

For Flu Shot Compliance, Stick Beats Carrot

April 20, 2015

SHL Frost

Fever, cough, sore throat—aching body, runny nose. Influenza is never enjoyable, but those affected usually recover in less than two weeks. Some people may however develop life-threatening complications (e.g. pneumonia) related to the contagious respiratory disease; the flu is in fact a major cause of morbidity and mortality among immunosuppressed cancer patients or recipients of hematopoietic cell transplants. The nation's health protection agency, Centers for Disease Control and Prevention (CDC), recommends seasonal flu shots for anyone over six months of age. Still, the early season vaccination coverage for 2014-15 was estimated to barely 40% of the general population in the United States. For health care personnel the corresponding rate was on average 64%, although it reached almost 79% among those working in hospitals. The latter may seem quite satisfactory at a first glance, but given the vulnerability of hospitalized high-risk individuals, all non-vaccinated healthcare personnel pose a potential threat. Thus, the question arises: how can influenza vaccination rates be maximized at an institution where the baseline compliance already is high?

This was examined in a collaborative study directed by Fred Hutch's Dr. Steven Pergam, including investigators from Seattle Cancer Care Alliance and University of Washington. At the center of attention was a large ambulatory cancer care center with historically high rates of flu vaccination. Approximately 85% of staff was vaccinated annually, but despite sophisticated campaigns and feasible, free-of-charge immunizations, the number had not increased in a few years. Setting the vaccine coverage goal at a commendable 95%, the investigators decided to try two different approaches to succeed, over the course of one year per strategy.

In 2011, they launched an incentive-based campaign—the "carrot" approach—which allowed staff to passively decline the flu shot. At stake were \$25 gift cards for all employees as a reward for reaching the pre-specified goal, and progress updates were distributed weekly showing the compliance for each department. This concept was superseded in 2012 by a penalty-based "stick" strategy, which forced employees who wanted to opt out to actively participate in a time-consuming face-to-face multistep declination process, after completion of enhanced influenza vaccine education. For Dr. Pergam and colleagues it was important to work towards changing people's minds about influenza vaccine rather than introducing a mandatory program. "The 'carrot' approach came from the business world—change minds through monetary interventions," Dr. Pergam explained. The "stick"

was modeled after a program at Harborview, which was believed to work on a larger scale in the population at hand.

The outcomes were disclosed in *American Journal of Infection Control*, showing that high compliance (>95%) could be achieved without introducing mandatory immunization. More specifically, 87% (1,264 out of 1,446) in 2010 became 92% (1,453 out of 1,586) in 2011, further increasing to 96% (1,583 out of 1,641) in 2012. Thus, the pointy stick beat the crunchy carrot, in particular among nonclinical employees with little or no direct patient care responsibilities. When asked if this came as a surprise, Dr. Pergam's answer was clear: "No!" He explained that previous data have shown that penalty programs work better, "this is true in many fields, for example, seat belt and motorcycle helmet use improved once there were laws to change practices."

One of the interesting findings was that the educational component of the penalty-driven approach alone resulted in no increase in compliance, suggesting that it was the added time burden and/or required face-to-face activity that made people less inclined to decline. Another discovery of significance was the "stick"-induced improvements in vaccination rates among staff without direct patient contact, of particular interest because they may unknowingly transmit disease through common areas. "[The study] demonstrates the importance of tailoring programs to nonclinical staff, who can be important sources of viral transmission in ambulatory care centers," Dr. Pergam said.

The study showed that high compliance rates can be achieved without having to resort to mandatory vaccination policies, but the investigators are not settling yet. Each year they redesign the program, bit by bit, to ensure continuous development. Currently, the focus is on how to bring the persisting decliners on board. "We need to better understand the reasons and beliefs of those who decide not to get vaccinated," said Dr. Pergam, who is also working on improving the access to flu vaccine for patients and their families. "While we are happy to get staff vaccinated, vaccinating patients and their caregivers may be an even more critical step to improving respiratory virus prevention in the clinic."

[Podczervinski S, Stednick Z, Helbert L, Davies J, Jagels B, Gooley T, Casper C, Pergam SA. 2015. Employee influenza vaccination in a large cancer center with high baseline compliance rates: Comparison of carrot versus stick approaches. *Am J Infect Control*. 43\(3\), 228-33.](#)

\

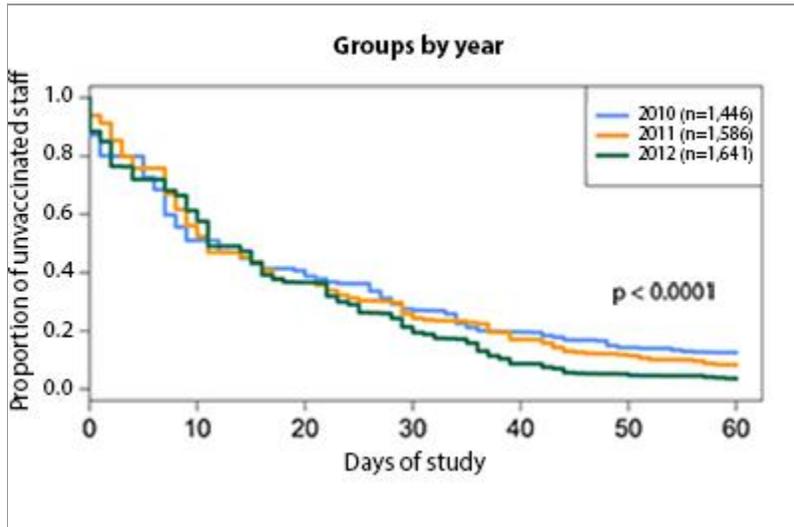


Image provided by Dr. Steven Pergam

Acceptance of flu shots over the 60 first days of study.