Creating High Reliability Organizations

Enhancing the Culture of Safety for Our Patients & Our Organizations

Seton Family of Hospitals
“OUR TRUST” by Dr. Don Berwick

Reliability from the Patient’s Perspective

Don't kill me  
(\textit{no needless deaths})

Do help me and don't hurt me  
(\textit{no needless pain})

Don't make me feel helpless

Don't keep me waiting

Don't waste resources - mine or anyone else's

SAFETY + Quality + Satisfaction = Exceptional Care

# The Reality: Patient Harm Happens

<table>
<thead>
<tr>
<th>Unrecognized Clinical Deterioration</th>
<th>Medication Error - Wrong Rate</th>
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</thead>
<tbody>
<tr>
<td>Medication Overdose</td>
<td>Treatment Delay due to incomplete Handoff of information</td>
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<tr>
<td>Delay in diagnosis</td>
<td>Medication Error: Insulin Overdose</td>
</tr>
<tr>
<td>Medication Reconciliation:</td>
<td>Calcium Gluconate Infiltration</td>
</tr>
<tr>
<td>Wrong Dose</td>
<td>Incorrect labeling of patient blood sample</td>
</tr>
<tr>
<td>Wrong-sided Procedure</td>
<td>Treatment delay due to inaccurate handoff of information</td>
</tr>
<tr>
<td>Tunnel Vision: Misdiagnosis</td>
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[Seton Family of Hospitals]
Serious Safety Event
Event that reaches the patient & results in (death, life-threatening consequences, or serious physical or psychological injury)

Precursor Safety Event
Event that reaches the patient & results in minimal to no harm

Near Miss “Good Catch”
An event that almost happened, but error caught by a detection barrier
High Reliability Organizations

“HROs are organizations with systems in place that are exceptionally consistent in
- accomplishing their goals
- avoiding potentially catastrophic errors”

Agency for Healthcare Research Quality
Risk of Death by Industry

1/100,000,000 per year

1/10-100,000,000 per flight

1/300 admissions
Journey to Improving Reliability

Optimized Outcomes

10^{-6}
10^{-5}
10^{-4}
10^{-3}
10^{-2}
10^{-1}

Process Design
- Evidence-Based Best Practices
- Technology Enablers
- Process optimization/simplification
- Tactical interventions

Behavior Accountability
- Behavior Expectations
- Knowledge & Skills - Error Prevention
- Reinforce & Build Accountability

Integrated With

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Five Principles of HROs

3 Principles of Anticipation

**Prevent Errors**

**Preoccupation with Failure**

Remaining alert to small, inconsequential errors as symptom that something’s wrong

**Sensitivity to Operations**

Paying attention to what’s happening on the front-line

**Reluctance to Simplify**

Encouraging diversity in experience, perspective & opinion
Five Principles of HROs

2 Principles of Containment

**Mitigate Errors**

**Commitment to Resilience**
*Developing capabilities to detect, contain and bounce-back from events that do occur*

**Deference to Expertise**
*Pushing decision making to the person with most directly related knowledge & expertise*

Event Analysis
Drills
Checks
Regular Briefs

Regular Briefs
Chain of Command
What Kinds of Errors do Human Make?

**Knowledge-based**
1. Figuring it Out
   - 30-60 errors/100 acts
   - 15% of healthcare errors

**Rule-based**
2. By the Rules
   - 1 error/100 acts
   - 60% of healthcare errors

**Skill-based**
3. Auto-Pilot
   - 3 errors/1,000 acts
   - 25% of healthcare errors
Outpatient “Weekly Brief”

Enhances culture of safety
- Staff awareness patient safety & process issues
- Staff sharing information without fear of reprisal

Reduces risk of errors that harm patients or organization

Structure
- Limit ≤ 15 min at consistent time weekly
- Physician(s), management & staff meet to discuss concerns, errors, events & “Good Catches” over past week
- Quick fixes handled & more complex fixes sent to QI site
- Non-punitive approach of bringing up issues re-enforced
- Events & Good Catches recorded & trended to share with staff
- Good Catches celebrated

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Outpatient “Daily Huddle”

