Creating a Highly Reliable Health System: the Leadership Challenge

6th Annual Patient Safety Symposium
Rick Foster, MD
April 18, 2013
Redesigning Health Systems

“The American healthcare delivery system is in need of fundamental change….Healthcare today too frequently harms and routinely fails to deliver its potential benefit…. Between the healthcare we have and the care we should receive lies not just a gap, but a chasm.”
**Vision:** That all SC hospitals and providers deliver safe, high quality healthcare in a caring and compassionate manner to each patient, every time.

**Mission:** To establish a culture of continuous improvement in the quality, efficacy and safety of patient care across all healthcare organizations and providers statewide.
Every Patient Counts: System-Level Aims

- Create an organizational culture of safety with engaged leadership.
- Actively improve the quality & outcomes of evidence-based care for key patient populations.
- Eliminate preventable serious adverse events and unintended patient harm.
- Establish a patient-centered environment of care with open and transparent communication.
State Performance: Overall Score

Process Quality + Readmissions + Mortality + HCAHPS

Blue = Top Quartile (83.6%-84.5%)
Green = Second Quartile (82.8%-83.5%)
Yellow = Third Quartile (82.4%-82.8%)
Red = Bottom Quartile (79.8%-82.4%)
According to Rau, hospitals in these 10 major markets fared best under the VBP program:

- Fort Wayne, Ind.
- Greenville, S.C.
- Boise, Idaho
- Florence, S.C.
- Bangor, Maine
- Grand Rapids, Mich.
- Jackson, Tenn.
- Portland, Maine
- Charleston, S.C.
HHS Quality Strategy

- Better care: increase the overall quality, by making care more patient-centered, reliable, accessible and safe.
  - Making care safer by reducing harm
  - Ensuring that each person and family are engaged as active care partners
  - Promoting effective communication and coordination of care
National Priorities Partnership: Overarching Objectives

- Improve the safety and reliability of America’s health care system.
- Engage patients and families in managing health and making decisions about care.
- Ensure patients receive well-coordinated care across all providers, settings, and levels of care.
- Guarantee appropriate and compassionate care for patients with life-limiting illnesses.
- Improve the health of the population.
- Eliminate waste while ensuring the delivery of appropriate care.
National Priorities Partnership
Safety Goals

• All healthcare organizations and their staff will strive to ensure a culture of safety while driving to lower the incidence of healthcare-induced harm, disability or death toward zero.

• They will focus relentlessly on continually reducing and seeking to eliminate all HAIs and serious adverse events.

• All hospitals will reduce preventable and premature hospital-level mortality to best in class.

• All hospitals and their community partners will improve 30-day mortality rates following hospitalization for select conditions to best in class.
How Safe are US Airlines?

- **1990-2001**
  - 129 deaths per year
  - 9.3 million flights per year
  - Rate = 13.9 deaths per million flights

- **2002-2010**
  - 18 deaths per year
  - 10.6 million flights per year
  - Rate = 1.74 deaths per million flights

= 87%↓
Safety: Airlines vs. Health Care

- IOM “To Err is Human” estimate
  - 44,000-98,000 deaths in hospitals due to errors in care
  - 34.4 million hospitalizations per year
  - Rate = 1300-2800 deaths per million hospitalizations

- US Airlines: 2002-2010
  - Rate = 1.74 deaths per million flights

- Hospital care is 750-1600 times less safe
Safety is the Amusement Park Industry's Number 1 Priority

• Nearly 300 million people visit the approximately 400 amusement parks in the United States annually and take nearly 2 billion safe rides.
• 59 of the 1,207 ride-related injuries reported in 2010, or less than 5 percent of all ride injuries, were considered serious, meaning they required some form of overnight treatment at a hospital.
• The likelihood of being injured seriously enough to require overnight hospitalization for treatment is 1 in 24 million. The chance of being fatally injured is 1 in 750 million. (Based on an average of five rides per guest.)
High Reliability Definitions

• **Reliability** – A probability that a system will yield a specified result.

• **HRO** – An organization that is involved in a complex and high risk environment that delivers exceptionally safe and consistently high quality service/care over time.
  
