



Collectively Intelligent Teams

Matt Sherrer, MD, MBA, FASA, FAACD

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Disclosures

None

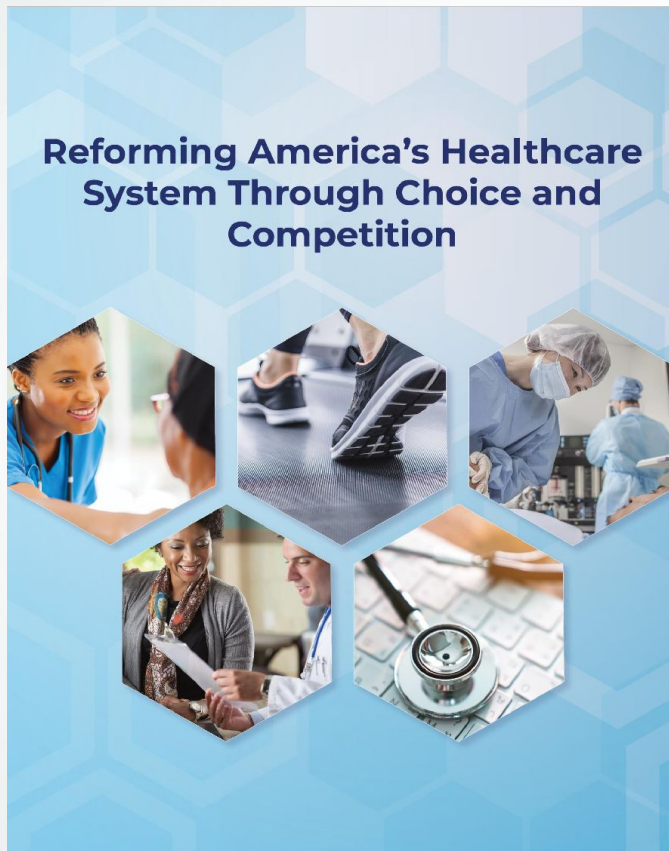
Outline

- Why Should I Care?
- Evidence for Collective Intelligence
- Comparison to Similar Models
- Application in UAB Department of Anesthesiology and Perioperative Medicine
- Conclusion/Questions

Why should I care?

- Increasing reliance on teams from a variety of specialties to care for patients
- Increased incidence of complexity and specialization of care
- Increasing comorbidities/incidence of chronic disease
- Initiatives for safer working hours
- Our healthcare system is not as safe, effective, efficient as it should be
- We harm patients every day
- Ongoing “scope of practice” political battles across the nation

Scope of Practice



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Reforming America's Healthcare System Through Choice and Competition

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

U.S. DEPARTMENT OF THE TREASURY

U.S. DEPARTMENT OF LABOR

The President
The White House
Washington, DC 20500

Dear Mr. President:

On October 12, 2017, through Executive Order 13813, you directed the Administration, to the extent consistent with the law, to facilitate the development and operation of a health care system that provides high-quality care at affordable prices for the American people by promoting choice and competition. We are pleased to provide you with this report, prepared by the Department of Health and Human Services (HHS) in collaboration with the Departments of the Treasury and Labor, the Federal Trade Commission, and several offices within the White House. This report describes the influence of state and federal laws, regulations, guidance, and policies on choice and competition in health care markets and identifies actions that states or the Federal Government could take to develop a better functioning health care market.

As health care spending continues to rise, Americans are not receiving the commensurate benefit of living longer, healthier lives. Health care bills are too complex, choices are too restrained, and insurance premiums and out-of-pocket costs are climbing faster than wages and tax revenue. Health care markets could work more efficiently and Americans could receive more effective, high-value care if we remove and revise certain federal and state regulations and policies that inhibit choice and competition.

The Administration has already taken significant steps to improve health care markets by addressing government rules and programs that limit choice and competition and produce higher prices for the American people. Among the most significant actions:

- In October 2018, the Departments of HHS, the Treasury, and Labor proposed a rule that would provide employers with significant new flexibility in how they fund health coverage through Health Reimbursement Arrangements (HRAs). If finalized, this flexibility would empower individuals to take greater control over what health insurance benefits they receive. The Treasury estimates that more than 10 million employees would benefit from this change within the next decade.

Scope of Practice

APRNs' scope of practice varies widely “for reasons that are related not to their ability, education, or training, or safety concerns, but to the **political decisions of the state** in which they work....” –pg 33

Reforming America's Healthcare System Through Choice and Competition



Scope of Practice

“...states should consider changes to their scope of practice statutes to allow all health-care providers to practice at the **top of their license...**”

“...states should consider **eliminating** requirements for rigid collaborative practice and supervision agreements between physicians and their care extenders that are not justified by legitimate health and safety concerns...” –pg 35

Reforming America's Healthcare System Through Choice and Competition



AANA

American Association of
NURSE ANESTHESIOLOGY

**CRNAS:
WE ARE THE
ANSWER**

AANA
AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

**AANA wants nurse anesthetists to call
themselves “nurse anesthesiologists.”**

That's wrong.

 American Society of
Anesthesiologists

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CULTURE OF SAFETY: The Multidisciplinary Anesthesia Professional Relationship

Katherine A. Meese, PhD; D. Matthew Sherrer, MD, FASA

 Share

Introduction



'A book for the bedside of every future - and current - leader in the world'
Robert Greene, author of *The 48 Laws of Power and Mastery*

THE OBSTACLE IS THE WAY



RYAN HOLIDAY

The obstacle in the path
becomes the path. Never
forget, within every
obstacle is an
opportunity to improve
our condition.

