2017 Vanguard Award Application

Hospital: St. Jude Medical Center
101 Valencia Mesa
Fullerton, Ca 92835
www.stjudemedicalcenter.org

Contact Information: Teresa Frey, MSN, RN
Vice President, Clinical Excellence
Teresa.frey@stjoe.org
714 992-3000 X 5156

Title: An Effective Committee Structure Reduces Hospital Acquired Infections by Developing Engagement in Frontline Staff

Area of Focus: Patient Safety and Quality Improvement

Brief Statement:
As the Vice President of Clinical Excellence, I enthusiastically support this application. The structure and process that was developed in the multidisciplinary approach had energetic engagement of both medical staff, and front line caregivers. This engagement and empowerment that allowed them to have shared decision making to implement improvements and evidenced based practices to reduce hospital-acquired infections was extremely successful. This reflects the culture of improvement and quality excellence in the organization and was supported by the executive team financially to provide the teams with the resources and time they needed to accomplish our goals. It was also strategically supported and connected directly to our strategic goals as an organization. The reduction in infections over the past 2 years was remarkable and this structure now serves as a blueprint for other quality performance improvement projects in the organization. The work of this team and the collaboration of staff, physicians, quality and infection prevention is an outstanding example of how to systematically approach a quality initiative to drive excellence in quality outcomes for our community.
Executive Summary

A shared governance committee structure engages frontline staff in development of evidence-based bundles and creating a culture of safety. Hospital acquired infection (HAI) reduction has been a strategic goal for St. Jude Medical Center for the past 3 years. While some gains were made with a strong Infection Prevention Department, it became obvious that increased collaboration with other disciplines as well as engagement of frontline clinicians was necessary to reach our goal of excellence.

The Infection Preventionists began recruiting for the HAI Reduction Committee members using the platform of a fun and engaging committee where innovation is encouraged. The kick off meeting included team building, education and development of the committee structure. The structure of the committee including breakout into specific teams to reduce device associated infections as well as Clostridium difficile infections was defined.

Team goals were set for percentage of reduction. A reduction in HAIs began within 3 months of the committee onset, with a continued drop over the past 2 years. In the last year alone, a 49% reduction in HAIs was realized. Unit based champions as well as physician champions have been developed that continue to monitor and seek out perfect care for our patients.

Background & Relevance of the Problem Being Addressed & Effort Undertaken

Healthcare associated infections (HAIs) account for a significant portion of harm caused by healthcare and are associated with increased costs, suffering and mortality. Recent estimates indicate that HAIs represent a major public health problem. A robust body of evidence now exists indicating that HAIs can be significantly reduced. It has been estimated that 50-70% of HAIs are preventable through evidence-based bundle implementation.

HAI reduction is a key initiative at St. Jude Medical Center to save lives and reduce costs. It is estimated that the costs of HAIs has surpassed 10 billion dollars a year in the U.S. alone. However for a clinician the impetus to prevent HAI is to save lives not cost.

SJMC’s Infection Prevention Team performs surveillance and reports out hospital wide HAIs. In addition team members round on patient care units and perform audits for compliance of basic HAI prevention strategies including hand hygiene, catheter associated urinary tract infection (CAUTI) prevention, Clostridium difficile infection (CDI) prevention, and central line associated blood stream infection (CLABSI) prevention bundles of care. With strategies in place for HAI reduction, it was during these rounds that the team noticed there was little collaboration amongst front line nursing staff, Environmental Services (EVS), physicians and the Infection Prevention Team. Furthermore data suggests that HAI reduction efforts need to have a strategic collaboration with all disciplines working toward the same goal to become effective.
Describe the effort, including the scope, process, strategies and tactics utilized, challenges encountered and how they were addressed.

The HAI Committee was formed as an interdisciplinary committee whose focus was to reduce CAUTI, CLABSI, CDI and to improve hand hygiene. Surgical Site infections (SSIs) remained outside the scope of this committee as the stakeholders for SSIs are very specialized. The HAI Committee was formed in June of 2015 with the aim of creating a committee formatted after the shared governance structure with frontline staff active participation and shared decision making replacing a hierarchical structure. A physician champion was recruited for each of the focused teams. The committee is led by a content expert on infection prevention and project management.

Recruitment for team members began on a 1:1 basis with Infection Prevention staff rounding and discussing the committee plans and structure. Due to the collaborative efforts of the Infection Prevention Team, recruitment was successful. This process encouraged selection of well qualified staff known to have informal power within their patient care or ancillary services teams. Each team was comprised of a physician champion including an infectious disease physician for the CLABSI Reduction Team, another Infectious Disease physician for the CDI Reduction Team, a nephrologist for the CAUTI Reduction Team and a gastroenterologist for the Hand Hygiene Team. In addition, teams had frontline Nursing, Ancillary Staff, i.e. Speech Therapy, Environmental Services, Vascular Access Team RN, and Dialysis RN. Once recruited, specific team membership was self-selected by the team member to ensure buy-in and enthusiasm for project work.

