CREATING HIGH-RELIABILITY IN HEALTHCARE ORGANIZATIONS

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CLINICAL QUALITY FELLOWSHIP PROGRAM

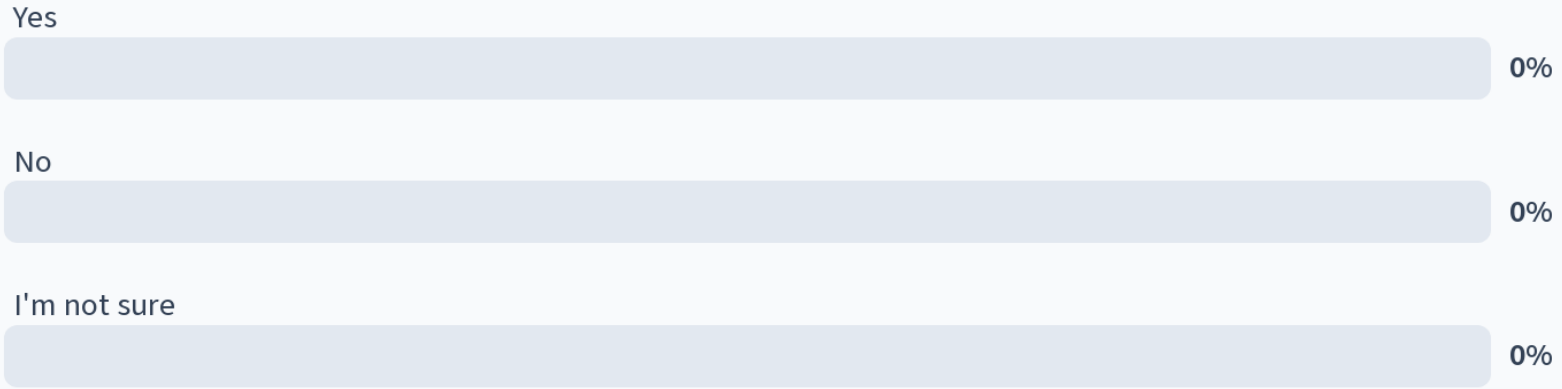
Disclosures

- No conflicts of interest to disclose

Objectives

- Review principles of high-reliability and their relevance to the health care setting.
- Define key components of successful high-reliability organizations.
- Demonstrate ways to practically apply HRO skills and behaviors.

Is high-reliability a part of your organizational goals?



What words best describe high-reliability to you?

Nobody has responded yet.

Hang tight! Responses are coming in.

High-Reliability : The Layperson View

"Great... Just what we need: another quality-improvement campaign!"

Characteristics of High–Reliability Organizations

- Concepts are relevant to industries that operate in complex, ‘high-hazard’ domains
  - Aviation / Nuclear power / Military operations / Amusement parks
- HROs use systems and processes to ensure:
  - Consistent care delivery, leading to sustained excellence, avoiding serious events
- Well - chronicled in “Managing the Unexpected” (Weick/Sutcliffe, 2007)
  - ‘Collective, persistent mindfulness’ across an organization
  - ‘Anticipate, recognize, contain’ approach to failures
  - ‘May not be entirely error free, but errors do not disable’

High-Reliability in Health Care : Why Are We Discussing Now ?

Relevance to Healthcare Settings	Relevance for CQFP fellows
Healthcare settings are highly complex	**Introduction to HRO principles and culture**
Risk of serious or catastrophic consequences	**Opportunity to learn behaviors and skills**
Need for tight team coordination	Potential basis for Capstone project development
Challenges with staffing / training / clinical variation	Observations for meetings and assignments
‘Low – Reliability’ = Higher Risk of Harm	More to follow…

Is Global Harm in Healthcare Common ?

