

# A Framework for Safe, Reliable, and Effective Care





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The Institute for Healthcare Improvement (IHI) is a leader in health and health care improvement worldwide. For more than 25 years, we have partnered with visionaries, leaders, and frontline practitioners around the globe to spark bold, inventive ways to improve the health of individuals and populations. Recognized as an innovator, convener, trustworthy partner, and driver of results, we are the first place to turn for expertise, help, and encouragement for anyone, anywhere who wants to change health and health care profoundly for the better.

Safe & Reliable Healthcare (SRH) is at the forefront of measuring and improving culture, and building highly reliable learning systems. Our work across the healthcare continuum and around the globe has given us unique insights into the specific attributes, skills, and characteristics of effective leaders who are able to achieve the cultural transformation needed to improve operational excellence. We believe that safe, high-quality, cost-effective care is based on collaborative relationships, and we partner with organizations to transform their culture and foster nimble learning.

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## Foreword

Patient safety has always been at the heart of the movement to improve quality in health care. More than 30 years ago, the Harvard Medical Practice Study helped kick off the quality movement by demonstrating that many, if not most, instances of harm in hospitals were caused by system failures. These system failures are what quality improvement methods and tools are designed to address, and applying these methods and tools is why IHI was founded.

In 1999, the Institute of Medicine's *To Err Is Human* report shocked the US with its estimate that at least 44,000 —and as many as 98,000 — people were dying in hospitals each year as a result of preventable medical errors. A few years ago, a new estimate suggested there may be as many as 400,000 preventable deaths per year. And in 2016, a study published in *The BMJ* estimated the number at more than 250,000, which, the authors asserted, would make preventable patient harm the third leading cause of death in the US. Understanding the true impact of preventable harm is important, but whether the number is 40,000 or 400,000, we can all agree that it's far too many.

I believe we are at an inflection point in the history of improving patient safety. Changing payment models, the uncertainty surrounding health reform, and the ever-increasing scrutiny of the modern digital age demand fresh and creative thinking on how best to ensure harm-free care.

At IHI's National Forum in December 2016, I proposed six patient safety “resolutions” for the new year — to ensure the great strides already made are sustained *and* to expand our thinking about safety:

1. Focus on what goes right as well as learning from what goes wrong;
2. Move to greater proactivity;
3. Create systems for learning from learning;
4. Be humble — build trust and transparency;
5. Co-produce safety with patients and families; and
6. Recognize that safety is more than the absence of physical harm; it is also the pursuit of dignity and equity.

The first five aren't wholly new, and they align with IHI's approach to quality improvement in general. The sixth is one I've been thinking a lot about over the past few years. Now that we know how to reduce and even eliminate harms that some once thought inevitable — ventilator pneumonias, central line infections — we need to devote our efforts to eliminating harms we've yet to focus on explicitly. Harms caused by indignities and inequities in health care are just as preventable, and just as unacceptable, as wrong-site surgeries and medication errors. We're only beginning to understand how physical health is affected by psychological trauma. Ensuring patient safety is about ensuring the right all patients have to a free-from-harm care experience, which includes being treated equitably and with dignity.

This white paper doesn't address all six “resolutions” directly. It is focused, rightly, on creating systems of safety. The paper clearly and compellingly lays out a practical framework for how any health care organization or system can continuously and reliably improve patient safety. The core domains of creating a culture of safety and a learning system to ensure reliability, improvement, and sustainability are foundational, not only for solving the kinds of safety issues we have experience with, but also for those we haven't yet imagined. The individual components of the

framework — leadership, transparency, accountability, etc. — are the necessary ingredients to create a culture of safety and a system for continuous learning. Health care organizations of any type or size can build on this foundation to create systems and processes that ensure our *first* promise to patients — do no harm — is fulfilled.

Derek Feeley  
President and CEO  
Institute for Healthcare Improvement

## Executive Summary

Efforts to improve the safety, reliability, and effectiveness of health care are not new; organizations have been diligently working toward these goals for years. However, they often pursue various strategies in a vacuum, not fully appreciating how different approaches and initiatives impact one another. When attempting to achieve more ambitious goals, these health care organizations sometimes need guidance about how to integrate and sequence their improvement efforts.

In this context, a group of subject-matter experts at the Institute for Healthcare Improvement (IHI) and Safe & Reliable Healthcare (SRH) have collaborated over 15 years to develop the Framework for Safe, Reliable, and Effective Care highlighted in this white paper. Made up of two foundational domains — culture and the learning system — along with nine interrelated components, with patients and families at the core, the framework brings together succinctly and in one place all the strategic, clinical, and operational concepts that are critical to achieving safe, reliable, and effective care.

This white paper describes the domains of culture and the learning system, outlining what is involved with each and how they interact; provides definitions and implementation strategies for the nine components (leadership, psychological safety, accountability, teamwork and communication, negotiation, transparency, reliability, improvement and measurement, and continuous learning); and discusses patient and family engagement. Throughout the paper, we provide real-world examples so readers can get a more complete understanding of the various components and their impact on the framework as a whole.

This paper provides organizations with a clearer understanding of how to achieve safe, reliable, and effective care. Organizations can use the framework as a roadmap to guide them in applying the principles contained therein, or as a diagnostic tool to determine how well (or even if) they are pursuing the different components of the framework. A commitment to using the framework will enable health care organizations of all shapes and sizes to take the next step toward achieving safe and reliable operational excellence.

## Introduction

Health care organizations have an absolute responsibility to deliver safe, reliable, and effective care to patients. Yet consistently meeting this obligation can be daunting, and organizations are often challenged to design a balanced portfolio of improvement projects that will enable them to meet system-level quality and safety goals. They may have stand-alone safety improvement projects underway, or regularly conduct staff surveys to better understand the organization's current safety culture, but it remains unclear how these various efforts interweave and interact to provide safer, more reliable care. Diverse data streams are difficult to combine, making it challenging to develop sustainable, system-wide programs focused on all-cause harms and errors.

The Framework for Safe, Reliable, and Effective Care provides clarity and direction to health care organizations on the key strategic, clinical, and operational components involved in achieving safe and reliable operational excellence. It comprises two foundational domains — culture and the learning system — along with nine interrelated components: leadership, psychological safety, accountability, teamwork and communication, negotiation, transparency, reliability, improvement and measurement, and continuous learning. Engagement of patients and their families is at the core of the framework — the engine that drives the focus of the work to create safe, reliable, and effective care.

The framework serves several purposes. First and foremost, organizations can use it as a roadmap to guide them in applying the principles contained therein. Second, they can use it as a diagnostic tool to determine how well (or even if) they are pursuing the different components of the framework.

By employing this framework, organizations can, over time, improve the safety, reliability, and effectiveness of the care they provide. Redesigning a system of care is complicated, however, and cannot be rushed. Although the framework can help a health system organize its efforts to build systems of safe, reliable care, and ensure it pursues the key components necessary to achieve ongoing success, it is essential for organizations to allocate the time and resources to do the work. In addition, they must assess their current performance with respect to the different domains and components: Are they currently working toward implementing any aspects of the framework? How far have they progressed? What is working? What isn't working? By establishing this benchmark, it becomes clearer where the organization needs to focus its attention and efforts.

