Building a Culture of Safety

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But doctor, you never told me the culture could be positive!
Objectives

To define “safety culture”, demonstrate how it can be quantified, and illustrate its connection to patient and staff outcomes.

To appraise the safety culture at your institution and propose strategies to strengthen it.
A story
8/30/10: Kim Hiatt receives a 4 out of 5 on her nursing evaluation, categorizing her as a “leading performer”

9/14/10: Kim Hiatt administered 1400mg of CaCl to Kaia Zautner, a critically ill infant, instead of the intended 140mg

Kimberly Hiatt
25-year veteran critical care RN
@ Seattle Children’s
9/14/10: She self-reported the error via the hospital’s electronic system, writing: “I messed up. I’ve been giving CaCl for years. I was talking to someone while drawing it up. Miscalculated in my head the correct mLs according to the mg/mL. First med error in 25 years of working here. I am simply sick about it. Will be more careful in the future.”
9/14/10: Kim Hiatt is escorted from the hospital after the mistake

9/19/10: Kaia Zautner dies. Degree to which medication error contributed remains unclear

Kim Hiatt is placed on administrative leave and fired several weeks later

4/3/11: Kim Hiatt, partner of Lyn Hiatt and parent of 2 teenagers, commits suicide in her home
Kim Hiatl was born March 3, 1981, in Waco, Texas, to Marion Jane (Ward) Hiatl and Daniel Com W. Hiatl. At 18, her mother and father were medi- cal school graduates from the University of Illinois; they worked for two years in a clinic in Missoula, Montana before moving to Seattle in 1983. Kim’s birthplace is a topic of conversation with her family and friends throughout her life.

Kim was a ray of hope for Los Pinos High School and went on to earn degrees in music at Pacific Lutheran University, and the Univer- sity of Washington School of Nursing. She was an accomplished pianist. Her most recent piano performance was at the funeral of her 60-year-old grandmother in 2010.

Among her extracurriculars and a member- ship of a 4H while growing up, Kim took pride in raising and showing the family’s farm animals. She was a soccer player and a marathon runner, and was second to none in a stolen water ski on the back of her bassin- eion matches were played with the energy reserved for her center court, a more than one opponent quit fractions after taking a smudged shuttlecock off Kim’s racquet. She loved hiking, photography, garden- ing, birds and jays, the hyper- Jack Russell that had almost as much energy and enthusiasm for life as Kim. Sitting around the campfire in the mountains with Kim will be a cherished memory.

Kim began her career at Seattle Children’s Hospital, where she worked for more than 12 years. Next to her family, nurs- ing was her life.

A memorial service was held April 12th for Kimberly at which time the Washington State Nurses Association presented her with a Nightingale Tribute, an award to honor departed nurse members. The WSNA recognized Kim as a robust advocate for her patients and the families they served. She was known to families, patients and her friends as an “amazing hero, totally committed to nursing.”

Focusing colleagues noted her intelligence, determina- tion, kindness, infectious smile, and, of most all, her quick wit, engaging humor and amazing energy — that was Kim.

Kim is survived by her partner, Lyn Hiatl, son Eli, daughter Taylor, mother Sharon Com W. Hiatl, father Daniel Hiatl, Doctor Michael Hiatl, siblings, nephews and nieces. Numerous aunts, uncles, cousins and cousins will also miss Kim.

Mary Noel Riddell was born in 1924. She was the only child of a miner and his wife, and was raised by her grandparents. She married her husband, a miner, in 1943, and they raised five children. She was a member of the service corps, and was a dedicated worker who loved her work. She was also a member of the Knights of Columbus, and was a member of the Daughters of the American Revolution.

Mary Noel Riddell was a Nightingale Award winner in 1961. She was born December 22, 1914, in Dodge, Nebraska, and received her nursing education at the University of Nebraska. She then served in the United States Army Nurse Corps during World War II, and was a member of the American Red Cross. She was a member of the National League for Nursing, and was a member of the American Nurses Association. She was also a member of the Sigma Theta Tau International Honor Society of Nursing.

Mary Noel Riddell was the first nurse to receive the Nightingale Award in the state of Washington. She was a dedicated nurse who was known for her kindness and caring. She was a member of the American Nurses Association and the Sigma Theta Tau International Honor Society of Nursing. She was also a member of the Catholic Daughters of America and the Daughters of the American Revolution. She was a member of the St. Vincent de Paul Society, and was a member of the American Red Cross. She was a member of the Sigma Theta Tau International Honor Society of Nursing.

