The Journey to High Reliability: A Job for Leaders

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Current State of Quality

- Routine safety processes fail routinely
  - Hand hygiene
  - Medication administration
  - Patient identification
  - Communication in transitions of care
- Uncommon, preventable adverse events
  - Surgery on wrong patient or body part
  - Fires in ORs, retained foreign objects
  - Infant abductions, inpatient suicides
Current State of Improvement

- We have made some progress
  - Project by project: leads to “project fatigue”
  - Satisfied with modest improvement
- Current approach is not producing the results we want
  - Improvement difficult to sustain or spread
  - Getting to zero, staying there is very rare
- High reliability offers a different approach
  - The goal is much more ambitious
  - High reliability is not a project

Learning from High Reliability Industries

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Joint Commission Center for Transforming Healthcare
High Reliability Healthcare

- Our team has worked for 10 years with academics and practitioners from HROs (commercial nuclear power, aviation, military, amusement parks)
- We have created a model for healthcare:
  - Leadership committed to goal of zero harm
  - Safety culture embedded throughout an organization
  - RPI (lean, six sigma, change management)
- Many resources, tools, and programs

High-Reliability Health Care: Getting There from Here

MARK R. CHASSIN and JEROD M. LOEB

The Joint Commission

Context: Despite serious and widespread efforts to improve the quality of health care, many patients still suffer preventable harm every day. Hospitals find improvement difficult to sustain, and they suffer “project fatigue” because so many problems need attention. No hospitals or health systems have achieved consistent excellence throughout their institutions.
Committing to Zero is a Heavy Lift

Objections
• It’s impossible
• We don’t know how
• It’s too difficult; we’ll fail
• Too many other priorities
• The doctors will never go along
• It will cost way too much

If not zero, how much harm is OK?
If not now, when? If not us, who?

What Does Zero Harm Mean?

It means a commitment to zero as the ultimate goal
• It will not be achieved rapidly
• The commitment is the beginning of a journey

Zero harm is more than eliminating patient complications
• Zero harm to caregivers
• Zero missed opportunities to provide effective care
• Zero episodes of overuse

Zero harm does not mean striving for zero errors
The Center and High Reliability

- High Reliability Resource Library
- Self Assessment Tool for hospitals (Oro™ 2.0) extensively tested, used by 700+ hospitals
- Partnering in South Carolina, Michigan, Illinois, Wisconsin with state hospital associations
- Using high reliability framework on survey
- Tools for getting to zero: Center for Transforming Healthcare and TST
- Center’s RPI training programs

High Reliability is Catching On
High Reliability is Catching On

High Reliability Organizations: How to Hardwire Each in...
https://www.beckershospitalreview.com/...5-traits-of-high-reliability-organizations-to...

High Reliability Health Care - The Joint Commission
https://www.jointcommission.org/assets/1/6/Chassin and Loeb_0913_final.pdf

High Reliability in Health Care | Center for Transforming Healthcare
https://www.centerfortransforminghealthcare.org/...high-reliability-in-health-care...
Leadership

- All components of leadership must commit to the ultimate goal of high reliability (zero harm): Board, management, MD and RN leaders—formal and informal leaders
- Quality is the number one strategic priority
- Physicians lead and participate in QI
- Quality program goes beyond external requirements
- Improvement efforts directed at most important causes of risk and harm in your patients and community
- Quality measures widely published

Showing Leadership Commitment

- How does your Board show commitment?
  - If quality is the #1 priority, do you start each Board meeting with a report on quality?
  - Does the Board hear about patient harm?
  - Will Board sustain the work with next CEO?
- Board training in high reliability:
  - What questions to ask management
  - Participation in Oro™2.0 self assessment
Safety Culture

- Aim is not a “blame-free” culture
- HROs separate blameless errors (for learning) from blameworthy ones (for discipline, equitably applied to all caregivers, regardless of profession or seniority)
- Prerequisites for safety culture in health care
  - Eliminate intimidating behaviors
  - Hold everyone accountable for consistent adherence to safe practices
- HROs balance learning and accountability

What Behaviors are Intimidating?

