NH Occupational Health Surveillance Program

Institute on Disability
RESEARCH

Impact of Influenza Policies among New Hampshire Healthcare Personnel

January 2018

Introduction

Healthcare personnel (HCP) can become infected with the influenza virus through contact with infected patients and can transmit influenza to patients and other employees. HCP also often work while they are ill due to worker shortages, need for compensation, fear of being terminated from too many absences, as well as dedication to their patients.[1-2] Because HCP provide care to patients at high risk for complications of influenza, they should be offered influenza vaccine each year.

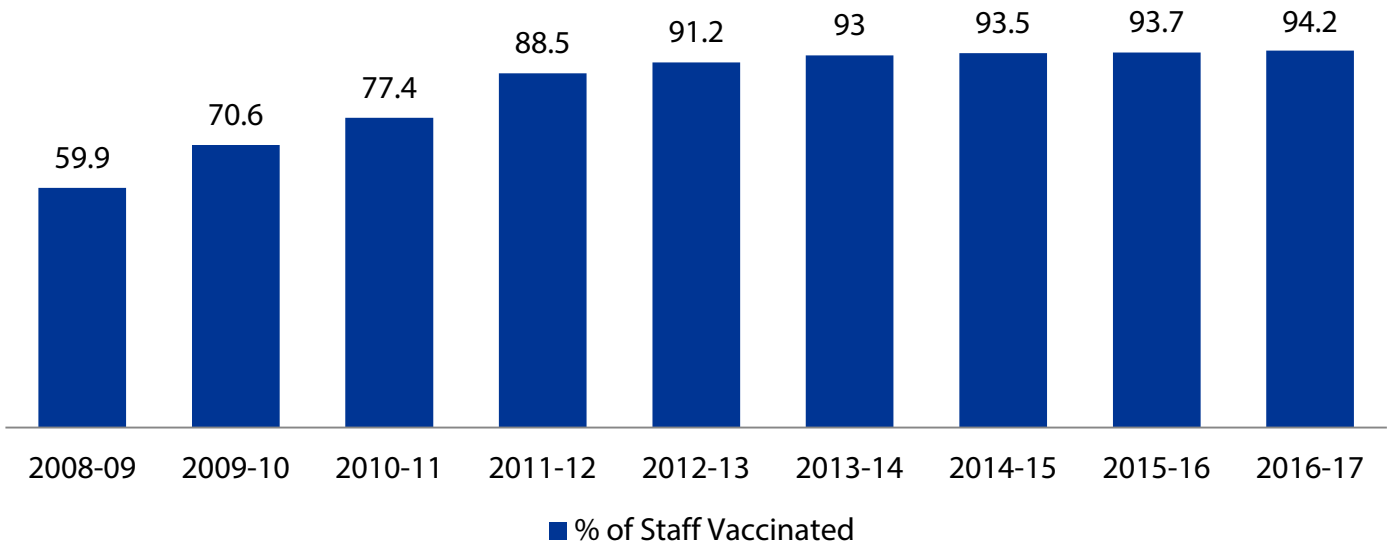
In NH, hospitals, ambulatory surgery centers and adult day care, residential and assisted living facilities report HCP vaccination rates directly to NH DHHS, as mandated by the Healthcare-Associated Infections (HAI) law (RSA 151:32-35) and the healthcare immunization law (RSA 151:9-b). These same facilities also report data regarding workplace vaccination policies to the HAI Program via a web-based survey. Though NH law requires each hospital and residential facility to offer the seasonal influenza vaccination to its employees, currently there are no regulations requiring HCP vaccination, and HCP are free to decline vaccination for any reason. Some facilities, however, choose to implement policies requiring some or all of its HCP to receive the seasonal influenza vaccination.[3]

While it is important to monitor influenza vaccination rates in HCP in order to better assess the capacity of public health jurisdictions to reach national and state goals, it is also important to understand the impact of influenza vaccination policies on these workers.

Background

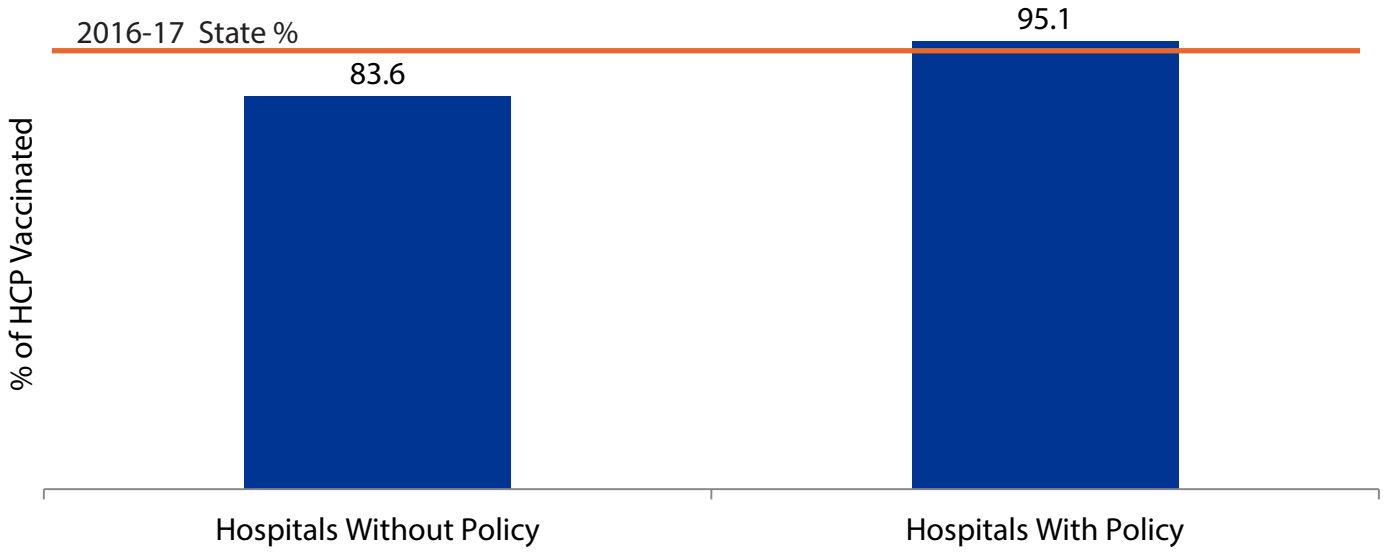
As reported to NH DHHS during the 2016-2017 influenza season, vaccination percentages ranged by hospital from 62.4% to 100%, and the overall State vaccination percentage was 94.2%. There was a gradual increase in HCP vaccination percentages in NH hospitals since 2008. This increase from 2008-09 to 2013-14 represents a statistically significant increase from the year prior.[3]

Statewide influenza vaccination percentages for hospital HCP by influenza season, 2008-09 to 2016-17 influenza season



Note: Influenza season represents data for HCP between October 1st and March 31st the following calendar year, with the exception of 2008-09, in which data were collected for October 1st through April 30th.

