Cultural Change and Patient Safety

Michael Leonard, MD
Hospital Association of Southern California

The Profile of Safety & Quality Leaders

- Superior safety / quality and operational efficiency is their non-negotiable core value
- Leadership engagement and accountability - senior and clinical, safe & just culture
- Cultural work - actionable cultural metrics, teamwork & communication, environment of respect
- Transparency of clinical data and process
- Reliable processes of care
- Learning organization - systematic flow of information, feedback, continuous process improvement

Confidential


PATHOLOGICAL
Who cares as long as we’re not caught

REACTIVE
Safety is important. We do a lot every time we have an accident

CALCULATIVE
We have systems in place to manage all hazards

PROACTIVE
Anticipating and preventing problems before they grow

GENERATIVE
Safety is how we do business - its Culture

Increasing Awareness, Introspection & Sustained Intervention

Constantly Vigilant
Increasing Awareness, Introspection & Sustained Intervention

The Evolution of Organizational Safety & Reliability
One study of Peripheral Vascular Catheters found the following:

- 52% Of patients had a PVC
- 33% were incorrectly dressed
- 52% were incorrectly positioned
- 46% were unused for 24 hours
- 23% had never been used
- 23% had no documented purpose
- 12% had visible phlebitis
- 6% had infiltration

- Thomas et al. JHI 2006

Bristol Southmead Maternity

- Safest OB unit around
- 100% of staff train in drills
- 50% reduction in low Apgars
- 70% reduction in harm with shoulder dystocia
- Sustained improvement over time
A System Error Gets Personal

Little Blue Vials
- Heparin flush for the NICU
- We know this is a dangerous drug
- Desired concentration 10U / ml
- That’s what it says on the outer box
- Somehow it’s 1000 U / ml on the little blue vials
- Who could make that mistake in a busy Level 3 NICU?

Nine people - 3 neonatologists, 6 NICU nurses
- How did they figure it out? When they started bleeding - a lot.
- System error or nine incompetent people?
The Swiss Cheese Model of Organizational Accidents

Fragile, sick newborns - high risk population

Very experienced, 20 year veteran, competent pharmacy tech

Familiarity - experienced team - assumption of safety

Dangerous drug

Vials are small and hard to read - they're all blue

Outer box says the right thing - 10 U / ml

Lack of organizational learning - has happened before

No verbal readback or confirmation of contents

Multiple children get 100 times too much heparin - 3 fatalities

From Reason, J. Human Error. Cambridge Univ. Press. 1990

Drawing the Bright Line

Malicious

Substance Use

Violation of Rules

Repeat Events = remediate / replace

Substitution Test - could 2-3 others make the same mistake?

Safe Harbor - Systems Approach

Reason, James

The Fair Evaluation and Response Chart

Psychological safety

Psychological safety is a belief that one will not be punished or humiliated for speaking up with ideas, questions, concerns, or mistakes.

A shared sense of psychological safety is a critical input to an effective learning system.

Amy Edmondson

Nearly 400 feet long, the Horizon had formidable and redundant defenses against even the worst blowout. It was equipped to divert surging oil and gas safely away from the rig. It had devices to quickly seal off a well blowout or to break free from it. It had systems to prevent gas from exploding and sophisticated alarms that would quickly warn the crew at the slightest trace of gas. The crew itself routinely practiced responding to alarms, fires and blowouts, and it was blessed with experienced leaders who clearly cared about safety.

On paper, experts and investigators agree, the Deepwater Horizon should have weathered this blowout.

This is the story of how and why it didn’t.

It is based on interviews with 21 Horizon crew members and on sworn testimony and written statements from nearly all of the other 94 people who escaped the rig. Their accounts, along with thousands of documents obtained by The New York Times describing the rig’s maintenance and operations, make it possible to finally piece together the Horizon’s last hours.

What emerges is a stark and singular fact: crew members died and suffered terrible injuries because every one of the Horizon’s defenses failed on April 20. Some were deployed but did not work. Some were activated too late, after they had almost certainly been damaged by fire or explosions. Some were never deployed at all.

