Organization: The University of Maryland Medical Center (UMMC)

Solution Title: Improving Hand Hygiene and Patient Safety by Integrating the Use of Evidence-Based Tools with Participation in the Maryland Hand Hygiene Collaborative

Program/Project Description, including Goals: We needed to improve the hand hygiene (HH) practices of all staff working on inpatient units to enhance patient safety through the prevention of hospital acquired infections. It was identified through assessment of monthly HH data used in UMMC’s participation in the Maryland Hand Hygiene Collaborative (MHHC). Some units demonstrated persistently low HH scores despite improvement efforts by infection preventionists (IPs), leaders and others. The scores include breakdowns by staff role and the goal is for each unit (and UMMC) to achieve ≥ 90%.

Process: We explored available tools with proven success in increasing staff HH compliance (defined as upon patient room entry and exit regardless of glove usage) and assessed UMMC’s existing HH improvement efforts. The process included collaboration between clinical practice coordination and infection prevention staff to decide how to design and implement an innovative solution to the problem of HH noncompliance that would demonstrate measurable change through staff collaboration and effective leadership. Integrating the use of new tools with UMMC’s participation in the MHHC was a goal in developing the solution. Every unit’s implementation of the solution was tailored to the unit’s unique physical environment and HH challenges (barriers).

Solution: Implementation of The Joint Commission’s Targeted Solutions Tool (TST) for HH on units demonstrating marked, persistent HH noncompliance was the selected solution. It is a complete, pre-packaged tool designed to make participation easy and efficient for busy clinicians by providing a database, targeting their efforts, supporting them with resources and using their time efficiently by having a facilitator provide feedback to guide them and focus their efforts.

Also used was the huddle tool component of TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety), a problem solving tool that involves ad hoc planning to reestablish situation awareness, reinforce plans (solutions) already in place and assess the need to address the plan (solution), per the Agency for Healthcare Research and Quality. It was used because it involves situation awareness, the refocusing of efforts and the other components noted above that are applicable to improving HH practices. Both the TST and TeamSTEPPS:

- involve assessments of staff performance, unit culture and data measures
- include staff training, action plan development, coaching, performance monitoring and monitoring of implementation and sustainment actions and planning
- focus on teamwork and collaboration in solving problems and sustaining success.

The solution was implemented by teams of clinical and support staff acting as HH coaches, physician champions, project leaders (unit and ancillary department managers and directors), IPs and a clinical practice coordinator (CPC) from the Quality and Safety Division. It was tailored
to units’ unique work environments and barriers to HH performance (both environmental and staff perceptions). Using coaches who observed and interacted with staff regarding HH practices in ‘real time’ was new, as was the use of scripting to empower coaches to address HH noncompliance, especially by physicians. Another innovation was the provision of weekly feedback using coach data to guide teams’ efforts for efficiency and effectiveness. Novel tools proposed and implemented by unit staff (i.e. unit race boards) were also used. The use of physician champions greatly facilitated success; physician-to-physician feedback is powerful. The integration of MHHC data facilitated efficiency and avoided redundancy of efforts.

**Measurable Outcomes:** The first unit that implemented the solution in December 2012 was an intensive care unit which started with a baseline HH score of 64%. After starting active coaching, the score immediately improved and the unit attained the UMMC goal within 12 weeks. The unit’s scores remained much improved for several months before a decline was noted (associated with staff turnover) and a project refresh was implemented to recruit and train more coaches to replace losses and re-engage staff in the solution. [Please see figure 1.]

![Intensive Care Unit’s Project Implementation](image)

**Figure 1. Intensive Care Unit’s Project Implementation**

The project was expanded to five more inpatient (acute and intermediate care) units. Only official scores are used in the figures; official and coach scores were reported to the teams. [Please see figure 2.]
Figure 2. Solution Expansion to Total of Six Units

**Sustainability:** Measures for sustaining and spreading the results include continued tool usage and other efforts by units to sustain success and senior leaders’ implementation of lessons learned. In October 2013, the HH score was 91.3% for the 6 participating units.

**Role of Collaboration and Leadership:** Teamwork and collaboration (including physician and nurse practitioner engagement) were essential to success. Organizational leaders shared the vision for success and their support. Teamwork and collaboration across professional and paraprofessional roles were also essential to the success of this solution.

**Innovation:** Several facets of this solution were innovative including the integration of UMMC’s participation in the MHHC with the use of the Joint Commission’s TST for HH and the TeamSTEPPS model, the inclusion of providers in the solution, use of 114 HH coaches who provided feedback regarding HH noncompliance immediately, the provision of frequent, targeted feedback about noncompliance to enable staff to address concerns quickly and the use of huddles to rapidly address and resolve problems in ‘real time.’

**Related Tools and Resources:**

- Information about the TeamSTEPPS huddle tool is available at: [www.ahrq.gov/professionals/education/.../teamstepps/.../pocketguide.htm](http://www.ahrq.gov/professionals/education/.../teamstepps/.../pocketguide.htm)
- Information about the Maryland Hand Hygiene Collaborative is available at: [http://www.marylandpatientsafety.org/HandHyginecollaborative.aspx](http://www.marylandpatientsafety.org/HandHyginecollaborative.aspx)

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