Global patient harm remains common : **Yes** No Don't Know

"Each year, 134 million adverse events occur in hospitals in low- and middle-income countries due to unsafe care, resulting in 2.6 million deaths"

"2/3 of all adverse events resulting in unsafe care, and the subsequent years lost to disability and death (DALYs), occur in low- and middle-income countries"

"The occurrence of adverse events due to unsafe care is likely 1 of the 10 leading causes of death and disability in the world"

World Health Organization 2019. Patient Safety Fact Sheet. Accessed thru www.who.int

Healthcare Trivia : The Impact of Global Harm

Estimated in how many patients :	**1 : 20**	1 : 5	1 : 50
% in hospitalized settings :	1%	30%	**10%**
Prevalence in ambulatory encounters :	5 – 10 %	**25 – 40%**	10 – 20%
Estimated $$$ cost :	**$9.3B**	$1.5B	$20.7B
How much severe harm (death / disability) :	**12%**	20%	5%
How many AEs are considered avoidable :	10 - 20%	20 - 30%	**40 - 50%**

What Can We Affect ? Defining Preventable Harm

Harm as defined by IHI :

"Unintended physical injury resulting from or contributed to by medical care (including the absence of indicated medical treatment), that requires additional monitoring, treatment or hospitalization, or that results in death."

Nabhan, M., Elraiyah, T., Brown, D.R. *et al.* What is preventable harm in healthcare? A systematic review of definitions. *BMC Health Serv Res* 12, 128 (2012). https://doi.org/10.1186/1472-6963-12-128

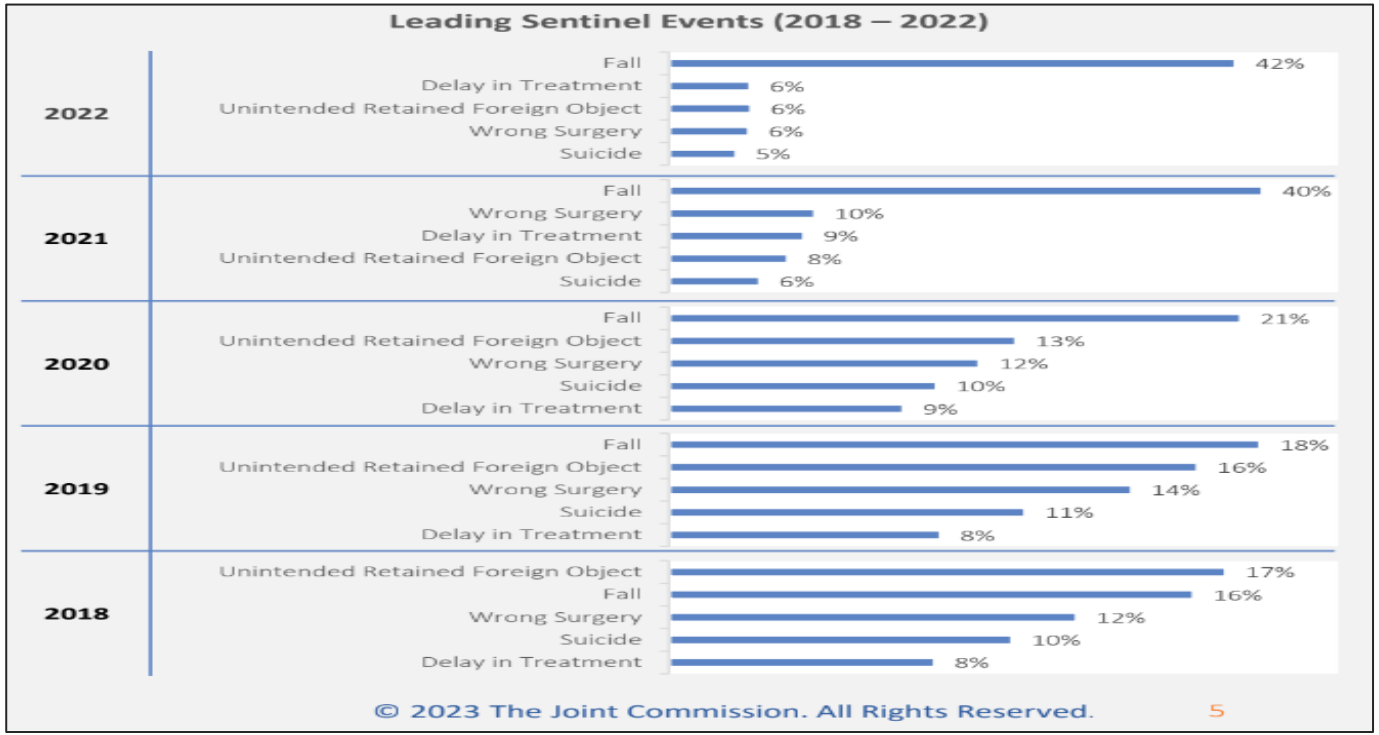
- 127 studies reviewed between 2001 - 2011 which reported a definition of preventable harm
- Many working definitions, with no single one supported by high quality evidence
- Most common definitions included:
  - Presence of an identifiable modifiable cause (44%)
  - Reasonable adaptation to a process will prevent future recurrence (23%)
  - Adherence to guidelines (16%)

