Engaging Clinicians in Health Services Research: Peer Learning and a Pandemic

CDA Enhancement Initiative

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Disclosures

- I have no financial conflicts of interest
- I am a practicing clinician

Objectives

- Examine opportunities improve health systems through clinician education and professional development
- Review preliminary results of a study to improve clinician performance of cardiac procedures
- Discuss challenges in recruiting and engaging clinicians in research

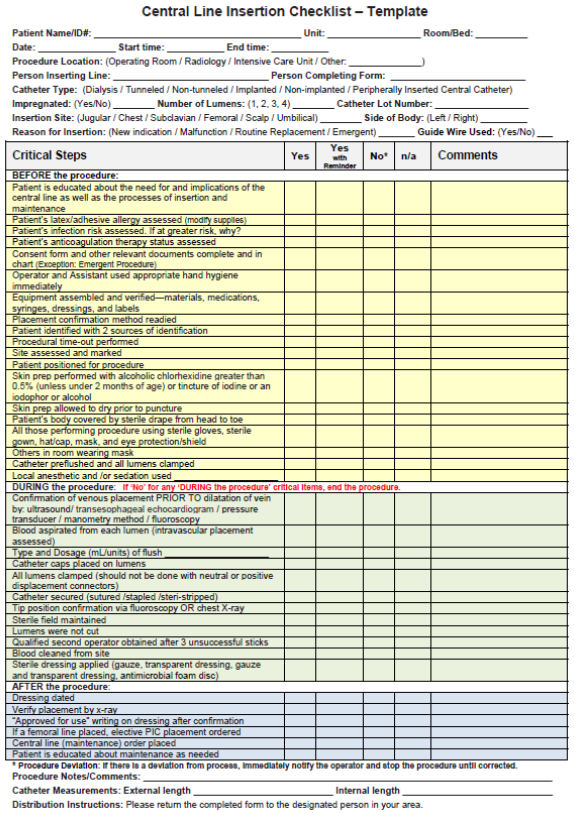
Central Line Associated Blood Stream Infections

- 10-15% mortality rate
- Increased cost and length of stay
- Preventable!

Patel PK et al. *Journal of Hospital Medicine*, 2017

CLABSI prevention strategies

- Implement a Checklist
- Empower nurses to stop procedures
- Use daily audit form
- Event reporting



Central Line Insertion Checklist – Template

Patient Name/ID#: _____ **Unit:** _____ **Room/Bed:** _____
Date: _____ **Start time:** _____ **End time:** _____
Procedure Location: (Operating Room / Radiology / Intensive Care Unit / Other: _____)
Person Inserting Line: _____ **Person Completing Form:** _____
Catheter Type: (Dialysis / Tunneled / Non-tunneled / Implanted / Non-implanted / Peripherally Inserted Central Catheter)
Impregnated: (Yes/No) _____ **Number of Lumens:** (1, 2, 3, 4) _____ **Catheter Lot Number:** _____
Insertion Site: (Jugular / Chest / Subclavian / Femoral / Scalp / Umbilical) _____ **Side of Body:** (Left / Right) _____
Reason for Insertion: (New indication / Malfunction / Routine Replacement / Emergent) _____ **Guide Wire Used:** (Yes/No) ___

Critical Steps	Yes	Yes with Reminder	No*	n/a	Comments
BEFORE the procedure:					
Patient is educated about the need for and implications of the central line as well as the processes of insertion and maintenance					
Patient's latex/adhesive allergy assessed (modify supplies)					
Patient's infection risk assessed. If at greater risk, why?					
Patient's anticoagulation therapy status assessed					
Consent form and other relevant documents complete and in chart (Exception: Emergent Procedure)					
Operator and Assistant used appropriate hand hygiene immediately					
Equipment assembled and verified—materials, medications, syringes, dressings, and labels					
Placement confirmation method readied					
Patient identified with 2 sources of identification					
Procedural time-out performed					
Site assessed and marked					
Patient positioned for procedure					
Skin prep performed with alcoholic chlorhexidine greater than 0.5% (unless under 2 months of age) or tincture of iodine or an iodophor or alcohol					
Skin prep allowed to dry prior to puncture					
Patient's body covered by sterile drape from head to toe					
All those performing procedure using sterile gloves, sterile gown, hat/cap, mask, and eye protection/shield					
Others in room wearing mask					
Catheter preflushed and all lumens clamped					
Local anesthetic and /or sedation used					
DURING the procedure: If 'No' for any 'DURING the procedure' critical items, end the procedure.					
Confirmation of venous placement PRIOR TO dilatation of vein by: ultrasound/ transesophageal echocardiogram / pressure transducer / manometry method / fluoroscopy					
Blood aspirated from each lumen (intravascular placement assessed)					
Type and Dosage (mL/units) of flush _____					
Catheter caps placed on lumens					
All lumens clamped (should not be done with neutral or positive displacement connectors)					
Catheter secured (sutured /stapled /steri-stripped)					
Tip position confirmation via fluoroscopy OR chest X-ray					
Sterile field maintained					
Lumens were not cut					
Qualified second operator obtained after 3 unsuccessful sticks					
Blood cleaned from site					
Sterile dressing applied (gauze, transparent dressing, gauze and transparent dressing, antimicrobial foam disc)					
AFTER the procedure:					
Dressing dated					
Verify placement by x-ray					
"Approved for use" writing on dressing after confirmation					
If a femoral line placed, elective PIC placement ordered					
Central line (maintenance) order placed					
Patient is educated about maintenance as needed					