## Background

Throughout its evolution, the Framework for Safe, Reliable, and Effective Care has been a collaborative effort between subject-matter experts at the Institute for Healthcare Improvement (IHI) and Safe & Reliable Healthcare (SRH). The components of the framework emerged as part of collective work to develop the curriculum for the IHI Patient Safety Executive Development Program, which teaches the concepts and strategies with which a patient safety officer must be familiar.<sup>1,2</sup>

Based on in-depth analyses of numerous high-performing, proactive, and generative work settings, IHI and SRH continuously refined the ideas contained within the framework and, over time, observed that it yields positive results. Every safe and reliable health care organization the team has encountered is in the process of applying most — if not all — of the framework's components. Although initially focused on the acute care setting, the framework has evolved to be more broadly applicable in any setting — in acute care, ambulatory care, home care, long-term care, and out in the community. Like any good model, the framework continues to evolve as organizations weigh in with their own experiences.

The purpose of this white paper is to explain the framework, describe each domain and its components in more detail, and offer definitions, strategies, and real-world examples to help organizations fully understand each facet and get started on the work. There are various tools and methods organizations need to have in place to support safe, reliable, and effective care, many of which are noted throughout the paper. It is not the purpose of this paper, however, to cover all of these; see the Appendix for additional information on select methods and tools.

## The Overarching Domains: Culture and the Learning System

Underpinning the framework are two essential and interrelated domains: culture and the learning system. In this context, culture is the product of individual and group values, attitudes, competencies, and behaviors that form a strong foundation on which to build a learning system.

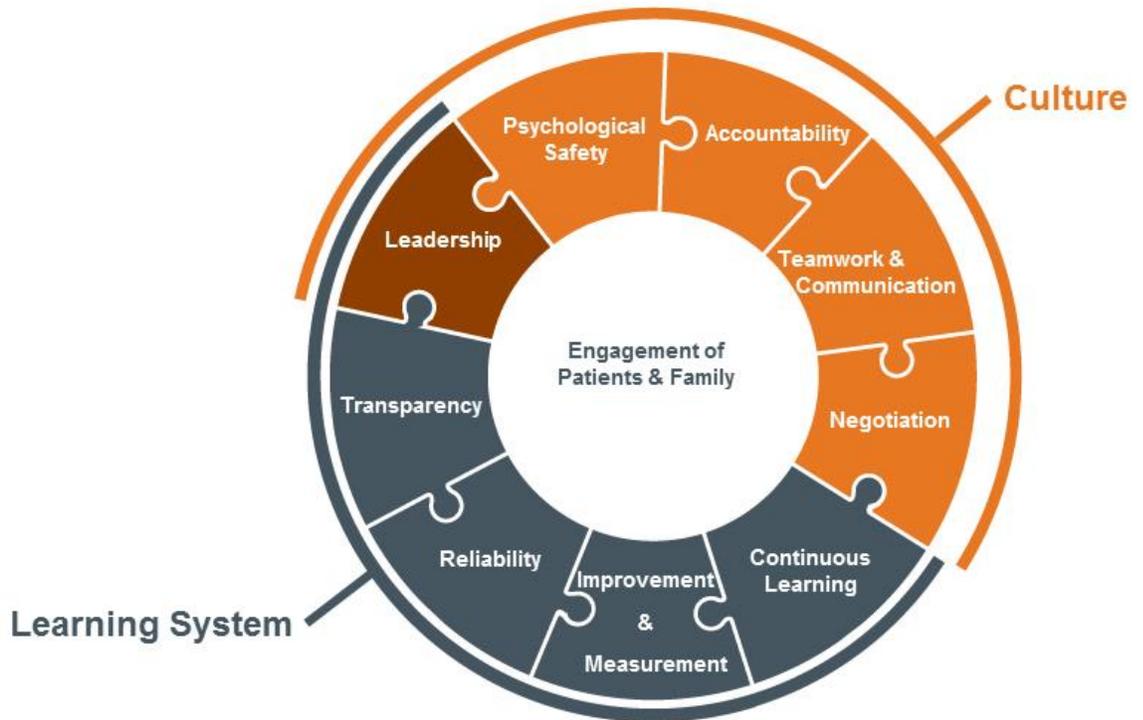
A learning system is characterized by its ability to self-reflect and identify strengths and defects, both in real time and in periodic review intervals. In health care, this entails leaders highlighting

the importance of continuous reflection to assess performance. It entails consistently performing agreed-upon team behaviors like briefings and debriefings where the self-reflection occurs. Learning systems identify defects and act on them; they reward proactivity rather than reactivity. Learning and a healthy culture reinforce one another by identifying and resolving clinical, cultural, and operational defects. By effectively applying improvement science, organizations can learn their way into many of the cultural components of the framework.

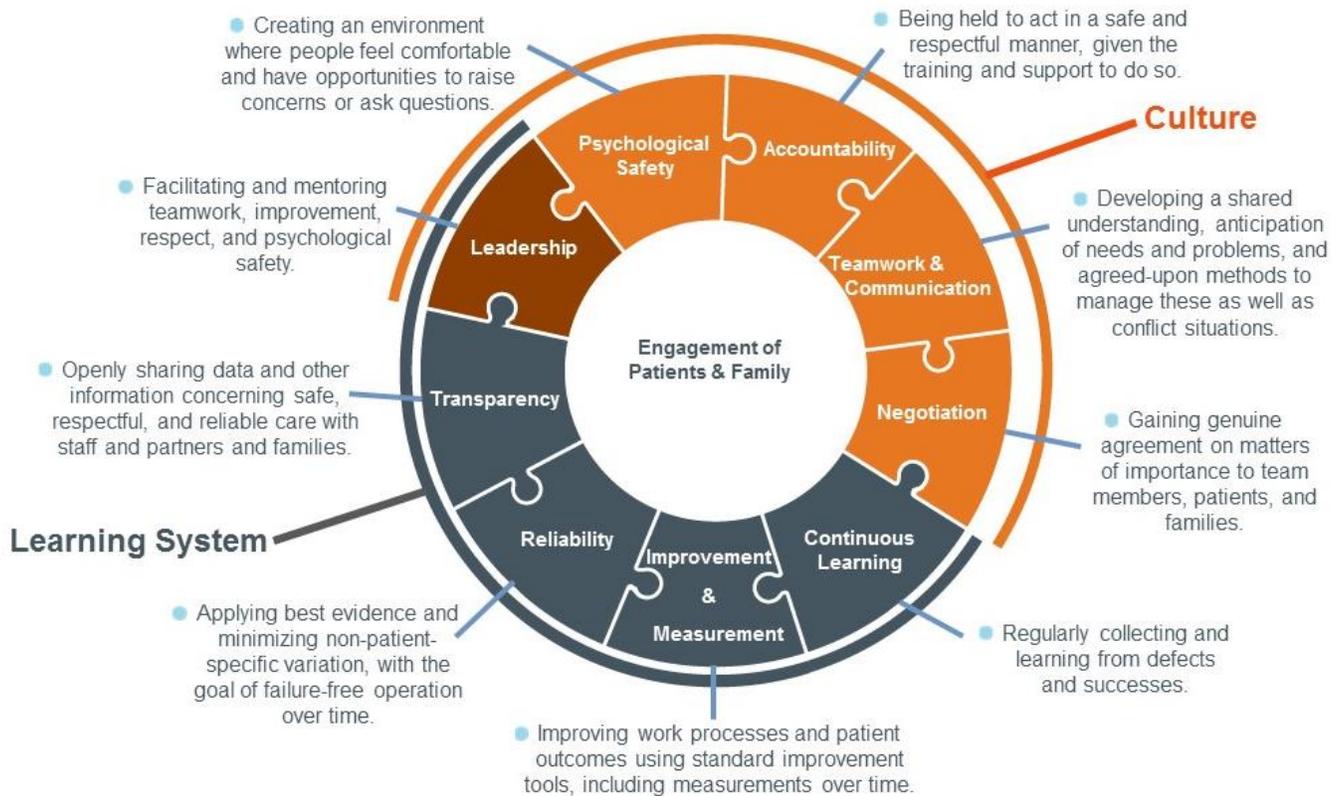
Figures 1 and 2 make it easier to understand the framework holistically. The figures depict the framework as a circular model where each component locks together with the others. This reinforces the idea that all parts are interconnected and interdependent, and success in one area is predicated on success in another. The framework helps make sense of an organization’s prior work on safety, highlighting areas of strength as well as gaps.

