

**Transforming into a high reliability
organization in health care**

Introduction

US health care is in the midst of a major transformation, evolving from a financial model that pays for volume to one that pays for value and outcomes. With the introduction of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), traditional fee-for-service (FFS) payments for physicians and other provider professionals are being replaced with risk-bearing business models and financial incentives that reward health care providers for improved patient outcomes and reduced costs.

Quality improvement, a core tenet in this transition to value-based care (VBC), has been a long-standing focus in US health care, starting with the creation of Medicare in the 1960s and later driven by organizations such as The Joint Commission and the Institute of Medicine (IOM) (see Milestones in US health care quality). The late 1990s and early 2000s, in particular, marked the beginning of a focus on improving outcomes through the delivery of higher-quality health care.¹ Over the past 20 years, this movement has evolved further, with increasing numbers of health care provider organizations starting the journey toward becoming a high reliability organization (HRO) that delivers quality care effectively, efficiently, and predictably. For many, though, the destination remains far ahead. Although it may take considerable time and effort to get there, this paper lays out a path for health care organizations that wish to embark on the journey.

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Milestones in US health care quality improvement



Early Quality Improvement Efforts in the Advent of Medicare – The creation of Medicare in the 1960s not only aimed to improve access to health care but was a first step toward introducing and mandating quality control mechanisms across the industry, such as utilization review committees within health care systems, Professional Standards Review Organizations (PSROs), and ultimately Peer Review Organizations (PROs). Concurrently with the development of Medicare and increased focus on quality, in 1966, Dr. Avedis Donabedian created the first conceptual framework for measuring quality in health care by publishing “Evaluating the Quality of Medical Care.” This subsequently led to the establishment of the Institute of Medicine (IOM) in 1970 by the National Academies of Science. The development of the IOM accelerated the focus for quality in health care, as the organization has launched numerous efforts on evaluating, informing, and improving the quality of health care for the past 50 years.²

To Err is Human: Building a Safer Health System – With the emergence of numerous quality organizations throughout the 1980s, including the creation of the Agency for Health Care Policy and Research in 1989, currently known as the Agency for Healthcare Research and Quality (AHRQ), the focus on quality was at the forefront of health care.³ In November 1999, the IOM released a report designed to increase awareness of US medical errors. Concluding that the know-how already exists to prevent many of these mistakes the report recommends a four-tiered approach by which government, health care providers, industry, and consumers can reduce preventable medical errors:⁴ 1) Establishing a national focus to create leadership, research, tools, and protocols to enhance the knowledge base about safety; 2) Identifying and learning from errors by developing a nationwide public mandatory reporting system and by encouraging health care organizations and practitioners to develop and participate in voluntary reporting systems; 3) Raising performance standards and expectations for improvements in safety through the actions of oversight organizations, professional groups, and group purchasers of health care; 4) Implementing safety systems in health care organizations to ensure safe practices at the delivery level.⁵

Crossing the Quality Chasm: A New Health System for the 21st Century⁶ – This 2001 report from the IOM’s Committee on the Quality of Health Care in America states that bringing state-of-the-art care to all Americans in every community will require a fundamental, sweeping redesign of the entire health system.⁷ The report makes an urgent call for changes to close the quality gap and provides overarching principles for specific direction for policymakers, health care leaders, clinicians, regulators, purchasers, and others.⁸

Medicare and the CMS Innovation Center – The Centers for Medicare and Medicaid Services (CMS) has played a critical role in driving the shift to a quality focus over the past few years, marked most recently by the introduction of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), a payment law that will drive major health care payment and delivery system reform for clinicians, health systems, Medicare, and other government and commercial payers. The law establishes a path towards a new payment system that will more closely align reimbursement with quality and outcomes. The first performance reporting period under the law began January 1, 2017.⁹

The journey to consistent health care quality

The US health care system's long-held FFS payment model reimburses professionals based on a narrow set of regulatory or reimbursement incentives for discrete activities, such as a doctor's visit, with no compensation for coordination across the care continuum. This payment system encourages delivery of high cost/high margin services and discourages delivery of lower margin services or coordination of care. These incentives can lead to rising costs as well as inefficient delivery and potentially poor quality of care, such as adverse events, medical errors, and infections, among others. In the FFS model, since physicians and hospitals are rewarded based on the volume of patients treated rather than outcomes, there is minimal incentive to maximize patient outcomes or contain costs.