RYAN HOLIDAY

MINIMALISTQUOTES.COM

“THE IMPEDIMENT TO
ACTION ADVANCES
ACTION.
WHAT STANDS IN THE
WAY BECOMES THE
WAY.”



MARCUS AURELIUS
ROMAN EMPEROR FROM 161 TO 180

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Why should I care?

“The sum total of medical knowledge is now so great and wide-spreading that it would be futile for one man to attempt to acquire...a good working knowledge of any large part of the whole. The very necessities of the case are driving practitioners into cooperation. The best interest of the patient is the only interest to be considered, and in order that the sick may have the benefit of advancing knowledge,
union of forces is necessary.”

William James Mayo, MD

June 5, 1910

Why should I care?

According to the Institute for Healthcare Improvement, there is an average of **24 handoffs** per inpatient admission.

www.ihl.org

Why should I care?

Teamwork failures (failures in communication) account for up to 80% of serious medical errors

- Joint Commission. Sentinel event data: root causes by event type 2004-2015. www.jointcommission.org

Top 3 identified root causes for sentinel events- Human factors, leadership, and communication

- Joint Commission. Sentinel event statistics released for 2015. www.info.jcrinc.com

Why should I care?

Medical error- the third leading cause of death in the US.

- Makary, MA, Daniel. M. (2016). BMJ. 353;i2139.

Teamwork results in better patient care and outcomes

- Horak, B.J. et al. (2004) Journal of Healthcare Quality. 26(2), 6-13.
 - Teambuilding, behavioral ground rules between nursing and house staff
- Gitell, J.H. et al. (2000) Medical Care. 38(8), 807-819.
 - Relational coordination, mutual respect- impact on pain scores, LOS, quality of care

Why should I care?

Team-building is one of the most useful organizational interventions to improve morale and productivity in the workplace and to ensure the **mental and physical health of employees.**

- Guzzo RA, Shea GP. Group performance and intergroup relations. In: Dunnette MD, Hough LM, eds. *Handbook of Industrial and Organizational Psychology*. Palo Alto, CA: Consulting Psychologists Press; 1992:269-313.

Residents in emergency medicine who **view their work groups as cohesive** appeared **more satisfied** with their jobs and **less stressed** than those who experienced less group cohesiveness.

- Heyworth J, Witley TW, Allison EJ, Revicki DA. Predictors of satisfaction among SHOs during accident and emergency medicine training. *Arch Emerg Med*. 1993;10:279-288.

Why should I care?

Members of work groups characterized by **positive teamwork** evidenced enhanced coping, **more job satisfaction**, less strain, and **improved scores of measures of mental health**.

- Carter AJ, West MA. Sharing the burden: Teamwork in health care settings. In: Firth-Cozens J, Payne R, eds. *Stress in Health Professionals: Psychological and Organisational Causes and Interventions*. New York, NY: John Wiley and Sons; 1999;191-202.

One specific product is a **more cheerful nursing staff**, one of the factors that correlates with **patient satisfaction**.

- Murphy LR. Organisational interventions to reduce stress in health care professionals. In: Firth-Cozens J, Payne R, eds. *Stress in Health Professionals: Psychological and Organisational Causes and Interventions*. New York, NY: John Wiley and Sons; 1999;149-162.

Why should I care?

Teams offer the promise to improve clinical care because they can aggregate, modify, combine, and apply a **greater amount and variety of knowledge** in order to make decisions, solve problems, generate ideas, and execute tasks more effectively and efficiently than any individual working alone.

- Larson, J.R. (2010). *In Search of Synergy in Small Group Performance*. Psychology Press, New York, NY.
- Synergy is real, but it is **difficult**

Collective Intelligence

Anita Woolley- Associate Professor of Organizational Behavior and Theory, Tepper School of Business, Carnegie Mellon University



Collective Intelligence

Woolley, A.W. et al. (2010). Science. Vol. 330; 686-688.

- Psychologists have repeatedly shown that a single statistical factor-general intelligence (g) or IQ- emerges from the correlations among people's performance on a wide variety of cognitive tasks and how that predicts performance on future tasks
- No one has systematically examined whether a similar kind of "collective intelligence" (c) exists for groups of people
- Hypothesis: groups, like individuals, have characteristic levels of intelligence (c) which can be measured and used to predict the group's performance on a wide variety of future tasks