Incidence of Preventable Harm : Medicare 2008 vs 2018

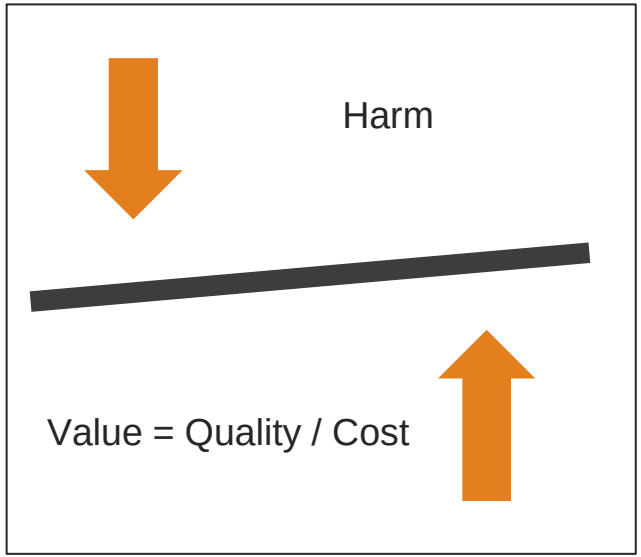
Incidence of Patient Harm	2008	2018
Patients Who Experienced Harm Events	**(n=780)**	**(n=770)**
Adverse event or temporary harm event	27%	25%
Adverse event	13%	12%
Temporary harm event*	13%	13%
Severity Level of Harm Events	**(n=302)**	**(n=299)**
Adverse events	42%	38%
Temporary harm events	58%	62%
Preventability of Harm Events	**(n=302)**	**(n=299)**
Preventable events	44%	43%
Not preventable events	51%	56%

Sources: OIG analysis of hospital stays for 770 Medicare patients in October 2018 and 780 Medicare patients in October 2008 (OEI-06-09-00090).
Note: Our definition of adverse events in the 2010 report included all harm events identified on the HAC and NQF lists.
* The rate of patients who experienced temporary harm events is composed of patients who experienced at least one temporary harm event and no adverse events.

Patterns of Severe Harm : TJC Sentinel Events 2018 - 2022



Harm and Value : Isn't That Why We Are Here ?



What are common causes of patient harm ?

How can we expand our view ?

How does harm reduction affect value ?

Is Zero Harm achievable or aspirational ?

Harm Reduction 101 : The 5 Principles of High-Reliability

- Preoccupation with Failure
- Sensitivity to Operations
- Reluctance to Simplify
- Resilience
- Deference to Expertise

AHRQ Patient Safety Network. Patient Safety 101 : Primers. High-Reliability. September 2019.

