Zero Events of Harm to Patients

Building and sustaining a system-wide culture of safety at Sentara Healthcare

by Gene H. Burke, MD, Gretchen B. LeFever, PhD, and Shannon M. Sayles, RN, MA

In 2002, Sentara Healthcare, an integrated healthcare system in southeastern Virginia and member organization of VHA Inc. (the national healthcare alliance), launched a system-wide initiative to significantly reduce events of harm to patients and employees.\(^1,2\) The safety culture initiative began at one of its seven hospitals, Sentara Norfolk General Hospital (SNGH). By mid-2005, all Sentara hospitals (with the exception of the newest hospital, which joined the system in mid-2006) had completed the initial phases of implementation. Since that time, implementation of error prevention and performance excellence principles has expanded to Sentara’s nursing homes and physician practices. Implementation at Sentara’s corporate departments, such as finance and information technology, and the health plan started in 2008.

The experience of other high-risk industries with much higher reliability for outcomes demonstrated the importance of using a three-step approach to achieving significant reductions in human errors. The approach involved the following:

1. **Establish Expectations.** Tell people what you expect and want.
2. **Educate.** Give people the knowledge they need to adhere to the expectations.
3. **Reinforce and Build Accountability for Results.** This step is 90 percent of the effort and the ultimate key to success in creating a culture of safety.

Establishing Clear Expectations for Performance

Sentara’s journey began with an analysis of previous adverse events that occurred in the prior two years. The analysis identified the following specific human behaviors as sources of errors:

- Less-than-adequate communications;
- Inadequate attention to detail;
- Compliance with policy;
- Failure to recognize error-likely or high-risk situations and failure to use basic human error reduction techniques.

With the assistance of individuals with expertise in improving human performance from the nuclear power industry, Sentara developed specific behavior based expectations (BBEs) for safety with related error prevention techniques for staff, leaders and physicians. Error-reduction behaviors and related tools and techniques proven to reduce human error in other high-risk industries were reviewed and a set of techniques (see Table 1) were tailored for staff, leaders and physicians.\(^1,2\) The BBEs and related error prevention techniques served to create not only shared expectations but also a common language for safety at Sentara.
Following selection of the BBEs and error prevention techniques, employees, leaders and physicians were educated and trained on the expectations of Sentara’s safety culture. A combination of didactic education and interactive training was using simulation exercises. Examples include role-playing scenarios for clear communication, videotaped skits illustrating the right and wrong way to show questioning attitude and a variation on the “Jeopardy” game to learn the 5P handoff. Since the completion of the initial education at each site, this class has since been moved to the first day of orientation for all Sentara staff so that expectations are introduced early in their employment.

Table 1. Behavior-Based Expectations (BBEs)

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<tr>
<th>Behavior-Based Expectations</th>
<th>Error-Prevention Tools</th>
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<td><strong>For All</strong></td>
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<tr>
<td>1. Pay Attention to Detail</td>
<td>‣ Use STAR (Stop, Think, Act, Review) to focus attention and think before acting</td>
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| 2. Communicate Clearly      | ‣ Repeat-backs/Read-backs  
                                    ‣ Clarifying questions  
                                    ‣ Phonetic and numeric clarifications  
                                    ‣ SBAR |
| 3. Have a Questioning Attitude | ‣ Validate and Verify  
                                    ‣ Intelligent Compliance With Expectations |
| 4. Handoff Effectively      | ‣ SPs for Effective Handoffs—Patient/Project; Plan; Purpose; Problems; Precautions |
| 5. Never Leave Your Wingman | ‣ Peer Checking  
                                    ‣ Peer Coaching |
| **Additional BBEs for Leaders** |                        |
| 1. Make It Happen           | 1) Mission-Based Prioritization  
                                    2) Team Huddles |
| 2. Make It Real             | 1) Set Expectations, Educate and Reinforce  
                                    2) Observe Behavior  
                                    3) Instant Feedback (IF) and Constant Reinforcement (CR)  
                                    4) Code of Conduct as intended |
| 3. Make It Stick            | 1) Control Loop  
                                    2) Level 1/Level 2 Actions Plans |
| **Additional BBEs for Physicians** |                        |
| 1. Direct Physician to Physician Consultation | Communicate directly to physicians when requesting a consultation |
| 2. Designate a Coordinating Physician | The coordinating physician directs overall care of the patient and coordinates resolution of issues and questions |

