Safety Culture eats strategy for lunch: The Intersection of Quality, Stress and Fatigue in a Clinical Area Near You...

January 14, 2010
welcome
Warm-Up:

Reflection, Reality, and Reliability
Know thyself...
Basic Findings

• In general, we don’t know ourselves very well
• We tend to be very confident of our ratings
• There is no link between confidence and accuracy
• Most people rate themselves as “above average”
• The worst performers are the most inaccurate
Areas of flaws

• Skills
• Knowledge
• Personality
• Predictions about how we will behave in the future
• Predicting how long something will take to complete
• Likelihood of desirable events in our lives
Exceptions

- Athletics
- Punctuality
- Neatness
In Medicine

• Family practice residents: Self-rated skill in interviewing pts and soliciting relevant health information found a 0.3 correlation with instructor ratings

• Self-ratings don’t correlate with board scores
  – Surgical Residents
  – Medical Students

• RN knowledge of basic life-support tasks not related to their confidence in that knowledge

• Doctors diagnosing pts with pneumonia report an 88% confidence, correct 20% of the time
We are not very self-aware, and we don’t have time to process the significant degree of emotional upheaval we experience….at work…
Traumatic Events & Emotional Upheavals Reported by Caregivers

- Being part of or witness to **patient harm**
- **Caregiver deaths**: murders, cancers, suicides, car accidents, multiple deaths in the same unit, deaths of children of caregivers
- **Other events**: head injuries, strokes, theft, cancer diagnoses among staff, miscarriages, depression, theft, fires, poisoning and divorces

Example of impact on critical care nurses

- Half are emotionally exhausted (burned out)
- 2 out of 3 have difficulty sleeping
- 1 out of 4 are clinically depressed

Our current approach in healthcare…

• Work in systems that rely on perfect performance, every time
• Denial of human factors - fatigue, task overload, distraction, stress…
• Work as a team of experts--not an expert team
• Patients only peripherally involved in their own safety
• Punitive approach when error occurs
  – Shame, Blame, Train
Impact of Current Approach

- Joy in work is diminished
- Resources are wasted
- Needless harm is caused
Refining Quality to include:

- How we take care for our patients
- How we take care for each other
- How we take care of ourselves
Patient Safety as a System

- Accept that we will make mistakes
- Focus on systems rather than blame
- Create clear goals, ask questions early
- Standardize, create independent checks, and learn from mistakes
  - Changing situations is more effective than trying to change human nature
2010 DUHS Patient Safety Center Courses Offered

• Patient Safety Officer Training
• Physician Leadership in Patient Safety and Quality
• Executive Leadership in Patient Safety and Quality: Executive Safety Partnerships
• Safety as a System: A Perspective from the Bottom Up
• TeamSTEPPS Short Course: Brief Introduction for Managers
• TeamSTEPPS Implementation: Train the Trainer
• Conflict Resolution and Coaching for Managers, Preceptors, and Frontline Staff
• Bouncing Back from Burnout – Overview/Intervention
Starfish Toolbox: Pedicellaria (Microscopic Tools for Clearing Away Debris)

- **Globular pedicellaria**: Club-like structures
- **Grabber pedicellaria**: Tong-like grabber/crusher structures
- **Scissor pedicellaria**: Snipping structures
- **Globular pedicellaria**: Club-like structures
What is in your toolbox (for clearing away debris)?

- Psychological Safety
- Executive Partnerships
- Learning from defects
- Website:  www.dukepatientsafetycenter.com
- Actionable Data on Teamwork & Safety
  - Teamwork Tools (critical language, briefings, SBAR, daily goals)
  - Safety Tools (CUSP, Learning From Defects, Executive Partnerships)
- Others: yoga, meditation, exercise, voodoo magic, denial, binge drinking, head injury, etc.
Attitudes that predict cockpit performance:

- Maintain awareness of other crewmembers, their problems, and their workload
- Value input from other crewmembers
- Adjust interaction styles to different crewmembers
- Acknowledge vulnerability to stress, both physical and psychological

- The performance of 95.7% of the pilots was correctly classified by the analysis of attitudes

Stress Comes from Things you can not Predict and/or Control

“Stress can wreak havoc with your metabolism, raise your blood pressure, burst your white blood cells, make you flatulent, ruin your sex life, and if that is not enough, possibly damage your brain.”

--Dr. Robert Sapolsky, Professor of Biological Sciences and Neuroscience at Stanford University
Chaos, Culture, and Predictability

Improve predictability = less chaos = better safety
- Standardized interactions, checklists, familiarity

Reduce predictability = more chaos = worse safety
- New Manager, New Location, New Technology
In the past week, how many of you…

- Skipped a meal?
- Ate a poorly balanced meal?
- Worked an entire shift without any breaks?
- Changed personal/family plans because of work?
- Arrived home late from work
- Drank too much coffee
- Slept less than 5 hours in a night?
  - Over 40% of Americans regularly sleep less than 5 hours a night
    - 2X as likely to die of heart disease
    - 1.7x as likely to die of all causes (Cappuccino, 2007)
Why do we sleep?
"The emotional centers of the brain were over 60 percent more reactive under conditions of sleep deprivation than in subjects who had obtained a normal night of sleep.” -Matthew Walker
The Impact of Sleep Deprivation on Emotional Brain Reactivity and Functional Connectivity

Seung-Schik Yoo, Ninad Gujar, Peter Hu, Ferenc A. Jolesz and Matthew P. Walker.