Preoccupation with Failure

- ‘Anticipatory’ safety principle
  - Everyone is aware of and thinking about the potential for failure
- Absence of error leads to heightened sense of vigilance for next possible event
  - What are the risks and potential for harm in your area, and how do we plan for them ?
- Continuous attention is paid to things that could be symptoms of larger problems
  - ‘Always sweat the small stuff’ – report precursors, process failures, variations in care

Sensitivity to Operations

- ‘Anticipatory’ safety principle
  - Reflects the understanding that operations and processes drive outcomes
- Emphasizes always measuring key process indicators and eye on performance
  - What is the radar system to know how are we doing?
- In-depth understanding of operations allows you to both find and reduce error
  - Do we have right workflows in place to get the ‘Zero Harm’ result we are hoping for?

Reluctance to Simplify

- ‘Anticipatory’ safety principle
  - Highly complex industries are likely to have complex processes and potential error
- Risky to oversimplify the approach to understanding errors and solving problems
  - What tools do we use to dig deeper to evaluate issues or plan for improvements?
- Bringing together multi-disciplinary teams and diverse perspectives is key
  - Who are the best people to be engaged in the work?

Resilience

- ‘Containment’ safety principle
  - ‘Errors do not disable’ - timely evaluation / response when unplanned things happen
- Environments and situations change, but we need to keep moving forward…
  - How do we stay adaptive, agile, and innovative in the way we deliver care ?
- Shared learning and communication connects mission and improvement
  - How do we show how we are doing with processes, outcomes, and adverse events ?

Deference to Expertise

- ‘Containment’ safety principle
  - Fosters open-minded approach, psychological safety, not bound by hierarchy
- Those with greatest knowledge of the situation may not be those with seniority
  - Who are the on the ground leads who know the process and risk of failure the best?
- ‘Everyone has a voice and role, we listen to understand, and escalate upward…’
  - Front line teams inform, experts are engaged and help evaluate, teams learn together

IHI Framework for Reliability : Culture and Learning

Figure 1. Framework for Safe, Reliable, and Effective Care

Frankel A, Haraden C, Federico F, Lenoci-Edwards J. 2017.

3 Key Components of Successful HROs

Leadership Engagement

Commitment to ‘Zero Harm’ and ‘Just Culture’

Safety - Focused Culture

Promoting behaviors, skills, workflows

Continuous Quality Improvement

Fostering shared learning

Leader To – Do List : 5 Ways to Foster Reliability

1. Message the Mission
2. Round with Feedback
3. Promote Safety Skills
4. Standardize Processes
5. Daily Huddles

1. ‘Message the Mission’ - Safety Stories Can Be HRO Moments

Opening	Frames situational issue	I would like to share a patient story which highlights the importance of staying alert and escalating concerns quickly.
Message	Review of case and behaviors	An RN received report that all was OK with a patient after leg surgery. On rounds, the leg was cold to touch, though the patient was asymptomatic. Finding was escalated immediately to the doctor who ordered an ultrasound. Ultrasound showed a severe blood clot, and patient had limb-saving surgery.
Closing	Links to HRO principle	‘Good catches’ like this can be viewed as ‘near-misses’ from a reliability perspective. Staying vigilant, thinking critically, and maintaining situational awareness can help keep our patients safe and free from harm while they are in our care.

Safety Stories Can Be Operational Reminders

I would like to share a safety reminder which highlights timeliness, responsiveness, and escalation.
Yesterday we saw 25 patients in our department, with an average waiting time of 35 minutes each, so we missed our target for the day by 10%. Factors that affected our performance included 1 tech out sick, a higher number of admissions and tests ordered than usual for a weekday, and lack of a back-up mechanism for when we noticed delays.
We have reviewed today's schedule and staffing and made sure we have the right team in place to cover the number of tests ordered. Supervisors are monitoring turn-around times throughout the day, so please communicate with them if you notice any issues that are causing delays in patient care.

