NEBRASKA COALITION FOR PATIENT SAFETY

Creating a Culture of Safety in Any Healthcare Setting

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April 28, 2025

PRESENTERS

- Carla Snyder is the Patient Safety Program Director at NCPS. She has been there for nearly 4 years. Prior to that she has worked in a variety of clinical settings including a large community hospital, a community blood bank, a critical access hospital, a federally qualified health center, and a large academic medical center. Her clinical background is in clinical laboratory and in each setting where she has worked quality improvement and patient safety have been an important part of her work.
- Emily Barr is NCPS's Executive Director and has been with NCPS for 3 years. She is a licensed occupational therapist and has worked in multiple practice settings primarily serving the older adult population. Prior to joining NCPS, she was an associate professor at Nebraska Methodist College, where she also earned her MBA.

DISCLOSURES

- Neither speaker reported any relevant financial relationships within the past 24 months.

NCPS
Nebraska Coalition for Patient Safety

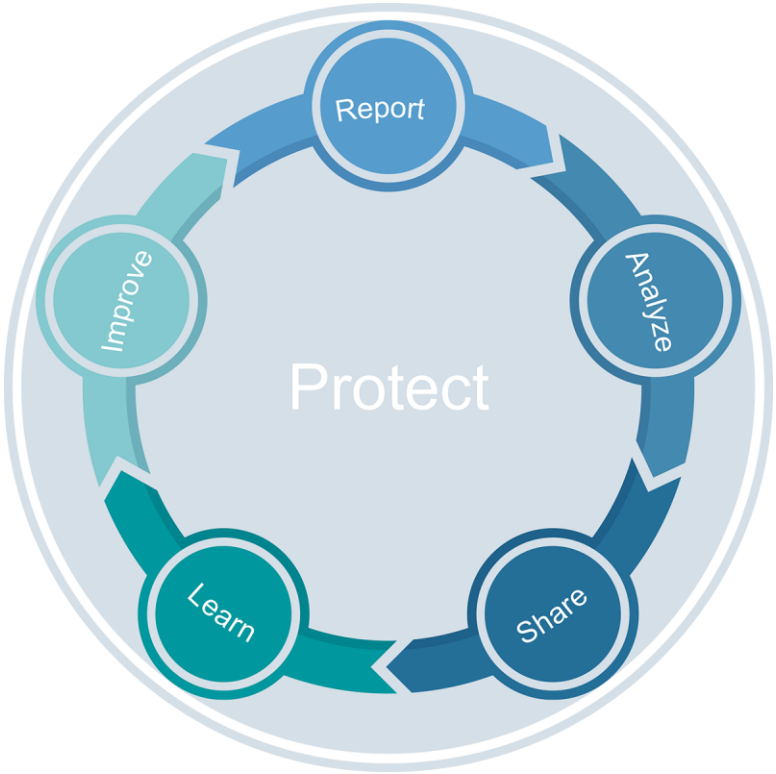
OUR MISSION

Continuously improve the quality and safety of healthcare in the region

Nebraska Coalition For Patient Safety Patient Safety Organization

- **Nebraska's only federally listed PSO**
  - Complies with state and federal regulations
  - Meets AHRQ listing requirements and is reviewed every 3 years
- Funded by member fees, sponsor contributions, some grants.
- Governed by board of directors with representation from parent organizations, other state professional organizations and consumers
- Workforce of 2 full time employees (Executive Director and Patient Safety Program Director) and a part time Patient Safety Statistician
- https://www.nepatientsafety.org/

WHY WORK WITH A PSO



- Working with a PSO provides a safe and ***protected*** environment in which to ***report, analyze***, and ***share*** information about patient safety events so they can be ***learned*** from and ***improvements*** *can be* made to reduce the risk of patient harm.
- ***These privilege and confidentiality protections can only be achieved by working with a federally-listed PSO.***

Report – Analyze – Share – Learn – Improve - Protect

OBJECTIVES

- Analyze the role and initiatives of the Nebraska Coalition for Patient Safety (NCPS) and explain the benefits to a healthcare organization of collaborating with a Patient Safety Organization (PSO).
- Identify and explain the key components of Patient Safety Culture and discuss how these components contribute to improving healthcare outcomes.
- Define Just Culture and outline the key skills and practices that support its implementation within healthcare organizations.
- Explain the principles of systems thinking, describe the components of a healthcare system, and demonstrate how to design and implement more effective and efficient healthcare systems.
- Summarize strategies for fostering a culture of reporting in healthcare; and explain how psychological safety contributes to the development of a learning-oriented organizational culture.
- Describe the characteristics of a learning culture in healthcare; and explain how it contributes to continuous improvement and patient safety.
- Examine the benefits of a flexible organizational culture in healthcare; and propose strategies to cultivate and enhance flexibility within healthcare teams and systems.

WHY PATIENT SAFETY IS IMPORTANT

- In 2000, the Institute of Medicine published a study estimating the number of medical errors in the United States to range from 44,000 to 98,000/year.[1]
- A 2016 article in British Medical Journal suggests that medical errors are the third leading cause of death in the United States.[2]
- In 2023, the New England Journal of Medicine published research which found that ~24% of patients experienced at least one harm event during their hospitalization.[3]
- In 2023, Diagnostic Errors were linked to nearly 800,000 deaths or cases of permanent disability in the United States.[4]
- Patient safety and employee safety are closely linked; a strong culture of safety can improve both.[5]

WHAT IS A CULTURE OF PATIENT SAFETY?

