Performance Improvement as seen through the *Kaleidoscope* of Clinical Quality

*Essentials for Highly Reliable Organizations*

Daniel L. Cohen MD, FRCPCH, FAAP
International Medical Medical Director
Highly Reliable Organization

- “Organization that operates in a complex environment where accidents might be expected to occur frequently, but which manages to avoid or seeks to minimize catastrophes”
- HROs often incorporate/inculcate improvement methodologies such as Lean, Six Sigma, others
- Examples: energy, aviation/transport, military, fire/disaster response, healthcare
- Healthcare involves patients and is far more complex than any of these
Healthcare and Highly Reliable Organizations

- Calculus of challenges, risks, opportunities
- Hazards affecting patients AND staff
  - Substantially more dangerous than the nuclear, aviation, construction, transportation industries
- Complacency is an enormous confounder
  - Really serious stuff happens rarely?
    - 100-150,000 deaths per year??
  - Less serious stuff very commonly
    - 25% of all hospitalizations - background noise
Healthcare Worker Health & Safety

- Work-related Injury/illness incidence rates/100 FTE
  - Healthcare industries - 5.0 (hospitals - 7.0)
  - Manufacturing - 4.4
  - Construction - 4.0
  - All industry - 3.8

- Commonest Injuries – Musculoskeletal/10,000 FTE
  - All Industries - 34
  - Nurses aides/orderlies - 294 with mean 6 lost work days
  - EMTs - 237 with mean 6 lost work days
  - Home health aides - 43.8 with mean 18 lost work days

http://www.bls.gov/news.release/osh2.t18.htm
Characteristics of Highly Reliable Organizations²

- Sensitivity to operations
- Reluctance to simplify
- Preoccupation with failure
- Deference to expertise
- Resilience

Quintessentially - “Creating a culture and process that radically reduces system failures and effectively responds when failures do occur...”
What does this actually mean?

- **Sensitivity to operations** - constant awareness by leaders and staff to risks and prevention
- **Reluctance to simplify** - avoid overly simplistic explanations for risks or failures; delve deeply
- **Preoccupation with failure**
  - Every process has risks
  - Near-misses - proof of effective safeguards and symptomatic of areas needing more attention
- In healthcare - risks and benefits of interactions and interventions
What does this actually mean?

- **Deference to expertise** - leaders/supervisors listen to/seek advice from front-line staff who know how processes really work and where risks arise
  - In healthcare who is most expert?
  - Who mentors- “Never Leave your Wingman”

- **Resilience** - leaders and staff are trained and prepared to respond when systems fail
Key Features of Highly Reliable Organizations

- Operate in complex environments
- Incorporate processes/technologies with high potential risk for error
- Consequences of errors may be serious
- Uses complex processes to manage technologies
- Focus on continuous improvement
- Solid safety culture - leadership/staff engagement
- Teaming and team building cultural components
Key Features of Highly Reliable Organizations

- Utilize well-trained personnel
- Audits of processes leading to continuous improvement initiatives
- Checks, counterchecks and redundancies for safety
- Focus on change and flexibility
- Adaptability AND adoptability (other industries)
- Group mindfulness - organization-wide sense of vulnerability and risk of serious harm
- Responsibility distributed across organization
Assessing the Reliability of Healthcare Organizations

- Healthcare is an extremely high-risk industry
- Patients are not airplanes nor nuclear reactors
  - Behavior, lifestyle, personal choices
  - Genetics, predispositions
  - Belief systems, cultural perspectives
  - Social and economic circumstances, education
  - Intellectual abilities, cognition
  - Language barriers
- Health professionals are not pilots, nor engineers
- Healthcare contributes little to overall health
Personal Vignette

- Heme/onc fellow- Dana Farber/Children’s/Harvard
Elements of Un-reliability

- **System Problems** -
  - Protocol for intra-operative chemo - not evidenced-based
  - Obligations for single fellow to cover clinic and ward/OR
  - Cultural barrier to calling for backup unless dire emergency
  - Not all anaesthesiologists qualified for all procedures
  - Pharmacy double-check for chemo orders not established

- **Personnel Problems** -
  - Primary anaesthesiologist does not inform oncology fellow
  - Primary anaesthesiologist does not brief “substitute” on requirements for prescription verification before admin
  - Pharmacist errs in preparation - 10X dose (decimal point)
  - Substitute anaesthesiologist administers unfamiliar drug without self-identified need for verification
Personal Vignette

