Institute *for* Healthcare Improvement

Is Your Organization Highly Reliable?

When it comes to patient safety, healthcare organizations have more work to do.

Healthcare is a complex system, involving many individuals, handoffs and interrelated processes. At any point, there is potential for serious patient harm to occur.

HROs have developed cultures that encourage staff to move beyond the expected. Achieving safe, reliable operations requires resilience and the ability to manage unexpected situations.

While health systems continue their efforts to make care safer, there's growing competition for healthcare leaders' attention. In a 2016 American College of Healthcare Executives annual survey of top issues confronting hospitals, patient safety and quality ranked third behind financial challenges and governmental mandates. Amid numerous priorities, leaders must continue to relentlessly focus on safety and ensure safety improvement efforts are as effective and reliable as possible.

Most healthcare organizations have implemented patient safety improvements by adopting standardized ways of providing care such as by using checklists and other tools to reduce variation. Concepts like team-based care have been introduced to flatten hierarchy and improve communication. Yet, even these approaches can be limited as they don't by themselves achieve whole system safety, nor do they embed safety into the organization's DNA. A more promising approach is becoming a high-reliability organization—an increasingly appealing solution for healthcare organizations.

What Does High Reliability Look Like?

One has to look outside healthcare for examples of industries and organizations that reliably manage highly complex, often high-risk, systems and processes. Examples of high-reliability organizations include military aircraft carriers, nuclear power plants and nuclear submarines. Safety is designed into these systems, with the awareness that safety is an emergent rather than a static property.

HROs have developed cultures that encourage staff to move beyond the expected. Achieving safe, reliable operations requires resilience and the ability to manage unexpected situations. Such organizations invest in continuous learning from defects and in development of failure-free processes. They continuously and actively monitor performance to understand operations. They also learn from both successes and failures, all with the intent of bolstering reliability.

Becoming an HRO is not simply a matter of completing a series of improvement projects. As with any improvement, it is necessary to change culture, develop a different way to work, maintain constancy of purpose and ensure improved processes are sustained over time.

There is no single HRO formula that can be applied in the same way in every healthcare organization; there are too many different contexts and environments in which such organizations exist. There are, however, common HRO characteristics that apply to all healthcare organizations. The Institute for Healthcare Improvement developed a framework that can help leaders build a culture and learning system to support these characteristics.

A Framework for Safe, Reliable, Effective Care

IHI's *Framework for Safe, Reliable, and Effective Care*, published in 2017, offers healthcare organizations the principles

they need to address the strategic, clinical and operational elements that characterize HROs. The framework includes two foundational domains: culture and the learning system.

Culture is the product of individual and group values, attitudes, competencies and behaviors related to safety and reliability. HROs strive to develop cultures that minimize harm and risk of harm.

The learning system encourages individuals to self-reflect and identify their own strengths and limitations, both in real time and periodically. HROs constantly examine their performance to learn how a process can be improved, what has worked well and where there may be risk.

The table below highlights HRO characteristics, as described in the 2007 book *Managing the Unexpected: Resilient Performance in an Age of Uncertainty* by Karl Weick, PhD, and Kathleen Sutcliffe, PhD, and elements of the IHI framework that support achieving those characteristics. Some examples of how these HRO characteristics might apply to healthcare include:

Preoccupation With Failure: HROs are always on the lookout for failures

HRO Characteristics and How To Achieve Them

HRO Characteristics	Brief Description of Reliability Under Routine Conditions	Related Components of the IHI's *A Framework for Safe, Reliable, and Effective Care*
Preoccupation With Failure	Leaders and teams are preoccupied with the reliability of processes. The default mindset is that there are no good processes in place, or processes are in place but they are not reliable. Therefore, processes must be continuously improved.	• Leadership • Reliability • Improvement and Measurement • Continuous Learning • Transparency
Reluctance to Simplify Interpretation	Leaders and teams are reluctant to interpret variation as normal. Processes have become complex, resulting in wide variation in performance and results.	• Leadership • Reliability • Continuous Learning • Transparency
Sensitivity to Operations	Leaders and teams know the common failure modes in routine processes.	• Leadership • Psychological Safety • Accountability • Improvement and Measurement • Continuous Learning • Transparency
Commitment to Resilience	Leaders and teams are committed to timely feedback (with data and action to the front line) about processes and outcomes. There is commitment at all levels for timely action when there is suboptimal performance.	• Leadership • Psychological Safety • Accountability • Teamwork and Communication • Improvement and Measurement • Continuous Learning • Transparency
Deference to Expertise	Processes need to be designed by the experts (those with the most relevant training in that area). Their expertise is most essential for designing processes, not necessarily for executing processes.	• Leadership • Psychological Safety • Teamwork and Communication • Improvement and Measurement • Continuous Learning