Definition: safety culture

The extent to which an organization's culture supports and promotes patient safety. It refers to the values, beliefs, and norms that are shared by healthcare practitioners and other staff throughout the organization that influences their actions and behaviors.

AHRQ from Famolar et al.


Organizational Culture
The beliefs, values, norms, shared by health care staff
Determines behaviors that are:
Rewarded
Supported
Expected
Accepted
Exists at multiple levels:
System
Organization
Department
Unit

From AHRQ

IMPORTANCE OF RECOGNIZING VARIATION IN CULTURE

- A gap often exists between our observed behaviors and our values/beliefs.
- An individual's perception is shaped by the specific workgroup/work area where they are routinely assigned.
- Teachable, learnable tools and strategies can bridge this gap.

Schein 2010

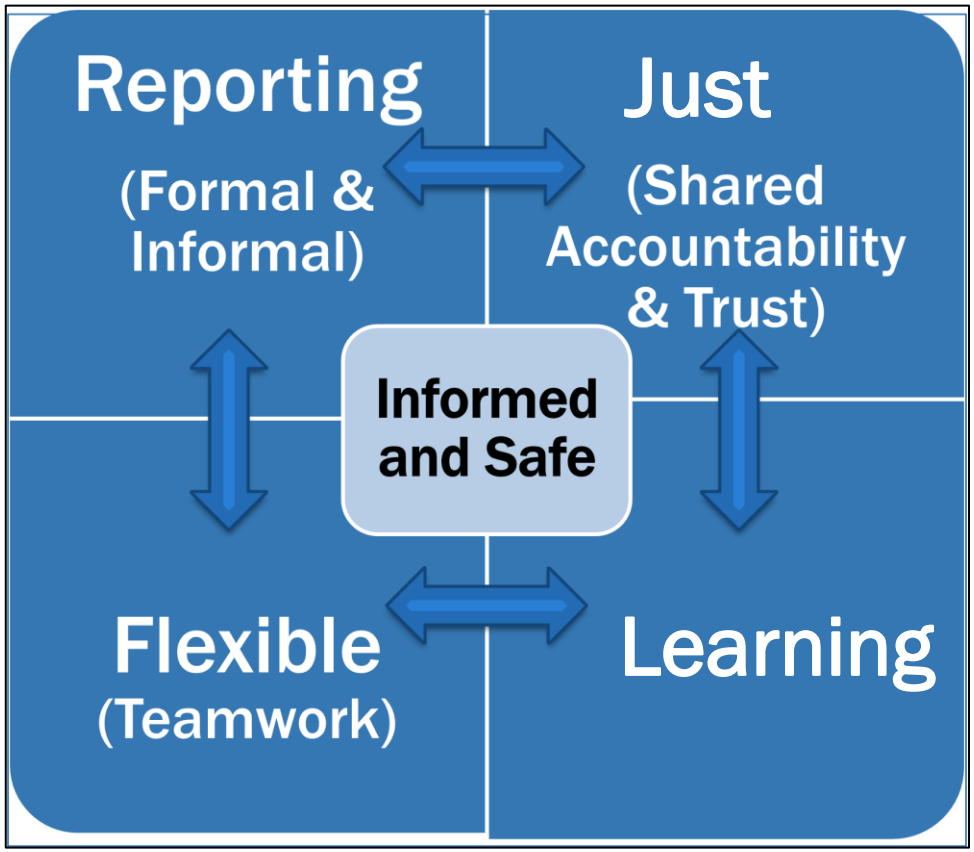
WHAT COMPRISES A CULTURE OF SAFETY?

Four beliefs present in a strong safety culture

- We are committed to detect and learn from error.
- Our processes are designed to prevent failures.
- We have a just culture that disciplines based on risk taking.
- People who work in teams make fewer errors.

From IOM, 2004

COMPONENTS OF A CULTURE OF SAFETY



Adapted from James Reasons' ***Managing the Risks of Organizational Accidents,*** 1997

JUST

Definition: just culture

A system of shared accountability in which the organization is accountable for system design and responding to employee behaviors in a fair and just manner. In turn, employees are accountable for behavioral choices, reporting their errors, and reporting system vulnerabilities

A system of justice that reflects reality…fallible human beings with free will work within complex socio-technical systems.

