**A Frontline Management System To Sustain Improvement in Safety Practices**

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1. **Why a Frontline Management System?**

Many improvement projects fail to result in sustained gains. Initial periods of enthusiasm meet the realities of daily work, and the will to maintain new ways of working wanes as the constant demands of the workplace take precedence.

In ambulatory surgery, proven safety practices such as preoperative timeouts, standard checklists for pre- and postsurgical care, and quality improvement techniques such as root cause analysis, when used consistently and conscientiously, are effective in maximizing the safety of patients. But sustaining these safety practices over time, with the attention to detail they require, is challenging.

For many years, the Institute for Healthcare Improvement (IHI) has championed methods to advance health care improvement, with a focus on the Model for Improvement. In 2015, IHI undertook research on ways to sustain improvement, beginning with a simple question: What methods are used in leading health care organizations to maintain consistent “operational control” at the front lines of health care?

This research led to an intensive examination of management methods in several high-performing organizations. In the United States, organizations included Intermountain Healthcare, Virginia Mason Hospital & Medical Center, and ThedaCare; international leaders included Saskatoon Health Region in Saskatchewan Province, Canada. IHI found that across these systems, a coherent, interlocking system of management—from the charge nurse level to the executive suite—was crucial to sustaining standardized practices over time and promoting a culture of improvement overall.

Based on what was learned, IHI has developed a set of management principles and tools designed to sustain operational control at the front lines of care, tailored to ambulatory surgery centers.

IHI collaborated with the Health Research and Educational Trust (HRET) in 2016 to test these tools with a small number of ambulatory surgical centers participating in the Agency for Healthcare Research and Quality (AHRQ) Safety Program for Ambulatory Surgery. Results of these preliminary tests were promising, including increases in staff satisfaction and safety culture attributed directly to the tools. Frontline managers also felt that the system reinforced key elements of standard work and promoted sustained use.

As part of the AHRQ Safety Program for Ambulatory Surgery, IHI has developed a series of online modules as well as accompanying “component kits” to help you introduce these management practices in your center through small tests of change.

1. **Components of the Frontline Management System**

Across the organizations studied, several key elements in the management system became apparent. Standard work for nursing staff and managers, in the form of well-defined daily, weekly, and monthly tasks, provides the foundation for sustainability. Ambulatory surgery centers (ASCs) generally have such standard work firmly in place in the form of policies and procedures, checklists, patient interviews and case documentation routines. However, many ASCs do not have a clear picture of how consistently these standard work elements are executed in practice. The elements of the management system, outlined in the component kits, demonstrate how to better operationalize and sustain substandard work.

Components of the frontline management system include—

* **Daily Safety Huddles**. Daily team huddles should be a core component of standard work for sustainability. A team lead, shift supervisor, or charge nurse conducts a 5-minute standup meeting, or huddle, of all unit staff at the beginning of the day or another fixed time. The huddle agenda includes (1) a review of safety-related events that occurred on the previous day; (2) a scan of cases scheduled for the current day to anticipate any special needs or anticipated safety issues; and (3) identification of work-related problems that might pose a safety threat.
* **Visual Management**. Huddles are conducted in front of a white board, bulletin board, or equivalent. This “visual management board” is displayed publicly or semipublicly and shows key safety indicators such as the number of days since the last “near miss” event or patient harm, data on surgery timeouts, and other key process metrics gathered by observation or logged by staff, and a list of work-related problems being addressed.
* **Well-Understood and Routinely Executed Problem-Solving and Escalation Methods**. Problems raised in daily huddles fall into four rough groupings: (1) conformance with established protocols and procedures; (2) simple issues that have an obvious “just fix it” solution; (3) issues that are symptomatic of a problem that is not yet well understood; and (4) problems that require process redesign or coordination among departments.

The frontline team can usually handle problems in the first two categories, through staff coaching, reminders and other reliability techniques, or simple changes in equipment or procedures. “Symptomatic” issues typically lead to a root cause analysis followed by small-scale testing of solutions. Complex problems are escalated to the management team for consideration.

The visual management board displays a list of current problems and their status. The list is reviewed briefly at each huddle. The public acknowledgement of work-related problems with candid analysis of causes and clear followup is a key driver of trust and transparency among front line staff and supervisors.

* **Integration of Standard Work and Observation**. Goals and standard work are integrated across organizational levels. Quality improvement (QI) projects commissioned by the organization provide goals and methods for departmental and unit-level testing and change. Conversely, problems identified by frontline teams may evolve into organizationwide initiatives. Maintaining such alignment, both vertical and horizontal, is a key responsibility of top management.

Integration starts with accountability for frontline staff standard work. Standard processes are needed to track execution of staff and leader standard work. For example, ASC supervisors periodically observe the conduct of preoperative checklists and timeouts, and display the results in a time series graph on the visual management board. Deviations or exceptions provide an opportunity for coaching. One management level up, a QI director or safety officer periodically observes the huddles and provides coaching and encouragement to huddle leaders. Regular reviews of safety metrics with executives and board complete a transparent, blame-averse system of accountability. Establishing trust and candor is essential to sustaining attention to safety and surfacing problems.

Figure 1 (below) illustrates the interaction between these elements, explained further in the other component kits in this series.

**Figure 1. A Visual Representation of the Interlocking Frontline Management System Elements**

**This image shows the interactions between the different elements of the frontline management system.  The elements include standard safety work by staff, the daily safety huddle, visual management, escalation, observation of safety work, problem solving, and integration with leaders.  The image shows how these elements are mutually reenforcing to effect sustained improvement.**

Table 1 below summarizes these elements and their benefits.

