SAFE & RELIABLE HEALTHCARE | WHITE PAPER

The Framework for High Reliability Healthcare

Safe & Reliable HEALTHCARE

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THE FRAMEWORK FOR HIGH RELIABILITY HEALTHCARE

Every one of us will be a patient someday, if we haven't already been one—

and we all have family members who have or will need healthcare. What we want out of these experiences is to receive the best possible care, by all definitions. And if we acknowledge that everyone deserves that level of quality, consistency, and comfort, then we have a responsibility as healthcare professionals to pursue what engineers would call high reliability.

Introduction

What is High Reliability?

The easiest way to answer that is to look at groups that pursue this ideal. Called high reliability organizations (HROs), these entities continuously strive for failure-free operations amid extraordinary levels of complexity and the constant threat of catastrophic error. Air traffic controllers, nuclear submarine operators, and space flight command centers are examples of HROs. The cultures, systems, and processes in these entities are designed to effectively manage the unexpected and mitigate the risk of human error, allowing the entity to go for long periods without any significant issues.

High reliability requires creating an environment of mindfulness that helps the organization manage the intricacies of its complex systems and overcome human fallibility. In other words, HROs acknowledge that humans make mistakes and design their systems and processes to limit the likelihood of those mistakes. They do this by attending to where humans are vulnerable to error, taking advantage of where humans can apply their strengths, and fostering a culture where preventable defects are discussed and addressed systemically.

Could a Healthcare Organization Become Highly Reliable?

Over the years, a number of structures have emerged that aim to guide healthcare organizations on the journey to high reliability. These works grew out of a desire to prevent unnecessary harm to patients and improve the quality and consistency of healthcare. Sentinel works by The Joint Commission, The Institute for Healthcare Improvement (IHI), the National Patient Safety Foundation, and the IHI Lucian Leape Institute have advanced the field toward a greater appreciation of what it means to be an HRO.

High Reliability Organizations

Attend to where humans are vulnerable to error

Take advantage of where humans can apply their strengths

Foster a culture where preventable defects are discussed and addressed systemically

Our *Framework for High Reliability Healthcare* represents the next step in this ongoing journey. It is meant to capture in one place, with one lens, and one set of language, all the theories, approaches, knowledge sets, and activities that help healthcare organizations become HROs in practice. For decades, we have delved into what concepts are important and how those relate to each other, but it is time to look past theory and start pursuing practice.

As individuals who have lived and breathed this work around the world, we have had the privilege of seeing how organizations apply the concepts in their day-to-day activities. The results are that patients get better care, and providers find greater joy in their work. We developed this new framework to enable stronger execution of those concepts based on the unique and rich perspectives of the organizations applying them.

A View from 10,000 Feet

THE FRAMEWORK FOR HIGH RELIABILITY HEALTHCARE

Our research and experience show that healthcare organizations that excel in the following four areas are better positioned to pursue failure-free operations over time and characterize themselves as highly reliable.

Creating Healthy Cultures

Harnessing Knowledge

Building Learning Systems

Transforming Leadership

These four characteristics make up our framework's primary domains, with each one comprising two to four components, which are equally essential in turning the domain's concepts into actionable strategies.

OPERATING ROOM

EMERGENCY ROOM

INTENSIVE CARE UNIT

Visually, the framework is represented as a gear or mechanism that moves and progresses, with every component interacting with every other one. The imagery of constant motion is meant to demonstrate that realizing high reliability is a never-ending journey in service to the care delivered to patients and families and the staff who provide that care. The framework's central hub reinforces that the work must focus equally on patients and staff because a commitment to both groups is necessary to enable change.

The framework does not just apply to clinical settings but to all departments or units in an organization. The gear's teeth on the outside of the wheel suggest that these areas should connect with each other. When units, departments, or settings consistently apply the framework, they can align their gears with those of other units or departments, making each area securely fit in the system as a whole and allowing the larger entity to run more smoothly and effectively.

Although organizations can start the work by applying any of the framework components, we have found that those that prioritize culture tend to realize the greatest success. ***Culture*** is foundational because individuals working in an organization function best when certain internal and environmental characteristics are robust. Individually, people must have courage, commitment, an ability to self-manage, and a sense of agency. They must regularly come together in groups to align their perspectives and reflections. With assistance from good management and sound organizational structure and design, these groups must create a palpable sense of community. When there are disagreements, as there inevitably are in complex environments with smart, caring staff, groups must use collaboration as the mechanism to resolve them.