At the core of the framework is the engagement of patients and their families — that is, all the effort involved in executing the framework should be in the service of realizing the best outcomes for patients and families across the continuum of care.

**Figure 1. Framework for Safe, Reliable, and Effective Care**



**Figure 2. Framework for Safe, Reliable, and Effective Care — with Descriptive Detail for the Components**



Because the culture and learning system domains are both foundational to the framework, it can be difficult to know where to begin work. It is somewhat of a chicken-and-egg problem: organizations need to have the culture to be able to do the learning, and need to do the learning to change the culture. In the end, there is no perfect place to start; there is justification to pursue either domain first.

This white paper begins by first deconstructing the components of culture and then those of the learning system. However, readers should keep in mind that the two domains are synergistic, and in many cases organizations will simultaneously work on multiple components, spanning the two domains. The eventual goal is to have all the components in place and working together to form a reliable system that consistently delivers safe, reliable, and effective care to patients.

## The Components of Culture

As shown in Figure 1, the framework includes four cultural components (psychological safety, accountability, teamwork and communication, and negotiation) in addition to one shared component (leadership) that falls within both domains (culture and the learning system). Below we closely examine each of these cultural components, providing a definition and steps to implementing the ideas in daily practice.

### Leadership

The primary function of leaders in health care is to influence their “followers” to develop behaviors, habits, processes, and technologies that result in outstanding and ever-improving performance. In

the framework, leaders are not identified by position or rank; they exist at all levels and in all groups, including patients and their families. In fact, the framework is indifferent to the leadership title: it tacitly acknowledges that senior leaders develop strategy or create alignment; middle-level leaders predominantly manage; and clinical leaders focus on the clinical acumen of their staff. These different attributes are key to each specific leadership role; however, the framework indicates that there are some similar expectations of every leadership position, regardless of role.

The framework requires that all formal and informal leaders are committed to achieving safe, reliable, and effective operational excellence. Essentially, leaders have four main responsibilities:

- **Guarding the learning system:** Fully engaging in the work of self-reflection that leads to transparency; understanding and applying improvement science, reliability science, and continuous learning; and inspiring that work throughout the organization.
- **Creating psychological safety:** Making sure that anyone in the organization, including patients and families, can comfortably voice concerns, suggestions, and ideas for change.
- **Fostering trust:** Creating an environment of non-negotiable respect, ensuring that people feel their opinions are valued, and any negative or abusive behavior is swiftly addressed.
- **Ensuring value alignment:** Applying organizational values to every decision made, whether in service of safety, effectiveness, patient-centeredness, timeliness, efficiency, or equity.

When leaders consistently deliver on these responsibilities, they set the stage for a culture and learning system centered on safety and reliability.

### Moving from Concept to Reality

Strong leadership involves a series of behaviors that manifest themselves in actions. Consequently, organizations can assess and cultivate leadership by checking for, monitoring, and encouraging certain actions.

The following questions can assist organizations in evaluating the current leadership landscape and identifying opportunities for improvement:

- In what ways does the organization train people for leadership positions?
- How effectively does the organization pursue succession planning?
- How much time and energy do senior leaders and the board spend on quality and safety topics at board meetings? (The recommended amount of time is about 25 percent.<sup>3</sup>) Are safety and reliability issues prioritized in the meeting agenda?
- Do leaders have at least a tacit understanding of the framework and its components, as well as their roles as leaders?
- Are leaders committed to reviewing learning boards that document the problems people are having and what is being done to resolve them? (For more information about learning boards or white boards, see the Transparency section below.)
- Do leaders at every level set clear aims that are actionable? Does everyone know how they can contribute to the organization's overarching aim?

Culture surveys are especially valuable in that they can provide insight about leadership and the perceptions of staff. Some things to look for in culture surveys include whether staff feel that they

are coached by leaders, whether there is the perception that senior leaders' values align with stated organizational values, and whether these values are manifest in leaders' actions.

Leaders should also be accessible, listen more than they talk, and respond to concerns. Internal communications must exist in organizations that link leaders' responses to frontline provider concerns, in essence ensuring that staff feel their voices are heard. This feedback is critical because studies have shown that when leaders talk with people and respond with feedback and action, people feel their voices are heard, and engagement scores go up by 20 to 50 percent, including the scores that measure leadership effectiveness. However, when leaders listen but don't respond, or responses are not known to the frontline staff, engagement scores and perceptions of leadership effectiveness drop by 10 to 20 percent, according to 2016 SCORE results.<sup>4</sup>

## Psychological Safety

This concept originated with James Reason's book, *Managing the Risks of Organizational Accidents*,<sup>5</sup> and was popularized by Amy Edmondson in her early writings and in her book, *Teaming*.<sup>6</sup> Although thought of colloquially as "I can speak up about concerns," the specific elements of psychological safety are much more nuanced and entail the following four attributes:<sup>6</sup>

- Anyone can ask questions without looking stupid.
- Anyone can ask for feedback without looking incompetent.
- Anyone can be respectfully critical without appearing negative.
- Anyone can suggest innovative ideas without being perceived as disruptive.

Each attribute emerges in different places and times within work settings and is supported by different activities. For example, asking questions without looking stupid relates to learning in the clinical environment, whereas asking for feedback without looking incompetent is a major component of how frontline staff relate to the person they report to.

Unfortunately, many common social settings, even in our schools or with family and friends, reinforce the opposite of psychological safety and don't support the value of asking questions, seeking feedback, or suggesting innovations. An environment of psychological safety breaks the cycle; such activities are not only welcomed but expected.

## Moving from Concept to Reality

Achieving psychological safety requires a flat hierarchy and a solid learning system that create an environment in which people can comfortably make suggestions, even somewhat outlandish ideas that might not fit at the time, but that others can mold to be useful. Leaders, in a coaching role, must be role models for applying learning judiciously and judgment sparingly, and admitting to their own failures and mistakes. These types of coaching and feedback are the primary mechanisms for achieving psychological safety. Regular one-on-one meetings with staff offer a prime setting for this work. Managers should meet individually with the people who report to them — at least 10 minutes per month — and ask pointed questions, such as the following:

- What's working well?
- What's not working well that makes it difficult to do the job?
- How am I doing in managing the environment?

- Who are the people that we should be highlighting for excellent work?
- What improvement suggestions do you have?

As mentioned before, responding to feedback is key. Staff members need to see that their concerns and comments are being heard and addressed.

In addition to individual meetings, leaders should conduct huddles — brief meetings where groups come together to quickly share information, and people are encouraged to speak up. Before the first huddle, a leader may want to ask specific people to bring up issues so other team members can see that it is okay to suggest ideas and provide constructive criticism. Once team members realize that feedback and input are welcome, it will become more natural.