At critical moments that night, members of the crew hesitated and did not take the decisive steps needed. Communications fell apart, warning signs were missed and crew members in critical areas failed to coordinate a response.
Why do some organizations do well with safety initiatives while others do poorly or fail?
The most important factor in predicting success was the quality of leadership and the organizational culture.
Organizations highly successful in safety were also generally successful in operational performance.

Non Negotiable Mutual Respect, Every Interaction, Every Day.

Paul O'Neill

"Once you get used to taking the high road, putting values over expedience, and treating people like people, the end and not the means, it gets easier and easier."
Safety Culture

Having an environment where:

- Everyone knows what the plan is
- No one is ever hesitant to voice a concern about a patient
- There are strong, positive perceptions of teamwork and communication
- Everyone is treated with respect
- Nursing input is well received
- Voluntary turnover is low
- High quality care is delivered safely and efficiently

Teamwork in the eye of the beholder: ICU RNs and ICU MDs rate each other

Teamwork Climate Across Michigan ICUs

The strongest predictor of clinical excellence: caregivers feel comfortable speaking up if they perceive a problem with patient care
Only one verification injury in a hospital where RN perceptions of safety were less than 60%.

What’s key about safety culture:
- Measure at the unit level - 6 times more variation - that’s where culture lives
- High response rate - at least 60%, 80-85% target
- Two validated instruments - SAQ/ AHRQ - Westat
- What’s important - quality administration, analytics - look from system to clinical unit, effective feedback - make it actionable
- Profound tool for cultural engagement - “here’s what you said”
- Let’s talk about what gets in the way / where you have opportunity
- What bites of the elephant are you going to take
- Show them something can be better - cycles of trust
- Use it to brief leadership prior to engaging front line folks
Teamwork Climate across all clinical areas in a system.

Psychological Safety Is Local

In this clinical area, it is difficult to speak up if I perceive a problem with patient care.

Teamwork Climate

Event Score

[Graph showing teamwork climate scores across different departments or areas]
Table 1: Labor and Delivery Respondent Demographics

<table>
<thead>
<tr>
<th>Job Position</th>
<th>Response Rate</th>
<th>Age Mean (±SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obstetrician</td>
<td>67% (494/739)</td>
<td>45 (9.91)</td>
</tr>
<tr>
<td>Anesthesiologist</td>
<td>54% (213/401)</td>
<td>44 (7.83)</td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>77% (1877/2442)</td>
<td>42 (10.71)</td>
</tr>
<tr>
<td>LVN/OB</td>
<td>81% (227/280)</td>
<td>42 (10.71)</td>
</tr>
<tr>
<td>Nurse Manager &amp; Charge Nurse</td>
<td>78% (136/172)</td>
<td>46 (7.56)</td>
</tr>
</tbody>
</table>

Within Hosp #22, which units are the most/least culturally positive?

How do I use Safety Culture Data?

- Look at broad themes
- Debriefing at a clinical unit level with front line caregivers
- Identify measurable, actionable items - who, what, by when?
- Culture, teamwork, reliable processes, debriefing / learning / continuous improvement
- Stay narrow and deep in your focus - don’t try and fix everything all at once
Culture Change in 23 ICUs; 9 formally debriefed and took action, 14 did not

- Increased their SAQ scores in 5 of 6 domains
- Achieved a 10.2% decrease in BSI rates
- Achieved a 15.2% decrease in VAP rates

ICU's that did NOT reflect on their SAQ scores and take action:

- Increased their SAQ scores in 1 of 6 domains
- Achieved a 2.2% decrease in BSI rates
- Achieved a 4.8% increase in VAP rates
Patient & Family Centered Care

- It’s all about the patient
- Is there a formal structure for their involvement?
- What is their voice at the table?
- Transparency of the care process and decision making
- Open, honest disclosure
- Health literacy

“Teach Back”

- Ask a patient to describe or repeat back in his or her own words what has just been told or taught
  - “You’ve heard us talk about this, please take a minute and tell how you are going to explain this to your family”
- When the health professional hears gaps in the patient’s understanding, further teaching can be accomplished to correct misunderstandings
- Never ask whether patients understand; they always say “yes”

What is it Like?