"Culture is foundational because individuals working in an organization function best when certain internal and environmental characteristics are robust."

The environment as a whole must be rooted in trust and respect. People should feel safe speaking up about problems and understand they have a responsibility to do so, knowing that their concerns will be heard, vetted, and acted on appropriately and are key to helping the organization move toward greater reliability.

With a cultural foundation, an organization is then able to collect clinical, operational, and cultural data, ensuring that the information is correct and up-to-date and then making it visible and transparent. This data becomes the ***Knowledge*** on which the ***Learning System*** is based. The cultural foundation and the collection of insights that drive the learning system allow individuals, teams, and leaders to self-reflect and focus their energy and resources more effectively in those areas that warrant improvement, and where improvement will reap the greatest rewards in safety, efficiency, or satisfaction.

All three of these components—*Culture*, *Knowledge*, and the *Learning System*—are only successful with the right kind of ***Leadership*** at all organizational levels. First and foremost, senior executives, middle managers, and front-line leaders must agree to safeguard the other components of the framework. They must then serve as examples of the culture they want to achieve and be involved with and visible in the actions highlighted throughout the framework.

If all the above-mentioned domains and characteristics are robust, then an organization can move in the direction of high reliability. When clinical and nonclinical settings are all functioning as HROs, then we can begin to see the kind of operational excellence we want and feel a responsibility to attain.

Exploring the Four Domains

In the following sections, we dig deeper into each of the framework's domains and components, highlighting where they interweave and interrelate. These sections are not meant to provide an exhaustive how-to guide but serve as a launching point for further work and engagement.

Creating Healthy Cultures

DOMAIN ONE | THE FRAMEWORK FOR HIGH RELIABILITY HEALTHCARE

The four elements of *Culture*—personal accountability, teamwork and collaboration, healthy environment, and consensus and alignment—weave together to create a sense of community where respect is something that happens at an individual, team, and environmental level. People feel valued as individuals and as community members. They know that the organization does not shy away from things that are difficult to talk about or areas in which the entity is not excelling. When all components exist simultaneously, the culture creates a place where groups can identify defects, understand them together, test ideas, and improve.

"We take responsibility for our own actions and behaviors, knowing that how we behave influences the culture around us."

Personal Accountability

Most of us acknowledge that culture plays a vital role in creating and sustaining an HRO, however, we often struggle with how each of us can foster the right culture. The framework's personal accountability component tackles this issue head-on, requiring each person in an organization to take ownership of their behavior and commit to participating in the framework's activities, including identifying issues; partaking in self-reflection and team activities; and testing, enabling, and embracing intelligently crafted change.

So, what does that look like in practice? Essentially, it means that when we show up to work, we commit to being professional and respectful in every interaction. We take responsibility for our own actions and behaviors, knowing that how we behave influences the culture around us. We acknowledge when we are approaching burnout and actively seek help from our teammates and leaders. We commit to learning, which involves participating in self-reflection around clinical and operational issues, and continuously model the behaviors that support and manifest organizational values. And we don't just do this once or with certain groups and not others. We strive to engage in these behaviors consistently across every interaction at every point during every day.

We also have a responsibility to actively participate in a learning system focused on reaching high reliability. We enthusiastically look for process defects, suggest ideas, and seek deeper understanding when things go wrong—and when things go right. When a better way of doing things is presented, we willingly change practice and commit to making those changes sustainable. It's worth mentioning that "learning" here doesn't preclude research and education but focuses primarily on process—the daily interactions and engagement of teams and individuals in pursuit of perfect care.

Note also that personal accountability does not mean perfection, and people will be better at these activities on some days than others. But that's why we participate in the learning system because as we reflect on our behaviors and interactions, we should become better at engaging with others more consistently. And when there's a slip or lapse, or our behavior doesn't match our intentions, we can reflect and grow individually and as teams.

Bottom line: personal accountability is not an expectation of perfection but an expectation of commitment to these principles.

"Learning" here doesn't preclude research and education but focuses primarily on process—the daily interactions and engagement of teams and individuals in pursuit of perfect care.

Team behaviors determine the effectiveness of team activities.

