Creating a dream team:
How frontline collaboration reduced healthcare-associated infections

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While the annual costs of healthcare-associated infections (HAIs) have surpassed $9.5 billion in the United States alone, the clinician’s impetus to prevent HAIs is to save lives, not money.\(^1\) Building an interdisciplinary, shared-governance committee that engages frontline staff is imperative to creating and fostering a culture of safety.

HAI reduction has been a strategic goal for St. Jude Medical Center for more than three years. While the hospital had a strong infection prevention department and was seeing some gains, HAI reduction targets were not being met. To reach our goals, we would need to increase collaboration with other disciplines and engage frontline clinicians.

The New England Journal of Medicine reported in 2014 that on any given day approximately one out of 25 inpatients acquires one or more HAI.\(^2\) The HAI Progress Report, published by the Centers for Disease Control and Prevention (CDC) in 2016, showed significant reduction in nearly all infections; however, as a country, we still have a long way to go to ensure that all patients receive safe, reliable care.\(^3\) A robust body of evidence now indicates that HAIs can be significantly reduced.

**IMPLEMENTATION**

In our organization, we apply a high-reliability organization (HRO) model for program development, which requires leadership engagement, a culture of safety, and a strong performance improvement structure.\(^4\) In July 2015, the high-reliability philosophy was at the forefront of the design of the HAI Committee. The committee meets on a monthly basis and has four subcommittees: Central Line-Associated Bloodstream Infection (CLABSI) Reduction, Catheter-Associated Urinary Tract Infection (CAUTI) Reduction, *Clostridium difficile* Infection (CDI) Reduction, and Hand Hygiene Improvement. Surgical site infections (SSIs) are outside the scope of this committee because the stakeholders for SSIs are very specialized. The committee is based on the shared governance model, with active frontline staff participation and shared decision-making replacing a hierarchical structure. Each committee and subcommittee is chaired by an infection preventionist (IP).

Monthly committee meetings consist of three 1-hour sections (see Figure 1). Department managers, frontline staff, and physician champions attend during the first hour, as IP’s present metrics and case reviews of recently identified infections. Participants may receive education related to committee work on topics such as CDI testing methodologies, National Healthcare and Safety Network (NHSN) definitions, or evidence-based practice review and prevention strategies. For the second hour, managers are dismissed and the HAI Committee divides into subcommittee

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teams for working meetings where decisions are made by the interdisciplinary team members. During the breakout sessions, subcommittees work on evidence-based literature reviews, bundle designs, documentation changes, dashboard development, audit tools, and product/equipment selection. The third hour is reserved for the critical care staff to review infection prevention strategies specific to their unit, including ventilator-associated events. The session is co-chaired by a critical care nurse and respiratory therapist lead.

To build out the subcommittees, we recruited frontline staff with an interest in infection prevention and a willingness to commit the time. We looked for staff with good communication skills and the ability to collaborate well with other departments, such as nursing and environmental services. Each team included a physician champion specializing in infectious disease, nephrology, or gastroenterology. In addition, teams included representatives from frontline nursing and ancillary staff, such as speech therapy, environmental services, vascular access team RNs, and dialysis RNs. Staff were able to choose the subcommittee where they felt their service could have the most impact.

Our first priority involved building an infrastructure to support the committee work and promote enthusiasm about projects that traditionally did not attract frontline staff. To ensure meetings were interactive and fun, we incorporated team-building activities. HAI Committee members were asked to commit for a full year for continuity of project work. Hospital executives showed support and engagement through attendance at the first meeting, and by compensating staff for up to four hours a month for focused rounding, completing audits, and HAI Committee meeting attendance. Staff were encouraged to attend meetings on their days off to ensure that census or staffing issues didn’t compromise their ability to attend.

PROCESS, STRATEGIES, AND TACTICS

The community that was built through this process brought together staff with a variety of clinical and nonclinical experiences and a wide range of expertise. Allowing staff to select their subcommittee of interest helped promote active participation. Over time, a healthy competition developed among the reduction teams, which kept team members engaged. The staff were given the opportunity to be innovative in their efforts to reduce HAIs. For instance, the CDI Reduction team members decided to trial placing bouffant head covers over alcohol sanitizer dispensers in patient care rooms where CDI is identified. This visual alert staff and visitors to wash their hands with soap and water instead of using alcohol hand sanitizer.

One of the subcommittees’ tasks was to review a root-cause analysis of past infections and develop strategies for prevention. An example of a robust process improvement strategy is the timely dissemination of newly identified HAIs. When a CAUTI, CLABSI, or CDI is discovered, the root-cause analysis is completed and shared promptly with the unit manager and subcommittee members. This information allows frontline staff to identify gaps, create action plans, and become involved in the prevention of future infections. By following this process, we acknowledge the patient who is harmed and do not merely view the HAI as a number in our metrics.