2. ‘Purposeful’ Rounding : Feedback and Inquiry

Leadership Rounding: Why ?

Opportunity to connect work with core values

Incorporates observation, coaching, recognition

Sensitizes leaders to front-line problems

Demonstrates commitment to patients and staff

‘I am interested in this because…’

‘Tell me how / show me how…’

‘What’s been working well…’

‘Do you have everything you need…’

‘What is your biggest concern…’

Do senior leaders participate in walk – arounds in your organization ?*	59%	Yes
Do you get feedback on the issues that have been raised ?*	55%	No

* Frankel and Leonard. Health Catalyst 2018

Leader Rounding Essentials

Leader Rounding

Observation	Feedback
Emphasis on humble inquiry, not penalty	‘Gottman’s Ratio’ : 5 parts positive / 1 part constructive
Focus on 1 – 2 core questions with each visit	Reward behaviors in real-time, not just outcomes
Shine light on the good, as well what needs are	Appreciation is big behavioral motivator
Not just the visit, but the follow – up that counts	Don’t forget the ‘1’ : use ‘lightest touch’ critique

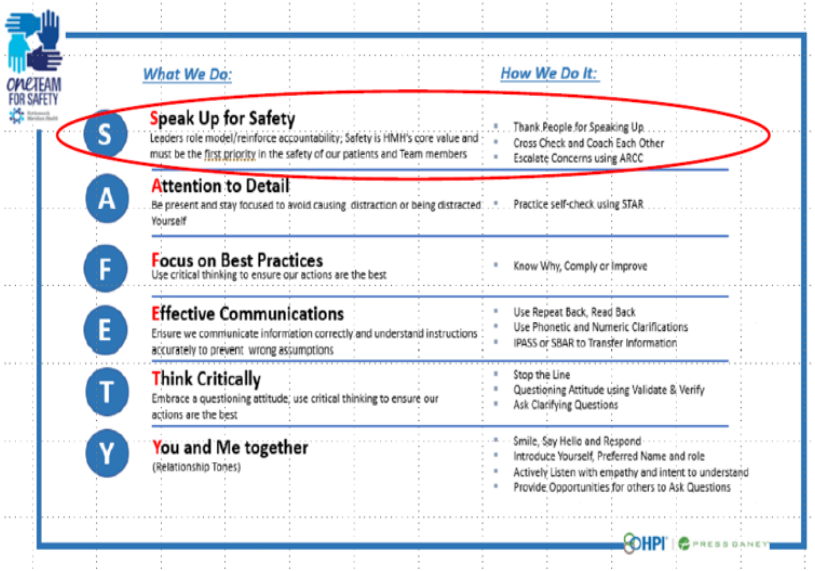
3. Promoting Safety Skills = Building Safety Culture

- Speaking up for safety is Skill #1
- Core value behavior
- Fosters psychological safety
- Reminder of purpose and function
- Can be reinforced with messaging
- Examples from other teams ?

See something, say something
Communicate the intent
Listen to understand
Think ahead
Situational awareness is key
Always stay attentive
Follow guidelines
Encourage questioning

Safety Skills : Messaging and Reinforcement

High Reliability Universal Skills



Hackensack Meridian Health, Department of Patient Safety and Quality

Hartford HealthCare

BE A SAFETY "CHAMP"

*Do the **safe** thing... for every patient every time*

Communicate Clearly
- Read back/repeat back
- Phonetic and numeric clarification

Handoff Effectively
- Use ISBAR (Introduce yourself and role, Situation, Background, Assessment, Recommendation)