How well an individual understands and embraces their personal responsibility, and how well everyone in the organization has a shared understanding of the need for accountability, can determine whether the other elements of *Culture* function effectively.

Teamwork and Collaboration

When we are committed to personal accountability, we can work effectively together in teams—groups of people who have a shared purpose and set of clear and commonly understood goals. Strong teams exhibit certain codified behaviors. They regularly plan forward using huddles and briefings, and they also debrief to reflect back on what could go better the next time. They use defined communication strategies that encourage feedback and ensure information is clearly stated, heard, and understood.

The effectiveness of these team behaviors is largely determined by the way team members act during the interactions. In high-functioning teams, members are treated with respect and acknowledge that expertise lies with different individuals. Team members are fully comfortable turning to that expertise, independent of hierarchy or role. Feedback is encouraged, and individuals can give that feedback without blaming or shaming others. When conflicts arise, teams agree to resolve them collaboratively and in a way that maintains and even strengthens team member relationships. This involves gaining insights into what's driving the other person's request and coming up with innovative ideas for solving the disconnect. By engaging in appreciative inquiry and open dialogue—asking open-ended questions to understand the other person's point of view—team members distinguish positional statements from underlying inputs and interests, gaining critical information that allows the team to reach consensus. When team members notice that teammates are showing signs of frustration and burnout, they are called on to offer compassion, support, and encouragement.

Healthy Environment

Each of the culture domain's elements builds on the previous one, starting with the individual and moving to how individuals come together as multidisciplinary teams. The next level is where we start to understand the role of the environment in which those individuals and teams exist. It is in the environment where we create an expectation of trust, respect, and professionalism, regardless of role, position in the hierarchy, or professional background—and we apply these rules to everyone, all the time, with no exceptions.

The environment governs how we capture the richness of perspectives and grow together as teams in a way that is fair, equitable, and just. Psychological safety should be the norm. This is where people feel comfortable and safe voicing questions and speaking up about problems, such as safety issues, burnout, and process inefficiencies. And when things go wrong, a just culture should ensure that individuals are

"Organizational structures and effective management create a sense of community for all, regardless of discipline, role, gender, or race."

not held accountable for faulty systems. That's not to say that people aren't responsible for their behaviors and actions, but rather that a consistent set of rules is applied to determine the appropriate accountability and avoid simply blaming a person for the error.

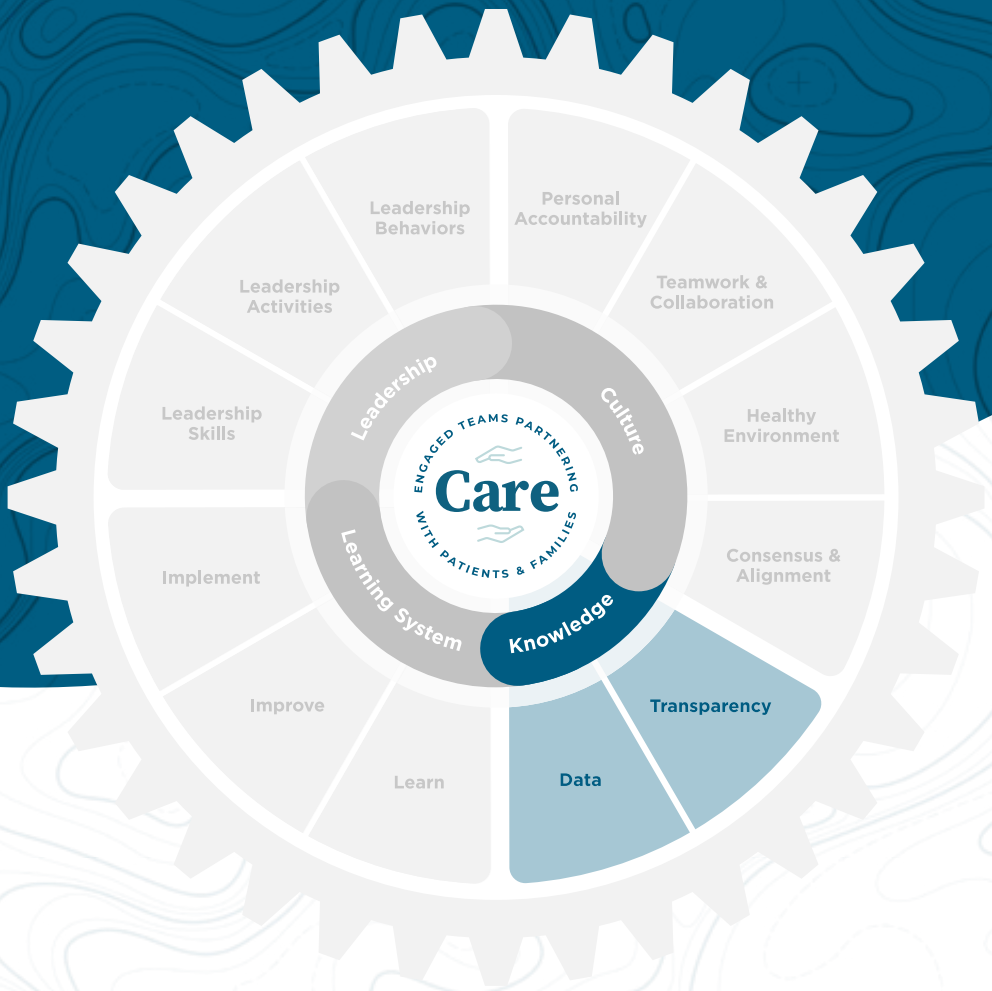
In a healthy environment, community flourishes. Individuals come to work with a general sense of comfort and camaraderie with their colleagues, and may even make the overt statement, "The people here care about me." We see this dynamic frequently in certain disciplines, such as when a group of nurses rely on one another and feel a close bond. However, in HROs, community transcends disciplines. Organizational structures and effective management create a sense of community for all, regardless of discipline, role, gender, or race.

