Leadership in Surgery: What Can We Learn From Organization Science?

Michigan Medicine Department of Surgery Grand Rounds
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Agenda

Vicarious Learning in Medicine
Brief Highlights from Recent Research

Bringing Leadership Research & Organization Science to the Surgical Profession
Why Bridge These Domains? Why Now?
Challenges of Leadership & Management in Surgery
Three Potential Paths Forward

Disclosures
I have no relevant financial relationships or conflicts of interest to disclose.
Vicarious Learning: Interpersonal learning interactions that allow individuals to share perspectives and co-construct an understanding of others’ experiences.
My Research

Vicarious Learning: Interpersonal learning interactions that allow individuals to share perspectives and co-construct an understanding of others’ experiences.
How Do We Enact Vicarious Learning in Medicine?
It gives me real time surgical feedback from my peers on a level that isn’t possible any other way. Not only do I learn but others can simultaneously learn from my mistakes and not repeat them. It permits rapid dissemination of helpful and new techniques which make me a better surgeon for my patients.
Today's Main Focus:

Bridging Organization Science and Surgery
Why Bring Organization Science to Surgery?
Pop Quiz - What Year Was This Written?
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Causes and Sources of Error in Medicine:
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Organization Science in Surgery

3 Waves of Innovation in Patient Safety
Technical and procedural improvements have made surgery safer, but future innovation will focus on reliably organizing the work of patient care.

- **Standardizing procedures**
  - Implementing process checklists
  - Measuring and reporting process compliance
  - Quality measurement and feedback

- **High reliability organizing**
  - Attention to frontline practices and behaviors
  - Leadership support for responding to and learning from errors
  - Cultural shift toward teamwork and care coordination

- **Technical advancements**
  - Improved surgical techniques
  - Novel medical therapies
  - More focused training

SOURCE: AMIR GHAFERI ET AL.

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Management Skills in Medical Training?

Lack of education in management skills and development of leadership abilities inhibits health care organizations from being fully effective

Leaders often selected based on clinical skill, rather than interpersonal abilities, resulting in a “double loss”

Incorporating management skills into medical training

Example: Interpersonal skills simulations

Incorporated into selection/assessment as well as ongoing development efforts

Figure 1. Dual processes promoting resident effectiveness.
Interpersonal Skills Matter

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Randomized trial of *incivility* in NICU simulation teams

24 teams (1 MD + 2 RN) randomly exposed to rude or neutral comment from “expert” by video:

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“not impressed...wouldn’t last a week in my department.”
What Happened?

Rude Comment

Information Sharing

Help Seeking

Diagnostic Performance

Procedural Performance

What Happened?

Rude Comment

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17% Decrease in Diagnostic Performance
15% Decrease in Procedural Performance

Incivility Among Surgeons

Postoperative complications of 32,125 patients treated by 817 surgeons who received varying numbers of “unsolicited patient observations”
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“I witnessed a tense exchange between Dr. Z and a nurse. It was difficult to watch someone try to humiliate another person like that.”

Unsolicited Patient Observations (prior 24 mos.)

↑ Odds of Surgical Complication
↑ Odds of Medical Complication
↑ Odds of Readmission

Not all Bad News…

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Team Level e.g., effectively communicating and coordinating care team, etc.

Reduced Burnout, Greater Physician Satisfaction

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Getting Leadership Right Makes a Difference

**Team Level** e.g., effectively communicating and coordinating care team, etc.

- **Reduced Burnout, Greater Physician Satisfaction**

**Organization Level** e.g., designing systems and processes for training, retention, etc.

- **Better Clinical Outcomes, Lower Mortality, Greater Patient Satisfaction, Improved Financial Performance**

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Incorporating Leadership & Organization Science into Surgery...