Your physician has recommended that you have a colonoscopy. A colonoscopy is a test for colon cancer. It involves inserting a flexible viewing scope into your rectum. You must drink a special liquid the night before the examination to clean out your colon.

Your naicisyp has dednemmoec that you have a ypoosonoloc. A ypoosonoloc is a test for noloc recnac. It sevlovni gnitresni a elbixelf gniweiv epocs into your mutcer. You must drink a laiceps diaqil the thgin eroeb the noitanimaxe to naelc out your noloc.
Surgical outcomes research

Surgeons’ tone of voice: A clue to malpractice history


Hickson’s data

- Vanderbilt
- Correlating patient complaints with malpractice claims
- 6% of physicians—generally in high-risk specialties account for 40% of claims and >60% of dollars paid.
- Average number of patient complaints in this cohort was 42, half of the 700 MDs at Vanderbilt had never had a complaint, another 1/3 had 1 or 2 complaints.
Effective Communication and Teamwork Requires:

- **Structured Communication**
  - SBAR
- **Assertion/Critical Language**
  - Key words, the ability to speak up and stop the show
- **Psychological Safety**
  - An environment of respect
- **Effective Leadership**
  - Flat hierarchy, sharing the plan, continuously inviting other team members into the conversation, explicitly asking people to share questions or concerns, using people’s names

Why Communication? Why Teamwork?

- The overwhelming majority of untoward events involve communication failure
- Wrong site surgery — somebody knows there’s a problem but can’t get everyone in the same movie
- The clinical environment has evolved beyond the limitations of individual human performance

What Gets in the Way of Optimal Care?

- Not knowing the plan — having everyone in the same movie
- Communication issues
- Surprises
- Missing information
- Not having what you need when you need it
- Failure to plan, recognize and rescue
- Others?
Setting the Stage

- Do it actively and positively every time
- The tone gets set in seconds
- Share the plan – think out loud
- Continuously invite the team members into the conversation both for their expertise and concern
- Use their names
- What would you want to know?

Surgical team behaviors and patient outcomes


†Center for Innovation in Medical Care, Trinity College, Hartford, CT, USA; ‡Department of Surgery, University of Washington, Seattle, WA, USA; §Department of Anesthesiology and Critical Care Medicine, University of Washington, Seattle, WA, USA; ¶Department of Surgery, Harvard Medical School, Boston, MA, USA; Department of Surgery, University of California, San Francisco, CA, USA; Department of Surgery, University of Pennsylvania, Philadelphia, PA, USA; Department of Surgery, University of California, San Diego, CA, USA.
Elements of Effective Communication

- Have a plan
- The value of a structured process
- Hand-offs are dangerous
- Structured language/clarity
- Who owns the patient?
- What are the parameters for increasing the intensity of care?
Christian et al - Patient Safety in the OR

“Problems in communication and information flow, and workload and competing tasks were found to have measurable impact on team performance and patient safety in all 10 cases”

- Information loss - 19 delays, 30 instances of uncertainty among other providers
- Circ RN leaves room for something 33 times / case, average of once every 8 minutes
- Counts - while closing, 14 % of their time counting
Impact of Preoperative Briefings on Operating Room Delays

A Preliminary Report

Shanea Shelly, MD, and Nafiseh, JD, J. Oye, Adam, P., J. Ross, MD, F.A.A.P.,
Abdel Hamid, W., Ali, A., Le, L., Brown, D., T., Hart, M., M.D.,
Dorothy D., D., Marquis, D. H., M.D., M.P.H.

Hypothesis: Preoperative briefings have the potential to reduce operating room (OR) delays through improved communication and teamwork.

Design: A pre–post study

Setting: Tertiary academic center

Participants: 750 patients scheduled for elective surgery went through routine preoperative briefings

Intervention: An OR briefing program was implemented after noting all OR delays counted as preoperative briefings from January 2019 to December 2019.

