Lessons Learned: Implementing Practices to Improve CLABSI Rates

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Children’s Hospital of Philadelphia Home Care invested time and focused, sustained efforts in implementing the World Health Organization’s Five Moments for Hand Hygiene as part of a safety initiative in reducing its CLABSI rate. Implementation resulted in a reduction in infection rates; lessons learned; best practices and changes in mental models, such as a redefinition of “team”; and system-level changes such as innovative, coordinated, community-level educational outreach.

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Introduction

Patient care is delivered by systems as well as by the individuals utilizing them; patient safety improvement must include individual, group, and organizational learning (Edmondson and Moingeon 1998). Few organizations share their experiences with other health care entities on recursive steps and successful strategies identified as part of their organizational learning while implementing patient safety initiatives. This article highlights the individual, collective, and organizational learning achieved as Children’s Hospital of Philadelphia (CHOP) Home Care implemented new initiatives for infection control targeted at decreasing central line-associated bloodstream infections (CLABSI).

Through surveys and semi-structured interviews with field nurses, their immediate supervisors, and department leaders, a qualitative study of home care nurses’ experiences during this implementation was conducted. Four initial surveys and 10 interviews were completed. The interviews detail staff understanding of how front-line experiences were moved from lessons learned to best practices to system-based practice.

The implementation of a practice change is a process that takes effort and time. Organizational learning is particularly relevant during all stages of implementation because processes such as information transfer, skilled management of the change process in specific settings, and in-depth understanding of the dynamics at play are needed to ensure adequate time, focus, and attention to resource management in supporting continuous improvement while limiting risk, and monitoring for unintended consequences.

Background

Patient safety is the application of safety science methods toward a health care delivery system to minimize safety incidences and adverse events (Emanuel et al. 2008). A culture of safety comprises numerous factors and may include the healthcare agency’s ability to: 1) integrate individual and group learning from patient safety initiatives with current policies, processes, and practices; and 2) improve, spread, and sustain the changes (Jones et al. 2008). Essentially, the way organizational learning is managed affects the adoption of initiatives, the rate of improvements, and organizational performance (Edmonson et al. 2006).

Organizational learning can be defined as "developing the capacity to transfer knowledge across the
organization, to share expertise and information while purposefully, continually adapting and growing together (Rowley and Poon 2010). It encompasses five core disciplines: systems thinking, team learning, shared vision, mental models, and personal mastery (Senge 1990).

CHOP Home Care’s Infection Prevention & Control Program provides surveillance and guidelines for the prevention and control of the spread of infectious pathogens to patients, caregivers, and health professionals in the home care setting. Since 2009, the goal for CHOP Home Care’s CLABSI rate has been fewer than 2 infections/1,000 line days. CHOP Home Care’s performance has shown progress and sustained improvement for several years. Progress is attributed to standardized practices, as outlined in CHOP’s policy and procedures, consistency in practice by all clinicians, and patient/family education on central-line management.

Moments for Hand Hygiene

Preventing health care associated infections in the home care environment presents unique challenges. Unlike inpatient or ambulatory settings, home care relies heavily on a combination of family and other caregivers, potentially resulting in a complex mix of instructions and varying care philosophies. Patients and families can be overwhelmed when they are expected to manage the care of a sick child at home. Some families are prepared and comfortable, but many need round-the-clock support to ensure success. Amy Gallagher, CHOP Home Care’s director of Clinical and Patient Care Services, describes the unique challenges that home care staff navigate daily:

Our clinicians have no control in the home. The home is the patient’s environment. We don’t have control over who’s going to touch the line. Our goal in home care is to try to create a normal home environment while still trying to manage a central line. . . . In some families, up to four members could be involved in that child’s care and touching that line. To me, the risk of developing a CLABSI is much greater because of the unknown that happens in the home every day.

For these very reasons, repetitive education and consistent care at every visit and from each clinician are essential. Consistency in clinical practice for sterile procedures and hand hygiene provides a clear message to families that care provided in the home is a reliable extension of the excellent care CHOP delivers in the outpatient setting.

