



Influenza Vaccination and Exposure Management Modules

Introduction: The Advisory Committee on Immunization Practices (ACIP) recommends that all HCP and persons in training for healthcare professions should be vaccinated annually against influenza.[1,2] Persons who are infected with influenza virus, including those with subclinical infection, can transmit influenza virus to persons at higher risk for complications from influenza. Vaccination of HCP has been associated with reduced work absenteeism [3] and with fewer deaths among nursing home patients [4,5] and elderly hospitalized patients.[5] Although annual vaccination is recommended for HCP and is a high priority for reducing morbidity associated with influenza in healthcare settings, national survey data have demonstrated vaccination coverage levels of <50% among HCP over several vaccination seasons.[1]

Facilities that employ HCP should provide vaccine to personnel using approaches that have demonstrated effectiveness in increasing vaccination coverage. Healthcare administrators should consider the level of vaccination coverage among HCP to be one measure of a patient safety quality program and consider obtaining signed declinations from personnel who decline influenza vaccination for reasons other than medical contraindications.[6-9] Influenza vaccination rates (including ward-, unit-, and specialty-specific coverage rates) among HCP within facilities should be regularly measured and reported to occupational health services.[9]

Healthcare facilities should offer influenza vaccinations to all HCP, including night, weekend, and temporary staff. Particular emphasis should be placed on providing vaccinations to personnel who provide direct care for persons at high risk for influenza complications. Efforts should be made to educate HCP regarding the benefits of vaccination and the potential health consequences of influenza illness for their patients, themselves, and their family members. Studies have demonstrated that organized campaigns can attain higher rates of vaccination among HCP with moderate effort and by using strategies that increase vaccine acceptance.[6,10,11] All HCP should be provided convenient access to influenza vaccine at the work site, free of charge, as part of employee health programs.[6,11,12]

Although annual vaccination with the seasonal influenza vaccine is the best way to prevent infection, antiviral drugs can be effective for prevention and treatment of influenza. When HCP have not been vaccinated or are exposed to an influenza strain with no vaccine (i.e., non-seasonal), a plan for anti-viral chemoprophylaxis and treatment could be implemented.

(ii) Methodology

A facility may choose to report influenza vaccination with (or without) exposure management (i.e., antiviral medication use for chemoprophylaxis or treatment) or only exposure management.

Influenza Vaccination Module with (or without) Exposure Management



Use of the Influenza Vaccination Module with (or without) Exposure Management enables a healthcare facility to record information on influenza vaccination and anti-viral medication use for chemoprophylaxis or treatment after exposure to influenza. It can be used in any healthcare setting. This module requires that data be entered into NHSN on a monthly basis. This module includes reporting individual-level vaccination details plus antiviral medication use for chemoprophylaxis or treatment. Administration of one or more seasonal and non-seasonal (e.g., novel, 2009 H1N1) vaccines can be reported, including multi-dose vaccination series. If the module is being used to satisfy federal record-keeping requirements for the administration of vaccine covered by the Vaccine Injury Compensation Program, additional vaccination details must be included, such as vaccinator name, title and work address. Vaccination status of all HCP in the facility should be reported, regardless of whether they received the vaccine, in order to accurately assess vaccination rates.

The module will permit characterizations of reasons for HCP declining vaccine that might be used to improve future vaccination rates. Although surveillance of exposure management is not required under this module, reporting of antiviral use to NHSN will also permit systematic collection of information on antiviral medication use related to the prevention and treatment of influenza.

Influenza Exposure Management Module

Use of the Influenza Exposure Management Module permits a healthcare facility to record information on antiviral medication use for chemoprophylaxis or treatment without reporting influenza vaccination. It can be used in any healthcare setting. This module requires that data be provided to CDC as per reporting requirements. This module includes reporting of individual-level antiviral medication use for chemoprophylaxis or treatment after exposure to influenza. The reason for antiviral medication use can be attributed to either seasonal or non-seasonal influenza. Use of this module will allow facilities and CDC to measure antiviral medication use related to the prevention and treatment of influenza.

Settings: Any healthcare settings

Requirements: Surveillance for influenza in the healthcare facility is to be conducted during the vaccination season. Actively participating NHSN sites will be required to submit data for a minimum of 6 months per calendar year. A waiver is granted for the first year of participation since facilities may not have 6 months of data in one calendar year in the first vaccination season.

Definitions:



- **HCW (Healthcare Worker):** A person who works in the facility, whether paid or unpaid, who has the potential for exposure to infectious materials, including body substances, contaminated medical supplies and equipment, contaminated environmental surfaces, or contaminated air. Healthcare worker is the singular form of healthcare personnel.
- **HCP (Healthcare Personnel):** The entire population of healthcare workers working in healthcare settings.
- **Non-seasonal influenza vaccine:** A vaccine for additional/novel influenza virus strains (e.g., 2009 H1N1) not included in the seasonal influenza vaccine which may or may not be offered on an annual basis.
- **Seasonal influenza vaccine:** A vaccine for seasonal influenza virus strains that is offered on an annual basis.
- **Severe adverse reaction to antiviral medication use for influenza chemoprophylaxis or treatment:** Adverse reactions severe enough to affect daily activities and/or result in the discontinuation of the antiviral medication.
- **Vaccination season:** A 12-month period starting from September 1, 2xxx to the start of the next traditional influenza season (i.e., August 31 of the following year).

