Antimicrobial Stewardship, Infection Prevention & Implementation Science Symposium

JULY 7, 2023 | 8:30 AM – 1:00 PM

MISSOURI HISTORY MUSEUM | AT&T MULTIPURPOSE ROOM

Implementing Behavior Change in Healthcare Epidemiology and Antimicrobial Stewardship… The Worst That Can Happen is You Fail

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Disclosures

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- Pfizer Pharmaceuticals
- Biovigil LLC
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- Cardinal Healthcare
- Molnlycke Health Care
- AO (Orthopedic) Foundation Grant
- VDH COVID-19 Research Grants

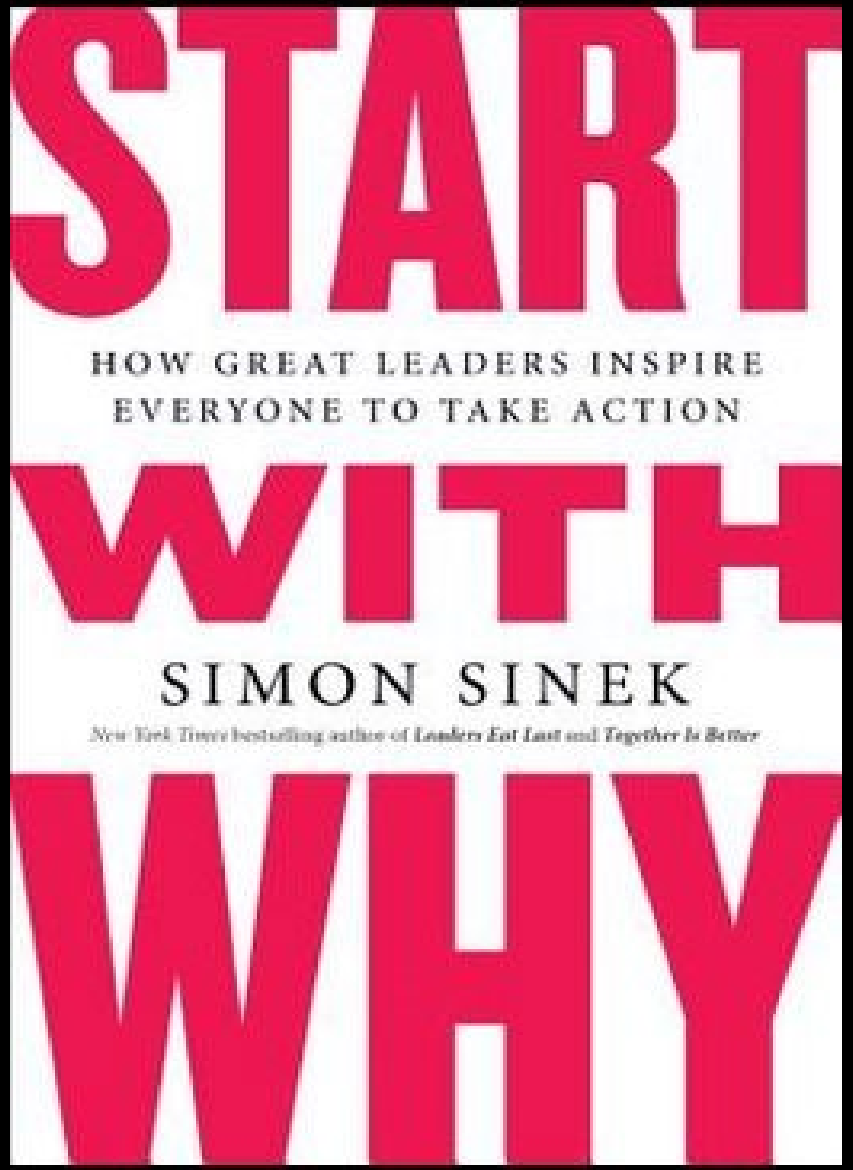
You can't let fear paralyze you. The worse that can happen is you fail but guess what: You get up and try again. Feel that pain, get over it, get up, dust yourself off and keep it moving.

Queen Latifah

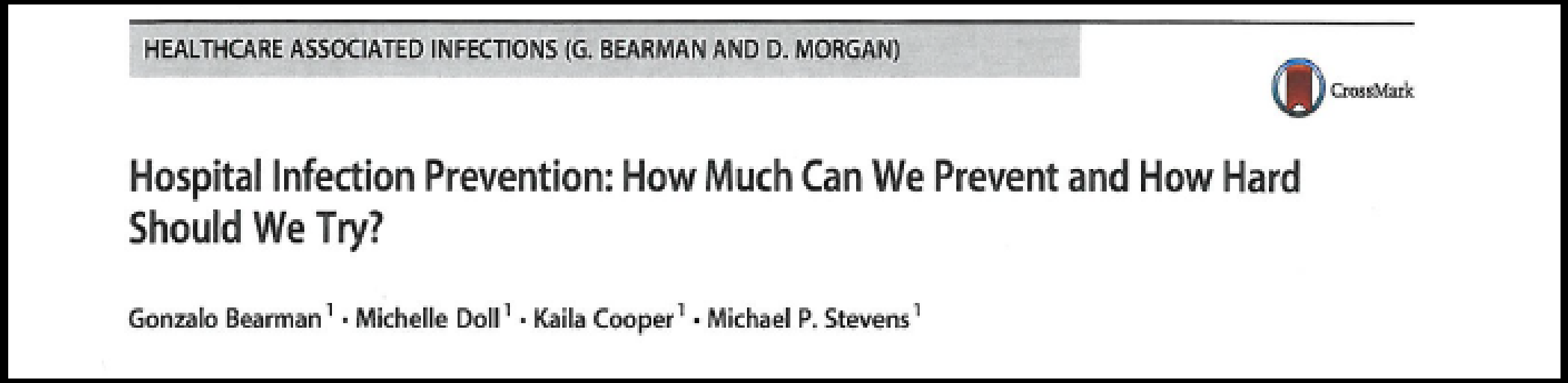
Objectives:

- Explore important yet underemphasize themes in affecting organizational change…
  - Start with Why?
  - Assess how best to communicate, persuade, influence, manage expectations, highlight small wins and sell outcomes
  - Understand common obstacles to your success and how to overcome them; keeping leaders focused
  - Positive deviance change agents, importance of engaged teams
  - Leveling up: sell your work at the podium and publish your success AND “failures”

Start with Why?



