MEASURING AND ACTING ON CULTURAL DATA

Allan Frankel, MD
Michael Leonard, MD
Doug Salvador MD
Amelia Brooks IHI, Director for everything Europe
The Evolution of Culture in Healthcare

In the late 1990’s the lessons of culture in high – risk industries offered valuable lessons as medicine focused on patient safety.

Early adopters measuring and acting on safety culture were Kaiser, Partners, The Univ. of Texas and others.

Safety culture offered a valuable window into the attitudes and behaviors of people providing care, and where there was opportunity and risk.

20 years later we have much clearer insights as to how to measure and act on culture data.
Why is Culture Important?

Culture reflects the behaviors and beliefs within an organization.

There are behaviors that create value individually, for the patient and the organization. There are behaviors that create unacceptable risk.

These attitudes and behaviors are reflected in how people interact with each other both internally and externally with patients and their families.

Culture is the social glue.

Work as Imagined v. Work as Done
SCORE Survey Domains

**Safety Culture**
- Learning Environment
- Local Leadership
- Resilience / Burnout
- Teamwork
- Safety Climate
- Work / Life Balance

**Engagement**
- Job Demands
- Job-related Uncertainty
- Intentions to Leave
- Workload
- Resources
- Growth Opportunities
- Participation in Decisions
- Advancement
Your Culture

What are the strengths of your culture?
How do you know?
How is this measured and reinforced?
Safety Attitude Scores by Engagement Tier Level

![Bar chart showing safety scores by engagement tier level.](chart)

Safety Score

- Average of TeamworkClimate: Tier I 80.8, Tier II 66.1, Tier III 52.7
- Average of SafetyClimate: Tier I 84.7, Tier II 72.4, Tier III 58.6
- Average of ThreatAwareness: Tier I 44.5, Tier II 47.8, Tier III 51.7
- Average of WorkLifeBalance: Tier I 56.5, Tier II 50.0, Tier III 45.0
- Average of JustClimate: Tier I 78.0, Tier II 61.0, Tier III 47.0
- Average of ResilienceClimate: Tier I 51.8, Tier II 40.9, Tier III 32.6

Courtesy Dr. Bryan Sexton, Duke University

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Valuable Cultural Lessons

Culture matures over time

There are essential elements necessary to build and sustain a culture of safety

Looking through a SocioTechnical lens, culture is the essential glue to deliver safe, highly reliable care. Technical expertise alone is inadequate

Measuring well, providing feedback and building a Learning System are essential components
Cultural Maturity Model

**UNMINDFUL**
Who cares as long as we’re not caught
*Chronically Complacent*

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

**SYSTEMATIC**
We have systems in place to manage all hazards

**PROACTIVE**
Anticipating and preventing problems before they occur; Comfort speaking up

**GENERATIVE**
Safety is how we do business around here
*Constantly Vigilant and Transparent*

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*Adapted from Safeskies 2001, “Aviation Safety Culture,” Patrick Hudson, Centre for Safety Science, Leiden University*
The Value of an Integrated Survey

- The SCOR survey measures important dimensions of organizational culture. The core instrument integrates safety and teamwork culture, local leadership, learning systems, resilience/burnout and work-life balance. The full survey (SCORE) integrates employee engagement as well.

- The insights are critical for organizational improvement and the ability to drive habitual excellence.

- Specific actions can be taken to leverage organizational strengths and address areas of fundamental opportunity.
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 Sources.** A safety climate survey administered to a random sample of hospital employees \(n = 36,375\) in 2006–2007 and risk-standardized hospital readmission rates from 2008.

**Study Design.** Cross-sectional study of 67 hospitals.

**Data Collection.** Robust multiple regressions used 30-day risk-standardized readmission rates as dependent variables in separate disease-specific models (acute myocardial infarction [AMI], heart failure [HF], pneumonia), and measures of safety climate as independent variables. We estimated separate models for all hospital staff as well as physicians, nurses, hospital senior managers, and frontline staff.

**Principal Findings.** There was a significant positive association between lower safety climate and higher readmission rates for AMI and HF \(p \leq .05\) for both models. Frontline staff perceptions of safety climate were associated with readmission rates \(p \leq .01\), but senior management perceptions were not. Physician and nurse perceptions related to AMI and HF readmissions, respectively.