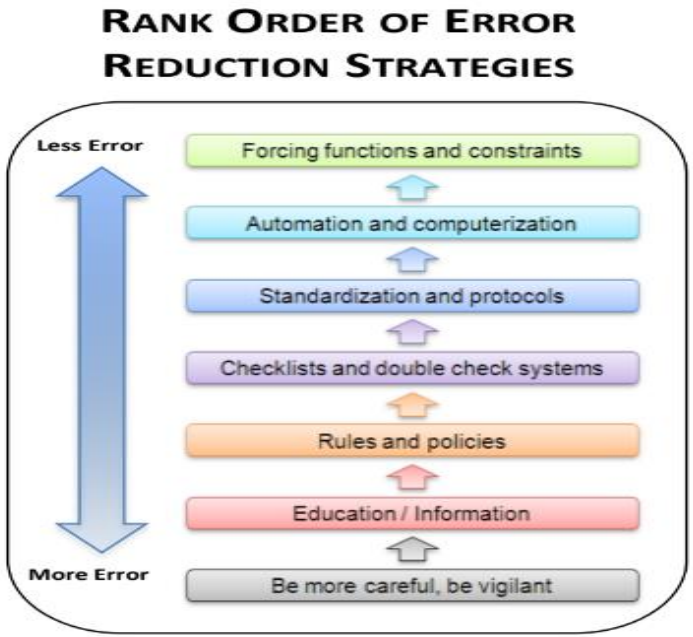
Attention to Detail
- Look in the mirror first and be in the moment
- Self check using STAR: Stop-Think-Act-Review

Mentor and Coach Others
- Speak up for Safety using ARCC: Ask a question, make a Request, voice a Concern, use Chain of command
- Cross Check and Coach teammates
- 200% accountability

Practice a Questioning Attitude
- Stop the Line "I need clarity" to ask for clear and specific expectations
- Validate and Verify

https://hartfordhealthcare.org/file%20library/unassigned/safety-champ-card.pdf

4. Standardizing Care = Interventions to Reduce Error



Carroll, R. (2011). Risk management handbook for health care organizations.

5. Daily Huddles : Transparency, Accountability, Closed Loop Action

HRO Principle: Commitment to Resilience

If I could do only one thing. What would that be? Where would I start?

Daily Hospital Huddle

Components

Look back: Significant safety or quality issue from last 24 hours
***Look ahead*:** Anticipate safety or quality issues in next 24 hours
***Follow-up*:** Status reports on issues identified today or days before

Who and How

Senior leadership lead – set tone and pace
All check in – no exceptions
Keep it brief – no more than 15 minutes
Daily huddle – same time and place every day
Standard format – same format every time

Cooper & Meara, 2002; Stockmeir & Clapper, 2011

HRO Principle: Commitment to Resilience Daily Hospital Huddle

What the Evidence Says:

Transparent/Non-Punitive Safety Culture:
- ✓ Increase efficiency of exchanging critical information
- ✓ Review events
- ✓ Real time problem solving
- ✓ Improve patient safety
- ✓ Promotes interdisciplinary collaboration

Staff Engagement:
- ✓ Opportunities for all staff to stay informed
- ✓ Increase efficiency of exchanging critical information
- ✓ Venue for raising concerns
- ✓ Improve team work
- ✓ Reduce silos
- ✓ Increase trust across departments
- ✓ Helps staff appreciate and respect others
- ✓ Fosters empowerment

Increase High Reliability Characteristics:
- ✓ Designed to reduce failures and eliminate harm
- ✓ Improve situational awareness
- ✓ Heightened risk awareness
- ✓ Increase 360 accountability
- ✓ Promotes system thinking
- ✓ Prompt resolution of issues
- ✓ Organizational resiliency

Cooper & Lee, 2013; Cooper & Meara, 2002; Goldenhar, et. al., 2013; Provost, et.al., 2014; Stockmeir & Clapper, 2011

Taken from Deakins S, Oster, C. Practical application of high - reliability principles in health care to promote quality and safety outcomes. IHI 2018.