  – Nuclear Power Plant, Aircraft Carrier, Airline Flight, Amusement Park, Hospitals??
High Reliability Organizations: Collective Mindfulness

• A mental orientation that continually evaluates the environment for the expected and unexpected.

• Leaders at all levels constantly think in terms of how the organization can become better and avoid error.

• Anticipation for events that may produce harm combined with containment once an unexpected event has occurred to prevent or minimize harm.
High Reliability—Five Key Concepts

• **Sensitivity to Operations**
  – Focus on systems and processes and how they affect patient care.

• **Reluctance to Simplify**
  – Systems are made simple, but the explanation for failure is rigorously pursued and understood.

• **Preoccupation with Failure**
  – Relentless pursuit of perfection and a constant search for what might go wrong.

• **Deference to Expertise**
  – Information is freely shared and staff are engaged.
  – In a crisis, the person with the most expertise leads.

• **Resilience**
  – The organization quickly contains and mitigates errors.
High Reliability Organizations: Four Leadership Elements

(1) Executive Leadership Support

– A culture of safety is pervasive throughout the organization.
– Transparency is the key to changing culture.
– Safety must be the overarching strategy that drives efficiency and effectiveness, rather than the opposite.
– Leaders take ownership for setting the climate and focusing the work.
High Reliability Organizations: Four Leadership Elements

(2) Alignment with Business Case
   – Align the business case for quality / safety with financial performance.

(3) Linking Staff Behavior with Desired Outcomes
   – Introduce changes only when fully linked with policies and aligned with incentives.
   – Ensure there are clearly defined owners for system implementations.
   – Link quality and safety to operations.
High Reliability Organizations: Four Leadership Elements

(4) Just Culture

– The reporting of errors, near misses, mistakes, waste, etc. is relentlessly pursued by the organization.
– The person reporting does so without fear of reprisal or personal risk.
– Reporting becomes the responsibility of all individuals in the organization.
– The errors and events are used to improve performance.
– Personal accountability for behaviors remains.
High Reliability

Reliability: Not By Process Design Alone

- Behavior Accountability
  - Behavior Expectations
  - Knowledge & Skills
  - Reinforce & Build Accountability

- Process Design
  - Evidence-Based Best Practices
  - Technology Enablers
  - Intuitive Work Environment
  - Resource Allocation
  - Continuous Quality Improvement

Optimized Outcomes
Safe Care, South Carolina creating highly reliable healthcare – every patient, every time!
SC Safe Care Commitment

• Partnership between SCHA and The Joint Commission Center for Transforming Healthcare
• First ever statewide effort to promote the adoption of high reliability practices in hospitals.
• Ultimate goal is significant improvement in patient safety and quality, resulting in a dramatic reduction in events causing preventable harm.
Key components of a highly reliable organization

Organizational Culture of Safety

Robust Process Improvement

Leadership Engagement
<table>
<thead>
<tr>
<th>Year 1 - 2013</th>
<th>Year 2 - 2014</th>
<th>Year 3 - 2015</th>
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</thead>
</table>
| • Baseline High Reliability Self-assessment Tool (HRST)  
• Baseline Safety Culture Survey  
• Education/Training on High Reliability Principles  
  • Leadership  
  • Safety Culture  
  • Robust Process Improvement  
  • Change Management  
• Education/Training on Safety Event Classification (SEC) and Serious Safety Event Rate (SSER) Data Collection  
• Full access to Just Culture Community training and resources  
• Identification of Area(s) for targeted improvement |
| • HRST Re-evaluation  
• Implementation of Serious Safety Event Rate Data Collection  
• Completion of the CTH Targeted Solutions Tool Safety Culture Module  
• Ongoing education on High Reliability Practices applicable to 14 areas  
• Selection and implementation of high reliability practices to address identified needs  
• Continued access to Just Culture resources  
• Optional on-site assistance in implementing high reliability practices (for additional fee) |
| • Continued training on how to sustain/spread robust process improvements  
• Re-assessment of HRST and safety culture survey (post-implementation)  
• Continued monitoring of SSER  
• Continued access to Just Culture Community  
• Continued availability of optional on-site resources  
• Full implementation of a high reliability performance dashboard  
• Formal assessment of SCSCC program  
• Opportunity for continued program participation as mentor health system |
Scope of the Commitment

