# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>3</td>
</tr>
<tr>
<td>THE CASE FOR HIGH RELIABILITY</td>
<td>5</td>
</tr>
<tr>
<td>DELIVERING HIGH RELIABILITY TO HEALTHCARE</td>
<td>6</td>
</tr>
<tr>
<td>THE SIX CHARACTERISTICS OF AN HRO</td>
<td>7</td>
</tr>
<tr>
<td>PLANNING A HIGH RELIABILITY JOURNEY</td>
<td>12</td>
</tr>
<tr>
<td>CONCLUSION</td>
<td>14</td>
</tr>
<tr>
<td>ABOUT MYROUNDING</td>
<td>15</td>
</tr>
</tbody>
</table>

By David Marshall

Copyright © 2016 Huron Consulting Group Inc. All rights reserved. Printed in the United States of America.

Additional copies of this booklet can be ordered from MyRounding.

MyRounding products are available at special quantity discounts for training and educational purposes. To learn more about this or other training products, contact our program and product specialists:

877-503-9226 | myrounding.com | info@myrounding.com
The term “high reliability” refers to the science of achieving efficient, error-free operation.

A High Reliability Organization (HRO) is an organization with predictable and repeatable systems in place that allow for the consistent execution of operations while catching and correcting potentially catastrophic errors. In healthcare specifically, HRO is a term that has come to represent the elimination of unwarranted variation in the delivery of care – thereby increasing levels of patient safety while improving clinical results and reducing costs.

The term “high reliability” describes an organizational culture that strives to achieve error-free performance and safety in every procedure, every time. Even when operating in complex, high-risk, or hazardous environments, high reliability organizations (HROs) sustain a nearly unblemished safety record over many years.

Implementing a structured and standardized teamwork and communication framework is an important step toward achieving high reliability in healthcare. The family of human factor skills improves communication and teamwork, helps caregivers function as effective team members, and is essential for organizations to achieve a culture of high reliability and patient safety.
An HRO generally operates at performance and safety levels that are far superior to organizations without a high reliability strategy. But reaching this level requires nothing less than a complete transformation of culture – fundamentally changing the attitudes, beliefs, goals, and values of an organization.

**THE JOURNEY TOWARD HIGH RELIABILITY INVOLVES:**

1. Setting goals for a safety and reliability culture
2. Creating and maintaining a robust process-driven improvement engine
3. Continuous training of team members on appropriate behaviors and skills
4. Maintaining updated equipment and systems technology
5. Constant assessing of procedures and functional work areas
6. Measuring safety and performance effectiveness
7. Establishing transparency and real-time reporting across all levels of the organization

It takes years to develop a deep-seated organizational culture of mindfulness or alertness to safety. For this to succeed in healthcare, all team members, including administrators, physicians, nurses, and all supporting staff members must maintain a high level of situational awareness, knowing, and understanding of what’s going on at all times inside their immediate environment, reviewing past performance, as well as anticipating what is coming next. In a constant state of mindfulness, they seek out, recognize, and control unsafe conditions, limit the effects, and adapt to changes that resolve these conditions.
THE CASE FOR HIGH RELIABILITY

Organizations that have become HROs include the military, commercial airlines, nuclear power plants, manufacturers, chemical facilities, and oil and gas refineries. These organizations already have a low probability of unexpected events due to multiple layers of safety policies and procedures, state-of-the-art environmental design, and built-in redundant fail-safe systems.

So, why would these organizations consider high reliability status, given the enormous investment of time, expense, workforce effort, and other resources required? Because, despite their safety measures, system accidents or human errors can result in death and damage inside a facility and sometimes in the surrounding areas. However, implementing a high reliability program can significantly reduce the likelihood and control the aftermath of these events. They can still occur in an HRO but rarely develop to the point of damaging the overall system. At the same time, HROs realize that perfection is an impossible, impractical goal. While commercial aviation is a highly reliable industry, some failures (crashes, control tower communication failures, and near-collisions) still happen.