Mary Noel Riddell was a member of the Nightingale Award Committee in Washington, and was a member of the Washington State Nurses Association. She was a member of the Washington State Nurses Association, and was a member of the American Nurses Association. She was also a member of the Sigma Theta Tau International Honor Society of Nursing. She was a member of the Catholic Daughters of America, and was a member of the Daughters of the American Revolution. She was a member of the St. Vincent de Paul Society, and was a member of the American Red Cross. She was a member of the Sigma Theta Tau International Honor Society of Nursing.
CULTURE...MATTERS

...CAN BE MEASURED

...CAN BE CHANGED
What is culture?

...the behaviors, beliefs, customs, arts, etc. of a particular society, group, place or time

...the sum total of ways of living built up by a group of human beings and transmitted from one generation to another

...a way of thinking, behaving, or working that exists in a place or organization
“Organizational culture is the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid, and therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.”

-Edgar Schein
MIT Professor
of Management
Culture yields cultural norms...

In the US, #awesome.

In the UK, #awkward.
...but “normal” is relative

I have the uncontrollable urge to eat my own feces.

That’s perfectly normal.

Dog therapy
Is there a “culture” in medicine?

“I was able to get in one last lecture about diet and exercise.”
Is there a “culture” in medicine?
What is “safety culture”?

UK Health & Safety Commission:
“The product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization’s health and safety management”

…it’s “how we do safety around here”
...from James Reason
(the Swiss cheese guy)

INFORMED CULTURE
Those who manage and operate the system have current knowledge about the human, technical, organisational and environmental factors that determine the safety of the system as a whole.

REPORTING CULTURE
An organizational climate in which people are prepared to report their errors and near-misses.

JUST CULTURE
An atmosphere of trust in which people are encouraged (even rewarded) for providing essential safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour.

FLEXIBLE CULTURE
A culture in which an organisation is able to reconfigure themselves in the face of high tempo operations or certain kinds of danger - often shifting from the conventional hierarchical mode to a flatter mode.

LEARNING CULTURE
An organisation must possess the willingness and the competence to draw the right conclusions from its safety information system and the will to implement major reforms.
Some strategies to improve culture...

MUSC Daily Check-in
Call @ 0745

Risk Management MD Connection
Click here to report
In addition to actual
misses, safety concer:
must be reported. Physicians may report such occurrence
Connection.

6-ALTR

![Diagram showing strategies to improve culture]

- **Informed Culture**: Those who manage and operate the system have current knowledge about the human, technical, organizational, and environmental factors that determine the safety of the system as a whole.
- **Flexible Culture**: A culture in which an organization is able to reconfigure themselves in the face of high tempo operations or certain kinds of danger - often shifting from the conventional hierarchical mode to a flatter mode.
- **Reporting Culture**: An organizational climate in which people are prepared to report their errors and near-misses.
- **Safety Culture**: An atmosphere in which people are encouraged (even rewarded) for providing essential safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behavior.
- **Just Culture**: An organization must possess the willingness and the competence to draw the right conclusions from its safety information system and the will to implement major reforms.
How can we measure “how we do safety around here”?
I often say that when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of meagre and unsatisfactory kind: it may be the beginning of knowledge, but you have scarcely, in your thoughts advanced to the stage of science, whatever the matter be.

(Lord Kelvin)
AHRQ Hospital Survey on Patient Safety Culture

- Supervisor expectations & actions promoting patient safety
- Organizational learning – continuous improvement
- Management support for patient safety
- Overall perceptions of patient safety
- Frequency of events reported
- Teamwork within units
- Teamwork across units
- Non-punitive response to errors
- Feedback & communication about error
- Handoffs & transitions
- Communication openness
- Staffing
Would staff in *your* unit rather sink than call for help?
Does safety culture matter?

IT DOES REALLY MATTER

Evidence scan:
Does improving safety culture affect patient outcomes?

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…but it’s complicated…
Safety culture has been linked to family satisfaction

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**Objectives:** Family satisfaction with critical care is influenced by a variety of factors. We investigated the relationship between measures of organizational and safety culture, and family satisfaction in critical care. We further explored differences in this relationship depending on intensive care unit survival status and length of intensive care unit stay of the patient.