Consensus and Alignment

This aspect of the domain keeps the other components functioning collectively toward a common goal. Without consensus and alignment, inconsistencies in individual and team behaviors can flourish, which can undermine a respectful and psychologically safe culture.

A key element in gaining consensus and alignment involves setting the expectation that collaboration will be used to resolve conflicts. When disagreements arise, individuals, teams, and the organization as a whole must have the courage and sensitivity to take up issues quickly, especially when they involve concerns about professionalism and respect. Rapidly acknowledging and responding to these issues ensures they do not fester and demonstrates the organization's commitment to a safe, reliable, and just culture. Individuals should know that resolving disagreements is expected of them. Most disagreements should be addressed the day they happen, with the possible exception of when emotions run so high that a cooling-off period is sensible. Managers should stay attuned to when disagreements occur and help ensure they are resolved, either by the individuals involved or through a facilitated process. The organization should also have an effective chain of command responsible for assisting in managing disagreements that can't be resolved more simply at the local level.

Decisions should also be rooted in the organization's mission, vision, and values. Engaging in an exercise to develop and refine these elements will help generate agreement around goals and ensure all parties are journeying in the same direction, thereby decreasing the likelihood of conflict and making it easier to resolve disagreements.



Harnessing Knowledge

SECOND DOMAIN | THE FRAMEWORK FOR HIGH RELIABILITY HEALTHCARE

Much of what we do with the framework depends on the accuracy and completeness of the *Knowledge* on which we base actions and decisions. To ensure a full range of knowledge, we must have transparency and access to data.

Transparency

It's no coincidence that transparency sits adjacent to the culture domain in the framework because it's impossible to have transparency unless there is a culture that treats people with respect, values their input, and ensures psychological safety. And, in the reverse, it's impossible to have a healthy culture unless the attributes of that culture are openly discussed and evaluated. The framework's components make it safe to be transparent about different kinds of data, including cultural, clinical, and operational measures. Be aware that we're describing the complete picture when we talk about transparency, not just the data we feel comfortable with or are proud of.

