How Safe Is Your Hospital?

Really?

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At a cocktail party, the topic turns to safety in health care. Someone notes that you work in health care, and asks, “Well, how safe is your hospital?”

Answer the question.
How safe is your hospital...

...for WHOM?
SAFETY
The most common way to answer the question “How safe is your organization?” is to describe how much harm has occurred in the past (a “lagging indicator”)
But we don’t see most of the harm

- 484 Incident reports (voluntary)
- 462 Incidents detected in administrative data
- 221 complaints
- 176 health and safety incidents
- 21 inquests
- 10 malpractice claims
- **4,900 adverse events on record review**

Hogan et. al Quality and Safety In Health Care 2008: 13 (4) 242-3
In the US, Public Reports Capture only 10% of the Harm

For Medicare Hospitalized Patients

• 13.5% (1 out of 7) had an adverse event but...
  • …only 0.6% had an NQF Serious Reportable Event
  • …and only 1.0% had a Medicare “Healthcare Acquired Condition”

• 1.5% had an adverse event that contributed to death
  • ~ 15,000 deaths in October 2008 alone!

“44% of the harm was preventable”
To get a more complete answer to the question “How safe are we?,” leaders must also ask questions about “leading indicators”

- How well are we performing our key safety processes? *(Reliability)*
- How safe are we today? *(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 of Core Clinical Systems in 7 Hospitals

• **Systems studied:**
  – Equipment in operating rooms
  – Peripheral IV line insertion
  – Availability of information in surgical clinics
  – Prescribing for hospital inpatients

• **Defect rate: 13-19%!**

### Characteristics of Different Levels of Process Reliability: (Amalberti, Nolan)

<table>
<thead>
<tr>
<th>Chaos</th>
<th>80-90%</th>
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<tbody>
<tr>
<td>No written specifications. Processes are custom-crafted each time</td>
<td>Standard specifications in policies and guidelines, then staff are trained and expected to perform</td>
<td>Specifications become standard work through high reliability methods</td>
<td>Anticipate and contain failures through HRO culture. Loss of autonomy.</td>
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Errors in these processes can be immediately catastrophic.
## Characteristics of Different Levels of Process Reliability: (Amalberti, Nolan)

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**Errors in these processes don’t usually lead to an immediate catastrophe**
Why such low levels of reliability?

• We become accustomed to it, and think it’s normal
• We tend to rely on vigilance and hard work
• We focus on outcomes rather than process (no harm, no foul)
• We don’t understand human factors, and don’t use sophisticated designs for reliability
These concepts are fine, but they will never get you past 80-90% reliability!

- Standard equipment
- Standard order sets
- Care protocols and pathways
- Written policies/procedures
- Personal check lists
- Feedback to individuals on compliance
- Exhortations to work harder, pay attention
Improvement Concepts Associated with 98-99% Reliability (4)

**Level-load using sophisticated scheduling methods**

• Examples:
  – Smooth the elective surgical schedule by shifting 2 surgeons’ blocks from Tuesday to Thursday
  – Schedule discharge appointments at steady pace between 10 and 5
  – Use “advanced access” scheduling in primary care
Improvement Concepts Associated with 98-99% Reliability (5)

Harness the process you wish to make reliable to existing workflows, habits and patterns of work

• Example:
  – How does the nurse know when to start the pre-op antibiotic? When she sees the lead surgeon starting to scrub!
OK, so what safety processes should we focus on?
What **MUST** be highly reliable?
Patient Safety Processes Ready for Adoption: *Strongly Encouraged*