In 2011, CHOP introduced the World Health Organization (WHO) hand hygiene guidelines and other well-researched practices to the enterprise. CHOP’s infection control committee implemented evidence-based changes to its sterile dressing change procedure with return demonstration by all clinicians across the organization. Site scrub and dry times were increased, and a separate sterile cap change kit was introduced. Although forms of these procedures were already in place, they were modified based on evidence supporting decreased infection rates. CHOP Home Care management formally educated the staff about the new infection prevention initiative. This was followed by an evaluation of CHOP Home Care nurses’ sterile technique and procedural compliance by supervisors during home visits. CHOP Home Care implemented several widely accepted best practices combining behaviors and technology as part of their goal to decrease CLABSI further (Moureau 2009). The most dramatic change to care was the introduction of the WHO hand hygiene protocol.

CHOP focused on how hand hygiene was being delivered by all health care workers. The Home Care Department, along with the hospital, adopted the WHO infection control program titled My Five Moments for Hand Hygiene [Figure 1]. These WHO recommendations and hand hygiene best practices are considered the gold standard for health care worldwide. Although these best practices were developed primarily for hospital settings, Sax et al. (2007) describe themes appropriate for home care staff in providing a user-centered focus on quality information and training around hand hygiene.

The WHO approach to hand hygiene requires application of three primary concepts and two strategies. The
primary concepts are moments, patient zones, and hand rubbing. The strategies are formalized hand hygiene steps and delineated patient zones. Home Care developed education to support and train staff on these concepts and strategies.

Implementing the WHO approach requires understanding key concepts. Moments are defined as geographical or patient care situations indicating when hand hygiene is required.

Patient zones refers to the patient and the geographical surroundings that contain the patient’s normal flora (WHO 2012).

Proper hand washing means following prescribed steps, in the correct order and for the proper duration recommended. An alcohol-based hand sanitizer solution is worked from the palms to the back of the hands, through interlaced fingers, to back of fingers, then thumbs, and finally the fingertips. It is a formalized process with six distinct steps [See Figure 2, below].

Historically, clinicians were instructed to use soap and water for 1–2 minutes before patient contact with minimal focus on technique. In 2004, The Joint Commission added a National Patient Safety Goal requiring compliance with hand hygiene guidelines from accredited health care organizations. In 2005, WHO launched the First Global Patient Safety Challenge focusing on the central role of hand hygiene compliance on reducing infections. In 2009, WHO reaffirmed the recommended use of soap and water when hands were visibly soiled and alcohol-based hand rubs when hands were not visibly soiled. Standardization of hand washing and expected adherence to both when and
how hand washing occurs is relatively new.

Typical hand washing practice did not include the standardized six steps in a precise sequence and at precise indications. In an effort to promote continuous quality improvement, decrease our CLASBI rate, and promote hand hygiene compliance, our clinicians at CHOP needed to adopt the standardized practices. This required re-education for a basic reflexive process of hand washing, which involved a several-pronged approach in order to impact the thought process for this concept while delivering care autonomously in the community. Direct oversight would not occur in the same manner as in the inpatient setting. A home-care-specific rollout was critical to implementation. The unique setting of the home brought challenges that needed to be addressed for clinicians. Our policies provide the standard for clinicians, but the environment is not controlled by staff.

Families are taught infection control principles and given education on how to prevent infection. They have a strong desire to keep their child healthy, but many competing priorities can make vigilance difficult at times. Our expectation is that the clinician is doing hand hygiene at the right time every time in the home, whether we are present for direct oversight or not. In addition, clinicians are providing education to the families for hand hygiene at each and every visit.

Organizational Learning

In high-risk environments, individual, team, and organizational learning are strategically important skill sets. Organizational learning consists of three stages: 1) knowledge acquisition; 2) knowledge sharing; and 3) knowledge utilization (Nevis et al. 1995).

Knowledge Acquisition

Knowledge acquisition for CHOP Home Care was accomplished by interdisciplinary staff education. During CHOP’s infection reduction initiative, department managers for nursing, respiratory therapy, and pharmacy implemented joint learning activities.

Supervisors led formal education sessions, in the form of a Skills Lab, to teach new hand hygiene techniques. The Skills Labs focused on performing all six steps, in the correct order, every time during a home visit, and stressed the moments and patient zones. Supervisors then monitored the proper implementation of these skills during home visit observations.

Reference documents were also integral to successful implementation. Managers provided staff with a variety of graphics for use as reference tools. Staff described two WHO graphics, the picture of a contaminated hand [Figure 3, at right] and a diagram of the 6-step hand rub [Figure 2], as extremely useful. Staff referred repeatedly to these as “easy to carry, easy to refer to, easy to read.”

