



INCREASING HEALTHCARE PERSONNEL INFLUENZA VACCINATION COVERAGE IN LAC HOSPITALS WITH HELP FROM THE LOCAL HEALTH DEPARTMENT, 2016

BACKGROUND

Influenza is a serious and often deadly infection. Typically, hospitalized persons are at greater risk for complications related to influenza compared to the general population. In addition, hospitalized persons are exposed to healthcare personnel, who as healthy adults can often serve as vectors for influenza transmission. The vaccination of healthcare personnel (HCP) has been widely recommended to provide direct protection against influenza infection for HCP and indirect protection for their patients.

In 2013, Los Angeles County (LAC) Department of Public Health (DPH) issued a Health Officer Order mandating all HCP in hospitals receive influenza vaccination or wear masks during the influenza season¹. Despite this mandate, only 19% of LAC hospitals achieved the Healthy People 2020 goal of $\geq 90\%$ influenza vaccination coverage. DPH's objective was to identify hospitals with disparities in resources and increase HCP influenza vaccination coverage via targeted outreach to LAC acute care hospitals.

METHODS

LAC conducted an intervention study during the 2016-17 flu season. HCP vaccination data was obtained from the Healthcare Worker Vaccination Module of the National Healthcare Safety Network (NHSN), which is only accessible via the Center for Disease Control and Prevention (CDC) authorization, for the 2015-16 and 2016-17 influenza seasons. Vaccination coverage was defined as the percentage of healthcare personnel—employees, licensed independent practitioners, adult students/trainees and volunteers, and other contract personnel who received their influenza vaccination on site at the hospital or elsewhere. Targeted (intervention) facilities were selected from those with vaccination coverage within the lowest quartile of all hospitals in LAC for the 2015-16 season. Hospitals were not randomly selected; thus self-selection bias could have affected results.

Targeted hospitals' chief executive officers received letters explaining the importance of HCP vaccination, their hospital's 2015-16 HCP vaccination coverage and ranking among hospitals in LAC, and the opportunity to participate in the HCP Influenza Vaccination Improvement Project. DPH liaison public health nurses (LPHNs) then engaged the hospital's infection preventionists and employee health directors to conduct the project.

The LPHNs conducted one in-person and two telephone meetings with each hospital before and during the 2016-17 influenza season. Using a standardized assessment tool, the LPHNs evaluated the hospital's 2015-16 vaccination campaign strategies to determine a baseline of recommendations to utilize in the upcoming season. Topics assessed included how influenza vaccination is promoted and distributed to HCP, tracking of HCP vaccination, and perceived barriers to increase vaccination rates.

¹ http://publichealth.lacounty.gov/ip/influenza_providers.htm



Based on the results of each assessment, LPHNs provided customized recommendations for each intervention hospital to implement into its 2016-17 vaccination campaign. Recommendations were determined on evidence based strategies from NHSN's "Healthcare Personnel Safety Component Protocol", a scientific literature review, and practices deemed effective in other local hospitals. At the conclusion of the 2016-17 season, the LPHNs conducted a post-season assessment with each hospital. The standardized post-season assessment tool gathered feedback and information on improvements achieved during the hospital's vaccination campaign.

Both assessment tools were reviewed after the 2016-17 season. DPH assessed which campaign strategies were newly implemented for the 2016-17 season in each hospital and what changes they perceived to be the most impactful. Common themes among all intervention facilities' responses were identified. DPH also reviewed HCP vaccination coverage data from NHSN for the 2015-16 and 2016-17 influenza seasons. Changes in HCP vaccination coverage between influenza seasons were compared via two-tailed Wilcoxon Signed Rank tests and between intervention and non-intervention facilities via two-tailed Wilcoxon Rank-Sum tests. All analyses were performed using SAS software version 9.3.

RESULTS

Out of 90 hospitals with complete HCP vaccination data for both seasons, 13 facilities were selected for intervention.

Each hospital in the intervention group experienced a significant increase in vaccination coverage (Figure 2). Intervention facilities' baseline vaccination coverages for 2015-16 ranged from 38.2% to 66.0% (mean 55.4%). Mean increase in pre- and post-season vaccination coverage was significantly higher among intervention hospitals (22.6%, range: 4.3%–46.1%) versus all others (n=77, 1.3%, range: -15.8%–26.6%). Countywide vaccination coverage increased from 74% to 79% for the 2015-16 and 2016-17 seasons, respectively (Figure 3).

The assessment responses showed that the most commonly implemented strategy was the involvement of department supervisors (n=13, 100%). Specifically, 11 (85%) facilities implemented tracking of department-based vaccination rates. All 13 facilities also cited increased leadership support as key to their success.

