Paving the Way to High Reliability Healthcare

Mark R. Chassin, MD, FACP, MPP, MPH
President and CEO, The Joint Commission
Ochsner Health System
3rd Annual Quality and Patient Safety Summit
New Orleans, LA
September 9, 2016

The Joint Commission Today

1. Strong focus on enhancing customer value: improving accreditation, engaging physicians
2. Effective advocate with CMS: modernizing the most outdated COPs (2012 LSC, finally)
3. High reliability is gaining momentum
4. We are an improvement company, creating and delivering effective quality solutions
Reframing the Mission of The Joint Commission

- Board refocused our mission in 2009
- Key part of effort to improve customer value
- Mission:
  “To improve health care for the public by evaluating health care organizations and inspiring them to excel…”
- Reoriented surveyors to the central need to conduct educational, collaborative surveys

Representative Customer Comment

“I’m just getting caught up after last week; 30 surveyor days is exhausting. The survey team was highly collaborative while not yielding an inch on standards. I know---just the balance you’re looking for. There were over a dozen systemic opportunities for improvement that we had not recognized on our own. I’ve never seen as experienced and effective a team as this group.”

Bill Conway, MD, Henry Ford Health System
Exceed Customer Expectations

- We track Net Promoter Score (NPS):
  - High bar for customer satisfaction
  - 0 to 10 scale on likelihood to recommend
  - NPS = (% 9-10) minus (% 0-6)
  - Can range from +100 to -100

Likelihood to recommend (NPS)

<table>
<thead>
<tr>
<th>Year</th>
<th>NPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>59</td>
</tr>
<tr>
<td>2013</td>
<td>61</td>
</tr>
<tr>
<td>2014</td>
<td>62</td>
</tr>
<tr>
<td>2015</td>
<td>64</td>
</tr>
</tbody>
</table>

Apple: 72
Amazon: 64
US Airways: -8

Growth in Joint Commission
US Customers

21,070
Joint Commission US Customers

| Program              | 2015 | Ambulatory Care | 2106 | Behavioral Health | 2288 | Certification | 3982 | Home Care     | 5791 | Hospitals    | 4393 | Laboratory | 1502 | Long Term Care | 1008 | Total | 21,070 |

The Joint Commission
Griffin Hospital: Insulin pen misuse could have infected patients with diseases

3000 patients over 6 years

Illinois Woman Dies After Catching Fire in Surgery

ST. LOUIS – A southern Illinois woman died after being severely burned in a flash fire while undergoing surgery, a rare but vexing problem in operating rooms.

Janice McCall, 65, of Energy, Illinois, died at Vanderbilt University Medical Center in Nashville, Tennessee, on Sept. 8, six days after being burned on the operating table at Heartland Regional Medical Center in Marion, Illinois, her family's attorney said.
Surgeon accused of removing kidney from the wrong patient

WORCESTER, Mass. - Massachusetts health authorities are investigating an allegation that a surgeon removed a kidney from the wrong patient.

“This is a deeply unfortunate situation involving a patient misidentification that took place outside of our hospital and did not involve our employees,” according to a statement from Tenet Health, which owns St. Vincent. “Our staff followed proper protocols in preparing for and performing the surgery, which was scheduled by the patient’s physician at our hospital.”

You’re taking out wrong kidney, surgeon was told

A surgeon accused of killing a patient by taking out the wrong kidney was named in a media story about a medical student watching the operation. A court heard yesterday.

Dr Mahesh Goel dismissed the concerns of student Victoria Fern and pressed on with the surgery, it was said.

Goel and consultant urologist John Roberts are accused of manslaughter over the 'appalling error' which left 70-year-old Graham Reeves with one diseased kidney.

The Korean War veteran died five years after the botched operation.

Roberts, 55, and Goel, 39, had shown a level of care for below that which is expected of competent surgeons, prosecutor Leighton Davies QC said.

'It was a drastic surgical error described by Mr Roberts himself in the aftermath as the worst thing he had done in his life,' said Mr Davies. "He said it was an appalling error."

Mr Reeves, who was single, was due to have his damaged right kidney removed. But the surgeons removed his left kidney and before the mistake was realised it was put in a jar of acidic sterilising agent.

'The right kidney was diseased for years and non-functioning,' Mr Davies told Cardiff Crown Court.

'The operation played a significant part in causing his death. It deserves to be condemned as gross negligence and therefore a crime.'
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 good enough
  - Improvement difficult to sustain/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
High Reliability Healthcare

Our team has worked for 7 years with academics and experts from HROs (nuclear, aviation, military, amusement parks)

- We have created a model for healthcare:
  - Leadership committed to goal of zero harm
  - Safety culture embedded throughout
  - RPI (lean, six sigma, change management)
- Everyone’s job is protecting patients
- 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.
How Safe are US Airlines?