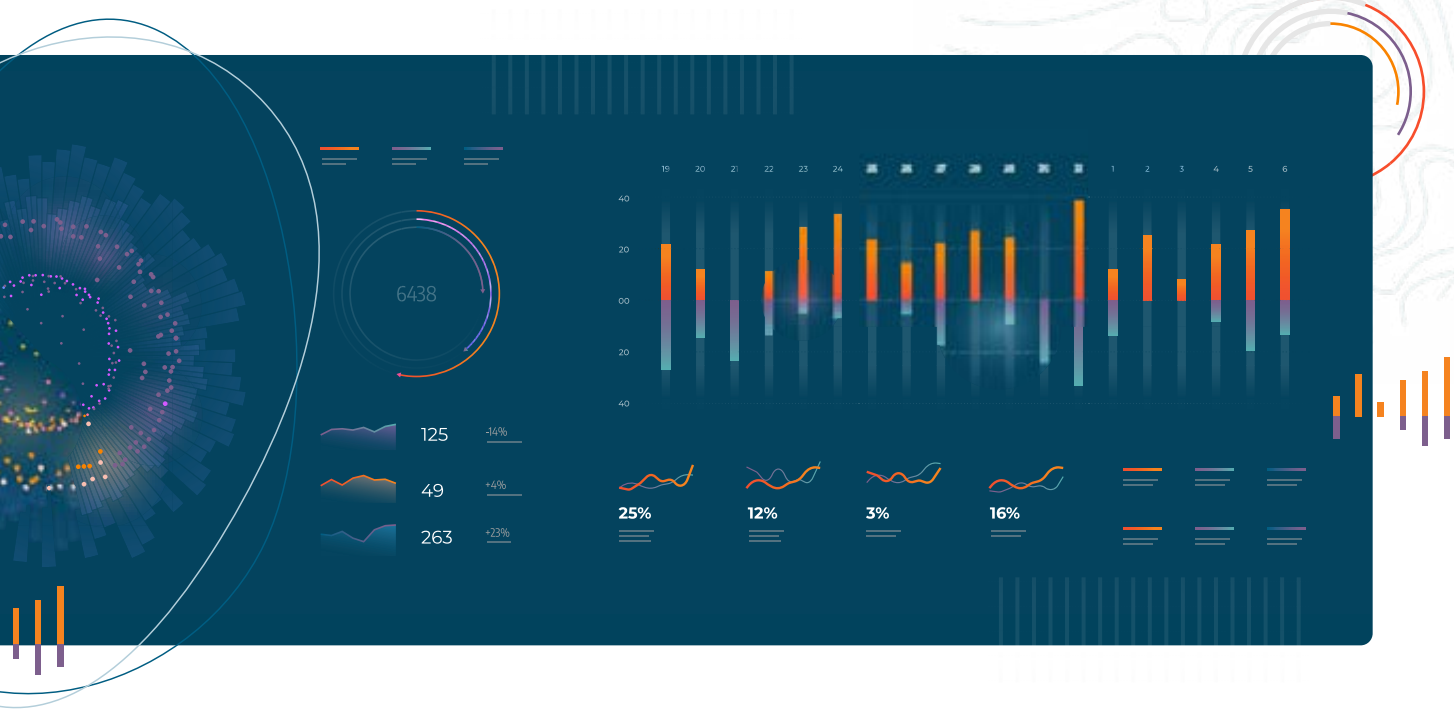
Underpinning transparency is the idea that we need to view problems, issues, and defects as opportunities to improve instead of something that should be hidden or swept away. When we are willing to look at issues and encouraged to reflect on them, then improvement is the next logical step, and we can progress further toward the ultimate goal of zero defects.

Transparency is exceptionally hard to achieve without a visual management system, in particular one that managers consistently apply; has minimum standards to ensure organizational consistency; and is routinely used by managers to communicate, support team behaviors, enhance frontline voice, and drive improvement. This type of solution enables multi-directional and multi-level interactions, allowing teams to discuss, explore, and understand issues they're experiencing and data they receive in real-time.

Visual management systems enable multi-directional and multi-level interactions, allowing teams to discuss, explore, and understand issues they're experiencing and data they receive in real-time.

It's important to recognize that transparency is not something that is only afforded to people working in the healthcare organization. Patients and families deserve the same degree of openness and honesty. While this may seem obvious, organizations are still not fully transparent with patients, tripping on issues of disclosure when an individual has been involved in an adverse event and inadequately engaging patients and families in their care.

Prompt conversations with patients and families when things go wrong should be a pillar of every healthcare organization's commitment to transparency. In fact, the transparency described here will lessen the number of events requiring "disclosure;" speed the understanding of events that do occur; lessen the likelihood of an adverse event being severe; and more effectively engage patients and their families, giving them a



greater sense of control. There is no downside to transparency: there are many downsides to opacity.

Prompt conversations and disclosure of known facts should be non-negotiable, serving as a hallmark of a transparency commitment.