- Pediatric heme/onc fellow - Dana Farber/CHB/Harvard
We assess performance using standard industry parameters/methods that have evolved over time

- Accreditation of hospitals and community services
- Performance measurement/improvement metrics
- Patient safety assurance and incident prevention
- Patient experience and perceptions

Assessing quality in healthcare requires a multi-dimensional view of the world
Accreditation of Hospitals/Community Services

- Establishes the basis for providing quality care
  - Foundation on which care is provided
  - Not a measure of quality per se
  - How well institution has performed in the past
  - How well institution is positioned to perform
  - How well quality/safety infrastructure has been established/sustained
- Absolutely necessary but not a measure of quality or high reliability as stand-alone parameter
Performance Measurement and Improvement

- Considered “the” measures of clinical quality
  - Process measures assess how care provided
  - Outcome measures assess benefits and cost-effectiveness of care
    - Not actually measures of providers/institutions
    - Measures of collaborative efforts with patients
      - Providers not solely accountable for outcomes
  - Continuous improvement over time required
    - Numerous CMS demonstrations now focused
    - ACOs and other strategies supported by PPACA
Patient Safety Assurance/Incident Prevention

- Key focus of Highly Reliable Organizations
- Hugely dependent on establishment/sustainment of robust patient safety culture
  - Collaboration, teaming and team training
  - Respect for colleagues, respect toward patients
  - Just culture\(^6\)
  - *Why Hospitals should Fly*\(^7\)- John Nance
- Insufficient/failed processes with potential for harm
  - Analysis of process failures perpetuates learning
  - Cultural sustainment via sharing/story telling
  - Causal factors crucial; especially human factors issues
Patient Safety Incidents

- Insufficient/failed processes - potential to harm
  - Not HAIs; rather insufficient hand washing
  - Not pressure ulcers; failure to assess for/prevent ulcers
  - Not wrong-site surgery; failure to utilize WHO checklist

- Classification of Incidents/Events - WHO/ICPS$^8$, NQF SREs$^9$, TJC PSIs$^{10}$, AHRQ Quality Indicators$^{11}$, AHRQ Common Formats$^{12}$

- >25% of inpatients experience harm- IG report$^{13}$
  - Voluntary reporting vastly underestimates; ~10-15%
  - Trigger methodologies effective, retrospective, cumbersome, not timely
  - Passive/proactive automated reporting more actionable
Patient Safety Assurance/Incident Prevention

- Perspectives on safety are stakeholder dependent
  - Governing boards/external agencies more focused on outcomes - HAIs, wrong site surgery, pressure ulcers
  - Internal stakeholders focused on learning/improving communication and teaming processes, etc.
  - Hidden safety challenges in outpatient care/overutilization
- Dramatic improvements possible since adoption of standardized methods - still too much variability
  - Bundles, guidelines, WHO Safe Surgery Checklist
- System-wide improvements not uniformly realized\(^{14}\)
  - Harm not reduced in NC hospitals, 10 years after IOM report
Patient Experience and Perceptions

- Essential metrics of Patient-Centeredness$^{15}$
- Perspectives may not align with professionals
  - Confusion between needs (medical necessity) and wants (personal perspectives/wishes)
- Encompasses compassion, empathy, responsiveness by healthcare providers
  - View the world from patient points of view
- Views of patients paramount
  - Responsibility to educate and assure comprehension
- Best clinical outcomes dependent on patients implementing preventive/therapeutic plans
Ultimate Goal of Quality Assessment and HROs

Exceed Patient Expectations

- Strive towards excellence in each domain
  - Objectives always moving, advancing, evolving
  - No one domain of assessment defines quality or modulates risk independent of other domains
- Paradigm is sustained risk-reduction and continuous improvement over time
- Patients in partnership with professionals achieve best desired and safest outcomes
- Achieving high-reliability takes work and commitment and cultural transition and passion!
References


References


12. AHRQ Common Formats, accessed at https://www.psoppc.org/web/patientsafety/commonformats


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Daniel L. Cohen MD, FRCPCH, FAAP
International Medical Director
dcohen@datix.co.uk