Ask **WHY** you are doing what you do (deliberate) …this sets the intent for *everything*



- As first tenet of medicine is do no harm:
  Infection prevention programs should relentlessly pursue reliable, sustainable, and practical strategies for heightened patient safety

Bearman G et al *Curr Infect Dis Rep*. 2019 Feb 2;21(1):

Leveraging High-Quality Data is Necessary Yet Not Sufficient: Employ the Power (Science) of Persuasion

- Art of persuasion is the psychology of relationships and influence
- Six Key Principles of Persuasion:
  - Liking (Relationships)
  - Reciprocity (Model what you wish to receive)
  - Social Proof (Peer Pressure)
  - Consistency (Behavior aligns with values)
  - Authority (Deference to expertise)
  - Scarcity (Benefits to individual/group)

Cialdini RB. *Harvard Business Review,* October 2001

Be Clear on Expectations, Do Not Oversell Outcomes

Zero Hospital Acquired Infections

- 2011 point prevalence survey of US hospitals:
  - 4% of hospitalized patients with an HAI
- 2015 point prevalence survey of US hospitals:
  - 3.2% of hospitalized patients with an HAI
- Risk of having an HAI:
  - 16% lower in 2015 than in 2011

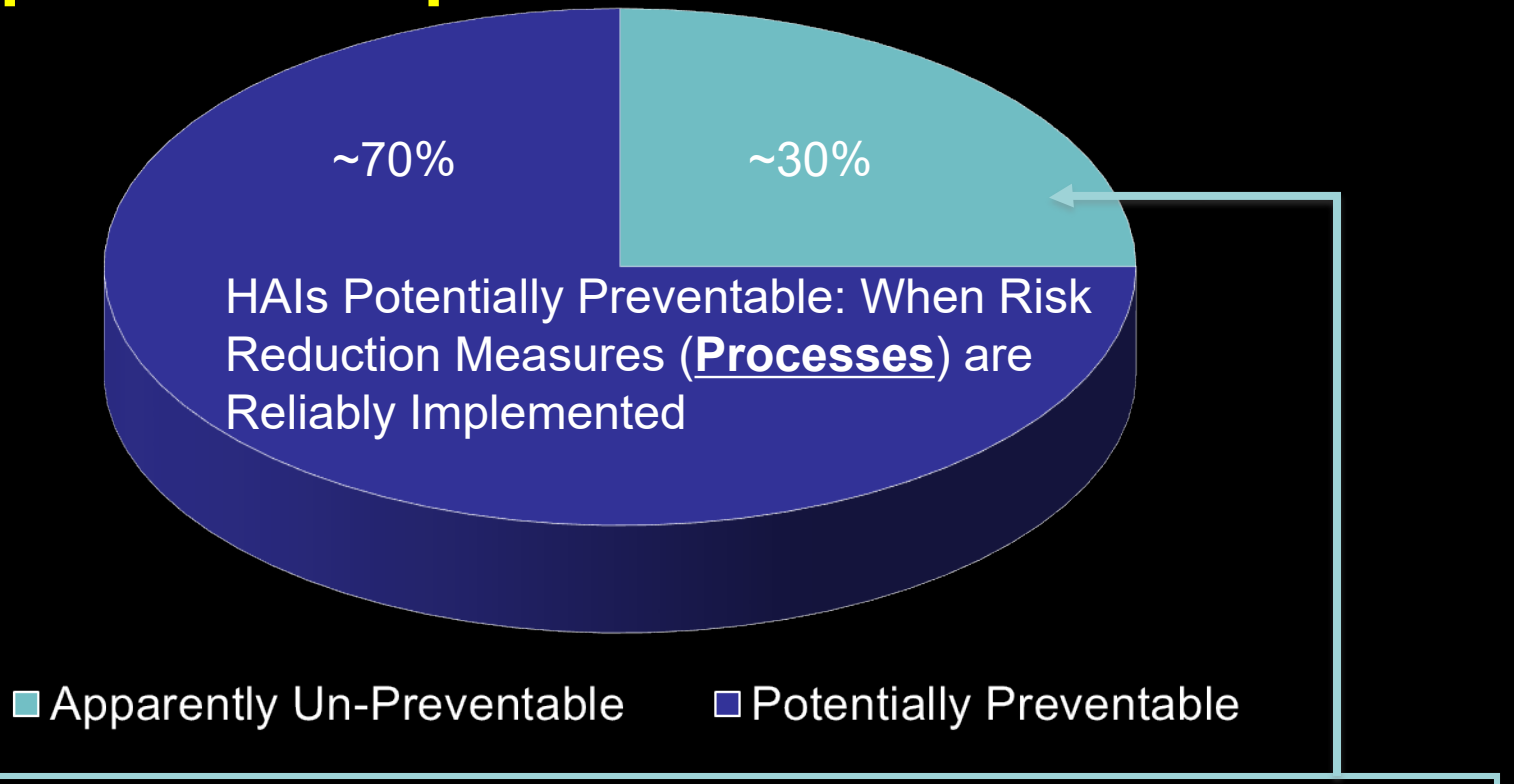
Magill SS et al. *N Engl Med* . 2018;379:1732-1744

How Much Can We Prevent HAIs?

- HAIs result in significant morbidity, mortality and cost- obligating us to act
- Getting to Zero HAIs is a soundbite
- Infection prevention science is inexact
  - Even high-quality studies have limitations
  - Processes are inconsistently implemented (endemic)
  - Diagnostic strategies and gaming can lead to inexact HAI incidence and false conclusions about preventability
  - Processes can be controversial (so what is the best practice?)

Bearman G et al *Curr Infect Dis Rep*. 2019 Feb 2;21(1):

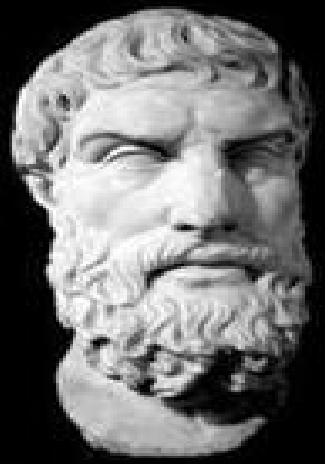
Preventable vs Un-Preventable Hospital Acquired Infections?



‘Apparently un-preventable’ HAI: infection despite every agreed upon measure for infection prevention being followed

Umscheid CA et al. *Infection Control and Hosp Epidemiol*, 2011 Feb;32(2):101-14 Bearman G et al *Curr Infect Dis Rep*. 2019 Feb 2;21(1): Dellinger E. P. Surgical Infections. 17 (4): 2016, 422-426

Be Clear on the Expectations: Overselling Outcomes Undermines Future Efforts



Happiness and freedom begin with a clear understanding of one principle. Some things are within your control. And some things are not.

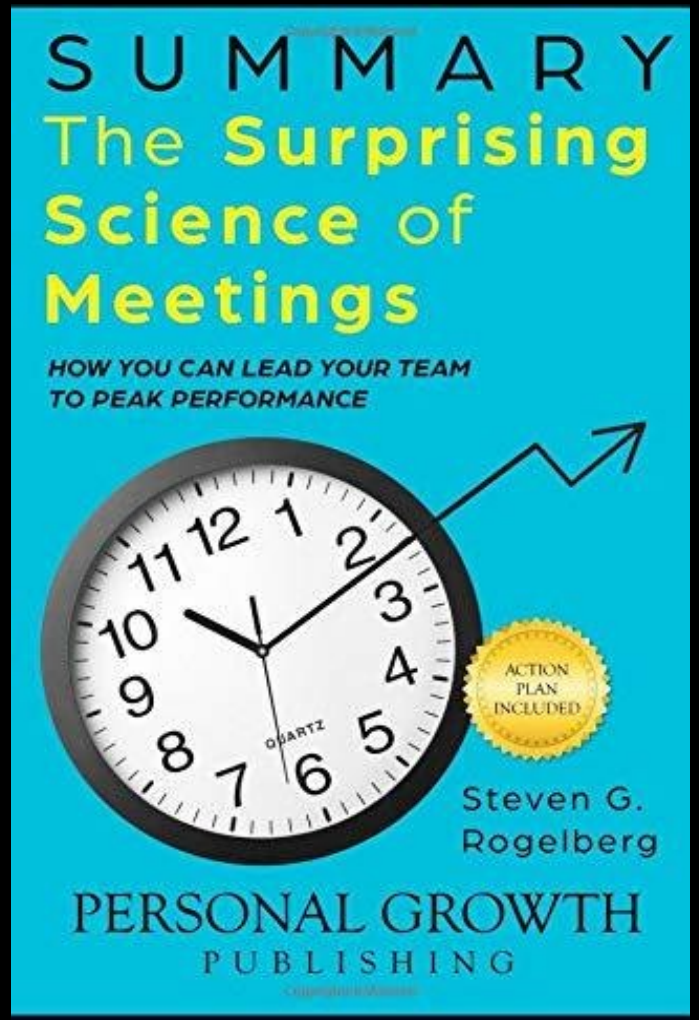
—Epictetus

Infection Prevention by Stoics: Be clear on what we can and cannot control with respect to infection control