Influenza vaccination percentages for hospitals with and without vaccination policies, 2016-17 influenza season



During the 2016-17 influenza season, 31 (91%) of 34 hospitals had an HCP vaccination policy in place, two (6%) did not have one in place but were considering one, and one (3%) did not have one in place and was not considering one. Among the 31 hospitals with a policy, 14 (45.2%) allowed only medical and religious exemptions; and one (3.2%) allowed medical and personal/ philosophical exemptions. Two (6.5%) hospitals allowed only medical exemptions. One (3.2%) hospital allowed an exemption for medical, religious, personal/philosophical and other reasons. The remaining 13 (41.9%) allowed an exemption for medical, religious, and personal/ philosophical reasons. Twenty-nine (93.5%) hospitals with a policy required unvaccinated HCP with an approved exemption to wear a mask, and 16 (51.6%) compelled unvaccinated HCP without an acceptable reason for exemption to progressive discipline, potentially including termination. Hospitals with vaccination policies had significantly higher percentages of influenza vaccination (95.1%) than hospitals without mandatory policies

(83.6%). Hospitals that utilized progressive discipline potentially including termination as a consequence for unvaccinated HCP without an acceptable exemption had a significantly higher vaccination percentage (97.5%) than hospitals that did not include potential termination as a consequence (89.3%). (NH DHHS Report at: www.dhhs.nh.gov/dphs/cdcs/hai/documents/hai2016-hospital.pdf)

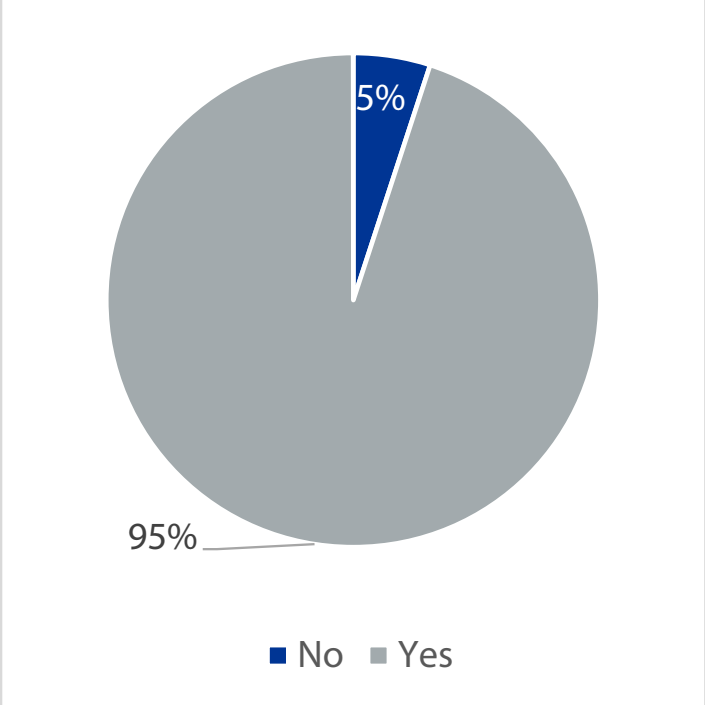
Methods

This study focused on NH hospitals only, as reporting is at 100%. A 10-minute anonymous, online survey was developed using the Qualtrics Research Survey tool and sent to all NH hospital key contacts for distribution to hospital staff. Employees received a URL to the survey and could fill out the survey at their leisure on any electronic device. Questions were drawn from the National Healthcare Safety Network's Seasonal Survey on Influenza Vaccination Protocol for Healthcare Personnel (www.cdc.gov/nhsn/forms/57-215-seasonal-survey-form.pdf) and the CDC Health Care Personnel and Flu Vaccination, Internet Panel Surveys (a collection of data from two preexisting web-based panels at www.cdc.gov/flu/fluvaxview/hcp-ips-nov2015.htm). Questions were added on influenza vaccination behaviors and influences. Employees were told in the invitation that their participation would be anonymous and would in no way affect their employment at the facility. Data were collected in Qualtrics and exported to Excel for further analysis. This study received Institutional Review Board approval for human subjects research.

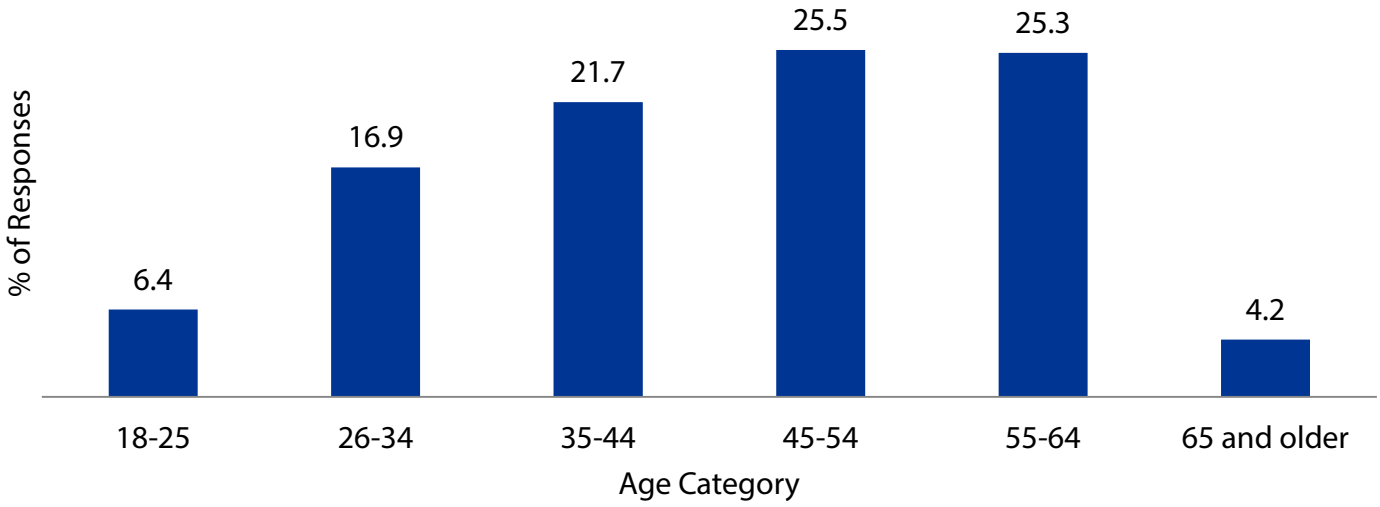
Results

A total of 499 HCP completed the survey; 95% reported receiving the flu vaccine.