**Conclusions.** Our findings indicate that hospital patient safety climate is associated with readmission outcomes for AMI and HF and those associations were management level and discipline specific.
Culture is related to…

Teamwork Climate Scores Across Facility

<table>
<thead>
<tr>
<th>Department</th>
<th>Score</th>
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<tr>
<td>CCU</td>
<td>28</td>
</tr>
<tr>
<td>REHAB</td>
<td>33</td>
</tr>
<tr>
<td>OR</td>
<td>36</td>
</tr>
<tr>
<td>EMERG</td>
<td>41</td>
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<tr>
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<tr>
<td>PEDS</td>
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<tr>
<td>GERI</td>
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<td>PHARM</td>
<td>55</td>
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<tr>
<td>3 WEST</td>
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<td>ICU</td>
<td>62</td>
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<tr>
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<td>80</td>
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<td>OB</td>
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<table>
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<tr>
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<td>HCAHPS</td>
<td>50</td>
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<tr>
<td>Medication Errors per Month</td>
<td>6.1</td>
</tr>
<tr>
<td>Days between C Diff Infections</td>
<td>40</td>
</tr>
<tr>
<td>Days between Stage 3 Pressure Ulcers</td>
<td>18</td>
</tr>
</tbody>
</table>

Illustrative Data: Extracted from Blinded Client Data
Illustrative Data: Extracted from Blinded Client Data
Where Would You Rather Have An Operation?

Local Leadership and Psychological Safety
% Positive Response

Months between Wrong Sites Surgeries or Retained Foreign Bodies

- 6
- 12
- 40

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Learning Environment Domain

In this work setting, the learning environment....... 
..utilizes input/suggestions from 
the people that work here. (25119)

...is protected by our 
local management. 
(24918)

...allows us to pause 
and reflect on what we 
do well. (25082)

...integrates lessons 
learned from other work 
settings. (24859)

...effectively fixes defects to 
improve the quality of what 
we do. 
(25100)

...allows us to gain 
important 
insights into what we do well.(25077)

Percentage who agreed slightly or agreed strongly with each question.
In this work setting, the learning environment effectively fixes defects to improve the quality of what we do.
Local Leadership Domain

In this work setting, local leadership......

...is available at predictable times. (4178)

...provides meaningful feedback to people about their performance. (24895)

...communicates their expectations to me about my performance. (24957)

...regularly makes time to pause and reflect with me about my work. (25018)

...provides useful feedback about my performance. (24932)

...provides frequent feedback about my performance. (24973)

Percentage who agreed slightly or agreed strongly with each question.
Local Leadership Domain – By Facility

Percentage who agreed slightly or agreed strongly with each question.
In this work setting, local leadership provides meaningful feedback to people about their performance.

Benchmarks: 2017 Q1
25th: 56% 50th: 63% 75th: 68%
Percent Positive Percentiles
n = 158484 responses
From 106 hospitals/facilities
Why is meaningful feedback important to you and the organization?
Culture and Leaders

MI = Michigan
EWR = Executive WalkRounds
FB = Feedback

![Bar Chart Image]
Learning Environment vs Local Leadership
Teamwork Domain

Disagreements in this work setting are appropriately resolved (i.e., not who is right but what is best for the patient). (24714)

Communication breakdowns are NOT common when this work setting interacts with other work settings. (24658)

Communication breakdowns are NOT common in this work setting. (24819)

Dealing with difficult colleagues is NOT consistently a challenging part of my job. (24757)

The people here from different disciplines backgrounds work together as a well coordinated team. (25003)

In this work setting, it is NOT difficult to speak up if I perceive a problem with patient care. (24822)

It is easy for personnel here to ask questions when there is something that they do not understand. (24966)

Percentage who agreed slightly or agreed strongly with each question.
Teamwork Domain – By Facility

Percentage who agreed slightly or agreed strongly with each question.
Teamwork Domain – By Role Type

Percentage who agreed slightly or agreed strongly with each question.
The people here from different disciplines/backgrounds work together as a well-coordinated team.