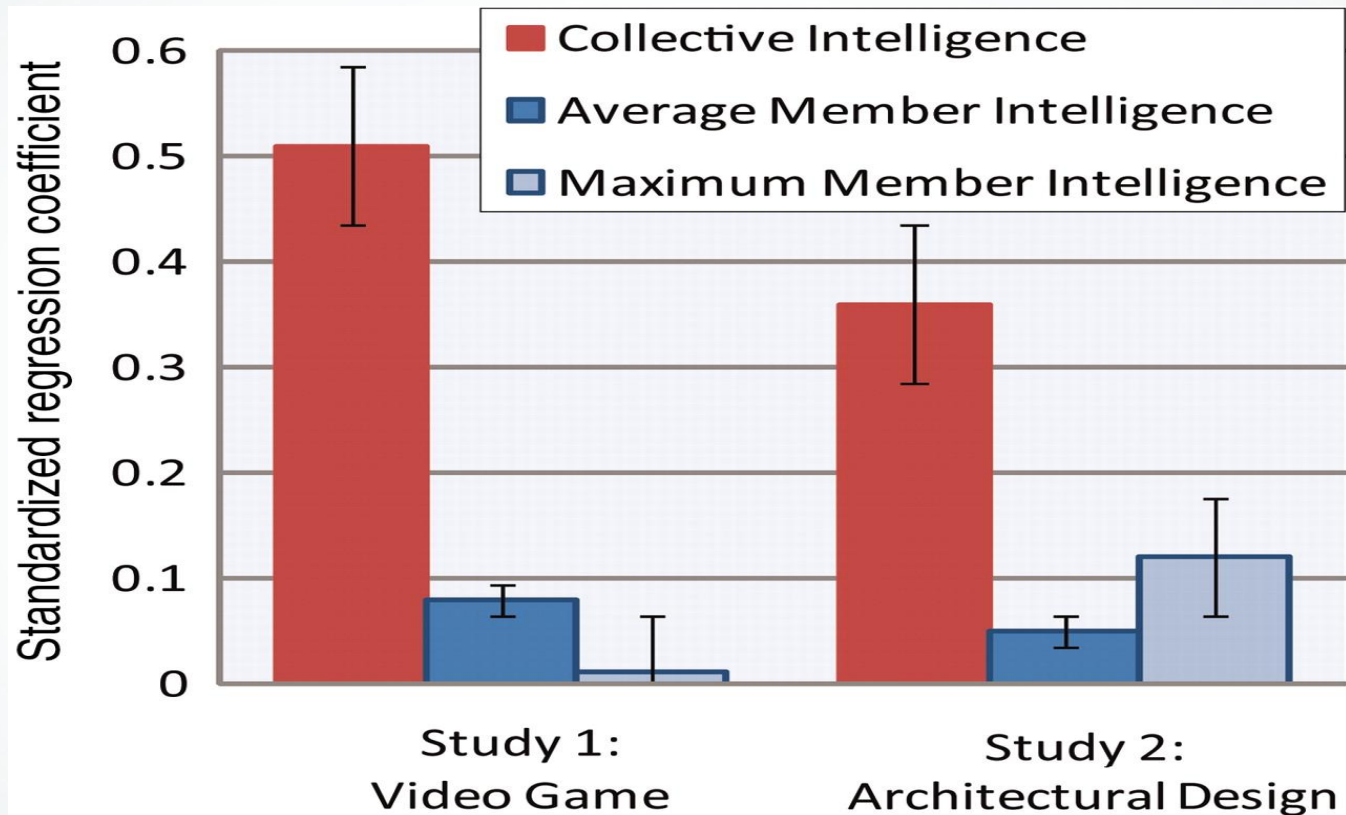
Collective Intelligence

- 2 studies, 699 people, working in groups of 2 to 5
- Collective intelligence is the inference drawn when the ability of a group to perform one task is correlated with that group's ability to perform a wide range of other tasks
- Specifically, determine whether the collective intelligence of the group as a whole has predictive power above and beyond what can be explained by knowing the abilities of the individual group members
- Collective intelligence is a property of the group itself, not just the individuals in it

Collective Intelligence

- Individuals completed tasks working alone- individual intelligence was a significant predictor of performance on the task ($r=0.33$, $P=0.009$)
- When the same task was performed by groups, the **average individual intelligence** of the group members was **NOT** a significant predictor of group performance ($r=0.18$, ns)
- When both individual intelligence and collective intelligence (c) are used to predict group performance, c is a significant predictor ($\beta=0.36$, $P=0.0001$), but average group member intelligence ($\beta=0.05$, ns) and **maximum member intelligence** ($\beta=0.12$, ns) are **NOT**

Collective Intelligence



Collective Intelligence

If SMART TEAMS are not simply teams of smart people, what leads to a collectively intelligent team?????

- Cohesion, motivation and satisfaction did not
- 3 factors significantly correlated with “c”
 - Positively correlated with average social sensitivity- measured by “Reading the Mind in the Eyes”
 - Negatively correlated with variance in speaking turns- measured by sociometric badges
 - Positively correlated with number of females in the group

