Implementing An Electronic Hand Hygiene Group Monitoring System: Meeting the Challenges

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Issue

• Hand hygiene (HH) compliance may improve when healthcare workers (HCW) receive feedback about their HH rates. 1
• Infection Preventionists monitor and report HH rates as part of their infection prevention plan. 2
• HH compliance monitoring is resource-intensive and can yield erroneous results if not carefully done. 2
• Electronic HH group monitoring systems (GMSs) are promising:
  • Less affected by biases inherent in self-reporting and direct observation
  • Require fewer person-hours than observation
  • More precise than product usage measurement
• The World Health Organization (WHO) has identified 5 Moments or opportunities for HH during direct patient care. 5
• Research has demonstrated a strong correlation of HH opportunities with unit type and staffing ratios. 1

Project

We implemented a GMS at a 140-bed non-profit acute care community hospital in Massachusetts.

Results

• Overall, the Hand Hygiene Compliance Index (HHCI) for 5 medical-surgical units, the critical care unit, and the emergency room combined was significantly higher after the GMS feedback compared to before (mean difference = 4.9% compliance, SD = 4.3, paired t = 3.06, p = 0.02). 6
• We faced several challenges during implementation of the GMS. (See Table 1.)
• The staff, research team and vendor worked collaboratively to find workable solutions to the challenges.

Lessons Learned

• A substantial investment of human capital is required to fully adopt a GMS.
• A team of champions is needed to communicate information about the GMS, answer questions, engender confidence in the automated data, optimize use of the data for improvement, and troubleshoot problems.
• Administrative and vendor support is essential to successful implementation of a GMS.
• HCW and managers accustomed to HH being monitored at room entry and exit need to be trained on the WHO 5 Moments.
• Using an average of actual nursing hours rather than an estimate yielded a more accurate compliance index.

Table 1. Challenges in Implementing an Electronic Hand Hygiene Group Monitoring System

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Examples</th>
<th>Solutions</th>
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<tbody>
<tr>
<td>Determining the number of expected HH events</td>
<td>There was no benchmark for some types of units (e.g., psychiatry).</td>
<td>For units where the HHCI did not fit the patient population, compliance data were reported as events per patient hour or events per patient visit.</td>
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<td>Obtaining accurate census data</td>
<td>Census data originated in multiple administrative systems.</td>
<td>The vendor worked with the hospital’s Information Technology Department to establish and revise direct feeds of census information.</td>
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<td>Engendering confidence in the GMS</td>
<td>HH rates reported by the GMS were lower than those previously reported based on direct observation.</td>
<td>The reports were reformatted for clarity.</td>
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<td>Utilizing the data to drive improvement</td>
<td>HCW were unfamiliar with the WHO 5 Moments for HH.</td>
<td>Generic tips for HH improvement were included in the reports each month.</td>
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<td>Trouble-shooting technical glitches</td>
<td>Dispensers could not transmit HH event data.</td>
<td>The reports were reformatted for clarity.</td>
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