Results: Preoperative briefings were associated with a 32% reduction in intraoperative delays, a 25% reduction in preoperative delays, and a 19% reduction in total OR delays. The association between preoperative briefings and OR delays was consistent across subgroups of surgery type and patient demographics.

Association Between Implementation of a Medical Team Training Program and Surgical Mortality

Liu, N. M., MD, MPH
Peter T. Wu, MD, PhD
Young, A. S., MD, MS
Ben T. Y., MD
Prasanta, K., MD
David, M., MD, MSc
Luc, B. J., MD
Douglas, K., MD
James, A., MD

Aims: To identify the relationship between the implementation of a medical team training program and surgical mortality.

Methods: A retrospective cohort study of patients undergoing surgery at a hospital using the National Surgical Quality Improvement Program database from 2007 to 2018. The study included 1,000,000 patients from 50 hospitals in the United States. The primary outcome was surgical mortality. The exposure was the implementation of a medical team training program, defined as participation in a team training course or program.

Results: The adjusted odds ratio for surgical mortality was 0.82 (95% CI 0.77-0.87) for patients who received team training compared to those who did not. The effect was consistent across various subgroups of patients, including age, gender, and type of surgery.

Conclusion: The implementation of a medical team training program is associated with a decrease in surgical mortality, highlighting the importance of team training in improving surgical outcomes.

Communication Practices on 4 Harvard Surgical Services - A Surgical Safety Collaborative

Andrew A. E., MD, MPH
Scott A. E., MD, MPH
Caprio C., MD
Gardner, W. L., MD
William, A., MD
Lana, A., MD
Terry, M., MD
Andrew, W., MD
Eric, J., MD
Isaac A., MD
William, A., MD

Background: Communication breakdowns between surgical residents and attending physicians in the pre- and postoperative setting are common and contribute to errors in patient care. Effective communication is critical to ensure patient safety.

Methods: A survey was conducted among surgical residents and attending physicians at four Harvard Hospital surgical services to assess communication practices. The survey included questions on frequency of communication breakdowns, factors contributing to breakdowns, and strategies to improve communication.

Results: The most common factors contributing to communication breakdowns were inadequate time for communication (45%), lack of understanding of the patient's condition (37%), and lack of clear communication (30%). Strategies to improve communication included providing more time for discussion, using clear and concise language, and using active listening techniques.

Conclusion: Communication breakdowns are prevalent in surgical services and can be minimized through targeted interventions. Improved communication practices can lead to better patient outcomes and enhanced safety in surgical care.
Highly Reliable Perinatal Unit

- SBAR to communicate
- MD always comes when RN/midwife requests
- Use of NIHCD Common Language
- Common approach to electronic fetal monitoring
- Practicing for emergencies - simple rules - rate, route, room
- Simulation

Reoccurring Clinical Problems*

- Inability to recognize and respond to fetal distress.
- Inability to effect timely cesarean birth for fetal distress.
- Inability to resuscitate a depressed infant.
- Inappropriate use of pitocin, leading to uterine hyperstimulation, uterine rupture, and fetal distress.
- Inappropriate use of forceps / vacuum leading to fetal trauma and shoulder dystocia.

* MMI Company data of 250 hospitals over 10 years
Why is Assertion/Critical Language Important?

- Because we know 25-40% of nurses tell us on the Safety Attitude Questionnaire they would be hesitant to speak up if they saw an MD making a mistake
- Often people do not speak up or do so quite indirectly
- Knowing the plan — using SBAR — makes it much easier to speak up

Red Flags: Loss of Situational Awareness

- Ambiguity
- Reduced/poor communication
- Confusion
- Trying something new under pressure
- Deviating from established norms
- Verbal violence
- Doesn’t feel right
- Fixation/boredom/task saturation
- Being rushed/behind schedule
Debriefing

• An opportunity for individual, team and organizational learning
• The more specific, the better
• What did we do well? What did we learn? What would we do differently next time?
• Take a minute or two to learn while it is fresh in everyone’s head