- **Wide range:** impatience to physical abuse
- Most common?
- Refusal to answer questions or to return phone calls or pages; condescending tone or language; impatience with questions
- **2013 ISMP survey:** 11-15% personally experienced these from MDs and non-MDs
  >10 times in past year
Sentinel Event Alert on Intimidating Behaviors

Behaviors that undermine a culture of safety

Intimidating and disruptive behaviors can foster medical errors, contribute to poor patient satisfaction and reduce providers' ability to care for patients. They can also lead to a culture of fear and a lack of trust, which can undermine the safety and quality of patient care. To promote a culture of safety, healthcare organizations must address the problem of behaviors that threaten the performance of the healthcare team.
Results from ISMP

<table>
<thead>
<tr>
<th>“At least once” in past year (%)</th>
<th>2003</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assumed order correct to avoid contact</td>
<td>39</td>
<td>33</td>
</tr>
<tr>
<td>2. Asked colleague to talk to prescriber</td>
<td>39</td>
<td>38</td>
</tr>
<tr>
<td>3. Pressured to act, despite safety concern</td>
<td>49</td>
<td>39</td>
</tr>
<tr>
<td>4. Assumed order safe due to reputation</td>
<td>34</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Past disrespectful behavior altered handling of order clarification or questions (% YES)</th>
<th>2003</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>49</td>
<td>44</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>My organization deals effectively with disrespectful behavior (% NO)</th>
<th>2003</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>61</td>
<td>56</td>
</tr>
</tbody>
</table>

Evolution of Safety Culture

- Today, we mostly react to adverse events
- **Close calls** are “free lessons” that can lead to risk reduction--- if they are recognized, reported, and acted on
- **Unsafe conditions** are further upstream from harm than close calls
- Proactive, routine assessment of safety systems to identify and repair weaknesses gets closer to high reliability
### Bad News

- Do you get bad news? Regularly?
  - Do you encourage delivery of bad news?
  - Do you or others “shoot the messenger?”

The routine identification and reporting of unsafe conditions, errors, and other “bad news” are critical to your ability to find risks and improve.

Karl Weick (renowned HRO scholar):

“There is always bad news. If you’re not getting any, someone is hiding something.”

### Leadership and Safety Culture

- Does the Board set expectations for improving safety culture?
- How do you measure safety culture?
  - Does the CEO include safety culture goals in performance expectations for all executives?
  - What about directors and managers?
- “It doesn’t matter what the CEO says if my supervisor promotes an unsafe environment”
Eliminating Disrespectful Behavior

- How widespread is disrespectful behavior?
- Do you measure it?
- Code of conduct to eliminate intimidating behavior?
  - (LD.03.01.01 EP 4)
    - Acceptable and unacceptable behaviors
    - Calibrated enforcement mechanisms
- Accountability: How do you deal with serial violators of safety protocols?
- Are your disciplinary procedures equitable and transparent?

Key Prerequisite for Reporting

- What inhibits reporting before intimidating behavior even becomes a consideration?
- Failure to recognize unsafe conditions
  - Distractions during medication prep
  - Poor participation in timeouts
  - Infection control lapses due to poor training
- Requires education on known hazards
- How do you find the risks you don’t know about?
RPI and High Reliability

- How did HROs achieve zero harm?
  - How to get from low to high reliability?
  - No guidance from the academics
- Aiming for zero means impatience
  - How do we address safety processes that fail 40-60% of the time?
  - How to get major improvement quickly?
- Answer? RPI = lean, six sigma, and change management

Robust Process Improvement

- Systematic approach to problem solving
- The Joint Commission Enterprise has fully adopted RPI
  - Improve processes and transform culture
  - Focus on our customers, increase value
- The Joint Commission Enterprise is adopting all components of safety culture
- We measure RPI and safety culture and report on improvement on these strategic metrics to Board
Lean and Six Sigma

- Lean empowers employees to identify and act on opportunities to improve processes
- Lean tools increase value by eliminating steps in processes that represent pure waste
- Six sigma improves outcomes of processes by identifying and targeting causes of failure
- Together, they are the most effective way to improve processes that we know about

Lean and six sigma routinely produce 50%+ improvement

Technical Solution is Not Enough

- Lean, six sigma provide technical solutions that can markedly improve processes
- Why does improvement fail so often?
  - Not for lack of a good technical solution
  - Failures occur when organization fails to accept and implement a good solution it had
- RPI addresses this challenge directly
- Change management = a systematic way to implement and sustain good solutions
Technical Solution is Not Enough

Change management is the rocket science of improvement

Change management = a systematic way to implement and sustain good solutions

RPI in Health Care Today

An increasing number of hospitals and systems use one or more RPI tools

RPI is used differently by different hospitals
- Most use only some of the parts
- Change management is most often left out
- Most limit training to small group
- Most do not use it to transform