**Table 1. Summary of System Components and Expected Benefits**

|  |  |
| --- | --- |
| **System Component** | **Expected Benefit** |
| Daily Safety Huddles | Brief daily huddles identify problems, track safety measures and progress in improvement projects, give all staff a “voice,” and increase engagement. |
| Visual Management | Daily reference to board including key operational metrics and updates on improvement projects increases transparency of team performance and helps catch lapses before they turn into larger problems. |
| Problem Solving and Escalation | Well-understood problem solving methods (e.g., Model for Improvement; Root Cause Analysis) used by staff and managers help ensure that when problems arise, staff have capability to address them efficiently and effectively. |
| Integration and Observation | Consistency of standard work across levels of the organization, and with organizational strategies, goals, and mission, promotes cross-departmental collaboration and facilitates cooperation in problem-solving efforts; also helps keep the management system “alive.”  Regular observation of standard work by first- and second-line managers ensures consistent completion and sustains momentum of the management system. |

1. **Interactions of Components**

The elements described above together form a “system” because they complement each other; their interactions and cumulative effect drive the desired outcome, which is sustained performance over time of standard work across roles.

**Daily safety huddles** and **visual management** can together form the core of the system in an ASC. The visual management board includes key performance measures and measures of consistent completion of standard work such as the operating room huddle. The daily safety huddle serves as a forum to review these measures on a daily basis.

Common understanding and execution of **problem-solving methods** ensures that huddles and visual management do not merely serve to constantly surface new problems—rather, staff and leaders have the core skills to address the problems through methods like root cause analysis and the Model for Improvement. **Escalation protocols** help ensure that staff can clearly distinguish between different kinds of problems—those they can address directly (e.g., restocking a supply cart), those that might require management attention but still not dedicated work (e.g., minor staffing challenges), and those that require broader improvement efforts with structured methods and project charters (improving communication between departments or sites). Escalation protocols help inform what is prioritized in daily huddles and improvement projects.

Continuous **observation** of standard work starting with the frontline manager’s review of staff standard work, ensures that staff understand their roles and that key safety tasks receive routine attention (e.g., checklists or sterilization practices). Observation promotes a baseline of performance so that daily safety huddles and visual management can focus on more complex problems.

**Integration** of standard work across organizational levels and alignment across the organization of safety goals helps (1) ensure management buy-in at all levels for key standard work practices like huddles, promoting management’s removal of barriers to successful work and (2) drives accountability not only for staff, but also for higher tier managers, promoting organizationwide engagement with the system.

# Using the Model for Improvement

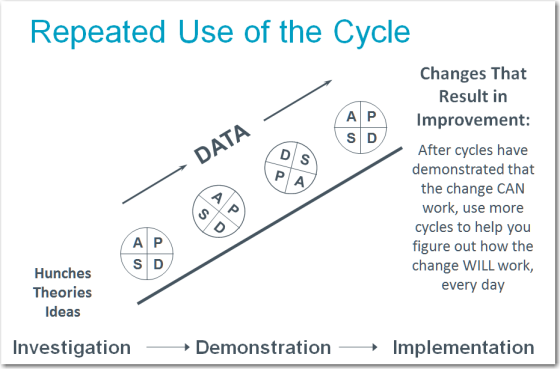
Throughout the modules developed around these elements, we recommend the use of the “Model for Improvement” as an engine to drive change. According to the *Improvement Guide,*[[1]](#footnote-1) The Model for Improvement first calls for answers to three questions:

1. What are we trying to accomplish? (aim)
2. How will we know a change is an improvement? (measures)
3. What changes can we make that will result in improvement? (changes)

The “engine” to move from aim to incorporated change is the PDSA cycle—Plan, Do, Study, Act.

The PDSA method essentially describes the scientific method — it is a way of describing hypothesis testing. During the “planning” phase, you clarify the change you are introducing and how to operationalize it via a small test. “Doing” means simply running the test. “Studying” means reviewing how the test went — reflecting on what you learned. “Acting” means using what you learned to move to further tests or incorporate the change into daily practice.

The component kits we have designed include suggestions for multiple tests to help you operationalize the elements of the frontline management system outlined above. To operationalize the elements, you will typically run a series of increasingly more sophisticated PDSA cycles until you have a version of the management practice that fits with your center’s “way of doing things” (Figure 2).



**Figure 2. A Sequence of PDSA Cycles**

# Additional Resources

For additional information about the frontline management system elements, see IHI’s white paper on the topic:

Scoville R, Little K, Rakover J, et al. Sustaining Improvement. Institute for Healthcare Improvement 2016. <http://www.ihi.org/resources/Pages/IHIWhitePapers/Sustaining-Improvement.aspx>. Accessed July 7, 2016.

AHRQ has made available tools that will help you apply the ideas in this module and the others in this series. For example, you will find examples of PDSA forms to help you plan your tests of change with these ideas, and a sample project charter to help you communicate with others at your facility about how you might structure work on these elements.

The following resources have more information about the Model for Improvement:

Langley GJ, Moen R, Nolan KM, et al. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance. 2nd ed., San Francisco: Jossey-Bass; 2009.

The Improvement Guide serves as an excellent reference for all aspects of the science of improvement.

1. Langley GJ, Moen R, Nolan KM, et al. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance. 2nd ed., San Francisco: Jossey-Bass; 2009. [↑](#footnote-ref-1)