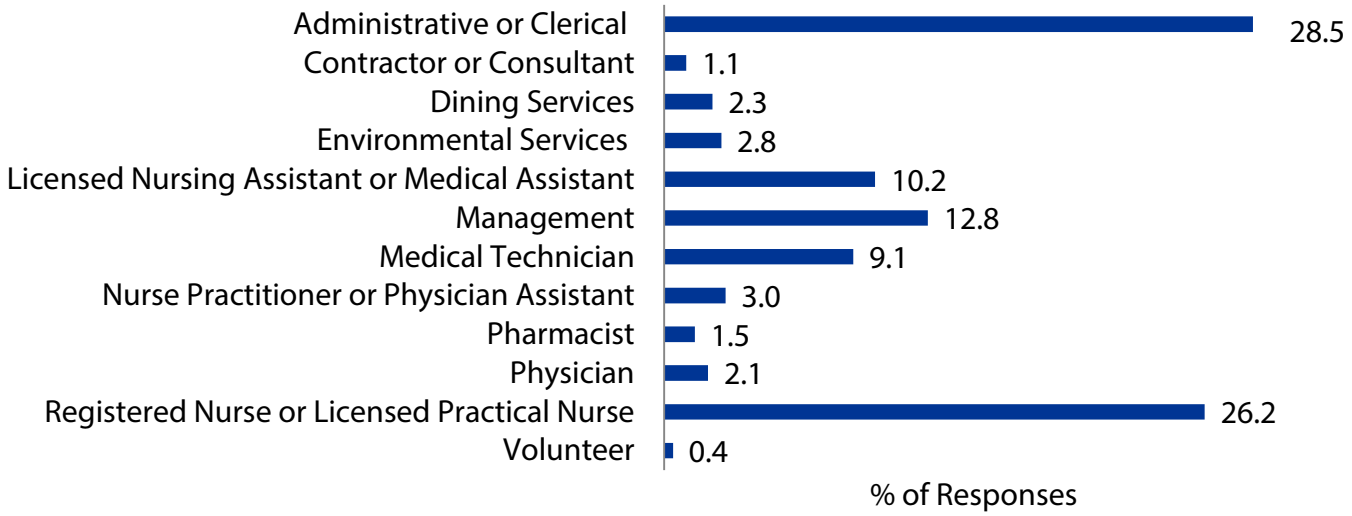
Did you receive a flu vaccine this flu season? (Fall 2016 - Spring 2017)



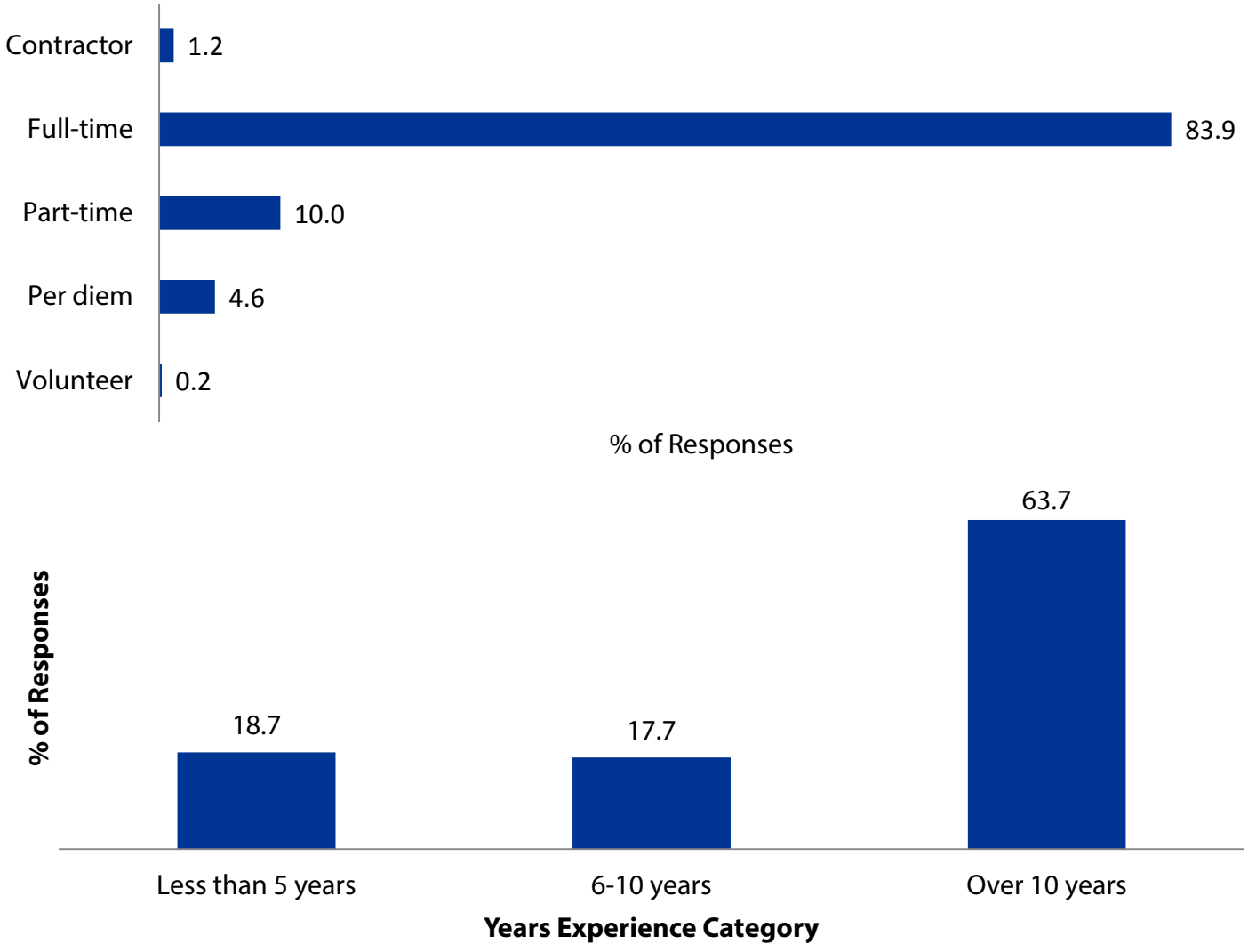
The majority of respondents reported their age as between 45 and 64 (50.8%).