Adverse events should not be the only times when patients and families are consulted: we should invite them into all elements of the framework. Everything described in the culture domain applies to our interactions with patients and families, as much as it does with colleagues. Patients and families should also be welcomed into the process of learning and improvement and encouraged to make suggestions.

Data

The measurement of clinical and operational data is well established in healthcare, and the information gleaned often drives performance. The measurement of culture, however, is still in the early stages of maturity. Culture measurement is not well understood, and healthcare organizations remain shackled to outdated perceptions that culture is "hard to change" and can take "years to do." Good data on culture is available, and if effectively analyzed and transparently shared across an organization, can powerfully and rapidly change cultural norms.

A combination of quantitative and qualitative information tells the most complete and compelling story about cultural issues. Quantitative data—things that are easy to measure—can show how many people feel a certain way. Qualitative data—more subjective information—can offer greater detail as to why they feel that way. That is why good culture surveys quantify attitudes and perceptions while also collecting and analyzing comments to help understand the nuances and details around strengths and challenges and pinpoint where improvement opportunities should focus.

When we combine culture data with clinical, operational, and financial data, operational activities become much more understandable. The rich variety of information helps set intelligent strategy for achieving high reliability.

By collecting information in real-time or near real-time, we can spot defects early before they harm anyone, allowing us to be more proactive rather than reactive. In other words, understanding defects when they're small lets us get ahead of issues before they spiral out of control. Capturing information in real-time has its challenges, although it is becoming easier due to recent technological innovations.

Building Learning Systems

THIRD DOMAIN | THE FRAMEWORK FOR HIGH RELIABILITY HEALTHCARE

The *Learning System* involves applying the cultural and performance knowledge we gained in the previous domain to our relentless pursuit of failure-free operations. It entails using a perpetual cycle of self-evaluation, improvement, and systematization, applying the cultural principles and data to make learning and improvement effective and meaningful.

Learn

In this context, learning is the continual pursuit of opportunities to do things better. It is about gaining deep insights into why things are the way they are or why they happen. Complex systems, when combined with normal human behavior, tend to deviate over time. Human beings have an extraordinarily strong drive to streamline, create workarounds in pursuit of efficiency, and respond to environmental defects in idiosyncratic ways or for personal advantage. Many of these alterations can make complex systems better, but others can increase risk. To reduce risk, HROs constantly seek out emerging defects,

aim to understand their cause, and then address, eliminate, or mitigate them. In doing so, variation decreases, and systematic processes become more stable while not diminishing ingenuity or innovation.

Getting to this level of understanding requires commitment and capability. True learning comes when we have the technical skill to dig into underlying causes while committing to keep asking "why" questions and the willingness to self-reflect and say, "Yes, there's a better way of doing this." Such learning involves resisting the temptation to jump to solutions that may, on the surface, seem to work but may not address the underlying problem. We also need to avoid implementing the same flawed action plans repeatedly and hoping for different results.

As we build capacity and capability for this work, we can drive greater learning throughout an organization. And when we learn, if we can connect those insights to improvements and implementation, we can start to see changes in behavior, processes, and practices for the best.

"Tests of change and PDSA cycles are critical to this component. They are a fundamental part of every improvement method."

Improve

This part of the journey is where we connect learning to outcomes, coming up with ideas that allow us to make systems more effective and reliable. Tests of change and Plan-Do-Study-Act cycles are critical to this component as they are a fundamental part of every improvement method. The structured methodology involves conducting small tests of change to rapidly determine whether an idea might lead to improvement. If test outcomes align with what is hypothesized, then we can consider expanding the tests until we are confident that the suggestion is a change worth implementing.

Where possible, changes should incorporate human factors principles. These are design strategies rooted in reliability science that make it easier for people to do the right thing in the right way. The most common human factors principles are process standardization and simplification. The most powerful are forcing functions, which involve acts individuals must perform to move onto the next step in a process. For example, a driver must step on the brake to turn on a car. These design strategies can build resilience and encourage buy-in, a combination that can yield greater sustainability over time.

As discussed in the culture section, every individual has the responsibility to participate in improvement efforts and use PDSA cycles in their day-to-day work life. This codifies reflection and learning. When people are accountable to participate in improvement work, improvements are designed with human factors in mind, and potential changes have been robustly tested in real-world environments, then there is a greater likelihood the changes will have a meaningful effect on system reliability.