Benchmarks: 2017 Q1
25th: 68% 50th: 74% 75th: 78%
Percent Positive Percentiles
n = 162823 responses
From 106 hospitals/facilities
In this work setting, it is not difficult to speak up if I perceive a problem with patient care.

Benchmarks: 2017 Q1
25th: 60% 50th: 65% 75th: 70%
Percent Positive Percentiles
n = 158734 responses
From 106 hospitals/facilities
Communication breakdowns are not common in this work setting.

Benchmarks: 2017 Q1
25th: 36% 50th: 43% 75th: 47%
Percent Positive Percentiles
n = 161536 responses
From 106 hospitals/facilities
Communication breakdowns are not common when this work setting interacts with other work settings.

Benchmarks: 2017 Q1
25th: 33% 50th: 39% 75th: 44%
Percent Positive Percentiles
n = 159179 responses
From 106 hospitals/facilities
Communication Failures

Where do you have opportunities within your work setting?

Where do you have communication issues across units?

What are the top 1-2 opportunities you would put at the top of the list?
Percentage who agreed slightly or agreed strongly with each question.

- My suggestions about quality would be acted upon if I expressed them to management. (4163)
- The values of facility leadership are the same values that people in this work setting think are important. (4167)
- In this work setting, it is NOT difficult to discuss errors. (4187)
- Errors are handled appropriately in this work setting (4177)
- I receive appropriate feedback about my performance. (4176)
- I would feel safe being treated here as a patient. (4157)
- The culture in this work setting makes it easy to learn from the errors of others. (4177)
The culture in this work setting makes it easy to learn from the errors of others.

Benchmarks: 2017 Q1
25th: 58% 50th: 66% 75th: 71
Percent Positive Percentiles
n = 161491 responses
From 106 hospitals/facilities
Safety Domain Item

I would feel safe being treated here as a patient.

Benchmarks: 2017 Q1
25th: 68% 50th: 77% 75th: 82%
Percent Positive Percentiles
n = 160327 responses
From 106 hospitals/facilities
In the past work week......(21,400)

- Skipped a meal
- Felt frustrated by technology
- Changed personal/family plans because of work
- Slept less than 5 hours in a night
- Had difficulty sleeping
- Ate a poorly balanced meal
- Worked through a day/shift without any breaks
- Arrived home late from work

Percentage who said each event happened 3 or more times per week.
Burnout & Resilience

Allan Frankel, MD
Michael Leonard, MD
Building Resilience / Reducing Burnout

• We need a Framework
• We need tools to enhance resilience
• We need a Learning System
• We need to make positivity visible and capture it
Burnout / Resilience

What percentage of physicians in America are reporting symptoms of burnout?

Is this getting better or worse?

What do you think contributes to burnout? Resilience?

Why is this important?
Nurse staffing, burnout, and health care—associated infection

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Key Words: Hospital Workload Cost PHC4

Background: Each year, nearly 7 million hospitalized patients acquire infections while being treated for other conditions. Nurse staffing has been implicated in the spread of infection within hospitals, yet little evidence is available to explain this association.

Methods: We linked nurse survey data to the Pennsylvania Health Care Cost Containment Council report on hospital infections and the American Hospital Association Annual Survey. We examined urinary tract and surgical site infection, the most prevalent infections reported and those likely to be acquired on any unit within a hospital. Linear regression was used to estimate the effect of nurse and hospital characteristics on health care—associated infections.

Results: There was a significant association between patient-to-nurse ratio and urinary tract infection (0.86; \( P = .02 \)) and surgical site infection (0.93; \( P = .04 \)). In a multivariate model controlling for patient severity and nurse and hospital characteristics, only nurse burnout remained significantly associated with urinary tract infection (0.82; \( P = .03 \)) and surgical site infection (1.56; \( P < .01 \)) infection. Hospitals in which burnout was reduced by 30% had a total of 6,239 fewer infections, for an annual cost saving of up to $68 million.

Conclusions: We provide a plausible explanation for the association between nurse staffing and health care—associated infections. Reducing burnout in registered nurses is a promising strategy to help control infections in acute care facilities.