A drop-down menu with options was provided for selection of occupation within the hospital. The majority of respondents were Administrative or Clerical (28.5%) with the next highest occupation reported as Registered Nurse or Licensed Practical Nurse (26.2%).



The majority of respondents reported working full time (83.9%) and working in healthcare (63.7%) for over 10 years.



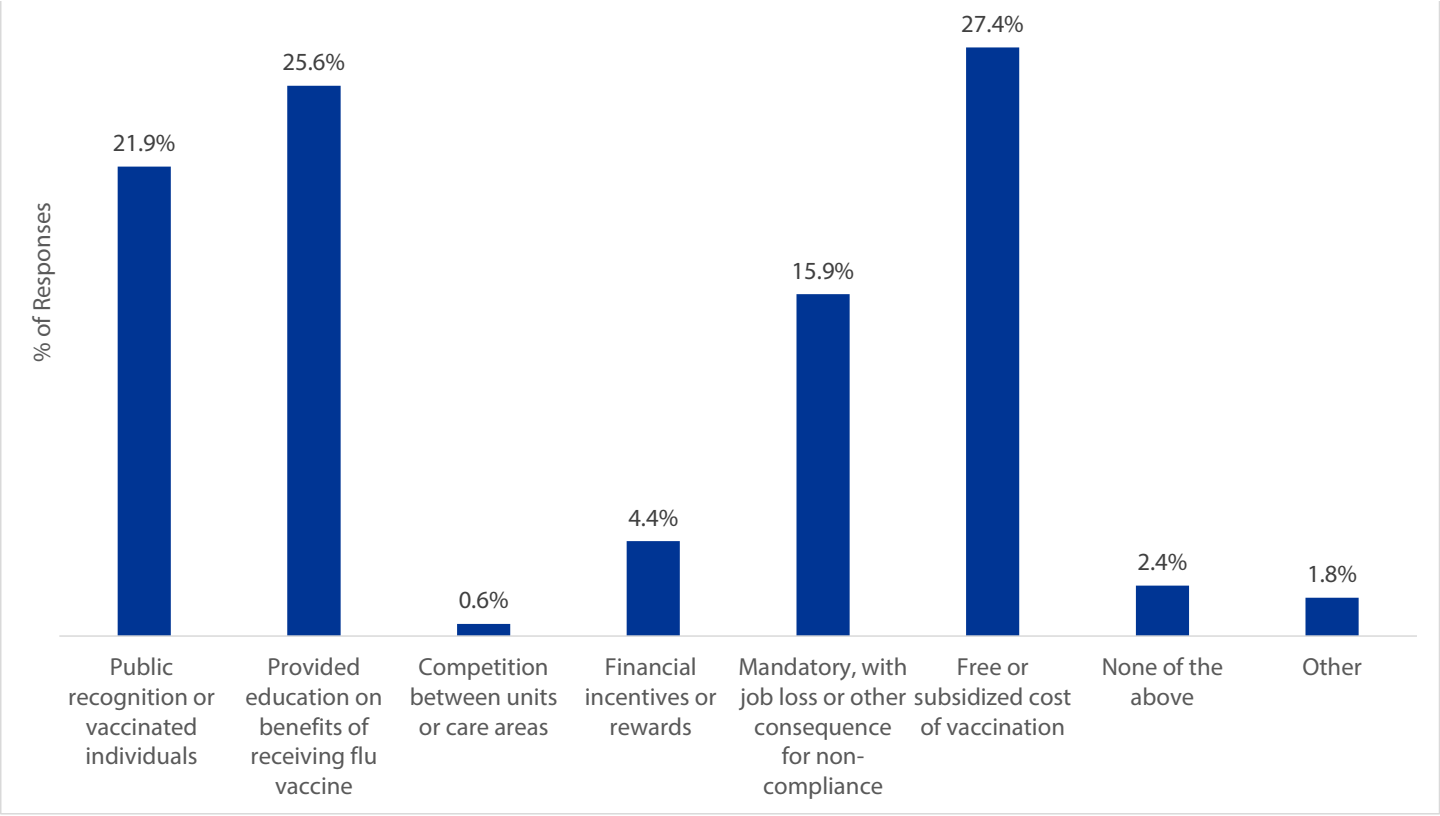
The majority of respondents having reported that they received the flu vaccine were either Administrative or Clerical staff (25.2%), or Registered or Licensed Practical Nurse (23.5%).

Occupation	Did Not Receive Flu Vaccine	Did Receive Flu Vaccine
Administrative or Clerical (e.g. Reception, Accounting, Customer Service, and non-clinical support staff)	9 (1.8%)	125 (25.2%)
Contractor or Consultant	0 (0.0)%	5 (1.0%)
Dining Services	0 (0.0)%	11 (2.2%)
Environmental Services (e.g. Housekeeping, Maintenance, Facilities, and Security)	2 (0.4%)	11 (2.2%)
Licensed Nursing Assistant or Medical Assistant	2 (0.4%)	46 (9.3%)
Management	2 (0.4%)	58 (11.7%)
Medical Technician	2 (0.4%)	41 (8.2%)
Nurse Practitioner or Physician Assistant	0 (0.0)%	14 (8.2%)
Pharmacist	0 (0.0)%	7 (1.4%)
Physician	0 (0.0)%	10 (2.0%)
Registered Nurse or Licensed Practical Nurse	5 (1.0%)	117 (23.5%)
Volunteer	0 (0.0)%	2 (0.4%)
No Response	3 (0.6%)	25 (5.0%)