**Building Knowledge and Skills**

Sustaining any culture requires that shared values and beliefs become entrenched and that the correct practice becomes the common practice. Building accountability for best practice in patient care and error prevention is a regular refrain that describes the heart of the Sentara strategy to create a culture of safety. Accountability is considered to reflect an intrinsic tendency “to do the right thing.” Persons with high degrees of accountability are recognized and rewarded, whereas those whose accountability requires improvement receive regular coaching and reinforcement to do the right thing. For that reason, Sentara has tried to remove the phrase “hold accountable” from its vocabulary and substitutes “expect accountability” or “reinforce accountability.” A sample of four high-impact strategies are described below.

**Connecting the Dots—BBEs from Principle to Practice**

In 2005, nurses at Sentara Leigh Hospital were concerned that interruptions while pulling medications for patients from the Pyxis dispensing system increased the probability of error. Unit leaders recognized the medication pull moment as a great place to practice the Sentara BBE of Pay Attention to Detail using the self-checking technique STAR. They applied a concept from aviation called “sterile cockpit”—a regulation that restricts cockpit conversation to tasks related to takeoff and landing when in flight from zero to 10,000 feet. Leaders placed red tile around the Pyxis station to mark the area as a “no interruption zone” (a practice now in use at other hospitals across the United States) and to reinforce the Pay Attention to Detail self-checking expectation. This is a great example of leaders connecting the dots—clearly demonstrating the application of error prevention principles to day-to-day tasks.

**Coaching at the Front Line**

Safety Coaches are frontline employee representatives from departments across the hospital who serve as leaders for patient safety on their unit. Safety Coaches receive special training in peer observation and coaching. They play a vital role in observing practices of team
members, giving a word of praise when they see a coworker practicing a safe behavior, and offering constructive correction when they observe a missed opportunity. Monthly Safety Coach meetings provide a forum for continuing education, engaging coaches in providing input and feedback about decisions related to safety processes, and identifying problems that could compromise safety and identifying solutions.

Stories that Reward and Legends that Last

Safety Success Stories are one of Sentara’s main means of reinforcing BBES. A Safety Success Story is a brief account about an employee who practiced a BBE and how it made a difference. Some of the stories are dramatic accounts of how following a safe practice prevented a major event of harm. Most of the stories, however, describe “everyday excellence”—examples of employees using BBES and catching everyday errors and mistakes that in isolation seem inconsequential yet, if gone unchecked, can combine to result in an event of harm. Safety Success Stories are written in a manner that everyone can understand and distributed to all employees through e-mail, daily bulletins, and word of mouth. Safety Success Stories serve as an important reward and recognition mechanism. Each facility has its own manner of recognizing employees mentioned in Safety Success Stories. One of the most powerful means is a senior leader visit to the department to personally thank the employee for “creating safety at Sentara” and presenting the employee with a pin. Safety Success Stories have become legends at Sentara. Here is one example:

While going about her daily duties of cleaning a patient room, Janice, an environmental services associate, observed a physician and nurse enter the room and prepare to perform a minor procedure. She knew the hospital’s rule about site verification before a procedure, yet noticed that the team was about to proceed without the verification. Janice politely questioned the physician and nurse, “Shouldn’t we verify the site before the procedure?” The physician and nurse thanked the associate and verified the site. By being aware of what was going on around her and being willing to speak up, Janice helped ensure that the procedure was performed on the correct site.

A Part of Performance Review

An important part of hardwiring organizational practice is reflecting expectations in performance criteria. Sentara has integrated its BBES into employee job descriptions and the annual performance review process. Demonstrated practice with the BBES comprise 50 percent of the performance review rating.