However, when compared to error rates in healthcare, these industries surpass levels of six sigma quality and safety. Hospitals, ambulatory centers, pharmacies, and other healthcare organizations continue to operate at dangerous levels. In fact, the latest evidence suggests that over 250,000 people are killed annually by preventable medical mistakes.¹ Medical mistakes are now the third leading cause of death in the United States – the total is more than the annual death rates of car accidents, breast cancer, and diabetes – combined.²

---

¹ Modern Healthcare; “Medical errors may kill 250,000 a year, but problem not being tracked;” Sabriya Rice; May 4, 2016 http://www.modernhealthcare.com/article/20160504/NEWS/160509962
² National Center for Health Statistics (http://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm)
DELIVERING HIGH RELIABILITY TO HEALTHCARE

Regardless of the organization, a comprehensive high reliability strategy will dramatically increase safety and optimal performance levels. While slow to adopt HRO principles, healthcare organizations have the advantage of learning from programs that have been implemented in other industries. Healthcare organizations share many qualities with existing industries that have adopted an HRO strategy, such as:

- Functioning in high-risk, high-stress conditions
- Managing tasks under extreme time pressure
- Applying precision techniques and advanced technology
- Working with hazardous materials
- Operating at high capacity during peak demand
- Facing a complex regulatory framework with economic pressures

One element of high reliability programming that’s been recommended both inside and outside of healthcare is Crew Resource Management (CRM). It is a comprehensive teamwork, communication, and process improvement program that embeds standardized process and protocols. Designed by NASA in the early 1980s to reduce errors in commercial aviation, CRM has been recognized by major healthcare associations as a best practice for building high reliability. It can produce enormous time savings and process improvements while increasing quality and patient safety.

Elements of high reliability programming must be adaptable for use in healthcare. Initiatives in other industries focus on reducing variability in day-to-day operations and preventing large-scale, catastrophic system accidents. For healthcare, a high reliability strategy must help team members perform more effectively, efficiently, and safely within the complex, dynamic environment of patient interactions. Errors or near misses sometimes occur due to poor performance or malfunctioning equipment. However, they are principally caused by human factors such as lack of assertiveness, lost situational awareness, faulty communication skills, stress and fatigue, and/or disruptive behavior.

In the process of becoming an HRO, organizations should focus on preventing errors from enhanced human factors training and development as well as on making systems function as predictably and safely as possible. Team members must learn and practice effective teamwork, situational awareness, decision-making, and assertive and standardized communication. These and other CRM skills help members quickly and efficiently identify and eliminate potential harm to patients.
THE SIX CHARACTERISTICS OF AN HRO

High Reliability Organizations display a number of cultural characteristics, both inside and outside of healthcare. They are embedded as part of standard operating procedures and permeate the entire organization. One common thread in all these characteristics is a constant state of awareness to recognize errors quickly and intervene so that they don’t become catastrophic and impact levels of safety. The six characteristics shared across high performing organizations include the following:

1. PREOCCUPATION WITH FAILURE:

An HRO acknowledges the high-risk, error-prone nature of its organization. Keeping track of successes isn’t as important as learning from errors and making necessary adjustments to prevent them. For example, team members in an HRO:

- Are constantly aware of what might go wrong, whether it is a major problem or a relatively insignificant one.
- Always know that an error can occur unexpectedly at any time and that they must be prepared for it.
- Practice simulations of unexpected situations and learn how to respond to them.
- Aren’t complacent with a long, dependable safety record.
- Don’t ignore a gut feeling that something might be wrong; instead, they follow up immediately to determine whether there is indeed a problem, then use practiced and expected behavioral skills to resolve it.

Team members constantly question their ideas and assumptions about safety and adapt them as required for the sake of continuous improvement. For example, immediately after a surgery, a team member discovers that a signed consent form wasn’t inside the patient’s
Even though its absence didn’t result in an error or near miss, the team leader still assigns a member to ensure that the form is present and examined during the mandatory time-out and that it lists the correct patient, site/side and procedure. Adding this common-sense practice can prevent a serious error.

Team members in an HRO don’t congratulate themselves for preventing an error. Instead, they consider a near miss as evidence that a system or human failure is present, and regard it as an opportunity to improve the process. First, they examine the strengths and weaknesses of all process components involved in the near miss, including human factors, equipment and procedures (people, process and technology). Next, they determine which of these components must be changed to prevent any future events, working with the organization to devote resources for making the changes. Finally, they constantly monitor the revised process to test its effectiveness and recommend additional changes as needed.