1. Preoperative checklists and anesthesia checklists to prevent operative and postoperative events
2. Bundles that include checklists to prevent central line–associated bloodstream infections
3. Interventions to reduce urinary catheter use, including catheter reminders, stop orders or nurse-initiated removal protocols
4. Bundles that include head-of-bed elevation, sedation vacations, oral care with chlorhexidine, and subglottic suctioning endotracheal tubes to prevent ventilator-associated pneumonia
5. Hand hygiene
6. The do-not-use list for hazardous abbreviations
7. Multicomponent interventions to reduce pressure ulcers
8. Barrier precautions to prevent health care–associated infections
9. Use of real-time ultrasonography for central line placement
10. Interventions to improve prophylaxis for venous thromboembolisms

http://archive.ahrq.gov/clinic/ptsafety
Patient Safety Processes Ready for Adoption: Encouraged

1. Multicomponent interventions to reduce falls
2. Use of clinical pharmacists to reduce adverse drug events
3. Documentation of patient preferences for life-sustaining treatment
4. Obtaining informed consent to improve patients’ understanding of the potential risks of procedures
5. Team training
6. Medication reconciliation
7. Practices to reduce radiation exposure from fluoroscopy and CT
8. The use of surgical outcome measurements and report cards, such as those from ACS NSQIP
9. Rapid-response systems
10. Use of complementary methods for detecting adverse events or medical errors to monitor for patient safety problems
11. Computerized provider order entry
12. Use of simulation exercises in patient safety efforts

http://archive.ahrq.gov/clinic/ptsafety
Reality Rounds: A Leadership Practice to Improve Reliability of Safety Processes

1. Pick a major safety practice critical to your aims for this year

2. Develop a **scripted** set of questions designed to expose operational barriers to implementation of that practice, and to drive positive feedback to staff who know and implement the practice

3. Commit the leadership team to round
   - CE 1 hour per month
   - Director 1 hour per week
   - Unit manager 1 hour per day

4. Fix the operational problems you learn about! Teach and use sophisticated reliability concepts!

5. Pick another safety practice, and repeat
An example script:

• Hi, I’m ____, the Medical Director. Do you have a minute to chat about the hospital’s work in infection control?
• I see this patient has a urinary catheter. Could you tell me the elements of the “bundle” for preventing infections in this patient?
• Great job! So here’s a question. Which of the elements of the bundle is hardest for you and the other nurses to implement?
• Thanks. Let’s move beyond bundles: are there any other things that worry you about patients getting infections in our hospital?
• As long as we’re chatting, do you have any other concerns about safety, either of the patients, or of the staff?
• Thanks!
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
Where can you go to learn more?

• IHI White Paper

• Weick and Sutcliffe
  – Managing the Unexpected: High Performance in an Age of Complexity
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
  – Etc.
Questions for Hospital Leaders

• How well does your hospital monitor and respond to safety issues resulting from the wide variety of “things that go awry” in organizations?

• **What specific leadership processes are in place to do this?**
Examples of Practices that Improve Sensitivity to Operations

• Charge Nurse on each unit without direct patient care responsibility

• Executive Rounding
  – Patient Interviews
  – Informal Conversations with Staff

• Bedside shift changes

• 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 8:30 or 9 am, allows managers to have their own “pre-huddles” with their teams.

- Don’t skip Saturday and Sunday!

- Don’t ignore nights!
Where to learn more about sensitivity to operations

• HPI White Paper
  – Daily Safety Check-in


Anticipation and Preparedness

What could possibly go wrong?
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?
BEFORE handing out assignments, announce the following:

Uncommon or High Risk Procedures and Patients This Shift. State patient name, room number, and suggestions.

- **Central Line:** Remind RN to utilize IV Therapy and consult you if he/she needs to remove the line.

- **Restraints:** Remind RN to assess for need and proper placement, obtain order, and document completely.

- **Trach:** Remind RN to review “Trach Checklist” with you after BSR.

- **Chest Tube:** Ask RN to have you come assess set up after BSR.

- **Post-Angio:** Tell RN to let you know when pt. returns so you can make sure the RN has resources.

- **High Fall Risk**
  - Medically Unstable
  - Combative
  - Inappropriate
  - High Frequency Diagnoses
  - Name Alerts
  - No Release of Information

Who has been off work for more than 4 days? Ask the other staff to offer extra help and support that person.