• The achievable imperative – ZERO preventable harm to patients

• Commitment learning in the first year will focus on:
  – How to lead a high reliability health care organization
  – The practical attributes and behaviors reflective of a safe and just culture
  – The change management tools and methods that will help facilitate the transformative change to a culture of safety and reliability
High Reliability Self-Assessment Tool (HRST)

• **Leadership**: Board, CEO, physicians
  – Quality strategy, quality measures, IT

• **Safety culture**
  – Trust and accountability
  – Identifying unsafe conditions or practices
  – Strengthening systems, measurement

• **Robust process improvement**
  – Methods, training, spread
## High Reliability: Stages of Organizational Maturity™

<table>
<thead>
<tr>
<th>Leadership</th>
<th>Beginning</th>
<th>Developing</th>
<th>Advancing</th>
<th>Approaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board</td>
<td>Board quality focus is nearly exclusively on regulatory compliance</td>
<td>Full Board’s involvement in quality limited to hearing reports from its quality committee</td>
<td>Full Board engaged in development of quality goals and approval of quality plan; regularly reviews adverse events and progress on quality goals</td>
<td>Board commits to goal of high reliability for all clinical services</td>
</tr>
<tr>
<td>CEO/management</td>
<td>CEO/management quality focus is nearly exclusively on regulatory compliance</td>
<td>CEO acknowledges need for plan to improve quality; delegates development and implementation of plan to subordinate</td>
<td>CEO leads development and implementation of proactive quality agenda</td>
<td>Management aims for zero failure rates for all vital clinical processes; some demonstrate zero or near-zero failure rates</td>
</tr>
<tr>
<td>Physicians</td>
<td>Physicians rarely lead quality improvement activities; overall physician participation in these activities is low</td>
<td>Physicians champion some quality improvement activities; physician participation in these activities occurs in some areas but is not widespread</td>
<td>Physicians often lead quality improvement activities; physician participation in these activities occurs in most areas, but we still have some important gaps</td>
<td>Physicians routinely lead clinical quality improvement activities and accept leadership of other appropriate clinicians; physician participation in these activities is uniform throughout the organization</td>
</tr>
<tr>
<td>Quality strategy</td>
<td>Quality is not identified as central strategic imperative</td>
<td>Quality is one of many competing strategic priorities</td>
<td>Quality is one of our organization’s top 3 or 4 strategic priorities</td>
<td>Quality is the highest priority strategic goal of the organization</td>
</tr>
<tr>
<td>Quality measures</td>
<td>Quality measures not prominently displayed or reported internally or publicly; only measures used are those required by outside entities; not part of reward systems</td>
<td>Few quality measures reported internally; few or none reported publicly; not part of reward systems</td>
<td>Routine internal reporting of quality measures begins; first measures reported publicly; first quality metrics introduced into staff reward systems</td>
<td>Key quality measures are routinely displayed internally and reported publicly; reward systems for staff prominently reflect accomplishment of quality goals</td>
</tr>
<tr>
<td>Information technology</td>
<td>Provides little or no support for quality improvement</td>
<td>Supports some improvement activities, but principles of safe adoption not often adhered to</td>
<td>IT solutions support many quality initiatives; organization commits to principles and practice of safe adoption</td>
<td>Safely adopted IT solutions are integral to sustaining improved quality</td>
</tr>
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### Safety Culture

