While you are waiting…
Send a nice note to a loved one

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Context and Quality
Safety Culture and Burnout in the NICU

NICHD R01 - HD084679 (Co-PI)
NICHD R01 - HD083368 (PI)
NICHD R01 - HD084667 (PI)

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Objectives

- Review safety culture and burnout as factors of context in health care delivery
- Understand links between context and the success of quality improvement efforts
- Understand links between context and clinical outcomes
- Suggest possible solutions to promoting healthy context of care

Family Expectations

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- Receive exactly the care they need, defect free
- Customized to their individual needs
- On demand, as requested
- Immediate response to problems or changes
- All waste eliminated

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Reality is more complicated

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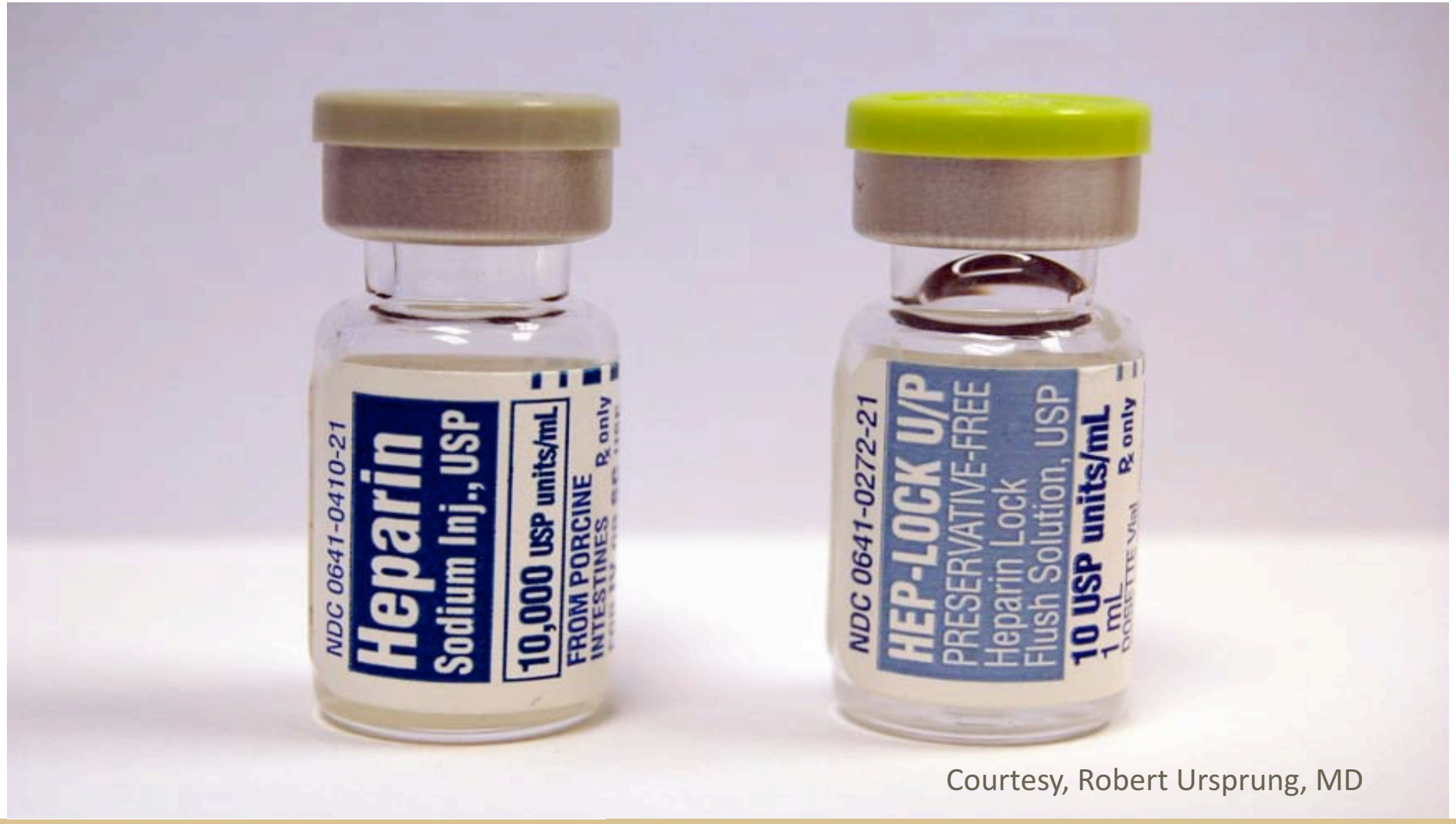
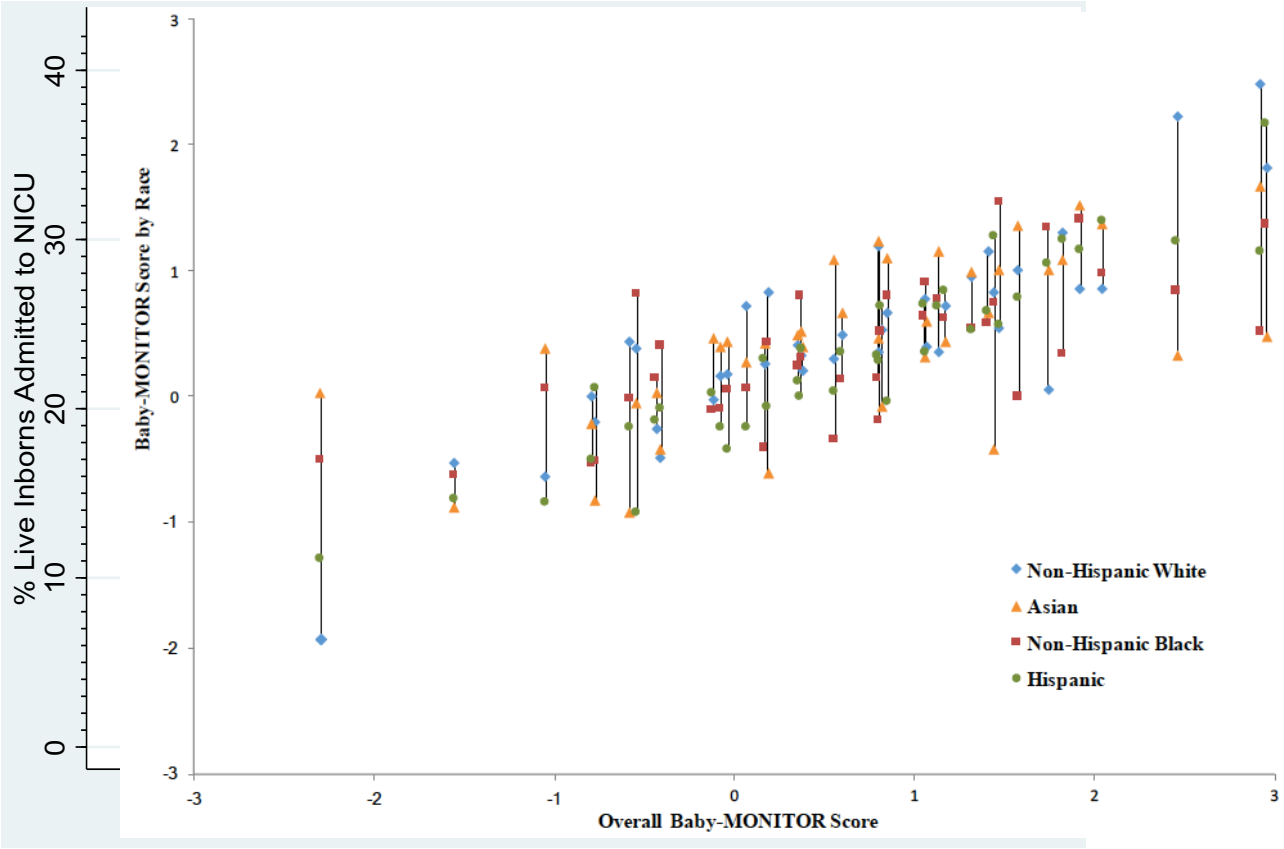


Courtesy, Robert Ursprung, MD

Large variation remains



Schuln Profit et al. Pediatrics. 2017. 40(3).

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Actually, some good news

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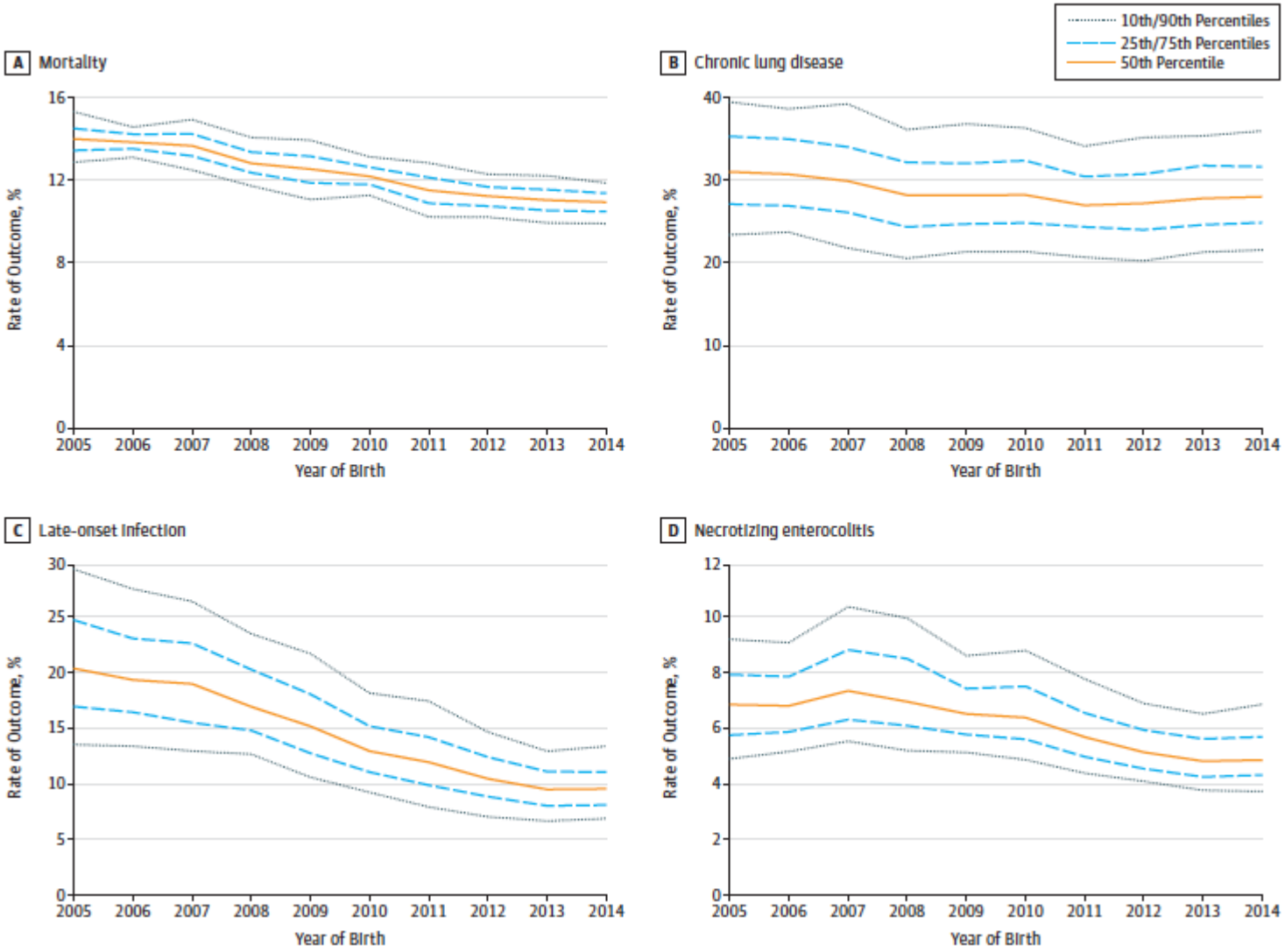
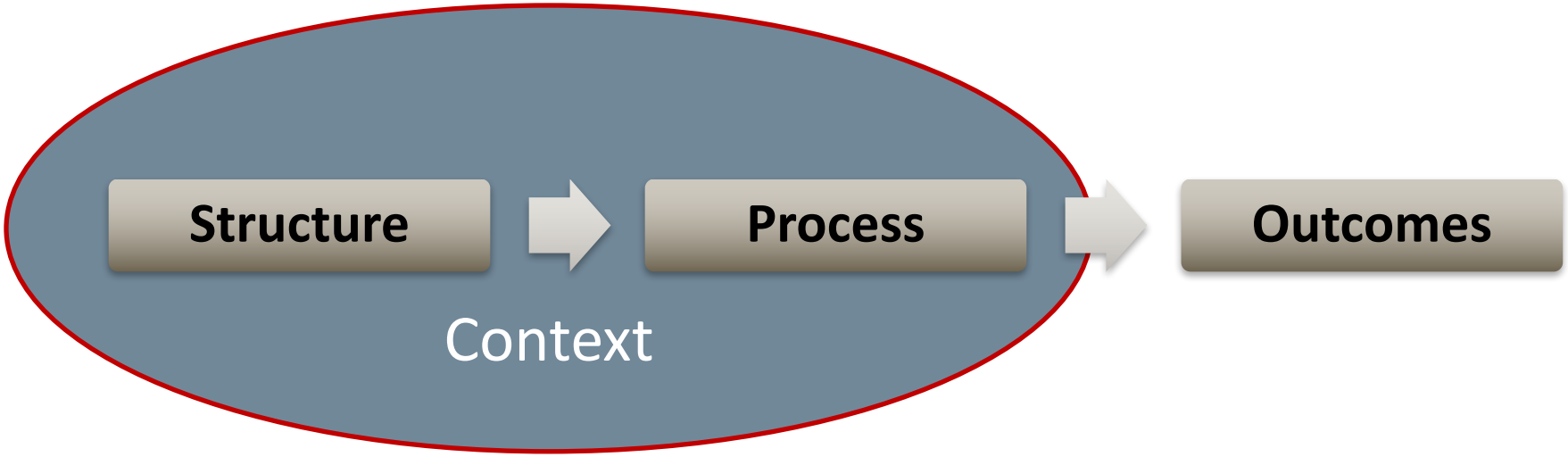


Horbar, JAMA Peds 2017

To Improve Quality & Safety Address Both Context and Processes



Cooking a perfectly boiled egg
Simple - Process driven

- Egg factors (Case mix)
  - Age of egg
  - Size of egg
- Cooking factors (Quality)
  - pH of water
  - Temperature of water
  - Time of cooking
  - Altitude

Providing a perfect dinner experience
Complex – Systems-based approach

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#3 in the world

Context Factors - Example 1

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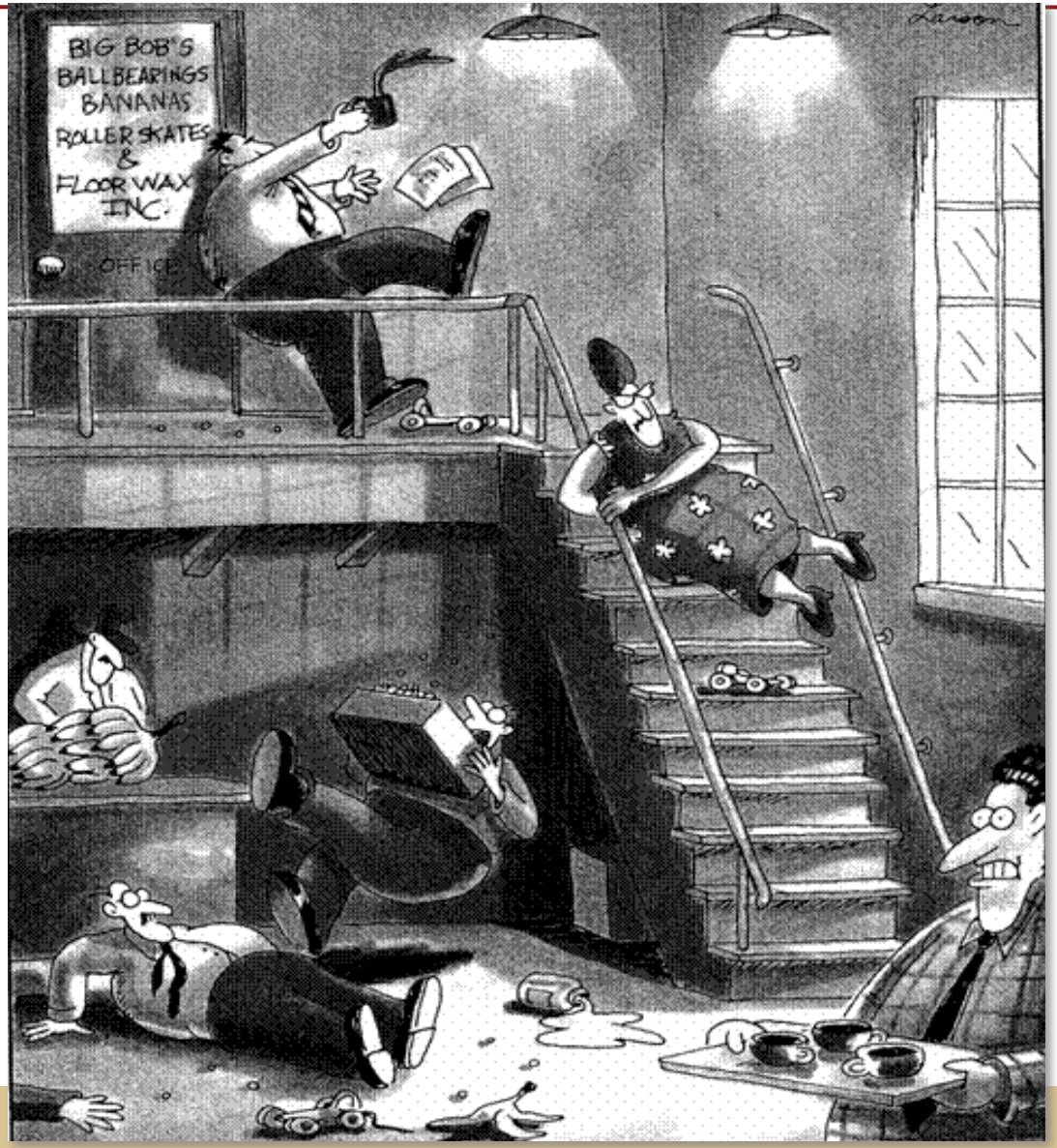
"Culture of Safety"