But members do more than just react to problems; they also think proactively. They constantly maintain the attitude that they might have overlooked something, try to predict when an error might occur next, and report anything that they feel might cause a problem. They consider even a small deviation from established procedure unacceptable, for fear that it might become normalized over time.

In addition, members try to identify potential problems in equipment or procedures and determine how to change it before an error occurs. For example, the HRO can set up a “no interruption zone” inside a room with an automated medication dispenser. Establishing this zone can prevent members from being distracted when accessing or restocking the dispenser. That’s because getting the right medication or dosage requires a high degree of focus and awareness, and any interruptions can cause an error that negatively affects patient safety.

2. COMMITMENT TO RESILIENCE:

An HRO bounces back immediately and continues functioning when unexpected events occur. A commitment to resilience helps team members improvise and quickly develop plans to respond to any unanticipated situation. Members respond quickly to the situation and ensure that it doesn’t adversely impact patient safety or teamwork. First, they resolve each problem. Then they regroup and learn from the experience, taking notice of individual and team performance, and searching for ways to improve.

When the unexpected happens, stress levels usually increase and mental acuity tends to reduce to a state of tunnel vision; this prevents individual team members from seeing important and obvious cues about the situation. But in an ideal state of high reliability, members are trained to manage high levels of stress and maintain situational awareness to keep focused on the big picture. They use human factors skills to perceive and process information about the problem and find a remedy. For example, observing that a patient’s condition is suddenly deteriorating, members aren’t at a loss for how to proceed. Rather, they recognize that a problem exists, gather information, make an informed decision on the root cause, devise a plan and take the necessary action while informing fellow team members of the situation.

3. SENSITIVITY TO OPERATIONS

An HRO is mindful of day-to-day operations and gives team members the necessary resources and abilities to handle changing situations. One important organizational mindset is the recognition that healthcare is a complex, dynamic environment; those at the executive level can’t necessarily react as quickly as caregivers who work directly with patients.
An HRO decentralizes decision-making and empowers team members to find hidden threats, resolve them and report any incidents or near-misses. Team leaders are also given increased autonomy to respond directly to patient safety issues, not waiting for permission to do so. However, leaders must act in collaboration with their team and ensure that they fulfill shared expectations and roles in an emergency. Accountability is built into every process.

Remaining aware of problems or threats also increases an HRO’s ability to gather valuable information about conditions that may damage patient safety. For example, conducting regular and standardized rounds on employees and patients increases operational awareness at the top of the organization. In the rounding activity, senior managers and executives visit multiple and varied areas of a facility or department, interact with patients, and ask staff members about potential problems and ask for recommended solutions and ideas for improvement.

**4. DEFERENCE TO EXPERTISE**

In an HRO, team members defer to individuals with the most knowledge or experience relevant to a critical situation – regardless of title or rank. Senior managers may see the big picture of patient safety goals, but they often don’t know important details about safety problems that individual caregivers face. On the other hand, members with the most expertise are likely to have a better perception of where errors can occur and what system changes should be made to prevent them. Deference to expertise also allows members to question and remind others about safety practices, such as washing hands or properly completing a patient chart, without regard to anyone’s position in the hierarchy.

Authority also migrates when necessary to members with the most expertise in high risk situations. In certain cases, the traditional chain of command is de-emphasized in favor of expertise regardless of who has it. In this way, the HRO avoids settling for a decision from the member who has the most authority but not the most relevant information. However, every team member in the organization must be comfortable in sharing information and concerns with others, and be encouraged to do so. Then, leaders at the top of the hierarchy listen to and support recommended changes from their experts.

Members with the most expertise in the HRO are also placed in charge of, or at least are part of, the decision-making process. For example, the team leader should request information from members with the most experience with and knowledge of a patient, and allow them to collaborate in decisions about that patient’s care. Because of their involvement, these members become more vigilant and help ensure that collaborative decisions produce the desired outcome.
5. RELUCTANCE TO SIMPLIFY

An HRO works to simplify procedures when necessary to improve patient safety, and the simplest diagnosis is often considered by the team when examining a patient. However, HROs are reluctant to simplify explanations or interpretations of problems and their causes. Because the root causes of a complex situation may be just as complex, team members must look beyond simple explanations for their errors. Consideration must be given to the areas that an improved process may impact – up or downstream from the problem or identified opportunity for improvement.