Compelling business case for RPI
The Business Case

- Administrative processes in health care are often broken
  - Billing, revenue cycle, supply chain, throughput
  - RPI can save money and improve margins directly
- Learning RPI allows organizations to solve their own problems and eliminate the need for many consultants
- Generate positive ROI now while learning how to redesign clinical care processes, which is more difficult
- Mayo program ROI = 5:1

Training and Deployment

- We have a large group of experts in lean, six sigma, and change management (RPI)
  - Studied experience of major corporations (for example, GE, Lilly, BD, Cardinal)
  - Extensive experience with 27 hospitals and systems applying RPI tools
- Our Center is training hospitals and systems to:
  - Get the most out of RPI tools and methods
  - Embed RPI throughout their organizations
Center’s High Reliability Assessment

- Center experts facilitate hospital leadership consensus
  - Oro™ 2.0 assesses 14 components of high reliability
  - Leadership (Board, CEO, MDs, strategy, measures)
  - Safety culture (trust, accountability, safety systems)
  - Process improvement (methods, training, spread)
- Each component is assessed at 1 of 4 levels of maturity
  - Leaders conduct assessment individually
  - Center facilitator leads team in resolving differences and identifying improvement opportunities

Center for Transforming Healthcare

- Using RPI together with leading US hospitals and health systems to solve most difficult quality/safety problems
- Project topics:
  - Hand hygiene, wrong site surgery, hand-off communications, colorectal surgical site infections (SSIs)
  - Safety culture improvement, preventable heart failure hospitalizations, falls with injury prevention
  - Sepsis mortality, insulin safety, C. difficile prevention
  - VTE, hospital-acquired pressure injury prevention
### Participating Hospitals

- Atlantic Health
- Barnes-Jewish
- Baylor
- Cedars-Sinai
- Cleveland Clinic
- Exempla
- Fairview
- Floyd Medical Center
- Froedtert
- Intermountain
- Johns Hopkins
- Kaiser-Permanente
- Mayo Clinic
- Memorial Hermann
- New York-Presbyterian
- North Shore-LIJ
- Northwestern
- OSF
- Partners HealthCare
- Sharp Healthcare
- Stanford Hospital
- Texas Health Resources
- Trinity Health
- VA Healthcare System-CT
- Virtua
- Wake Forest Baptist
- Wentworth-Douglass

### RPI Delivers Results

- “One-size-fits-all” best practice is inadequate
- Complex processes require more sophisticated problem-solving methods (RPI)
- Three crucial and consistent findings:
  - Many causes; each requires a different intervention
  - A few (5-6) key causes explain vast majority of failures
  - Key causes differ from place to place
- **RPI**: producing next generation best practices; solutions customized to your key causes
Some Important Causes of Hand Hygiene Failures

1. Faulty data on performance
2. Inconvenient location of sinks or hand gel dispensers
3. Hands full
4. Ineffective education of caregivers
5. Lack of accountability

Each requires a very different strategy to eliminate

Causes Differ by Hospital

<table>
<thead>
<tr>
<th>Main Causes of Failure to Clean Hands</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ineffective placement of dispensers or sinks</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand hygiene compliance data are not collected or reported accurately or frequently</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of accountability and just-in-time coaching</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety culture does not stress hand hygiene at all levels</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ineffective or insufficient education</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hands full</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wearing gloves interferes with process</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception that hand hygiene is not needed if wearing gloves</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health care workers forget</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distractions</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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</table>

Each letter = one hospital

Note: Not all of the main causes of failure appear in every hospital. The chart above represents the validation of the root causes across hospitals. This underscores the importance of understanding hospital-specific root causes so that appropriate solutions can be targeted.
# RPI Drives Major Improvements

<table>
<thead>
<tr>
<th>Center Projects</th>
<th>Results(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand hygiene</td>
<td>71↑</td>
</tr>
<tr>
<td>Hand-off communication failures</td>
<td>56↓</td>
</tr>
<tr>
<td>Wrong site surgery risks</td>
<td></td>
</tr>
<tr>
<td>• Scheduling</td>
<td>46↓</td>
</tr>
<tr>
<td>• Pre-op</td>
<td>63↓</td>
</tr>
<tr>
<td>• Operating Room</td>
<td>51↓</td>
</tr>
<tr>
<td>Colorectal Surgical Site Infections</td>
<td>32↓</td>
</tr>
<tr>
<td>Falls with injury</td>
<td>62↓</td>
</tr>
</tbody>
</table>

Targeted Solutions Tools (TST)

- Web-based tools: secure extranet channel
  - Available to all accredited customers now
  - No added cost, voluntary, confidential
- Educational, no jargon, no special training needed
- Coaches available to facilitate most effective implementation
- Targeting your causes means you don’t waste resources
- 1300+ organizations using today: hand hygiene, safe surgery, hand-off communication, and preventing falls with injury

Sepsis TST coming soon!

