

TECHNICAL NOTES

Influenza Vaccination among Health Care Workers in California General Acute Care Hospitals for the 2011-12 Respiratory Season

Introduction

Senate Bill (SB) 739 (Chapter 526, Statutes of 2006) attempted to improve influenza acceptance among employees in California acute care hospitals by requiring them to be offered vaccine free of charge and to sign a declination form if they choose not to be vaccinated [Health and Safety Code section 1288.7 (a)]. Hospitals must report to the California Department of Public Health (CDPH) on their implementation of SB 739, including the percentage of HCP vaccinated, and CDPH is required to make this information public [Health and Safety Code section 1288.8 (b)].

For the 2011-12 influenza season, CDPH's Healthcare Associated Infections (HAI) Program implemented measures that increased reporting compliance to 99.5% from 98.0% for 2010-11 [5] and significantly improved the completeness and quality of the reported data, and conducted a survey of influenza vaccination policies and practices.

Methods and Material

Influenza Vaccination Surveillance Report Form

The 2011-12 influenza season was the fourth season for which hospitals submitted influenza vaccination surveillance data to CDPH as required by statute. Hospitals were required to submit the paper influenza vaccination surveillance report forms via fax or email to CDPH. The form included specific HCP categories of non-employee HCP in addition to employees paid by hospitals and students/trainees and volunteers. Hospitals were required to submit influenza vaccination surveillance report forms via fax or email to CDPH.

Survey

In addition to influenza vaccination surveillance data, we used an online survey instrument to collect information on activities that hospitals used to promote influenza vaccination among employees and non-employee HCP. The survey questions (Table 3) include:

- Whether facility has a written policy for influenza vaccination of employees;
- Consequences or arrangements facility uses for employees that don't comply with the vaccination requirement;
- Use and requirement of educational programs on influenza vaccination;

- Required documentation of off-site influenza vaccination for employees and non-employee HCP;
- Required signed declination statements for refusal of influenza vaccination;
- Cost of the influenza vaccination for employees and non-employee HCP;
- Shifts during which vaccination was offered;
- Methods used to deliver influenza vaccination;
- Strategies to promote influenza vaccination;

Definitions

We defined a general acute care hospital as any health care facility in California licensed as a general acute care hospital by the CDPH Licensing and Certification Program, with active acute care beds in 2011. CDPH licenses hospitals as single hospitals or multiple campuses under one license, and hospitals could report as single or multi-campus. However, we analyzed each hospital as a unit, regardless of whether its license covered one or more campuses.

We defined all personnel categories as all paid employee and non-employee that worked at the hospital during the reporting period. We defined paid employees as all employees that were on the facility payroll and not on extended leave or absence. We defined non-employee HCP as not receiving a direct paycheck from the reporting hospital. For the 2011-12 season non-employee HCP categories included licensed independent practitioners, students and trainees, and registry and contract personnel.

We collected vaccination status (numerators) in four categories: number of HCP who received vaccination at the facility, number of HCP who received vaccination elsewhere; number of HCP who declined vaccination; and number of HCP with unknown vaccination status. Also, we gathered data for six personnel categories (denominators): paid employees, non-employee licensed independent practitioners, non-employee registry personnel, non-employee contractors, non-employee students/trainees and non-employee volunteers.

Quality Assurance and Control

We implemented a real-time quality assurance process to track and correct errors on surveillance report forms that led to an increase in reporting compliance for this season from 98% for 2010-11 to 99.5 % for 2011-2012 (Table1).

As we received each form, we reviewed the form for missing data. We also ensured that all vaccination status categories within each of the six personnel

categories summed to the total reported by the hospital. For any missing data or errors in reporting, we contacted the hospital for follow-up and correction as appropriate. Hospitals either submitted a corrected surveillance report form or we corrected the original form with verbal approval from the general acute care hospital.

For the 2010-11 reporting period, we implemented a real-time quality assurance process to track and correct errors on surveillance report forms. As we received each form, we reviewed the form for missing data. We also ensured that each vaccination status (numerator) category within each of the five HCP categories summed to the total reported by the hospital. For any missing data or errors in reporting, we contacted the hospital for follow-up and correction as appropriate. Hospitals either submitted a corrected surveillance report form or we corrected the original form with verbal approval from the hospital.