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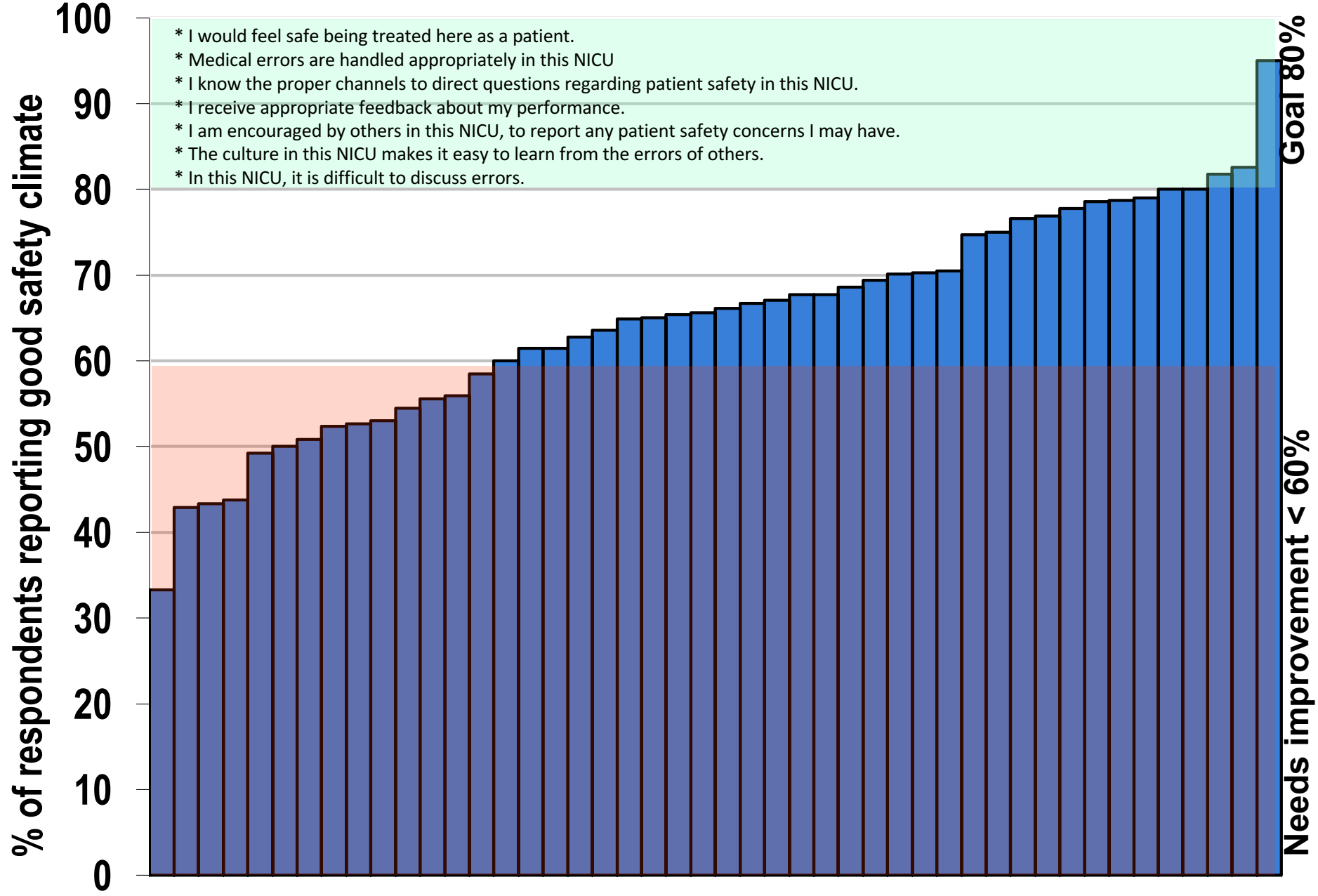
Safety Culture

Definition: "individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, a[illegible] management"[1]

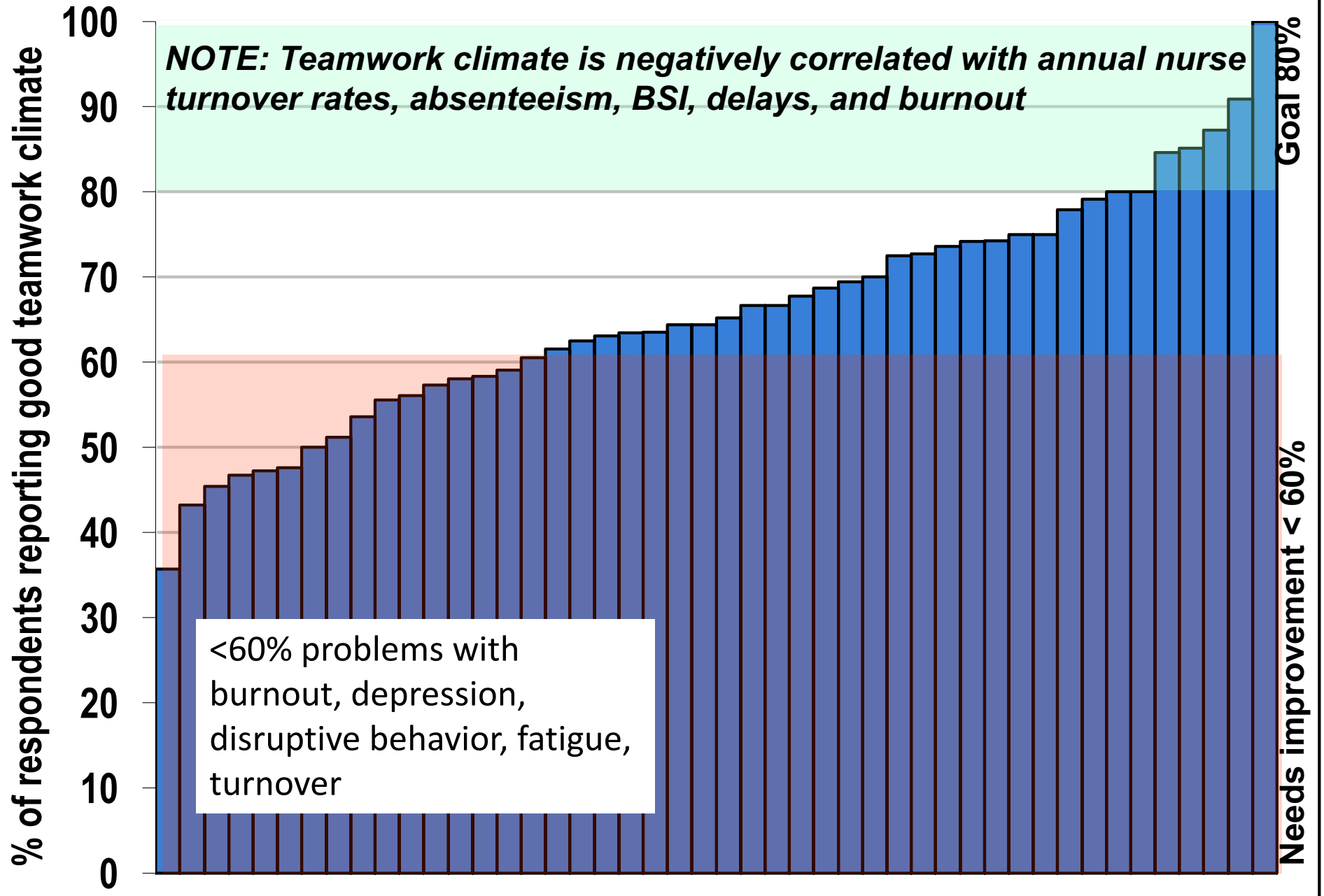
"The way we do things around here"

1. Organising for Safety: Third Report of the ACSNI (Advisory Committee on the Safety of Nuclear Installations) Study Group on Human Factors. Health and Safety Commission (of Great Britain). Sudbury, England: HSE Books, 1993.

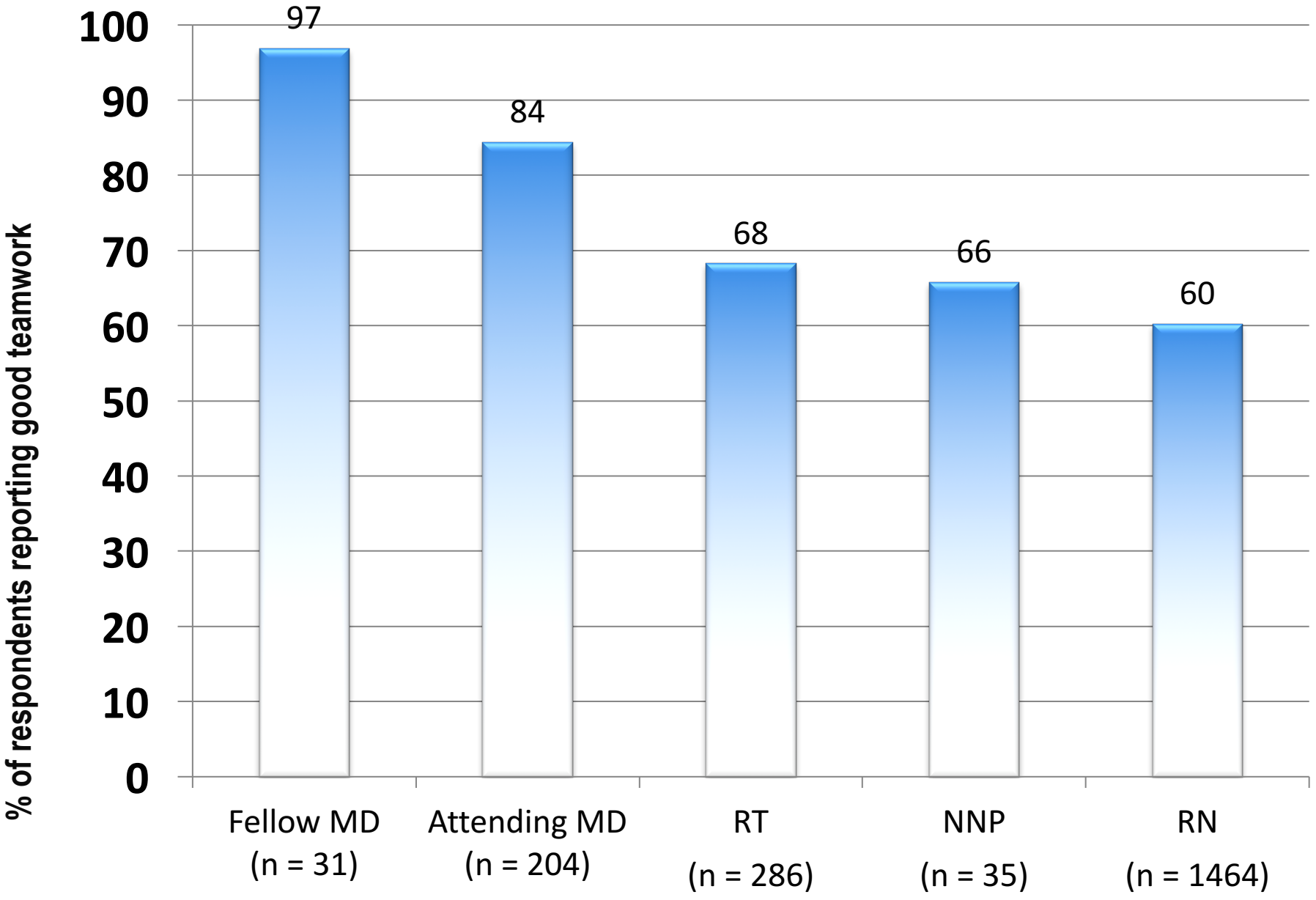
Safety Climate In This NICU



Teamwork Climate In 44 CA NICUs



NICU Teamwork Climate by Role



Safety Culture and Clinical Outcomes

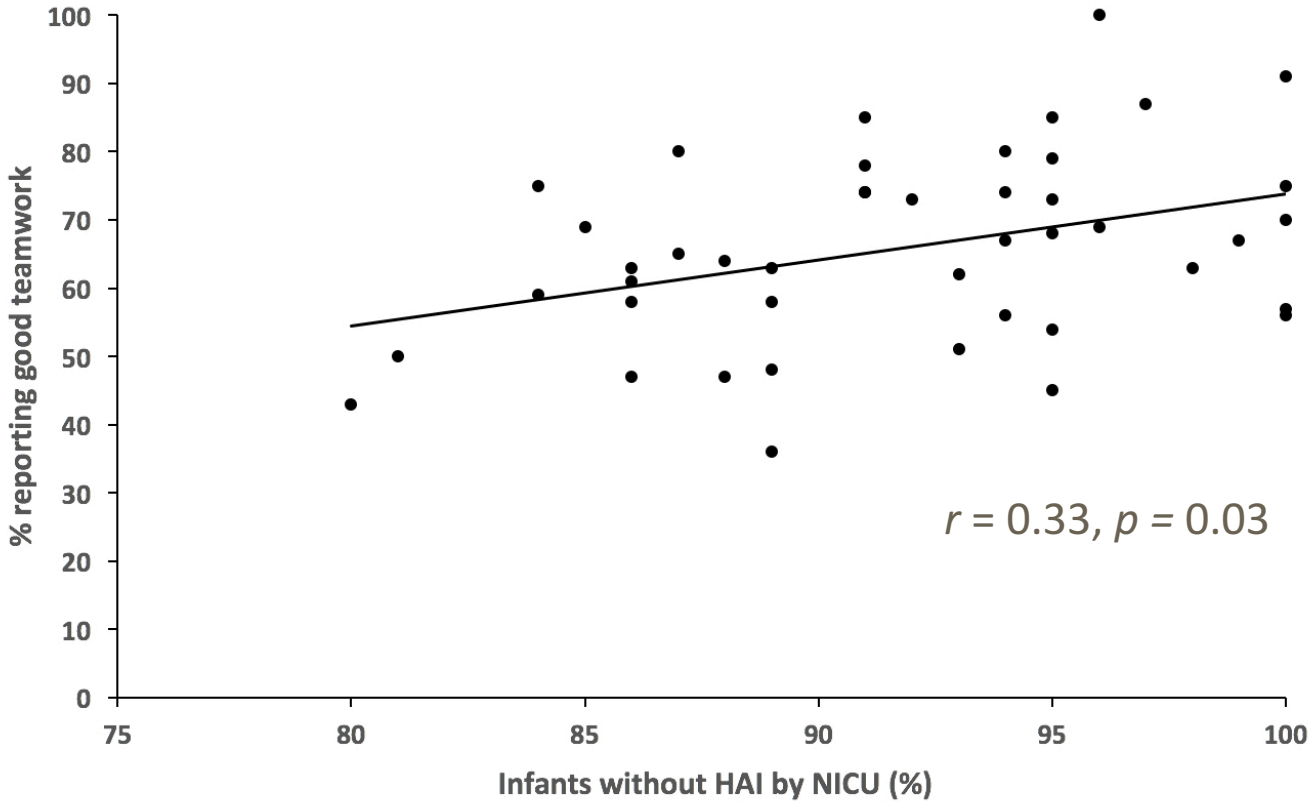
Patient Outcomes

- Adverse Events
- Medication errors
- Readmissions for MI and CHF
- Length of Stay
- ICU mortality
- BSI in the ICU/NICU
- VAP in the ICU
- Post-Op Infections
- Ulcers in Med/Surg Units
- Delays in OR and ICU
- Surgical PE/DVT
- Wrong Site Surgeries

Staff Outcomes

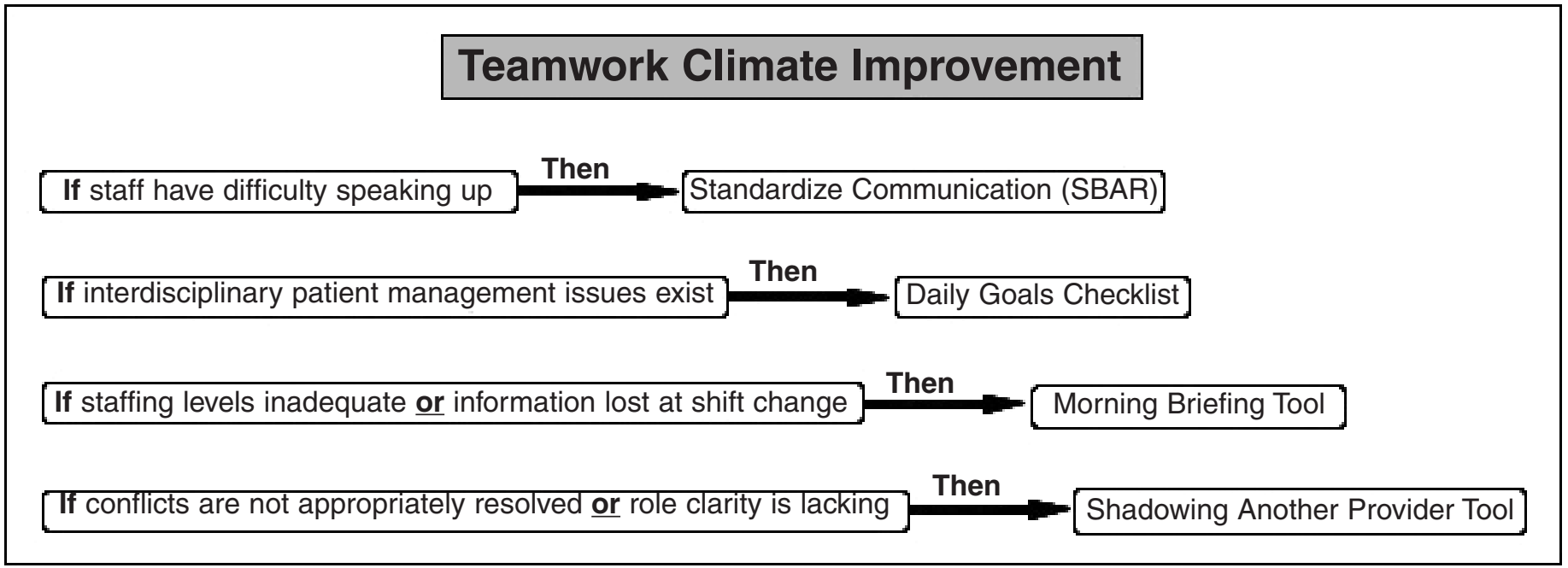
- Safety behaviors
- Incident Reporting Rates
- Reduced staff injuries
- RN Turnover
- Absenteeism
- Burnout

Teamwork and NICU Infections



Profit et al. *Am J Perinatol.* 2017 Aug;34(10):1032-1040.