In an effort to address this issue, the US health care system is currently undergoing a fundamental shift in its business model, moving from volume- to value-based care (VBC) with a focus on quality and outcomes. Many VBC incentives and penalties rely on quality measures. Thus, delivering quality health care consistently and reliably will be the key to succeeding in a value-based environment. Other drivers to improve health care quality include:¹⁰



Transparency. Governing bodies and educated consumers are demanding increased transparency into medical errors and quality measures.¹¹ In response, hospitals are more frequently releasing data-driven reports illustrating their commitment to quality and safety.



Information. Hospitals are leveraging health information technology (HIT)¹² to more accurately monitor care and evaluate outcomes. Automated reports have improved convenience, but also have resulted in new complexities and actually decreased efficiency in some areas.



Tools and methodologies. Quality improvement methodologies (e.g., Six Sigma, Lean)¹³ are increasingly being applied in hospital settings. However, there remains a lack of widespread industry adoption.

Despite financial, clinical, and technology drivers – and dedicated efforts at many levels – the health care industry generally struggles to achieve widespread, consistent quality improvement. As noted by Mark Chassin, President of The Joint Commission, "It's clear that we've made progress in a number of areas, in reducing healthcare-associated infections, for example. But we still have very serious quality problems, partly because the goal posts keep moving... what constituted high quality 10 years ago is not the same as what constitutes high quality today. It's a constant state of activity to increase safety and quality."¹⁴

One answer to providing consistent, widespread quality in health care already exists in other industries: Become an HRO. HROs are entities which are exceptionally consistent at accomplishing their goals, avoiding potentially catastrophic errors in an environment where normal accidents can be expected due to risk factors and complexity, and delivering consistently safe and high-quality service.

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Traditional HROs include airlines, nuclear power plants, chemical processing, military operations, and firefighting crews.¹⁵ Among defining characteristics, HROs rarely have errors; they have been highly successful in honing their abilities to act reliably and handle adversity.¹⁶ In addition, HROs prize the identification of “near misses” as an opportunity to extract lessons, analyze what occurred, and adjust protocols or procedures to reduce future risk.¹⁷