because they realize that no system is perfect. In healthcare, this means staff must always be aware of signs of the deteriorating patient, look for processes that are not reliable or sustainable, and monitor performance. To be effective in this area, organizations need *transparency*, an *improvement method* to test changes to improve processes and a *measurement system* to monitor ongoing performance.

Reluctance to Simplify Interpretation: HROs do not stop digging deeper into adverse events until they understand the true root cause or causes. In healthcare, many organizations do not dig deeply enough. The ability to learn and investigate more deeply requires a *learning system* that supports *continuous learning*. For example, root cause analysis is one useful method for improving in this area. (For more information, see *RCA²: Improving Root Cause Analyses and Actions to Prevent Harm*, IHI/National Patient Safety Foundation, 2016, http://www.npsf.org/?page=RCA2.)

Sensitivity to Operations: HROs focus on any deviation from the expected and on what could fail. Changing one part of the system may deeply affect another part of the system. For example, changing the time of hospital discharge and the associated tests that need to be completed may affect support services such as pharmacy and laboratories. Another example might be the addition of a new service line. This could significantly increase the workload in another area of the hospital, which may not be prepared to handle the additional volume. In each case, the organization must consider what might fail when these changes are implemented. Having sensitivity to operations is the result of having *transparency* about performance, *reliable systems* and a *measurement system* that informs leaders about how systems are performing.

Commitment to Resilience: In HROs, staff *continuously learn* from errors and near misses and share successful models of care. The knowledge gained from these events helps staff become better prepared to manage unexpected events when they occur. In healthcare, this means leaders must create a culture of *psychological safety* and encourage behaviors that enable staff to share concerns and tell stories about adverse events and what can be done to prevent them in the future. Staff who know their words won't be used against them but, rather, are part of the organization's overall improvement imperative, are resilient to the core. These principles are also key to a "just culture," recently described in *Leading a Culture of Safety: A Blueprint for Success*, published by ACHE and IHI. "In a true just culture, all workforce members—both clinical and non-clinical—are empowered and unafraid to voice concerns about threats to patient and workforce safety."

Deference to Expertise: In an HRO, expertise is assigned to the person who truly has the needed skills, not the person who has authority. For example, in healthcare, nurses are typically the ones to remove urinary catheters from patients—and to determine when that should happen. Rather than waiting for a doctor's order, nurses usually follow protocols that have been put in place, including detailed criteria for catheter removal. For this process to work effectively, leaders must agree that empowering a nurse, who is closest to the patient and knows the patient well, can remove a catheter based on her or his judgment and the criteria. This can only happen if there is a *team approach* to care, proper *communication*, *transparency* and *psychological safety* to share lessons learned (even when catheter removal is completed incorrectly). There also must be a *learning and monitoring system* in place to ensure patients are safe, *reliable processes* to ensure patient assessment and catheter removal are completed to support best care, and *accountability* so all staff know how errors will be handled if they occur.

There are only a handful of healthcare organizations that are moving in the direction of becoming HROs, according to research in the IHI white paper, *A Framework for Safe, Reliable, and Effective Care*. Many more organizations are just getting started. There is growing concensus, however, that increasingly espousing HRO characteristics is the primary way in which healthcare can make a significant leap in sustaining gains and reliably delivering safe care. ▲

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Editor's note: The IHI white paper, *A Framework for Safe, Reliable, and Effective Care*, can be accessed at www.ihi.org/resources/Pages/IHIWhitePapers/Framework-Safe-Reliable-Effective-Care.aspx.