Today/Tonight, what is the worst thing that could happen? Try to make it specific if you get vague answers.

  - How do we know if it’s happening?

  - How can we stop it?

Will you report to me if you have a safety concern? Each person in the room must respond with a verbal, “Yes.”

Tardy Staff: Pull aside any staff who came in after the Huddle began and say to them, “We do a Safety Huddle every day at 0700/1900 in order to ensure all staff are on the same page about things that could potentially harm patients. It is essential that all staff are here for the Safety Huddle, so please be in the Report Room no later than 0700/1900. Thank you.”
How well do you use your pre-surgical checklists to “anticipate and prepare for the unexpected?”
# Pediatric Critical Events Checklists

**Call for help!**

<table>
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<tr>
<th>Location</th>
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<tr>
<td>Overhead</td>
<td>1605</td>
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<tr>
<td>Blood Bank</td>
<td>45850</td>
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<tr>
<td>PICU</td>
<td>45952</td>
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<td>Fire</td>
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<td>GOAT</td>
<td>64161</td>
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<tr>
<td>Charge RN</td>
<td>64160</td>
</tr>
<tr>
<td>PACU</td>
<td>45712</td>
</tr>
</tbody>
</table>

- Air Embolism: 2
- Anaphylaxis: 3
- Bradycardia: 4
- Cardiac Arrest: 5-7
- Difficult Airway: 8
- Fire: Airway and OR: 9-10
- Hyperkalemia: 11
- Hypertension: 12
- Hypotension: 13
- Hypoxia: 14-15
- Local Anesthetic Toxicity: 16
- Loss of Evoked Potentials: 17
- Malignant Hyperthermia: 18
- Myocardial Ischemia: 19
- Tachycardia: 20
- Transfusion & Reactions: 21-22
- Trauma: 23-24

Revised March 8, 2013
Fire: Airway

- Call for help.
- Stop all gas flow (O$_2$, N$_2$O)
- 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 went wrong? How well do you integrate the learning across silos?
Sources of information on “things that went wrong”

- Incident reports
- Patient safety alerts
- Serious safety events
- Malpractice cases
- Publicly reported “Never Events”

- What do you do with these?
- Who reviews them?
- How do you spread the learning?
- How do you know that you’ve implemented the learning?
We attract and develop the best team.

We foster a culture of learning and innovation.

We create an extraordinary patient experience.

We relentlessly pursue the highest quality outcomes of care.

Vision
To be the Quality Leader and transform health care.

Mission
To improve the health and well-being of the patients we serve.

Values
Teamwork | Integrity | Excellence | Service

Strategies
Virginia Mason Team Medicine
SM
Foundational Elements
Strong Economics | Responsible Governance | Education
Virginia Mason Foundation
Integrated Information Systems
Research
Virginia Mason Production System

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# of PSAs reported monthly

10,000th

20,000th

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Patient Safety Alert: Key Concepts

- Every employee is an inspector
- Inspect, stop, and fix at the source
- Every employee can stop the line
- When you can’t fix on-the-spot: STOP
Board Quality Oversight Committee

- Meets monthly
- Members include 4 public members (NEDs), CEO and Quality executives
- Standing agenda
  - PSA data and specific case studies
  - Red PSA closure approval
  - Quality subcommittee reports
Integrating the learning from PSAs

• Tuesday standup: What’s the lesson for your area?
  - Stroke and confirmation bias
  - What does this mean for credentialing doctors?
Beyond “How Much Harm Has Occurred?”

Key Questions for Safety Leaders

• How well are we performing our key safety processes? (Reliability)

• How safe are we today? (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)

To Sum Up

• Leaders are responsible for everything in the organization, especially for what goes wrong.

• Leaders must ensure that safety is measured, monitored, and continually improved—for patients, staff, visitors....

• Don’t be satisfied with lagging indicators. These do not tell you how safe you are today, or how safe you will be tomorrow.