To lay the groundwork for psychological safety, organizations need to clearly convey to all staff and leaders that it is an expectation. Everyone must create and support psychological safety as part of their job. Frontline staff may not realize they should expect this, and thus do not watch for these supportive behaviors in their leaders and colleagues.

## Accountability

This framework component underscores the importance of holding people to account for their actions, but not for flaws in processes or systems. Each individual is accountable to others for acting in ways that embody organizational values, and each individual is accountable as a team member to be committed, self-managing, competent, and courageous.<sup>7</sup> In return, the organization is accountable for treating individuals fairly and justly “when things go wrong.”<sup>8</sup>

The concept of a fair and just culture requires a simple and precise algorithm that fosters an environment in which staff members accept responsibility for their own actions, but know the organization will treat them fairly and not blame them for something out of their control. The algorithm, and the policies and practices that manifest it, must be practiced regularly so they are applied accurately when needed. This entails periodic application through simulation and regular discussions about the concepts in staff meetings.

The literature presents a few different accountability algorithms; the best known are the Just Culture Algorithm based on the work of David Marx<sup>9</sup> and the Incident Decision Tree by James Reason.<sup>5</sup> The algorithm we present here takes into account aspects of both models.<sup>10</sup>

When something goes wrong and a patient is harmed, evaluate the involved staff member’s actions using the following algorithm:

- *Were their actions malicious? Did they intend to cause harm?*
  - Yes — This points to potential criminal activity, and the organization’s response should proceed accordingly.
  - No — The evaluation should move to the next question.
- *Was their sensorium intact? Were they thinking clearly?*

Clear thinking is commonly adversely affected by health issues, severe social stressors such as divorce or a sick child, drugs (legal or illegal), or alcohol abuse.

- No — The organization should engage the employee assistance program or pursue discipline as needed.
- Yes — The evaluation should move to the next question.

- *Were their actions reasonable and appropriate?*

At this point, organizations should use Reason's Substitution Test to guide the answer, asking if it is likely that three other people in a similar situation with similar skills would do the same thing. If the answer is yes, chances are it's a system problem.

Note, however, that this isn't always the case; there are times when entire groups deviate from safe and reasonable behavior. As one example, an analysis of a post-delivery opioid overdose in a new mother found that a hospital maternity service of 30 obstetricians and 300 RNs came to agree that a reasonable standing order for post-C-section pain was 2 mg morphine, repeated as needed up to 30 mg morphine — an extremely high dose to administer. Using this standing order, patients received an average dose of 17 mg morphine. (One modification to the standing order — that the RNs discuss pain medication with the attending doctors once 10 mg morphine had been administered — decreased the average morphine dose to 11 mg.)

When groups collectively deviate, the organization must ask the entire group to reflect on their behaviors and then recalibrate. If someone was hurt as a result of the group's behavior, the individuals involved are still accountable for their decisions and the organization must deftly manage the balance between accountability and psychological safety. Regrettably, outside influences, such as malpractice law, sway the response toward accountability. Organizational leaders need to continually reflect on their values as they navigate these complex events.

- *Were their actions risky, reckless, or unintentional?*

If the action was unintentional, then, in all likelihood, there's a system issue at play. If it was risky, then that points to possible judgment issues. Usually, education or group discussion, in which participants agree on standards, can help. If the behavior is reckless, meaning the person willingly took unnecessary risks, then he or she is culpable for the behavior and should be held accountable.

- *Does the individual have a history of unsafe behavior?*

If an individual has been involved in multiple adverse events, then it's entirely possible that the individual is not fit for the position he or she holds. In these situations, it is reasonable for managers to evaluate the individual's ability to perform his or her role; possible outcomes might include reassignment or termination.

## **Moving from Concept to Reality**

Whether an organization chooses to use the algorithm discussed above or another accountability algorithm, policies and practices that reflect the algorithm need to be implemented and shared with everyone in the organization, setting the shared expectation that the algorithm must be followed when adverse events occur.

The organization should engage all staff in regular simulations, evaluating cases when things go wrong, to help staff practice the desired behavior so it is applied accurately when needed and becomes the norm. At least twice per year, convene middle managers to review an example case together, whether real or simulated, using the algorithm. After this simulation, middle managers should then

review the case in their monthly meetings with frontline staff. In doing so, organizations can ensure that only one set of rules is used throughout the organization and applied to all equally.

## Teamwork and Communication

Effective groups develop norms of conduct that lead to shared understanding, that anticipate needs and problems, and that use agreed-upon methods to manage situations — including those that involve conflict. Groups that do this well reflect a high degree of teamwork and robust communication.

Hallmarks of a strong team include working together to plan forward, reflect back, communicate clearly, and manage risk. This applies to all types of teams, whether a surgical team in the operating room or a group of community nurses who work for the same home care agency.

- **Plan forward:** Take time — even briefly, for example, in a safety briefing or a surgical timeout — to outline next steps, talk about potential risks, and agree on a path that best manages risk, safety, and efficiency.
- **Reflect back:** Use team debriefs to “reflect back” and evaluate what went well and what didn’t go well, in order to identify potential areas for improvement. Truly robust teams evaluate not just the clinical and operational activities, but also the cultural ones. Did the group cohere well as a team? Did everyone know the plan? Was psychological safety assured?
- **Communicate clearly:** High-functioning teams use structured communication in which they consistently, succinctly, and respectfully share critical information. A prime example is SBAR<sup>11,12</sup> (Situation, Background, Assessment, Recommendation), which team members can employ to rapidly communicate a comprehensive set of facts based on which team members can make decisions. Read back/call back<sup>12</sup> is another structured communication tool to reconcile the transmission and reception of information, in which the person hearing the message reads back what he or she heard to prevent miscommunication and encourage accuracy.
- **Manage risk:** In some critical moments, teams may use a designated word or phrase that indicates there is perceived risk, and which gives the team permission to stop what they’re doing and take stock of the situation. Perhaps the team is not following the agreed-upon plan, or the dynamics of the situation have changed. This might occur when a team member no longer understands what the group is doing relative to the plan, or the team member perceives increased risk.

For example, when the general surgeon performing a difficult laparoscopic cholecystectomy has spent 30 minutes ineffectively trying to identify the common bile duct amidst the scar tissue surrounding the gall bladder, and frustration is evident, an experienced circulating nurse or anesthesiologist might suggest that another set of experienced eyes on the problem may be helpful. In most operating rooms today, this would be perceived as intrusive and an affront to the surgeon’s skill. The reality is that everyone is at risk for task fixation and can benefit from the many perspectives of a multidisciplinary team.

In a culture that espouses teamwork and communication in the pursuit of safe, reliable, and effective care, team members explicitly give permission to hold each other accountable across a flat hierarchy. During each team interaction, team members know the plan and there is a dynamic that supports psychological safety. Teams agree on norms of conduct, and team members are reminded of them when necessary.

According to Kelley,<sup>7</sup> achieving these ambitious yet necessary goals requires team members to be committed, competent, self-managing, and courageous. This enables them to plan forward, reflect back, communicate clearly, and manage risk.

## Moving from Concept to Reality

In most cases, teams act their way into embodying the aforementioned characteristics only after regular practice. To gauge where a team is on the continuum, senior leaders should periodically enter a work setting and ask and receive answers to the following questions:

- How do you brief as a team? What's the process for ensuring that everyone on the team knows the plan?
- When do you brief? How do you manage the team's work with team members coming on shift at different hours?
- How do you debrief? What activities do you do to debrief and identify what has worked and what hasn't? When does this occur?