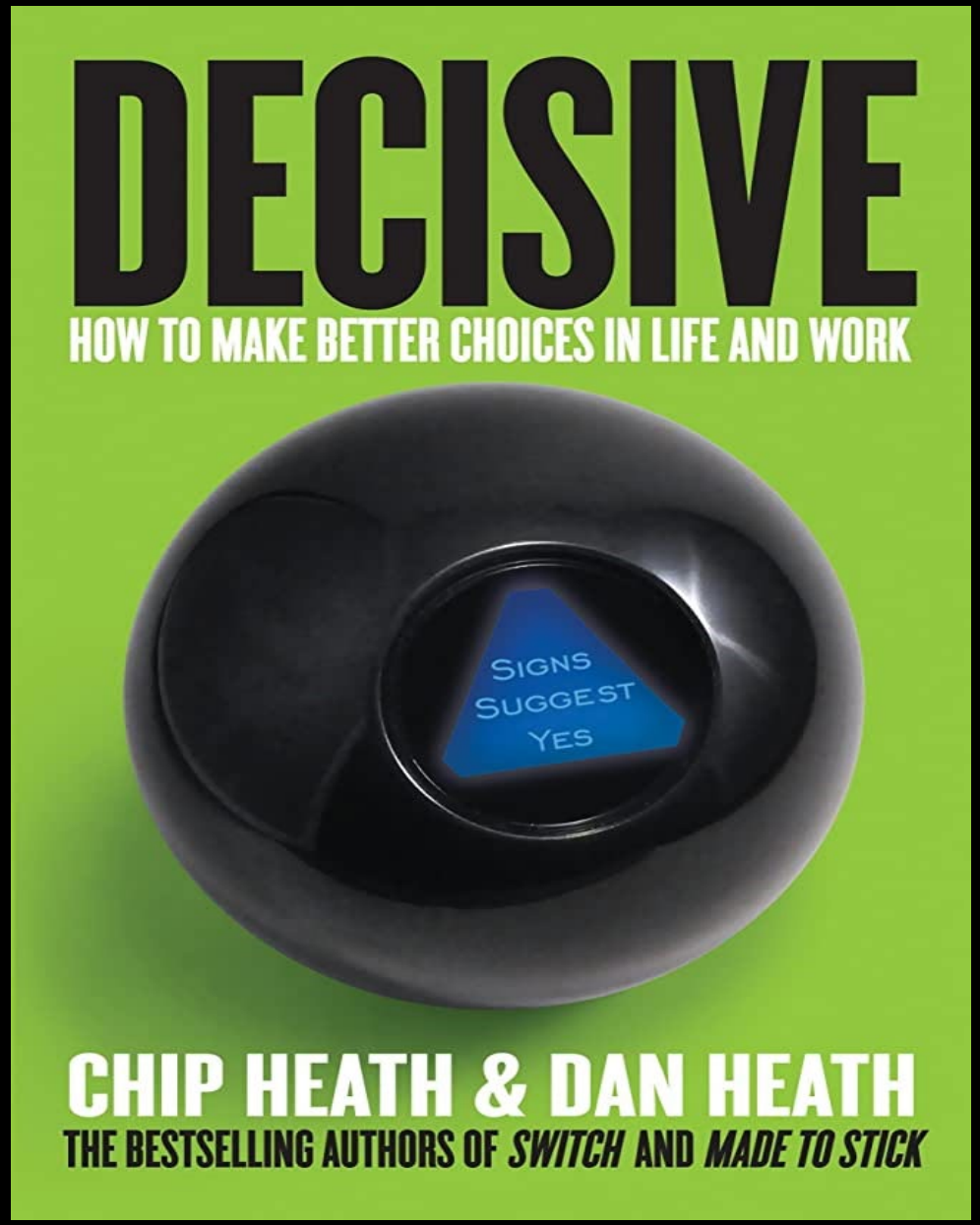
Beware of Ineffective Meetings, be a Content Expert AND Run Meetings with Skill

"*If you had to identify, in one word, the reason why the human race has not achieved and never will achieve, its full potential, that word would be meetings*" – Dave Barry, Humor Columnist

Serve as a content expert AND skilled meeting moderator- To Get Stuff Done



- Meetings are (too) frequent
- Poorly run meetings are abundant
- Eliminating all meetings not a viable alternative
- Effective meetings (generally):
  - Respect time
  - Include the appropriate individuals- diversity of backgrounds, perspectives, and training
  - Agenda with clearly defined goals
  - Skilled moderator for participant engagement and sharing of perspectives
  - Clear and understandable decisions, next steps, and timelines with accountability and a brief summary of the discussion (minutes)



Making Decisions is Critical

- Practical tool for better decisions in life and work:
  - Critical question:
    - "Rather than do this OR that, is there is a way to do this AND that?"
- Beware of narrow framing, confirmation bias and emotion
  - Results in bad decisions and *overconfidence*
- All decisions must be reality tested with counterpoints
  - Preferably by a diversity of stakeholders

Beware of Resistors and Constipators: Prepare to Push Beyond Barriers

How Active Resisters and Organizational Constipators Affect Health Care-Acquired Infection Prevention Efforts

- Qualitative study
- In-depth phone and in-person interviews conducted with 86 participants from 14 hospitals
  - CEOs, chiefs of staff, hospital epidemiologists, infection control professionals, intensive care unit directors, nurse managers, and frontline physicians and nurses

Saint S et al. Joint Commission J. Quality and Patient Safety, Volume 35, 2009 239-246(8)

How Active Resisters and Organizational Constipators Affect Health Care-Acquired Infection Prevention Efforts

- Study identified pervasiveness of:
  - "Active resisters"—personnel who vigorously and openly opposed various changes in IC practice
  - "Organizational constipators"- mid to high level executives who act as *insidious* barriers to change
- Active resisters and constipators were identified in <u>all</u> hospitals surveyed

Saint S et al. Joint Commission J. Quality and Patient Safety, Volume 35, 2009 239-246(8)

Pushing Beyond Resistors and Constipators: Implementation Considerations for Infection Prevention Best Practices

Gonzalo Bearman • Michael P. Stevens

- No single recipe exists for overcoming resistors and constipators
- Approach must be flexible, collaborative and involves:
  - High quality evidence, leaders, champions, facilitators, education, execution, evaluation, feedback and re-engagement