**Design:** Cross-sectional surveys.

**Setting:** Twenty-three tertiary and community intensive care units within three provinces in Canada.

**Subjects:** One thousand two-hundred eighty-five respondents from 2374 intensive care unit clinical staff, and 880 respondents from 1381 family members of intensive care unit patients.

**Interventions:** None.

**Measurements and Main Results:** Intensive care unit staff completed the Organization and Management of Intensive Care Units survey and the Hospital Survey on Patient Safety Culture. Family members completed the Family Satisfaction in the Intensive Care Unit 24, a validated survey of family satisfaction. A family members according to patient descriptors: intensive care unit survivors who had length of intensive care unit stay <14 days or >14 days, and intensive care unit nonsurvivors who had length of stay <14 days or ≥14 days. We found strong positive relationships between most domains of organizational and safety culture, and satisfaction with care or decision-making for family members of intensive care unit nonsurvivors who spent at least 14 days in the intensive care unit. For the other three groups, there were only a few weak relationships between domains of organizational and safety culture and family satisfaction.

**Conclusions:** Our findings suggest that the effect of organizational culture on care delivery is most easily detectable by family members of the most seriously ill patients who interact frequently with intensive care unit staff, who are intensive care unit nonsurvivors, and who spend a longer time in the intensive care unit. Positive relationships between measures of organizational and safety culture and family satisfaction suggest that by improving organizational culture, we may also improve family
Safety culture has been linked to readmissions

Perceptions of Hospital Safety Climate and Incidence of Readmission

Luke O. Hansen, Mark V. Williams, and Sara J. Singer

Objective. To define the relationship between hospital patient safety climate (a measure of hospitals’ organizational culture as related to patient safety) and hospitals’ rates of rehospitalization within 30 days of discharge.


Data Collection. Robust multiple regressions used 30-day risk-standardized readmission rates as dependent variables in separate disease-specific models (acute myo-
Safety culture has been linked to mortality & LOS

Abstract

Objective. Safety culture may influence patient outcomes, but evidence is limited. We sought to determine if intensive care unit (ICU) safety culture is independently associated with outcomes.

Design. Cohort study combining safety culture survey data with the Project IMPACT Critical Care Medicine (PICCM) clinical database.

Setting. Thirty ICUs participating in the PICCM database.


Interventions. None.

Main outcome measures. Hospital mortality and length of stay (LOS).

Methods. From December 2003 to April 2004, we surveyed study ICUs using the Safety Attitudes Questionnaire-ICU
Safety culture has been linked to medication errors

**Background:** Despite increasing recognition of the significance of learning from errors, little is known about how learning climate contributes to error reduction.

**Objectives:** The purpose of this study was to investigate whether learning climate moderates the relationship between error-producing conditions and medication errors.

**Methods:** A cross-sectional descriptive study was done using data from 279 nursing units in 146 randomly selected hospitals in the United States. Error-producing conditions included work environment factors (work dynamics and nurse mix), team factors (communication with physicians and nurses’ expertise), personal factors (nurses’ education and experience), patient factors (age, health status, and previous hospitalization), and medication-related support services. Poisson models with random effects were used with the nursing unit as the unit of analysis.

**Results:** A significant negative relationship was found between learning climate and medication errors. It also moderated the relationship between nurse mix and medication errors. When learning climate was negative, having more registered nurses and protocols. Despite such progress, the IOM recently estimated that at least one medication error occurs every day for every hospitalized patient, suggesting that medication errors still remain a significant problem (IOM, 2006).

Safety culture has been emphasized as a necessary condition for patient safety, which includes reducing the number of medication errors (Kohn et al., 2000). A positive safety culture exists when group members share perceptions of the importance of safety, communicate with mutual trust, and have confidence in the efficacy of preventive measures (Health and Safety Commission, 1993). The Joint Commission included an annual assessment of safety culture in 2007 patient safety goals, and many healthcare organizations have embarked on efforts to assess safety culture or, on the surface, safety climate.