*Current Biology, Volume 17, Issue 20, 23 October 2007, Pages R877-R878*
Behaviors that undermine a culture of safety

Intimidating and disruptive behaviors can foster medical errors,\(^1,2,3\) contribute to poor patient satisfaction and to preventable adverse outcomes,\(^1,4,5\) increase the cost of care,\(^4,5\) and cause qualified clinicians, administrators and managers to seek new positions in more professional environments. \(^1,6\) Safety and quality of patient care is dependent on teamwork, communication, and a collaborative work environment. To assure quality and to promote a culture of safety, health care organizations must address the problem of behaviors that threaten the performance of the health care team.
The Reality of Fatigue

- Cognitive performance after 24 hrs. without sleep equivalent to blood alcohol of .10!

- Sleepy surgeons in laparoscopic simulator – 20% more errors, 14% longer to task completion.

- Medication errors 2.5 times more likely between 4-8 AM
Fatigue at Work

• Quality is more than mortality or length of stay, it is about the intersection of clinical, operational, and caregiver work-life balance outcomes

• Sleep Deprivation:
  – 24 hours and you are drunk
  – 30 hours and you are stupid (1.5 SD drop in clinical performance)
  – 35 hours and you are a jerk
  – 144 hours and you are dead

• Talking about the biology of fatigue changes the conversation into a psychologically safe one:
TRADITION
JUST BECAUSE YOU’VE ALWAYS DONE IT THAT WAY DOESN’T MEAN IT’S NOT INCREDIBLY STUPID.
Familiarity:
the path to predictability
Familiarity with others is a critical component of effective teamwork:

- 74% of all commercial aviation accidents happen on the first day of a crew flying together
- Familiarity trumps fatigue (simulator studies)
- Highlights the importance of predictable patterns of behavior
- Many teamwork tools, e.g., briefings are a proxy for familiarity

NTSB Report Number: SS--94-01, 1994
Know thy colleague…
“I know the first and last names of all the personnel I worked with during my last shift.”

890 clinical areas
Where everybody knows your name,
And they're always glad you came,
You wanna be where you can see
Our troubles are all the same
You wanna go where everybody knows your name...
Culture Assessment=Respecting the Wisdom of Frontline Caregivers

Surowiecki: inputs must be diverse and independent for collective wisdom to be potent

Representative-ness -vs- Unrepresentative Mess
-Less than 60% response rate unreliable

Example from James Surowiecki, The Wisdom of Crowds, 2005
Safety Culture Primer:
“The way we do things around here”

- Measure of consensus / Predicts outcomes
- Still an immature science

- Assessing improvement vs. maintenance:
  - improve climate by 10 points or more?
  - maintain a good culture of 60 points or more?

Safety Climate across 60 Ascension Health Hospitals

80% Response Rate 29,793 respondents

Safety Climate across 890 Ascension Health Clinical Areas

% of respondents reporting positive safety climate

L&D Teamwork Climate by Hospital

As teamwork climate increases:
• More predictability
• More familiarity with colleagues
• Less burnout
• Fewer delays
• Better shift changes

Know thy unit...
Communication Breakdowns are frequently the root cause of undesirable outcomes.

Root Causes of Sentinel Events
(All categories; 1995-2004)

Root Causes of Ventilator Events

Root Causes of Medication Errors

Root Causes of Infection-associated Events
(2005)
Getting along in L&D… a collaboration map:
(≥ 60% High Collaboration one way)

(≥ 60% High Collaboration two ways)
Utilizing Caregiver Wisdom to Drive Quality

• Safety Culture Triage: You should know your culture to be effective stewards of limited quality resources
• Culture is local (clinical area level, not hospital level)
• Fatigue, Familiarity, Teamwork, WLB and Quality are difficult to separate
• **Predictability vs. Chaos:**
  – Tools to standardize interactions (e.g., briefings, SBAR, critical language)
  – New Manager, New Location, New Technology
• Know thyself, thy colleague, and thy unit!
• Be ready to answer the questions:
  – Are we doing the right thing?
  – Are we learning from defects?
  – Are we safer?
2010 DUHS Patient Safety Center Courses Offered

• Patient Safety Officer Training
• Physician Leadership in Patient Safety and Quality
• Executive Leadership in Patient Safety and Quality: Executive Safety Partnerships
• Safety as a System: A Perspective from the Bottom Up
• TeamSTEPPS Short Course: Brief Introduction for Managers
• TeamSTEPPS Implementation: Train the Trainer
• Conflict Resolution and Coaching for Managers, Preceptors, and Frontline Staff
• Bouncing Back from Burnout – Overview/Intervention
2009 PSO Trainee visions for their medical centers represented as a word cloud: (www.wordle.net)