...Three Thoughts for Research & Practice
Caveat: Choir-mates
LOOK INSIDE

THREE THOUGHTS
1. Look Inside

Myers CG, Lu-Myers Y, Ghafer AA. BMJ. Forthcoming.
1. Look Inside

Ego-oriented Attitudes and Behaviors Are a Threat to Patients and Providers
1. Look Inside

“Arrogant” surgeon fined for writing his initials on patients’ livers

Clare Dyer

The BMJ

A senior consultant surgeon who branded his initials on the new livers of two anaesthetised transplantation patients has been fined £10 000 after admitting assault at Birmingham Crown Court.

In a case described by prosecutors as “without legal precedent in criminal law,” Simon Bramhall was also sentenced to a 12 month community order and ordered to carry out 120 hours of unpaid work.

Bramhall’s actions came to light when one of the livers failed, He was initially charged with assault occasioning actual bodily harm but prosecutors accepted guilty pleas to the lesser charge of “assault by beating.”

Sentencing him, Judge Paul Farrer QC said, “Both of the operations were long and difficult. I accept that on both occasions you were tired and stressed and I accept that this may have affected your judgment.

“This was conduct born of professional arrogance of such magnitude that it strayed into criminal behaviour. What you did
1. Look Inside

Ego-oriented Attitudes and Behaviors Are a Threat to Patients and Providers

Extreme (and rare) examples draw a lot of attention, but more subtle attitudes and behaviors disrupt care everyday:

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Data suggests a nugget of truth to this “Surgeon Ego” with consequences for team well-being, recruiting, and patient care.
Insights from Organization Science

Narcissism & Arrogance in Organizational Research:

Higher levels of arrogance = worse performance

Meta-Analytic Evidence:

Greater narcissism = more counterproductive work behavior and worse performance

Particularly among those in authority

LeBreton JM, Shiverdecker LK, Grimaldi EM. Ann Rev Organ Psychol Organ Behav 2018;5:387–414
Bridging Organization Science & Surgery

Research on Combatting Arrogance & Ego as Leaders

**Leader humility** = *better performance; engagement, satisfaction, retention* of team members


Research on Combatting Arrogance & Ego as Leaders

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Hierarchy and status differences can inhibit **psychological safety**

**Leaders can enhance psychological safety by:**
- Acknowledging own fallibility
- Reducing salience of status differences
- Setting appropriate tone for discussion
- Managing information channels

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LOOK AROUND

THREE THOUGHTS
2. Look Around
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Barriers Facing Women Impede Delivery of High Quality Care

Well-documented barriers & pressures facing women in medicine, despite evidence that women provide superior patient care

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Women in Surgery

Patients treated by female surgeons have lower 30-day mortality (some data also showing fewer complications, readmissions, and shorter length-of-stay).

*Recent evidence of different levels of OR cooperation based on team gender composition*
2. Look Around


![Graph showing mean percent cooperation by percent of males in OR.](image)

**Fig. 2.** Mean (± SE) overall cooperative behavior as a percentage of all communications in the OR by gender composition of the team.
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Barriers in Surgery: Female trainees provided with less autonomy (as rated by attending surgeon and residents) in thoracic surgery

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Insights from Organization Science

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**Research**: Female patients experience larger differences in outcomes between male and female Emergency Department physicians.
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**Fig. 1.** Gender concordance and patient survival: results from Table 2, column 3, 90% confidence interval displayed. Estimates include controls and hospital quarter fixed effects. Covariates held at sample means. $n = 581,797$. 


Myers CG, Sutcliffe KM. *Harv Bus Rev*. August 2018.

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But, working with more female colleagues can help male physicians close the gap

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Growing evidence for the benefit of bringing multiple perspectives to bear on complex issues in organizations
Bridging Organization Science & Surgery
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How Do We Surface, Share, and Support Differing Perspectives in Organizations?

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1. Increase the diversity of lenses brought to bear on an issue (intra- or inter-personally)

AKA: Increase the diversity of surgeons (in terms of gender, race, ethnicity, religion, etc.)
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**AKA:** Increase the diversity of surgeons (in terms of gender, race, ethnicity, religion, etc.)

