Strategies Affecting Healthcare Personnel Influenza Vaccination

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Background

The Centers for Disease Control and Prevention (CDC), the Advisory Committee for Immunization Practices (ACIP), the Healthcare Infection Control Practices Advisory Committee (HICPAC), and a host of other professional medical organizations recommend that all healthcare personnel (HCP) get vaccinated annually against influenza.\(^2\) The national Healthy Care Safety Network (HNSN) for workers in acute care hospitals, inpatient rehab facilities, ambulatory surgery centers, and inpatient psychiatric facilities as part of the Inpatient Quality Reporting Program.\(^1,6\)

Currently, the Centers for Medicare & Medicaid Services (CMS) requires reporting of influenza vaccination coverage through the CDC’s National Health Care Safety Network (HNSN) for workers in acute care hospitals, inpatient rehab facilities, ambulatory surgery centers, and inpatient psychiatric facilities as part of the Inpatient Quality Reporting Program.\(^1,6\)

This measure requires facilities to collect data on the total number and the number of vaccinated employees and certain nonemployee staff who work at the facility between October 1 and March 31 of each year.

Over 50 Arkansas acute care and long-term acute care (LTAC) facilities have conferred rights to the Arkansas Department of Health (ADH) within HNSN to view and analyze HCP influenza vaccination coverage as well as facility methods and strategies employed to improve coverage since the 2012-13 flu season.

Methods

- Obtained data collected from the Healthcare Personnel Safety Component of HNSN for acute care and LTAC facilities in Arkansas
- Used SAS (Version 9.3, Cary, NC) to determine the influenza vaccination coverage of employees and all healthcare personnel (employees, licensed independent practitioners, and student volunteers) by flu season, facility bed size, region of the state, and strategies implemented
- Calculated Pearson correlation coefficients to detect variables significantly associated with higher influenza vaccination coverage
- Performed stratified analyses to determine if high vaccination coverage (≥90%) was associated with a mandate (condition of employment) or facility size

Results

Table 1. Correlation Between HCP Influenza Vaccination Coverage Rate and Facility Characteristics, Year, and Quality Improvement Strategy Employed

<table>
<thead>
<tr>
<th>Variable of Interest</th>
<th>Only Employees</th>
<th>All Healthcare Personnel (Employees + Licensed Independent Practitioners + Adult Students/Trainees &amp; Volunteers)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson Correlation Coefficient</td>
<td>p-value</td>
</tr>
<tr>
<td>Bed Size(^8)</td>
<td>0.07</td>
<td>0.39</td>
</tr>
<tr>
<td>Flu Season(^8)</td>
<td>0.18</td>
<td>0.03</td>
</tr>
<tr>
<td>Send Vaccination Reminders</td>
<td>-0.20</td>
<td>0.02</td>
</tr>
<tr>
<td>Credentialing</td>
<td>0.23</td>
<td>0.01</td>
</tr>
<tr>
<td>Condition of Employment (Mandate)</td>
<td>0.57</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Track Vaccination for Targeting Purposes</td>
<td>0.19</td>
<td>0.02</td>
</tr>
<tr>
<td>Mobile Vaccination Carts</td>
<td>0.16</td>
<td>0.06</td>
</tr>
<tr>
<td>Provide Vaccination at Meetings</td>
<td>0.20</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Bed size categories were characterized as ≤100, 101-200, and 201+. \(^8\) Flu seasons 2012-13 through 2014-15 were included. Total number (N) of facilities=145, which included all facilities for all flu seasons that were not missing any variables.

Figure 1. Locations of Facilities in Arkansas Reporting in HNSN

Figure 2. HCP Vaccination Coverage by Facility Bed Size and Flu Season

Figure 3. HCP Vaccination Coverage by Region of the State and Flu Season

Figure 4. Percentage of Facilities that Implemented a HCP Influenza Vaccination Mandate by Flu Season

Conclusions and Next Steps

- Requirements for vaccination for credentialing and as a condition of employment, tracking vaccination on a regular basis for targeting purposes, and providing vaccination at any meetings were correlated with higher vaccination coverage among employees (p-value < 0.05)
- Having a facility mandate was the only strategy correlated with higher vaccination coverage among all HCP
- Interestingly, sending vaccination reminders by mail, email, and/or pager was correlated with lower coverage for employees and all HCP
- The association between high HCP flu vaccination coverage (≥90%) and having a mandate differed by facility size; the association was strongest in the largest facilities (p-value < 0.001)
- Next steps include looking at health systems to determine what strategies could be implemented at independent facilities as well as examining facility flu vaccine medical and non-medical exemption processes

References


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