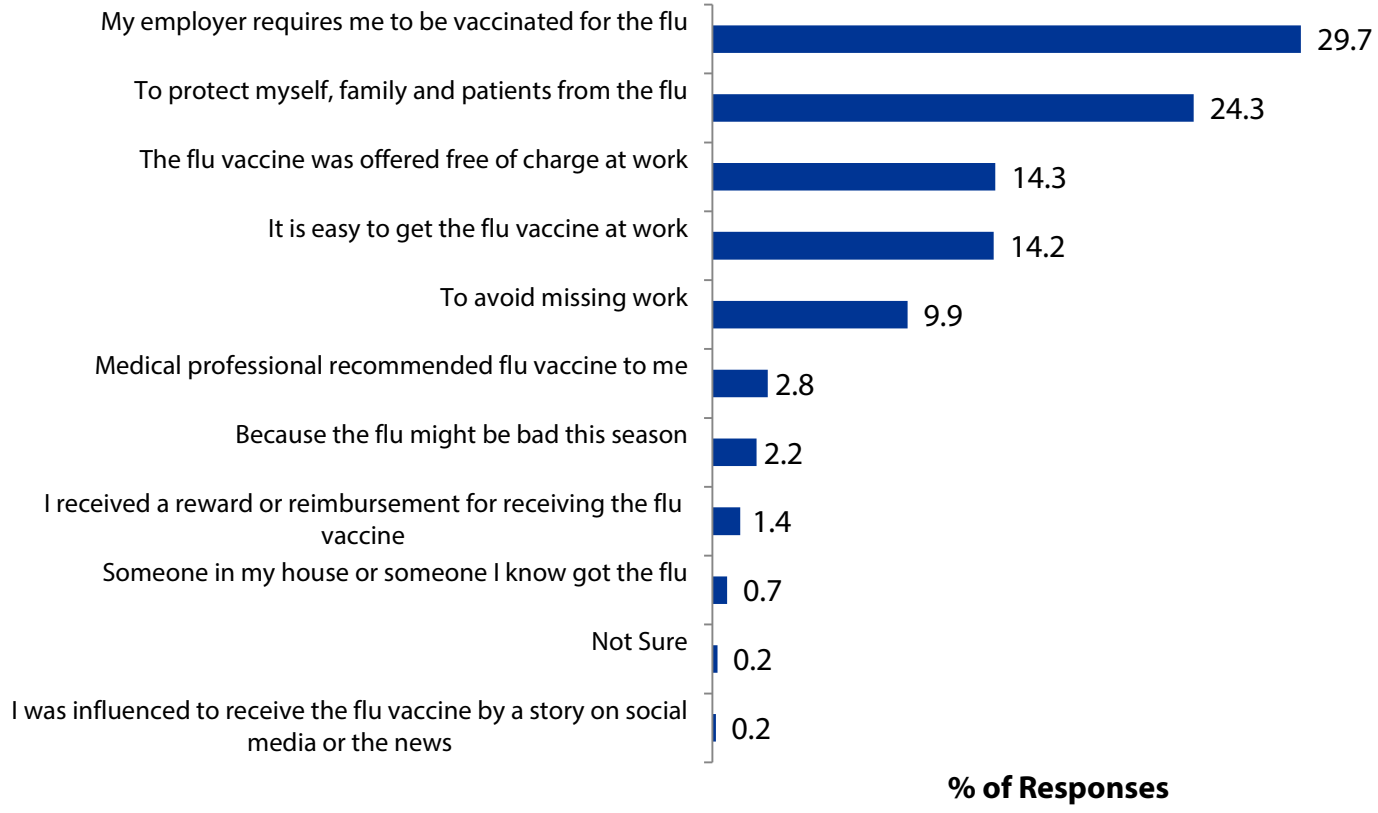
The majority of respondents having reported that they received the flu vaccine had some college or associate's degree (33.4%).

Highest Level of Education	Did Not Receive Flu Vaccine	Did Receive Flu Vaccine
Advanced degree (e.g. Master's or PhD, MD)	1 (0.2%)	111 (22.3%)
Bachelor's degree (e.g. BSN, BA)	9 (1.8%)	140 (28.2%)
High school completion (e.g. GED or diploma)	4 (0.8%)	54 (10.9%)
Some college or associate's degree (e.g. Medical Tech, LNA, LPN)	11 (2.2%)	166 (33.4%)
No Response	0 (0.0%)	1 (0.2%)

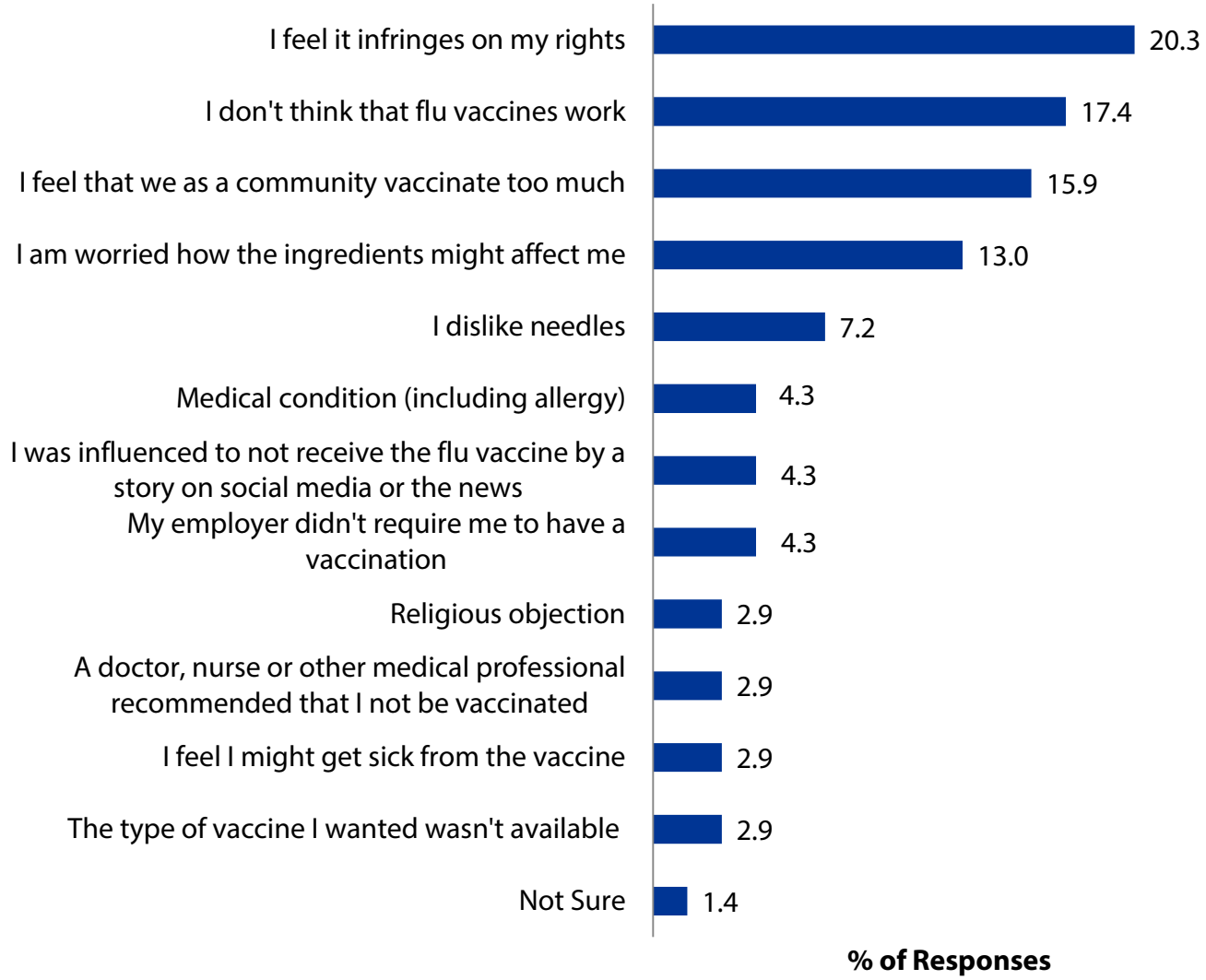
A variety of facility-wide promotional efforts were reported, with free or subsidized cost of vaccination being the most selected (27.4 %). Choices were not mutually exclusive.