If Low on Teamwork, Then



Hudson, Sexton et al. Contemporary Critical Care 2009

BMJ Quality & Safety Online First, published on 13 May 2014 as 10.1136/bmjqs-2013-002042

ORIGINAL RESEARCH

Exposure to Leadership WalkRounds in neonatal intensive care units is associated with a better patient safety culture and less caregiver burnout

J Bryan Sexton,[1,2] Paul J Sharek,[3,4,5] Eric J Thomas,[6] Jeffrey B Gould,[3,4,7] Courtney C Nisbet,[3,4] Amber B Amspoker,[8,9] Mark A Kowalkowski,[8,9] René Schwendimann,[2,10] Jochen Profit[3,4,7]

For numbered affiliations see end of article.

Correspondence to
Dr Jochen Profit, Department of Pediatrics, Section of Neonatology, Stanford

conducted his research at the Houston Veterans Affairs (VA) Health Services Research and Development Center of Excellence, Health Policy and Quality Program, Michael E DeBakey VA Medical Center

ABSTRACT

Background *Leadership WalkRounds* (*WR*) are widely used in healthcare organisations to improve patient safety. The relationship between WR and caregiver assessments of patient safety

s) actively participating in a structured delivery room management quality improvement initiative.

Results Of 3294 administered surveys, 2073 were returned for an overall response rate of

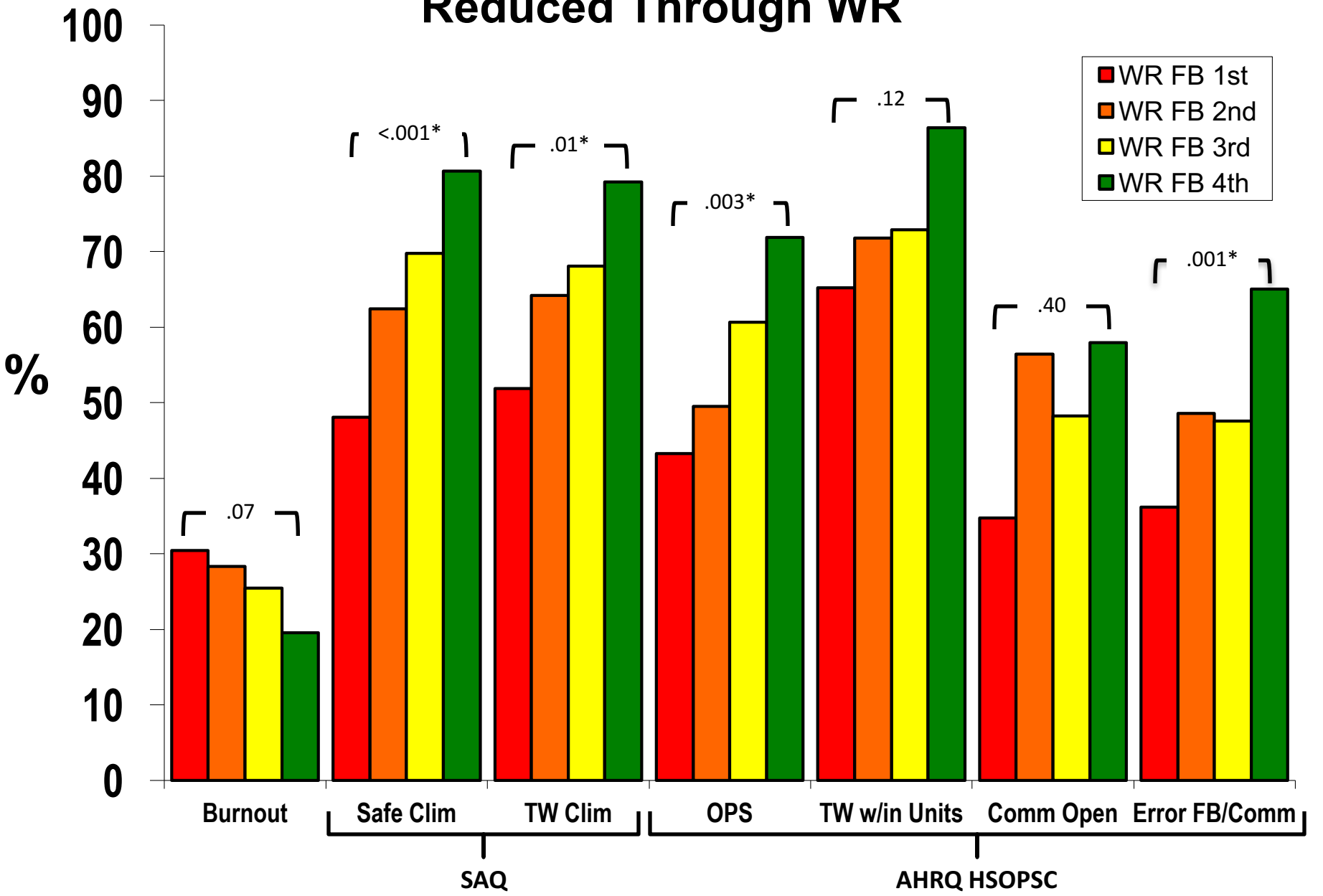
as a tool to enhance patient safety in perinatal care.[2]

WR have enabled hospital leadership to sustain good relations with frontline caregivers, promote conversations to

indicate that WR help educate leadership and frontline clinicians in patient safety concepts and lead to cultural changes such as increased transparency in discussions of adverse events and an improved

More WR feedback was associated with better safety culture and less caregiver burnout.

Quartiles of Receiving FB About Patient Safety Risks Reduced Through WR



Comprehensive Unit-based Safety Program (CUSP)

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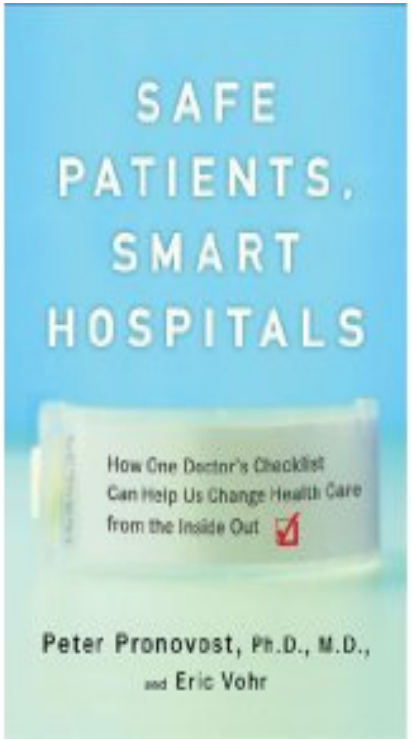
- Developed by Dr. Peter Pronovost and Dr. Bryan Sexton in the adult ICU at Johns Hopkins Hospital
- Multi-faceted intervention that integrates care process improvement, communication, teamwork
- Empower staff to assume responsibility for safety in their environment
- 5 basic steps
  - Educate staff on safety, identify defects, engage executives, learn from defects, and implement teamwork tools



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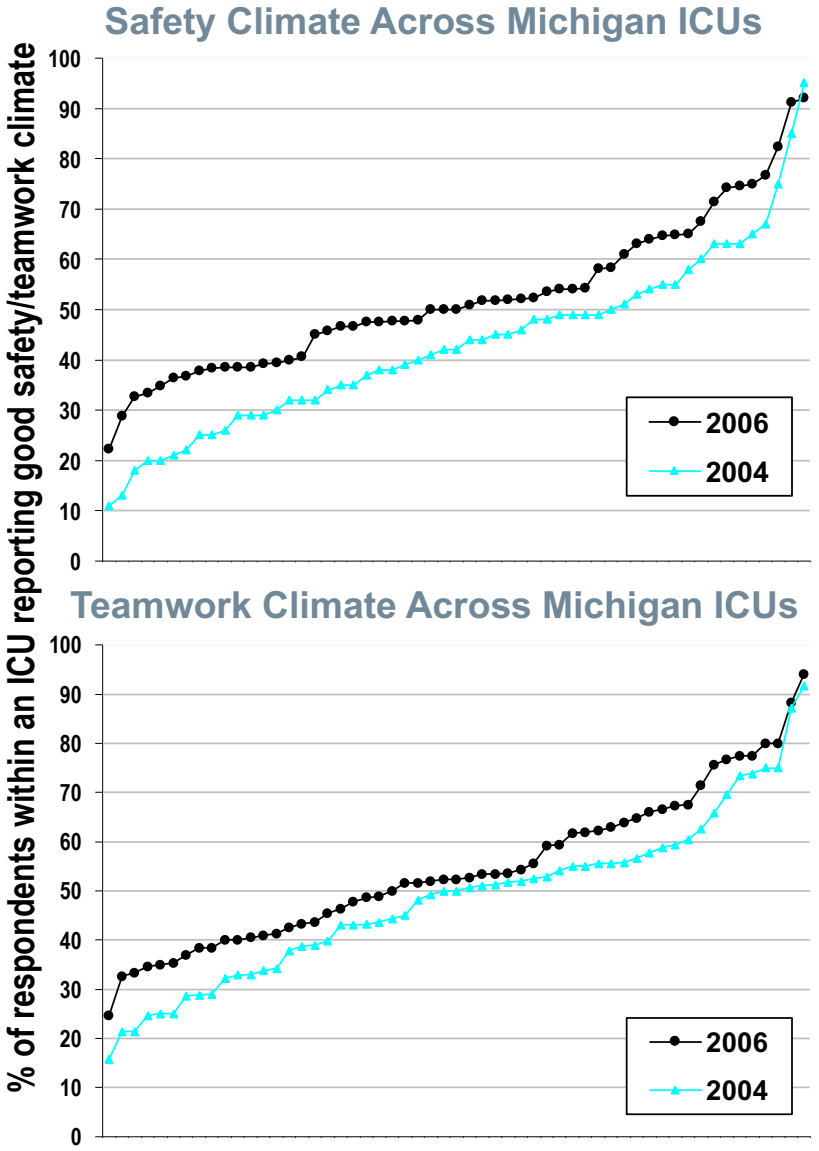
Keystone Project

2 year results, 103 ICUs

Time period	Median CRBSI rate	Incidence rate ratio
Baseline	2.7	1
Intervention	1.6	0.76
0-3 mo	0	0.62
4-6 mo	0	0.56
7-9 mo	0	0.47
10-12 mo	0	0.42
13-15 mo	0	0.37
16-18 mo	0	0.34

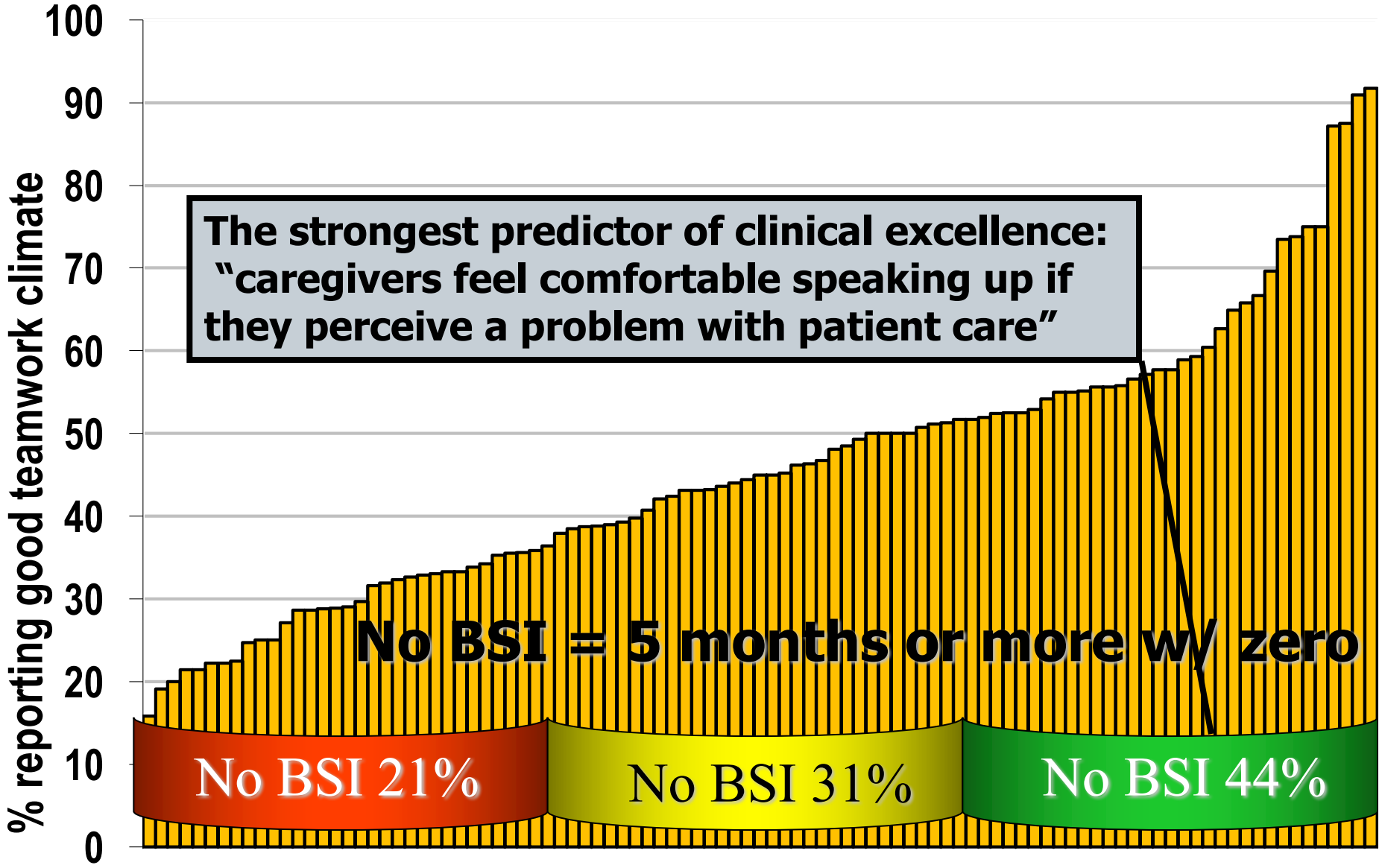
CRBSI – Catheter Related Blood Stream Infection

Sustained for 5 years
Saves 1,500 lives and $200 million every year



Pronovost, Sexton et al NEJM 2006;355:2725-2732

Teamwork Climate Across Michigan ICUs



Hudson, Sexton et al., Contemp Crit Care 2009;7(5):1-11

Stanford MEDICINE

In Michigan about 20% of ICUs did not improve

(those with lowest teamwork AND safety climate ratings but highest burnout ratings)