Structurally, HROs typically are based on six foundational elements:¹⁸

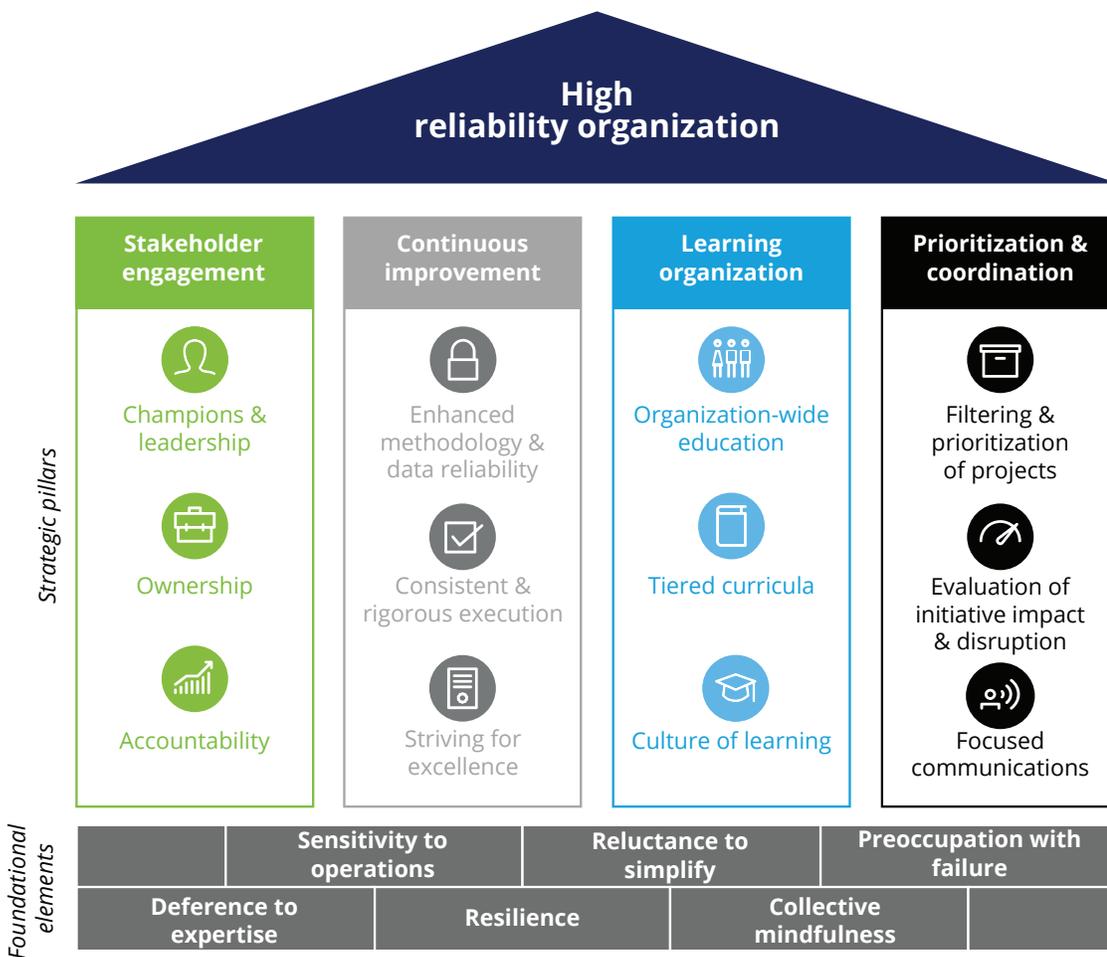
1. **Sensitivity to operations.** HROs work quickly to identify anomalies, problems in their system, and potential errors to reduce the number of actual errors.
2. **Reluctance to simplify.** HROs avoid overly simple explanations of failure. This does not mean that HROs do not work to simplify processes as much as possible; rather, they do not attribute failure to a singular cause.
3. **Preoccupation with failure.** HROs are focused on predicting and eliminating catastrophes rather than reacting to them. “Near misses” are viewed as opportunities to improve current systems.
4. **Deference to expertise.** HROs cultivate a culture in which team members and organizational leaders defer to the most knowledgeable – not the most senior or experienced – person relevant to the issue at hand.
5. **Resilience.** HROs pay close attention to their ability to quickly contain errors and improvise when difficulties occur so that systems are resilient and can function despite setbacks.
6. **Collective mindfulness.** “Operating ‘mindfully’ and making critical adjustments in a timely manner to manage the unexpected in a challenging, highly competitive environment”¹⁹ creates a culture of safety and sustains highly reliable systems. Collective mindfulness also provides a mental orientation that enables continuous learning and evaluation by allowing leaders at all levels to consistently identify potential errors or unsafe conditions before they pose substantial risk.

These elements serve as foundational principles for developing a strategy focused on high reliability and support the four strategic pillars (Figure 1):

- **Stakeholder engagement.** Leaders serve as champions of quality, establishing it as a priority imperative for the entire organization. Other stakeholders should be empowered to own quality efforts, which should be tracked and monitored to enforce accountability.
- **Continuous improvement.** Quality improvement methodologies should be supported and reinforced through well-defined tools and practices. Efforts should be executed with consistency and rigor. Organizations should strive for excellence by establishing standards and continuously enhancing the approach to quality.
- **Learning organization.** Understanding of quality improvement should be enterprise-wide, as well as customized for competency at each function and level. Organizations should develop a universal culture of learning in which knowledge is respected and shared.
- **Prioritization and coordination.** Initiatives should be evaluated for alignment with strategic goals and prioritized accordingly. Resources should be dedicated to areas with the greatest impact and least amount of disruption. Data and reports should be meaningfully communicated across all stakeholders.

These pillars emphasize the avoidance of errors and promotion of quality as primary objectives through cohesiveness, consistency, and pursuit of perfection. Although achievement of perfection may seem all but impossible in organizations as complex as health systems, it is the very act of striving to reach that high level of execution which can allow an organization to attain excellence. The strategic pillars represent critical factors for transforming the way a system approaches processes and can further enable employees to champion change across departments and functions. The pillars provide an organization with a refreshed framework for delivering services in a more highly reliable manner, guided by engaged leadership, evidence-based practice, and harmonized objectives.

Figure 1. Elements of an HRO in health care



Critical success factors

Simply adopting an HRO structure is not enough to transform a hospital or health care system into a true HRO. This effort typically requires a multidisciplinary approach as well as cultural change.