"When we are transparent about learning and improvement insights, we can examine all the areas in which we can apply learning and improvement."

Implement

At this point, we take what we are confident will yield improvement and make it a daily practice for everyone for whom the change applies. Again, structured improvement methodology is important here to make sure any improvements are sustainable. This step frequently requires allocating resources, a task that should not be taken lightly, given the often scarce resources that must be carefully allotted to have the biggest effect.

As part of implementation, we also need to remove the old way of doing things, which tends to be an overlooked step when changing practice. Quality control is vital as well. As mentioned before, systems naturally degrade. By keeping an eye on them, we can spot when performance is falling off and intervene rapidly.

The final piece of implementation involves spreading and scaling good ideas. When we are transparent about learning and improvement insights, we can examine all the areas in which we can apply learning and improvement. For instance, if we discover something in the process of investigating a pressure injury event related to risk assessment, we may be able to apply that learning to other kinds of risk assessments for other conditions. Or perhaps we could apply the strategies to neighboring departments, clinics, or wards. Note that this step is not just about sharing best practices broadly but applying reliability science and design principles to any changes, so that everyone interacts with the process in the same way, no matter where they are in the organization or what their experience with the process has been in the past. Only then can we hope to make the process truly reliable.

Transforming Leadership

FOURTH DOMAIN | THE FRAMEWORK FOR HIGH RELIABILITY HEALTHCARE

Leaders have a profound responsibility to enable, support, foster, and safeguard the framework's components. Because of their pivotal role, leaders are a significant determinant of an organization's success or failure with high reliability.

A leader must know how to coach and give feedback in positive and empowering ways while still setting high expectations for individuals and establishing improvement as a necessity.

Leadership Skills

HRO leaders must be conversant in and have mastery of a significant body of knowledge. To start, they need to keep an organization's mission, vision, goals, values, and standards top of mind and live these guiding principles through their interactions. In addition, they must be experts on the various concepts in the *Culture*, *Knowledge*, and *Learning System* domains to bring the framework to life and shepherd the organization toward high reliability. For example, leaders have to understand the impact of creating community on engagement and know the techniques to cultivate that community. They must be able to describe a just culture and recognize how to achieve and sustain it. They need to know how to coach managers to help them shepherd a healthy culture in their areas of responsibility. Leaders must understand how to apply human factors to improvement activities to ensure new processes are more reliable. And that's just to start.

Alongside their own efforts to learn, they also have to help create the character of the culture. This requires a balancing act between having a high regard for every individual, which allows the leader to set high expectations, and creating a comfortable relationship in which the leader is perceived as approachable. The combination, when done well, ensures mutual respect and a willingness to talk openly, ask questions, request feedback, and be respectfully critical and innovative—all the hallmarks of psychological safety. Achieving this balance means that a leader must know how to coach and give feedback in positive and empowering ways while still setting expectations for improvement.

Some people take to leadership more naturally than others. That said, the skills necessary to become a strong leader can also be taught. However, leaders must have a fundamental willingness to receive and apply that training and continually work to improve their own abilities, engage in self-reflection, and apply improvement concepts to their management styles.

Leadership Activities

Leadership in an HRO is a contact sport. A leader can't be passive, giving others permission to engage in activities around culture, transparency, and improvement but avoiding the work themselves. Being an HRO leader is about digging into every element of the framework and enthusiastically participating. When leaders take part in the activities that enable culture, knowledge, and learning, they drive the effectiveness of those activities. People want to see leaders actually doing the work and demonstrating their skills, which can encourage people to participate and embrace those activities.

What does this look like in practice? It means participating in teamwork behaviors, including briefs, huddles, and debriefs. It requires asking questions, inviting conversation, and promoting dialog, as opposed to merely transmitting information. It entails destigmatizing tough topics like burnout and asking for help, and normalizing vulnerability. It involves actively using visual management systems. We cannot expect units or departments to engage with visual management systems if the leadership team is not willing to do the same. And, in fact, embedding visual management at every level of an organization is a key strategy for jumpstarting the framework and building multi-directional communication in the broadest sense.

