Practical Application of High Reliability Principles in Healthcare to Promote Quality and Safety Outcomes

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Conflict of Interest

• The presenter for this presentation has disclosed no conflict of interest related to this topic.
Objectives

• Define high reliability organization (HRO) principles.

• Describe how to apply HRO principles into daily healthcare work processes.

• Discuss how HRO principles promote clinical quality outcomes, safety, and culture.
Relevance/Significance

• Healthcare application of high reliability principles is complicated by the complex adaptive nature of care delivery systems. (Lipsitz, 2012)

• Healthcare is moving from a reactive to a proactive paradigm. (Latney, 2016)

• Near misses are influential in evaluating healthcare structures and processes prior to experiencing negative outcomes. (Speroni, Fisher, Dennis and Daniel, 2014)

• HRO principle application and integration supports proactive identification of potential adverse events. (Clark, 2012)
Purpose

• Apply high reliability principles to healthcare work processes to drive quality outcomes, safety and culture change.
• High Reliability Organization

• High reliability organizations (HROs) are those organizations that are high-risk, dynamic, turbulent, and potentially hazardous, yet operate nearly error-free.

Weick and Sutcliffe, 2007
High Reliability Principles

• Sensitivity to Operations
• Preoccupation with Failure
• Deference to Expertise
• Reluctance to Simplify
• Commitment to Resilience
Sensitive to Operations: (Downstream impact)

Preoccupation with Failure: (What could go wrong?)

Deference to Expertise: (Value team collaboration)

Reluctance to Simplify: (Digging deeper for root issue)

Resilience: (Learning quickly from errors)

Situational Awareness = State of Mindfulness

Exceptionally Safe Consistently High Quality Care

High Reliability

Hines, et. al., 2008
Hospital Acquired Condition Prevention

Sensitive to Operations: (Downstream Impact)
- Just Culture
  - Team champions
  - Implement “all in one” supply chain kits

Preoccupation with Failure: (What could go wrong?)
- Monthly audits to monitor adherence to prevention bundle

Deference to Expertise: (Value team collaboration)
- Implement prevention toolkit
- Implement evidence-based prevention bundle
- Implement protocol

Reluctance to Simplify: (Digging deeper for root issue)
- Monthly audits to monitor adherence to prevention bundle
- Hospital Acquired Condition Prevention Report
Hospital Acquired Condition Prevention

**Resilience:** (Learning quickly from errors)

- Education on use of equipment: insertion, maintenance, removal
- Competency validation
- Standardize documentation
- Conduct just-in-time prevention bundle education
- Conduct just-in-time peer review
- Report unit specific outcome metrics monthly
- Ongoing audits
- Learning from defects

**Rank Order of Error Reduction Strategies**

- Less Error
  - Forcing functions and constraints
  - Automation and computerization
  - Standardization and protocols
  - Checklists and double check systems
- More Error
  - Rules and policies
  - Education / Information
  - Be more careful, be vigilant

Carroll, 2011
Outcomes

• Preventable Harm
  • Case Mix Index (CMI)
  • Case Mix Index Adjusted Admissions (CMIAA)
  • Preventable Harm Incidents

• Nurse Sensitive Indicators
  • Injury Falls Rate
  • Hospital Acquired Pressure Ulcer Percent Stage II+(HAPU)
  • Catheter Associated Urinary Tract Infection Rate (CAUTI)
  • Central Line Associated Blood Stream Infection Rate (CLABSI)
Preventable Harm – CMI/CMIAA

CMI increase FY13 to FY16

CMIAA increase FY14 to FY16
Preventable Harm - Incidents

33.5% reduction in preventable harm events

PAH Preventable Harm Events by Fiscal Year

Updated 6/30/16

FY13 FY14 FY15 FY16
Number of Events

191 146 144 127

33.5% reduction preventable harm events
Nurse Sensitive Indicators

Injury Falls Rate
Porter Adventist Hospital

Percent HAPU Stage II+
Porter Adventist Hospital

CAUTI Rate
Porter Adventist Hospital

CLABSI Rate
Porter Adventist Hospital
# Nursing Value

$1,606,502 ESTIMATED DIRECT COST AVOIDANCE

## Injury Falls Prevention

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## Pressure Injury Prevention

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## CAUTI Prevention

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## CLABSI Prevention

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Pappas, 2013
Implications for Practice

• High Reliability Organization
  • Culture of safety
  • Patient-centered outcomes
  • Professional autonomy
  • Frontline staff accountability and engagement
  • Leadership accountability and engagement

Value-based care

Oster, 2016
Implications for Practice

• Clinical Personnel
  • Be proactive
  • Anticipate change in risk
  • Plan to adapt
  • DO NOT wait for an adverse event to occur to make corrections!
  • OWN IT!
Sustaining a High Reliability Culture

- Theory, Practice and EBP/Research
  - **Everyone** accountable for outcomes
  - **Partnership** among patient safety, quality, nurse scientist, clinical staff and leadership

Centura Health®

Oster, 2016
Culture of Nursing Excellence
Awards and Honors

100 Greatest Hospitals in America by Becker's Hospital Review

Porter Adventist Hospital was awarded the Leapfrog Award with Hospital Safety Grade of "A"

Society of Cardiovascular Patient Care – Atrial Fibrillation Certification

Society of Cardiovascular Patient Care – Chest Pain Accreditation

Society of Cardiovascular Patient Care – Heart Failure Accreditation

Recipient of the Get With The Guidelines Gold Plus Honor Role Elite for two years in a row (2015-2016)

Recipient of the Healthgrades Distinguished Hospital Award - Clinical Excellence™ for 2 Years in a Row (2015-2016)

One of Healthgrades America's 100 Best Hospitals for Joint Replacement™ in 2016

One of Healthgrades America's 100 Best Hospitals for Prostate Surgeries™ for 3 Years in a Row (2014-2016)

Recipient of the Healthgrades Joint Replacement Excellence Award™ for 2 Years in a Row (2015-2016)
Awards and Honors

Named Among the Top 5% in the Nation for Joint Replacement in 2016

Five-Star Recipient for Total Knee Replacement and Total Hip Replacement for 2 Years in a Row (2015-2016)

Recipient of the Healthgrades Pulmonary Care Excellence Award™ for 2 Years in a Row (2015-2016)

Recipient of the Healthgrades Prostate Surgery Excellence Award™ for 3 Years in a Row (2014-2016)

NICHE (Nurses Improving Care for Health System Elders) Designation, 2 Years in a Row (2015-2016)

Five-Star Recipient for Colorectal Surgeries in 2016

Five-Star Recipient for Prostate Removal Surgery for 3 Years in a Row (2014-2016)

Named Among the Top 5% in the Nation for Prostate Surgery for 3 Years in a Row (2014-2016)

Recipient of the Healthgrades Critical Care Excellence Award™ for 2 Years in a Row (2015-2016)

Named Among the Top 10% in the Nation for Critical Care for 2 Years in a Row (2015-2016)

Joint Commission Re-certification for Primary Stroke in 2016
References


Contact Information

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Questions???