Collective Intelligence

Reading the Mind in the Eyes

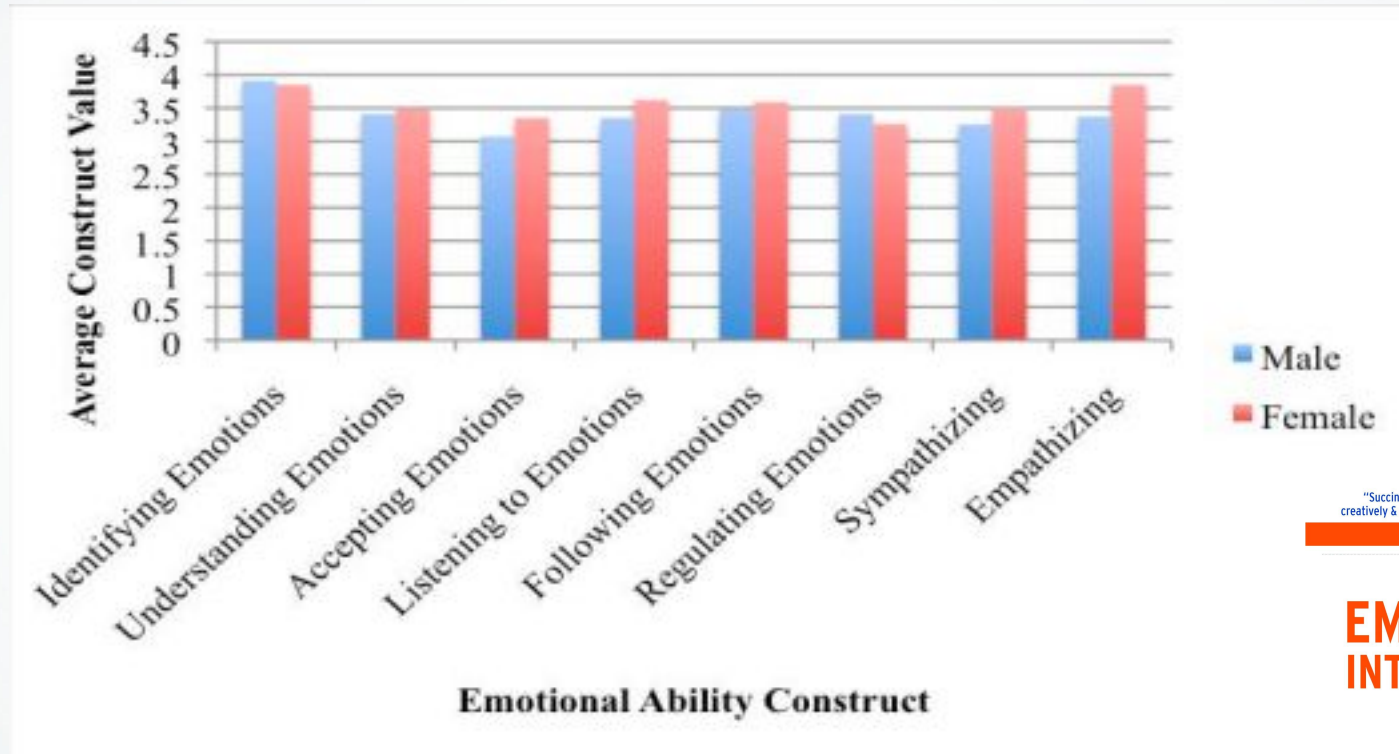


Collective intelligence

The Big 3

- Social perceptiveness: ability to infer others' mental states, such as beliefs or feelings, based on social cues. The average social perceptiveness of team members is predictive of “c”
- Greater amounts of participation and more equal participation are associated with higher “c”
- Females- generally more socially perceptive

Gender Differences in Emotional Intelligence



"Succinctly explains how to deal with emotions creatively & employ our intelligence in a beneficial way."

~ THE DALAI LAMA

EMOTIONAL INTELLIGENCE

2.0



INCLUDES A NEW & ENHANCED ONLINE EDITION OF

THE WORLD'S MOST POPULAR EMOTIONAL INTELLIGENCE TEST

TRAVIS BRADBERRY & JEAN GREAVES

INTERNATIONAL BESTSELLING AUTHORS OF
THE EMOTIONAL INTELLIGENCE QUICK BOOK

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Collective Intelligence

Conversational Turn Taking/Speaking up

- Likelihood of speaking up requires psychological safety
- “Sense of confidence that the team will not **embarrass, reject, or punish** someone for speaking up”
 - Edmondson, A.C. (1999). *Psychological Safety and Learning Behavior in Work Teams*. Admin Psy Q. 44(2):354.

Collective Intelligence

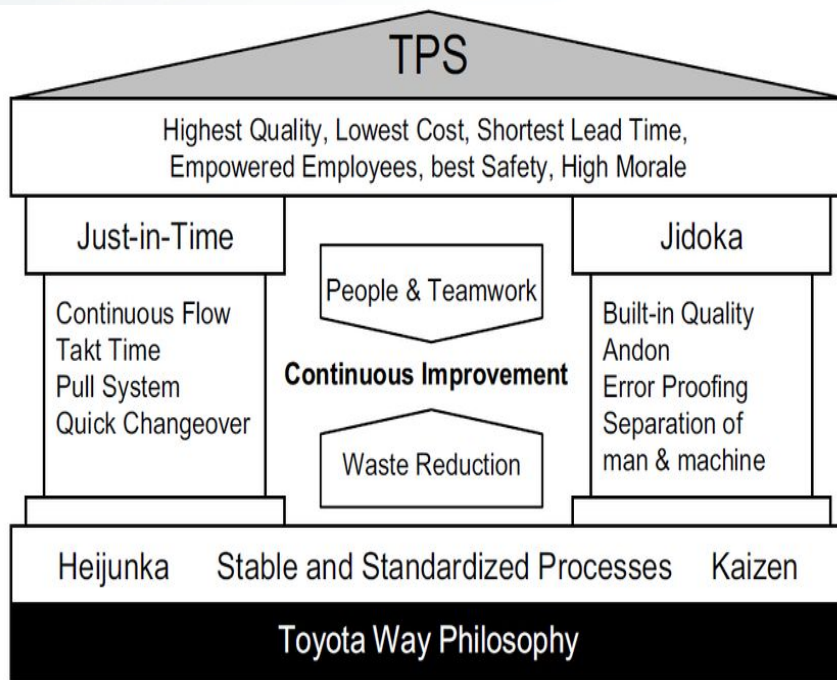
Speaking up

- Lack of psychological safety often from being in “lower status roles or professions” can lead team members to avoid speaking up even when they know they have something to contribute.
- Leader inclusiveness predicts psychological safety
- Psychological safety predicts engagement in quality improvement work
 - Nembhard, I.M, Edmondson, A.C. (2006). *Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement efforts in healthcare teams*. J Organ Behav. 27(7). 941-956

