How Safe Is Your Hospital? *Really*?

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How safe is your hospital…

…for WHOM?
SAFETY
This produces answers such as…

• “Our hospital infection rates are within the expected range for a hospital of our size and complexity”
• “In the last two years, we have reduced pressure ulcers by 31%”
• “We have not had a serious safety event in 7 months.”
These answers describe how safe you were YESTERDAY.

They don’t describe how safe you are RIGHT NOW, or how safe you will be TOMORROW.
Advanced Leadership and Oversight of Safety

The measurement and monitoring of safety

Drawing together academic evidence and practical experience to produce a framework for safety measurement and monitoring

Leading Indicator Questions

• How well are we performing our key safety processes? (Reliability)
• How safe are we right this minute? (Sensitivity to Operations)
• How safe are we going to be tomorrow? (Anticipation and Preparedness)
• How well are we responding to past events? (Integration and Learning)

Reliability: What Are We Talking About?

• Key clinical processes are carried out as specified…

• regardless of time of day, day of week, which team members are present, which doctor is on call, whether the ER is jammed…
## Characteristics of Different Levels of Process Reliability: (Amalberti, Nolan)

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Error Proofing
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**Errors in these processes don’t usually lead to an immediate catastrophe.** Let’s start with the basics. How do we make these processes more reliable?
Why do so many processes get “stuck” at low levels of reliability?

“We did the inservices!”
Build decision aids and reminders into the system

– Order entry in electronic record
– Chronic disease registries and appointment reminders
– Flu shots at voting booths
Improvement Concepts Associated with 98-99% Reliability (2)

Make the desired action the default

Firm rule: “Sterile technique (scrub, gown, gloves, mask…) will be followed in all surgical procedures”

Why did we stop at sterile technique?
Improvement Concepts Associated with 98-99% Reliability (3)

Use redundancy

- Multidisciplinary Rounds
- Nurses must double check certain medications with another nurse to insure accurate dosing etc. (insulin, opiates, anticoagulants, chemotherapy…)


Improvement Concepts Associated with 98-99% Reliability (4)

Level-load using sophisticated scheduling methods

- Examples:
  - Smoothing the elective surgical schedule
  - Open access Primary Care systems
Harness the process you wish to make reliable to existing workflows, habits and patterns of work

• Example:
  – Nurse starts pre-op antibiotic when she sees the surgeon starting to scrub
Reliability: Summary of Key Points

• Health care processes function across a wide range of levels of reliability.

• The methods used to improve process reliability depend to a great extent on the starting level of reliability, and whether a defect in the process is potentially catastrophic.
  – Basic process is reliable, defect is catastrophic—use HRO methods
  – Basic process is chaotic or low reliability--use “Level II” reliability methods to improve reliability to 99% or better
Sensitivity to Operations

• “Safety is a dynamic non-event” (Reason)

• Timely Sensing and Responding to
  – Ebbs and flows in volume
  – Staffing problems
  – “Organizational entropy”
  – Unexpected events
    • Equipment failure
    • Natural disaster
    • Epidemic
Examples of Leadership Practices that Improve Sensitivity to Operations

- Unit “Supervisor” without direct patient care responsibility
- Executive Rounding
  - Patient Interviews
  - Informal Conversations with Staff
- Service Hand-Overs and Safety Briefings
- House-wide Daily Safety Briefings
House-wide Daily Safety Briefings: A **Superb** Leadership Practice to Build “Sensitivity to Operations”

- 15 minute daily meeting of key operational leaders, led by Chief Executive
- Agenda:
  - Quick report on house-wide safety status: “It’s been 31 days since our last Serious Safety Event and 5 Days since our last employee lost work day event."
  - Brief scripted report on any safety issues from each manager, including security, facilities, bio-med…
  - Brief follow-up on any previously identified urgent safety issues
- **Note**: Generally works best around 830 or 9 am, allows managers to have their own “pre-huddles” with their teams.

- **Don’t skip Saturday and Sunday!**
- **Don’t ignore nights!**
Two Different Perspective on Anticipation and Preparedness

What could possibly go wrong?

Jose Velasco, MD
“Let’s talk about the 3 worst things that could happen during this Whipple procedure.”
Aircraft Crews…

Anticipate Disasters

Prepare a Checklist Just in Case

Rehearse
Alcoa Crews Use a Pre-Task Safety Briefing

- What are we getting ready to do?
- Does a written procedure for this task exist?
- Have we reviewed it?
- What performance mode is each crew member in? (Knowledge, Rules, Skills)
- What error traps are present today?
- What safety hazards can we anticipate with this task?
- What could go wrong?
- What’s the WORST thing that could happen? How would we know it was about to happen?
- What countermeasures are we going to take to make sure it doesn’t happen?
- What are our STOP criteria?
- Is everyone ready to go?
The Best Surgical Checklist Ever
Fire: Airway

- Call for help.
- Stop all gas flow ($O_2$, $N_2O$)
- Disconnect breathing circuit.
- Pour saline into airway.
- Remove ETT.
- Remove sponges and other flammable materials from airway.

- Re-intubate and re-establish ventilation.
- If intubation difficult, don’t hesitate to obtain surgical airway.

- Consider bronchoscopy to assess for thermal injury, look for tracheal tube fragments, and remove residual material.
- Impound all equipment and supplies for later inspection.
How well do you learn from things that go wrong?
McLeod Surgery Brief-Debrief System

• Every surgical case has a serious debrief, recorded on paper
  – Dr. Mike Rose (and his assistant!) drive 100% compliance
  – 88,000 cases over 5 years

• Things that went wrong are categorized and severity-rated, by the team
  – 11 categories e.g. anesthesia, nursing, equipment, pre-op, surgeon....
  – 5 levels (level 1 = no harm, 5 = death)
  – 6,800 “things that went wrong” (7.5%)
McLeod Surgery Brief-Debrief System (2)

• Action is taken on all defects, **within hours** on category 4 and 5 events
  – Team in OR recommends actions
  – Senior leaders immediately notified
  – Actions spread to all relevant parts of system

  – **e.g.** obese orthopedic patient **fall from table due to accidental “beanbag” deflation**
McLeod Surgery Brief-Debrief System (3)

• Results
  – Surgical mortality rate decreased 40%
  – Surgical complications (Premier) decreased 30%
  – Labor hours per case 19.6 to 9.0
  – Dramatic increase in staff morale

mrose@mcleodhealth.org
Vice President Surgical Services
Summary: To answer the question “How safe are we?” leaders must know more than how many safety events have occurred in the past. They must understand the answers to these “leading indicator” questions:

• How well are we performing our key safety processes? (Reliability)
• How safe are we right now? (Sensitivity to Operations)
• How safe are we going to be in the future? (Anticipation and Preparedness)
• How well are we responding to past events? (Integration and Learning)

Who should be asking these questions?

Who should be responsible for answering them?
Leaders are responsible for everything in an organization, especially what goes wrong.

Paul O’Neill