CONCLUSIONS

The goal of the Healthcare Personnel Influenza Vaccination Improvement Project was to increase influenza vaccination amongst HCP in acute care hospitals with the lowest vaccination coverage in LAC. All of the objectives for this project were met.

Intervention was associated with increased HCP influenza vaccination in the 2016-17 season. On average, intervention hospitals' vaccination coverage increased by 22% in one influenza season. The countywide average increased significantly by 5% over the same time period. Countywide vaccination coverage had not significantly increased since the introduction of the aforementioned Health Officer Order (Figure 3). Previously, the intervention group consistently reported lower vaccination coverage compared to other hospitals in LAC, but this disparity was greatly reduced after the DPH project.



This project relied on the innovative structure of the DPH Healthcare Outreach Unit (HOU) to work with targeted hospitals. HOU LPHNs have established relationships with hospital staff and regularly attend infection control committee meetings. The LPHNs have worked with these staff on numerous occasions, from outbreak management to consulting on infectious disease topics. When HCP influenza vaccination rates were determined to be an area source of concern, DPH was able to utilize this existing rapport. HOU staff successfully identified hospital staff who oversee their vaccination campaign and have the most influence over improving vaccination coverage. DPH and hospital staff communicated and collaborated openly and efficiently to implement new vaccination campaign strategies.

DPH will continue to promote strategies associated with increased HCP vaccination coverage, particularly in hospitals with the lowest vaccination coverage. Communication and collaboration between DPH and hospital counterparts may benefit facilities to improve vaccination coverage. Increasing HCP vaccination ultimately aids in protecting hospital patients, visitors, families, and other staff members from influenza and transmitting it to others.