Organizations need to set the expectation that middle managers are responsible for establishing these norms of conduct and team behaviors, adapting them to meet the nuances of their work settings, so that the norms and behaviors are perceived by team members as constructive supports to their work. If a manager is unable or unwilling to take on this responsibility, then he or she is unlikely to be effective in this management role.

## Negotiation and Conflict Management

Given the level of complexity in health care and the need to make decisions among groups of smart and passionate people who have different points of view, organizations must find ways to successfully manage conflict and negotiate in pursuit of gaining genuine agreement on matters of importance.

According to Kenneth Thomas, there are five kinds of negotiation that occur among individuals and groups:<sup>13</sup>

- **Avoidance:** One party avoids interaction altogether, usually leaving loose threads and unclear pathways and opening up opportunities for further disagreements and problems.
- **Accommodation:** One party acquiesces to the other to avoid conflict.
- **Competition:** Both parties strive to be the “winner,” such as when buying a car or some other product in which haggling comes into play. The end result is a perception that one side wins while the other side loses.
- **Compromise:** Both parties “lose” a little bit, with each party giving up something to reach an agreement.
- **Collaboration:** Both parties work together to find a mutually agreeable solution so as to maintain the ongoing relationship and achieve win-win results. Collaborative negotiation also incorporates the idea of innovative thinking that leads to finding new opportunities that benefit both parties.

Health care teams should commit to using collaborative negotiation whenever possible. This is the only negotiation approach that yields workable solutions that manage resources, provide the best options for patients, and preserve the relationships between parties.

The hallmarks of collaborative negotiation are appreciative inquiry and self-reflection, which allow negotiators to tease out the underlying reasons behind participants' positions. Appreciative inquiry involves asking simple questions to gain greater insight into the other person's needs and interests. Self-reflection occurs when each participant works to understand the desires they bring to the table. During negotiations, both parties should work to acknowledge their own emotions and keep them in check; as participants become frustrated or angry, for example, they are less capable of distinguishing positions from interests, and less able to effectively participate in collaborative negotiations.

Throughout a negotiation, individuals should try to be aware of when their mental state is holding them back from the negotiation process. This may require the individual to step away — which may necessitate briefly looking away, taking a couple of breaths, or actually making the statement, “I think we should take a break.”

Although challenging, the benefits of collaborative negotiation are worth the effort. By simultaneously engaging in appreciative inquiry and self-reflection, participants are more likely to come up with ideas that meet both parties' needs and identify aspects of a problem that hadn't been considered initially. This can result in inventive solutions that lead to resolving problems in everyone's best interests.

### **Moving from Concept to Reality**

Negotiation is a skill that requires training and must be regularly practiced with an intentional focus on the concepts. Otherwise, participants in disagreements are far more likely to succumb to less effective or satisfactory interactions. Organizations should consider building ongoing awareness of collaborative negotiation and its various components as part of briefings and timeouts. Courageous team members will embrace this idea, and the presence of psychological safety lays the groundwork for such negotiation to occur.

## **The Components of the Learning System**

Like the culture domain, the learning system domain has four components (transparency, reliability, improvement and measurement, and continuous learning), in addition to the shared component of leadership. Below is a discussion of each of these components, along with steps to realizing them within daily practice.

### **Leadership**

As with the culture domain, leaders play a critical role in supporting a robust learning system. They serve as guardians of the learning system, meaning they must fully understand, encourage, and apply the concepts of improvement, reliability, and continuous learning. Through regular self-reflection, they encourage transparency at every level and inspire learning in their areas of responsibility and throughout the organization.

## Transparency

On the whole, operational transparency exists when leaders, staff, patients and their families, organizations, and the community are able to visibly see the activities involved in the learning process. In transparent organizations, it is clear how the entities make decisions and track performance, and they have the courage to display their work openly.

When used to describe the interplay among people, groups, and communities, transparency implies openness, communication, and accountability. This manifests differently depending on the context, but always in pursuit of operational transparency:<sup>14</sup>

- **Transparency among clinicians** exists when there is no fear of giving suggestions, pointing out problems, or providing feedback.
- **Transparency with patients**, specifically after an adverse event, involves clearly describing what happened and what is being done to prevent it from happening again.
- **Transparency among organizations** includes sharing good practices and applying lessons learned.
- **Transparency with the community** requires robust information sharing so that patients can make informed decisions and easily access the care they need.

Learning boards — digital or analog white boards used to visually display key processes, measures, and improvement tests at the unit level — are essential in promoting operational transparency because they offer a way for people to observe the learning process in action. Learning boards direct staff to specific processes or activities that will help achieve not only operational success, but also improvements in learning. They also inform the team about who is responsible for different parts of a task. Frontline teams must have the expertise to interact with the boards, so they can understand which parts of a process are working reliably and which are not. Organizations and managers must learn how to configure information on these boards so that they are of interest to frontline providers.

How a learning board might work may be best understood if applied to a real example, such as working to decrease surgical site infection by improving the reliability of perioperative practices. A learning board highlights some key steps — and the measures of those steps — that are known to influence surgical infection: ensuring that antibiotics are administered appropriately and on time as required; ensuring that patients are normothermic when they arrive in the recovery room; and ensuring that patients' blood glucose levels are appropriately managed intraoperatively. Each day, anesthesiologists, surgeons, and nurses must get the right antibiotics to the right patients at the right time, keep patients warm, and monitor and manage blood glucose levels in diabetic patients. A robust learning board shows how successful these processes are, and have been, over time. A robust learning board also displays the improvements tested in the operating room, telling a visual and easily understood story that links the tests to the measures, generating insights into which actions influenced the measures. The board should also link the performance of each process to the overarching aims — in this case, linking antibiotic administration, intraoperative normothermia, and glucose management to the perioperative services surgical site infection rate.

Another example of how learning boards might be used in a community setting is in highlighting the effort to reduce unnecessary hospital readmissions after discharge. This is a problem with complex underpinnings; however, some very real and essential determinants of readmission in many communities include whether patients have access to a local pharmacy, have the money to

obtain the appropriate medications, and then take those medications as directed. Other factors are specific to diagnoses — for example, whether patients with heart failure weigh themselves every day. Measures of how effectively caseworkers and community health personnel evaluate and manage these factors can populate learning boards to inform clinical groups of the effectiveness of support being given to particularly vulnerable patient subgroups.

## Moving from Concept to Reality

The use of learning boards should be an integral part of daily work. Leaders must set expectations that managers will create learning boards to highlight and communicate about the ongoing activities and work in their areas. To this end, organizations must train managers on how to create, use, and respond to the boards.

Senior leaders need to routinely visit work settings to discuss the learning system components of the framework at the learning boards. During these visits, frontline providers and managers have the opportunity to describe the learning board, including the overarching aims, the tests of changes to achieve those aims, and measures of current performance. Senior leaders, through coaching in these sessions, can also highlight the importance of self-reflection and the desire to identify defects and make them visible.

## Reliability

Reliability is the ability of a system to successfully produce a product to specification repeatedly. In the case of health care, that product is safe, efficient, person-centered care. The challenge in achieving reliability in health care is the complexity of the processes, which heavily depend on human beings and their interactions with each other. Vigilance and exhortation are inadequate to counter human foibles, and sometimes good people err and the consequences can be dire. Great organizations design systems that take advantage of people's intrinsic strengths and support their inherent weaknesses, and in doing so increase the likelihood of reliable performance. Mediocre organizations, by comparison, assume that vigilance and intrinsic strengths overcome human fallibility and inherent personal and organizational weaknesses.