The structure of the committee meetings included two distinct sections. The first section, approximately an hour in length included participants such as, patient care unit managers, frontline staff and physician champions. A presentation of recent metrics, metrics review including standardized infection ratio (SIR) and benchmarking, and a review of intensive assessments and case review of any infections identified over the last month. Often included was an education session that was deemed applicable to the committee work. Example of education sessions included information on C. difficile testing methodologies, National Health and Safety Network (NHSN) definition of CAUTIs, NHSN definition of a CLABSIs and prevention strategies. The second section began with the breakout sessions. An Infection Prevention Team member, a physician champion as well as the designated committee members separate into their focused teams. At this time the managers are dismissed. The breakout sessions are working meetings where decisions are made by the interdisciplinary frontline team members. Examples of committee work include evidence-based practice care review and bundle design, documentation changes, dashboard development and audit tools and processes, equipment selection.

Our first priority was to build the infrastructure to support the committee work and build enthusiasm over projects that traditionally did not attract many frontline staff members. The first committee meeting was designed to be interactive and fun. The meeting started with team building activities as well as discussing the committee structure. HAI Committee members were asked to commit to a year for consistency of project work. The VP of Clinical Excellence attended the first meeting and committed to paid committee member hours to focus on rounding, audits, ad hoc meetings as deemed necessary by the team, up to 4 hours a month.
Process, Strategies and Tactics Utilized

Building a community of frontline staff members who had a variety of clinical experiences and expertise as well as interest in active participation in committee work was emphasized. After each HAI Reduction Team was formatted the teams began doing a deeper dive into their past infection metrics and root causes, doing literature searches, and developing bundled strategies for prevention. In addition, the group reviewed metrics from other health system hospitals to glean best practices from high performers. For example, members of the CAUTI Reduction team visited another Southern California hospital to round in their Critical Care Unit to view their prevention bundle efforts and discuss implementation with frontline staff.

Over time, a healthy competition developed amongst the reduction teams who were already beginning to see results from their efforts. This helped to keep team members engaged. Each lead worked with their team members to develop rounding/auditing tools and created a dashboard for adherence to the agreed upon bundle elements. This was significant to continue to drive the improvement measures to high reliability. The dashboard metrics were reported out by individual units with the focus of holding each unit and manager accountable for bundle adherence. Although unit managers did not participate in the break out focused groups, they were asked to attend the first hour of the HAI Committee structure to hear information shared, see their dashboards and participate in the conversation regarding adherence to bundles. Any barriers to high reliability care were addressed as identified to improve compliance.

The frontline staffs were given an opportunity to be innovative and creative in their efforts to reduce HAIs during their focused breakout groups. For instance, the CDI Reduction team members decided to trial shoe boot covers placed over the alcohol gel dispensers in the patient care rooms where CDI was identified, to alert staff and visitors to wash with soap and water instead of using alcohol gel. This along with a red STOP sign was found to be an effective method of communication.

During the Infection Prevention Department’s surveillance work, if a CAUTI, CLABSI or CDI was identified, the root cause was completed with staff team members and the information sent out very timely to the unit manager and focused team members. This timely information about any infections allowed staff to become involved very quickly into the possible steps that could have been taken to prevent the infection. The infections became real to staff, not just as a number on our dashboard, but as a patient who was harmed.

A final strategy used to keep the HAI Reduction Committees alive and energized was recognizing staff and celebrating successes. When the goal of reduction in infection rates was realized, the focused reduction group as well as the patient care unit/s were celebrated. An example was to provide cookies with “Hospital HAI Hero” printed on them to all team members as dessert during an HAI Meeting. These are low cost efforts to recognize the work of the committee members and keep staff engaged.
Challenges Encountered and How They Were Addressed

- Inconvenience for night shift attendance and participation as meeting were lunch meetings in the middle of the day. We had team members vote on best time for meetings and middle of the day, lunch time, was the overwhelming choice.
  - Challenge addressed by consistent scheduling of meetings which were once a month and allowing night shift staff who wished to participate to do committee work, i.e. rounding and audits during their night shift
- Garnering physician buy-in, for example on CDI testing algorithms or removing indwelling urinary catheters timely
  - Providing a consistent message from all team members including the physician champions. Team lead began attending the medical staff committee meetings and presenting the reason for action such as public reporting, patient harm and infection rates. Encouraging one on one discussion with physician champion and non-compliant physicians.
- Obtaining electronic health record (EHR) documentation changes to support the infection prevention strategies implemented in a timely manner. Only regional documentation changes were approved. No individual hospital EHR changes were permitted.
  - Sought health system regional buy-in for best practices to implement similar strategies in other ministries to encourage acceptance. The process was slow, but did eventually pay off.
- Change in products, i.e. needless connectors without Infection Prevention review which lead to a spike in central line infections
  - Discussed issue with executive leadership overseeing Materials Management. This resulted in a structure changed that allowed for stakeholder participation prior to decisions made about changes in products that could impact patient care or reach the patient.

Describe the Results of the Effort

Much of the introductory work of the HAI Reduction Committee focused on root cause review and researching evidenced-based practice to develop bundles for prevention. The results of this focused work created experts in CLABSI prevention, CAUTI prevention, CDI prevention and best practices for hand hygiene. Because of the expertise developed by the team leads, the physician buy-in as well as staff buy-in for future bundle elements became easier to attain. It also became easier to get regional health system buy-in for EHR changes once that expertise was recognized.