Enables staff to
- *Stay informed* of issues
- Change work plans before crises occur
- Plan work day for best patient & staff outcomes

Creates practice-level thinking - *thinking like a team*

**Structure**
- *Limit* < 7 min at *consistent time daily*
- Team *Members* determined by practice
  - Physician may or may not attend, but support critical
  - Team members bring back issues to physicians & staff
- Team *discusses* immediate staff or patient issues & *course corrections*
- *Examples*: lab missing, patient interpreter needed, 2 patients similar name & DOB, full schedule & physician to leave early for meeting, staff member calls in sick

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Biggest Impact on Human Error Reduction
2 Techniques

- **ARCC**
  - *Ask* question
  - *Request* change
  - Voice *Concern*
  - Use *Chain* of Command if concern continues

- **5:1 Feedback**
  - *5 positive comments : 1 criticism or concern*
Barriers to ARCC ... to Overcome

- Situations where one person perceives him/herself as less powerful
- Requires active measures to overcome
5:1 Feedback

- **Value:** Enhances relationships
- **Result:** Easy to bring up issues of concern
- **How it works:**
  - Seek opportunities to point out **good** things – ratio 5 positive comments : 1 criticism or concern
  - Provide feedback based on observations & facts
  - Use “lightest touch” possible

**Delivering message:**

- **Invitation:** “May I point something out...”
- **Observation:** “I observed that you...”
- **Expectation:** “The expectation is that we.. because..”
- **Facilitation:** “Is there something that can help...”
- **Commitment:** “Next time...”
What STAR Stands For:

**Stop** - Pause 1-2 seconds to focus attention on task

**Think** - Consider action you’re about to take

**Act** - Concentrate & carry out task

**Review** – Check – is task done right with right result?

**Value:** Self check that allows brain to catch up with what hands are getting ready to do

**Use:**
Performing high risk &/or low frequency skill based tasks

**Examples:** Ordering tests or providing test results – is this the right patient?
HAVING A QUESTIONING ATTITUDE

Value:

**Validate**
Does it make sense to me?
Critical thinking tool – assure best actions

**Verify**
Stop & Resolve when uncertain
Check it out with an independent, expert source

Use:

When your detector goes off – something’s not right
Every high-risk situation
Change in patient condition or operational process

Example: Ordering routine patient follow-up visit when critical results pending
What SBAR Stands For:

- **Situation** - situation you are calling about
- **Background** - pertinent background information
- **Assessment** - caller’s assessment of situation
- **Recommendation** - caller’s recommendation or action he/she wants to happen

**Value:** Provides concise information needed for decision-making & clearly communicates recommendations & requests of caller

**Use:** Communicating vital patient or operations information & making requests between care providers or business staff (**vertical communication**)

**Examples:** Nurse calling physician for patient care issue; Office staff contacting physician or management for patient error in operations
**DRAW**

**What DRAW Stands For:**
- **D**iagnoses of patient or issue
- **R**ecent changes
- **A**nticipated changes
- **W**hat to watch for in patient or process management

**Value:** Provides critical information necessary for appropriate continuity of care or business operations during handed-offs between people.

**Use:** Patient hand-offs between care providers; operational hand-offs between office staff (*horizontal communication*)

**Examples:**
- Nurse to nurse hand-off when nurse needs to leave the office
- Care providers hand-off in patient transfer from office to hospital
- Physician to physician communication for call coverage
- Office staff hand-off of critical issues when leaving office
<table>
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<tr>
<th>We are accountable for &amp; commit to:</th>
<th>How we do it:</th>
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| **1. Patient, Personal & Peer Safety**  
We demonstrate 200%+ accountability for safety to ourselves, our team members & our patients | Peer Coaching & Peer Checking  
- Encourage safe behavior using 5:1 feedback  
- Speak up for safety using ARCC  
  - Ask a Question, Request a Change, Voice a Concern, Chain of Command |
| **2. Clear & Complete Communication**  
We are responsible for professional, accurate, clear & timely verbal & written communication |  
- 3-Way repeat-backs & read-backs  
- Ask & encourage clarifying questions  
- Phonetic & numeric clarifications  
- Communicate about patients & situations using SBAR  
  - Situation, Background, Assessment, Recommendation  
- Use DRAW when transferring patients between caregivers  
  - Diagnosis, Recent changes, Anticipated changes, What to watch for |
| **3. Having a Questioning Attitude**  
We “think it through” & ensure best actions |  
- Stop & resolve when uncertain  
- Validate & verify |
| **4. Paying Attention to Detail**  
We focus on the task at hand & avoid unintended errors | Self-Checking with STAR  
Stop, Think, Act & Review |
Why Do Events Happen?