Bearman G and Stevens MP. *Curr Infect Dis Rep*. 2014 Jan;16(1):388

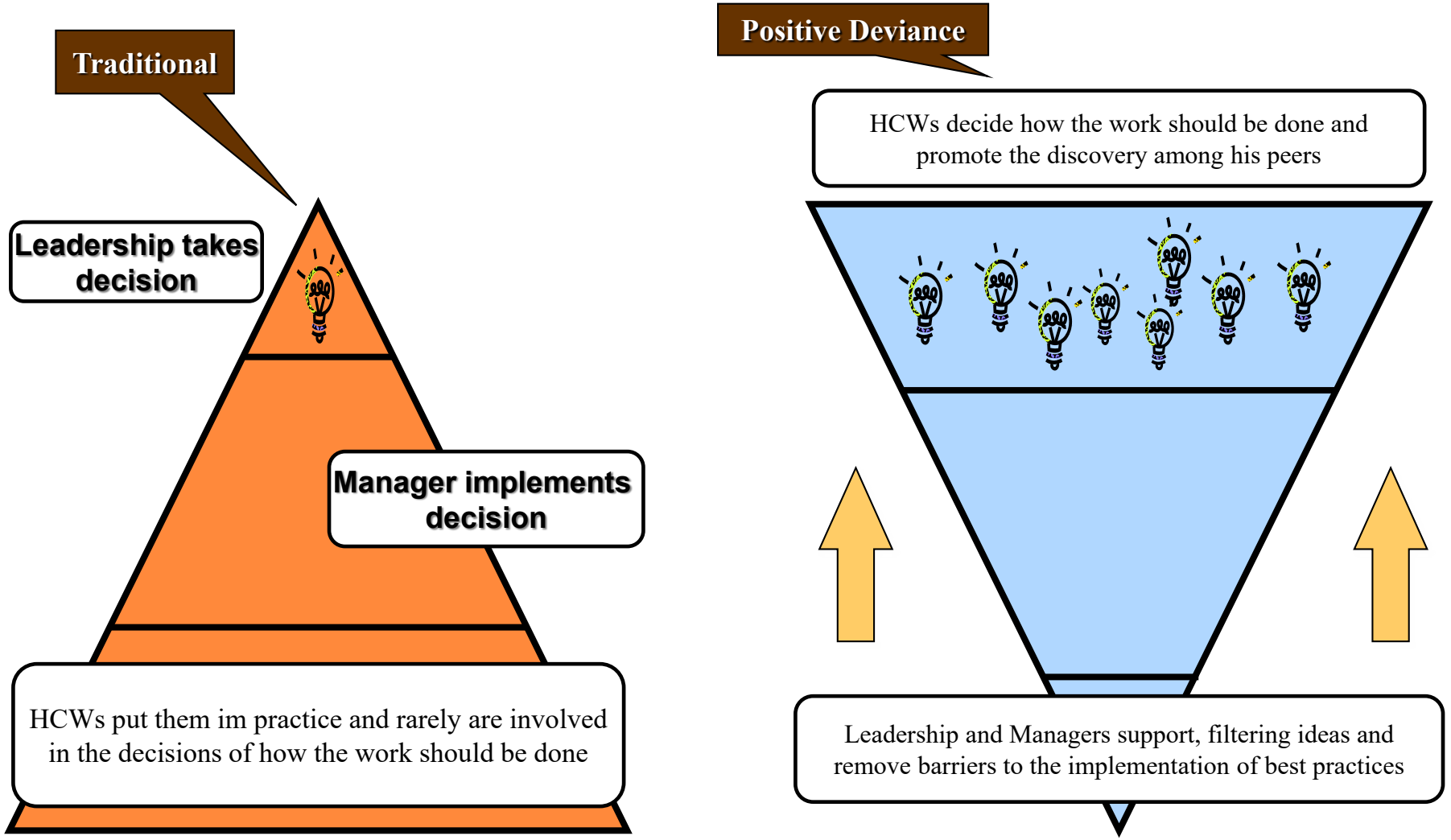
Seek Positive Deviants: Leverage them as Agents of Change

What is Positive Deviance?

- *There are certain individuals or groups whose uncommon behaviors and strategies enable them to find better solutions to problems than their peers, while having access to the same resources and facing similar or worse challenges.*

Marra AR, Guastelli LR, de Araújo CM, et al. Positive deviance: a new strategy for improving hand hygiene compliance. *Infect Control Hosp Epidemiol*. 2010;31(1):12-20. doi:10.1086/649224

Traditional vs. Positive Deviance



Slide Source: Dr. Alexandre Marra

Sternin J. Program for women Forum on emerging issues University of Alabama at Birmingham School of Medicine and West Virginia University School of Medicine 2007

Review

Positive deviance in infection prevention and control: A systematic literature review

Mohammed A. Alzunitan MBBS[1,2], Michael B. Edmond MD, MPH, MPA, MBA[1], Mohammed A. Alsuhaibani MBBS[1,3], Riley J. Samuelson MA[4], Marin L. Schweizer PhD[1,5] and Alexandre R. Marra MD, MS[1,6]

- Hand hygiene observed in 8 studies
  - 57%-improvement observed with implementation of positive deviance as a single intervention in all
- HAI rates measured in 5 studies
  - Positive deviance associated with observed reduction in 4 (80%)
- MRSA infections evaluated in 5 studies
  - Positive deviance containing bundles were successful in all

Alzunitan MA et al *Infection Control & Hospital Epidemiology* (2022), 43, 358–365

Commitments from Institutional Leaders is Key but Keeping them Focused is a Challenge

Commentary

Averting a betrayal of trust: System and individual accountability in healthcare infection prevention

Gonzalo M. Bearman[1] and Rebecca A. Vokes[2]

[1]Division of Infectious Diseases, Department of Medicine, Virginia Commonwealth University, Richmond, Virginia and [2]Hunter Holmes McGuire Veterans Affairs Medical Center, Richmond, Virginia

(Received 9 April 2019; accepted 15 April 2019)

Television crime plots are formulaic—a body is discovered in an unexpected place, foul play is suspected, evidence is collected, and detectives work to piece together clues. Just as the episode is about to end, the final clue is discovered, revealing the perpetrator. With the criminal caught and jailed, justice ensues and public trust is restored. When a patient is harmed in healthcare, assigning blame is rarely that simple.

Each year healthcare-associated infections (HAIs) harm 1 in 31 inpatients; HAIs lead to ~99,000 preventable patient deaths in the United States annually.[1] Who do we hold accountable for these incidents of harm? Unlike on television, harm in healthcare rarely results from a single bad actor.

Healthcare organizations historically held providers accountable for cases of medical harm, but following the landmark report, "To Err Is Human: Building a Safer Health System," focus shifted to system failures as key contributors to adverse events.[2] Researchers noted that after years of a punitive approach to clinician errors, this "no blame" movement was widely embraced, and new systems solutions were developed to improve safe healthcare delivery.[3] Continuing research supports a just culture framework, one in which a complex landscape of systemic and individual factors contributes to patient harm with shared accountability.[4]

Researcher Derick W. Brinkerhoff describes accountability as "the obligation of individuals or agencies to provide information about, and/or justification for, their actions to other actors, along with the imposition of sanctions for failure to comply and/or to engage in appropriate action."[5] Tsoi et al state, "Broadly speaking, accountability refers to the process of holding actors responsible for their actions. More specifically, it is the concept that individuals, agencies and organizations (public, private and civil society) are held responsible for executing their powers according to a certain standard (whether set mutually or not)."[6] Defining and practicing accountability is emphasized in patient safety cultures, and continuing research suggests accountability may influence the success of infection prevention strategy.

