

Strategies increase health-care worker vaccination rates -- protecting patients

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Healthcare personnel influenza immunization rates have remained low, despite recommendations from the Centers for Disease Control and Prevention (CDC) and other leading healthcare organizations that all healthcare personnel receive annual flu vaccines. Experts say these levels are perilous. Increasing vaccination rates substantially improves patient safety, lowering flu deaths by 40 percent.

Three studies presented at the Fifth Decennial International Conference on Healthcare-Associated Infections in Atlanta examine ways to increase healthcare personnel [vaccination rates](#) through [social networking](#), declination strategies and mandates.

"Immunization is one of the most important things that we as healthcare personnel can do to prevent the transmission of [influenza](#) and other diseases to our patients," said William Schaffner, MD, a member of the Infectious Diseases Society of America's (IDSA) Board of Directors. "We owe it to our patients to get vaccinated. These studies are very helpful because they demonstrate strategies that work to effectively reach and vaccinate healthcare personnel."

Social Networks Help Researchers Understand Healthcare Personnel's Flu Vaccine Use

Epidemiologists and computer scientists at University of Iowa Health Care (UIHC) found that healthcare personnel are more likely to be

vaccinated if their close contact co-workers, also referred to as neighbors in the study, are vaccinated. Researchers constructed a social network of hospital-based healthcare personnel as a proxy for social relationships to examine the impact of co-workers' vaccination status on the vaccine status of their neighbors. Researchers examined the level of contact individual healthcare personnel have with other healthcare personnel.

Over the two year study period (2007-2008), Donald Curtis, a computer science graduate student in the university's Computational Epidemiology Research Group, constructed a social network of more than 6,500 healthcare personnel using data stripped of personal details to protect privacy from UIHC's electronic medical record system, including login time and location and vaccination status. When vaccination data was compared with login information, researchers were able to confirm the level of vaccinated neighbors for each individual.

Researchers found that unvaccinated healthcare personnel tended to be more isolated and have fewer vaccinated co-workers. By comparison, vaccinated healthcare personnel tend to have more interactions with co-workers and were more likely to be surrounded by more vaccinated co-workers. "These findings suggest a strong association between higher vaccination rates and healthcare personnel who work closely with other healthcare personnel," said Philip Polgreen, MD, assistant professor at University of Iowa Health Care.

The data hold implications for hospital-based flu vaccination campaign strategies specifically targeting healthcare personnel with a history of non-vaccination.

"It appears that vaccination campaigns consistently fail to influence a small cohort of healthcare personnel who are measurably more isolated from other healthcare personnel. Persistently unvaccinated healthcare

personnel may benefit from better targeted vaccination campaigns," said Polgreen.

The researchers cautioned that their social network is only a proxy for social relationships since it defines the strength of relationships through repeatedly being in the same part of the hospital at the same time. However, data-driven construction of social networks is likely to be more accurate than self-reported behavioral survey data that has previously been used.

Kansas City Children's Hospital Vaccine Strategy Causes Swell in Vaccination of Healthcare Personnel

In a five-year span, Children's Mercy Hospital and Clinics in Kansas City improved their employee influenza vaccine rate from 63 percent to 90.5 percent by instituting a mandatory vaccination/declination policy.

In 2004, 63 percent of the hospital's healthcare personnel received influenza vaccine. At that time the vaccination strategy included free influenza vaccine and education about influenza.

Beginning in 2008, a mandatory vaccination/declination policy was instituted requiring employees to receive the vaccine or formally decline the vaccination in writing. The influenza vaccination rate increased to 85 percent that year. By adding consequences such as a forced leave of absence for noncompliance to the 2009-2010 policy, Children's Mercy Hospitals and Clinics was able to improve their vaccination rate to 90.5 percent, with 98.8 percent of employees complying with hospital policy.

"Our dramatic increase in vaccination participation over the last few years has been astounding," said Robyn Livingston, MD, director of Infection Control and Prevention at Children's Mercy Hospital. "Even

though this program has exceeded our expectations, we recognize there is still room for improvement. We are considering a fully mandatory influenza vaccination policy to begin next fall."

Mandatory Patient Safety Policy Significantly Improves Vaccination Rates for Healthcare Personnel

As part of its continual efforts to improve patient safety, Hospital Corporation of America (HCA) established a mandatory vaccination policy across its 163 hospitals, 112 outpatient centers and nearly 400 physician practices. The goal of the strategy was to advance patient safety by helping to stem healthcare-acquired influenza.

The policy, implemented during the 2009-2010 influenza season, required all healthcare personnel to receive the seasonal influenza [vaccine](#). Those who could or would not be vaccinated due to egg allergy, history of Guillain-Barré, or religious or philosophical convictions were reassigned to non-patient contact roles or required to wear masks. Almost 97 percent of HCA healthcare personnel, or more than 150,000 people, have been vaccinated, and the remaining 3 percent are wearing masks, supporting HCA's goal of 100 percent patient safety.

"For years, hospitals across the nation have been reporting poor rates of healthcare personnel immunization against influenza," said Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI, chief medical officer of HCA. "The fact that CDC reports a rate of 48 percent is particularly troubling considering influenza is the number one cause of vaccine-preventable death."

In previous years, HCA had used a combined approach of vaccination education, conveniently offered immunizations and declination strategies. While these approaches achieved modest improvements

annually, they were inadequate for complete patient safety. The current policy was developed by representatives of numerous disciplines, including emergency preparedness, infection prevention and epidemiology, human resources, pharmacy and supply chain. Additionally, the campaign included prevention strategies such as promoting cough etiquette, proper hand hygiene, sick visitor guidelines and environmental cleaning.

"When HCA employees are asked to take action that they know will improve the care of their patients, they respond," said Perlin. "Our approach enhanced patient safety and our employees delivered with an overwhelming response."

Provided by Society for Healthcare Epidemiology of America

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