The top five reasons for choosing to receive the flu vaccine were (more than one selection allowed): *My employer requires me to be vaccinated for the flu (29.7%); to protect myself, family and patients from the flu (24.3%); the flu vaccine was offered free of charge at work (14.3%); it is easy to get the flu vaccine at work (14.2%);* and to *avoid missing work (9.9%).*



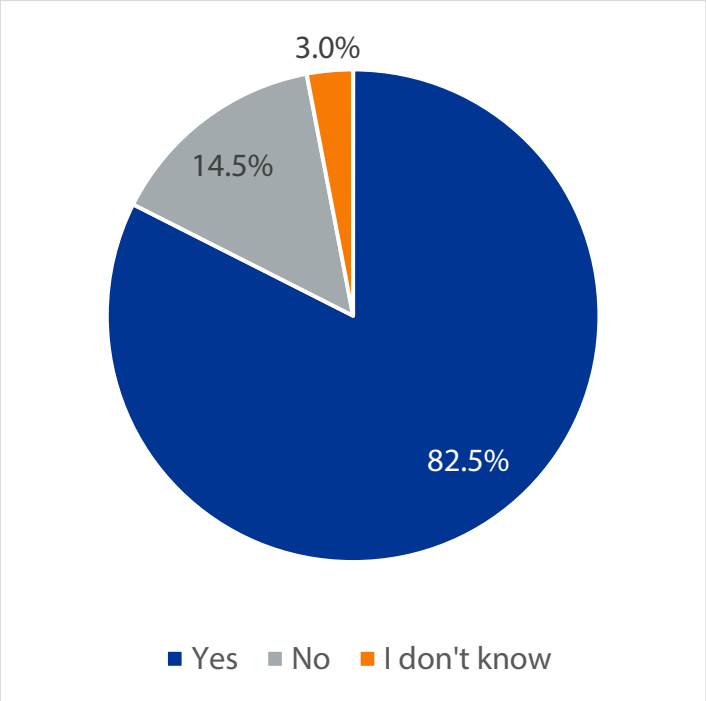
The top five reasons for choosing not to receive the flu vaccine (more than one selection allowed) were: *I feel it infringes on my rights (20.3%); I don't think that flu vaccines work (17.4%); I feel that we as a community vaccinate too much (15.9%); I am worried how the ingredients might affect me (13.0%);* and *I dislike needles (7.2%).*



There was no statistical significance for flu vaccination status among hospital staff with direct contact (51.1%) with patients compared with those without direct contact (42.3%).

Patient Contact	Did Not Receive Flu Vaccine	Did Receive Flu Vaccine
No Patient Contact	10 (2.0%)	210 (42.3%)
Direct Patient Contact	14 (2.8%)	254 (51.1%)
No Response	1 (0.2%)	8 (1.6%)

The majority of respondents (82.5%) reported that their facility has a policy requirement for flu vaccine.



The majority of respondents reporting a policy requirement for flu vaccine received the flu vaccine (79.6%).

Does your employer have a policy requirement for flu vaccine?	Did Not Receive Flu Vaccine	Did Receive Flu Vaccine	No Response
Yes	13 (2.6%)	395 (79.6%)	1 (0.2%)
No	10 (2.0%)	62 (12.5%)	0 (0.0%)
I Do Not Know	2 (0.4%)	13 (2.6%)	0 (0.0%)

The majority of respondents reported that their employer makes the flu vaccine available at no cost (98%), and at multiple times (shifts) and locations (93.1%) at their workplace.

Does your employer make the flu vaccine available at no cost?	Number of Responses
Yes	486 (98.0%)
No	3 (0.6%)
I Do Not Know	7 (1.4%)

Does your employer make the flu vaccine available at multiple times (shifts) and locations at your workplace?	Number of Responses
Yes	462 (93.1%)
No	13 (2.6%)
I Do Not Know	21 (4.2%)

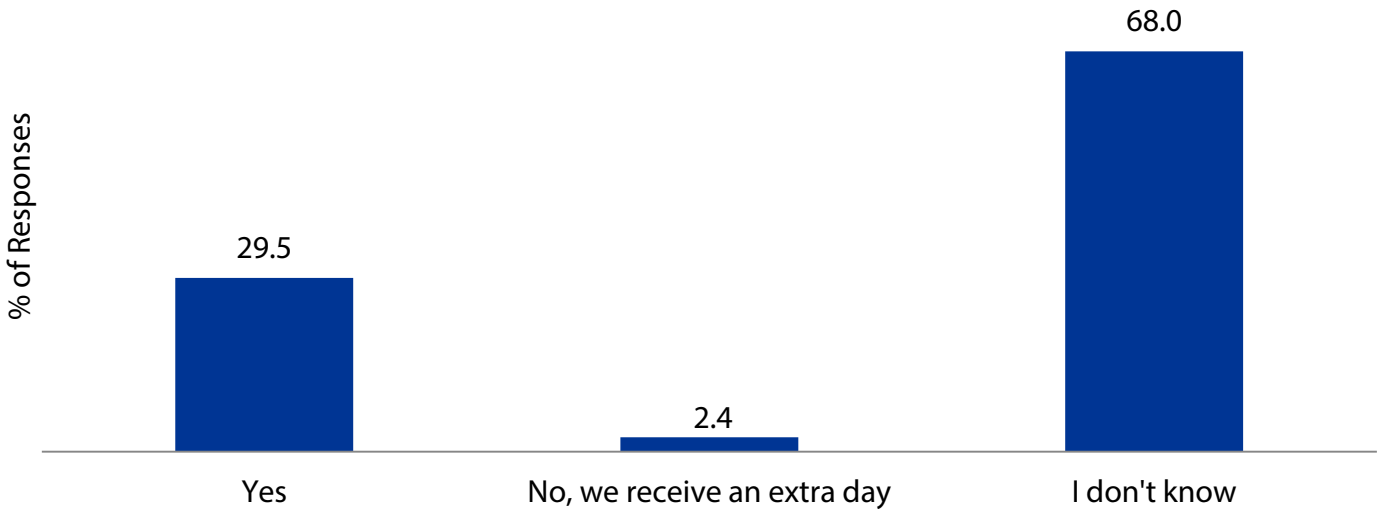
The majority of respondents receiving the flu vaccine reported that they did not have to take personal time to get the flu vaccine (83%).