Multiple Barriers - technology, processes, & people - designed barriers to stop active errors

Latent Weaknesses in barriers

Active Errors by individuals result in initiating action(s)

“Swiss Cheese Model”

Adapted from Dr. James Reason, *Managing the Risks of Organizational Accidents*, 1997
Crash of Korean Air Flight 801

Adapted from James Reason, *Managing the Risks of Organizational Accidents* (1997)

On average, an event of harm involves penetration of 8 protective barriers – 8 opportunities where harm could have been prevented.
**RETAINED FOREIGN OBJECT**

Patient re-anesthetized & wound reopened for sponge removal; 2nd surgery for hematoma evacuation

OR nurse and team aware of retained sponge; surgeon & anesthesia not reminded of need for final count

**MITIGATION** - Questioning Attitude (Validate & Verify); Peer Coaching & Checking; ARCC

**PREVENTION** - Attention to detail (STAR)

Patient awakened by anesthesia before final sponge count

OR nurse and team aware of retained sponge; surgeon & anesthesia not reminded of need for final count

**PREVENTION** - Attention to detail (STAR)

Surgeon closed skin and left OR before final sponge count

**PREVENTION** - Attention to detail (STAR)

Surgeon performing new type of surgery & deviated from his technique of clipping stat to assistant’s gown as reminder of retained sponge

**PREVENTION** - Attention to detail (STAR)

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DELAY IN TREATMENT

Patient developed hypotension

Nurse did not notify the physician of the hypotension because she thought the physician had seen the most recent vital signs.

Oncoming nurse gives pain med to unstable patient because unaware of most recent vital signs.

Physician ordered pain med despite hypotension because unaware of most recent vital signs.

Resident ordered fluids after patient developed SOB & increased pain. Did not assess patient because had seen patient earlier in day.

Better Situational Awareness and Validate & Verify could have prevented event.

Prevention - Pay attention to detail (STAR); Team checking & coaching (Validate & Verify)

Mitigation - Questioning attitude (Validate & Verify); Paying attention to detail (STAR); SBAR by nursing.

Adapted from James Reason, Managing the Risks of Organizational Accidents (1997).
DELAY IN MANAGEMENT

Outpatient Example

PREVENTION – Questioning attitude (Validate & Verify); Team checking physician, nurse & patient

PREVENTION – Attention to detail (STAR); Set patient expectation of timely results

Patient had neck & shoulder pain at thyroid ultrasound but no CVA or other adverse outcomes

Test results not reviewed until 6 mo follow-up visit; Patient referred for possible stent & thyroid ultrasound for mass detected at CTA

Radiologist did not call critical results to physician

PREVENTION: Attention to detail (STAR); Team checking by radiologist & physician

Nurse scheduled test 2 wks after visit; Did not check results

PREVENTION – Attention to detail (STAR); Questioning attitude (Validate & Verify) by nurse & patient; Team checking physician, nurse & patient (set patient expectation of timely results)

Physician ordered patient follow-up visit in 6 mo with critical results pending

PREVENTION – Attention to detail (STAR)

Carotid doper exam showed significant stenosis; Physician ordered carotid CTA & relied on office protocol to receive results.

PREVENTION – Questioning attitude in protocol for critical results (Validate & Verify); Team checking by physician, nurse & patient (set patient expectation of timely results)
Serious Safety Event Rate

Improved communications increases reporting of errors to true baseline

Leadership for high reliability and hospitalwide training on error prevention strategies significantly reduce error rates

80+% drop from true baseline

Time (4 years of data shown)