Is High Reliability in Health Care Possible?

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Objectives

- Discuss the principles of high reliability organizations and what makes health care different.
- Describe the High Reliability Health Care Maturity model and its specific application to facility maintenance and engineering.
- Discuss the importance of leaders as agents of change on the journey toward high reliability.
State of Health Care

Health care used to be:

- Simple
- Cheap
- Safe
- Ineffective
State of Health Care

Today, health care is extremely complex, exceedingly expensive, often highly effective, and very dangerous.
It may seem a strange principle to enunciate as the very first requirement in a Hospital that it should do the sick no harm.

—Florence Nightingale

*Notes on Hospitals, 1859*
One Vision

All people always experience the safest, highest quality, best-value healthcare across all settings
Excellence in patient care for every patient, every time
How many harm events do you hope to have in your hospital next year?

ZERO

The *essential* ingredient for building a high reliability organization.
Shared mental models

- Concepts of reality, often blurred and shifting
  - Roger Bannister
  - CLABSI rates
  - Wrong site surgery

- Who will change the mental model for health care? Who already has?
How Do We Get from Low to High Reliability?
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. High-reliability science is
HIGH RELIABILITY MODEL

Leadership
Commitment to zero patient harm

Safety Culture
Empowering staff to speak up

Robust Process Improvement®
Systematic, data-driven approach to complex problem solving

High Reliability Maturity Model

Leadership Commitment
- Board
- CEO/Management
- Physicians
- Quality Strategy
- Quality Measures
- Safe Adoption of IT

Adoption of Safety Culture
- Trust
- Accountability
- Identifying Unsafe Conditions
- Strengthening Systems
- Assessment

Robust Process Improvement®
- Methods
- Training
- Spread

Stages of maturity
Beginning ➔ Developing ➔ Advancing ➔ Approaching
and Transformation

- Provides crucial, **leading indicator** information about strengths, opportunities, and potential investment strategies for achieving performance
- Incorporates and reflects **performance across multiple domains**
- A guiding force for enterprise **transformation**
- A look in the mirror
- *Not a benchmarking tool*
- Assess progress on the high reliability journey over time

*Leading from Within*
Quick Access via the Website

www.centerfortransforminghealthcare.org
Organizational Assessment

- 49 questions with branching logic for hospital senior leadership
- Evaluates level of maturity in 14 components

Resource Library

Oro™ 2.0 is separate from Joint Commission accreditation.
Getting your best results

- Requires introspection and courage to be honest
- Expectation needs to be clear to participants when the tool is sent out
Leadership Components

- Board: commitment to quality and safety
- CEO/Senior Leadership: commitment to zero patient harm
- Physicians: lead and participate in PI

Where are quality and safety within the Quality Strategy?

Organizations are transparent with information and achievement of quality goals is rewarded.
Leadership Commitment: CEO

- Commitment to high reliability
- Commitment to quality & safety
- Personal involvement by CEO in QI efforts

Is the aim explicit at your organization?

Leadership Strategy

Daily Operations Brief:

– Includes representatives from every department and unit
– Created a vigilant and participating team
– Information focus but also communication & team dynamics
Daily Operations Briefing

- Stand up meeting led by senior leadership
  - Every department present
  - No more than 15 minutes
  - Look back 24 hours
  - Look ahead 24 hours
  - Actions taken to mitigate previously identified issues

- Improves situation awareness of issues that may have previously been siloed
Safety Culture Components

- Assessment of Organizational Safety Culture and targeted actions to improve at department level
- Leadership actions to improve trust including eliminating hierarchy issues and intimidation.
- Establishment of high levels of personal accountability and uniform approach to discipline.
Identifying Unsafe Conditions

- Annoyances = unsafe conditions
  - Nuisance alarms, missing equipment, broken equipment
Prerequisite for Reporting