Stop the line

Jidoka- automation with a human touch

Work stops immediately when an error occurs



Toyoda Weft-Break Auto Stop

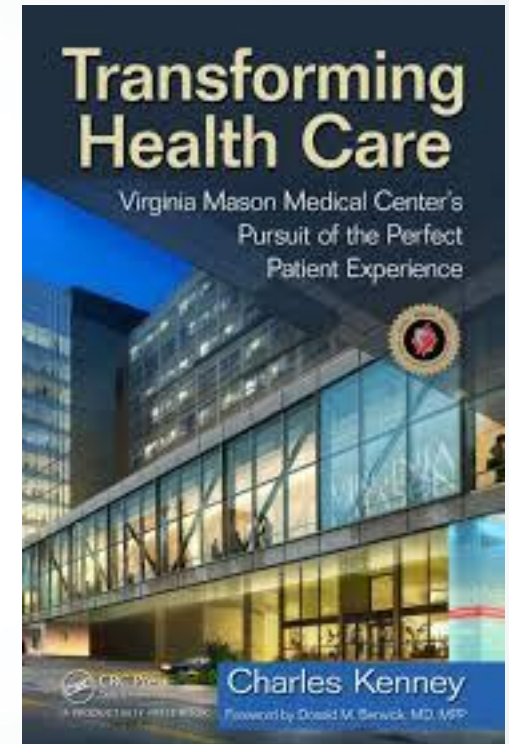
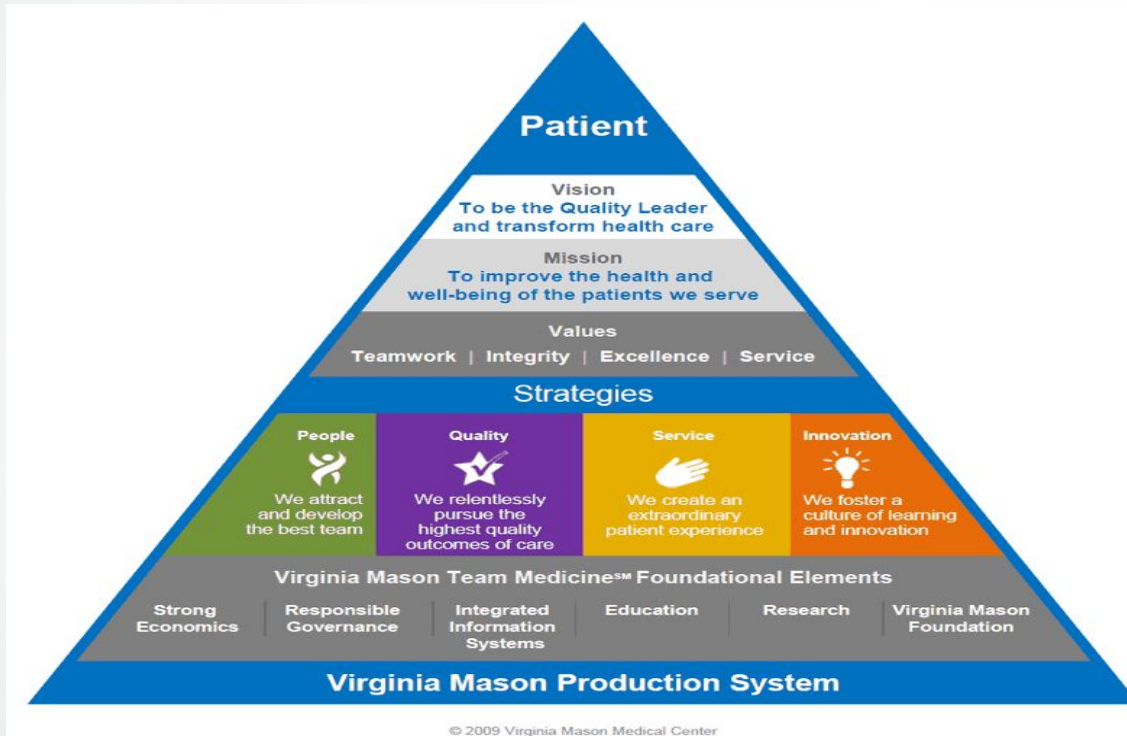
Sakichi Toyoda



*Also invented warp-break auto stop



Toyota Production System



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Leadership attributes that promote psychological safety

- Eliciting information from other team members- explicitly asking for contradicting viewpoints or un-discussed information *paradox mindset*
- Showing appreciation for members' contributions
- Providing constructive responses/feedback
- Researchers have consistently found that when members engage in inclusive behavior, other team members feel more psychologically safe and are more likely to speak up about relevant information
 - Edmondson, A.C. (2003). *Speaking up in the operating room: how team leaders promote learning in interdisciplinary action teams*. J Manage Stud. 40(6). 1419-1452.

“The currency of safety is information”- Ivan Pupulidy

- Learning environment- trust, sharing, flow of information
- Judgmental environment- pain, distrust, silence
- “Anything we do to degrade our ability to gather information affects the safety of the system”



What happens when we don't speak up

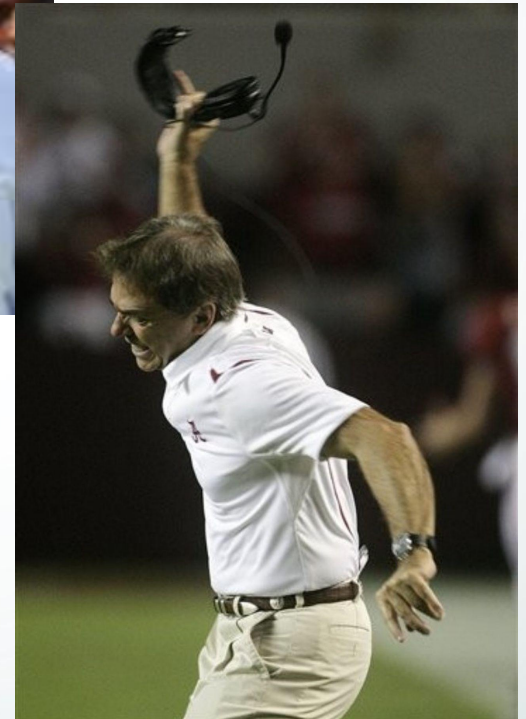
Korean Air Flight 801- August 6, 1997. 228 deaths.