From the Just Culture Company

JUST CULTURE

- Algorithm-based decision-making to manage behavior: human error, at-risk, reckless
- Shared accountability: employees accountable for their behavior; management accountable for systems

Human Error	At-Risk Behavior	Reckless Behavior
Inadvertently doing other than what was intended: a slip, lapse, mistake	*Choice that increases risk where risk is not recognized or believed to be justified*	*Choice to consciously disregard a substantial and unjustifiable risk*
Console	**Coach**	**Punish**

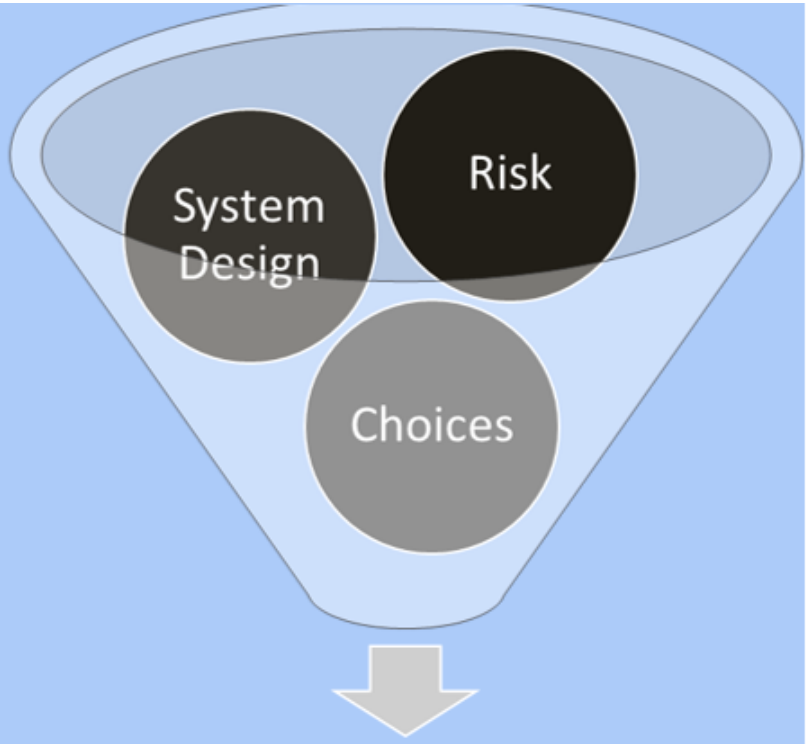
BEHAVIORS FOUND IN AN ORGANIZATION THAT HAS JUST CULTURE

- Healthcare workers are treated with respect, dignity, and compassion when they are involved in situations where a patient was harmed or nearly harmed.
- There is avoidance of blame and quick judgements about the actions of an individual.
- Healthcare workers are proactively informed about what it means to be held appropriately accountable for one's actions. Actions stemming from reckless behavior may be subject to discipline, intent to harm will result in legal action.
- People are held appropriately accountable for their actions by accessing their accountability in the context of the situation.
- A systematic approach is followed to understand why people took the actions they did in the context of the situation.
- There is an awareness of hindsight bias ("if I knew then what I know now") and outcome bias (the greater the harm, the greater the consequences) and steps to minimize it are taken when assessing a person's actions.
- System factors that contributed to the situation where a patient was harmed or nearly harmed are actively sought. Changes are made to reduce the risk of the same problem happening again.

From the HQCA's *What is a Just Culture*

FIVE SKILLS SUPPORT JUST CULTURE

1. ALIGNING VALUES & **EXPECTATIONS**
2. DESIGNING BETTER **SYSTEMS**
3. MAKING BETTER BEHAVIORAL **CHOICES**
4. LEARNING TO SYSTEMATICALLY **LEARN**
5. FINDING **JUSTICE**



Errors as Outcomes

WHAT IS A SYSTEM?

How care is delivered, organized, financed People, equipment, policies/procedures Equivalent to system design, capacity for work	Tasks performed that are intended to produce an outcome Most closely related to outcomes Causal relationship between process & outcomes	"Ultimate Validator" Changes in individuals and populations due to health care Time to develop, multifactorial, random component

Donabedian A. An introduction to quality assurance in health care. New York: Oxford University Press; 2003.