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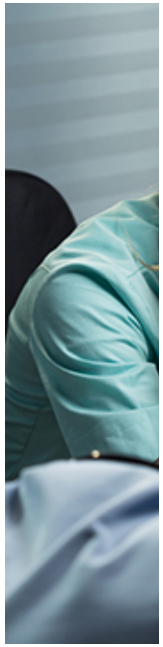
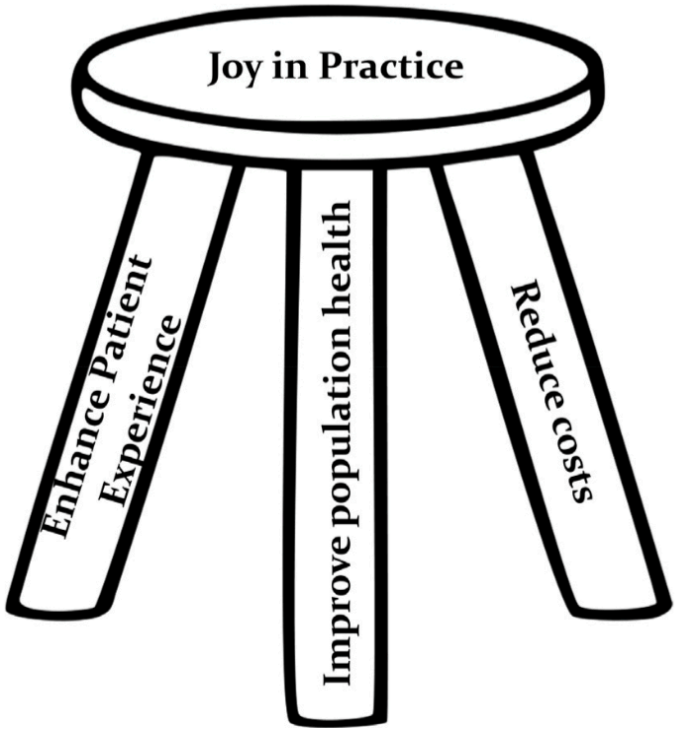
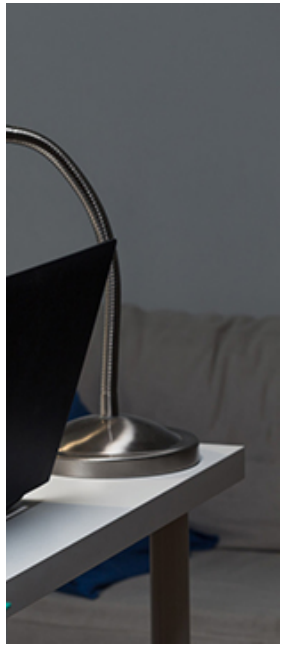
Context Factors - Example 2

"Reducing Caregiver Burnout"







Bodenheimer, Sinsky. Ann Fam Med. 2014 12:573

Organizational Strategies

Bohman, et al. NEJM 2017

JAMA Internal Medicine | Special Communication | PHYSICIAN WORK ENVIRONMENT AND WELL-BEING

The Business Case for Investing in Physician Well-being

Tait Shanafelt, MD; Joel Goh, PhD; Christine Sinsky, MD

IMPORTANCE Wi
decades. Exter
professional c

OBSERVATION
uncertainty re
to many organ
organizations
can also be ap
investment to
multifaceted a
decreased pro
viability due to
satisfaction, a
used similar ev
conservative form
the financial return on organizational inve burnout. A model
outlining the steps of the typical organization's jou dress this issue is presented.
Critical ingredients to making progress include prioritization by leadership, physician involvement, organizational science/learning, metrics, structured interventions, open communication, and promoting culture change at the work unit, leader, and organization level.

CONCLUSIONS AND RELEVANCE Understanding the business case to reduce burnout and promote engagement as well as overcoming the misperception that nothing meaningful can be done are key steps for organizations to begin to take action. Evidence suggests that improvement is possible, investment is justified, and return on investment measurable. Addressing this issue is not only the organization's ethical responsibility, it is also the fiscally responsible one.

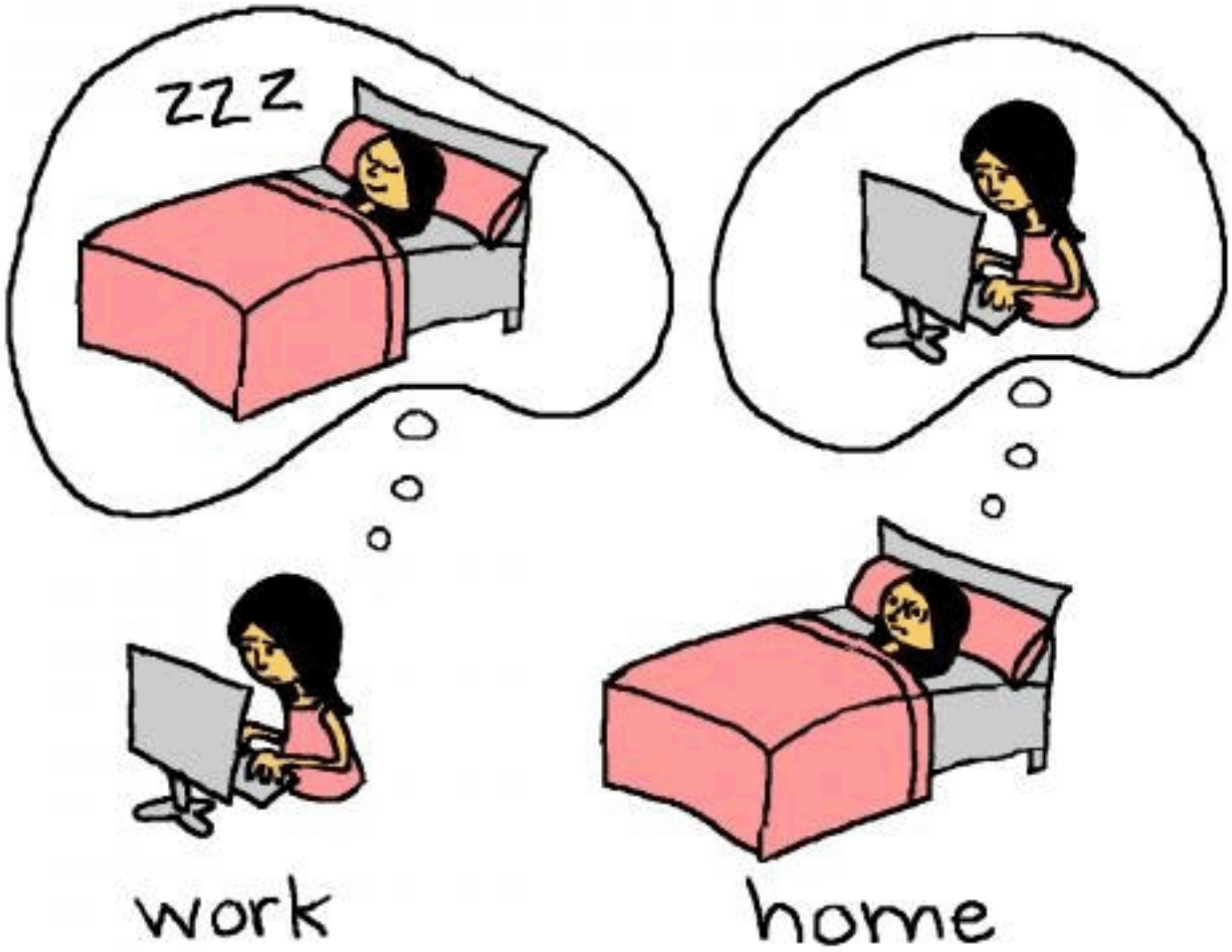
JAMA Intern Med. doi:10.1001/jamainternmed.2017.4340
Published online September 25, 2017.

- Costs → Turnover, decreased productivity, quality/safety/pt satisfaction
- 600 MDs
  - 50% burnout
  - 15 will leave due to burnout
  - $500k replacement

>7 Million/year

Author Affiliations: Stanford University, Palo Alto, California (Shanafelt); National University of Singapore Business School, Singapore (Goh); Harvard Business School, Boston, Massachusetts (Goh); American Medical Association, Chicago, Illinois (Sinsky).

Corresponding Author: Tait Shanafelt, MD, 300 Pasteur Drive, Suite H3215, Stanford, CA 94305 (tshana@stanford.edu).


zzz
work
home

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?
- Felt frustrated by technology?
- Arrived home late from work?
- Drank too much coffee?
- Slept less than 5 hours in a night?

Sexton, Chadwick, Profit, et al. The associations between work-life balance behaviours, teamwork climate and safety climate. BMJ Qual Saf. 2017 Aug;26(8):632-640.

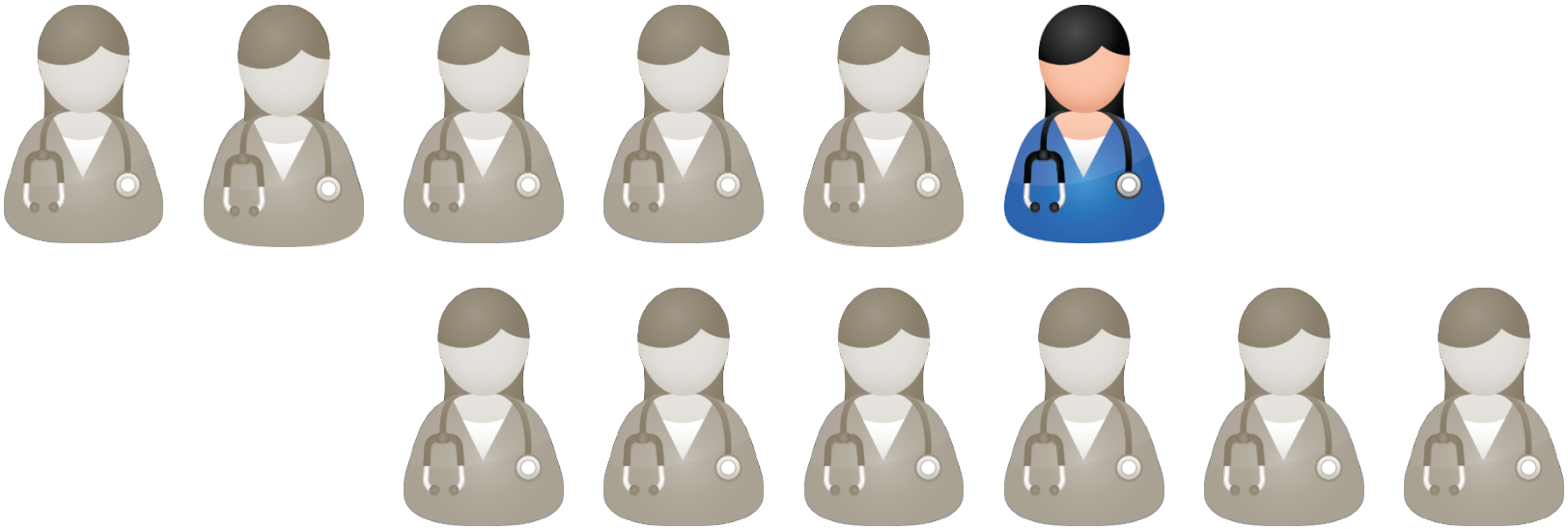
Impact on critical care nurses

Stanford MEDICINE

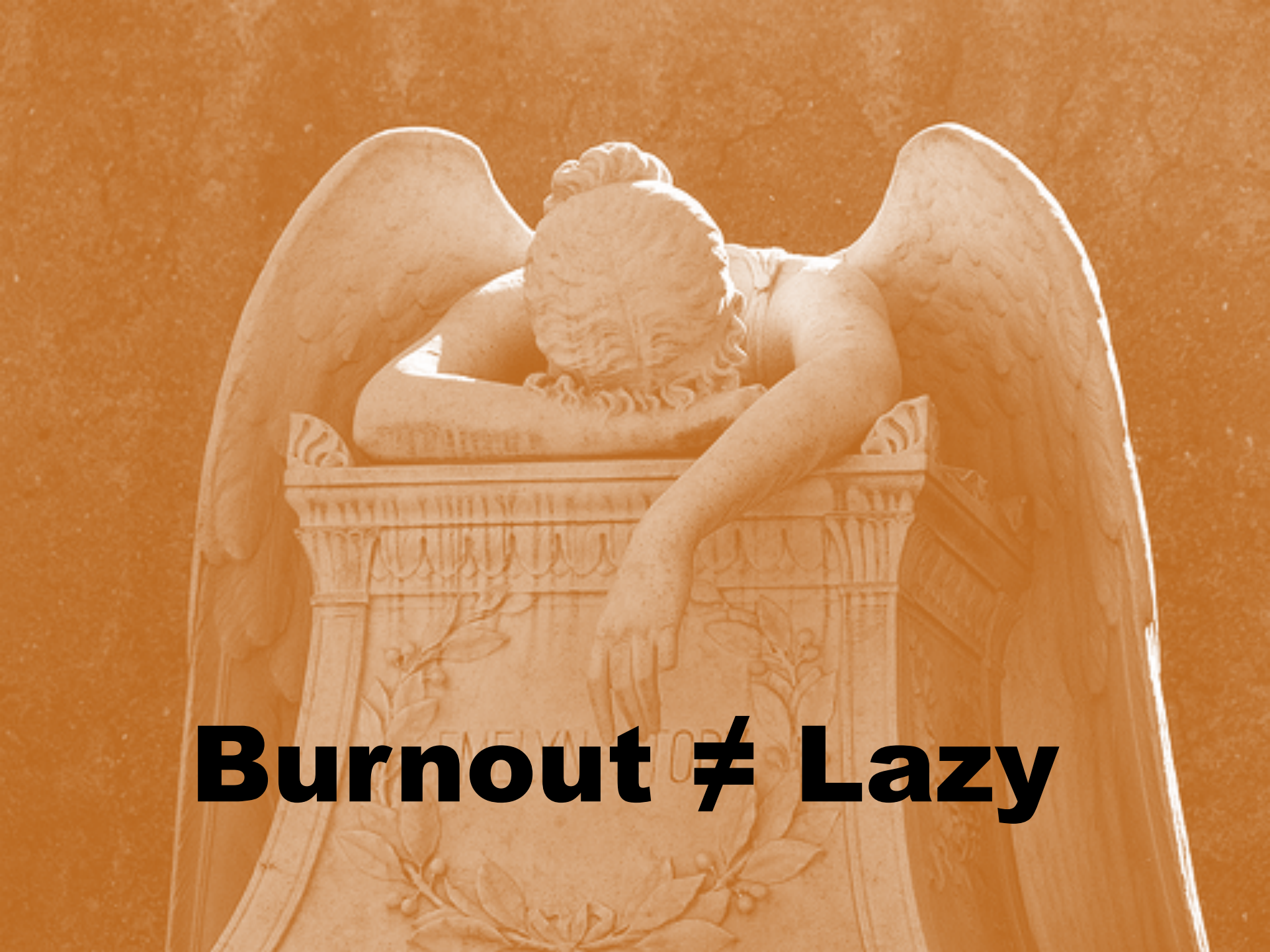
Half are **emotionally exhausted** (burned out)

2 out of 3 have **difficulty sleeping**

1 out of 4 are **clinically depressed**



Sexton, et al. (2009). Palliative Care.


Burnout ≠ Lazy

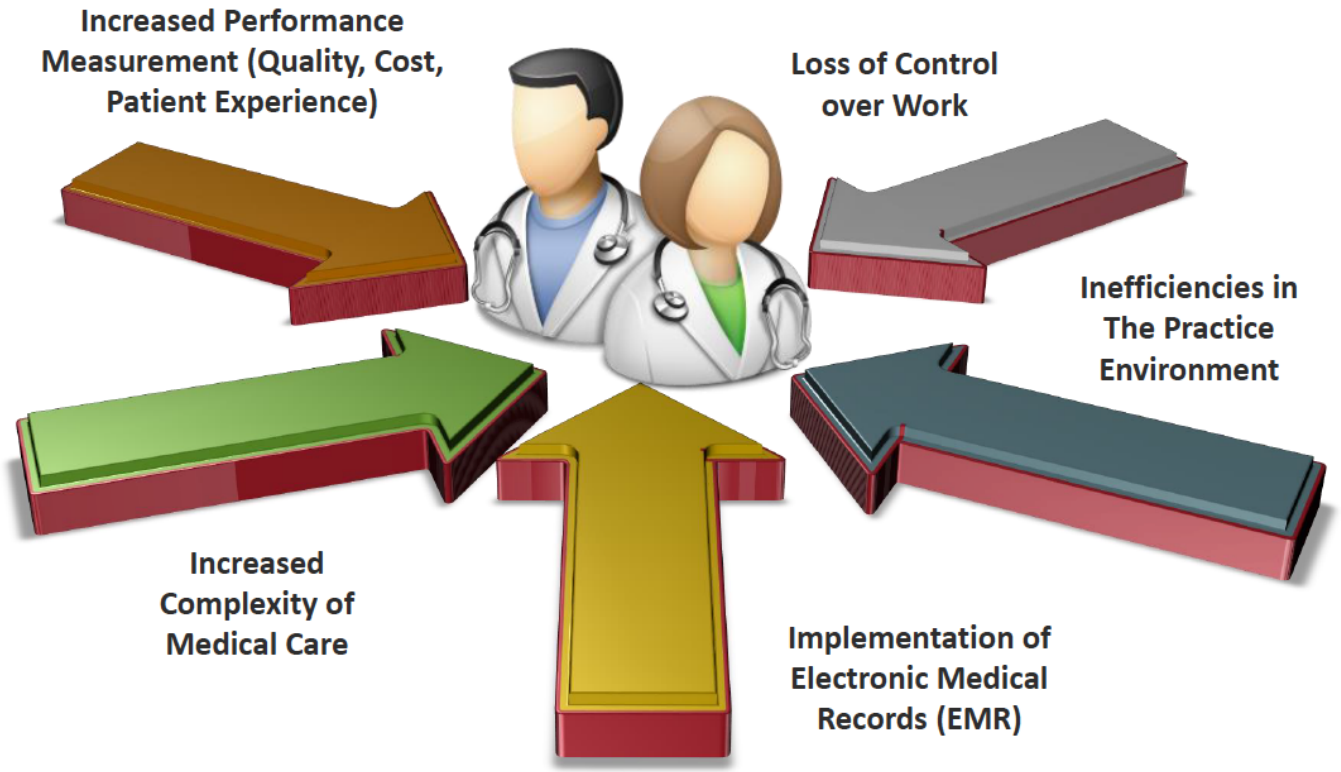
Burnout = Running on Empty

Stanford MEDICINE

- Sense of “running out of fuel”

- Hallmark features
  - emotional exhaustion
  - depersonalization
  - reduced sense of personal accomplish

Drivers of Burnout



Noseworthy et al. Physician Burnout Is A Public Health Crisis: A Message To Our Fellow Health Care CEOs. 2017 Health Aff

Physician Burnout

A Potential Threat to Successful Health Care Reform

Liselotte N. Dyrbye, MD, MHPE
Tait D. Shanafelt, MD

Burnout is common among physicians in the United States, with an estimated **30%** to **40%** experiencing burnout.