Reporting Instructions

Forms Description and Purpose: (See also: Tables of Instructions for Completion of Healthcare Personnel Safety Component forms)

All NHSN sites following any Influenza Module:

For either Influenza Vaccination with Exposure Management Module or the Influenza Exposure Management Module, a site should complete the following forms:

- › *Healthcare Personnel Safety Component Facility Survey (CDC 57.200)* – Used to collect facility administrative data including total acute care beds, inpatient and outpatient days, inpatient and outpatient surgeries performed, and total numbers of HCP (full- and part-time) and numbers of HCP in selected occupational groups (full-time equivalents and numbers of HCP). Numbers of HCWs for at least one nurse occupation (e.g., registered nurse, nurse midwife) and one physician occupation (i.e., intern/resident, fellow, attending physician) are required. All other fields are optional for the Selected HCW Occupational Groups; you may enter 0 for these optional fields.
- › *Healthcare Personnel Safety Reporting Plan (CDC 57.203)* – Used to collect data on which modules and which months (if any) the facilities intend to participate in NHSN HPS Component. This form should be completed for every month that the facility will



participate in the HPS influenza surveillance modules (either influenza vaccination with exposure management or exposure management only).

- › *Healthcare Worker Demographic Data* (CDC 57.204) – Used to collect data on HCW demographics such as gender and occupation for each individual HCW. This form also is used optionally to collect information about immune status for certain vaccine-preventable diseases (e.g., measles, mumps, rubella). This form should be completed for all HCP offered influenza vaccine. The demographic data may already be contained in a facility database that can be uploaded into NHSN as an ASCII comma delimited text file. File specifications and importing instructions are available on the NHSN website (<http://www.cdc.gov/nhsn>).

Influenza Exposure Management only Reporting:

Facilities participating in Healthcare Personnel Influenza Exposure Management Module for antiviral medication use should complete the following form:

- › *Healthcare Worker Prophylaxis/Treatment – Influenza* (CDC 57.210) – Used to collect data on which (if any) antiviral medications were administered to the HCW and any severe adverse reactions associated with their use.

Influenza Vaccination with Exposure Management Reporting:

Facilities participating in Healthcare Personnel Influenza Vaccination with Exposure Management Module should complete the forms listed above and the forms listed below. The Pre- and Post-season facility-level surveys will be used to capture information on vaccination planning (pre-season) and actual (post-season) strategies implemented by the facilities.

- › *Pre-season Survey on Influenza Vaccination Programs for Healthcare Personnel* (CDC 57.211) – Used to collect data on the strategies that the facility plans to provide for influenza vaccine of HCP. In addition, denominator data regarding the target vaccination population (e.g., number of FTEs, PTEs, contractors, volunteers, others) are collected. This form should be completed at the beginning of the vaccination season.
- › *Healthcare Worker Influenza Vaccination* (CDC 57.209) – Used to collect specific information on whether a seasonal and/or non-seasonal influenza vaccination was received or declined by the HCW, and the date, time, location and type of vaccination that was administered. A separate form is required for each dose of vaccine. For example, a 2-dose vaccine series administered on 2 separate dates would require 2 separate forms. The form also contains information on any adverse reactions experienced as a result of the vaccine. If NHSN is used to satisfy federal record-keeping requirements for vaccine administration, identifiers of the person administering the vaccine and the edition date of the vaccine information statement provided to the HCW will be required. This form should be completed for all HCP.



- › *Post-season Survey on Influenza Vaccination Programs for Healthcare Personnel* (CDC 57.212) – Used to collect information on the strategies actually implemented in order to vaccinate HCP against influenza. This survey will capture any changes that occurred to the facilities' vaccination strategies and/or target vaccination populations during the vaccination season. This form should be completed at the conclusion of the vaccination season.

Data Analyses:

The use of the Influenza Vaccination and Exposure Management Module will allow the NHSN site to measure its rate of vaccination coverage. In addition, antiviral medication use for chemoprophylaxis or treatment after exposure to influenza can be evaluated and monitored. Frequencies of the various healthcare influenza surveillance data will be calculated and summarized. Vaccination rates can be calculated using the total number of vaccinated HCP entered into the system divided by the total number of HCP targeted in the vaccination strategy (from the Pre-season Season Survey). In addition, vaccination uptake rates by work location, occupation, gender or another demographic data element, can be calculated by stratifying analysis by the demographic data element of interest. Among the potential data points that could be analyzed are general estimates of influenza vaccination coverage, the frequency of antiviral medication use as chemoprophylaxis or treatment, as well as information on adverse effects associated with the receipt of vaccines or antiviral medications (as part of chemoprophylaxis or treatment).

For the data related to the pre- and post-survey on influenza vaccination programs, frequencies for program-related questions will be calculated, and changes in pre- and post- frequencies will be compared. On a national level, effectiveness of certain vaccination strategies in increasing vaccine uptake can be evaluated.

References:

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