Do you have to take your own personal time to get the flu vaccine?	Did Not Receive Flu Vaccine	Did Receive Flu Vaccine	No Response
Yes	2 (0.4%)	11 (2.2%)	0 (0.0%)
No	20 (4.0%)	411 (83.0%)	1 (0.2%)
I Do Not Know	3 (0.6%)	47 (9.5%)	0 (0.0%)

The majority of those reporting that they do not have to take personal time to get the flu vaccine also reported that their employer has a flu vaccine policy (72.3%).

Do you have to take your own personal time to get the flu vaccine?	Employer Does Not Have a Flu Vaccine Policy	Employer Does Have a Flu Vaccine Policy	I Do Not Know If My Employer Has a Flu Vaccine Policy
Yes	8 (1.6%)	41 (8.3%)	1 (0.2%)
No	61 (12.3%)	357 (72.3%)	13 (2.6%)
I Do Not Know	2 (0.4%)	10 (2.0%)	1 (0.2%)

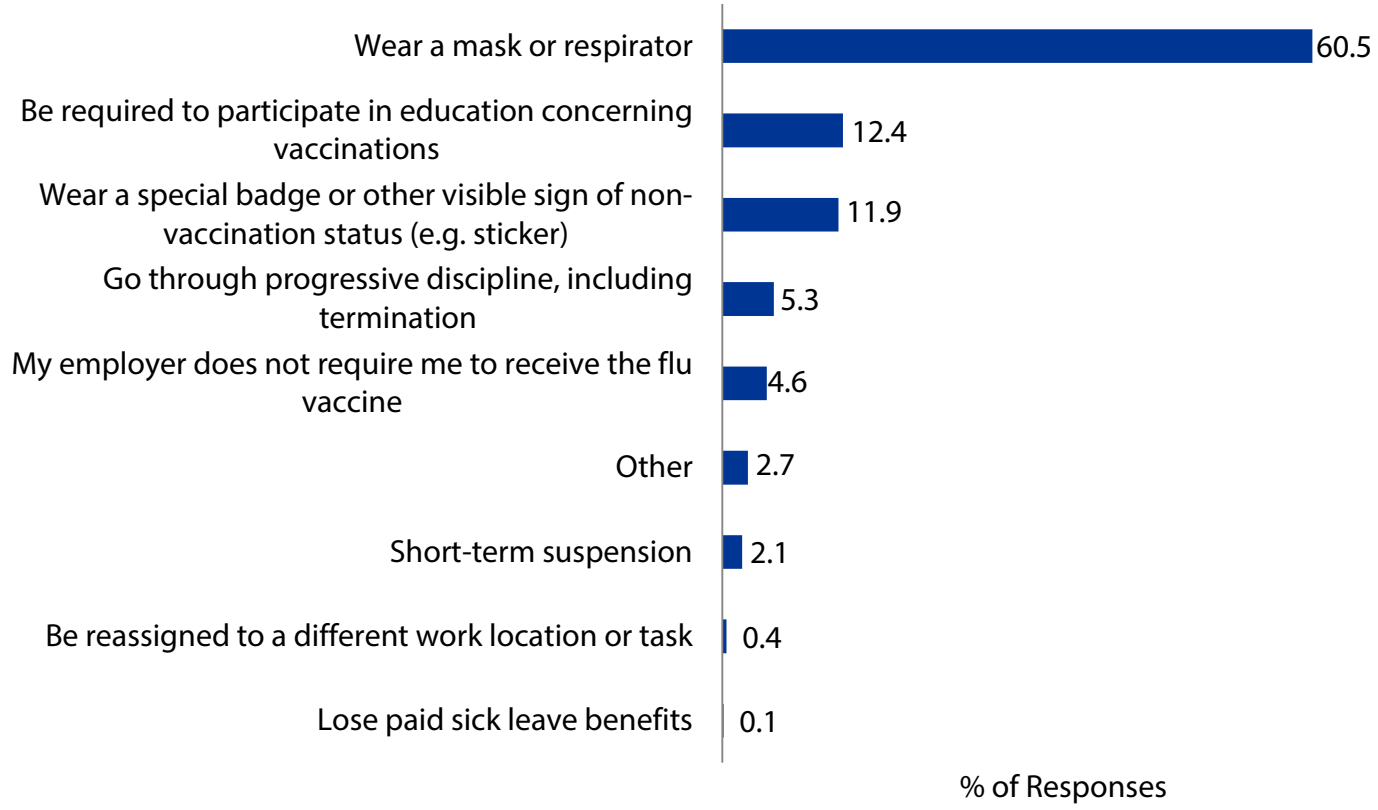
The majority of respondents did not know if they are required to take their own sick time if they have a reaction to the flu vaccine (68%).



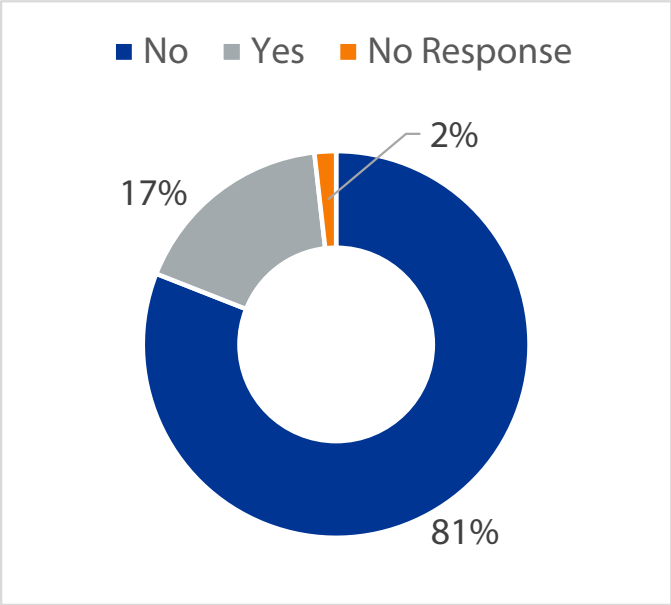
While many respondents reported that they did not know what the sick leave policy was at their facility, 3% who reported that they did have to take their own sick leave also reported that they did not receive the flu vaccine.