DISCUSSIONS [illegible] IMPLEMEN- [illegible] each discus [illegible] as in the [illegible] ater the en [illegible] tri- Bur [illegible] Mas- States [illegible] ians out.[1] [illegible] care by burnout. Physicians who have burnout are more likely to report making recent medical errors, score lower on instruments measuring empathy, and plan to retire early and have higher job dissatisfaction, which has been associated with reduced patient satisfaction with medical care and patient adherence to treatment plans.[1-4]

Burnout stems from work-related stress. Preliminary evidence suggests that excessive workloads (eg, work hours, on-call responsibilities), subsequent difficulty balancing personal and professional life, and deterioration in work control, autonomy, and meaning in work contribute to burnout in physicians.[2,3,5] Some aspects of health care reform are likely to exacerbate many of these stressors and thus may such as those expenses associated with reporting quality-based measures, will be an additional ongoing practice expense. These and other new regulations and reporting requirements (eg, requiring reporting of patient outcome data and guideline adherence for payment) will also reform, it is likely to result in increased workload that will exacerbate the challenge physicians have balancing their personal and professional life. Thus, health care reform is likely to adversely affect physicians' workload, autonomy, and work-life balance—all large contributors to burnout.

Health care reform does contain some provisions that may reduce physician stress. For example, removing insurance barriers for treatment of preexisting conditions, facilitating medication coverage, and streamlining insurance claims are all positive features of health care reform that are likely to improve patient care and reduce physician workload and stress. The introduction of a

Mayo Clin Proc.
2015;90(12):1600-1613

Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014

Tait D. Shanafelt, MD; Omar Hasan, MBBS, MPH; Lotte N. Dyrbye, MD, MHPE; Christine Sinsky, MD; Daniel Satele, 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

both US physicians and
measures used in our
work-life balance was

380 (19.2%) completed
the physicians reported
(*P*<.001). Satisfaction
k-life balance also declined in physicians between 2011 and 2014 (48.5% vs 40.9%; *P*<.001).
differences in rates of burnout and satisfaction with work-life balance were observed by
contrast to the trends in physicians, minimal changes in burnout or satisfaction with work-life
observed between 2011 and 2014 in probability-based samples of working US adults,
increasing disparity in burnout and satisfaction with work-life balance in physicians relative
US working population. After pooled multivariate analysis adjusting for age, sex, rela-
and hours worked per week, physicians remained at an increased risk of burnout (odds
ratio, 1.97; 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 is increasing among physicians in the United States, now **>50%** experiencing burnout.

DEPRESSION AND ANXIETY 26:1118–1126 (2009)

Research Article

THE PREVALENCE AND IMPACT OF POST TRAUMATIC STRESS DISORDER AND BURNOUT SYNDROME IN NURSES

Meredith [illegible] N. M.S.,[1*] Ellen L. Burnham, M.D.,[1] Colleen J. Goode, R.N. Ph.D.,[2]
Barbara Rothbaum, Ph.D.,[3] and Marc Moss, M.D.[1]

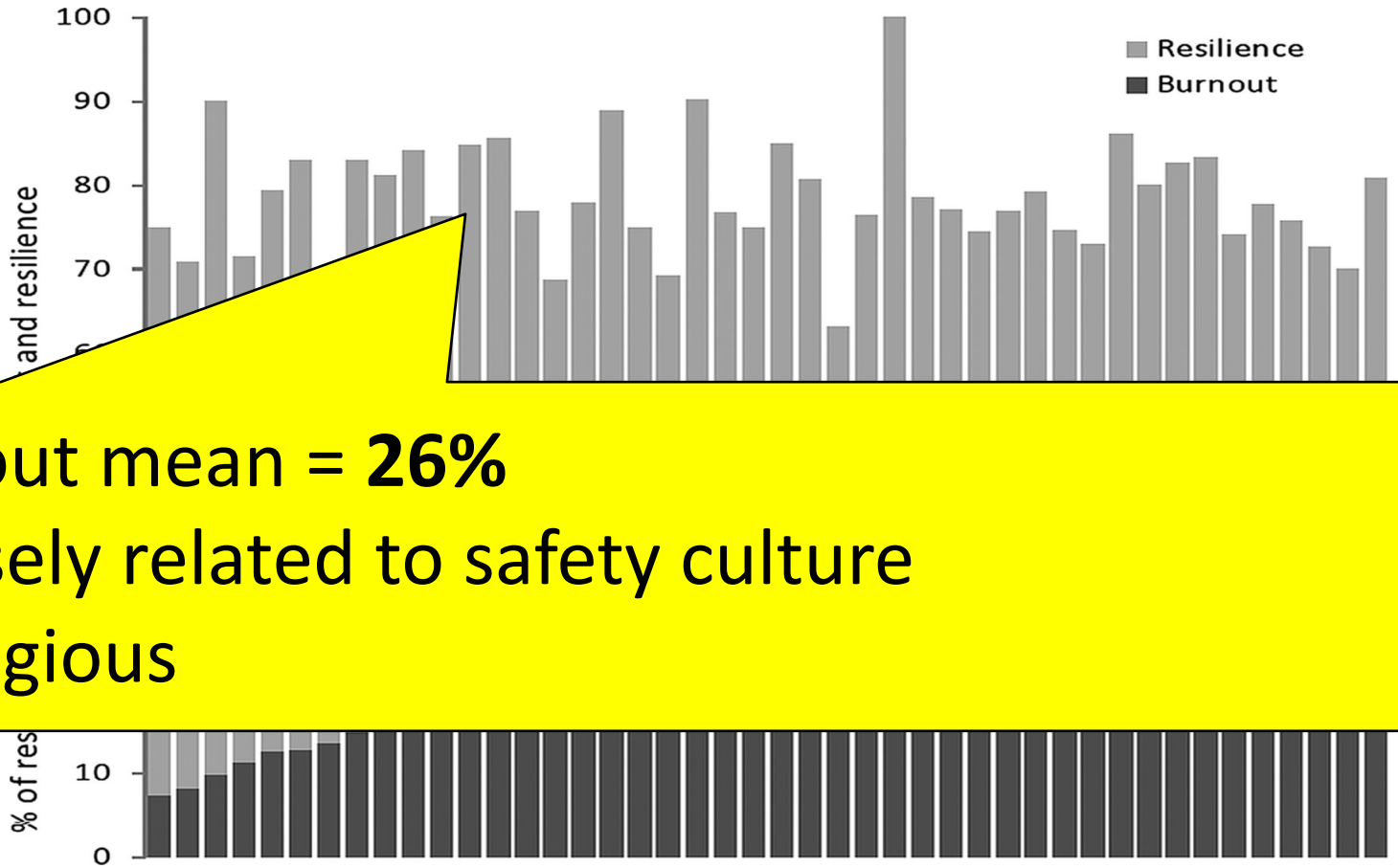
[illegible] of Medicine, University of Colorado
Mealer@UCDenver.edu

18% (61/332)
met diagnostic criteria for PTSD

[illegible] disorder (PTSD) and burnout syndrome (BOS) are common in nurses, and whether the co-existence of

BMJ Quality & Safety Online First, published on 17 April 2014 as 10.1136/bmjqs-2014-002831

Burnout in the NICU setting and its relation to safety culture



- Burnout mean = **26%**
- Inversely related to safety culture
- Contagious

▶ Additional material is published online only. To view please visit the journal online (ht

Division of Neonatal and Developmental Medicine, Department of Pediatrics, Stanford University School of Medicine, MSOB Rm x115, 1265 Welch Road, Stanford, CA 94305, USA;

Am I burned out?

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You try to be everything to everyone

You get to the end of a hard day at work, and feel like you have not made a meaningful difference

You feel like the work you are doing is not recognized

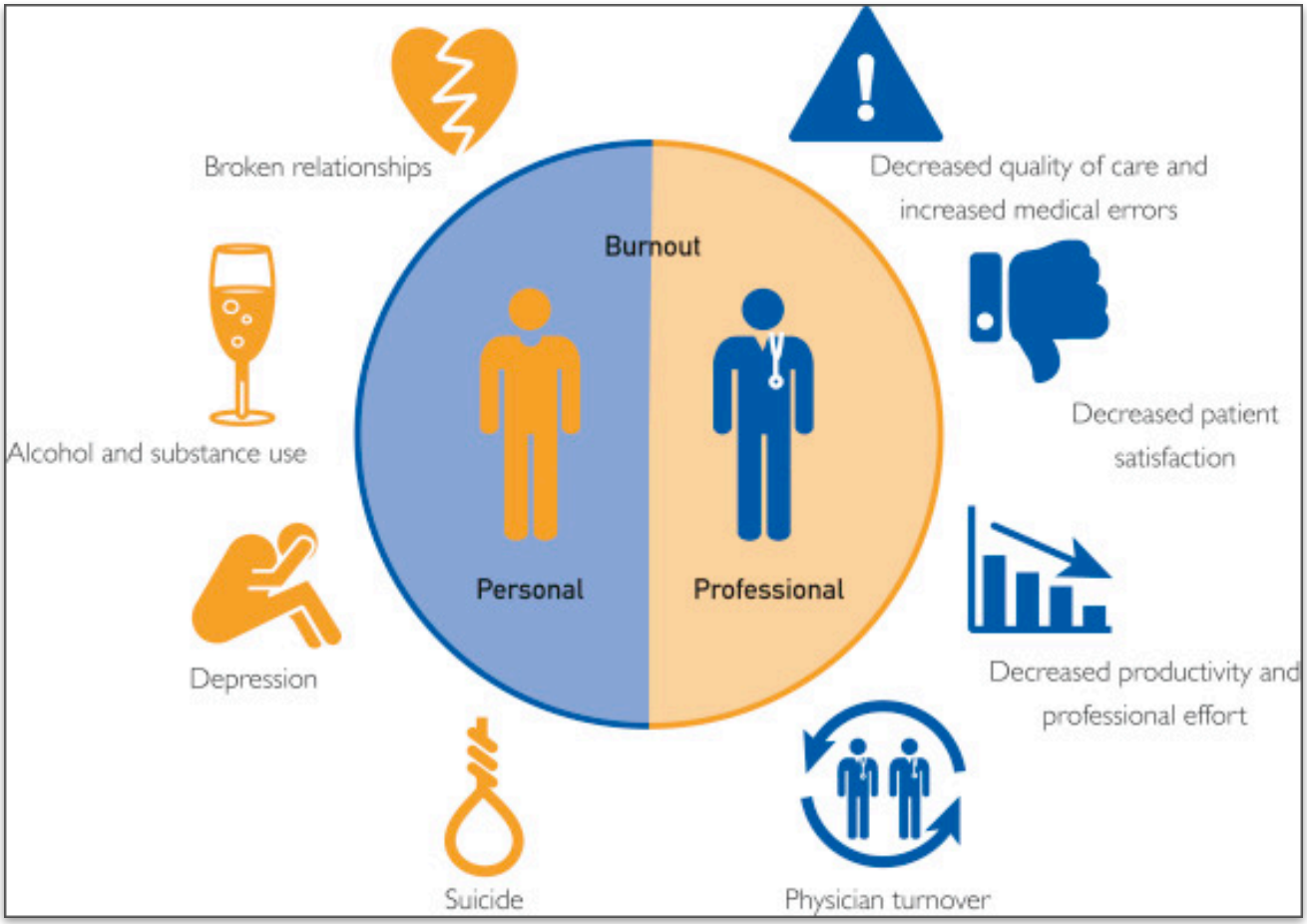
You identify so strongly with work that you lack a reasonable balance between work and your personal life

Your job varies between monotony and chaos

You feel you have little or no control over your work

You work in healthcare

Consequences of Burnout



Shanafelt TD, Noseworthy JH.
Mayo Clin Proc. 2017;92:129

Burnout and patient care

Lower Patient Satisfaction

Aiken et al. BMJ 2012
Vahey, Aiken et al. Med Care. 2004

Infections

Cimiotti, et al.
Am J Infect Control. 2012.
Tawfik, Sexton, Profit et al.
J Perinatol. 2017.