At a large tertiary-care facility, establishing an individual hand hygiene accountability program resulted in improved hand hygiene compliance and decreased device-associated standardized infections.[7] These findings suggest that individual accountability may support desired hand hygiene behavior in healthcare settings. At the system level, a 2010 study reported that collecting and comparing feedback of appropriate antibiotic administration for patients undergoing surgery resulted in increased compliance with this quality recommendation in US hospitals.[8] Both studies support the concept that individual and system accountability improves adherence to infection prevention processes and heightens safety.

Accountability in healthcare must be tied to clear expectations coupled with reasonable goals. Getting to zero HAIs is a sound bite, a setup for unrealistic expectations given the inexactitude of infection prevention science.[9] Current reports suggest that between 30% and 70% HAIs are potentially preventable with existing infection prevention science.[10,11] Appropriate goal setting ties accountability to implementation of evidence-based systems and processes grounded in practical strategies with real-world applicability. Examples include promotion, implementation, and assessment of aggressive hand hygiene programs, reliable and consistent chlorhexidine patient bathing, safety check lists, heightened daily and terminal disinfection, and antimicrobial stewardship programs. Broad, standardized execution of these safety practices is essential to infection prevention strategy.

Even when best practice is standardized, enforcement can vary within a healthcare system. At our home institution, services vary in implementing key processes such as patient chlorhexidine bathing and the use of central-line insertion checklists. Units with high safety reliability have engaged leaders and staff. Lower performing units may benefit from greater individual healthcare-worker accountability by managers and greater unit-level accountability from senior leaders. These challenges are not uncommon in healthcare. The default assumption that all shortcomings in infection prevention are due to system failures is untenable. Hospital infection prevention programs are neither staffed nor empowered for broad administrative oversight. Their role is to set collaborative standards and identify barriers to processes and outcomes. Managers, chief medical, quality, and nursing officers are responsible for accountability of both the system and the individual, with ultimate oversight from chief executive officers.

In *Betrayal of Trust: The Collapse of Global Public Health*, Laurie Garrett writes, "Public health is an essential trust, between government and its people, in a pursuit of health for all . . . ." This includes ". . . a healthcare system that follows the primary maxim of medicine—do no harm."[12,13] Institutional leaders and infection preventionists play a critical role in minimizing preventable HAIs.

Author for correspondence: Rebecca A. Vokes, Email: rvokes@vcu.edu

Cite this article: Bearman GM and Vokes RA. (2019). Averting a betrayal of trust: System and individual accountability in healthcare infection prevention. *Infection Control & Hospital Epidemiology*, https://doi.org/10.1017/ice.2019.137

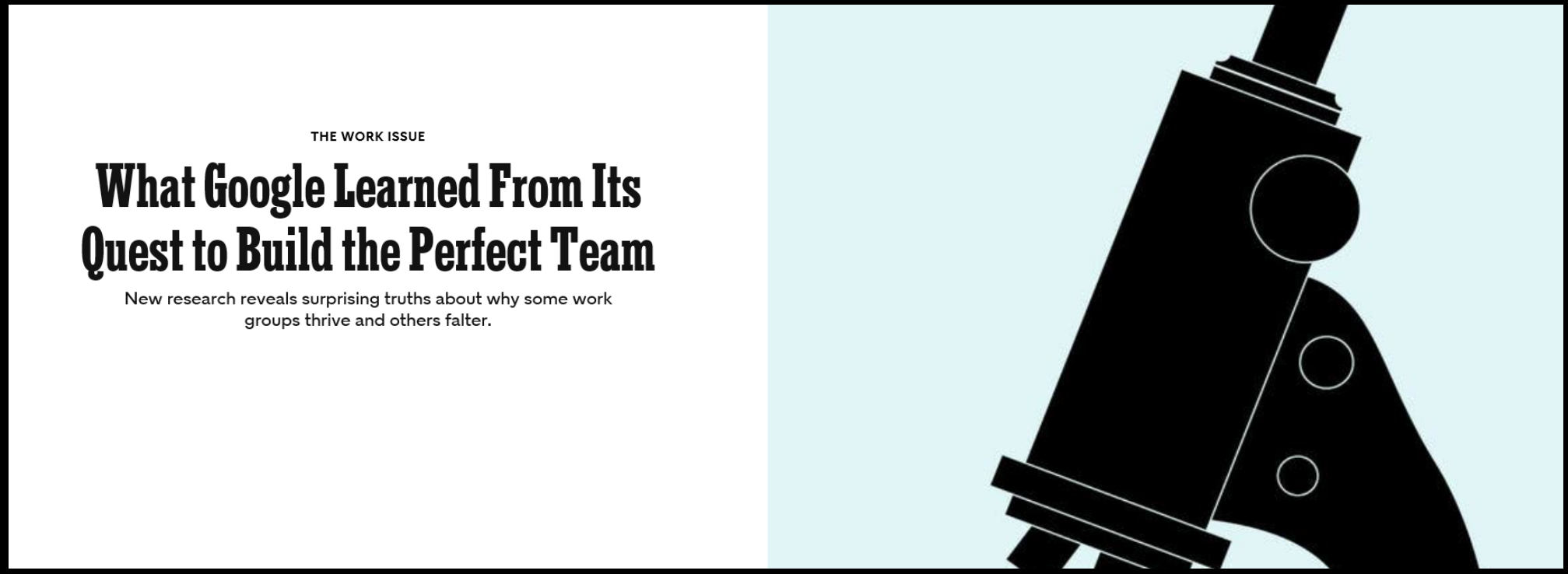
Keeping Leaders Focused

- Hospital IP programs are neither staffed nor empowered for administrative oversight
- IP sets collaborative standards Accountability of both the system and the individual falls on senior leadership
- Mitigate this challenge by regularly engaging with chief medical and safety officers, nursing leaders and CEOs

Vokes RA and Bearman G. *Infect Control Hosp Epidemiol.* 2019 May 24:1-2

Beware of Team Dynamics: Disengaged Teams Cannot Engage and Inspire Others

The Perfect Work Environment



Fact: Employee performance optimization is not enough and the bulk of modern work is team based…..so how are teams most effective?

https://www.nytimes.com/2016/02/28/magazine/what-google-learned-from-its-quest-to-build-the-perfect-team.html

Google: Project Aristotle

- 180 teams studies across organization
  - The ‘who’ of the team equation not impactful
  - Team behavioral norms (dynamic) most important
    - Psychologically safe environments (norm) leading to team bonding- most critical for high functioning teams
      - Leaders encourage and promote honest and compassionate conversations about ideas, challenges, frictions, everyday annoyances- *to address needs*
- Teams are most effective when work is purposeful, personally integrated and not just focused on efficiency

https://www.nytimes.com/2016/02/28/magazine/what-google-learned-from-its-quest-to-build-the-perfect-team.html