CFIT- Controlled Flight Into Terrain

"Airport not in sight"- numerous times, minutes before impact

"Let's make a missed approach"- 5 seconds before impact





Successful Teams



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Teaming

- Amy Edmondson- Novartis Professor of Leadership and Management, Harvard Business School.
- Fast paced environments, shifting mix of projects, shifting team of partners



Teaming

ESTAMOS BIEN EN
EL REFUGIO los 33

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Teaming

- In contrast to stable teams, teaming involves fast paced environments where people work on a shifting mix of projects with a shifting team of partners.
- Teaming is about identifying essential collaborators and quickly getting up to speed on what they know so you can work together to get things done.
- This more flexible teamwork is on the rise because work is increasingly complex and interdependent, and the time between an issue arising and when it must be resolved is shrinking fast

Teaming

Characteristics of a teaming culture

Edmondson, AC. (2013) *The Three Pillars of a Teaming Culture*. Harvard Business Review.

Curiosity- drives people to find out what others know, what they bring to the table, and what they can add.

Passion- fuels enthusiasm and effort, makes people care enough to go all out.

Empathy- the ability to see another's perspective, which is critical to effective collaboration under pressure

Humble in the face of the challenge ahead- situational humility

Situational Humility

“It’s hard to learn if you already know. ***We are wired to think we know.*** When teaming works you can be sure that some leaders had been crystal clear that they didn’t have the answers.”

“It’s hard to speak up, to ask for help, or offer an idea that might be a stupid idea if you don’t know people very well. **Situational humility**, when combined with **curiosity**, creates a sense of **psychological stability** that allows you to take risks with strangers.”

Amy Edmondson

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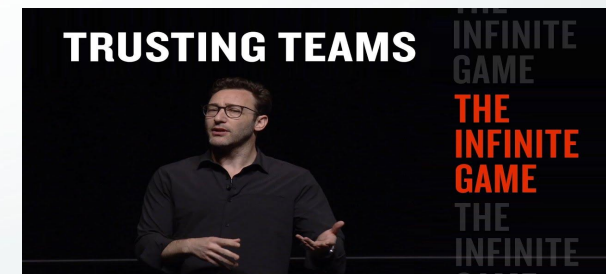


Simon Sinek- Trusting Teams

LEADERSHIP IS NOT- how can I get the most out of my people?

LEADERSHIP IS- how can I create an environment where my people can work at their natural best?

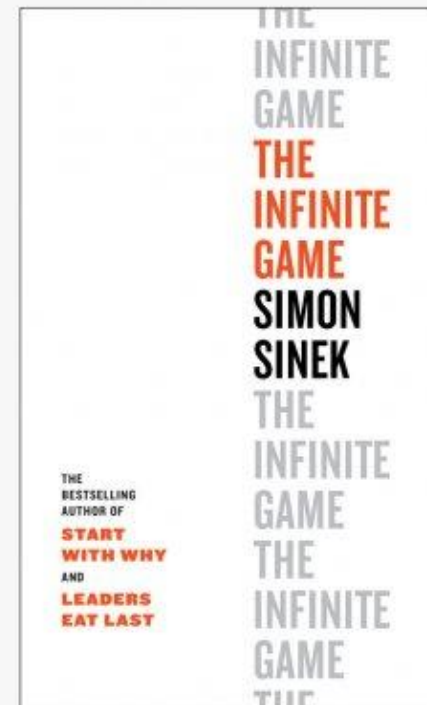
- an environment where people aren't afraid to raise their hands and say, "I made a mistake", "I need help, I don't know what I'm doing", "I'm having trouble at home and it's affecting my work", "I'm scared".
- no fear of humiliation, retribution, or firing
- expectation that bosses and colleagues will rush to your aid



Trusting Teams

“If you DO NOT have trusting teams, what you DO have is a group of people who show up to work every single day LYING, HIDING, and FAKING.”

Simon Sinek



Mutual Learning vs Unilateral Control Mindset

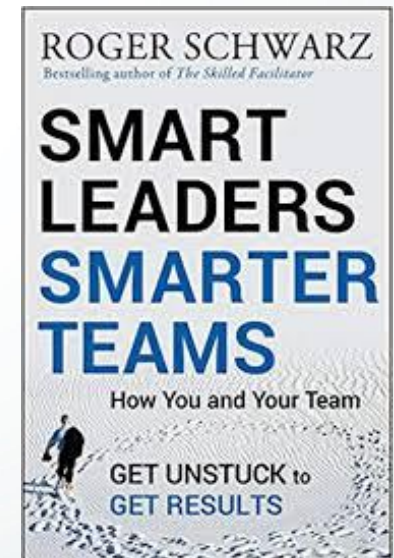
UNILATERAL CONTROL

Values

- Be right
- Win, don't lose
- Minimize expressions of negative feelings
- Act rational

Assumptions

- I understand the situation; those who disagree don't
- I am right; those who disagree are wrong
- I have pure motives; those who disagree have questionable motives
- My feelings and behaviour are justified
- I am not contributing to the problem



Mutual Learning vs Unilateral Control Mindset

Mutual Learning Model*

Core Values

- Transparency
- Curiosity
- Accountability
- Informed choice
- Compassion

Assumptions

- I have some information, others have other information
- Each of us may see things the others do not
- Differences are opportunities for learning
- People may disagree with me and have pure motives

Strategies (Ground Rules)

- State views and ask genuine questions
- Share all relevant information
- Use specific examples and agree on what important words mean
- Explain reasoning and intent
- Test assumptions and inferences
- Focus on interests not positions
- Jointly design the next steps
- Discuss undiscussable issues
- Use a decision-making rule that generates the level of commitment needed