Figure 1: Flowchart of Project

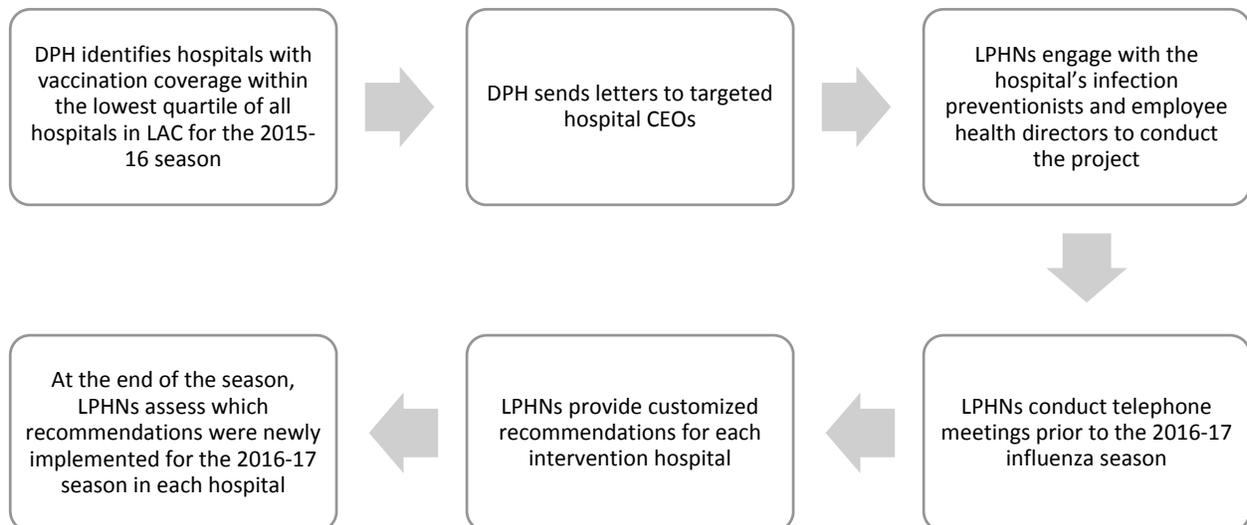




Figure 2: Vaccination Coverage by Intervention Hospital and Influenza Season

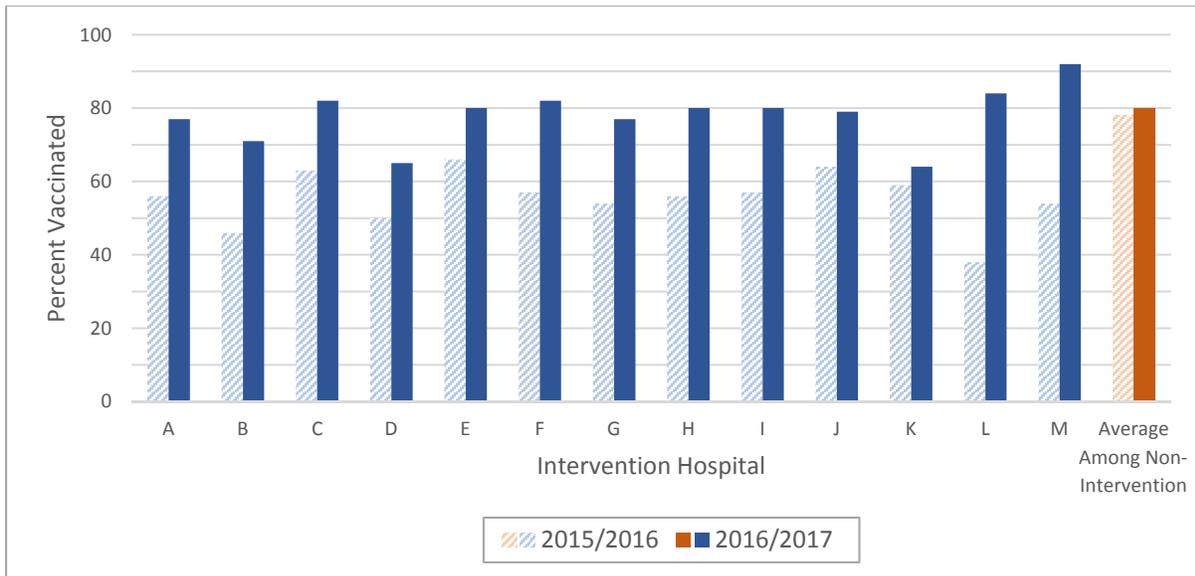
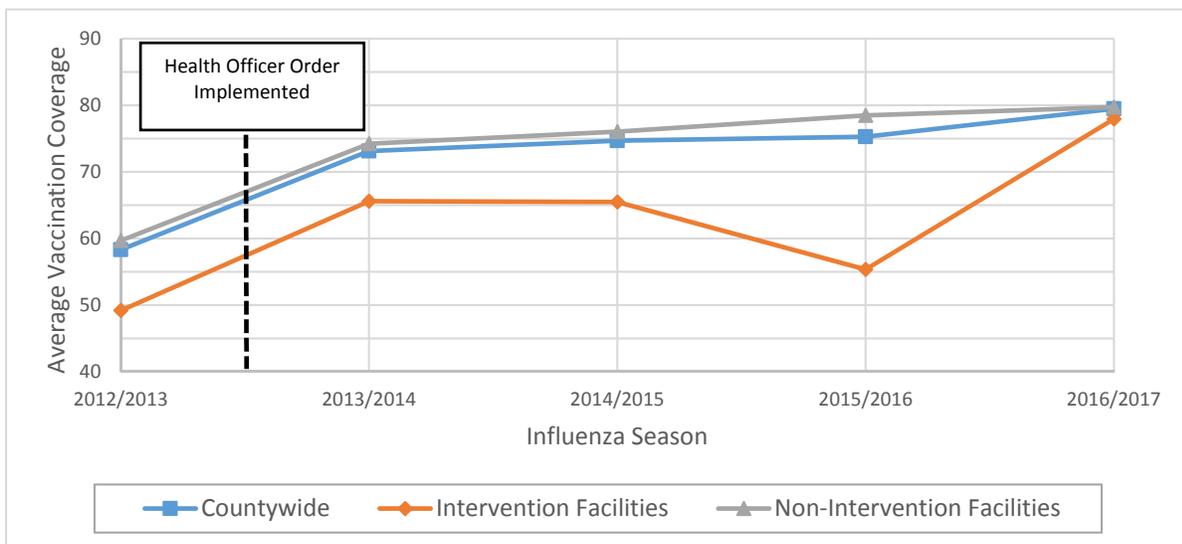


Figure 3: Average Vaccination Coverage by Season, Overall and by Intervention Group



References

1. (2008, June). The Guide to Community Preventive Services (The Community Guide). *Worksite: Flu Vaccine Off-Site non-Healthcare | The Community Guide*. Retrieved February 2018, from <http://www.thecommunityguide.org/findings/worksite-seasonal-influenza-vaccinations-non-healthcare-off-site>
2. Influenza (Flu): Influenza Vaccination Information for Health Care Workers. (2017, October 03). Retrieved January 30, 2018, from <https://www.cdc.gov/flu/healthcareworkers.htm#references>