- What inhibits reporting even before intimidating behavior comes into play?
- Failure to recognize unsafe conditions
  - Distractions during medication prep
  - Poor participation in timeouts
  - Language barrier preventing full protection of two-person check on blood products
- Requires education on known hazards
- Where are your unrecognized risks?
Tactics to Increase Reporting

- Make sure staff know what you want to hear about and...
- Make sure you tell staff what you did with the information they reported.
Vulnerable System Syndrome

Failure to learn from mistakes:

- Blame individuals vs solving underlying causal factors
- Muzzle concerns of staff
- Chase the “wrong kind of excellence”
- Forgotten how to “be afraid”
- Doomed to failure

Strengthening Systems

What efforts are in place to recognize patterns of causal factors across the organization?

What are the efforts to catalog and prioritize system weaknesses—proactively?

- **Reactive**
  - Responding to events that have already happened

- **Proactive**
  - Active identification of unsafe conditions through analysis of processes

- **Predictive**
  - Ability to accurately foresee potential problems based on system analysis
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.
- Ultimately, proactive, routine assessment of safety systems to identify and repair weaknesses gets closer to high reliability.
Prioritizing Issues for Investigation: Safety Assessment Codes Matrix

<table>
<thead>
<tr>
<th>Probability and Severity</th>
<th>Catastrophic</th>
<th>Major</th>
<th>Moderate</th>
<th>Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Occasional</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Uncommon</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Remote</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Options for Analysis

- **FMEA or HFMEA:**
  - Thorough and comprehensive
  - Time consuming

- **RCA:**
  - Many perspectives
  - Works prospectively
  - Assess trends or groups of near misses
Prioritize issues for attention

- Prioritize based on safety
- Systems for identification and prioritization of facilities maintenance issues are in place
  - Standardize prioritization of issues
  - Develop robust communication mechanisms to assure action
High Reliability: Situation Awareness

“Knowing what is going on”

Level 1: Awareness

Level 2: Comprehension

Level 3: Projection

Decisions/Actions

Distractions and Interruptions

Sound, noise levels:

- WHO and EPA recommendation: 30-35 decibels (dBA) during the day and 40-45 dBA at night.

- Noise sources are numerous

Interruptions & distractions contribute to up to 11% of medication errors
Technology and Unintended Errors

- 85-90% of clinical alarm signals do not require clinical intervention
- Top 10 Health Technology Hazard (ECRI)
- Process for safe alarm management & inventory of alarm-equipped medical devices

Improved Environment to Address Threats to SA

ID critical safety-sensitive work and put in place physical plant changes where that work is done

- Verifying high risk medication orders
- Programming infusion pumps
- Time out prior to procedure in ICU
STAR

Stop: Pause to focus on the patient or task.

Think: What are you about to do? Plan your actions.

Act: Complete the task or action as planned.

Review: Make sure you get the expected or desired result.
RPI® is a blended set of strategies, tools, methods, and training programs—including Lean, Six Sigma, and Change Management—that is used to improve business processes and clinical outcomes.
Moving Towards Reliability

Guided Robust Process Improvement

- Measure current state
- Analyze causes
- Select targeted solutions
- Sustain and spread improvements

Confidential
Separate from Accreditation
## 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>x</td>
<td>x</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>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
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<tr>
<td>Lack of accountability and just-in-time coaching</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<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>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Ineffective or insufficient education</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</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>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Wearing gloves interferes with process</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</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>x</td>
<td>x</td>
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<tr>
<td>Health care workers forget</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Distractions</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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</table>

*Note that 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.*
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
Facilitating Change™ Model

Plan Your Project

Inspire People

Launch the Initiative

Support the Change

Facilitating Change™
Build the Need for Change

- Don’t assume the need for change is obvious
- Validate why the project is important
- Answer the question, “Why are we changing?”
- Increase dissatisfaction with the current state and make people want to change
- Create a sense of urgency
- Align the project with key business drivers
In order to drastically improve safety levels and advance towards high reliability must have:

- Strong leadership support
- Commitment to building a safety culture
- Evidenced-based performance improvement methodology
Thank You

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