2. Create an environment that supports perspective sharing and effective communication among team members

**Research:** Enhancing minority influence in teams requires coordinated, congruent efforts:

- **Processes** Clear tools for expressing divergent perspectives
- **Advocates** Role of organizational leader or coalitions
- **Formal incentives/mechanisms** Part of leaders’ performance evaluations


LOOK OUTSIDE

THREE THOUGHTS
3. Look Outside
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Resistance to Outside Ideas in Medicine

NIH Syndrome: Not-Invented-Here

“Medicine is different”
“Unless you’ve done it, you don’t get it”

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Perhaps suitable for clinical issues, but not useful in the face of complex, interdependent organizational issues of the “third wave”.

A hundred years ago, Albert Einstein upended physics with his general theory of relativity, revealing that the straightforward world Newton had described was mind-bendingly more complex. In October 2017, the Nobel Prize in Physics was awarded to Rainer Weiss for a comparable conceptual leap, demonstrating that our current model of human decision making is far too simple to explain reality. Like the earlier efforts of behavioral economists such as Amos Tversky and Daniel Kahneman, Thaler’s work explained that people often don’t make choices by acting as the rational balancers of risk and reward assumed by classic economics. That work, along with the insights of more conventionally oriented scholars of decision making, has profound implications for medicine. Modern physics acquired and built on the implications of Einstein’s work, and contemporary economics is grappling with applying the perspectives of Thaler and his colleagues. So much of medicine has yet to integrate the implications of current research on decision making, even though clinical practice is all about making the right choices.

The key problem in medicine’s ongoing assumption that clinicians and patients are, in general, rational decision makers. In reality, we are all influenced by seemingly irrational preferences in making choices about reward, risk, time, and trade-offs that are quite different from what would be predicted by economics, if predicted at all. Quantitative calculations. Although physicians sometimes make decisions, if all humans are prone to irrational decision making, all clinicians are humans, then these insights must have important implications for patient care and health policy. There have been some isolated innovative applications of these understanding in medicine, but despite a growing number of publications about the psychology of decision making, most medical care — at the bedside and at the systems level — is still based on a “rational actor” understanding of how we make decisions.

The choices we make about prescription drugs provide one example of how much further medicine could go in taking advantage of a more nuanced understanding of decision making under conditions of uncertainty — a description that could define the
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The key problem is medicine’s ongoing assumption that clinicians and patients are, in general, rational decision makers. In reality, we are all influenced by seemingly irrational preferences in making choices about health, risk, time, and trade-offs that are quite different from what would be predicted by biostatistics, if predictions were possible. Although we physicians sometimes mock the physicians, if all humans are prone to irrational decision making, and all clinicians are human, then these insights must have important implications for patient care and health policy.

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An Unfair Example

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We frequently must make choices by acting in the national decision-making environment. In reality, we are all influenced by seemingly irrational processes in making choices about reward, risk, time, and trade-offs that are quite different from what would be inferred from the sciences we’re accus-

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An audio interview with Dr. Avorn is available at NEJM.org
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Judgment under Uncertainty: Heuristics and Biases

Biases in judgments reveal some heuristics of thinking under uncertainty.

Amos Tversky and Daniel Kahneman

27 September 1974
Vol. 185, No. 4157

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Perspective

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THINKING, FAST AND SLOW

DANIEL KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS

2011

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2018

JOHNS HOPKINS CAREY BUSINESS SCHOOL

2018
Insights from Organization Science
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Learning from Other Disciplines Lies at the Root of Innovation

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Requires a Shift from NIH to PFE: “Proudly Found Elsewhere”*

*Proudly adopted from studies of R&D teams

Which Brings Us Full Circle...
Leading for Vicarious Learning in Surgery
Thank You!

Questions?

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