Leadership Behaviors

Leadership behaviors should not be confused with how leaders should behave. Effective leaders can be introspective, demonstrative, restrained, or even flamboyant. However, some characteristics shine through in organizations that are most successful with HRO efforts. One is that leaders in these organizations have an unwavering commitment to the framework and its concepts. They also have values they follow every day to make sure the organization is a self-reflecting, improvement-capable entity. These values involve being humble and curious at the same time as committed and courageous. And there can't be any tension between these values.

Being humble and curious and getting insights from across the organization does not mean that leading is a democracy. Leaders make difficult decisions all the time. However, gathering the information to make the right decisions is a key part of being an effective leader.

The other attribute of the best leaders is that they're inclusive of everyone. They can relate to, respect, and care for people across the organization, whether those individuals manage facilities and supplies, provide clinical care, or handle the administrative and financial aspects

"People want to see leaders actually doing the work and demonstrating their skills..."

of the organization. In every interaction, what shows through are high expectations, caring, respect, and inclusivity, which fosters personal accountability in others. Notice that leadership behaviors are located directly next to personal accountability on the framework. This is

where things come full circle, serving as a reminder that leadership behaviors are the ones that set the foundation for the individual behaviors we expect and encourage. In other words, what leaders do, the rest of the organization will follow.

The framework's idea of leadership is a paradigm shift from traditional models. Instead of having all the answers, leaders become people who have all the good questions, embodying the humility and curiosity that helps the entire organization make the framework's concepts a reality. Instead of an atmosphere of control that comes from hierarchical leadership, we are suggesting one that is more trusting of colleagues and creates a shared set of high expectations where we're all contributing to something in a diverse and inclusive way.

At the Center of the Work

Every single element that we have described thus far is meant to enable progress toward a set of outcomes described in the framework's core. Each component must work together to ensure that teams in healthcare systems are engaged, happy, successful, and thriving so that they can partner effectively with patients and families in care, improvement, and strategy.

While achieving synergy between and across components will take time, commitment, and a relentless pursuit of self-reflection, it is possible to move the needle toward high reliability in healthcare.

And the destination is worth the journey.

Organizations that rigorously apply the framework can get to a place where errors are few and far between, and those that do occur have limited effect. Staff in these organizations can enjoy a vibrant culture where they respect, empower, and care for each other. Robust, real-time data is shared, reviewed, and acted on. Improvements are based on data and science, and learning is always the top priority. Leaders are approachable, involved, and live by example, celebrating successes while encouraging everyone to do and be just a little bit better. And from a patient and family perspective? The organization consistently delivers the best care possible, by all definitions.

Attributions & Acknowledgements

The Framework for High Reliability Healthcare is rooted in the work of numerous organizations and individuals.

It incorporates several concepts explored by other institutions and builds on them for the future.

- The Joint Commission
- The Institute for Healthcare Improvement
- National Patient Safety Foundation
- IHI Lucian Leape Institute
- Duke Center for Healthcare Safety & Quality
- Institute for Safe Medication Practices

We invite others to improve and elaborate on the perspectives embodied here, using their own experiences, research, and leaders to enrich the journey toward high reliability.

In addition, we recognize and celebrate the contributions of several innovative leaders, paying homage to the tremendous work they have done in advancing high reliability, patient safety, and quality improvement in healthcare. These are some of the individuals who helped shape our thinking about topics in this white paper. We know there are many more who influenced us, and we are grateful for their contributions to the field as well.

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SAFE & RELIABLE HEALTHCARE

We help healthcare organizations achieve high reliability.

Safe & Reliable Healthcare partners with organizations to make exceptional care highly reliable. We help create healthy cultures, harness knowledge, drive learning, and transform leadership by applying our validated *Framework for High Reliability Healthcare* at all organizational levels. Our integrated analytics, training, coaching, and technology offerings address key touchpoints that pave the way for organizational transformation.

Measure, analyze, and benchmark current cultures and systems

Get a clear picture of organizational dynamics through healthcare's most validated and outcomes-predictive culture and engagement survey.

SCORE™

Tier 1 Leapfrog and Magnet accredited

Incorporate HRO principles with the help of trusted experts

Build capability and capacity through HRO training and coaching from individuals who have been where you are and can guide you on your journey.

HRO Academy

High Reliability Training & Coaching

Sustain HRO principles with smart technology

Engage front-line teams with high reliability through digital visual management boards that create local ownership, foster communication, and build community.

LENS™

Used separately or in concert our products drive organizational transformation.

To learn more, visit **safeandreliablecare.com**