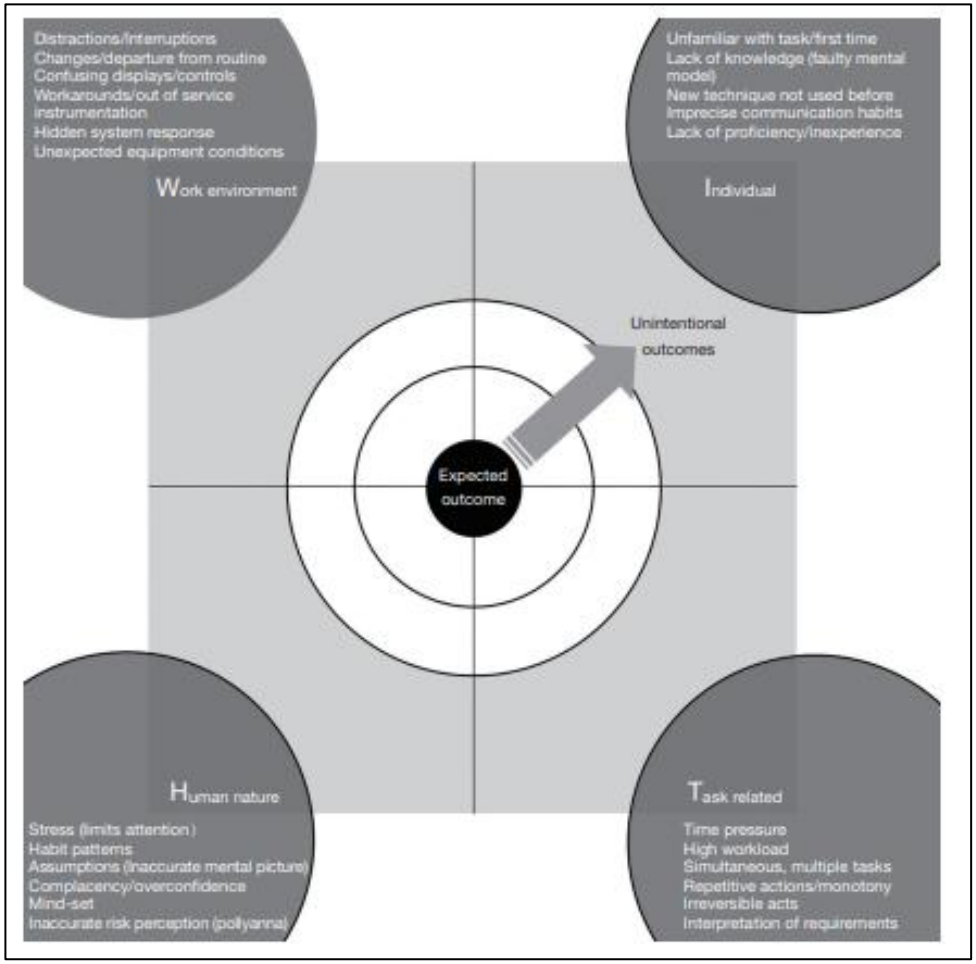
TO ERR IS HUMAN

STRATEGIES TO DESIGN BETTER SYSTEMS

- Design in Anticipation of Human Error
- Design in Anticipation of At-Risk-Behavior
- Put Barriers in the Way of Persons Exercising Highly-Culpable Conduct (Difficult to Build Systems to Manage)

TO DRIFT IS HUMAN

HUMAN PERFORMANCE SHAPING FACTORS



Error precursors that are present in the work environment, in the individuals, in the task at hands and in the human nature pull the performance away from expected outcomes towards unintentional outcomes (errors)

The WITH model from the Institute of Nuclear Power Operations (INPO)

HUMAN FACTORS & HUMAN FACTORS ENGINEERING

Definition: human factors

Interaction and fit between people and their tasks, tools and environment.

Definition: human factors engineering

A discipline that strives to **design systems** that **optimize safety** and **minimize risk of error** in **complex environments**, by focusing on how **systems** work in actual practice - with **fallible human beings** interacting with tools, technology, systems and the environment.

Specific activities are examined in terms of component tasks for the physical and skill demands, mental workload, team dynamics, and environmental conditions and device design needed for optimal performance of the work.

HUMAN FACTORS ENGINEERING IN SYSTEM DESIGN

Tool/Techniques	Examples
Environment: Change the precursors to human error and at risk behavior	• Housekeeping responsible for ensuring a clean gait belt is on hook of the bed in each room • Needle disposal bin design and placement
Barriers: Prevent individual errors	Smart Infusion pumps that contain pre-programmed libraries with standardized dosing for commonly used intravenous medications.
Recovery: Catch errors downstream	• Bar Code Medication Administration at beside using 7 rights of medication administration (right … patient, drug, dose, route, time, reason, documentation) • Surgical Safety Check List • Sponges with radiopaque marker
Redundancy: Add parallel elements	• Independent double check of high alert medications • Independent double check of calculations for weight-based dosing.

HUMAN FACTORS ENGINEERING IN SYSTEM DESIGN

Tools/Techniques	Examples
Usability Testing: prevent problems or workarounds by testing tools, techniques and technology in real world conditions.	• Testing a change to the electronic medical record with users before implementation. • Doing a pilot of a new process with a few workers before implementing across the whole unit or testing on a unit before implementing organization-wide.
Forcing Functions: prevents unintended action or allows only in required action	• Medications cannot be ordered in CPOE until the allergies section is completed • Patient ID must be scanned and match the medication dispensing system before medication can be removed.
Standardization: ensuring safety steps are performed in correct order, reducing reliance on human vigilance	• Using code carts with standard types of and locations for emergency drugs and supplies on every cart • Checklist for central line insertion steps to prevent infections.

HIERARCHY OF INTERVENTIONS

- Interventions for improvement vary in effectiveness and sustainability
- Stronger interventions:
  - Are aimed at eliminating or mitigating root causes of undesired outcomes
  - Are aimed at improving systems and processes
  - Take human factors engineering into consideration
  - Include input from front line experts
  - May need to be made incrementally, especially if they are large scale system design improvements

HIERARCHY OF INTERVENTIONS

STRONG	Example
Institutional (large facility-wide investment)	Implementing unit-based pharmacists
IT Structure (change in software/interface)	Usability evaluation, forcing functions (e.g., to prevent weight-based dosing errors in CPOE)
Architectural/Environmental (change in physical environment)	Signage, relocating equipment (e.g., gait belt on hook next to bed)
Standardize Equipment	Surgical instrument trays, IV pumps
Leadership Involvement	Clinical champions assigned to relevant interventions
Simplify	Revise criteria for admission to Observation unit

Commonwealth of Massachusetts, 2012; Hibbert et al., 2018; Hettinger et al., 2013

HIERARCHY OF INTERVENTIONS

MODERATE	Example
Policy/Procedure change or implementation	Patients at high risk for falls not to be left alone while toileting
Audit/Feedback	Appropriate fall risk assessment intervention in place according to policy
Redundancy	Have an additional person assist
Enhanced documentation/forms	Making hourly rounding and measure in place according to policy
Checklists/Cognitive Aids	Fall Risk Signage with picture of required assist device (i.e., walker)
Standardize communication tools	Shift report form with specific space for fall risk and interventions
Training with practice and competency assessment	Fall skills fair. Personnel file documentation of skills competence.