Key Components of Daily Huddles

Prepare to Participate

Consider yourself and ask others:

- Do we have any **high-risk** patients or procedures?
- Do we anticipate any **non-routine** procedures or tasks?
- Are we dealing with any **situations or conditions that distract** our ability to focus or think critically about our patients?
- Are there any Safety Issues that I know about that may **impact other departments**?
- Do we have what we need to deliver Safe, Quality care? Are there any **deficiencies** in information, equipment, supplies, or staff that will make it hard to deliver Safe, high Quality care?
- What conditions **outside our unit or outside our hospital** could impact our ability to deliver Safe, Quality care today?

If any of the above…

What actions am I taking to have a safe day?

If no issues…pull the string to see if we really have no issues… **We have what it takes to**

Create a Safe Day!

Henry Ford Health System. L. Young, 2019

Did your last huddle address any of the blue?

What is the biggest problem today?

Do we have what we need to do the work?

Did we address all high – risk care issues?

Have we escalated all of our concerns?

What is our follow-up process to close the loop?

Practical Application of High-Reliability Principles

HRO Principle	Intent	Examples of Hard-Wiring Actions
Preoccupation with Failure	Create shared mental model	Near-miss reporting
	Emphasize precursor events	
Sensitivity to Operations	Study processes that impact performance	Standardized Handoffs
	Obtain input from front - line teams	
Reluctance to Simplify	Dig deep to determine root cause issues	RCA/RCA2
	Use data to challenge common beliefs	
Resilience	Stay on message	Learning boards
	Be anticipatory, adaptive, and innovative	
Deference to Expertise	Expertise does not mean seniority	Local Huddles
	Benefit from experience and inquiry	

Small Group Discussion Exercise

Review the following discussion questions with your table or small group

- What HRO behaviors or skills resonated the most with you and why ?
- How do you plan for day-to-day operations, and how do you plan for contingencies?
- What are your radar systems to watch and monitor performance in your areas ?
- How do your teams know how they are doing (for both good things and bad things) ?

Take Home Lessons

- **High-reliability principles are relevant and applicable to healthcare**
  - Concepts of harm reduction and value improvement are central to organizational missions
- **Application of HRO principles helps mitigate risk and contain error**
  - Specific leader actions can facilitate movement from reactive to proactive paradigm
- **Next steps -**
  - Think Different — Safety first
  - Plan Different — Manage the day-to-day, plan for contingencies
  - Act Different — Always strive to do better

Final Reflection

- What does your high-reliability ‘word cloud’ look like now?
- What is the same? Is there anything different?

What does your high-reliability "word cloud" look like now?

Nobody has responded yet.

Hang tight! Responses are coming in.

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Appendix A : Common HRO Models and Implementation Strategies

Key Strategy:	Developing leadership	Culture of safety	Data systems	Training and learning	Implementing interventions
ACHE Framework[16]	✓	✓	✓		
Air Force Trusted Care[19]	✓	✓	✓	✓	✓
ARCC Model[20]		✓	✓	✓	✓
High reliability team model[21]		✓		✓	✓
IHI Framework[18]	✓	✓	✓	✓	✓
JH's Operating Management System[17]	✓		✓		
JH's Safety and Quality Framework[15]	✓		✓	✓	✓
Joint Commission's HRHCM[3]	✓	✓	✓	✓	✓
Number of frameworks addressing this strategy	**6**	**6**	**7**	**6**	**6**

Appendix B : Common Root Causes of Harm

Factors Affecting In – Hospital Mortality
Delays in care
Variation in care of critically ill patients
Health-care associated infections
Postoperative complications
Medical errors (mistakes)
Communication and teamwork

*Behal, et al. Understanding Academic Mortality. Acad Med. 2009 Dec;84(12):1657-62.

Type of Harm	OIG Sample %
Events related to medication	43%
Events related to patient care	23%
Events related to surgery or procedures	22%
Events related to infection	11%

*Medicare Oct 2018 : 25% with temporary harm or adverse event, 43% deemed preventable