Category	Critical success factor	Related HRO elements	Description/example
Multi-disciplinary approach	Align the need for quality with the overall strategic, operational, and financial goals of the organization	<ul style="list-style-type: none"> • Sensitivity to operations, • Reluctance to simplify • Preoccupation with failure • Collective mindfulness 	<ul style="list-style-type: none"> • Incorporate quality considerations into business decisions and resource allocation
	Involve all impacted stakeholders in the planning and development phase	<ul style="list-style-type: none"> • Reluctance to simplify • Deference to expertise • Resilience • Collective mindfulness 	<ul style="list-style-type: none"> • Recruit buy-in across clinical and nonclinical facilities, functions, departments, levels, and teams to effectively take initiatives from concept to fruition • Secure physician engagement and employ them as champions of transformation by emphasizing that changes will not negatively impact efficiency and productivity
	Choose culturally contextual solutions that are appropriate to your specific organization and that will most effectively impact behaviors	<ul style="list-style-type: none"> • Sensitivity to operations • Reluctance to simplify • Resilience 	<ul style="list-style-type: none"> • Two health systems successfully reduced medication dispensing errors with two different approaches. Interruptions were reduced by: <ol style="list-style-type: none"> 1. Distributing dispensing machines farther apart on unit floors and marking them off with red tiles²⁰ 2. Requiring nurses to wear bright yellow sashes as an indication that they should not be distracted²¹
Cultural transformation	Communicate the future-state goal of developing overall quality infrastructure with system-wide participation	<ul style="list-style-type: none"> • Sensitivity to operations • Preoccupation with failure • Collective mindfulness 	<ul style="list-style-type: none"> • Create a governance structure which includes high reliability as a focus and establish a regular basis of touchpoints to provide updates and seek executive support
	Demonstrate that it is okay to make errors as long as they can be learned from and corrected	<ul style="list-style-type: none"> • Sensitivity to operations • Preoccupation with failure • Resilience, Collective mindfulness 	<ul style="list-style-type: none"> • Develop incentives that appropriately reward active pursuit of the achievement of high reliability • Emphasize that individual mistakes can provide excellent learning experiences, and ensure systems are in place that will minimize catastrophic error
	Empower employees to proactively solve problems to provide the best patient care possible	<ul style="list-style-type: none"> • Sensitivity to operations • Preoccupation with failure • Deference to expertise • Collective mindfulness 	<ul style="list-style-type: none"> • In manufacturing, a technique called “Stop the Line” is used to identify and correct inefficiencies as soon as possible by enabling employees to take action when they observe defects in the process

Importantly, embracing quality improvement is not necessarily synonymous with making significant technology investments²² or system overhauls. Rather, quality can be embraced in big and small ways. Organizations frequently find that simplifying processes and reducing the number of handoffs can be the key to eliminating errors.

Expect challenges along the way

All organizations pursuing high reliability are likely to face complex environmental challenges but health care provider organizations often have their own set of issues.

- Many health care organizations are highly hierarchal, deferential to roles, and slow to change – all of which can compromise quality.²³ Leaders may be hesitant to take on departments that are resistant to new processes.
- Staff may perceive conflicting messages regarding priorities of accommodating physicians, satisfying patients, and achieving financial goals.²⁴
- A lack of clearly defined and communicated expectations and accountabilities for adopting evidence-based practices, as well as a lack of incentives for implementation, may limit physician participation and physician leadership.²⁵
- Establishing effective training programs and requirements to focus on evidence-based clinical practice and continuing education on the science of improvement can be costly and seen as burdensome to employees and physicians who already have time constraints. In addition, hospitals and health systems often have high turnover rates and less intact teams, making training and standardization critical yet challenging.²⁶
- Analytic resources may not have the capacity or the appropriate technology required to respond to all requests for the quality program and produce higher-level analytics (beyond reporting alone) without system-level leadership and support.
- Individual patients react differently to medications, procedures, and therapies, so care cannot be standardized in the same way that processes in other industries with high reliability can, such as airlines and power plants. Also, patients' behavior can vary and change over time, especially if they are trying to manage a chronic condition, creating unpredictability and challenges unmatched in other industries.²⁷
- While HROs aim to prevent and recognize errors early to avoid them in the future, hospitals often take a retrospective review of quality and, at times, tolerate poorly designed or ineffective approaches to quality.²⁸
- Given the rapid pace of change and competitive pressures, health care organizations are often challenged to maintain focus on process improvement efforts. Redirecting organizational effort and resources to other goals may impede the progress to becoming an HRO.

