

Protecting patients: Study shows that Johns Hopkins flu vaccination rates twice national average

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A campaign that makes seasonal flu vaccinations for hospital staff free, convenient, ubiquitous and hard to ignore succeeds fairly well in moving care providers closer to a state of "herd" immunity and protecting patients from possible infection transmitted by health care workers, according to results of a survey at The Johns Hopkins Hospital.

In a report published in the Feb. 1 edition of the journal *Infection Control and Hospital Epidemiology*, researchers say the rate of seasonal [flu vaccination](#) for the 2008-2009 season among health care workers at the Johns Hopkins East Baltimore medical campus, including The Johns Hopkins Hospital, was double the national average. They attribute the results to a persistent campaign that made it easy to get vaccinated and also to the wider availability of free community-based vaccination opportunities.

The 2008 survey, conducted by the Johns Hopkins University School of Medicine's Division of Occupational Medicine, showed that 71.3 percent of the 10,763 hospital staff, including medical school faculty, nurses, researchers and students, received the so-called [flu shot](#). Staff got the [vaccine](#) either as a nasal mist or by injection between September 2008 and January 2009, when people are most likely to come into contact with the highly contagious virus.

For workers who came into direct contact with patients on a daily basis,

the number was even higher, at 82.8 percent. Experts say that achieving a 100 percent population vaccination rate is the only way to prevent even sporadic transmission, but that herd immunity can, at least, prevent outbreaks from sweeping across whole sections of the hospital.

Preliminary numbers for the 2009-2010 season show even further progress for The Johns Hopkins Hospital, with an estimated 25 percent jump in vaccinations (or 1,500 more inoculated staff), an increase the experts attribute to the emergence of H1N1 last year and heightened public awareness about the dangers posed from all kinds of influenza.

The 2008 survey also showed that more than a quarter of staff who provide direct patient care at Johns Hopkins got last year's seasonal flu vaccination somewhere other than at the hospital, boosting the actual seasonal flu vaccination rate at the start of the 2008-2009 season from an original estimate of 72 percent.

Senior study investigator Edward Bernacki, M.D., M.P.H., who as director of occupational health, safety and environment at Johns Hopkins monitors the hospital's vaccination program, says his group was surprised to find that so many staff chose to get vaccinated elsewhere, including neighborhood drugstores and supermarkets, which have recently started offering the annual vaccination at no charge to customers, or for free at other hospitals where they hold second jobs.

"It was promising to learn that so many staff were getting vaccinated elsewhere, as opposed to what we had been thinking, which was that they were not getting vaccinated at all," says Bernacki, an associate professor at Johns Hopkins.

Another factor in the higher vaccination rate, he says, may have been the hospital's policy requiring employees working in patient clinics who chose not to get vaccinated to wear a face mask at work. Seasonal flu

vaccination is not mandatory at the vast majority of academic medical center in the United States, including Johns Hopkins.

"We implemented this policy to protect our patients, but it also had an added benefit of encouraging staff to do what was right and to get vaccinated," says Bernacki, who points out that making progress in upping vaccination rates is not just good policy, it is also the law.

In 2009, both the city of Baltimore and the state of Maryland began requiring all hospitals to report their yearly progress in vaccinating staff. "That is why it is critical to track the numbers," says Bernacki. "If all medical centers took similar steps to promote vaccination and also monitored their progress, the risk of transmitting the influenza virus to patients would prove to be far less."

Bernacki and his team at Baltimore's largest health employer say that getting as many as possible of its health care workers vaccinated is critical to shielding patients from possible infection during hospital stays. Hospital patients are often elderly or already have weakened immune systems, making them vulnerable to flu and its complications, including death. Some 36,000 Americans die annually from seasonal influenza, leading to more than 3.1 million patient days spent in hospital and over 34 million outpatient visits.

Since 2006, the U.S. Centers for Disease Control and Prevention has recommended vaccination for all [health care workers](#), but most nationwide still do not comply. Previous hospital surveys have shown that barely a quarter of all hospital workers get vaccinated, with somewhat better results, 42 percent, for those providing direct patient care.

To track vaccination rates at Johns Hopkins, Bernacki's team combined information from employee health records kept at the hospital and cross-

checked them with results obtained from questionnaires and telephone interviews from a random sampling of hospital and university employees who work at the medical campus.

A random sampling, some 10 percent of all employees, yielded 1,084 employee names, of which 650 were already recorded in hospital databases as either having been vaccinated on site or elsewhere, or having declined the flu vaccination. The remaining 434 were followed up with by mail and phone surveys to find who got vaccinated and where, and who did not. Results showed that 132 had undergone vaccination elsewhere. Only 18 people on the call list could not be reached, a number so low that it did not skew the researcher's results.

According to the study's lead investigator, biostatistician and epidemiologist Xuguang (Grant) Tao, M.D., Ph.D., the one-in-10 sampling method, combined with the follow-up survey offered a practical and effective means of accurately tracking who was and was not vaccinated on the medical campus.

"Hospitals have struggled with how to monitor compliance with the CDC's recommendation, and now we think we have a reliable tracking tool that any medical center can readily use," says Tao.

Bernacki says patients should be comfortable going to any [hospital](#) knowing that they are at the lowest possible risk of catching the flu from an infected health care worker. "Now, we have the means of telling them exactly what level of protection is being offered. Having this information publicly available can only lead to higher compliance rates and a win-win for both patients and staff."

More information:

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