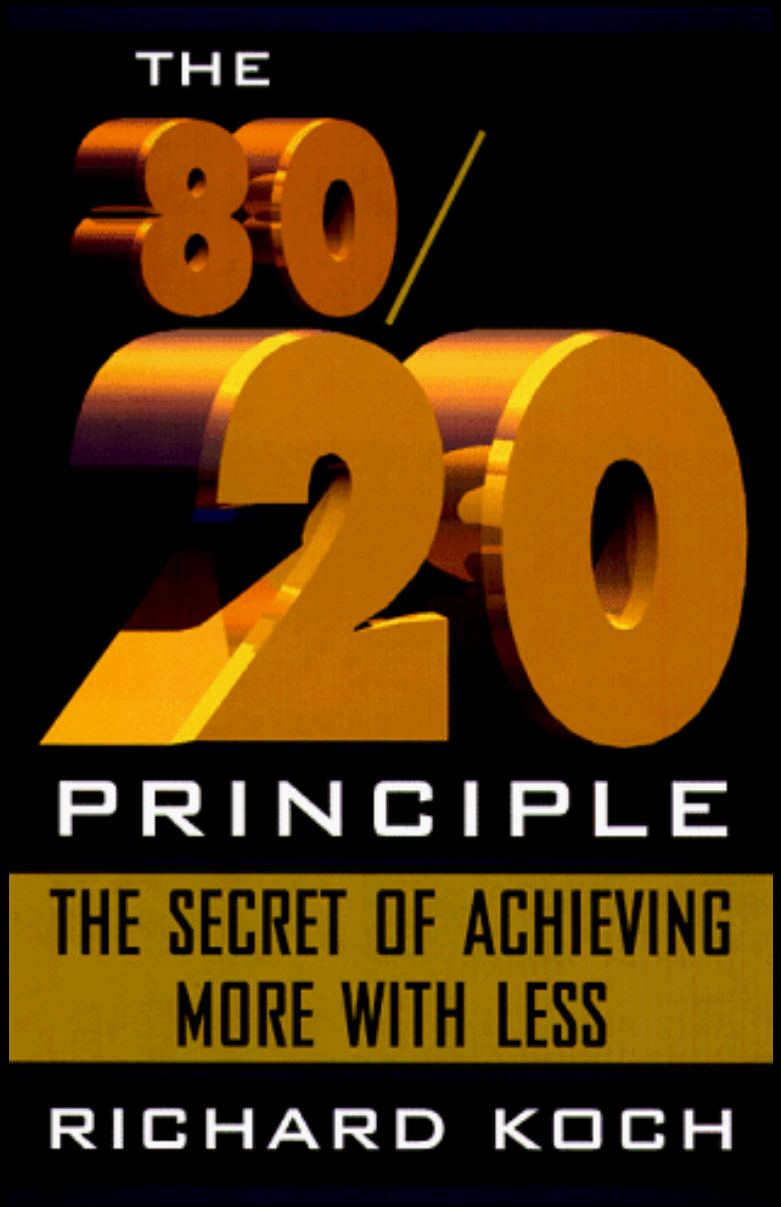
Focus on Individual and Team Resilience: Harness the Power of Small Wins

Characterizing burnout among healthcare epidemiologists in the early phases of the COVID-19 pandemic: A study of the SHEA Research Network

Tucker John Guy Smith MS2[1], Rachel Pryor RN, MPH[2,3], Susy S. Hota MD, MSc[4], Sarah D. Haessler MD, MS[5], Valerie M. Deloney MBA[6] and Gonzalo Bearman MD, MPH[7]

- Multisite research team
- Anonymous surveys disseminated to eligible staff at SRN facilities (N=65/95)
- Half of the respondents were experiencing burnout

Smith TG, Pryor R, Hota SS, Haessler SD, Deloney VM, Bearman G. ASHE 2023),3,e52,1–4



Pareto Principle (Economics): Roughly 80% of consequences (outputs) come from 20% of causes (efforts)

"The key is to work out the few things that are really important, and the few methods that will give us what we really want."

Leadership Goal: Recognize the Unique Talents of the Physicians on the Team

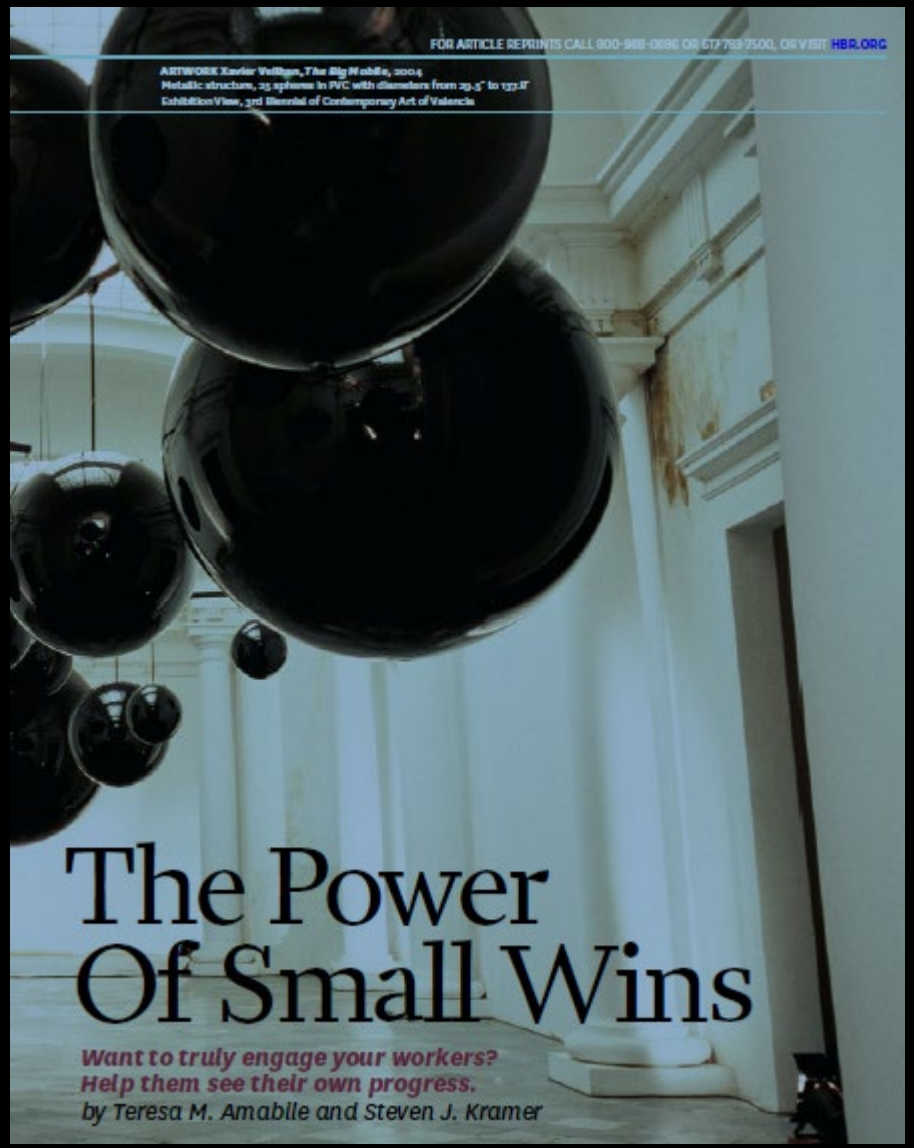
Evidence suggests that HCWs who spent at least 20% of the professional effort focused on the dimension of work they find most meaningful are significant at a lower risk for burn out

Shanafelt TD et al *Mayo Clin Proc.* 2017;92(1):129-146

Leading Teams While Exhausted: Perspectives from Healthcare Epidemiology and Beyond

- Leading during times of stress- a multimodal approach:
- Goal is stability during times of crisis
    - Urgent vs Important
    - Listen to team members; be comfortable with “I don’t know”
    - Be aware of team dynamics; frequent check ins
    - Be aware of both individual and team resilience
    - Aggressively advocate for system level changes to mitigate stress and burnout

Mullin R, Hota S, Bearman G. *Antimicrobial Stewardship and Healthcare Epidemiology* 2023 Mar 15;3(1):e50.



