] [http://www.preventinfluenza.org/profs\\_workers.asp](http://www.preventinfluenza.org/profs_workers.asp)
- [x] <http://www.acponline.org/pressroom/hcw.htm>
- [xi] <http://www.idsociety.org/influenza.htm>
- [xii] [http://www.apic.org/Content/NavigationMenu/PracticeGuidance/Topics/Influenza/APIC\\_Position\\_Paper\\_Influenza\\_11\\_7\\_08final](http://www.apic.org/Content/NavigationMenu/PracticeGuidance/Topics/Influenza/APIC_Position_Paper_Influenza_11_7_08final)

# Additional Resources

## **Massachusetts Medical Society Influenza Vaccine Toolkit**

[www.massmed.org/AM/Template.cfm?Section=Flu&TEMPLATE=/CM/HTMLDisplay.cfm&CONTENTID=11884](http://www.massmed.org/AM/Template.cfm?Section=Flu&TEMPLATE=/CM/HTMLDisplay.cfm&CONTENTID=11884)

## **CDC HCW Vaccine recommendations**

[www.cdc.gov/mmwr/PDF/rr/rr5502.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr5502.pdf)

## **Professional Society endorsement of HCW flu vaccination**

[www.immunize.org/catg.d/p2014.pdf](http://www.immunize.org/catg.d/p2014.pdf)

## **Seven Truths about Influenza Vaccination of HCW. Greg Poland article.**

[www.immunize.org/laws/influenza\\_for\\_healthcare\\_workers.pdf](http://www.immunize.org/laws/influenza_for_healthcare_workers.pdf)

## **Virginia Mason mandatory influenza vaccine experience**

[www.preventinfluenza.org/summits/2007/Session\\_Four/Hagar\\_2007.pdf](http://www.preventinfluenza.org/summits/2007/Session_Four/Hagar_2007.pdf)

## **George Washington University—Influenza Vaccination of the Healthcare Workforce Project**

[www.gwumc.edu/sphhs/departments/healthpolicy/influenza/](http://www.gwumc.edu/sphhs/departments/healthpolicy/influenza/)

## **New England Journal of Medicine article: Mandatory Vaccination of the Healthcare Worker**

[www.nejm.org/doi/full/10.1056/NEJMp0910151](http://www.nejm.org/doi/full/10.1056/NEJMp0910151)

# Helpful Tips

- Announcement of the new policy comes from the CEO.
- Send messages through multiple sources and avenues:
  - a. send a personal letter to each employee's home from the CEO
  - b. from the manager at unit level staff meetings
  - c. in the hospital newsletter
  - d. from the CEO or director at larger hospital meetings
  - e. announce at medical staff meetings
  - f. pop up reminders on the computer system
  - g. inform the board of directors
- Set a compliance date that all employees must have the immunization or wear a mask.
- Make the vaccination easy to access. Take the vaccination to the employees around the clock.
- Develop a tracking process so that managers have up-to-date information on the vaccination status of their employees.
- Determine a policy about non employed physicians. Make the vaccination easily accessible for physicians.
- Require the use of the hospital developed waiver form for employee physicians and spiritual leaders.
- Those that have implemented mandatory influenza vaccination did not see their fears come true. They report very little resistance.