Adopting the new practice required time and focused effort. Fostering explicit knowledge included providing resources, meeting time, and opportunities for repetitive, individual practice with immediate, individual feedback during skills validation and supervisory visits. Managers and supervisors required and motivated staff to persist in changing their practice. Staff were individually engaged through strategies such as ready access to useful information, ongoing recognition and reinforcement, and captivating questions. Collective communication tools—including a standardized e-mail model, using, for example, the ISBARQ (introduction, situation, background, assessment, recommendation, Q&A) method, to reduce communication errors and increase patient safety, monthly e-mail reports on infection rates per line days with patient specific infection reports, safety stories at the start of
department meetings, and follow-up e-mails with meeting minutes—were consistently used to maintain heightened awareness and provide education in the moment.

For new staff, the initiation process includes multiple opportunities to learn hand hygiene procedures with a qualified clinician, return demonstration in a controlled setting, and demonstration in the home visit during the orientation period. New staff orientation includes skills validation and skill integration during supervised home visits, where emphasis on repetitive practice and application in the context of the home with immediate feedback by a preceptor is standard practice.

Implementing the WHO hand hygiene activities presented staff with two types of learning challenges. First, they had to unlearn their previous practice. Unlearning took more time for staff than anticipated. At first, many felt the steps were counter-intuitive in their workflow. The Webster’s dictionary definition of “unlearn”—“to put out of one’s knowledge or memory [or] discard the habit of”—presents its own challenge. Unlearning meant staff spent time reframing a new understanding of hand hygiene. Previously, staff reported “using a good amount [of alcohol rub] and ensuring hand hygiene was done often.” To counter this mindset, Home Care leaders used WHO’s evidence-based guidelines coupled with standardization, to motivate staff away from their familiar habit, toward a consistent six-step process.

The second learning challenge related to the demonstration of fluency for two very different types of skills. Hand washing is a skills-based task and requires less time for thought than addressing patient zones in the home, which is a rule-based task. Rule-based tasks, or “if-then” tasks, require a higher degree of conscious control (Reason 1990). In the case of hand hygiene, clinicians must first observe and determine a true moment for hand hygiene, then select a course of action, and finally execute or defer hand hygiene. [See Figure 4, at right]

Incorporating patient zones required more time for thought and remained a challenge for some nurses. They did not distinguish between the time needed to internalize a skills-based task and that needed to internalize a rule-based task, and were puzzled by their struggle with automating patient zones (or their practices).

One nurse commented:

After 13 years of nursing, delivery of care had become a natural flow. The new process interrupted every single task I ever learned. I was interrupted by internal reflection: Do I have to wash? Learning patient zones has taken more time than re-learning hand washing. When we started this [initiative] it became evident that we were washing all the time. Now the times I’m told NOT to wash feels different and difficult. —Field nurse

Historically, hand hygiene protocol dictated doing it well and often. Clinicians used individual judgment to deem when hand hygiene was necessary. For this initiative, clinicians now needed to “flip the switch” to make the change successful. Rapid identification of moments for hand hygiene, as determined by situation and patient zones in the home, required time, focused attention, coaching, and reflective practice with valid feedback, until nurses developed a repertoire to easily draw upon (Haskell 2001). Staff verbalized their experience with internalizing the process:

Hand hygiene generally doesn’t interfere with care delivery, but if I’m working with a child with complex needs or
in a chaotic environment, I need to pause, reflect, and focus, to determine if hand hygiene is indicated. — Field nurse

Patient zone identification was an evolving process as situations presented in the home care environment. Staff worked with leadership as questions arose. With focused practice and descriptive feedback, hand hygiene became second nature, with staff demonstrating fluency with the six steps, allowing them to focus on their environment and identify patient zones. The outcome was decreased frequency of hand hygiene with a standardized, evidenced-based technique.

Staff demonstrated clarity around the purpose of the changes and motivation for persistence with the new practice:

We have kids who are at higher risk of infection and lower resistance. Most of our patients on IV's are fragile. We have to figure out why they're getting infected and doing that means eliminating the caregiver as the source of the infection. We go step-by-step, hand washing longer, but washing fewer times. — Home Care nurse

Knowledge Sharing

The second step in organizational learning is knowledge sharing, which includes activities designed to blend knowledge (Nonaka and Takeuchi 1995) and storytelling (Hutchens 2009). Both of these strategies are a normal part of a home care nurse’s routine.