- Progress Principle:
  - Motivation is best boosted by making progress in meaningful work
  - BUT- Negative events are more powerfully impactful than positive ones
    - Minimize the daily hassles
- Focus on the *Progress Loop*: managing progress not projects
  - Clarify what is meaningful work and support it to the fullest
  - Celebrate progress (small wins) not just big outcomes
  - Good performance, which depends on consistent progress, enhances inner work life (self-reinforcing)

Amabile TM and Kramer SJ. *Harvard Business Review*, May 2011

You've Effectively Implemented Change, Now What? Sell Your Work at the Podium

Your audience gives you everything you need. They tell you. There is no director who can direct you like an audience. **-Fanny Brice**

A Great Presentation is a Performance

Pearls for maximal audience connection:

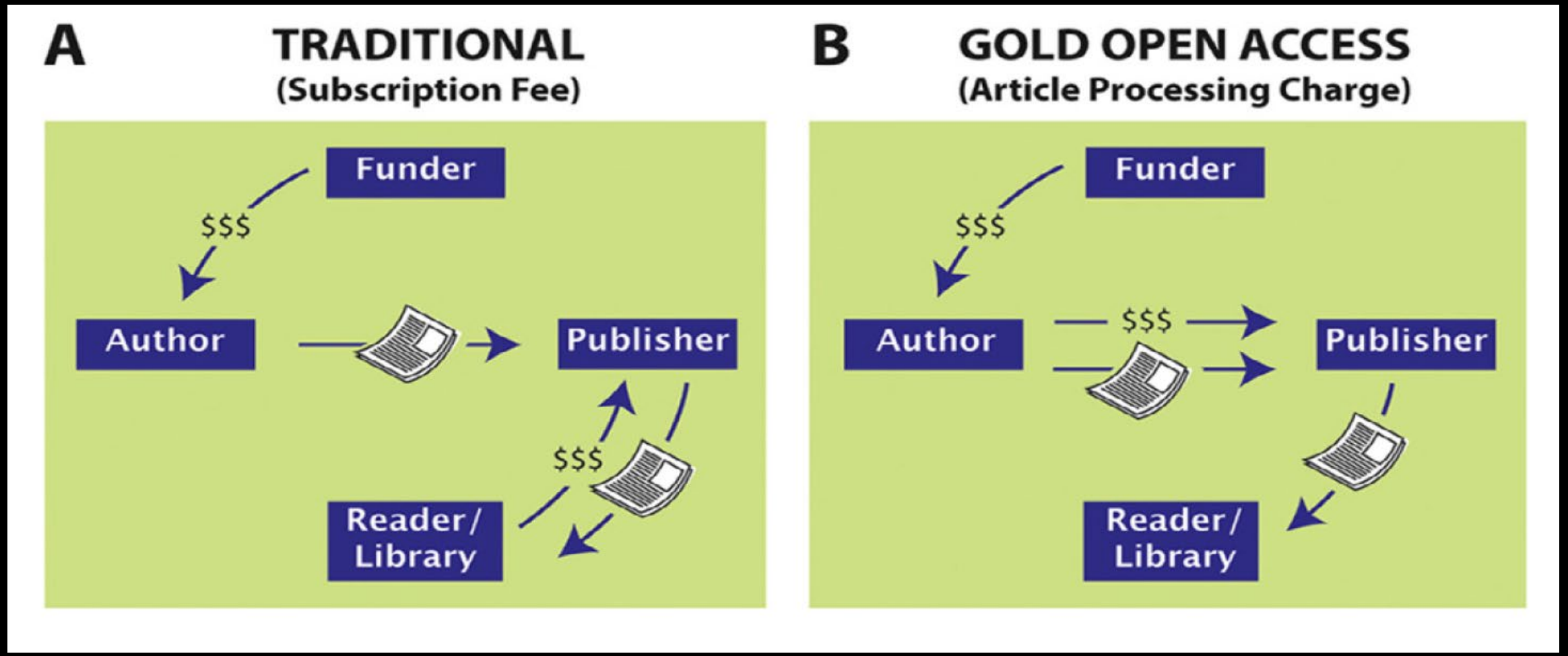
- Maintain eye contact; focus on key takeaways from each slide
- Harness popular culture, sports, or literature references to engage audience
- Utilize pauses and transitions to your advantage
- “Bring it home” with key points/summary slide (important for social media dissemination)
- Inspire with future directions slide
- Tell a story with an arc (beginning, middle, & end); ending should reference points made in the beginning (technique commonly used in standup comedy)
- Be your authentic self

Institutionalize Change and Publish What You've Learned: Every Project has a Story to Tell and Others Can Learn From You

Overcoming Common Hurdles to Publishing Your Work

Hurdles	Strategy”
“Where do I even begin?”	1) Abstract submission to scientific meeting 2) Abstract will serve as the template for your manuscript 3) Seek experienced writing partners
“There is too much to do, I don’t have time”	“Crowdsource” writing - create an online document, assign out various sections; adhere to a timeline (e.g., 3 months)
“Who would even be interested in this?”	1) Seek advice from experienced colleagues 2) Use a search engine: https://jane.biosemantics.org/ 3) Email the managing editor with brief description to gauge interest
“The manuscript keeps getting rejected, what now?” *“If you are not getting rejected, you are not writing enough”* (RP Wenzel)	Keep trying until you find a suitable home; some journals provide peer reviews even if rejected – use these to your advantage; expect several rounds of rejection but keep at it and don’t abandon the project!