We implemented several measures to increase reporting from the 2009-10 season. We sent an email reminder to all hospitals approximately two weeks before the reporting deadline. We emphasized that reporting was mandatory to comply with Health and Safety Code section 1288.8 (b), and we included links to the surveillance report form and the survey website. After the reporting deadline, we identified all non-reporting hospitals and sent another email reminding them of the reporting requirement, including the survey. We provided the non-reporting hospitals a one-month extension to submit the surveillance report form and respond to the survey. We called non-reporting hospitals about one to two weeks before the final reporting deadline as a final reminder to submit the form and respond to the survey.

Survey results showed, majority of hospitals conduct surveillance on the vaccination status of non-employee HCP, while fewer than half require them to provide documentation of vaccination status.

Analyses

For 2011-12, 415 general acute care hospitals operated under 372 single and multi-campus licenses in California. We received 370 influenza vaccination surveillance reports representing single and multi-campus licenses, indicating that 99.5% of hospital licenses met the reporting mandate for influenza vaccination of HCP.

As described previously, hospitals reported data on four vaccination status categories (vaccinated at the facility, vaccinated elsewhere, declined, unknown) for six HCP categories (paid employees and non-employee healthcare personnel HCP (licensed independent practitioners, registry personnel, and contractors), students/trainees, and volunteers).

For each hospital we calculated vaccination status percentages for each personnel category: paid employees and non-employee healthcare personnel HCP (licensed independent practitioners, registry personnel, and contractors), students/trainees, and volunteers (Table 2). Also, we calculated mean vaccination,

declination, and unknown percentages, and the proportion of hospitals with an overall HCP vaccination percentage over 60% and those met the Healthy People 2020 target of 90% [4].

We compared mean hospital-specific vaccination, declination and unknown percentages by hospital using the independent samples t-test and ANOVA. For all comparisons, we used a p-value of less than 0.05 to determine statistical significance. We used SAS version 9.3 (SAS Institute; Cary, NC, USA) for all analyses.

Limitations and Context

A comprehensive online survey of influenza vaccination policies and practices, in which 99% of California hospitals participated, found that most hospitals are using strategies recommended by the Healthcare Infection Control Practice Advisory Committee and Advisory Committee on Immunization Practices (ACIP) to promote influenza vaccination among HCP. These strategies include comprehensive influenza vaccination campaigns, multiple vaccination opportunities during all shifts, education on influenza and vaccination, and including all personnel in vaccination promotion strategies and vaccination opportunities. Hospitals that met the Healthy People 2020 target of 90% were more likely to use a mandatory participation vaccination policy with multiple enforcement strategies. However, fewer than 5% of hospitals exceeded 90% vaccination coverage, indicating that meeting the Healthy People 2020 target may not be feasible without some form of mandatory vaccination policy.

The hospital-specific mean influenza vaccination percentages are higher among employees than non-employee HCP. This could be because even though hospitals provide and promote influenza vaccination to all HCP, their influenza vaccination policies usually apply to employees only. Additionally, hospitals are able to enforce influenza vaccination policies for employees, whereas enforcement of vaccination policies for non-employees may be inadequate. Finally, the hospital employee declination percentage is substantially higher than for all non-employee categories. This may be because statute requires hospitals to obtain a written declination statement from all employees but not from non-employees. Therefore, hospitals may have better systems for maintaining data on employee vaccination status.

This report indicates that compliance with influenza vaccination reporting requirements by California hospitals has significantly improved, but more work is needed to improve data collection on vaccination status among non-employee HCP. While most hospitals use recommended strategies to promote influenza vaccination among HCP, influenza vaccination coverage among HCP in California remains low, and hospital monitoring of HCP vaccination status is inadequate.

Beginning January 2013, the federal Centers for Medicare and Medicaid Services (CMS) will require nationwide reporting of HCP influenza vaccination by acute care hospitals through the Hospital Inpatient Quality Reporting Program [6].

References:

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