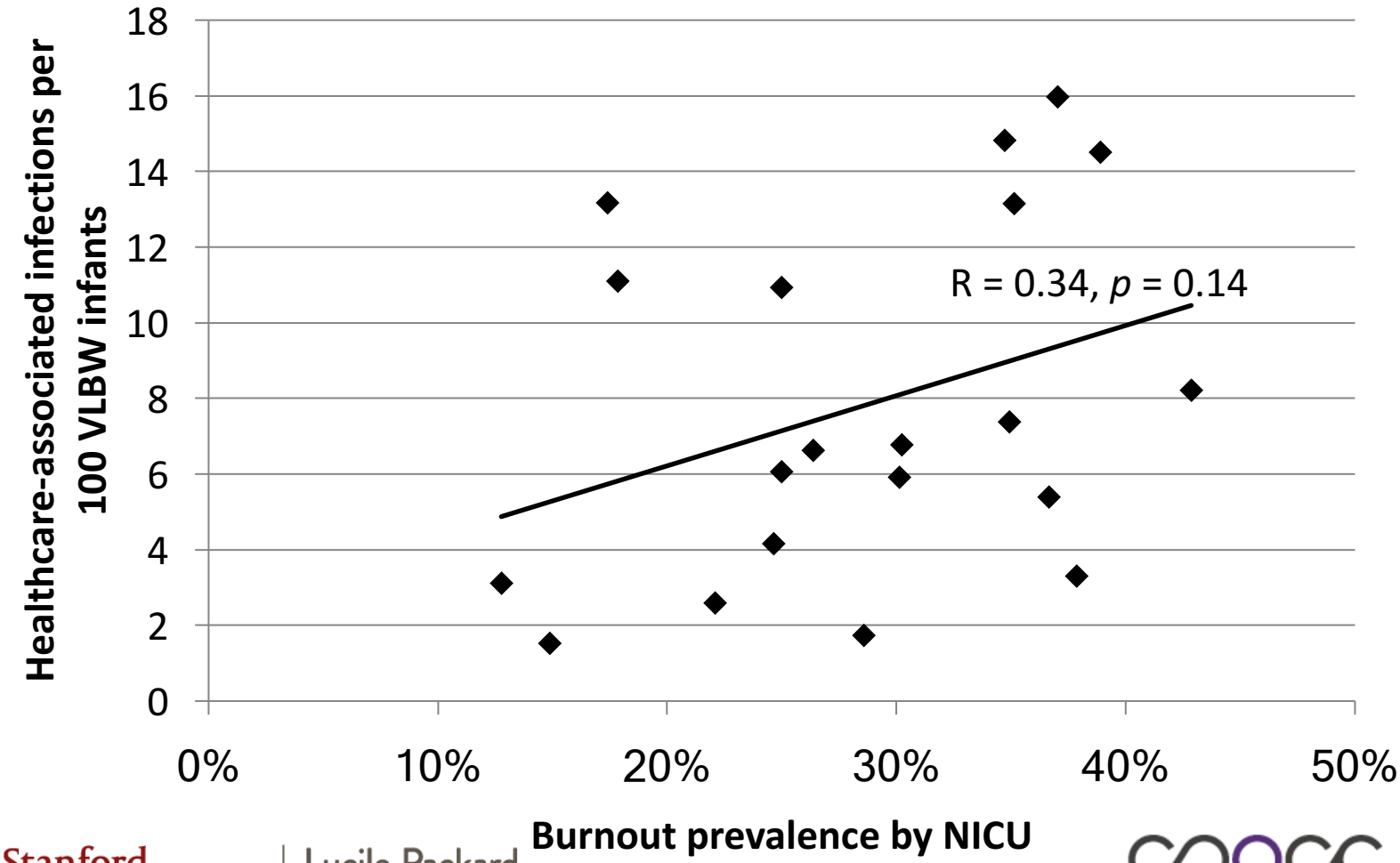
Medication Errors

Fahrenkopf et al.
BMJ. 2008

Higher Standardized Mortality Ratios

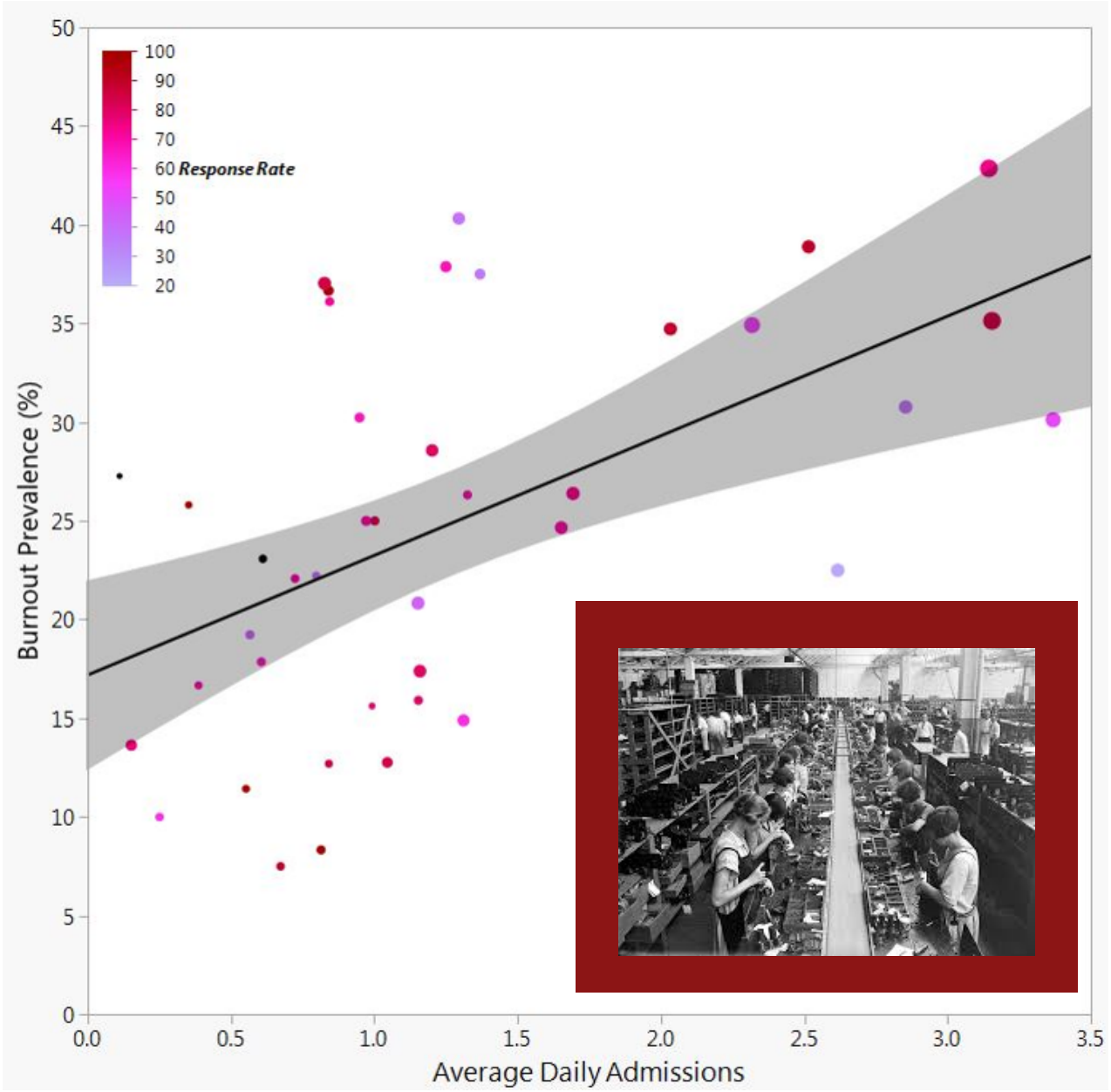
Welp, Meier & Manser.
Front Psychol. 2015

Burnout may associate with HAIs



Tawfik, Profit. J Perinatol 2017 Mar;37(3):315-320

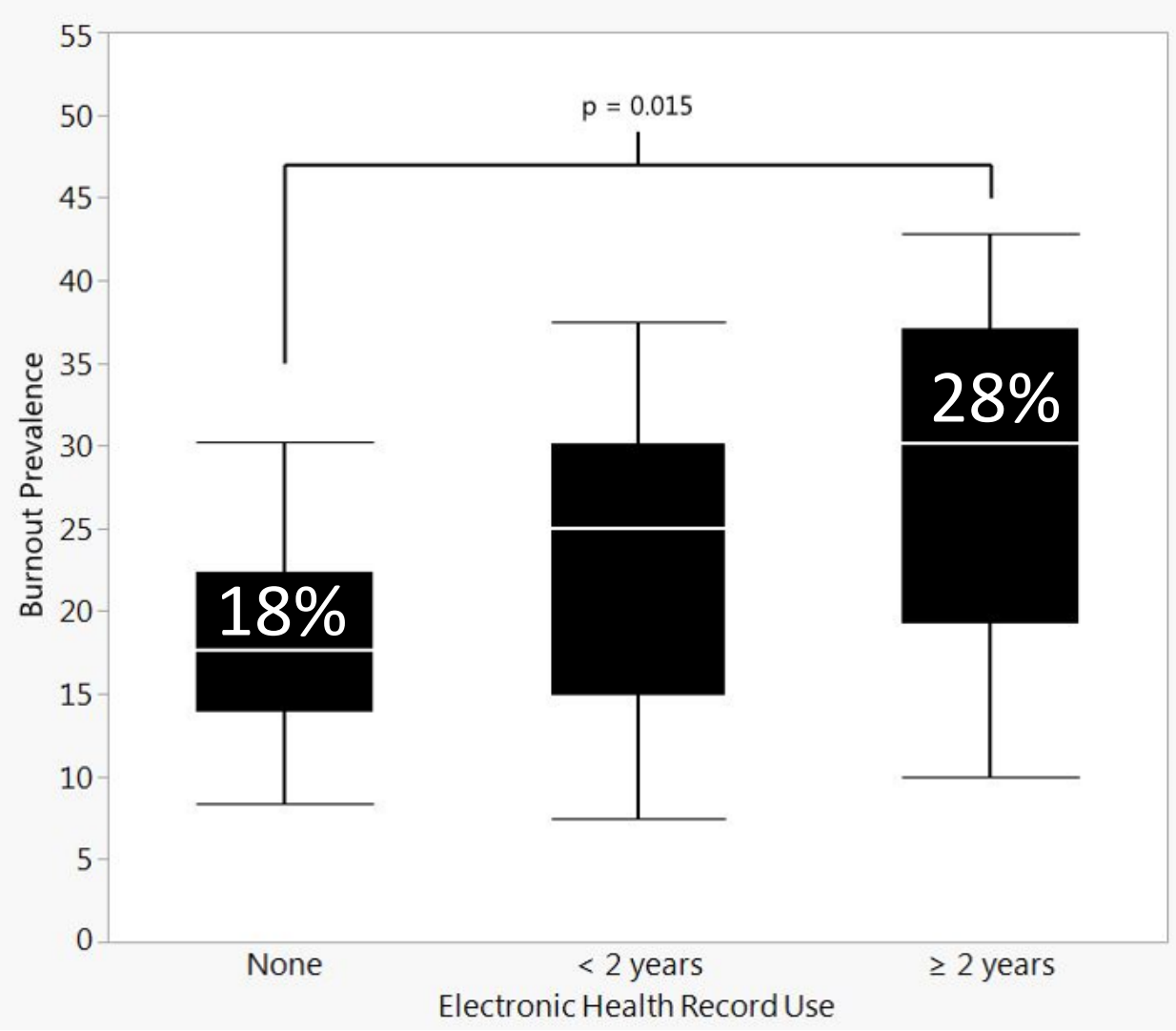
NICU volume associates with burnout



Each daily admission:
6% increase in burnout prevalence

Tawfik, Profit, et al *Pediatrics*. 2017 May;139(5).

EHR use associates with burnout



Tawfik, Profit, et al
Pediatrics. 2017
May;139(5).

Annals of Internal Medicine • Vol. 165 No. 11 • 6 December 2016

Annals of Internal Medicine ORIGINAL RESEARCH

Allocation of Physician Time in Ambulatory Practice: A Time and Motion Study in 4 Specialties

Christine Sinsky, MD; Lacey Colligan, MD; Ling Li, PhD; Mirela Prgomet, PhD; Sam Reynolds, MBA; Lindsey Goeders, MBA; Johanna Westbrook, PhD; Michael Tutty, PhD; and George Blike, MD

Background: Little is known about how physician time is allocated in ambulatory care.

Objective: To describe how physician time is spent in ambulatory practice.

Design: Quantitative direct observational [illegible] study (during office hours) and self-re[illegible]).

Setting: U.[illegible] New Hamps[illegible]

Participant[illegible] medicine, c[illegible] 430 hours, 2[illegible]

Measurements: Proportions of time spent on 4 activities (direct clinical face time, electronic health record [EHR] and desk work, administrative tasks, and other tasks) and self-reported after-hours work.

Results: During the office day, physicians spent 27.0% of their total time on direct clinical face time with patients and 49.2% of their time on EHR and desk work. While in the examination room with patients, physicians spent 52.9% of the time on direct clinical face time and 37.0% on EHR and desk work. The 21 physicians who completed after-hours diaries reported 1 to 2 hours of after-hours work each night, devoted mostly to EHR tasks.

Limitations: Data were gathered in self-selected, high-performing practices and may not be generalizable to other set-[illegible] statis-[illegible]. [illegible]linical [illegible]h EHR [illegible]physi-cians spend another 1 to 2 hours of personal time each night doing additional computer and other clerical work.

For every hour of patient contact, physicians spent 2 hours on EHR and clerical work.

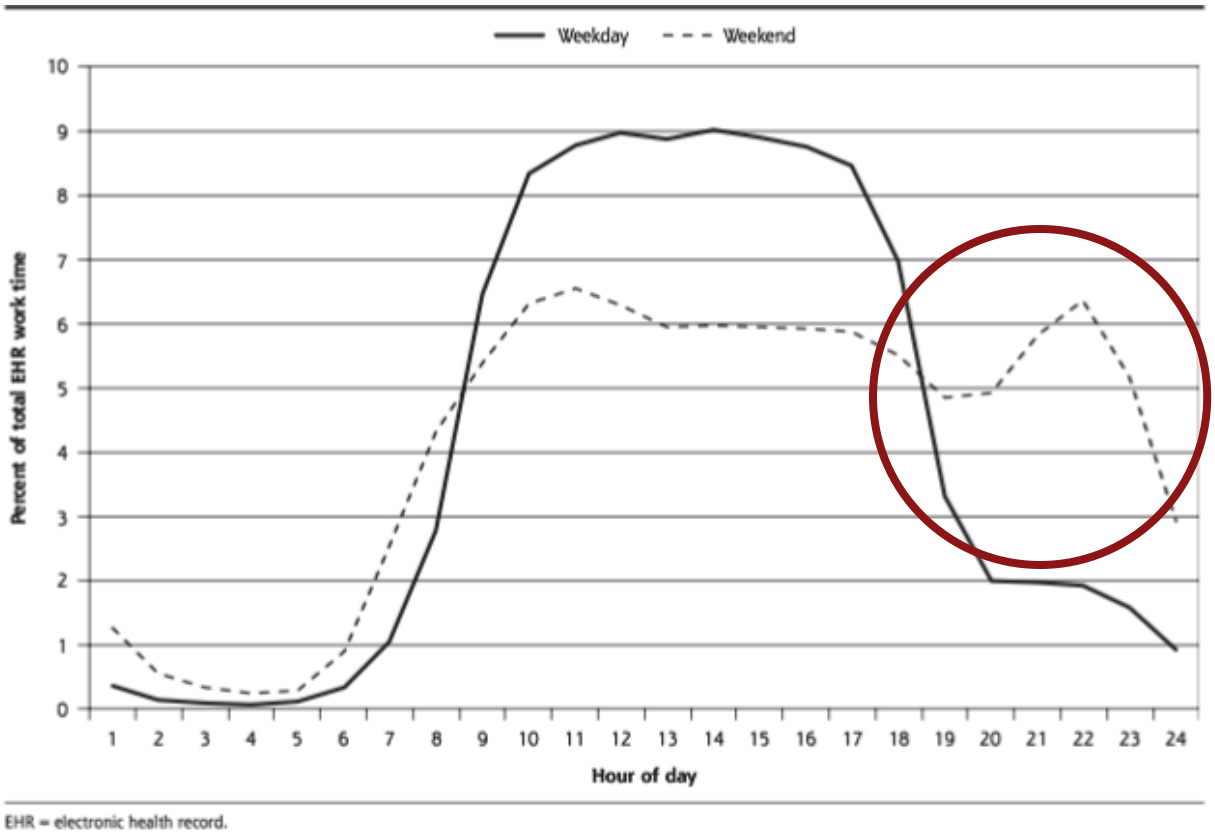
Primary Funding Source: American Medical Association.

Ann Intern Med. 2016;165:753-760. doi:10.7326/M16-0961 **www.annals.org**

For author affiliations, see end of text.

This article was published at www.annals.org on 6 September 2016.

Date Night with Epic



EHR = electronic health record.

Arndt BG. Ann Fam Med. 2017;15:419

Measures of Professional Fulfillment

- Work After Work
- Click Counts
- Teamwork
- Being Present
- Fair Pay
- Regulatory Balance

Di Angi, 2017 0ct. AIM

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EHR transformation of work

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Psychology of Burnout

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Your focus determines your reality

&

Perceptions are influenced by how you feel

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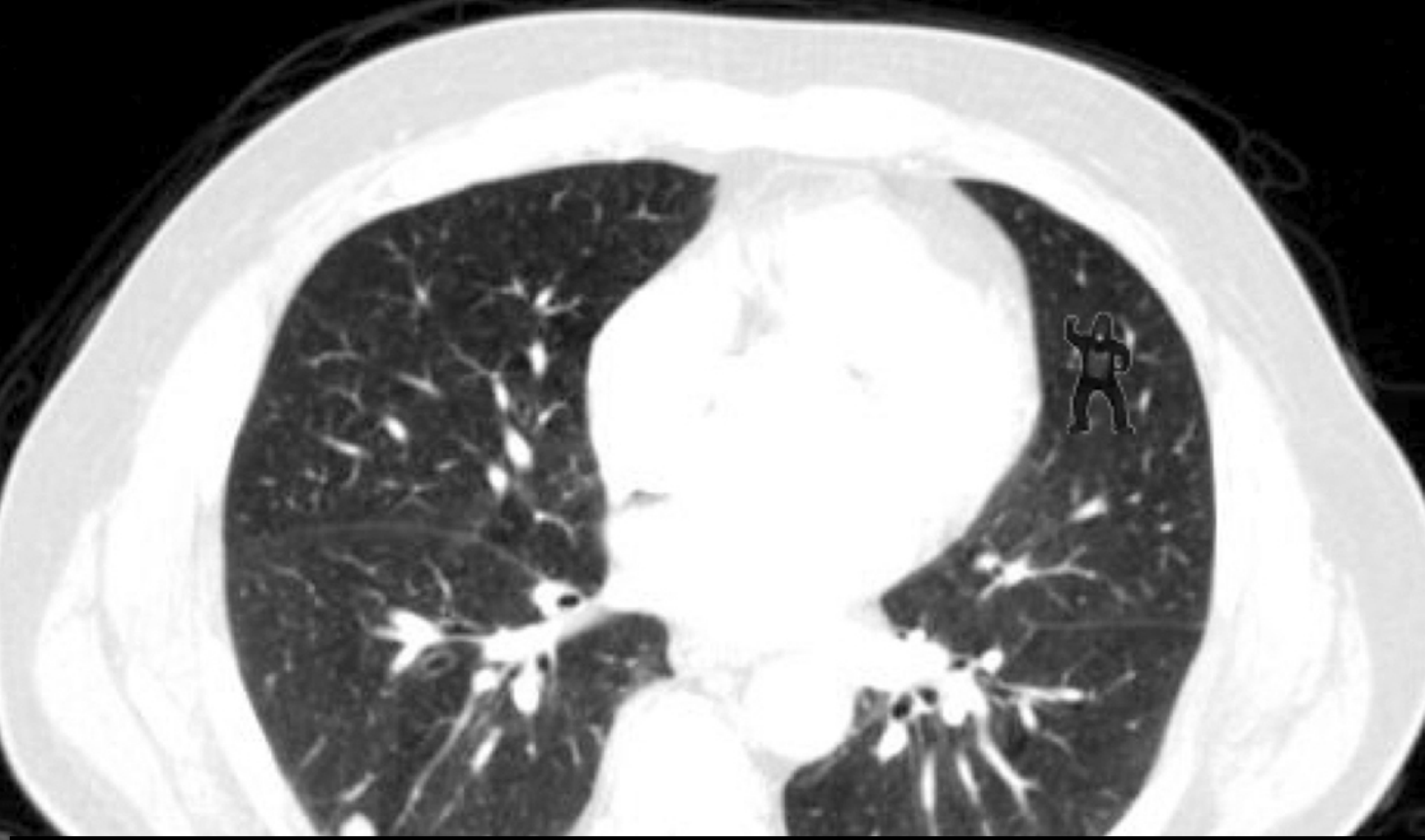
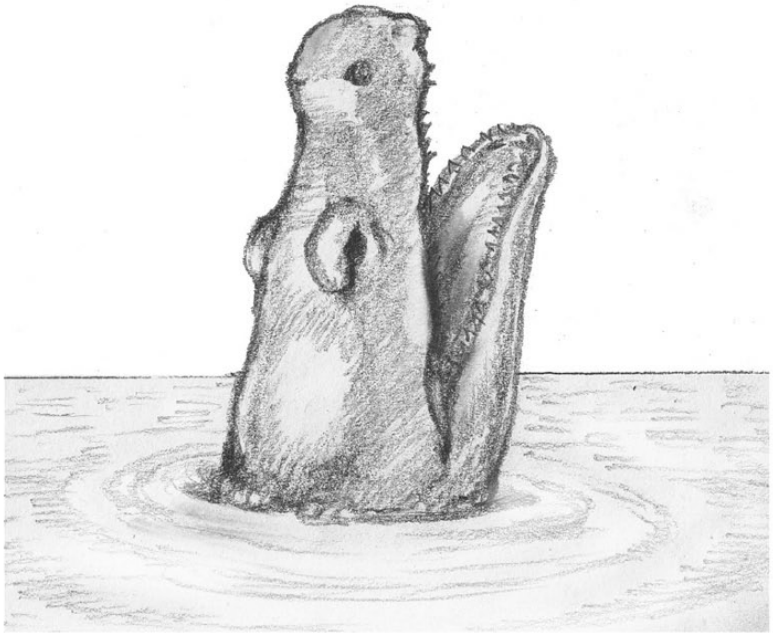


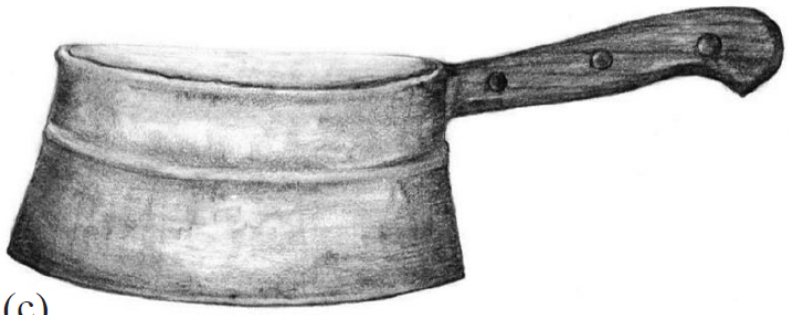
Notice anything unusual about this lung scan? Harvard researchers found that 83 percent of radiologists didn't notice the gorilla in the top right portion of this image.