To achieve high levels of reliability across processes and systems, organizations must apply best evidence and minimize non-patient-specific variation, with the goal of failure-free operation over time. This is the science of reliability.

There are four foundational principles for making systems and processes more reliable:<sup>15</sup>

- **Standardize:** This involves designing processes so that people do the same thing the same way every time. Standardization makes it easier to train people on the processes, and it becomes more apparent if the processes fail and where they fail, enabling the organization to better target improvements.
- **Simplify:** The more complex something is, the less likely it is to be successful because there are more opportunities for mistakes, and staff may avoid following processes that are too difficult or time consuming. Simplified processes, however, make it easy for people to do the right thing.
- **Reduce autonomy:** Health care professionals have historically been autonomous, making decisions based on personal preference or an individualized belief in their perspective. However, this can result in care variation and less consistent outcomes. To achieve greater reliability, organizations must set the expectation that care delivery follows evidence-based best practices, unless contraindicated for specific patients.

- **Highlight deviation from practice:** Clinicians sometimes have good reasons for departing from standardized processes. Smart health care organizations create environments in which clinicians can apply their expertise intelligently and deviate from protocols when necessary, but also relentlessly capture the deviations for analysis. Once analyzed, the new insights can lead to educating clinicians or altering the protocol. Both result in greater reliability.

When contraindications exist, health care professionals need to document the reasons why departing from standard care practice is warranted, so that the organization can learn and determine whether the process should be modified. For example, for patients on a ventilator, there is evidence that the head of the bed should be elevated between 30 and 45 degrees.<sup>16</sup> For most patients, this is the right thing to do. However, there are some individuals who, because of their medical situation or characteristics specific to them, will not benefit from an elevated head of the bed. In these cases it is okay to depart from best practice, provided the patient's treatment team has duly considered the evidence-based care and documented the reasons why they're choosing to follow another method.

For most clinical conditions and situations, there is evidence-based care that patients should receive every time, unless contraindicated. When evidence does not dictate a particular care path, clinicians need to work together to identify the simplest and most reliable path and agree to abide by the group's decisions. In so doing, they simplify the care pathway, enabling organizations to be more efficient and making care more reliable. As new evidence develops, care pathways must be reviewed periodically to ensure that the agreed-upon care practices remain relevant.

## Moving from Concept to Reality

Reliability does not happen by accident; it has to be planned. This entails applying reliability principles — methods of evaluating, calculating, and improving the overall reliability of a complex system — to each process or system that needs to be improved.

To get started, teams can use high-level flowcharts to visualize the current process or system. Next, target one segment or subset of the patient population and work to improve the reliability of care for this group. Once reliable care can be delivered consistently for this population, then populations with greater complexity can be addressed.

Organizations should strive for the highest level of reliability possible for each process. In some circumstances, 100 percent is necessary — for example, preventing wrong-site surgery and correct administration of blood. However, in certain situations which we refer to as non-catastrophic processes (that is, the patient will not experience harm within the next few hours), 95 percent reliability is perfectly acceptable because reaching that last 5 percent necessitates a big investment in time and resources, and the cost-benefit is not feasible. In such cases, ensure that other processes are in place to identify and correct these defects.

As work progresses, the team should continuously monitor the process, checking if it yields the expected outcomes. At this point, the team needs to make sure that the reliability extends to all aspects of the process — not just whether the process occurs reliably, but also whether the desired outcomes are in line with goals. If the process is not generating the desired outcomes or performance begins to slip over time, then the team needs to revisit the process and identify and address any root causes.

Consider the transfer of patients from an emergency department (ED) to an inpatient setting. The ED may do a great job evaluating the patient and identifying that he or she needs to be admitted to the hospital. The staff on the unit might do an equally great job of caring for the patient once he or she is admitted. However, if the transfer time is prolonged and the patient languishes in a hallway for hours without delineation of whether the ED or the unit is responsible for his or her care, then the system is not as reliable as it should be.

Just as reliability must be planned, it also has to be encouraged and nurtured. Leadership needs to be supportive in giving staff the time, space, and training to apply improvement methods and tools to build reliable processes. Providing more clinical training and education, or asking staff to work harder or be more vigilant without also creating the environment that makes this feasible, won't lead to improved results. Staff also need to build improvement capability and skills, and get coaching on applying these skills in their daily work to deliver safer, more reliable care. Leaders must also ensure there is psychological safety, so staff feel comfortable offering ideas about making processes more reliable.

Consider the example of a hospital where a staff member suggests during a leadership team huddle that medication reconciliation is not at a high level of reliability because the current process is not successful for all patients. When people arrive in the emergency department, for instance, doctors and nurses are busy and may begin treatment before they have a complete medication list. By contrast, patients scheduled for elective surgery almost always have a complete list. In the elective surgery setting, the care team has time to discuss the medications with the patient prior to the procedure and there is a back-up plan that involves the anesthesiologist reviewing the patient's medication list just before surgery. If the list is not complete or available, the anesthesiologist and preoperative nurses take action to remedy this. In the ED, there is little time to employ a back-up plan.

The team analyzes the two situations and determines that the process for patients scheduled for elective surgery does not work for ED patients; however, some aspects of the preoperative evaluation are amenable to testing in the ED. A back-up plan is put into place for staff to review the patient's medication list on the inpatient unit, utilizing some of the techniques applied by anesthesiologists in the elective surgery environment. Reliability is improved, made possible by the psychological safety that allows a team member to speak up, and because there is opportunity to reflect on current activities and spread a best practice.

Similarly, consider the example in which, during leadership rounds, staff members report that they are having difficulty ensuring that all eligible patients receive their pneumococcal pneumonia vaccine before discharge. The leader asks what processes are in place. Staff members respond that they have tested and implemented a standardized process where, on the day before discharge, all patients are assessed to determine if they meet criteria for the vaccine. The medical staff has agreed to a standard protocol for nurses to administer the vaccine if a patient meets criteria. According to the standardized process, this responsibility falls to the nurse caring for the patient on the day before discharge. However, due to staffing changes, early discharge, or lack of available vaccine on the ward, sometimes patients are sent home without receiving the vaccine.

The leader asks the staff for suggestions about how to improve the process. Since the initial process was standardized and works well about 80 percent of the time, the staff suggest implementing a back-up plan to identify all eligible patients who don't receive the vaccine prior to discharge. They suggest that, as part of post-discharge communication, the nurse who reaches out to the patient asks if he or she received the vaccine. If the patient answers "yes," then the matter is closed. If the patient answers "no" or "I don't know," the nurse notifies the patient that the nurse will contact the primary care provider to inform the practice that the patient will need the vaccine.

## Improvement and Measurement

This component of the framework deals with enhancing work processes and patient outcomes using standard improvement tools, including measurement over time. It involves leveraging improvement science to develop, test, implement, and spread changes that result in better outcomes.

Note that improvement doesn't always mean there is a defect; it could just mean there's a better way to do something. Sometimes improvements are initiated in response to clinical, cultural, and operational defects, such as an increase in infections or poor patient and staff engagement. Increasingly, however, improvement projects are focusing on preventing problems before they arise by deeply understanding the processes of care and operations.

Before starting an improvement project, organizations have to first understand the system they are trying to improve. There are many tools that can make the steps in the process or system visible — visual process maps or flowcharts, for example. Combining learning from flowcharts, user experience, and data, it is possible to “see” where defects are occurring and identify opportunities to improve the process.