If you have a reaction to the flu vaccine are you required to take your own sick/leave time to recover?	Did Not Receive Flu Vaccine	Did Receive Flu Vaccine
Yes	15 (3.0%)	130 (26.2%)
No, we receive an extra day	0 (0%)	12 (2.4%)
I don't know	10 (2.0%)	324 (65.2%)
No Response	0 (0%)	6 (1.2%)

The majority of respondents reported that they had to wear a mask or respirator as a consequence for not receiving the flu vaccine (60.5%).

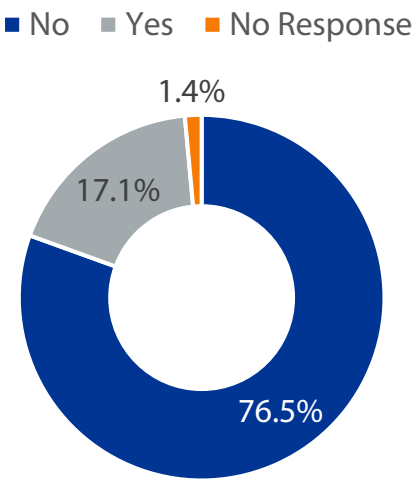


Out of the total responses, 81% stated that the educational information provided by the employer did not influence their decision to receive the flu vaccine.

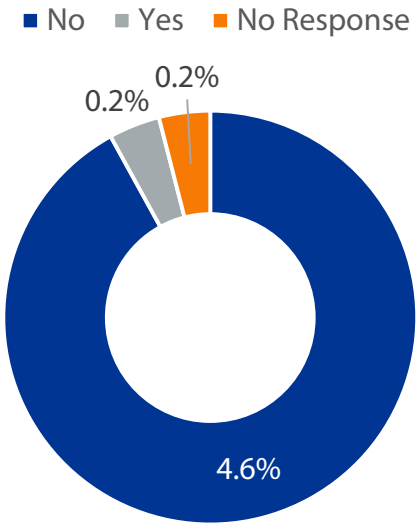


For those reporting that they received the flu vaccine, 76.5% reported that the educational material provided by their employer did not influence their decision to receive the flu vaccine.

Did the educational information provided to you by your employer (handouts, pamphlets, presentations) influence you to receive the flu vaccine?



Did Receive Influenza Vaccine



Did Not Receive Influenza Vaccine

Limitations

The survey was limited to HCP in hospitals and no other healthcare facilities. The sample was not randomly selected within each hospital and therefore results may not be representative of the HCP population in the state. Hospitals may vary in the acceptance and refusal percentages for vaccination among HCP and the reasons for each. It is not known how many HCP were not eligible to receive the vaccine. Vaccination status by location where the vaccination was received (e.g., at the reporting facility or elsewhere) is also not known. There were no inclusion or exclusion criteria to meet – the URL link to the survey was shared with hospital staff via electronic messages. Staff without access to a computer may have been excluded from the survey. Finally, all results were based on self-report and may be subject to recall bias.

Discussion

The seasonal influenza vaccine is highly effective in healthy, younger adults, which include many healthcare personnel. Vaccinating HCP against influenza is recommended to reduce the spread of infection by staff to their patients or colleagues and to reduce the rate of staff absenteeism, which could impact patient safety. (Advisory Committee on Immunization Practices, accessed on 10/15/17 at www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/flu.html).

Promoting patients' health and safety is an important goal and a compelling argument for favoring influenza vaccination of HCP (some will argue that there is insufficient evidence to conclude that influenza immunization in HCP makes patients any safer). Efforts to influence vaccination uptake among HCP include education, free access to vaccination, and mandated workplace policies for all staff to receive the flu vaccine. Studies have shown that mandatory influenza vaccination policies achieve extremely high coverage rates.[4] Other studies indicate that misconceptions and lack of knowledge about influenza and influenza vaccines are persistent barriers to improved coverage among HCP, but education alone does not appear to be effective.[5]

Our survey results also suggest that HCP are not influenced by the education provided to them on the benefits of the influenza vaccine. It is recommended that healthcare facilities adopt diverse strategies to increase influenza vaccine rates, in conjunction with a comprehensive infection control and prevention program, including easy access to vaccination on site, over multiple days, and at no cost.[6] It is also important, however, to include HCP in the educational development process with the goal of providing valuable information to use in guiding their decision; develop peer to peer education programs; provide

additional paid leave for employees that experience potential but rare vaccine reactions; and to provide benefits for employees that ensure workers are able to stay home if they suspect they have the flu, including having adequate staffing so that sick employees do not feel pressured to come to work.

Adoption of a variety of these measures may help in balancing individual workers' rights with public health interests.

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- Lynda Caine, MPH, BSN, RN, CIC, Infection Prevention Officer, Concord Hospital
- Terri Kangas-Feller, BS, RN-BC, CIC, Infection Prevention, New Hampshire Hospital

Citations

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[2] Talbot TR, Dellit TH, Hebden J, Sama D, Cuny J. Factors associated with increased healthcare worker influenza vaccination rates: results from a national survey of university hospitals and medical centers. Infect Control Hosp Epidemiol 2010; 31: 456-62

[3] State of New Hampshire Healthcare-Associated Infections 2016 Hospital Report, NH Department of Health and Human Services, Division of Public Health Services, September 1, 2017. Accessed on 9/5/17 at https://www.dhhs.nh.gov/dphs/cdcs/hai/documents/hai2016-hospital.pdf.

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[5] Hollmeyer HG, Hayden F, Poland G, Buchholz U. Influenza vaccination of health care workers in hospitals – a review of studies on attitudes and predictors. Vaccine 2009; 27(30):3935-3944.

[6] Black C, Yue X, Ball S, Donahue S, et al. Influenza Vaccination Coverage Among Health Care Personnel – United States, 2014-15 Influenza Season. MMWR September 18, 2015. Vol. 64, No. 37;993-999.

About the New Hampshire Occupational Health Surveillance Project

The NH OHSP provides meaningful statistics to identify priority occupational safety and health issues in the state. This includes reports on a variety of core occupational health indicators based on measures of health (work-related disease, injury, or disability) or factors associated with health, such as workplace exposures, hazards or interventions.

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