Results

- Increase learning and understanding, reduce unproductive conflict and defensiveness
- Increase trust
- Help people make better decisions and stick to them
- Decrease time to implement decisions
- Improve working relationships
- Increased quality of work life – group member satisfaction

*Based on research of Argyris and work of Roger Schwarz

Freudenfreude

- “the bliss we feel when someone else succeeds”
- “closely resembles positive empathy- the ability to experience someone else’s positive emotions”
 - can foster resilience
 - can improve life satisfaction
 - can help people cooperate during a conflict



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The New York Times

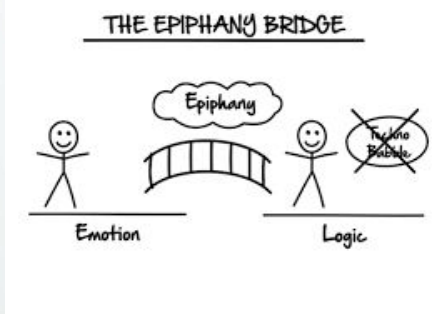
[SUBSCRIBE NOW](#) | [LOG IN](#)

The Opposite of Schadenfreude Is Freudenfreude. Here's How to Cultivate It.

The joy we derive from others' success comes with many benefits.

Anesthesia Care Team Optimization Committee

- Facilitated discussions between MDs and CRNAs
- Early sessions- listening only
- Discovered common goals, understood different perspectives
- “Epiphany bridge”
- Working together to jointly redefine future state of UAB Anesthesia Care Team built upon common mission, vision, and core values



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ACTOC



Blazing the trail to unparalleled perioperative team care

- Clinical Taskforce initiative
- Vetted and approved by UABHS M (brand approval)
- 5x7 laminated cards for ORs and clinics and posters for conference rooms
- Next steps: Installation!

ANESTHESIA CARE TEAM COMMUNICATION: WHAT YOU NEED TO KNOW

PREOPERATIVE

- ☒ What Type of Anesthetic?
- ☒ Airway Plan & Equipment Needed
- ☒ Invasive Lines?
- ☒ Required Additional Monitoring?
- ☒ Who Is in the Room? Student?
- ☒ Who Will Do Each Procedure?

INTRAOPERATIVE

- ☒ BP Goals (MAP >65 unless otherwise discussed)
- ☒ Notify if Escalating Vasopressor Use
- ☒ Notify if Blood Loss Greater Than 1000 CCs, Unless Otherwise Discussed
- ☒ Labs (ABG, glucose frequency)

EMERGENCY

- ☒ Notify Before Emergence (Policy is to notify at procedure finish)
- ☒ Awake vs. Deep
("Deep" extubation should be discussed with the attending.)

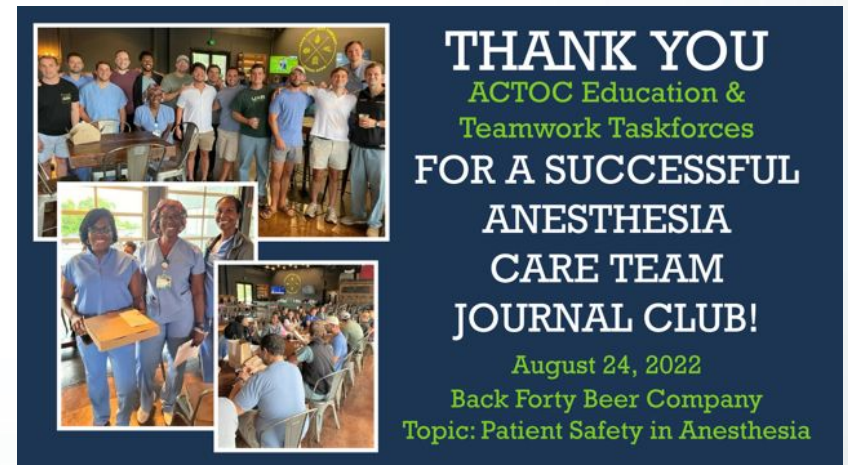
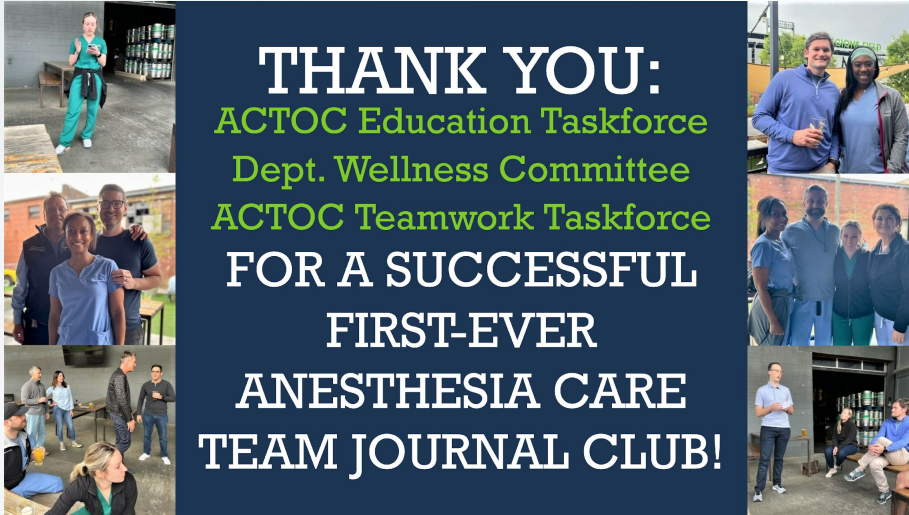


This checklist was created by the ACTOC Clinical Taskforce to help improve communication in the OR.