Blurt test – don’t be shy



(a)

(b)



(c)

Perception, 2012, volume 41, pages 1535–1539

doi:10.1068/p7290

SHORT AND SWEET

Alligator or squirrel: Musically induced fear reveals threat in ambiguous fi

Jesse Prinz[1], Ange
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Received 14 May 20

Abstract. Extant evide
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majority reported seei
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Keywords: ambiguou

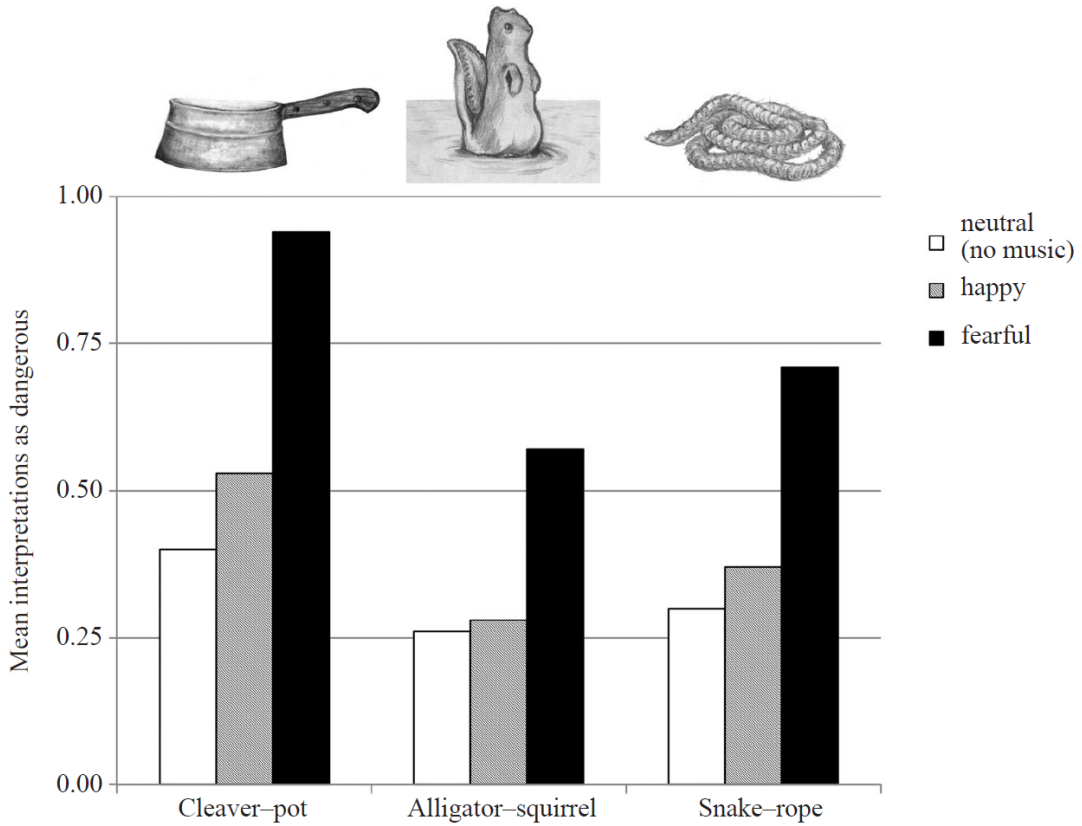

Figure 2. Mean interpretations as benign (= 0) and dangerous (= 1) for ambiguous figures in no music, happy music, and fearful music conditions.

Three Good Things

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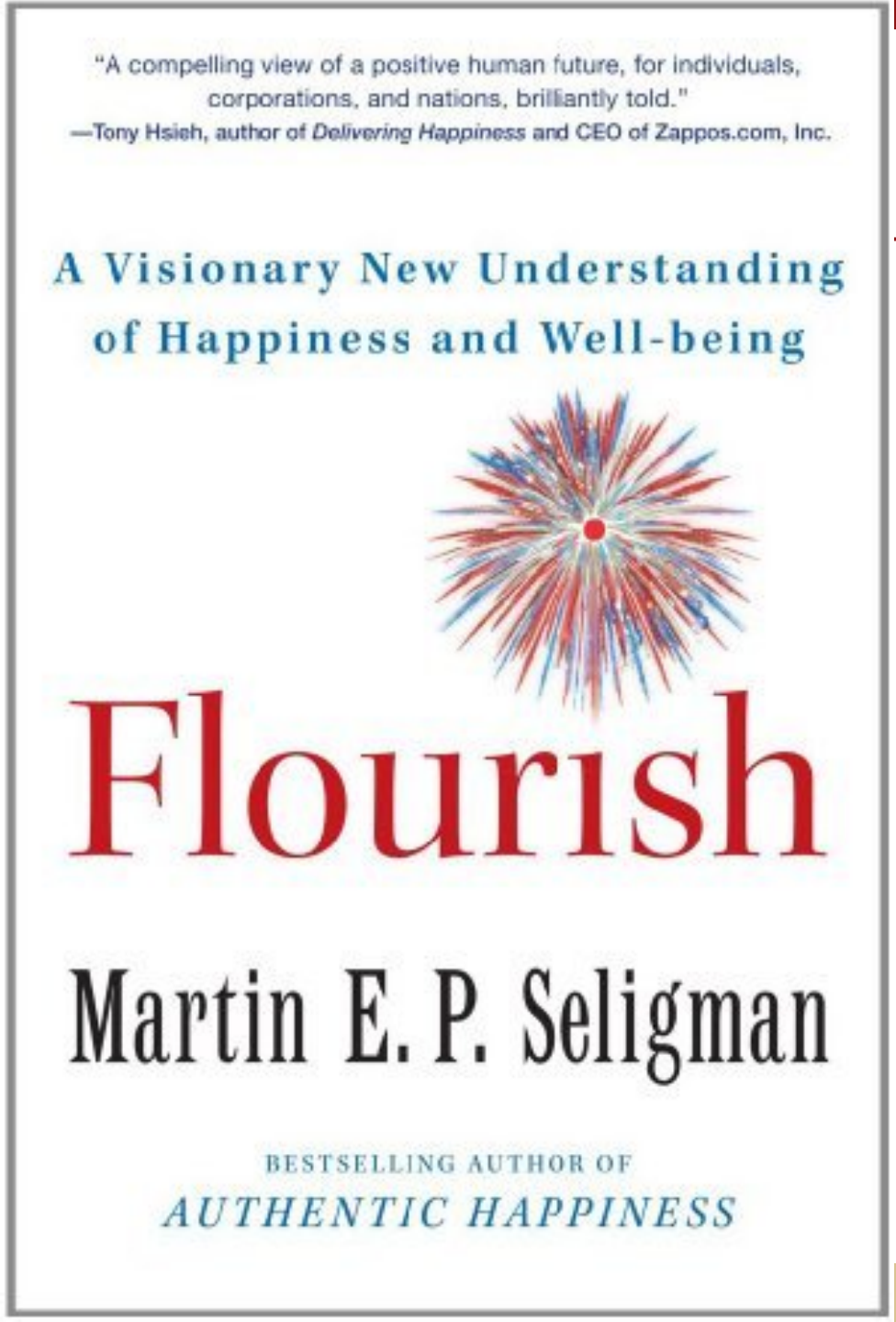
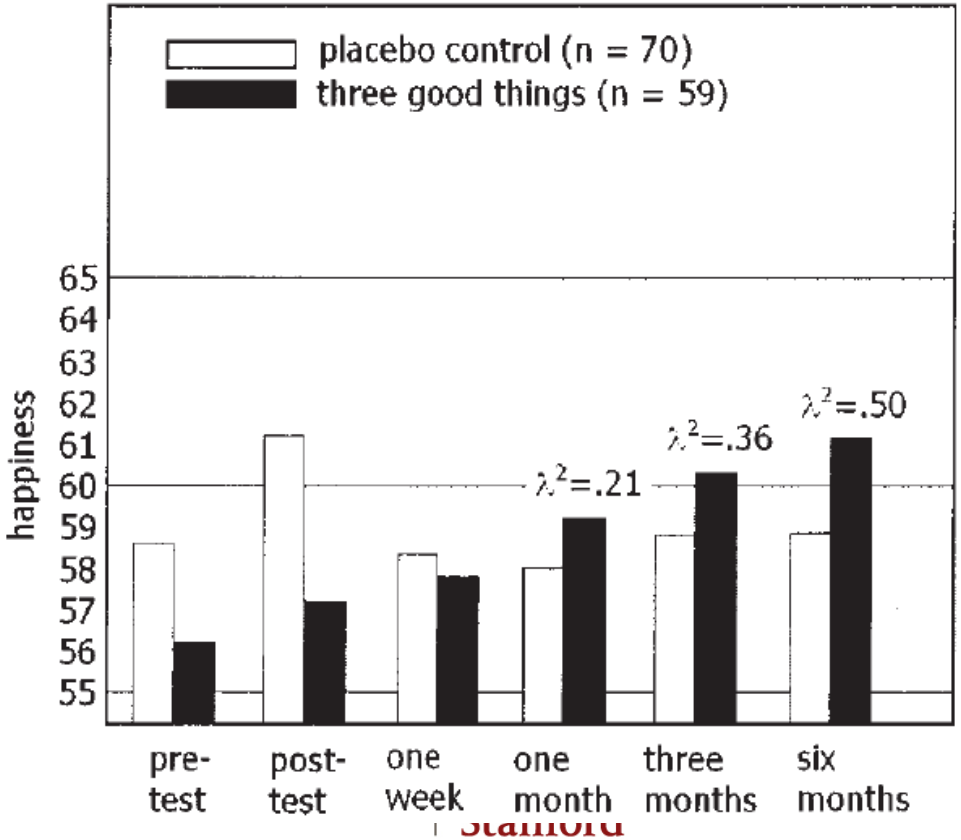
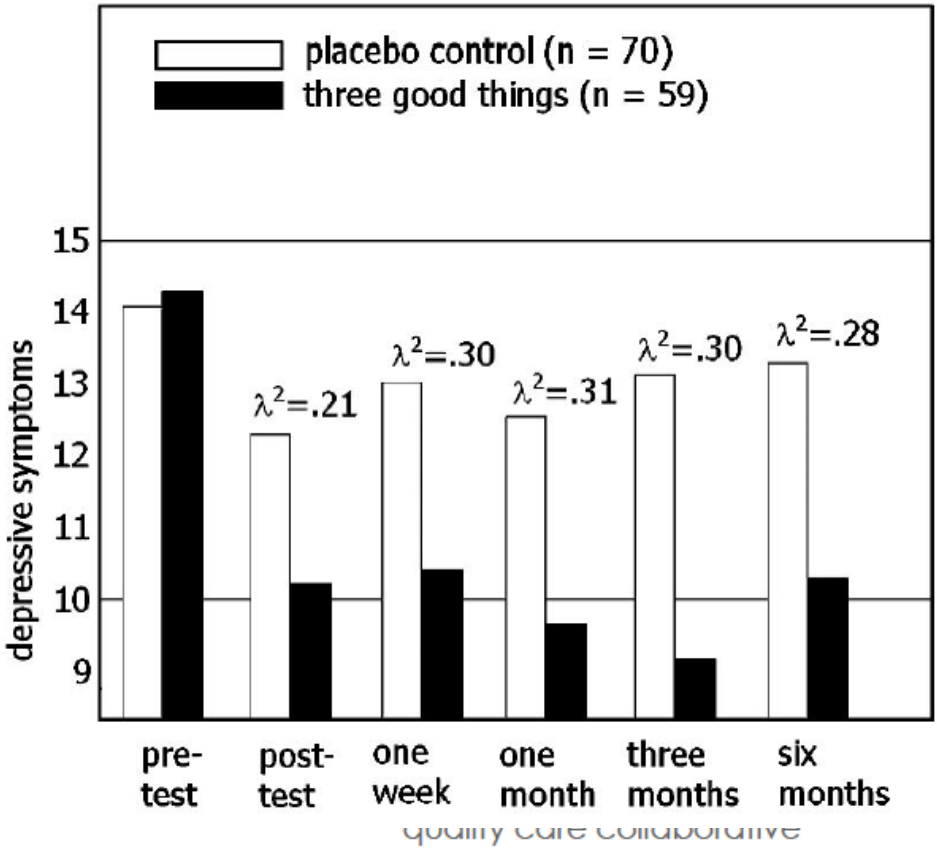


Three good things

- http://www.youtube.com/watch?v=dwkDEM4gFBA

Seligman, Steen, Park & Petersen, 2005





Nov 2012 NICU - 3 Good Things

90 initiated exercise
61 completed at least 7 days

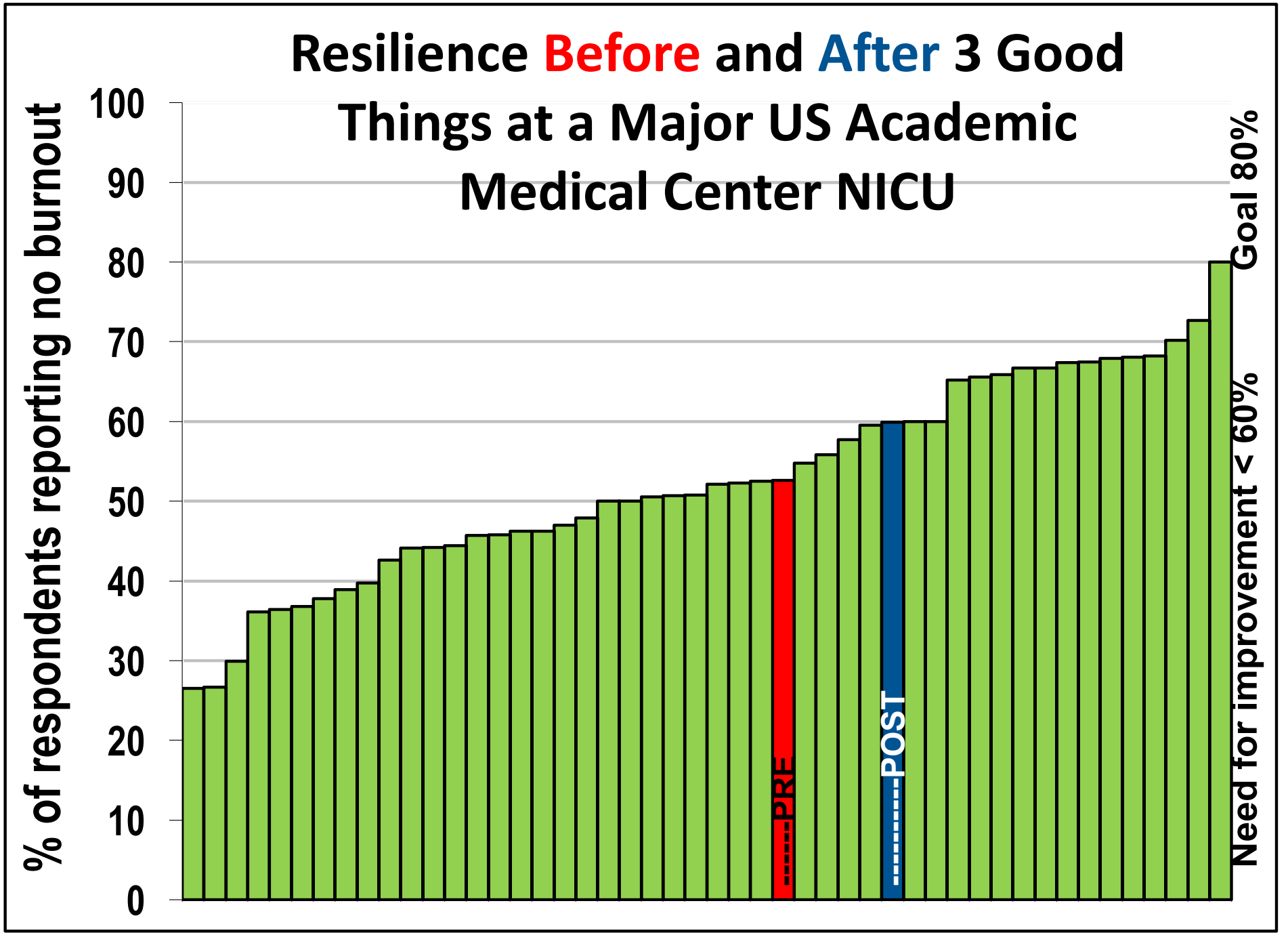
Significantly less:

1. Burnout
2. Depression
3. Communication breakdowns resulting in delays
4. Challenged in dealing with difficult colleagues
5. Taking work home to complete after hours

Significantly more:

1. Happiness

Sexton, Chatwick, Profit et al. E-PAS 2013: 4150.7


Resilience Before and After 3 Good Things at a Major US Academic Medical Center NICU
% of respondents reporting no burnout
100
90
80
70
60
50
40
30
20
10
0
PRE
POST
Goal 80%
Need for improvement < 60%

WISER

- Burnout
  - Prevalent
  - Bad for patients
  - Bad for healthcare workers
  - Treatable using evidence based tools

WISER packages the best available evidence for busy healthcare workers

WISER

- Individual Program using evidence-based positive psychology tools
- Cell phone-based
- Brief video learning sessions (8-10 min) followed by behavioral interventions

WISER Preliminary Results

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- 2 cohort sw-RCT, 4 NICUs each
  - Cohort 1: 60 texts – 6 months
  - Cohort 2: 28 texts – 5 weeks

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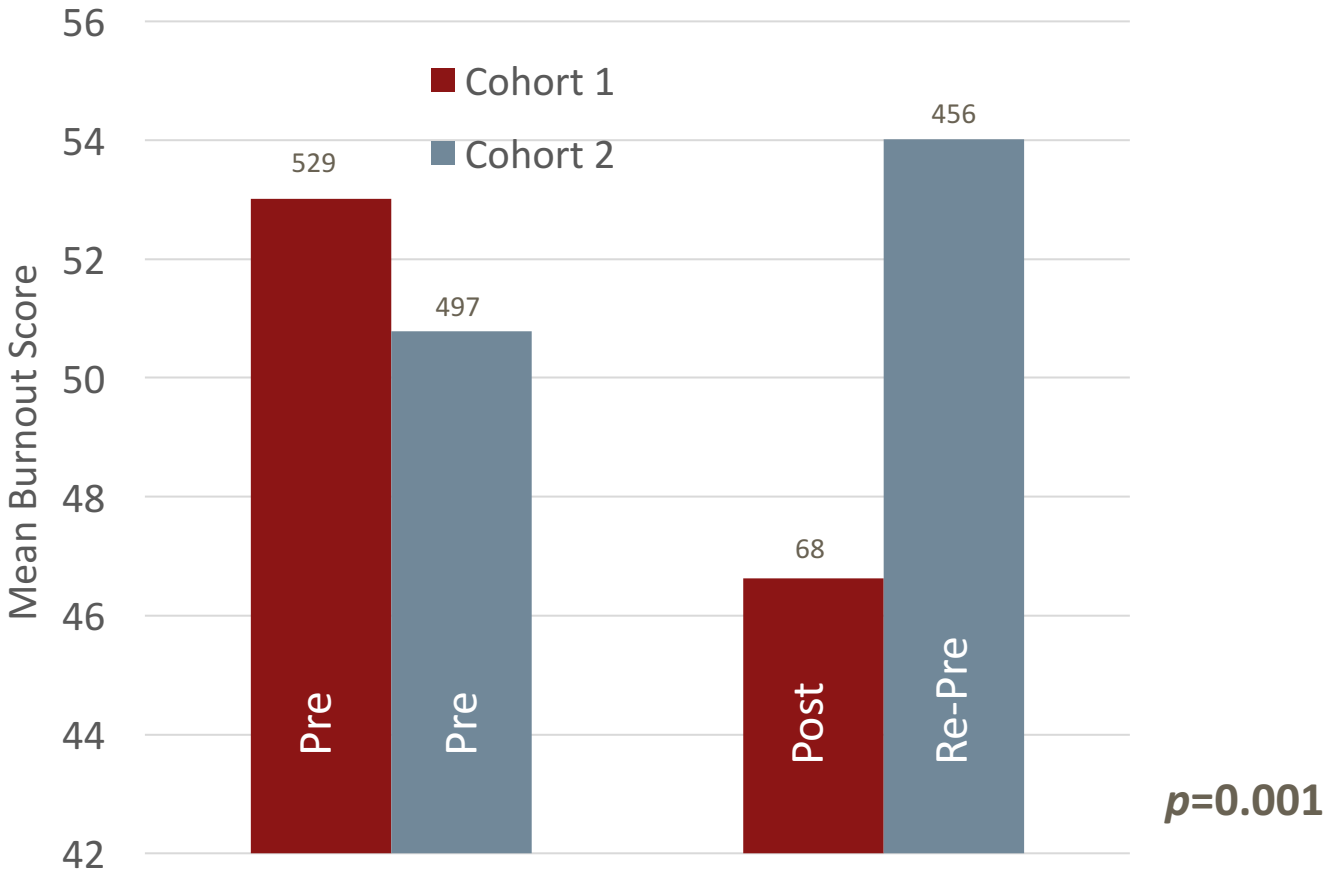
Primary Outcome - Burnout



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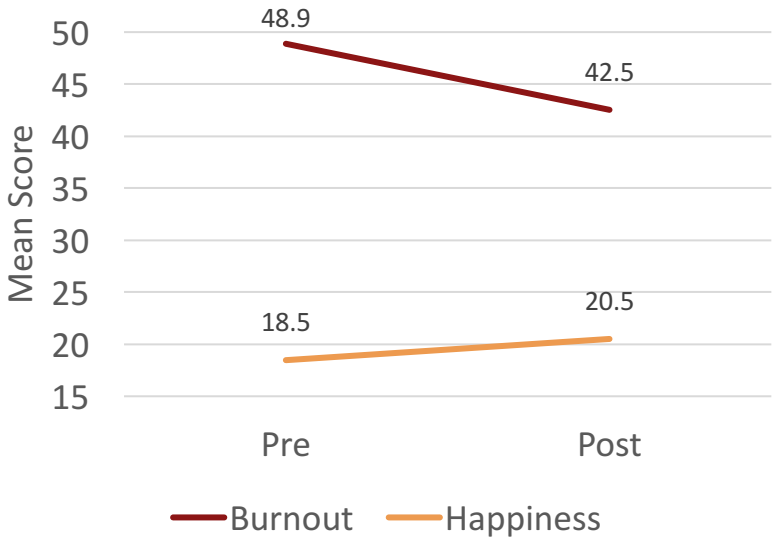
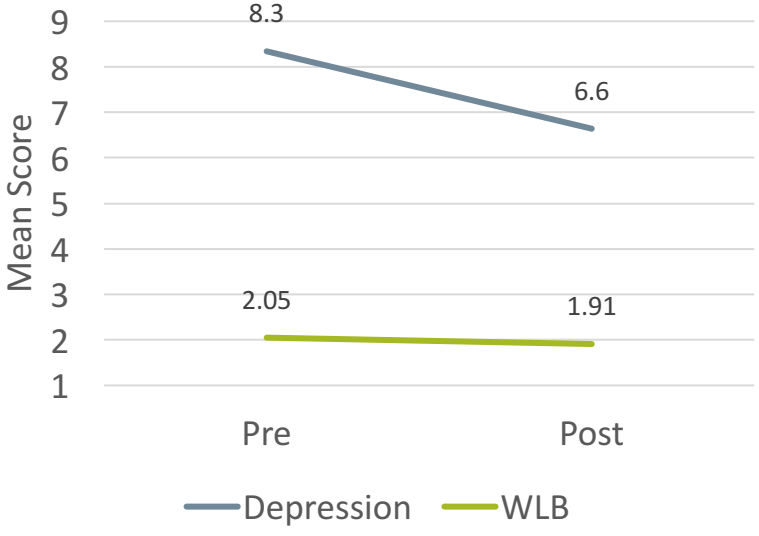
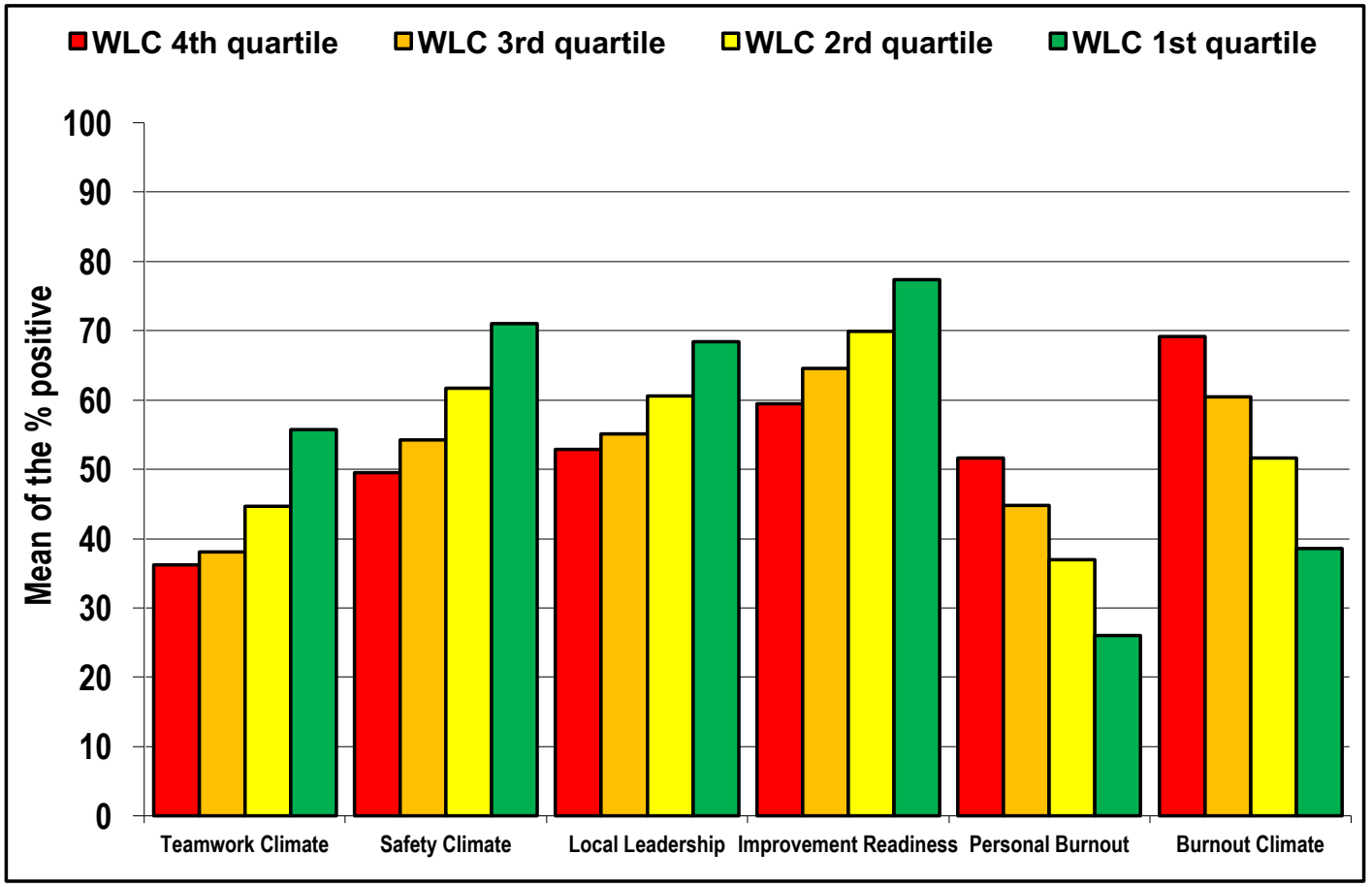
Cohort 2





All p<0.001

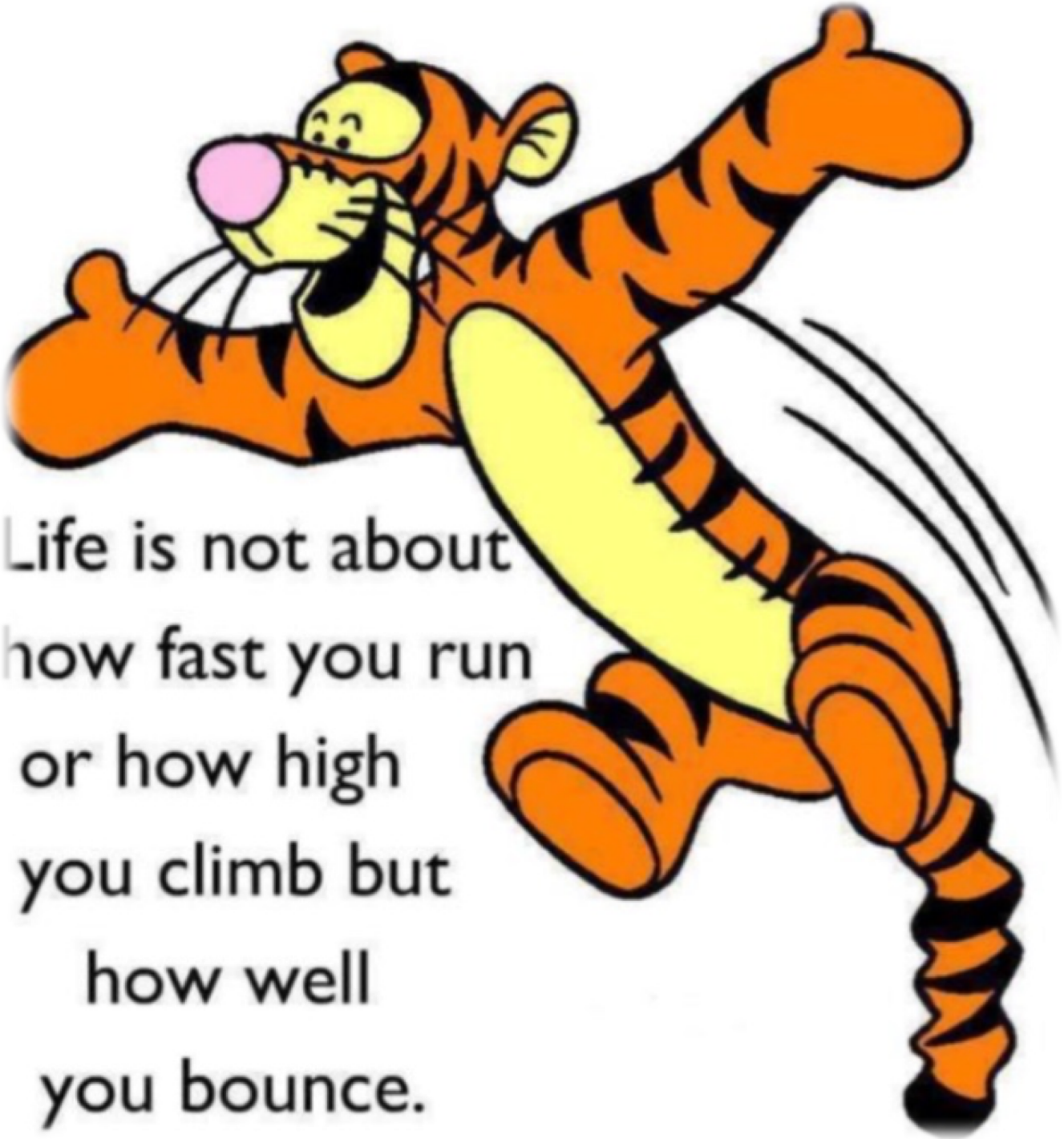
Teamwork, Safety Climate, Leadership, Improvement Readiness, Personal Burnout, and Burnout Climate, by Work-life Climate



Schwartz, Sexton, Profit et al., *under review – not for dissemination*

Summary

- QI requires not just process improvement but careful consideration of care context
- Safety culture, burnout, WLB are all important components of context and affect clinical quality
- Organizations need to develop strategies for quality that account for context factors


Life is not about
how fast you run
or how high
you climb but
how well
you bounce.

Thank you

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Stanford
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Ann Stark

Interested in WISER?

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- Individuals or units may register their non-binding interest to participate by typing the link below into a web browser:
- WISER in 10 days
  - November, 13 2017
  - January 2018
  - April 2018
  - May 2018
  - Sep/Nov 2018