### Model for Improvement

Once defects are identified, a systematic improvement approach like the Model for Improvement<sup>17</sup> enables teams to redesign processes and achieve outcomes that matter to patients, families, and staff.

The Model for Improvement combines a systematic methodology with subject-matter knowledge to create the desired improvements. The Model is made up of three questions and a Plan-Do-Study-Act (PDSA) cycle for testing changes to assess whether or not they lead to improvement.

#### Question 1: What are we trying to accomplish? (Aim)

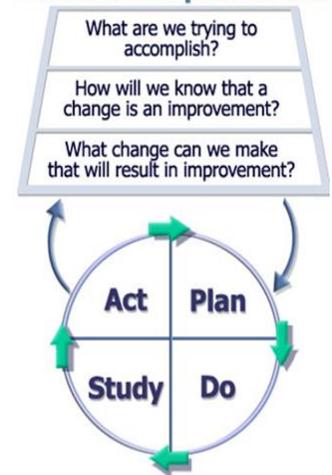
Answering this question gives the improvement team a clear vision for the project. The best aim statements specify how much improvement is expected and by what date — for example, “We will reduce patient falls in the skilled nursing unit by 25 percent in the next six months,” or “We will reduce the rate of blood clots in patients with atrial fibrillation by 20 percent in the next 12 months,” or “We will reduce the incidence of pneumococcal pneumonia in patients over age 65 by 30 percent in the next 16 months.” An aim statement that is clear, concise, measurable, and time-bounded helps everyone understand the goals of the work and the timeframe in which it will be accomplished.

#### Question 2: How will we know that a change is an improvement? (Measures)

This is the measurement component of the Model for Improvement. At first, a team might want to pursue rather simple measurements, asking questions like, “Did the change we implemented get the results we wanted — yes or no?” or “Was it easy to do — yes or no?”

As improvement work expands, measurement becomes more complex. At this time, organizations want to look at process measures — the steps taken to achieve an outcome. Ultimately, health care

### Model for Improvement



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organizations are seeking to make improvements in outcomes. An outcome won't improve, however, without improving the process that drives it. Once an organization has a reliable process, it then can check to see if the process is capable of producing the desired outcome – the actual results.

Organizations also need to collect and review balancing measures. These measures reveal whether improvements to one part of the system have had an unintended negative impact on other parts of the system. See Table 1 for examples of these three types of measures.

**Table 1. Example Process, Outcome, and Balancing Measures**

Process Measure	Outcome Measure	Balancing Measure
Percent of patients assessed for risk of developing a blood clot	Percent of patients with blood clots	Percent of patients who experienced bleeding due to aggressive use of anti-clotting medication
Percent of patients who received pneumococcal pneumonia vaccine	Incidence of pneumococcal pneumonia	Percent of patients receiving the pneumococcal pneumonia vaccine who experienced an allergic reaction to the vaccine

Measures data is displayed over time on either run charts or statistical process control (SPC) charts, enabling the team to see if changes they are testing result in the desired effect. These charts also enable the team to distinguish between special and common cause variation in the process being improved.

**Question 3: What change can we make that will result in improvement? (Change Ideas)**

This part of the Model for Improvement is about generating change ideas for testing. Ideas for testing can come from anywhere. In fact, the best sources are the people who are involved in the process to be improved, as well as the patients for whom the process is designed. Adapting ideas for testing from other organizations or industries can also be a creative and useful method to expand team thinking. Standard change concepts, such as those offered in *The Improvement Guide*,<sup>17</sup> are often extremely useful when identifying and implementing changes.

**Testing Changes: Plan-Do-Study-Act (PDSA) Cycle**

Once the Model for Improvement's three questions are answered, there is clarity around the planned improvement and testing can begin. Using the change ideas generated from Question 3, the team begins testing those changes using PDSA:

- **Plan:** Plan the test or observation, including a plan for collecting data.
- **Do:** Try out the test of change on a small scale.
- **Study:** Set aside time to analyze the data and study the results.
- **Act:** Refine the change, based on what was learned from the test.

PDSA cycles of testing are iterative: each new testing cycle builds on what was learned in the previous one. Testing begins on a small scale and is repeated until the desired results are achieved, and then testing spreads to a larger and larger group until the new process is implemented everywhere that patients will benefit from its use.

The team charged with making the improvements does the testing. As such, it is vitally important that this team includes clinicians and staff who use the process to be improved; they are the subject-matter experts. They should be frequently coached by quality improvement personnel who are experts in improvement science. Bringing these two groups together is more likely to ensure a successful project.

For example, for an improvement team focused on preventing blood clots in patients, let's explore change ideas the team might test using PDSA cycles. First, the team needs a process to identify patients who are at risk and then treat them with anticoagulation medication and other modalities, such as compression stockings. The team discusses how they might identify high-risk patients and decides to develop and then test a patient checklist designed for that purpose. The subject-matter experts contribute information about the specific risk factors to be included on the checklist. The clinicians and staff who work in the particular area know the workflow. Even if the technical information on the checklist is correct, the team does not yet know if the checklist is usable by staff or effective at preventing blood clots in at-risk patients, so testing is required.

The team starts asking questions:

- Does the checklist present the information in a logical and readable format?
- How long will it take to complete the checklist?
- Who will administer the checklist?
- Where will they administer it?

These and many other questions will require iterative tests of change using PDSA cycles to develop a successful process for identifying patients at risk for developing a blood clot. Once the team determines answers to these questions, it uses the same steps to develop the process for ensuring that high-risk patients get the preventive treatment they need.

The team can only improve the process if they have information, and that information can only be gained by testing and measuring. So, if the team tests changes daily, it can learn and improve daily until the process reaches a point where it runs smoothly within the time allocated, and high-risk patients are identified reliably in the pilot area. The improvement is then spread or scaled up to all areas where patients may benefit.

## **Moving from Concept to Reality**

All staff in the organization should have knowledge of how to use a systematic improvement approach, such as the Model for Improvement, Lean, or Six Sigma.<sup>18</sup> Some organizations create their own system-specific model as a compilation of different improvement methods. Since there are many improvement models and tools from which to choose, create clarity for staff by simplifying the selected approach and terminology to develop a shared model and language of improvement across the organization.

Regardless of the specific model used, leaders and managers need a sufficient depth of understanding of the model to drive improvement throughout the organization, as well as use it in improving their own work. They must be able to provide coaching and ask appropriate questions of staff and managers around the learning board. They also have to be able to interpret data on run charts and control charts, and to distinguish between special and common cause variation.

Managers need a deeper knowledge of improvement methods to coach and help frontline staff with improvement challenges. They also have to know how to collect, display, and analyze data in the form of run charts and control charts.

Frontline staff must know how to run small tests of change, apply improvement methodology, track data for key measures, and interpret data displayed on run or control charts to gauge performance and the effect of their improvement efforts.

Improvement Advisors (IAs), individuals within an organization who have advanced training in improvement and measurement, need the most in-depth knowledge, so they can offer advice and coach staff throughout the organization. IAs don't lead or implement the actual improvement work; this is the frontline team's responsibility, since they know the process best and improvement needs to be part of their daily work. Improvement Advisors provide valuable knowledge and guidance for creating effective and reliable measurement systems (i.e., defining measures and developing methods for data capture and display), a critical component of improvement.

Overall, there must be an expectation that the organization will use a chosen improvement methodology and collect data over time, displaying it on run charts and control charts. Decisions based on data reflect a deeper understanding of improvement.