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

2002-2013
- 14.6 deaths per year
- 10.2 million flights per year
- Rate = 1.4 deaths per million flights

= 90% ↓

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: 2002-2013
- Rate = 1.4 deaths per million flights

Hospital care is 929-2000 times less safe.
Joint Commission
High Reliability Initiatives

- High Reliability Resource Center
- Self Assessment Tool for hospitals (Oro™ 2.0) extensively tested, available now
- Partnering in South Carolina Michigan, and Illinois with state hospital associations
- Using high reliability framework on survey
- Tools for getting to zero: Center for Transforming Healthcare and TST
High Reliability is Catching On

A high reliability organization (HRO) is an organization that has succeeded in avoiding catastrophes in an environment where normal accidents can be expected due to risk factors and complexity.

High reliability organization - Wikipedia, the free encyclopedia
https://en.wikipedia.org/wiki/High_reliability_organization

More about High reliability organization

High Reliability Main Page | The Center for Transforming Healthcare

At the Joint Commission Center for Transforming Healthcare, our mission to transform health care into a high reliability industry by developing effective solutions...
Leadership

All components of leadership must commit to the ultimate goal of high reliability (zero harm): Board, management, MD and RN leaders

- Quality is the number one strategic priority
- Physicians lead and participate in QI
- Quality program goes beyond requirements
- Improvement efforts directed at most important causes of harm in your patients
- Quality measures widely published
Safety Culture

- Aim is not a “blame-free” culture
- HROs separate blameless errors (for learning) from blameworthy ones (for discipline, equitably applied to all groups)
- 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
  - 63%: constant nit-picking, fault-finding
Sentinel Event Alert on Intimidating Behaviors

The Joint Commission

Sentinel Event Alert

Behaviors that undermine a culture of safety

Intimidating and disruptive behaviors can foster medical errors (1, 2, 3), contribute to poor patient satisfaction and to preventable adverse outcomes (4, 5), increase the cost of care (6), and cause qualified clinicians, administrators, and managers to seek new positions in more professional environments (7, 8). Safety and quality of patient care is dependent on teamwork, communication, and a collaborative work environment. To assure quality and to promote a culture of safety, health care organizations must address the problem of behaviors that threaten the performance of the health care team.

Mean Girls of the ER: The Alarming Nurse Culture of Bullying and Hazing

It’s not only threatening the profession, it’s putting patients’ lives at risk.
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>

| Past disrespectful behavior altered handling of order clarification or questions (% YES) | 49   | 44   |
| My organization deals effectively with disrespectful behavior (% NO) | 61   | 56   |

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
RPI and High Reliability

- How did HROs achieve zero harm?
  • How to get from low to high reliability?
  • No guidance from the academics

- 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 has fully adopted RPI
  • Improve processes and transform culture
  • Focus on our customers, increase value

- The Joint Commission is adopting all components of safety culture

- We measure RPI and safety culture and report on 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 a systematic, highly effective toolkit for process improvement

Lean and six sigma routinely produce 50%+ improvement

Technical Solution is Not Enough

- Lean, six sigma provide technical solutions that can markedly improved 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

Lean, six sigma provide technical solutions that can markedly improve processes.

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

Change management = the rocket science of improvement

Facilitating Change™

Key components of managing change

1. **Plan**: engage all stakeholders, identify sponsor, champion and process owner

2. **Inspire**: paint a convincing picture of how beneficial the change will be

3. **Launch**: initiate the change, intensify communication to stakeholders

4. **Support**: sustain the improvement; empower process owner

Change management is not linear
Getting Started

- Identify all the relevant stakeholders
- "ARMI" analysis
  - Approvers
  - Resources
  - Members
  - Interested parties
- Different roles at different phases of change
- Revisit periodically during change process

Resistance to Change

- Managing resistance is critical to success
  - "Resistance Analysis" is a vital tool
  - Who is likely to resist and why?
- Sources of resistance
  - Technical
  - Political
  - Cultural
- Each requires a different strategy to overcome
Engaging Stakeholders

“Attitude/Influence Matrix”
- Assess attitudes of key stakeholders (support or oppose the change)
- Which individuals can influence the attitude of those who are opposed?
  - Works to build support, overcome resistance
  - Requires continuous attention during project as attitudes typically change over time
  - Opponents, if converted, are best advocates

RPI in Health Care Today
- RPI routinely produces 50%+ improvement
- Only a small percentage of hospitals or systems use RPI in any form or fashion
- RPI is used differently by different hospitals
  - Most use only some of the parts; change management is most often left out
  - Most do not use it to transform
  - Most limit training to small group
- Compelling business case for RPI
The Business Case

Administrative processes in health care are often just as broken as clinical processes
- Billing, supply chain, throughput
- RPI can improve margins directly