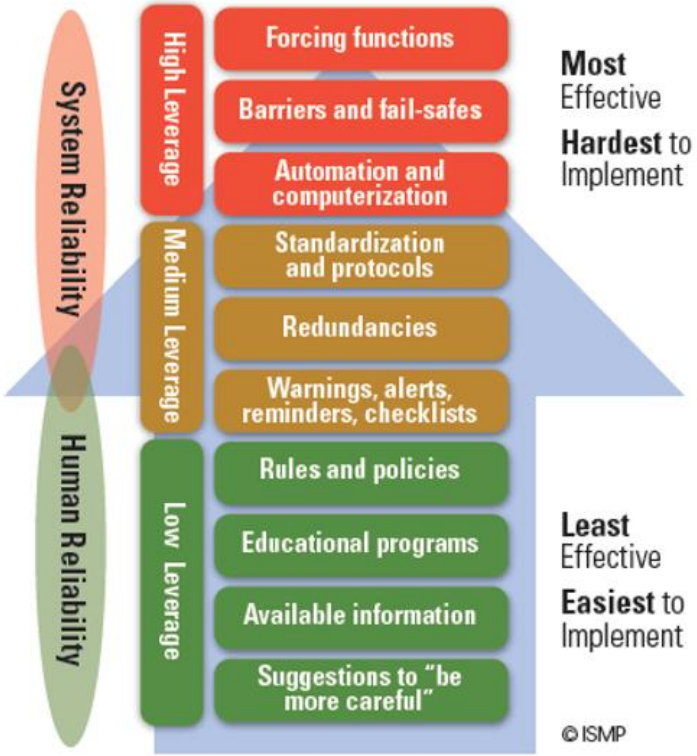
Commonwealth of Massachusetts, 2012; Hibbert et al., 2018; Hettinger et al., 2013

HIERARCHY OF INTERVENTIONS

WEAK	Example
Counseling / Discipline	Discussion with individual and note in personnel file
Discussions in meetings	General mention in monthly staff meetings (*daily safety huddle reminders might be more helpful)
Notifications (email, communication books)	Notice to "do better." Decreased opportunity for it to be personalized or have questions answered.
Warnings	Punitive discussion and file note
Double-checks	Double checks of medication dosage prior to administration.
Training without practice or competency assessment	Float staff expected to "see one, do one"

Commonwealth of Massachusetts, 2012; Hibbert et al., 2018; Hettinger et al., 2013

HIERARCHY OF EFFECTIVENESS OF RISK REDUCTION STRATEGIES



From the Institute for Safe Medication Practices

PRIORITY PAYOFF MATRIX

Payoff/ Benefit
(strength of intervention)

- Rank your proposed actions on this matrix to help with selection and timing
- Use sticky notes with action items on them
- Works well with a team

Ease/Cost of Implementation

HOW TO ENSURE A GOOD REPORTING AND IMPROVEMENT CULTURE

- Ensure a safe and open reporting culture (**Just Culture)**
- Make it clear why incidents need to be reported.
- Make reporting quick and easy
- Show what happens after a report has been made
- Provide feedback
- Involve employees

From the Patient Safety Company

QUALITIES NECESSARY FOR ORGANIZATIONAL REPORTING SYSTEMS TO BE EFFECTIVE

- It must not be perceived as a punitive system
- Confidentiality systems must exist to ensure individuals do not feel at risk when reporting errors
- The reporting system should be narrative based, not just checking off boxes
- The reports must be analyzed by individuals with experience in the subject matter
- The reporting system must be voluntary
- The reporting system must not be simply a counting effort system but rather a corrective one
- Feedback to those who report errors must be timely to build trust in the system