<table>
<thead>
<tr>
<th>Trust</th>
<th>Beginning</th>
<th>Developing</th>
<th>Advancing</th>
<th>Approaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>No measurement of trust or intimidating behavior</td>
<td>First codes of behavior adopted in some clinical departments</td>
<td>CEO and clinical leaders establish a trusting environment among all staff by modeling appropriate behaviors and championing efforts to eradicate intimidating behaviors</td>
<td>High levels of (measured) trust exist in all clinical areas; self-policing of codes of behavior in place</td>
<td></td>
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<tr>
<td>Accountability</td>
<td>Emphasis on blame; discipline not applied equitably or with transparent standards; no process for distinguishing “blameless” from “blameworthy” incidents</td>
<td>Beginning recognition of importance of equitable disciplinary procedures; some clinical departments adopt these procedures</td>
<td>All staff recognize and act on their personal accountability for maintaining a culture of safety; full adoption of equitable and transparent disciplinary procedures</td>
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</tr>
<tr>
<td>Identifying unsafe conditions</td>
<td>Few or no systems in place to identify adverse events; close calls (“early warnings”) not recognized or reviewed</td>
<td>Pilot “close call” reporting programs begin in few areas; some examples of early intervention to prevent harm</td>
<td>Staff in many areas begin to recognize and report unsafe conditions and practices before they harm patients</td>
<td>Close calls and unsafe conditions routinely reported, leading to early problem resolution, before patients are harmed; results routinely communicated</td>
</tr>
<tr>
<td>Strengthening systems</td>
<td>Limited or no effort to assess system defenses against quality failures and remedy weaknesses</td>
<td>RCAs begin to identify same weaknesses in system defenses in many clinical areas; systematic efforts to strengthen them are lacking</td>
<td>System weaknesses catalogued and prioritized for improvement</td>
<td>System defenses proactively assessed; weaknesses proactively repaired</td>
</tr>
<tr>
<td>Assessment</td>
<td>No measures of safety culture</td>
<td>Some measures of safety culture undertaken but are not widespread; little if any attempt to strengthen safety culture</td>
<td>Measures of safety culture adopted and deployed organization-wide; beginning efforts to improve</td>
<td>Safety culture measures part of strategic metrics reported to Board; systematic improvement initiatives underway to achieve fully functioning safety culture</td>
</tr>
<tr>
<td>Performance improvement</td>
<td>Methods</td>
<td>Beginning</td>
<td>Developing</td>
<td>Advancing</td>
</tr>
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<tr>
<td>No formal approach to quality management adopted by organization</td>
<td>Exploration of modern process improvement tools beginning</td>
<td>Organizational commitment to adopt full suite of Robust Process Improvement (RPI) tools</td>
<td>Adoption of RPI tools accepted fully throughout organization</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>Limited to compliance personnel or to quality department</td>
<td>Recognition that training in PI tools outside quality department is critical to success</td>
<td>Training of selected staff in RPI underway; plan in place to broaden training</td>
<td>Training in RPI is mandatory for all staff, as appropriate for their jobs</td>
</tr>
<tr>
<td>Spread</td>
<td>No commitment to widespread adoption of improvement methods</td>
<td>Pilot projects using some new tools conducted in a few areas</td>
<td>RPI used in many areas to improve business processes as well as clinical quality and safety; positive ROI achieved</td>
<td>RPI tools used throughout organization for all improvement work; patients engaged in redesigning care processes; RPI proficiency required for career advancement</td>
</tr>
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January 2013
HRST Sample Questions: Identifying Unsafe Conditions

20. Under what circumstances does your organization conduct a root cause analysis?

21. Which of the following best describes your organization’s approach to close calls or near misses?

22. Which of the following best characterizes what your organization does with reports of close calls?

22b. How would you describe the results of your investigations of close calls?

22c. Does your organization routinely communicate the results of these successful efforts to repair unsafe conditions before patient harm occurs both widely within the organization and specifically to the individuals who reported the close calls that led to the improvements?
8. How would you describe the frequency with which physicians play leadership roles in your organization’s quality improvement initiatives?

8b. Overall, how would you characterize physician participation in quality improvement activities in your organization?

9. Do physicians in your organization readily accept the leadership of other clinicians (e.g., nurses, pharmacists) when they participate in quality improvement initiatives?
SC Just Culture Community

• Just Culture
  – An atmosphere of TRUST in which people are encouraged, even rewarded, for providing essential safety-related information, but in which they are also CLEAR about where the line must be drawn between acceptable and unacceptable behavior. (Reason 1997)

• Benefits of a just culture/standards of behavior
  – Increasing safety reporting/self reporting
  – Trust building/Retention of high performers
  – More effective safety and operational management
A "Just Culture": Balancing Culpability and Blamelessness

UNSAFE ACTS ALGORITHM

Were the actions as intended?
- YES
- NO

Evidence of illness or substance use?
- NO
- YES

Known medical condition?
- NO
- YES

Were the consequences as intended?
- YES
- NO

Substance abuse without mitigation
- Sabotage, malevolent damage

Substance use with mitigation
- Substance use violation

Knowingly violated safe procedures?
- NO
- YES

Were procedures available, workable, intelligible, correct and routinely used?
- NO
- YES