Have thoughts or suggestions? Scan the QR code and let us know.

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The University of Alabama at Birmingham

ACTOC Interprofessional Journal Club



ACTION

ANESTHESIOLOGY CARE TEAM
INTERPROFESSIONAL OPTIMIZATION NETWORK



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TRANSITION TO PRACTICE

ANESTHESIOLOGY & PERIOPERATIVE MEDICINE



The University of Alabama at Birmingham

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Transition to Practice Curriculum

- Quarterly evening sessions beginning 9/2020
- Needs Assessment- Outgoing Resident Interviews, IRB Approval

Business Topics

- Choosing the Right Job
- Malpractice Insurance
- Billing and Compliance
- Healthcare and Contract Law
- Personal Finance

Transition to Practice Curriculum

Social Emotional Learning topics

- Emotional Intelligence
- Life and Personal Strategy
- Physician Burnout, Addiction, Suicide, Wellness
- Conflict Resolution
- Leadership and Teamwork
- Thriving at Work

Transition to Practice Curriculum

All residents and fellows are invited to

LEADERSHIP & TEAMWORK

Inaugural Session of the
Transition to Practice Series

Virtual Meeting
Wednesday, September 16th
4:30-6 P.M.

Presented by Drs. Matthew Sherrer, Dan E. Berkowitz, Juhan Paiste and David Miller

Email velison1@uabmc.edu for the Zoom link.

DEPARTMENT OF ANESTHESIOLOGY AND
PERIOPERATIVE MEDICINE



All residents and fellows are invited to

The Second Session of the Transition to Practice Series

Virtual Meeting
Wednesday, December 2, 2020
4:30-6 P.M.

"Personal Finance"
with Patrick Morgan, CFP and
Senior Vice President Morgan Stanley

Email velison1@uabmc.edu for the Zoom link.

DEPARTMENT OF ANESTHESIOLOGY AND
PERIOPERATIVE MEDICINE



All residents and fellows are invited to

The Third Session of the Transition to Practice Series

Virtual Meeting
Wednesday, March 10th
4:30-6 P.M.

"Emotional Intelligence"
featuring Elizabeth Duggan, M.D., and
Matthew Sherrer, M.D.

Please contact Victoria Elison for the Zoom link.

DEPARTMENT OF ANESTHESIOLOGY AND
PERIOPERATIVE MEDICINE



All residents and fellows are invited to

The Fourth Session of TRANSITION TO PRACTICE

Virtual Meeting
Wednesday, May 19
4:30-6 P.M.

Topic: Healthcare Law
Speaker: Dan Murphy, Esq. of Murphy, Bradley, Arandt, Boulton and Cummings

Please contact Victoria Elison for the Zoom link.

DEPARTMENT OF ANESTHESIOLOGY AND
PERIOPERATIVE MEDICINE



All residents and fellows are invited to

TRANSITION TO PRACTICE

Virtual Meeting
Wednesday, September 29, 2021
4:30-6 P.M.

Topic: The Pathophysiology of Addiction
Speaker: Brent Boyett, DMD, DO DFASAM

Please click [here](#) to join or contact Victoria Elison
at velison1@uabmc.edu for the Zoom link.

DEPARTMENT OF ANESTHESIOLOGY AND PERIOPERATIVE
MEDICINE



Department of Anesthesiology and
Perioperative Medicine

All Residents and Fellows are invited to:

TRANSITION TO PRACTICE

**"Advocacy in
Anesthesiology"**

Presented by Dr. Matt Sherrer and Richard Carson,
Executive Director, Alabama State Society of
Anesthesiologists

November 2nd, 4:30-6:00 pm

Cahaba Brewing Company, Taproom,
4500 5th Ave S Building C, Birmingham, AL 35222

Please RSVP to Jessica Schultz at jschultz@uabmc.edu

Monday, December 6, 2021

UAB Department of Anesthesiology
and Perioperative Medicine

GRAND ROUNDS
3:30 – 5:00 pm VIA ZOOM

Core Curriculum:

Transition to Practice

*The Business of Anesthesia:
Practice Management, Billing & Contracting*

Julie McCary, MBA

DISCLOSURE: Department of Anesthesiology, Perioperative Medicine, and Pain Management. The University of Alabama at Birmingham School of Medicine. The University of Alabama at Birmingham School of Medicine is an equal opportunity/affirmative action institution.

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Next Steps

- Communication tool
- Lunch and Learn
- Team Meals
- Lights Camera Action
- JJC

Wrapping up

- Unilateral control isn't the only form of leadership
- Smart teams aren't simply collections of smart people on a team
- Work on social sensitivity, empathy- seek first to understand...
- Encourage speaking up by creating psychological safety
- Elicit ideas, show appreciation, provide constructive feedback
- Try to understand others' views- "I could be wrong"
- Be suspicious of any plan that involves omitting a group altogether-
 - WE is greater than ME!!!

We can see things completely differently....and both be **RIGHT**

- “Gestalt switch”
- Are perceptions cognitively impenetrable?????

“

The test of a first-rate intelligence is the ability to hold two opposed ideas in mind at the same time and still retain the ability to function.

— F. SCOTT FITZGERALD

SPACIOUSQUOTES.COM



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Thank you

“The formation of ideas is shaped more by the iterative interplay within the group than by an individual tossing in a wholly original concept. The sparks come from ideas rubbing against each other rather than as bolts out of the blue.”

Isaacson, W. (2014). *The Innovators: How a group of hackers, geniuses, and geeks created the digital revolution*. Simon and Schuster, US.

Questions?

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