Although reducing medication errors is an important goal, there is consensus that eliminating them completely is unlikely, particularly when there are high volumes of activity. It has been estimated, for example, that a 600-bed teaching hospital with 99.9% error-free drug ordering, dispensing, and administration will still experience 4,000 drug errors a year (Leape, 1994). Therefore, organizations also must improve their strategies in
Safety culture has been linked to patient safety indicators

Exploring Relationships Between Hospital Patient Safety Culture and Adverse Events

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...There has been very limited research linking staff-patient safety culture with rates of adverse clinical events. A cross-sectional study examined relationships between the Healthcare Research and Quality's (AHRQ) Hospital Survey on Patient Safety culture and rates of in-hospital complications and adverse events as measured by the AHRQ Patient Safety Indicator general hypothesis was that hospitals with a more positive safety culture would have lower PSI rates.

We performed multiple regressions to examine the relationship between 15 patient safety culture variables and a composite adverse clinical events based on 8 risk-adjusted PSI's from a, controlling for hospital bed size and ownership. All patient event data were collected in 2005 and 2006 (except 1 late 2004) of all PSI data were collected in 2005.

Nearly all of the relationships tested were in the expected direction, and 7 (47%) of the 15 relationships were statistically significant. All significant relationships were of moderate size, with regression coefficients ranging from -0.15 to -0.41, that hospitals with a more positive patient safety culture lower rates of in-hospital complications or adverse events by PSI's.

Our findings support the idea that a more positive patient safety culture is associated with fewer adverse events in hospitals. Further research is needed to determine the generalizability of these results to other hospitals and to examine the causal relationship between safety culture and patient outcomes.

A positive safety culture even mitigates workload hazards

safety tools on medical errors: A study of intensive care units

Johannes Steyrer
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Andreas Valentin
Guido Strunk

Background: Hospitals face an increasing pressure toward efficiency and cost reduction while ensuring patient safety. This warrants a closer examination of the trade-off between production and protection posited in the literature for a high-risk hospital setting (intensive care).

Purposes: On the basis of extant literature and concepts on both safety management and organizational/safety culture, this study investigates to which extent production pressure (i.e., increased staff workload and capacity utilization) and safety culture (consisting of safety climate among staff and safety tools implemented by management) influence the occurrence of medical errors and if/how safety climate and safety tools interact.

Methodology/Approach: A prospective, observational, 48-hour cross-sectional study was conducted in 57 intensive
Improved safety culture $\rightarrow$ improved outcomes
Improved outcomes $\rightarrow$ improved safety culture
How to improve culture?

How to change a culture

If you want to redirect the behavior of a crowd, here's a tip: don't be too idealistic about human nature.
How to improve culture?

“To really change how a group of people thinks and behaves, ...you don’t need to change what’s inside of them, or appeal to their inner sense of virtue. You just have to convince them that everybody else is doing it.

...we may need to stop trying to tap into people’s desire to be good or virtuous, and instead take advantage of something less lofty and, frankly, harder to admire: the powerful drive to be normal.”
Changing what’s... 
...normal

Descriptive Social Norms and Motivation to Vote

everybody’s Voting and so Should You

S. Gerber
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The fact that many citizens fail to vote is often cited to motivate others to vote. Psychological research on descriptive social norms suggests that emphasizing the opposite—that many do vote—would be a more effective message. When we get-out-the-vote field experiments, we find that messages emphasizing low expected turnout are less effective at motivating voters than messages emphasizing high expected turnout. The findings suggest that descriptive social norms affect vote intention only among citizens who vote infrequently or occasionally. Practically, the results suggest that voter mobilization efforts should emphasize high turnout, especially when targeting occasional and late of participation voters. More generally, our findings suggest that the common lamentation by the media about politicians regarding low participation may undermine turnout.
The comprehensive unit-based safety program (CUSP)
Your unit could start tomorrow
A different story
The first paragraph in Eagle’s “Command Philosophy”

“Safety. Above all else, Safety.
We learn safe practices and procedures.
We follow them on board and ashore.
We watch our shipmates to ensure they do too.
We immediately speak up when we think
that we may be seeing an unsafe practice developing.
We listen.
We care about the safety of our shipmates and ourselves.
If any situation tests our commitment to safety,
safety comes first.”
Could you say the same on your ‘ship’?
“What we think, or what we know, or what we believe is, in the end, of little consequence.
The only consequence is what we do.”

- John Ruskin
British art critic, writer and philanthropist
Break Out Sessions

• How to build a COS....
• How to break a COS.....