Nurses’ comments depicted home care as an environment where they openly and collectively blended explicit knowledge of hand hygiene with tacit knowledge of the patient population, the uniqueness of each home, and familiarity with each other as they collectively worked to effect safe patient outcomes. Sharing of tacit knowledge and experiences occurred primarily through formal and informal clinician contact (Bransford et al. 2000), such as meetings with peers, phone calls to each other as questions arose, and as staff stopped in the Home Care office. This collaborative process was essentially teamwork. It was also the means by which individual learning was transferred to the organization and captured in enhanced procedures related to central-line management in home care.

For this initiative, CHOP added a sterile cap change kit. Previously, a sterile cap was added to the sterile dressing change procedure. This new practice added another sterile set-up in the home, where the availability of useable surfaces can prove challenging. Staff collaboration (teamwork) was a reoccurring theme during troubleshooting discussions about this change.

Nurses viewed teamwork as group review with interchanges of issues, ideas, and practice:

I make phone calls to other nurses around issues or patient concerns. As we talk, ideas are triggered. It’s important to talk with each other. For example, I was able to come up with a creative strategy to encourage a patient to wear her mask during dressing change. Then I shared the strategy with the next scheduled nurse to ensure a unified approach. I first worked hard to get Mom on board. She needed to agree that we would all wear masks. Then together we came up with this game for putting on the mask. — Home Care nurse

Team use of creative strategies can include distraction techniques. Most home care nurses have a comfort basket full of books, pin wheels, and other gadgets to utilize during stressful procedures for the child. Many children will be assistive with procedures if they can take part in the process, such as being in charge of putting the mask on their parent before they put on their mask.

A recent hire brought a different perspective:

Teamwork here is done on a level playing field. I always call if I have a question. With this team, not knowing will
not be held against me. So, I'm not afraid to ask.  – Home Care nurse

Storytelling is a well-recognized patient safety practice and an effective strategy for sharing knowledge. Members of Home Care’s leadership team point readily to memorable stories that promote safety. One member recounted there are generally two types of stories: best-practice and near-miss stories:

We started sending out e-mails about best practices. They may be scenarios that we see, or something we find during chart reviews or during supervisory visits, or something we learn from being copied on an e-mail, and we put it out there. It shows how the process is being applied to patient care. When we see or hear of an instance where we have made a positive difference, we blast it out to the field.

We believe in making mistakes visible. A mistake that doesn’t reach the patient is called a “near miss” and is publicized. We talk about and report it, which has turned the near miss into “I caught this,” which is a good thing and a powerful thing to be involved in. Typically, the person reporting is the person who catches it. He or she wants to help others know how important processes are.

– Home Care leadership team member

CHOP Home Care’s goal, to be the safest children’s hospital home care provider in the nation, requires a blame-free culture where staff openly evaluate missteps. Clinicians are primary providers of information on safety events. They share stories about what occurs in the home, which enables the care team to effectively evaluate our educational, operational, and clinical processes.

Knowledge Utilization

The third and last step of organization learning is knowledge utilization. CHOP Home Care’s CLABSI rate has decreased since adoption of the hand hygiene initiative. Our ultimate goal is a continued decrease and eventual elimination of infections in the home care central-line population. [See Figure 5, below.]

Knowledge utilization disseminates knowledge gained from evidenced-based practice, including lessons learned from practice.

Lessons Learned

Numerous lessons were learned from implementing this initiative.

1. Implement one initiative at a time and allow sufficient time for fluency in the required skills. The hand hygiene program was rolled out at the beginning of the fiscal year, which occurs in July, typically a difficult time to gather staff. The goals for future initiatives would include ensuring that all staff are exposed to the required education prior to moving on to next steps

2. Plan and monitor for consistent attendance of all clinicians at learning events. Lack of consistent attendance impacts information sharing and practice. Further, sporadic attendance coupled with
misunderstood information, in an environment with a strong informal communication system, can have a \textit{whisper down the lane} effect requiring more work to correct. Planning information sessions for all staff will decrease time lost to miscommunication.