## Continuous Learning

Continuous learning entails the proactive and real-time identification and prevention of defects and harm. Some argue that health care needs to broaden the definition of harm to include, for example, harm caused by health inequities and lack of respect, in addition to harm resulting from medical errors and adverse events.<sup>19,20</sup>

Increasingly, more time and focus are being placed on proactive rather than reactive learning. Learning organizations are becoming obsessed with searching for ever better ways of working toward and achieving results that improve the lives of patients, families, and staff.

An enormous amount of data and information is continuously generated at every level of the health care system — in hospitals, outpatient practices, home health agencies, and other care settings. Unfortunately, this data is often not converted to information that is shared with practitioners in a useful format or in a timely manner so that it can be acted upon to improve care. Currently, practitioner-generated data — from self-reported incident systems, leadership walkrounds, learning boards, and care team huddles and briefings — are fed into reports that meet legal and regulatory requirements, but are often underutilized to effect real change and improvement at the point of care.

Continuous learning requires feedback loops to provide data back into the various reporting systems to share information and generate insights to prompt action and learning.

## Moving from Concept to Reality

In organizations with robust learning systems, data becomes grist for the learning process. A continuous learning organization exhibits several characteristics:

- Both clinical and operational data of importance to patients, families, and staff are shared widely and transparently, as are the associated action plans and timeframes. Examples of clinical data include infection rates, hand hygiene rates, and rates of falls with harm. Operational data might include waiting times.

- Learning generated by defects, and also by successes and improvements, is broadly shared.
- Data generated from near misses, when staff intercept potentially harmful events, are viewed as valuable learning opportunities, and are shared to improve the culture of safety by demonstrating transparency and psychological safety.
- The search for possible solutions to current and potential problems extends far beyond the confines of the organization itself, seeking to learn from other organizations or industries.
- Time and resources are dedicated to learn from both what is working and what is failing.
- Learning occurs between staff, between operational units within an organization, and between organizations.
- Feedback loops are timely and actionable. The organization examines the aggregate effort of the various data reporting systems, and makes decisions about the relative importance of the information.
- There is a commitment to proactively identify problems using huddles, learning boards, and structured communication.
- Patients and families are active team members in their own care, as well as in developing deeper system-wide learning about what it means to be part of the health care community.

To nurture a robust learning system, organizations must embed operational excellence into everyday work and operations, not treat it as a standalone improvement project. Continuous learning and improvement is part of the culture — always seeking opportunities to deliver safer, more reliable, and effective care based on new science, new approaches, or new medicine.

## Engaging Patients and Families

Engagement of patients and families resides at the core of the framework — that is, all the effort involved in executing the framework should be in the service of engaging patients and families, and realizing the best outcomes for them across the continuum of care.

In safe and reliable organizations, patients and families are as much members of the care team as clinicians and other health care staff. Thus, the framework has direct and significant implications for them. Below we describe ways in which patient and family engagement dovetails with the framework's culture and learning system domains.

### Leadership and Accountability

For each care episode, patients and the rest of the health care team need to agree on a set of goals and clearly define roles and accountability for what it takes to achieve those goals. Clinical team members advise on the clinical components, and patients give their perspectives until there is agreement on what constitutes a reasonable goal. When people are in accord and feel accountable, there is a higher likelihood of success. For example, for an individual with chronic pain, the person and the treatment team may determine that being 100 percent pain-free is not a reasonable outcome, whereas reducing the pain to a sustainably tolerable amount is an achievable goal. With all team members pursuing the same goals and having the same expectations, it is easier to reach targets and recognize success.

## Psychological Safety

Patients should feel psychologically safe to share their concerns with the clinical team. Opinions, ideas, questions, and concerns expressed by patients are received openly and without judgment. The response of the clinical team, beginning with the first clinical interaction, sets the tone for the ongoing relationship.

Patients should also be encouraged to be transparent about their clinical signs and symptoms and treatment adherence. This information enables clinicians to provide appropriate and adequate treatment. Without psychological safety, a patient might be tempted to hold back for fear of being shamed. For example, if a patient feels the doctor will be angry or disappointed if he or she does not completely follow a medication regimen, then the patient may not be totally honest about whether they are taking medications as indicated and, if not, why. However, if a physician encourages the patient to share complete information and does not react negatively, it fosters more comprehensive and accurate information exchange.

## Negotiation

As with negotiation between clinicians, the health care team should engage in collaborative negotiation with patients and families. To help the care team determine if the patient has the will to make changes, this involves a shift from asking, “What is the matter with you?” to asking, “What matters to you?”<sup>21</sup> A key aspect of successfully achieving health goals is knowing the patient’s and family’s priorities, as well as their worries and desired outcomes. For instance, an elderly patient who takes care of her grandchildren on a daily basis may refuse to take her hypertension medicine because it makes her dizzy, lessening her ability to provide care. Knowing this information, the care team can then identify a solution that preserves her health and also meets her goals.

## Transparency

Transparency with patients and families is important because it removes the stigma of clinical team infallibility. When serious clinical adverse events occur, transparency is especially important; the risks of the health care organization not responding to such events in a timely and effective manner include loss of trust, absence of healing, and no learning from improvement.<sup>22</sup>

As individuals understand that the health care organization is trying to improve processes to enhance safety and reliability, patients will recognize the need for their engagement in the system. For example, if physicians are transparent about not always following up to communicate test results or make referrals, then patients might be more activated to take responsibility for directly obtaining their test results when patient portals are available to them, and to otherwise close gaps when they occur. This is not to suggest that organizations should rely on patients to follow up, but that transparency about potential gaps can serve as a component of a reliable process.

## Reliability

With regard to reliability, patients want to be confident that they always receive care that is safe and effective. No one wants to receive “less than perfect” care — or worse, experience unintended harm from their care. Patients are an important asset in uncovering ways to develop more reliable processes that lead to long-term sustainability of clinical and operational excellence in health care organizations.

## Improvement and Measurement

Patients are valuable assets when it comes to improvement because they bring their unique perspectives, particularly about how they experience care delivered by an organization. One way to involve patients and families in improving care is to ask for input on their experiences and ideas, and share data with them about ongoing improvement efforts. Run charts are one easy-to-understand method for sharing data on measures that matter to patients (e.g., waiting time). Posting run charts of data a team is tracking in visible patient-accessible areas (like the waiting room) is one way to engage patients and families in improvement, and also builds transparency. In many progressive health systems, patients also participate directly as members of multidisciplinary improvement teams.

To ensure that patients and families are invested partners in their care, organizations must keep in mind both their clinical and social needs. Although many of the social aspects of care are difficult to understand and address, organizations cannot overlook that this is a significant predictor of clinical success. Committing to a patient-centered culture and learning system helps ensure that organizations get this work right.

Without engaging patients and families in the two overarching framework domains and their respective components, organizations are likely to fall short of their goal to build systems that provide safe, reliable, and effective care.

## Conclusion

The reality of today's health care environment is that the systems that support patient care are complex and error prone, and most organizations lack a comprehensive method for making them less so. The Framework for Safe, Reliable, and Effective Care is designed to guide organizations on their journey. The two overarching domains and nine components — with patients and families at the core — reinforce the idea that all parts of the framework are interconnected and interdependent, and success in one area is predicated on success in another.

Although the framework will continue to evolve, it is a robust starting point. It is our hope that organizations will use the framework to guide their efforts to improve the safety, reliability, and effectiveness of the care they provide — and share their learning with us so that we can continue to refine it based on their experience.

## Appendix: Resource List for Select Patient Safety Methods and Tools

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