To promote a culture of safety, the IP chair for each committee works with their team members to develop rounding/auditing tools and create an audit dashboard to display the adherence to bundle elements. These tools...
drive improvement measures for high reliability. The dashboard metrics are reported to individual patient care units, with the focus on holding each unit and manager accountable. To improve compliance, any barriers to adherence are addressed. In addition, the HAI Committee compares metrics from other health system hospitals to glean best practices from high performers. Members of the CAUTI Reduction Committee visited a sister hospital to go on rounds and view its prevention bundle efforts while learning about its implementation process from frontline staff.

A final strategy to keep the HAI Committee energized is recognizing staff and celebrating success when infection rates are reduced. For example, members of the leadership team went on rounds on patient care units to share their appreciation. At the closing meeting of the year, all committee members received an “HAI Hero” decorated cookie and were served a special meal by the infection prevention team. These simple efforts highlight the significant work of committee members and keep staff engaged.

**FINDINGS**

Much of the introductory work of the HAI Committee concentrated on researching evidence-based practices to develop bundles for prevention. The results of this focused work created experts in CLABSI, CAUTI, and CDI prevention, along with best practices for hand hygiene. HAI rates began to drop, with a reduction in overall HAIs over the past two years. Because hand hygiene is the most effective way to prevent the spread of infections, a strong hand hygiene campaign was necessary. Strategies developed by the Hand Hygiene Improvement subcommittee influenced our success. For example, to increase hand hygiene awareness and compliance, the subcommittee piloted an electronic hand hygiene surveillance program on the critical care unit.

The standardized infection ratios (SIRs) for CDI, CAUTI, and CLABSI were at their highest points one year prior to the launch of the HAI Committee (See Figures 2-4). Those data inspired the call to action to address the rise in HAIs. Over time, through reduction efforts, the units achieved...
decreases in CLABSI and CDI. To reduce CLABSI, we implemented a new central line kit and bundle and improved the care and maintenance of central line dressings. This comprehensive approach resulted in a hospital-wide CLABSI reduction.

Through the efforts of the CDI Reduction Subcommittee, a CDI nursing screening protocol was created, and the testing methodology was changed with approval from medical staff. This change included adding an antigen/toxin test to the previous PCR DNA methodology to capture more active CDIs versus colonization.

While we saw a slight drop in CAUTIs during the first six months of our effort, this reduction was not sustained. The barriers we faced reflect the ongoing nationwide struggle to decrease this particular HAI. The CAUTI Reduction Subcommittee continues to review intensive assessments to identify potential gaps and other possible prevention strategies. The subcommittee identified that half of the CAUTIs in our neurological population had central fevers that were possibly related to the patients’ neurological deficits rather than a true urinary tract infection. Based on this finding, strategies must be developed to ensure that physicians include appropriate indications prior to ordering a urine culture, as well as changing the electronic medical record (EMR). An additional strategy will focus on appropriate collection of urine cultures and use of regularly scheduled intermittent catheterization instead of indwelling urinary catheters.

**CHALLENGES**

In any new program, challenges will occur. Some of those encountered by the HAI Committee included:

- Getting participation from night-shift staff in daytime meetings.
  - We established a set schedule of meetings and sent it out in advance to allow all staff to make arrangements to attend.
- Garnering physician buy-in for initiatives such as using CDI testing algorithms or timely removal of indwelling urinary catheters.
  - We used physician champions to deliver a consistent message about the importance of implementing infection prevention measures. The IP chairs attended medical staff meetings and presented rationales for action plans.
- Attaining timely EMR documentation changes to support the infection prevention strategies. Only regional EMR documentation changes were approved; no individual hospital change requests were allowed.
  - We sought regional health system buy-in for best practices to encourage acceptance.
- Addressing the lack of infection prevention review when products are changed. For example, a change in needleless connectors led to a spike in CLABSIs.
  - We discussed the issue with executive leadership overseeing the materials management department. This resulted in a structure change that allowed stakeholder participation in decision-making regarding new products.

**CONCLUSION**

The prevalence of HAIs makes collaborative infection prevention efforts necessary. The goals of our HAI Committee include keeping staff committed and sustaining project efforts and results through the participation of frontline staff. As hospitals deal with...
the financial cost of HAIs, it is the patients who bear the direct burden of these preventable harm events. Our interdisciplinary approach to reduce HAIs has not only heightened awareness of prevention strategies, but also created a culture of safety that builds and fosters a safe environment for staff, patients, and loved ones.

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References