In addition, team members in an HRO are trained to consider multiple and varied situations that could arise once a solution is contemplated. They understand that a new type or source of error can arise, but they also know they may not be able to identify it until after it occurs or has been analyzed. For example, just because members during a team briefing have established a shared mental model and prepared contingency plans, it doesn’t mean that they have anticipated every possibility. If the team leader encourages open communication, members with different viewpoints, experience and backgrounds can raise potential problems that others may not have considered.

Incident investigators also aren’t satisfied with the simplest root cause when investigating an error, since a more complex cause (or multiple causes) may appear during the review. They realize that the root cause or causes will affect future decisions about patient care, so they strive to be precise. As a result, team members can use lessons learned in the investigation to add to their own knowledge base for decision-making.

In addition, an HRO is aware that a future error with the same root cause can’t be always be eliminated by adding a rule to a policy manual. Instead, it might require system redesign, training, multiple forms of communication to all teams, discussion within the team, and reminders posted in various areas.
6. STRONG SAFETY CULTURE

An HRO sets safety as a top priority to prevent errors and in turn responds quickly and effectively when errors occur. One type of safety culture commonly found in healthcare organizations is called a “just culture.” In this culture, the HRO clearly defines individual accountability for errors and other incidents, establishes a reporting process for them, analyzes them for root causes, and issues consequences based on unsafe behavior. Team members are held accountable for their behavior and the decisions they make, no matter what the outcome. No one is exempt from accountability, regardless of their place in the hierarchy.

When an error occurs in a just culture, blame isn’t immediately assigned and punishment isn’t automatically carried out. Instead, the consequences are based on the member’s intent and behavior, not the severity of the outcome. That’s the case even if unintentional behavior results in a serious error and deliberate behavior doesn’t result in any error. If members unintentionally cause an error, they may be consoled or coached rather than punished. But if they knowingly commit an unsafe act, such as operating under the influence of drugs or alcohol, or behave recklessly, they receive appropriate punishment (such as a transfer, suspension, loss of privileges, or termination).

Building a just culture is time-consuming and requires extensive planning. It starts with the organization’s commitment to transform its deeply held attitudes about safety, accountability, and incident reporting. It also must necessarily include a complete buy-in and from executives and senior managers and leaders. The design of just and fair policies and procedures, training of all team members, ongoing communication of goals and progress, and a robust incident reporting and analysis program are hallmarks of an HRO.
PLANNING A HIGH RELIABILITY JOURNEY

Before embarking on an HRO journey, an organization must develop a strategic plan that provides details and milestones on how and when to reach degrees and levels of high reliability performance. The plan must include all the essential components – goals and objectives, policies and procedures, timelines and tollgates, techniques, and so on – for assessing needs, implementing improved procedures, training team members, upgrading technology, and sustaining performance and quality for the long term.

A strategic HRO plan should consider the following six phases:

1. **Analyzing existing and potential safety problems:** Under the direction of an impartial and unbiased consultant to ensure objectivity, an organization begins an audit/assessment of the existing human performance (people), organizational factors (process), and equipment performance (technology). This audit should analyze the entire organization to uncover gaps in patient safety, identify human factor limitations related to behavior and performance, organizational problems related to weak or poorly executed processes, and technical failures related to system performance or poor human interface.
2. Designing the model for an HRO: As a result of the auditing process, an organization discovers, defines, records, and categorizes all the tools and competencies that team members need to improve safety and reliability. These include:

- **High reliability organizational competencies**: contingency planning, strategic planning, organizational design, just culture, transparent culture, change and innovation, leadership, ethical decision-making, and organizational ethics.

- **Individual and organizational behavior competencies**: individual behavior, team dynamics, conflict resolution, communication, assertiveness, leadership/followership, adaptability, safety-consciousness, professionalism, and situational awareness.

- **Performance measurement**: quality management, qualitative analysis, outcome measurements, and clinical performance improvement.

3. Collecting and transferring knowledge: Organizations must convert recorded information from the audit/assessment into a knowledge base and share it with all impacted team members. A team training program is designed and launched to transfer the essential knowledge, skills, behaviors, and attitudes that all members must practice for a high reliability and safety culture.

