

**TECHNICAL NOTES:  
Influenza Vaccination among Healthcare Workers in California  
General Acute Care Hospitals for the 2015-16 Influenza Season**

**Introduction**

Health and Safety Code section 1288.7(a) requires California acute care hospitals to offer influenza vaccine free of charge to all healthcare providers (HCP) or sign a declination form if a HCP chooses not to be vaccinated. Hospitals must report HCP influenza vaccination data to the California Department of Public Health (CDPH), including the percentage of HCP vaccinated. CDPH is required to make this information public on an annual basis [Health and Safety Code section 1288.8 (b)].

This report presents data for the 2015-2016 influenza season, specifically October 1, 2015, through March 31, 2016. CDPH has published an annual report on HCP influenza vaccination in California hospitals since 2009. Hospitals have been reporting influenza vaccination data using the Centers for Disease Control and Prevention (CDC) National Healthcare Safety Network (NHSN) since 2013. Hospitals are required to offer employees influenza vaccine, free of charge, and report vaccination status for all HCP physically working in the acute care hospital for at least one day during the influenza season. Any number of hours worked counts as a working day during influenza season, regardless of clinical responsibility or patient contact. Data are reported separately for hospital employees, licensed independent practitioners, adult students/trainees and volunteers, and registry and contract staff.

HCP influenza vaccination percentage is an indicator of a successful vaccination campaign. The national Healthy People 2010 goal for HCP influenza vaccination was 60% by 2010 and 90% by 2020. To achieve 90% vaccination by 2020, hospitals that met the 2010 goal should be increasing their annual vaccination percentage by at least 3% per year. In 2016, hospitals that achieved the 60% vaccination goal in 2010 should have a vaccination percentage of at least 78% to demonstrate the incremental improvement necessary to reach the 90% goal by 2020.

Hospital reporting compliance was 98% for 2015-16, less than the 99% for 2014-15. In addition to influenza vaccination surveillance data, we use an NHSN online survey to collect information on activities used by hospitals to promote influenza vaccination among both employee and non-employee HCP.

**Methods**

***Survey***

CDPH used an NHSN online survey of influenza vaccination policies and practices to collect information on activities hospitals use to promote influenza vaccination among HCP. The survey questions (Table 3) specifically address:

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- Whether the facility has a written policy for influenza vaccination of employees
- Consequences or arrangements the 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 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 is offered
- Methods used to deliver influenza vaccination
- Strategies to promote influenza vaccination
- Requirements for use of mask/personal protective equipment (PPE) by HCP who refuse influenza vaccination

### ***Definitions***

We defined a California general acute care hospital as any healthcare facility with active acute care beds in 2015 licensed by the CDPH Licensing and Certification Program. Personnel categories included all employees and non-employees that worked at the hospital during the reporting period. We defined employees as all employees who are on the facility payroll and not on an extended leave of absence. We defined non-employee HCP as those not receiving a direct paycheck from the reporting hospital. The non-employee HCP categories included in this report were licensed independent practitioners, students and trainees, and registry and contract personnel.

We collected vaccination status (numerators) in three categories: 1) number of HCP who received vaccination at the facility and elsewhere, 2) number of HCP who declined vaccination, and 3) number of HCP with unknown vaccination status. We also collected the overall numbers of HCP in four personnel categories (denominators): 1) employees, 2) non-employee licensed independent practitioners, 3) non-employee contract personnel, and 4) non-employee students/trainees and volunteers.

### ***Quality assurance and control***

Hospital personnel were responsible for the quality and completeness of their reported HCP influenza vaccination data. CDPH assisted hospitals by reviewing reported NHSN data, identifying systematic data errors, and notifying hospitals of discrepancies. Specifically, in April 2016, we identified missing, incomplete, or potentially aberrant data for the reporting period and contacted hospitals to relay this information. We strongly encouraged hospitals to investigate and resolve any data issues as appropriate. We also made regional CDPH HAI Program liaison infection preventionists available to hospitals to help resolve NHSN enrollment or reporting issues. We encouraged hospitals to do a final review and make corrections or enter missing data before the final data download on May 16, 2016. Hospitals were responsible for making data corrections in NHSN.

### ***Data presentation and statistical analyses***

For 2015-16, 389 (98%) of California hospitals reported HCP influenza vaccination data .

CDPH presented hospital HCP data by counties, indicating those that reached a 78% influenza vaccination mean rate. We stratified counties by the existence (yes/no) of a mask policy. A mask policy may be implemented by a local public health agency or by individual hospitals, and typically requires HCP who refuse flu vaccination to wear a surgical mask at all times during the influenza season) (Table 1).

Hospitals reported the vaccination status data for four personnel categories: paid employees, and non-employee healthcare personnel HCP in the categories of licensed independent practitioners, other contract personnel (registry personnel and contractors), and students/trainees and volunteers (Table 2). We calculated mean vaccination, declination, and unknown percentages, and the proportion of hospitals with an overall HCP vaccination percentage of over 60% (the Healthy People 2010 target), 78%, and 90% (the Healthy People 2020 target) (Table 4) [4]. We also reported overall hospital-specific vaccination rates and side-by-side comparisons with vaccination rates reported in 2014-2015, 2013-2014, 2012-2013, and 2011-2012 (Table 5).

We used SAS version 9.4 (SAS Institute; Cary, NC, USA) for all analyses.

### **Limitations and Context**

A comprehensive online survey of influenza vaccination policies and practices, completed by 80% of California hospitals, found that most hospitals are using strategies recommended by the Healthcare Infection Control Practices Advisory Committee and Advisory Committee on Immunization Practices (ACIP) to promote HCP influenza vaccination. These strategies included comprehensive influenza vaccination campaigns, multiple vaccination opportunities during all shifts, education on influenza and vaccination, inclusion of all personnel in vaccination promotion strategies and vaccination opportunities, and facility requirement of mask/PPE use when vaccination is refused.

California hospital-specific mean influenza vaccination percentages are higher among employees than non-employees HCP (Table 6), despite hospitals providing and promoting influenza vaccination for all HCP. Hospitals' influenza vaccination policies may have requirements that apply only to employees. Hospitals are able to enforce influenza vaccination policies for employees, whereas enforcement of vaccination policies for non-employees may be more difficult.

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Hospital employee declination percentages are higher than non-employee declination in all categories. Hospitals may have better systems for maintaining data on employee vaccination and declination status than for non-employees.

This report indicated that compliance with influenza vaccination reporting requirements by California hospitals has significantly improved. Many hospitals need to improve vaccination status data collection among non-employee HCP. Most California hospitals used recommended strategies to promote influenza vaccination among HCP and continue efforts to improve HCP influenza vaccination coverage.

#### **References**

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