From VA Study on Patient Safety and Reporting

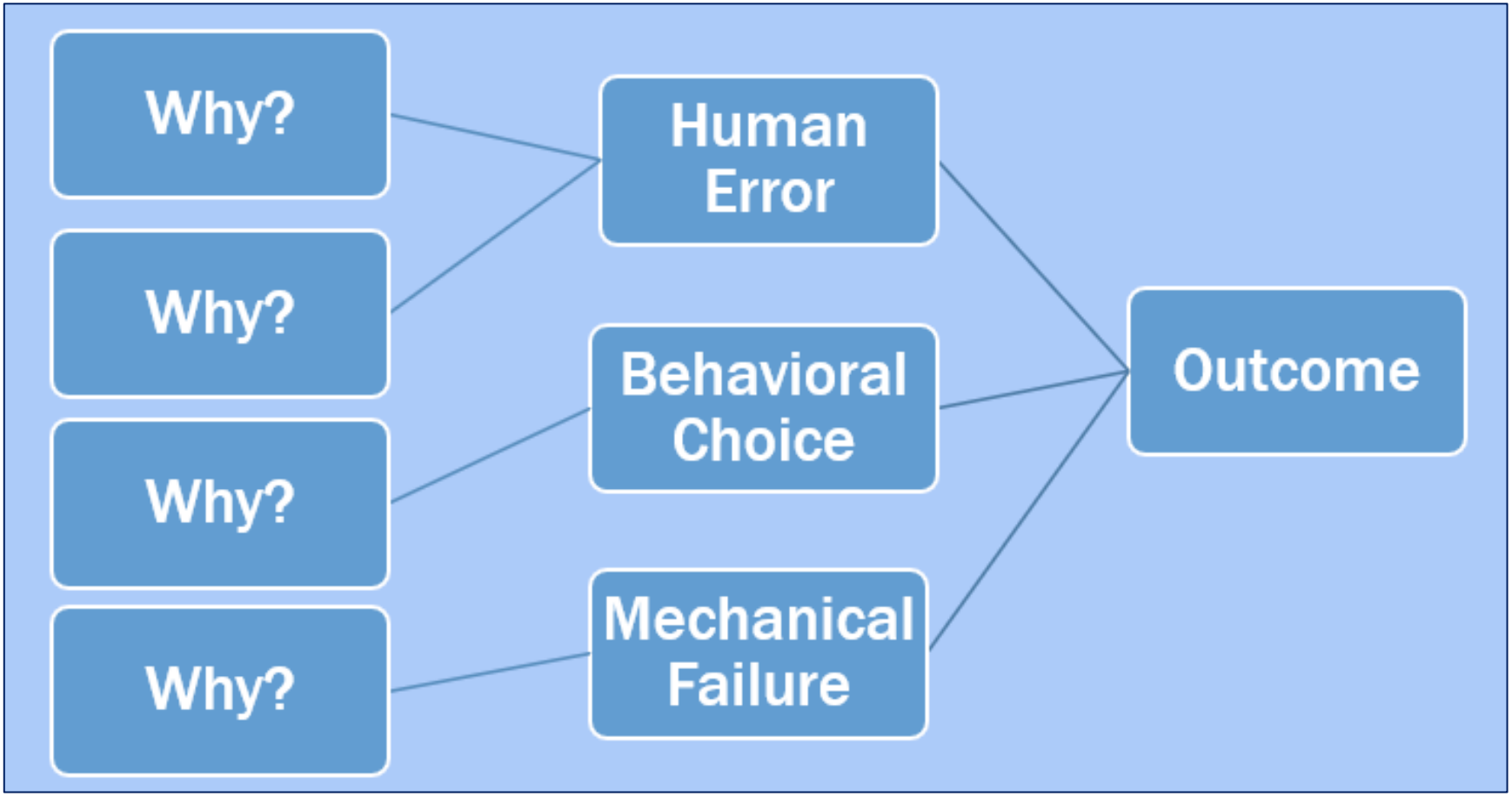
LEARNING

Information from reports is used as a window to understand risk in a system

Methods to learn how your systems are operating:

- Root Cause Analysis
- Success Cause Analysis
- Team-based Meetings (briefs, huddles, debriefs)
- Process Mapping
- Failure Modes and Effect Analysis
- Safety Briefings and Leadership WalkRounds
- Leveraging Frontline Expertise

LOOKING FOR SYSTEM CAUSES



Causal Diagram for Undesired Outcome

Patient/Resident Factors
Age: 82
Primary Dx: scheduled for total knee replacement
Comorbidities: none
Relevant Lab Values: none
Other:

Environmental Factors

3. Why, why, why?

2. Identify causes in Timeline*

1. Undesired outcome

Staff did not realize the importance of conveying this information

Pre-surgical "Joint Camp" did not stress to the patient the physical limitations she would experience post surgery

AND

Why?

Patient overmedicated having received both spinal and femoral block

Patient did not realize her physical limitations post surgery due to surgical nerve block and narcotic pain meds administered

AND

Why?

Pre-op H&P did not mention the patient's mental status

AND

Why?

Patient's family did not inform provider of patient's "sundowning" behavior.

Nursing staff did not know the patient routinely experienced episodes of confusion, especially in the evening

AND

Why?

Lack of competency in task of scoring Fall Risk assessment

Fall risk assessment inaccurately scored

Nursing staff did not implement fall precautions (no bed alarm)

Day __2_ Time _0350__

Total knee replacement patient attempted to use the bathroom without any assistance less than 24 hours post surgery.

Unattended patient fall resulting in femoral fracture

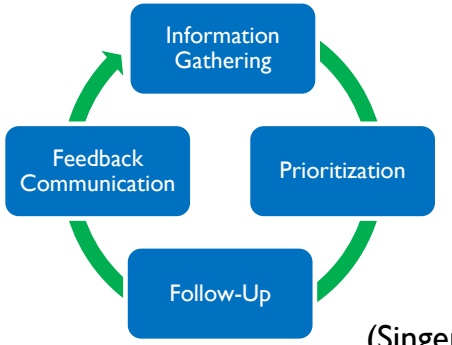
*Events/causes in the timeline may be human errors or behavioral choices; each human error or behavioral choice should have a preceding cause that answers the question "why?"