3. From inception, create an enterprise-wide or department-wide initiative and communicate the message that infection control is not just for nurses. Reducing CLABSI includes responsibility on the part of all home care employees. The emphasis is on points of commonality:

When you think about CLABSI itself, it’s not just about the nurse. It’s about the pharmacist that dispenses supplies and medications and needs to understand the entire process related to central-line care because if a patient is asking for too many supplies, or too few, there may be something that the family is not doing correctly. This is a way for the pharmacist to find out and disclose to the team that something is not quite right. — Amy Gallagher, Director of Clinical and Patient Care Services

Lessons learned and the initial outcomes from staff reflection point to actions and strategies employed in support of department- and enterprise-wide goals. Transforming lessons learned into useful organizational knowledge is the goal of the looped learning process.

\textit{Single-Loop Learning}

Argyris and Schön (1978) define single-loop learning as reactive problem solving, error correction, or a management by exception approach to issues or individual reflection (O’Connor and Kotze 2008). Problem solving is similar to taking corrective action to achieve the desired outcome in that it is limited in solutions and scope of action. Problem solving was an integral part of implementing the new infection control initiatives overall and hand hygiene practices in particular. Individual staff members regularly applied problem-solving strategies to issues faced while implementing hand hygiene.

The home care setting requires problem solving for application of procedures and tasks. Clinicians are well versed in thinking before acting. For example, when the nurse leaves the patient care area and accesses medications in the home refrigerator, that nurse is moving to a new patient zone, an action that requires hand hygiene to be performed. Clinicians avoided this situation by having family members retrieve medications for them.

Lessons learned are embedded into standard operating procedures and become shared best practices. For instance, the strategy of soliciting family-member help in retrieving medications from the refrigerator was shared via e-mail as a best practice. It was discussed during clinician meetings, where the strategy was refined and incorporated into practice. If the lesson learned required a more significant change to practice, then a small representative workgroup gathered information and presented to the leadership team for review and initiation of the process into practice. Ongoing supervisory and patient safety visits allow opportunity to revisit the strategies employed and ensure they work for clinicians and families. Undoubtedly, maximizing the benefits of lessons learned begins with continual collective reflection on practice, outcomes, and process.

Critical reflection at all levels is a behavior promoted and supported by CHOP’s culture of safety. Reflecting and resolving are recognized safety behaviors that rest on a corporate belief in “practicing with a questioning attitude.” A questioning attitude, or thinking critically, is defined as detecting incorrect data and/or assumptions that could lead to erroneous decisions and actions. Ongoing, collective, critical reflection tied to new definitions, changes in collective actions, and a generalization of results lies at the heart of knowledge transfer and double-loop learning.

\textit{Double-Loop Learning}
Knowledge transfer within organizations is the process by which a group or department is affected by the experience of another (Argote et al. 2000). In the simplest form, while single-loop learning emphasizes “knowing how” throughout the problem-solving process, double-loop learning emphasizes “knowing why” it impacts strategies (Goh 1998). Double-loop learning means examining the organization’s design (Nevis et al. 1995; Schein 1995) employee skills and competencies, and asking questions such as: Why are solutions working? What are our underlying assumptions around our infection rates? How are the rates impacted by the environment? These are the types of questions posed around lessons learned from hand hygiene. Reflection on these questions leads to the development of best practices: joint learning and shared leadership.

To create and maintain joint learning and understanding, the CHOP Home Care Department works cooperatively across disciplines on a daily basis. In the words of John Tamasitis, manager of Clinical Operations and Respiratory Therapy:

We didn’t always operate this way. Right now “Opening” to Home Care service occurs together. Openings used to occur by discipline. Now the department is scheduled as a team at one visit, and we work collaboratively.

Shared leadership is an effective way of disclosing mental models, values, and assumptions.

Double-loop learning results in increased effectiveness around decision making and shared acceptance of possible failures and mistakes. Reflection on the variables that continue to impact our CLABSI rate prompts continued work with families to create the outcome we desire—fewer central-line infections. CHOP Home Care has also taken department-level action in re-examining the challenges some families face and thinking through how we might do things together differently:

Families are taking infections seriously. They are giving it time and thought when I am teaching. But sometimes it’s very hard. Like the mother who is fighting an uphill battle because multiple family members provide care, so there is a range of mindfulness to the potential of risk of infection. That varies with family members. The mother’s 16-year-old son also provides care. That’s just the reality of it.