The Traditional vs Open Access Model



Baffy G et al 28 *The American Journal of Medicine*, Vol 133, No 1, January 2020

Rise of the Rxivs: How Preprint Servers are Changing the Publishing Process

Matthew B. Hoy

Mayo Clinic, Rochester, Minnesota, USA

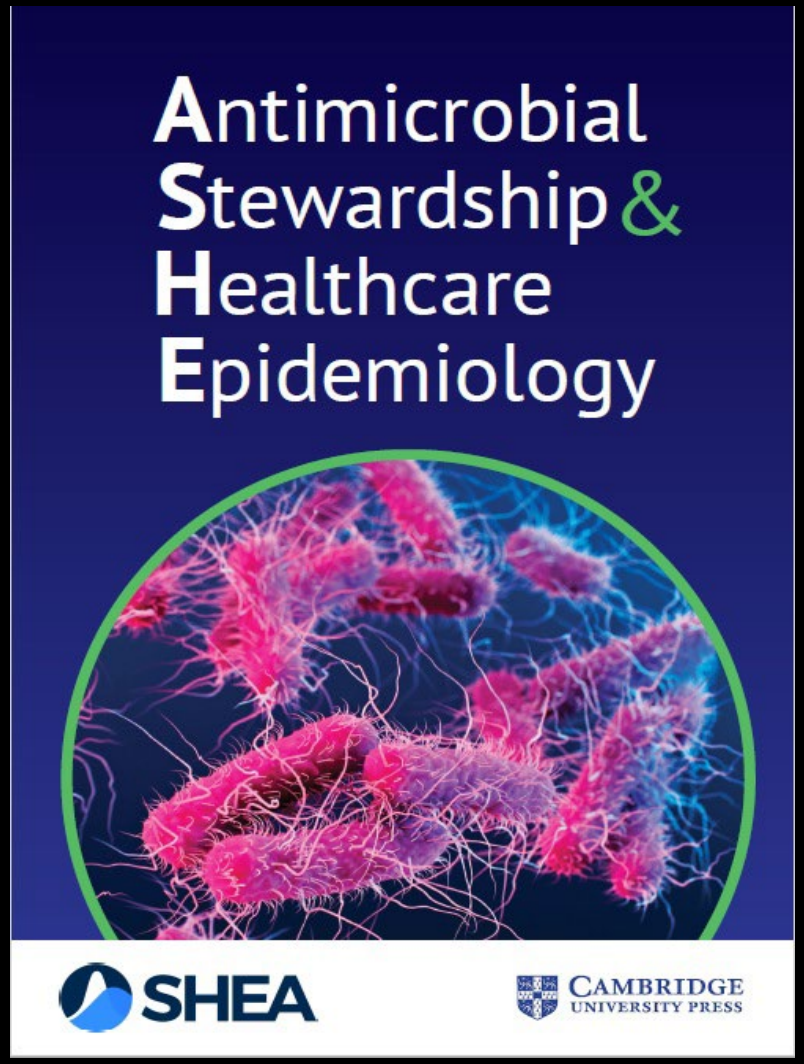
- Preprints now part of the scholarly publishing process
  - No formal peer review, low cost
  - Publishing preprints attractive to authors- early feedback and increased exposure
  - Majority of pre-prints are not ultimately published in peer reviewed, indexed journals

Hoy MB et al MEDICAL REFERENCE SERVICES QUARTERLY 2020, VOL. 39, NO. 1, 84–89

The Money Slide: Preprint vs OA Publishing

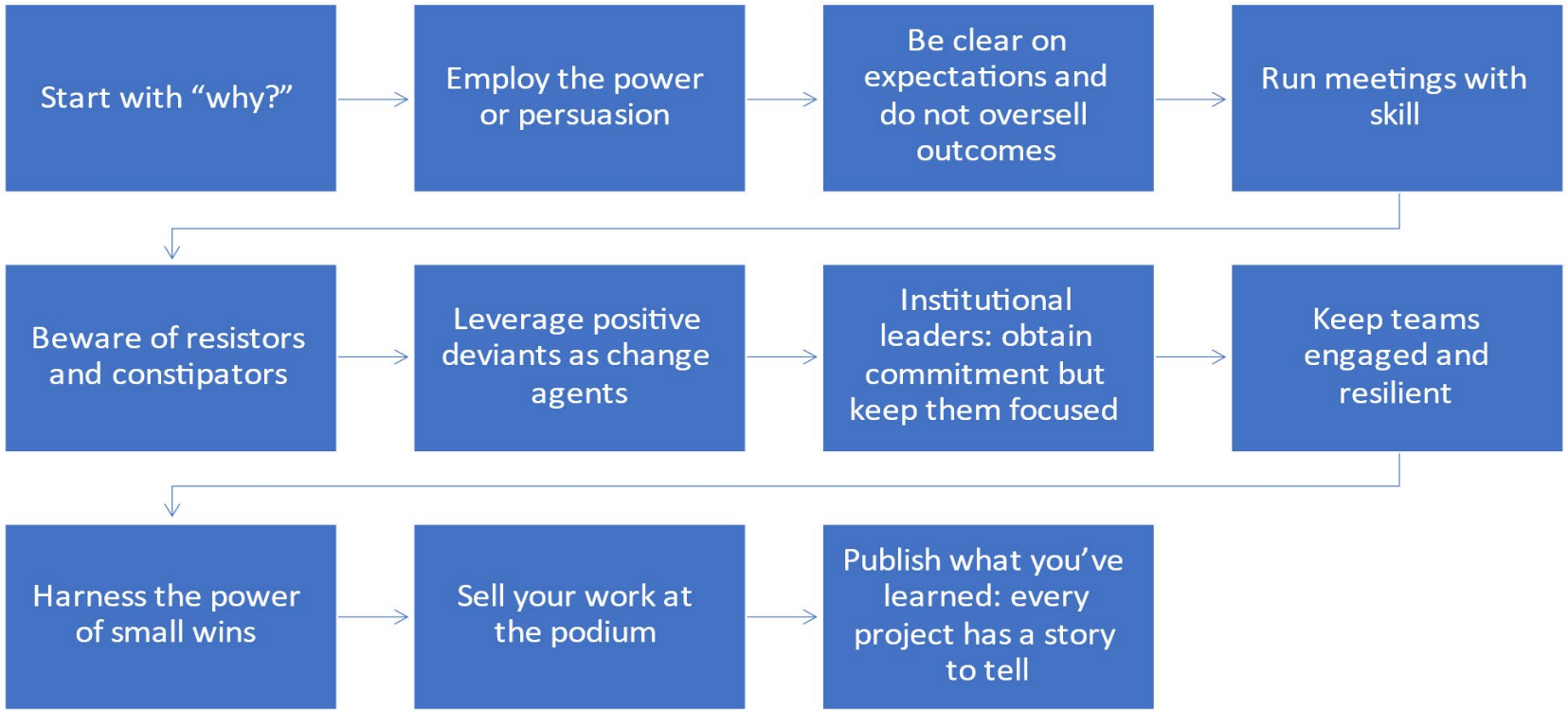
Comment	Preprint	Open Access
Speed to publication	Fastest	Fast (4-6 weeks)
Peer review	None (Formally)	Yes
APC	No	Yes
Indexed	Yes	Yes
Social media / Altmetric scores	+/+	+/++
Citation	+	+++
Author services (social media, promotion)	-	+/+++ depending on journal
Prestige	-	+/+++

The ASHE Overarching Goal



- Publish a diversity of *avant garde,* high quality content in IP, AS, implementation and organizational science
- High quality author experience
  - Rapid reviews, short production time, social media, podcasts
- APCs should not be the barrier to publication
  - SHEA Member Discounts
  - APC waivers for:
    - Authors from low- and middle-income countries
    - Authors from home institutions with read and publish agreements with CUP
    - Invited commentaries and reviews
    - Discretion of the EIC

Impacting Change- A Conceptual Model



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- Dr. Priya Nori
- Dr. Bradley Langford
- Dr. Alexandre Marra
- Peggy Andrews, Tonya Merkerson and Paula Thompson
- VCU Infectious Diseases

You learn more in failure than you ever do in success.
— Jay-Z