LEVERAGING FRONTLINE EXPERTISE

Foundational to all safety culture interventions

- Leaders engage the frontline to learn from, and with them, about system problems
- Leaders hold frontline accountable for implementing and sustaining mutually agreed upon change

The Leveraging Frontline Expertise (LFLE) Cycle



(Singer et al., 2013)

W. Edwards Deming's theory that "The people closest to the work process are best able to improve it".

(circa 1950)

FLEXIBLE

Definition: flexible culture

A culture in which an organization is able to reconfigure themselves in the face of high tempo operations or certain kinds of danger – often shifting from the conventional hierarchical mode to a flatter mode

from Reason, 1998

FLEXIBLE

What does it mean to say an organization has a flexible culture?

- the organization changes processes and systems to improve
- team communications are optimized
- there is psychological safety to speak up about safety related information

TEAMSTEPPS® (TEAM STRATEGIES AND TOOLS TO ENHANCE PERFORMANCE AND PATIENT SAFETY)

- Evidence-based team training program
- Developed by the Department of Defense and the Agency for Healthcare Research and Quality

- Builds on 30 years of research on teams and team performance in high-risk areas in which poor performance may lead to serious consequences or death (e.g. aviation, the military, nuclear power, and healthcare)

TEAMSTEPPS® (TEAM STRATEGIES AND TOOLS TO ENHANCE PERFORMANCE AND PATIENT SAFETY)

TeamSTEPPS® support the flexible culture - The knowledge, skills, attitudes, language and coordinating mechanisms inherent in teamwork create the flexibility team members need to manage complexity and learn from experience. (Jones, et.al, 2008)

Adopting team behaviors positively impacts all components of safety culture because teamwork supports learning. (Jones et al., 2013)

PSYCHOLOGICAL SAFETY

Definition: psychological safety

"a belief that one will not be punished or humiliated for speaking up with ideas, questions, concerns, or mistakes, and that the team is safe for interpersonal risk-taking"

Amy Edmonson, PhD., Professor of Leadership and Management at Harvard Business School

PSYCHOLOGICAL SAFETY FACILITATORS

Team Level

- Leader inclusiveness: introducing individuals to the team

- Open culture: nonjudgmental atmosphere with a group of similar individuals

- Support in solos: identifying with a group of similar individuals

- Boundary spanner: an individual linking subgroups

- Interpersonal relationships: familiar long-tenure team members

- Small teams: individuals are more comfortable and confident in smaller groups

Individual Level

- Vocal personality: ability to voice opinions confidently

- Chairing meetings: appointment meeting chairs are motivated to speak up

From PSNet's *Psychological Safety of Healthcare Staff*, March 2022

PSYCHOLOGICAL SAFETY BARRIERS

Organizational Level

- Hierarchy: higher ranking physicians were valued more

Team Level

- Lack of Knowledge: lack of awareness of cases being discussed
- Authoritarian leadership: leaders devaluing ideas from team members

Individual Level

- Personality: dominant personalities overpowering conversations, or overly shy team members

From PSNet's *Psychological Safety of Healthcare Staff*, March 2022

SAFETY CULTURE IS AN INDICATION OF PATIENT SAFETY & PATIENT EXPERIENCE

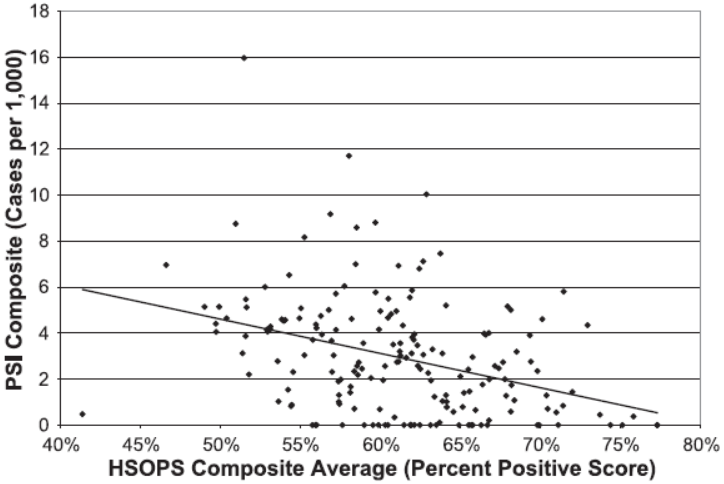


FIGURE 1. Scatter plot of PSI composite versus HSOPS composite average (N = 179).