Serious Safety Event Rate—Measuring the Impact

Sentara uses the Serious Safety Event RateSM (SSER) to measure ongoing improvement toward the goal of eliminating preventable events of harm to patients. The SSER is a global metric of harm developed by Healthcare Performance Improvement (HPI), a consulting firm in human performance reliability that assists in guiding Sentara’s safety culture journey. The SSER is calculated as a rolling 12-month rate of Serious Safety Events per 10,000 adjusted patient days. The SSER serves as an ongoing lagging metric of safety performance improvement. In contrast to Joint Commission sentinel event and National Quality Forum “never event” classifications, which are category-based, HPI’s Safety Event Classification (SEC) is based on organization culpability for the event and level of harm experienced by the patient. As a result, the SEC/SSER methodology provides the most reliable and repeatable metric for safety performance in the healthcare industry and encourages sustained improvement rather than rewarding episodic improvement. Since initiation of Sentara’s safety culture journey in November 2003 through June 2008, the SSER for all Sentara hospitals reflects a 64 percent decrease (see Figure 1).
Building and sustaining a culture of safety is challenging and requires considerable organizational focus and energy.

Sustaining Improvement

From the safety culture initiative’s start, it was understood that the organization was not engaged in a sprint but a marathon, with the ultimate goal being zero events of harm. Marathon runners have to pace their efforts to avoid “hitting the wall” of extreme fatigue. Leadership recognized the need to promptly address any evidence of reverse-improvement trends to avoid losing momentum. A number of strategies have been implemented, including the Lessons Learned Program, ongoing education of leaders and staff on human error prevention, and integration of just culture principles into employee conduct policies.

Sentara continues to learn that sustaining a culture of safety requires several things:
- Continuous leadership focus not only on the need for change but also on the specific tools and techniques that must become part of daily activities.
- Leadership commitment and support that is visible and constant.
- Constant vigilance and a relentless drumbeat for breakthrough improvement. Measurements need to distinguish between activity and real progress.
- Continuous reinforcement of desired behaviors. Effective accountability systems need to ensure that error prevention behaviors are used 100 percent of the time. Everyone must encourage and support the behaviors and actions that are desired and discourage those that will not lead to desired outcomes in safety.

Conclusion

Building and sustaining a culture of safety is challenging and requires considerable organizational focus and energy. Sentara has learned that if an organization loses concentration and single-minded attention before the essential behaviors are truly part of daily activity that it is too easy to slip back into bad habits and ultimately events of harm will recur. In order to achieve desired outcomes, the organization needs to ensure that first the expectations for performance and behaviors are clear, secondly that leaders and staff have the knowledge and skills necessary to perform the task and finally, an effective accountability system needs to be in place and continuously nurtured. Building and sustaining the intrinsic motivation of all members of the organization requires constant attention to not only hold the gains, but to achieve the ultimate outcome—in this case, zero events of harm to patients. ✫

References


Gene H. Burke, MD is the vice president and executive medical director for Clinical Effectiveness of Sentara Healthcare, an integrated delivery system of seven hospitals with 1,700 adult beds, seven extended care facilities, a multidisciplinary physician group of approximately 350 providers, a home care division, and an insurance division, serving two million people in southeastern Virginia and northeastern North Carolina. As such, he is responsible for the clinical quality and patient safety programs across this company. Under his leadership, in 2005, Sentara Healthcare was awarded the Joint Commission/National Quality Forum John Eisenberg Patient Safety and Quality Award.

Gretchen B. LeFever, PhD joined Sentara Healthcare in 2008 as the director of safety and performance excellence. Prior to joining Sentara, Dr. LeFever held several university and medical school faculty appointments and was promoted to Full Professor before engaging in full-time consultation and research. She has provided consultation to universities, schools, hospitals and health departments on system-wide interventions for organizational development. She continues to publish scholarly articles related to public health, epidemiology, pediatric psychology, and organizational development. In 2008, Dr. LeFever was publicly recognized as one of 100 scientists who can be called upon for unbiased reviews of health research.

Shannon M. Sayles, RN MA is a consultant with Healthcare Performance Improvement, LLC. She also led the implementation of the safety and performance excellence culture across Sentara Healthcare, an integrated delivery system in southeastern Virginia. In this role she collaborated with and provided guidance to system and operational leaders in implementing behavior-based approaches for error prevention, state-of-the-art event analysis and other safety strategies such as crew resource management. These efforts received national recognition for Sentara with the 2004 American Hospital Association Quest for Quality Prize, the 2005 JCAHO John M. Eisenberg Patient Safety and Quality Award and the 2007 VIPC&S Patient Safety Award. She has more than 30 years of leadership experience in healthcare, including more than 15 years in performance improvement in both hospitals and health plans.