Tait D. Shanafelt, MD; Omar Hasan, MBBS, MPH; Lotte N. Dyrbye, MD, MHPE; Christine Sinsky, MD; Daniel Satel, MS; Jeff Sloan, PhD; and Colin P. West, MD, PhD

Abstract

**Objective:** To evaluate the prevalence of burnout and satisfaction with work-life balance in physicians and US workers in 2014 relative to 2011.

**Patients and Methods:** From August 28, 2014, to October 6, 2014, we surveyed both US physicians and a probability-based sample of the general US population using the methods and measures used in our 2011 study. Burnout was measured using validated metrics, and satisfaction with work-life balance was assessed using standard tools.

**Results:** Of the 35,922 physicians who received an invitation to participate, 6880 (19.2%) completed surveys. When assessed using the Maslach Burnout Inventory, 54.4% (n=3680) of the physicians reported at least 1 symptom of burnout in 2014 compared with 45.5% (n=3310) in 2011 (P<.001). Satisfaction with work-life balance also declined in physicians between 2011 and 2014 (48.5% vs 40.9%; P<.001). Substantial differences in rates of burnout and satisfaction with work-life balance were observed by specialty. In contrast to the trends in physicians, minimal changes in burnout or satisfaction with work-life balance were observed between 2011 and 2014 in probability-based samples of working US adults, resulting in an increasing disparity in burnout and satisfaction with work-life balance in physicians relative to the general US working population. After pooled multivariate analysis adjusting for age, sex, relationship status, and hours worked per week, physicians remained at an increased risk of burnout (odds ratio, 1.97; 95% CI, 1.80-2.16; P<.001) and were less likely to be satisfied with work-life balance (odds ratio, 0.68; 95% CI, 0.62-0.75; P<.001).

**Conclusion:** Burnout and satisfaction with work-life balance in US physicians worsened from 2011 to 2014. More than half of US physicians are now experiencing professional burnout.
Burnout Domain

Events in this work setting affect the lives of people here in an emotionally unhealthy way. (4119)

Note: Lower is better

People in this work setting are working too hard on their jobs. (4178)

People in this work setting are burned out from their work. (4179)

People in this work setting are frustrated by their jobs. (4176)

People in this work setting are exhausted from their work. (4184)

Percentage who agreed slightly or agreed strongly with each question.
Burnout Domain – By Facility

Note: Lower is better
Burnout Domain – By Position

Note: Lower is better
Burnout Domain Item

People in this work setting are burned out from their work.

Note: Lower is better

Benchmarks: 2017 Q1
25th: 55% 50th: 48% 75th: 40%
Percent Negative Percentiles
n = 162319 responses
From 106 hospitals/facilities
Influencing Factors in Burnout / Resilience

• Do I feel valued by the organization?
• Do I have a voice?
• Do I feel supported in the work I do?
• Do I have the tools and resources to do my job?
Disturbing Trends in Physician Burnout and Satisfaction With Work-Life Balance: Dealing With Malady Among the Nation's Healers

Recent data analyses reveal the disturbing decline in well-being of contemporary US physicians. This trend has captured the attention of not only affected physicians and researchers but also physicians’ patients and the general public. For example, the September 7, 2015, issue of TIME Magazine featured an article titled “Life/Support: Inside the Movement to Save the Mental Health of America’s Doctors.”

This ongoing decline in well-being of physicians resulted in a significant increase in burnout, rising from 45.5% in 2011 to 54.4% in 2014 ($P<.001$). Furthermore, this burnout was apparent in all 24 medical specialties studied, and 9 of the 24 specialties showed a relative increase in burnout of more than 10%. In the work-life balance portion of the study, the incidence of physician satisfaction decreased from 48.5% to 40.9% overall ($P<.001$), and a decline in satisfaction was observed in 11 of the 24 specialties studied.

