A Collaborative Effort to Prepare South Carolina Healthcare Facilities for Statewide Ventilator-Associated Events Surveillance and Reporting

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INTRODUCTION AND BACKGROUND

- Ventilator-associated Events (VAE) lead to:
  - Increased morbidity and mortality
  - Longer duration on ventilator
  - Longer duration of hospitalization
  - Increased healthcare costs

- VAE was thus added to the Hospital Infections Disclosure Act (HIDA) reporting mandate in South Carolina beginning January 2015

- Statute requires reporting of VAE in inpatient critical care and rehabilitation units to the South Carolina Department of Health and Environmental Control (DHEC) via the National Healthcare Safety Network (NHSN) for:
  - Acute care hospitals
  - Long term acute care facilities (LTACs)
  - Inpatient rehabilitation facilities (IRFs)

OBJECTIVES

The goal of the VAE training was to prepare facilities in South Carolina for mandated VAE reporting and ensure the accuracy of data reported to NHSN by:

- Providing education on NHSN VAE definitions and the tiers of the VAE algorithm to infection preventionists (IPs) and respiratory therapists
- Giving useful tips and tools to assist facilities with initiation of VAE surveillance
- Demonstrating entry of VAE data into NHSN and utilization of the analysis tools within NHSN
- Introducing infection preventionists to the VAE calculator and demonstrating its use
- Reviewing cases to highlight key concepts

METHODS

- DHEC, in collaboration with the South Carolina Hospital Association (SCHA) and the state’s chapter of the Association of Professionals in Infection Control (APIC Palmetto) formed a VAE planning workgroup to:
  - Distribute a joint partner letter to serve as notification of VAE mandatory reporting
  - Conduct a full day in-person VAE education conference to infection preventionists and respiratory therapists at no cost before mandated VAE reporting
  - Provide a follow-up webinar on VAE surveillance and reporting

- Conference presentations and webinar topics focused on:
  - NHSN definitions
  - VAE calculator
  - Data collection and entry methods
  - Analysis of data

- Facilities given the opportunity to voluntarily report VAE during 2014
- DHEC provided technical support and feedback data reports to facilities who voluntarily reported VAE data prior to the 2015 mandate.

RESULTS

- Notification letters signed by senior leadership from DHEC, SCHA and APIC Palmetto distributed to facility leadership and infection prevention at all 78 HIDA reporting facilities
- 130 healthcare professionals attended the in-person training
- 67 healthcare facilities were represented at the VAE education conference
- Infection preventionists and respiratory therapists were granted 5 hours of continuing education credits for attending the training
- 26 individuals attended the VAE webinar
- The in-person training and the webinar were recorded and posted on the SCHA webpage for further dissemination
- 41 facilities voluntarily reported VAE data to DHEC via NHSN during 2014, to prepare for the 2015 mandate

Table 1. Post-training survey results following in-person all day VAE training with 83 attendees responding (Scale 1-4).

<table>
<thead>
<tr>
<th>Question</th>
<th>Excellent (4)</th>
<th>Good (3)</th>
<th>Average (2)</th>
<th>Poor (1)</th>
<th>Total</th>
<th>Average Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do you rate the program overall?</td>
<td>44 (53.0%)</td>
<td>35 (42.2%)</td>
<td>4 (4.8%)</td>
<td>0 (0.0%)</td>
<td>83</td>
<td>3.48</td>
</tr>
<tr>
<td>The session contributed to my knowledge/skill base.</td>
<td>46 (55.4%)</td>
<td>31 (37.4%)</td>
<td>6 (7.2%)</td>
<td>0 (0.0%)</td>
<td>83</td>
<td>3.48</td>
</tr>
<tr>
<td>In general teaching methods were effective.</td>
<td>41 (51.8%)</td>
<td>28 (33.7%)</td>
<td>11 (13.3%)</td>
<td>1 (1.2%)</td>
<td>83</td>
<td>3.36</td>
</tr>
<tr>
<td>Sessions were organized and easy to follow.</td>
<td>48 (58.5%)</td>
<td>24 (29.3%)</td>
<td>8 (9.8%)</td>
<td>2 (2.4%)</td>
<td>82</td>
<td>3.44</td>
</tr>
<tr>
<td>Questions were answered appropriately.</td>
<td>50 (61.0%)</td>
<td>37 (45.2%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>82</td>
<td>3.55</td>
</tr>
<tr>
<td>The session was conducive to learning.</td>
<td>49 (59.0%)</td>
<td>31 (37.4%)</td>
<td>3 (3.6%)</td>
<td>0 (0.0%)</td>
<td>83</td>
<td>3.55</td>
</tr>
<tr>
<td>Amount of new information and ideas provided.</td>
<td>33 (40.3%)</td>
<td>27 (32.9%)</td>
<td>7 (8.4%)</td>
<td>2 (2.4%)</td>
<td>83</td>
<td>3.27</td>
</tr>
<tr>
<td>Usefulness to my hospital of the new information and ideas provided.</td>
<td>50 (60.2%)</td>
<td>27 (32.5%)</td>
<td>5 (6.0%)</td>
<td>1 (1.2%)</td>
<td>83</td>
<td>3.52</td>
</tr>
<tr>
<td>Quality of feedback from information and ideas provided.</td>
<td>45 (55.4%)</td>
<td>32 (38.6%)</td>
<td>3 (3.6%)</td>
<td>0 (0.0%)</td>
<td>83</td>
<td>3.47</td>
</tr>
</tbody>
</table>

Figure 1. Work position of attendees to in-person VAE training among those who completed the post-training survey.

CONCLUSIONS

- Partnership between stakeholders – DHEC, SCHA, and APIC Palmetto enabled pooling of resources and facilitated state wide training on VAE surveillance and reporting
- Essential to prepare facilities in order to maximize the accuracy of data reported to NHSN through:
  - Advanced notice of reporting mandate
  - Thorough training
  - Technical support and data feedback
- Continued collaboration and coordination as well as leveraging of resources through these partnerships will further be utilized to guide prevention efforts to reduce VAE in South Carolina

REFERENCES

Klompas M, Kleinman K, Murphy MV for the CDC Prevention Epicenters Program, Descriptive Epidemiology and Attributable Morbidity of Ventilator-Associated Events. Infection Control and Hospital Epidemiology; 35(5):502-10.


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