Learning RPI allows organizations to solve their own problems, eliminate consultants

Quality improvements often don’t save $$$

Generate positive ROI now while learning how to redesign care processes for future

Mayo program ROI = 5:1


RPI Solves Revenue Cycle Problems

Mount Sinai: RPI uncovered significant problems billing for cardiac stents, pacemakers and implantable defibrillators
- Complex process involving cardiology, IT, finance, faculty practice, nursing
- 63% error rate----reduced to 5.6%
- $5M increase in annual revenue

Mount Sinai: RPI solved longstanding chemoRx billing issues: $1.7M revenue increase

MSJM 2008;75:45-52
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

We are training hospitals and systems to:

• Get the most out of RPI tools and methods
• Embed RPI throughout their organizations

Center for Transforming Healthcare

www.centerfortransforminghealthcare.org
Center for Transforming Healthcare

Using RPI together with leading US hospitals and health systems to solve most difficult quality and safety problems

Project topics:

- **2009-10**: hand hygiene, wrong site surgery, hand-off communications, SSIs
- **2011**: safety culture, preventable HF hospitalizations, and falls with injury
- **2012**: sepsis mortality, insulin safety
- **2013-4**: C. difficile prevention, VTE

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 Improves Housekeeping

- New wing added in 2012: 130,000 SF
- Challenge to ES staff:
  - Add this building to existing 364,000 SF
  - No new staff, same high quality cleaning
- Used RPI to redesign workflow
- Met the challenge
- Saved the hospital about $440,000
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

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 of the same problem
- Each cause requires a different strategy
- Key causes differ from place to place

**RPI**: producing next generation best practices; solutions customized to your 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 (across all participating hospitals)</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></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hand hygiene compliance data are not collected or reported accurately or frequently</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>x</td>
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<tr>
<td>Lack of accountability and just-in-time coaching</td>
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<td>x</td>
<td></td>
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<tr>
<td>Safety culture does not stress hand hygiene at all levels</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Ineffective or insufficient education</td>
<td></td>
<td>x</td>
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<td></td>
<td></td>
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<tr>
<td>Hands full</td>
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<td></td>
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<tr>
<td>Wearing gloves interferes with process</td>
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<tr>
<td>Perception that hand hygiene is not needed if wearing gloves</td>
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<td></td>
<td></td>
<td></td>
<td>x</td>
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<tr>
<td>Health care workers forget</td>
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<td></td>
<td>x</td>
<td></td>
<td></td>
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<tr>
<td>Distractions</td>
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</table>

Each letter = one hospital

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.
### 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 SSIs</td>
<td>32↓</td>
</tr>
<tr>
<td>Falls with injury</td>
<td>62↓</td>
</tr>
</tbody>
</table>

Targeted Solutions Tool (TST)

Web-based tools: secure extranet channel
- Available to all accredited customers now
- No added cost, voluntary, confidential
- Educational, no jargon, no special training
- Coaches available to guide users to solutions
- Targeting only your causes means you don’t use resources where they aren’t needed
- 2010: hand hygiene; 2012: safe surgery and hand-off communication; 2015: falls

Hand-off Communications TST

Watch the VIDEO at:

http://www.centerfortransforminghealthcare.org/multimedia/taking-on-hand-off-communications/
Impact of Hand Hygiene TST

TST improves HH: 55% to 85%, Reduces HAIs by 35%

300 Beds
- Expect 555 HAIs/yr
- Annual impact:
  - 194 fewer HAIs
  - 12 lives saved
  - $3.7M cost avoided

600 Beds
- Expect 1100 HAIs/yr
- Annual impact:
  - 388 fewer HAIs
  - 24 lives saved
  - $7.5M cost avoided
Used TST to achieve >95% hand hygiene compliance

Bloodstream infections fell by 2/3

MRSA Rate Decreases as Hand Hygiene Improves

Hand Hygiene Compliance (%) vs. MRSA Cases (per 1000 patient days)
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 Shaber, MD, FACS; Douglas Moore, MD, MBA; Juan Inarraia, MBA, FACHE; FABC; CPHQ; Debbie Garbade, RN, MSN, CPHRM, CPHQ, CPSO; Anne-Claire France, PhD, CPHQ, MBII, 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). These factors support the HRO journey: (1) aligned organizational structure with transparent management systems and compressed reporting processes; (2) Robust Process Improvement™ (RPI) with high-reliability interventions and (3) cultural establishment, sustenance, and evolution.

The Joint Commission

Journal on Quality and Patient Safety

Improvement from Front Office to Front Line

January 2016

Volume 42 Number 1

Sustaining Improvement in Hand Hygiene and Health Care–Associated Infections


Jt Comm Journal on Qual Pat Safety 2016;42(1):6-17
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.”
Joint Commission and High Reliability

- 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 approaching zero
- Joint Commission has tools to help