Deficiencies in training, selection, or inexperienced?
- YES
- NO

System induced violation
- Possible reckless violation

Pass substitution test? (Could someone else have done the same thing)?
- NO
- YES

History of unsafe acts?
- YES
- NO

Blameless error
- Blameless error, corrective training, counseling indicated

System induced error
- Possible negligent behavior

Common definitions for classifying events

- Based on *deviation* from generally accepted performance standards and *degree of harm* that results to the patient

Volume-adjusted measure of events resulting in moderate to severe harm or death

Intended to be used initially as an internal metric of preventable harm and measure of safety performance
A deviation from generally accepted performance standards (GAPS) that…

**Serious Safety Event**
- Reaches the patient
- Results in moderate to severe harm or death

**Precursor Safety Event**
- Reaches the patient
- Results in minimal harm or no detectable harm

**Near Miss Safety Event**
- Does not reach the patient
- Error is caught by a detection barrier or by chance
Was there a deviation from generally accepted performance standards (GAPS)?

- Yes → Did the deviation reach the patient?
  - Yes → Did the deviation cause moderate to severe harm or death?
    - Yes → Serious Safety Event
    - No → Precursor Safety Event
  - No → Near Miss Safety Event
- No → Not a Safety Event
## “How” & “Why” Data

<table>
<thead>
<tr>
<th>People Causes</th>
<th>HPICompare</th>
<th>Systems Causes</th>
<th>HPICompare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge &amp; Skill</td>
<td>14.0%</td>
<td>Structure (job design)</td>
<td>11.6%</td>
</tr>
<tr>
<td>Attention on Task</td>
<td>13.1%</td>
<td>Culture (people &amp; people interaction)</td>
<td>55.2%</td>
</tr>
<tr>
<td>Communication</td>
<td>9.2%</td>
<td>Process</td>
<td>18.2%</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>34.3%</td>
<td>Policy &amp; Protocol</td>
<td>10.2%</td>
</tr>
<tr>
<td>Non-Compliance</td>
<td>22.1%</td>
<td>Technology &amp; Environment</td>
<td>4.8%</td>
</tr>
<tr>
<td>Normalized Deviance</td>
<td>7.3%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| IA Coded for IFM       | 4,754 of 7,726 (62%) | IA Coded for SFM | 6,268 of 7,728 (81%) |
Sentara Serious Safety Event Rate

Sentara Hampton Roads Hospitals

80% Reduction Since 2003
High Reliability Certified Zero Award
To: Memorial Hermann Southeast Hospital
Zero iatrogenic Pneumothorax for 12 Months
February 1, 2010 to January 31, 2011

Dan Wolterman
President & Chief Executive Officer

M. Michael Shabot, M.D.
System Chief Medical Officer

Robert G. Croyle
Chair, Health System Board
How Will We Measure Success?

• Annual re-assessment (through The Joint Commission’s HRST) of progression toward High Reliability
• Improved hospital-specific Culture of Safety
• Increased rate of near miss/close call reporting
• Decreased rate of serious harm events
• Sustained leadership commitment to achieving high reliability
7 Critical High Reliability Questions for Hospital Leaders

1. Has your board and leadership set a high reliability goal of eliminating all preventable patient harm?
2. Is the current state of the quality and safety of patient care in your organization highly reliable? In other words, do all patients, always receive safe, high quality patient care in all settings?
3. Do all staff feel safe in speaking up and reporting potentially unsafe acts or conditions before they harm patients?
4. Do all staff feel personally accountable for patient safety?
5. How many patients are harmed by the care delivery system in your organization each day/week/month/year?
6. What type of preventable harm is occurring?
7. How many “near misses” occur in your organization and are they used as learning opportunities for improvement?
Patient Safety as the Core Value, Zero as the Core Goal

“Our goal is to have zero serious safety events. We’re not a perfect organization but we aspire to be one.”

Richard Brilli, M.D.
Chief Medical Officer
Nationwide Children’s Hospital
Columbus, Ohio