See also pages 1600 and 1694.
Why do we weight negative experience disproportionately to positive experience?
These Folks Take Us Backwards

Toxic Workers

Michael Housman
Dylan Minor
Psychological Safety

**GENERATIVE**
HRO - wired for safety and

**PROACTIVE**
Playing offense - anticipating,

**SYSTEMATIC**
Systems in place to manage hazards

**REACTIVE**
Playing defense – reacting to events

**UNMINDFUL**
No awareness of safety culture

- Primary responsibility of leaders, continuously modeled everywhere.
- Leaders model and expect the behaviors that promote psychological safety.
- In some units it feels safe to speak up and voice a concern.
- Personality dependent – it depends who I’m working with.
- Fear based – keep your head down and stay out of trouble.
Douglas and Walter, two University of Pennsylvania MBA graduates, were laid off by their Wall Street companies 18 months ago. Both went into a tailspin: They were sad, listless, indecisive, and anxious about the future. For Douglas, the mood was transient. After two weeks he told himself, “I’m not crazy. It’s just a crisis. I will be fine.” For Walter, the mood persisted. After two months he thought, “Maybe I’m not crazy. It’s just a crisis. I have to figure this out.”
Three Good Things – the power of focusing on how we make a difference.

The evidence

How to make this easier
Duke Patient Safety Center:

Training, Research and Implementation for Patient Safety and Quality

Duke Patient Safety Center Mission:

To help individuals, clinical areas, hospitals, ambulatory centers and others who want to improve quality and patient safety. We aim to:

1. Spread best practices inside and outside Duke University Health System
2. Generate new knowledge
3. Bring joy back to work

We work to develop and support quality and safety related roles, committees, training, tools, research, strategies, data and other resources through our interdisciplinary team. We strive to balance the clinical, administrative, psychological, spiritual and service needs of our organization, our frontline workers and the patients that we serve.

SAVE THE DATE
12th Annual Duke Health System Patient Safety & Quality Conference
March 23, 2017
Click here to enroll in One Good Talk March 23 - 30th
Want to learn more about 3 Good Things?

Bite Sized Resilience: Three Good Things

To enroll 2017 cohorts please select one of the following:

April 24 - May 8th
May 22 - June 5
Sept 11 - 25
Nov 13 - 27

WISER Study

Calendar of Courses: For additional information or to request dates and times of training, please call 919-257-3376 or email christen.fullwood@duke.edu

Want to learn how to be more Resilient with WISER:

CLICK HERE
How measuring culture can help drive improvement…
How does culture support improvement?
‘But back in 2004, something was wrong. The 2003 World Cup had gone badly, and by the start of the following year senior All Blacks were threatening to leave. Discipline was drunk and disorderly, and to make things worse, the All Blacks were losing. In response, a new management team under Graham Henry began to rebuild the world's most successful sporting team from the inside out. They wanted a fresh culture that placed emphasis on individual character and personal leadership. Their mantra? ‘Better People Make Better All Blacks'. The result? An incredible win-rate of just over 86pc, and a Rugby World Cup.’

http://www.telegraph.co.uk/men/active/10427619/The-All-Blacks-guide-to-being-successful-off-the-field.html
A Typical Emergency Department

- Too many admissions
- Not enough staff
- No time for new priorities
- A pretty bad case of ‘initiativitis’
Within 3 months...
The Journey – Phase 1

- Accelerated Safety Program catalyst
- Local leads from within the ED
- Local support from the wider organization – leaders & culture enthusiasts
- Completed the culture survey
Phase 2 – The Results

- Debrief results in small groups

- Getting underneath the answers…
  - *What do you think made people answer the questions in this way?*
  - *What would need to change for us to answer differently?*
Phase 3 – Using the Data

Analysis paralysis, too much information…and staff don’t really trust that anything will ever actually change
Benchmarking

“We may be the best but that doesn’t mean that we are any good”

Ingvar Kamprad
Ikea
Moving from problems to solutions

- Safety days to talk about the information, and most importantly list the things that needed to change
- Identifying solutions that were within the power and influence of the team
- Empowering staff to make changes, permission from leaders
- Equipping staff to make changes, skills and improvement techniques
- Putting the team in the driving seat
Using Cultural Measurement with QI

Engage local team & leaders

Measure culture

Debrief results

Apply improvement methodology

Make changes
Take a moment to reflect on your own work. What will you incorporate from this session into your plans?