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Smart first steps

What strategies and capabilities do hospitals and health systems need to begin to overcome these challenges? The following smart first steps can guide their journey to becoming HROs:

- **Commit to a goal:** Evaluate organizational priorities and develop vision statements and guiding principles to establish a quality-focused culture built upon the foundations and pillars of high reliability, and ensure key stakeholders understand the importance and rationale for embracing these principles.
- **Embrace the leadership challenge:** Ensure leadership understands and embodies the principles and tenets of high reliability, taking a “top-down and bottoms up” approach to quality and patient safety. Demonstrate strong leadership and an approach to quality and patient safety that is pervasive at all levels of the organization.
- **Develop and support champions:** Begin to engage stakeholders early and often through creation of quality champion change agents that help other stakeholders embrace these approaches and concepts.
- **Establish governance:** Design a governance and oversight structure and system to manage and own quality improvement within the organization.
- **Train for excellence:** Educate key stakeholders and develop a quality-focused curriculum, emphasizing the importance of ongoing and continuous learning at all levels. Adopt robust process-improvement tools and procedures to achieve sustainable high reliability.
- **Develop and use information:** Gather, aggregate, and analyze available data and train others to understand, interpret, and identify actionable insights that help guide the organization and contribute to continuous quality improvement.
- **Promote a culture of improvement:** Reinforce “systemness” through effective communication and messaging to encourage information-sharing and global problem-solving. Promote a culture of openness through team check-ins or executive walk-arounds, and empower staff to challenge questionable or inappropriate behaviors.²⁹
- **Learn early and often:** Consider the complexities of each situation to properly understand what happened and/or will happen in the future.³⁰ In addition, procure accurate and complete information about a given situation and use it to guide decision making³¹
- **Proactively address risk:** Address any error of system breakdown as a high priority despite the magnitude of the issue, and act quickly based on observed data points.³² Remain resilient and nimble despite errors and demonstrate the ability to avoid failure over time.³³

Case Study: Health system adopts HRO structure and principles



Issue: Deloitte worked with a mid-sized regional health system to design a future-state sustainable quality improvement strategy aligning clinical, operational, and financial elements to achieve excellence.

Solution: We worked with our client to build the structure, philosophies, and principles of an HRO, and tested the new framework via two quality improvement initiatives around orthopedics and obstetrics. These specialties were chosen because they were high volume and high growth areas and because these specialties have relatively well-defined care pathways. We focused on:

- **Improved process development:** One consistent methodology for improvement efforts across the entire enterprise, including tools, forms, and details to support adoption
- **Organizational planning:** Detailed job descriptions, committee charters, and clear roles and responsibility mappings to support future-state improved quality organization and governance
- **Communication planning:** A consolidated, streamlined communication plan to not only support change efforts, but serve as a vehicle for ongoing communication around quality
- **Education:** Development of detailed curricula and education materials to support the designed, tiered quality education structure
- **Data management and technology:** Identification of technology and management needs in order to support an effective quality program
- **Improved application and execution:** Standardized practices and protocols for orthopedics and obstetrics to enhance quality and reduce clinical variation



Impact: Deloitte helped guide the transformational change necessary to truly focus on quality improvement. Once the structures and philosophies were in place, we were able to test this approach with initiatives for orthopedics and obstetrics. Using literature to identify leading practices, data analytics around actual costs, volumes, outcomes, and length of stay, and perspectives from multidisciplinary teams from across the patient care continuum, we helped the organization design future-state processes with an eye towards increased quality and efficiency. Once the initiatives were identified, the teams had work plans and other tools designed by Deloitte already in place to aid in prioritization, implementation, and tracking of progress towards goals. This approach, coupled with setting clear metrics for success, helped ensure the greatest degree of predictability in results. The framework for high reliability was put into practice in a way that was sustainable for the organization to maintain and advance going forward.



This journey's end is just the beginning

Health care is, and is expected to remain, a highly complex, high-risk industry. The quest to deliver consistently safe and high-quality patient care – especially in the face of changing reimbursement models, clinical innovations, and technology advancements – means that the end of a provider's journey to become a high reliability organization is really just the beginning of institutionalizing quality across all departments, employees, and processes. Such a transformative change cannot be accomplished simply by increasing funding for ongoing quality measurement and reporting activities. Instead, health care organizations will likely need to fundamentally change their approach to quality by embracing a cultural paradigm shift, engaging all stakeholders at all levels, and valuing the expertise that individuals bring.

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