HAI rates began to drop with a reduction in overall HAI's over the past 2 years. Implementation of a strong Hand Hygiene program along with a pilot of electronic hand hygiene program in a critical care unit contributed to the success. Our current HAI composite score for the last 3 months has surpassed the goal into the exceptional range that was set by our health system quality department. (See Figure 1)
Frontline clinical staff developed an increased awareness concerning harm events and infection prevention strategies. Lastly, an increased partnership and collaboration with the Infection Preventionists and frontline staff has grown and developed.

Discuss the significance of the results. How do the results demonstrate outstanding achievement?

A reduction in HAIs not only saves lives, but reduces morbidity and health care costs. The true root cause of an infection is difficult to ascertain as the exact beginning of the HAI is impossible to determine. Literature review shows that up to 70% of hospital acquired infections are preventable. The focused infection prevention groups have realized a downward trend in infections over the past 2 years. CDI rates decreased greater than 60%, CAUTI decreased 14% and the largest reduction, CLABSI, by greater than 80%. Over the past 6 months we have not only surpassed our goals, but have reduced our infection rate to the exceptional rate as set by our health system.

Other benefits of this project include:

- Increased focus on hand hygiene.
- Unit pride has increased substantially as improvement in HAI metrics were realized.
- Increased knowledge of infection prevention strategies by frontline caregivers
- Staff holding each other accountable for infection prevention strategies.
- Improved collaboration between interdisciplinary clinicians.

Describe sustainability and scaling of the achievements.

The development of a committee structure that allows for timely root cause and review of all HAIs by experts who have developed prevention bundles will provide ongoing clinician feedback. A partnership with physician champions and caregivers in rounding, audits and communication of the same message raises the significance to the care team. Finally, sharing unit metrics on HAI and having staff
engagement and unit pride helps the care team to hold each other accountable for following bundled interventions and strategies put into place.

**Describe key lessons learned and any advice to colleagues who might try to undertake a similar effort.**

- Executive participation at the onset of the product is crucial to ensure resources are in place to support the efforts.
- Physician champions are instrumental in gaining both nursing and physician buy-in.
- Culture doesn’t change overnight, but a consistent message and collaboration does affect change which leads to a change in culture.
- Share metrics at frequent intervals and celebrate success. Recognizing good work is important to all.
- Take the time to educate your team members to ensure all have the knowledge to fully participate in team decisions.
- Shift change audits between oncoming and outgoing caregivers is an effective way to build a culture of holding each other accountable.

**References:**

1. Http:www.cdc.gov/hai/surveillance/
Supplementary Material

The graph below shows the amount of improvement for this fiscal year with a 49% decrease in HAI Standardized Infection Ratio SIR rate and surpassing top quartile performance.

Supplemental Figure #1 Clinical Excellence Dashboard French Plot
Below is our method of displaying information. Upper left chart shows our metrics of points obtained for HAI reduction. Maximum points possible each month are 4. Bottom right chart with green columns shows # of infections prevented based on standardized infection ratio. Data shows through March, 2017.

Supplemental Figure #2
CAUTI Data Graph shows a 14% decrease in CAUTI rate housewide.

Supplemental Figure #3

### CAUTI Rate and Utilization Ratio

**Housewide**

**FY’15 Q4 - FY’17 Q3**

<table>
<thead>
<tr>
<th></th>
<th>FY’15 Q4</th>
<th>FY’16 Q1</th>
<th>FY’16 Q2</th>
<th>FY’16 Q3</th>
<th>FY’16 Q4</th>
<th>FY’17 Q1</th>
<th>FY’17 Q2</th>
<th>FY’17 Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Infections</td>
<td>1</td>
<td>6</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Total Catheter Days</td>
<td>4075</td>
<td>3998</td>
<td>3902</td>
<td>4345</td>
<td>3358</td>
<td>3515</td>
<td>3196</td>
<td>3539</td>
</tr>
<tr>
<td>Total Patient Days</td>
<td>15915</td>
<td>16255</td>
<td>17664</td>
<td>19149</td>
<td>16865</td>
<td>16203</td>
<td>16615</td>
<td>18437</td>
</tr>
</tbody>
</table>

- **CAUTI Rate**
  - Excludes NICU
  - CAUTI Rate: 0.2, 1.5, 2.1, 0.9, 0.9, 0.0, 1.9, 1.1
  - CAUTI Util Ratio: 0.26, 0.25, 0.22, 0.23, 0.20, 0.22, 0.19, 0.19

**New Foley Kit**
- CHG Pericare All Units
- Frontline Audits

**Physician CAUTI Rounds**
CLABSI Data Graph shows a 80% decrease in CLABSIs Housewide

Implementation of off-going/on-coming standardized bundle audits

Supplement Figure #4

CDI Data Graph shows a 58% decrease in CDI rates housewide

Implemented Bioluminescence project partnership with Infection Prevention and EVS for improved environmental

Supplemental Figure #5