4. Developing skills: Organizations must provide leadership and team training programs to build competence in assertive and standardized communication, situational awareness, teamwork, decision-making, conflict management, and other necessary skills. It also must support continued training outside the classroom through leadership mentoring programs and coaching. The goal of this skill training is to ensure that members can incorporate these behaviors and elements into daily actions and routines.

5. Launching continuous improvement: During the implementation of a high reliability strategy, an organization must have a robust quality improvement engine to measure progress by collecting data and identifying areas for improvement. This includes procedures for team member feedback, embedded observation, executive and staff rounding, coaching, and other forms of monitoring and supervision.

A quality improvement infrastructure helps organizations examine and evaluate themselves constantly, proactively identifying weaknesses, verifying that existing processes work, and refining as often as needed. Incidents must be regularly reported and analyzed, then the lessons learned are shared with all team members. Depending on the root causes, this can result in improved work areas, additional or redesigned equipment, revised policies and procedures, and/or additional training.

6. Striving to achieve high reliability: To reach a sustained level of reliability, an organization must demonstrate repeatable, predictable, and sustainable delivery of safe and reliable care. It is to be expected that various departments and areas will operate at different levels of reliability as the organization embarks on such a comprehensive journey.

One intrinsic hallmark of high reliability organizations is the awareness of the risk that individual staff members or teams can feel a false sense of security as a result of new programming and improved processes. HROs understand that a sense of complacency about safety can set in and old behaviors and practices can resurface if the organization doesn’t continue monitoring and renewing itself to attain even higher levels of reliability.

An organization must continue to renew practices in order to keep staff invested in attaining even higher reliability.
CONCLUSION

Pursuing a high reliability strategy takes leadership commitment, extensive planning and years of implementation. To become an HRO, an organization must have a robust change management and process improvement platform to redesign current system processes, launch team training, and institute a culture of safety and reliability that’s promoted and practiced throughout the organization.

Introducing structured team training and human factor skill development is an important step toward becoming an HRO, but it isn’t a one-size-fits-all or a single-step solution. Rather, these programs must be customized to fit your organization’s needs and are usually implemented alongside other large and small patient safety and process improvement initiatives. HRO provides a platform to unite and sustain initiatives and avoid “flavors of the month” or short term fixes.

As high reliability performance is approached, the four system components — people, process, culture, and technology — must be continuously monitored, reviewed, and revised. In fact, an HRO will constantly reinvent itself through increased process improvement, redesign, and skill development.

ABOUT THE AUTHOR

David Marshall has over 20 years of experience in healthcare, serving as an advisor and architect of high reliability programming to hospitals and health systems around the world. He has written dozens of articles and has authored several books, including “Crew Resource Management: From Patient Safety to High Reliability.” During this journey David has founded several companies including Safer Healthcare and MyRounding Solutions. Both of these companies were acquired by Huron Healthcare, where David now serves as managing director and helps drive the creation of new technologies and innovative solutions. David is driven by a passion of helping organizations increase the levels of quality and safety in the delivery of patient care.
ABOUT MYROUNDING

The MyRounding application is a cloud-based, HIPAA compliant platform used by hospitals, clinics, and practices to collect quality, safety, satisfaction, and other audit and compliance data for analysis and reporting – as well as help organizations capture larger federal reimbursement revenues.

When applied and used in patient settings for daily and hourly patient rounding, the MyRounding application has led to increases in HCAHPS scores by over 33%. Beyond patients, the application can easily be configured by local administrators to create custom rounds, surveys, or audits. The application is highly customizable and very easy to use. From hand hygiene audits to family rounds to recommended practices, the MyRounding application is used by hospitals in a variety of ways.

- Individualized dashboard gives you visibility and accountability into daily rounding activity
- Instant trending reports at every user level
- Preloaded scripts and question sets that can be customized
- Continued implementation and optimization support
- Track, assign, and manage issues
- Available on any mobile or desktop device

SET UP A DEMO

We’d love to share how MyRounding can help your organization.

Online: myrounding.com/demo
Call: 877-503-9226
Email: info@myrounding.com
DON’T KNOW WHERE TO START?

Contact MyRounding to find out how we can help you obtain high reliability.
myrounding.com/demo | info@myrounding.com | 877-503-9226