**Using Robust Process Improvement to Transform the Hand Hygiene Culture & Performance**

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**The Joint Commission Center for Transforming Healthcare**

**Introduction:** The transforming hand hygiene culture and improvement initiative was a cross-continental collaboration led by the Joint Commission Center for Transforming Healthcare (the Center) with Joint Commission International (JCI) accredited health care organizations. For six months, the project participants collaborated virtually using the Hand Hygiene Targeted Solutions Tool™, a web-based tool provided by the Center, through which they could systematically apply the Robust Process Improvement™ (RPI) methodology in transforming hand hygiene performance. In participating 14 health care organizations (HCOs): 9 participating US health care organizations (HCOs): 3 international health care organizations.

**Study Design:** The Robust Process Improvement™ (RPI) methodology in transforming hand hygiene performance. For six months, the project participants collaborated virtually using the Hand Hygiene Targeted Solutions Tool™, a web-based tool provided by the Center, through which they could systematically apply the Robust Process Improvement™ (RPI) methodology in transforming hand hygiene performance. In participating 14 health care organizations (HCOs): 9 participating US health care organizations (HCOs): 3 international health care organizations.

**Strategy for Change:** Joint Commission Center for Transforming Healthcare (the Center) with Joint Commission International (JCI).

**Measurement Methodology:** Project participants used direct observation from anonymous observers and Just-in-Time (JIT) coaches as data collectors for measuring hand hygiene non-compliance. The anonymous observers collected data on physical barriers of non-compliance as “secret shoppers”; the JIT coaches captured non-observable cultural barriers by interviewing HCPs after observed non-compliance.

**Analysis of Causes:** Using the same broadly tested Hand Hygiene Targeted Solutions Tool™, the international project participants found the same contributing factors as those from the United States organization.

**Effectiveness:** Hand hygiene is known to reduce healthcare-associated infections. Data from leaders in health care show non-compliance rates ranging from 50% to 70%, with high variability depending on many factors including inpatient unit, leadership and measurement bias. The low rates of hand hygiene compliance reported in international settings and the United States are similar to the experience of the international project participants.

**Analysis of Results:**

<table>
<thead>
<tr>
<th>International</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improper use of gloves</td>
<td>1. Improper use of gloves</td>
</tr>
<tr>
<td>2. Frequent entry or exit</td>
<td>2. Frequent entry or exit</td>
</tr>
<tr>
<td>3. Hand cart not available in work area</td>
<td>3. Hand cart not available in work area</td>
</tr>
<tr>
<td>4. Hand cart not available in work area</td>
<td>4. Hand cart not available in work area</td>
</tr>
<tr>
<td>5. Frequent entry or exit</td>
<td>5. Frequent entry or exit</td>
</tr>
<tr>
<td>6. Isolation area</td>
<td>6. Isolation area</td>
</tr>
</tbody>
</table>

No two international hospitals had the same unique contributing factors for hand hygiene non-compliance. This is similar to the experience of the Targeted Solutions Tool™ users in the United States.

**Defining the Problem:** Hand hygiene is known to reduce healthcare-associated infections. Research has shown that hand hygiene compliance among healthcare workers varies at 50% with high variability depending on many factors including inpatient unit, leadership and measurement bias. The low rates of hand hygiene compliance among health care personnel (HCP) result in transmission of pathogens and potential healthcare-associated infections. This reality is at odds with the beliefs of patients, their families and the providers, who expect HCPs to consistently wash their hands, and who do not expect to get healthcare-associated infections in the process of receiving care.

**Goal Statement:** To achieve an 80% improvement in aggregate hand hygiene compliance when HCPs enter or exit a patient care area, and between patients, within 3 to 6 months. Washing before entering and while exiting a patient care area are significant steps towards reducing healthcare-associated infections. There are other opportunities for hand hygiene defects such as described by the WHO’s 5 Moments.” However, the improvement goals to washing in and washing out are considered actionable, measurable and achievable. Achieving improvement in these areas will make a major contribution to reaching zero-defects.

**Activities:**

- **Direct participants’ feedback include:**
  - "Participating staff were surprised to learn that the baseline rate was lower than what previous measurement had indicated."
  - "Great for me to know that we can now measure the hand hygiene compliance consistently from one ward to another ward.”

**Participant Hospitals trying to solve the same problem benefit from:**

- working together and learning from the experience of others, even if these organizations are dissimilar in culture, country and location
- using a reliable frame for measurement, data collection, analysis and systematic problem solving
- solutions that are setting/unit dependent are based on the contributing factors identified by site based data collection
- sustainable improvement also relies on empowering various levels of staff to fully understand causes and build sustainable solutions to fit.

**Analysis of Results:**

- Initial compliance for the international project participants was 49% and improved to 71% following the improvements, representing an 88% increase in compliance. This is similar to the results from the United States organizations.

**Control:** After the project participants demonstrated success in improving hand hygiene performance, they continued the ongoing data collection as part of the regular process of monitoring and sustaining the gains achieved. This empowered the staff to own the sustainability of their improvement efforts. It also provided a monitoring tool that allowed them to investigate any trends of declining hand hygiene performance and reframe behavior to keep the hand hygiene compliance climbing.

**Messages for Others:**

Persistent safety issues such as hand hygiene compliance are complex and multi-factorial. The Center’s methodology proposes that you understand the true reasons why something isn’t working, you will continually struggle to improve it.

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