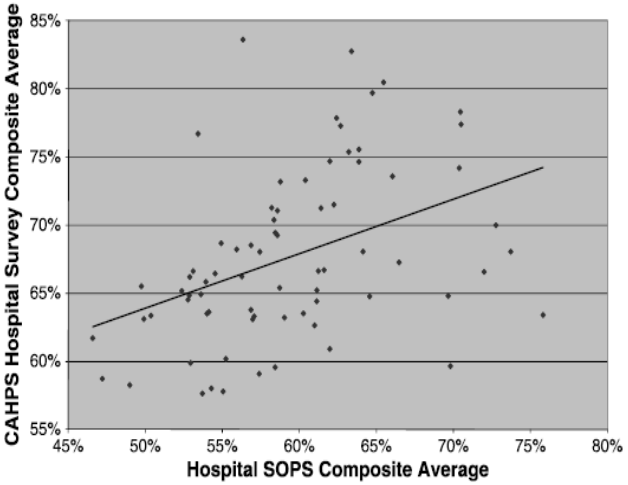


FIGURE 1. Scatter plot of CAHPS hospital survey composite average score and Hospital SOPS composite average score (N = 73 hospitals; $r = 0.41$, $P < 0.01$) exploring relationships between patient safety culture and patients' assessments of hospital care.

Higher composite HSOPS scores are associated with fewer adverse events; Joint Commission's Sentinel Event Database indicates that leadership's failure to create an effective safety culture is a contributing factor to adverse events

"….behaviors and attitudes [of hospital employees] can directly affect the pain, discomfort, health, and recovery of patients."

PLAN TO ASSESS SAFETY CULTURE

- Establishes a baseline measure of safety culture using the Agency for Healthcare Research and Quality (AHRQ)
- Specific surveys for four different care settings: hospitals, nursing homes, medical office, and community pharmacy
- Analyzes and shares results from the survey at the unit and job title level with front-line workers
- Develops and implements action plans to address areas of weakness at organizational and unit-level
- Re-assess safety culture every 18 – 24 months
- Joint Commission Standard LDL.03.01.01 states, "Leaders regularly evaluate the culture of safety and quality using valid and reliable tools"

HIGH RELIABILITY, SYSTEMS THINKING AND HUMAN FACTORS

- High reliability - consistent performance at high levels of safety over long periods of time
- Used in high-risk organizations that manage extreme hazards in complex situation with success
- Healthcare is a high-risk industry that can use High Reliability Organization (HRO) principles
- Systems thinking and human factors engineering are inherent in HROs

HIGH RELIABILITY PRINCIPLES

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

PSNET High Reliability, 2019

PREOCCUPATION WITH FAILURE

- Everyone is alert and on the lookout for potential failures.
- New threats arise unexpectedly and often.
- The absence of errors or accidents does not lead to complacency.
- Near misses are seen as opportunities to learn about systems issues and potential improvements, rather than as evidence of safety.
- People feel safe to report small problems, so they won't become big ones.

RELUCTANCE TO SIMPLIFY

- People resist looking for a simple answer or excuse for a problem.
- People understand that the systems they work in are complex and dynamic.
- Problems are analyzed for underlying explanations, rather than surface ones.
- Curiosity and questioning of the status quo is encouraged.

SENSITIVITY TO OPERATIONS

- There is "situational awareness" – people have an understanding of what is going on around them and how the current state may threaten safety.
- People understand the "big picture" – the context of their work in relation to the unit, process flow or organization.
- Resources are available for unexpected situations, changes in workload, etc.

DEFERENCE TO OPERATIONS

- People closest to the work are the most knowledgeable about the work.
- In a crisis or emergency, the person with greatest knowledge of the situation might not be the person with the highest status and seniority.
- If something unexpected occurs, the most highly qualified people, regardless of rank, make the decision.
- The organizational culture is such that all staff members are comfortable speaking up about potential safety problems.

COMMITMENT TO RESILIENCE

- People understand that system failures are often unpredictable.
- People prepare for and practice assessing and responding to challenging situations.
- Teams are cultivated through team training in skills such as situation assessment and cross monitoring so that potential safety threats can be identified and responded to quickly.
- Events and potential threats are learned from to improve systems and processes so future problems and harm can be prevented.

AHRQ Patient Safety Network, 2019

ROADMAP TO HRO

Requirements to achieve high reliability:

1. Leadership commitment
2. Development of a culture of safety
3. Robust and ongoing improvement

AHRQ Patient Safety Network, 2019

ROLE OF LEADERSHIP

Joint Commission Sentinel Event Alert # 57: *The essential role of leadership in developing a safety culture*

- Leadership's first priority is to be accountable for effective care while protecting the safety of patients, employees, and visitors.
- Leadership commitment to creating and maintaining a culture of safety is just as critical as the resources devoted to financial stability, system integration, and productivity.
- Maintaining a safety culture requires leaders to consistently and visibly support and promote everyday safety measures.
- Leaders must understand that *systemic flaws exist* and each step in a care process has the *potential for failure* simply because *humans make mistakes.*

https://www.jointcommission.org/resources/patient-safety-topics/sentinel-event/sentinel-event-alert-newsletters/sentinel-event-alert-57-the-essential-role-of-leadership-in-developing-a-safety-culture/

Questions?


Thank You!

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RESOURCES

- Agency for Healthcare Research and Quality. https//:www.ahrq.gov
- Health Quality Council of Alberta. Just Culture. https://justculture.hqca.ca
- High Reliability | PSNet https://psnet.ahrq.gov/primer/high-reliability
- Academy of Healthcare Executives. Leading a culture of safety: a blueprint for success.

https://www.ihi.org/resources/publications/leading-culture-safety-blueprint-success