Center’s RPI Training Programs

- The Center’s expert RPI trainers are working with hospitals and health systems large and small, coast to coast to:
  - Strengthen leaders’ skills in leading change
  - Customize RPI adoption to organization’s current state
  - Create highly effective, durable RPI programs
  - Develop, train and mentor hospital’s key staff to be trainers
- When RPI becomes “the way we work,” organizations move toward high reliability, with improvement occurring from “the bottom up” as well as the top down
Memorial Hermann: Getting to Zero

The Joint Commission Journal on Quality and Patient Safety

2012 John M. Eisenberg Patient Safety and Quality Awards

Memorial Hermann: High Reliability from Board to Bedside

Innovation in Patient Safety and Quality at the National Level

M. Michael Shykos, MD, FACS; Douglas Moore, MD, MBA; Juan Inuria, MBA, FACHE; FADC, CPHIQ; Debbi Gerhade, RN, MSN, CPHRM, CPHQ, CPSP; Anne Claire Prance, PhD, CPHQ, MBA, FACHE

Article-at-a-Glance

Background: In 2006 the Memorial Hermann Health System (MHHS), which includes 12 hospitals, began applying principles embraced by high reliability organizations (HROs). Three factors support in HRO journey: (1) aligned organizational structure with transparent management systems and compensated reporting process; (2) Robust Process Improvement™ (RPI) with high-reliability interventions; and (3) cultural establishment, maintenance, and evolution.


Sustaining Improvement in Hand Hygiene and Health Care–Associated Infections

The Joint Commission

Journal on Quality and Patient Safety

Improvement from Front Office to Front Line

January 2016

Volume 42 Number 1

Jt Comm Journal on Qual Pat Safety 2016;42(1):6-17
Frequency of Causes of HH Noncompliance

11 Memorial Hermann Hospitals: Oct 2010-June 2011

Memorial Hermann Hand Hygiene Compliance Rates: 11 Hospitals

Jt Comm J Qual Pat Safety 2016;42(1): 6-17
System - Ventilator Associated Pneumonias: All Adult ICUs

HAI Hospital Scorecard

<table>
<thead>
<tr>
<th>Sugar Land Hospital HAI Scorecard</th>
<th>ICU CLABSI</th>
<th>Floor CLABSI</th>
<th>ICU CAUTI</th>
<th>Floor CAUTI</th>
<th>Total SSI</th>
<th>Perf Std SSI</th>
<th>NHSN SSI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<table>
<thead>
<tr>
<th>Hip</th>
<th>Knee</th>
<th>ORIF</th>
<th>MRSA</th>
<th>Clostridium difficile</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</table>

Number of HAIs in one month
Michael Shabot, MD  
Memorial Hermann System EVP

“We fully attribute to the Center for Transforming Healthcare’s hand hygiene TST the final drop in HAI rates to zero or near-zero system-wide. After implementing the hand hygiene TST, our hospitals began to report zeros as their most common monthly CLABSI and VAP result. Our mothers were right after all! Feel free to quote me. This actually saves lives.”

Hospital Acquired Conditions  
“Never Events”

Acute Hemolytic Transfusion Reactions  
Transfusion Events Jan 2007 – December 2017

2,965,000 Adjusted Admissions  
16,079,000 Adjusted Pt Days  
1,344,000 Transfusions
The Joint Commission Center for Transforming Healthcare is now training Memorial Hermann in expanding its RPI program to the entire system.
Center for Transforming Healthcare and Zero Harm

- We must have much more ambitious goals for healthcare improvement: zero harm
  - Current methods are inadequate
  - Culture change is difficult, takes time

- Lean, six sigma, and change management (RPI) are delivering impressive results
  - ROI of at least 4:1 is readily achievable
  - Some hospitals/systems are approaching zero

- The Center has many ways to help