—Home Care nurse

We talk with the parents and share what works. We ask a lot of questions. We do handoffs. We take a lot of responsibility for it, but we are in the home approximately two hours per week. The unknown variables are there and are outside of our control.

—Home Care supervisor

The ways in which individuals and departments exchange relevant information can make double-loop learning difficult (Edmondson and Moingeon 1998). However, joint learning and shared leadership minimize differences in the mental model that shapes individual speech and actions, reducing defensiveness and increasing the effectiveness of the information being shared (Argyris and Schön 1978).

At CHOP double-loop learning is occurring at the enterprise level; the Infection Control Committee is taking action to sustain and spread best practices around hand hygiene. Organizationally we are now reviewing the context within which we practice and determining if there is a need for community education. The committee is coordinating the enterprise approach to community education and bringing people together to connect the dots between the various settings.

Home Care provides educational in-services to inpatient and ambulatory departments about the care and services available within the organization. Presentations at Nursing Grand Rounds and department in-services heighten understanding and awareness of home care practices. Residents, case managers and other personnel attend home visits with nurses and respiratory therapists for observation. They report the valuable insight gained as they return to inpatient settings with a better understanding of what Home Care provides and what patients need.
The CHOP Home Care Department is taking innovative, coordinated action (Senge 1990), such as teaming up with families to provide training and resources for all caregivers, including private duty shift nursing. Patients and caregivers are educated on how to provide safe care for the central line and how to wash hands. Patient and family education is not needed on patient zones because the home contains the patient’s normal flora and is, therefore, the patient’s environment. Delineated patient zones are only applicable to clinicians entering that environment. Additionally, educational support is provided during teachable moments. Teachable moments are defined as “instances where additional information, guidance, and advice are needed to ensure safe care.” Staff then repeat important points to reinforce concepts and support behavior change, such as hand washing after every diaper change and before every feeding.

Educational sessions are also offered to shift care in patients’ homes or at the agency. This education mirrors the teaching provided to families on care and maintenance of central lines. The goal is to understand infection control principles and to reach out to resources for any concerns they have while providing care:

We are doing a lot more outreach to educate [shift nursing] as we educate parents, and we are sharing our educational materials and nursing policies and procedures. We have changed our philosophy from “Just let us do it” to “Do it our way, so let us teach you how.” We take a lot of responsibility for the lines, so we have to teach people how to work with them as much as possible.  – Home Care nurse

The challenge is to unite a multitude of clinicians in the home into one standard way of thinking and providing care. Our education sessions include review of our policies that support evidence-based practices to the central-line procedures. The goal is to educate nurses and reinforce the concept that we are a team with the shared goal of keeping patients infection free and at home.

Overall, there has also been a change in mental models around the definition of team, roles and responsibilities, and communication. A decade ago “team” might have been defined as the home care nurses caring for the patient. In the past decade, that has shifted to encompass all the clinicians in the Home Care Department—nurses, pharmacists, and respiratory therapists. Today, a team is defined as all those who are involved in the patient’s care: home care clinicians and staff members, family members, hospital staff members,
and other community entities that might provide care, such as staff nurses or school nurses.

Conclusion

Health care’s characterization of patient safety has changed to include a focus on infection control and decreasing CLABSI (Starr and Torbert 2005). Roles and types of communication have also changed to accommodate the expanding definition of a “team.” As described by our team at CHOP during interviews, the implementation of a practice change is a process that takes effort and time. Lessons learned were the initial tools that propelled us forward through a systematic learning environment based on the communication and educational needs of our team members. Further education and collaboration are needed for system improvements to occur (Schyve 2005) and to be sustained. Enterprise-level actions, as exemplified by the educational goal of CHOP’s Infection Control Committee, are being developed to support and enhance the expanding definition.

Shana Ratner (1997) defines a learning organization as “one in which [staff] at all levels, individually and collectively, are increasing their capacity to produce results they really care about”—in this case, patient safety. The staff at CHOP Home Care invested time and focused, sustained efforts in implementing WHO’s Five Moments for Hand Hygiene as part of a safety initiative in reducing its CLABSI rate. Implementation resulted in a reduction in infection rates; lessons learned; best practices and changes in mental models, such as a redefinition of “team”; and system-level changes such as innovative, coordinated, community-level educational outreach. Broadening our impact and connecting it back to positive patient outcomes are key activities for sustaining a culture of safety.

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