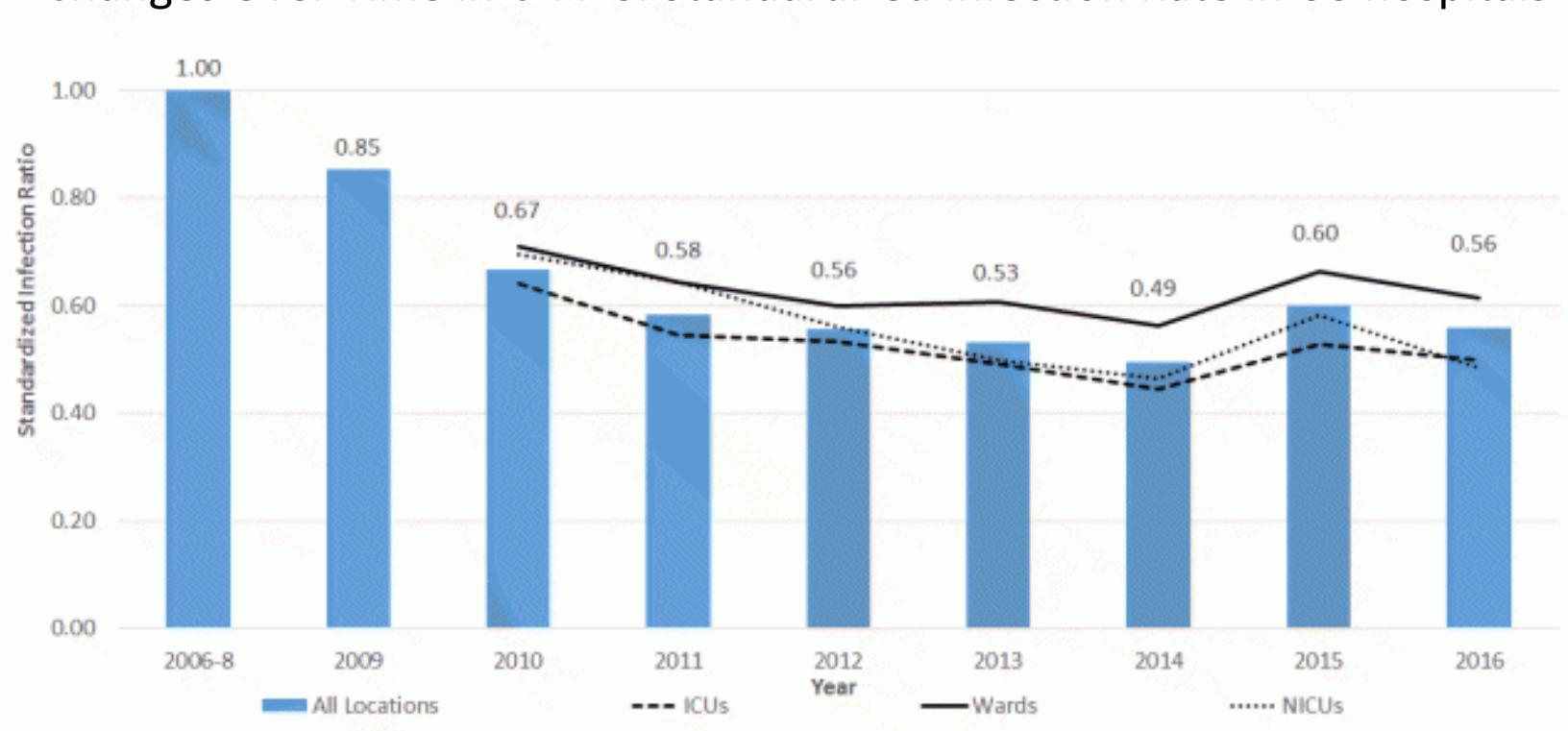
*** Procedure Deviation:** If there is a deviation from process, immediately notify the operator and stop the procedure until corrected.
Procedure Notes/Comments: _____
Catheter Measurements: External length _____ **Internal length** _____
Distribution Instructions: Please return the completed form to the designated person in your area.

AHRQ Toolkit for Reducing CLABSI. 2013

The Joint Commission. CLABSI Checklist, 2013

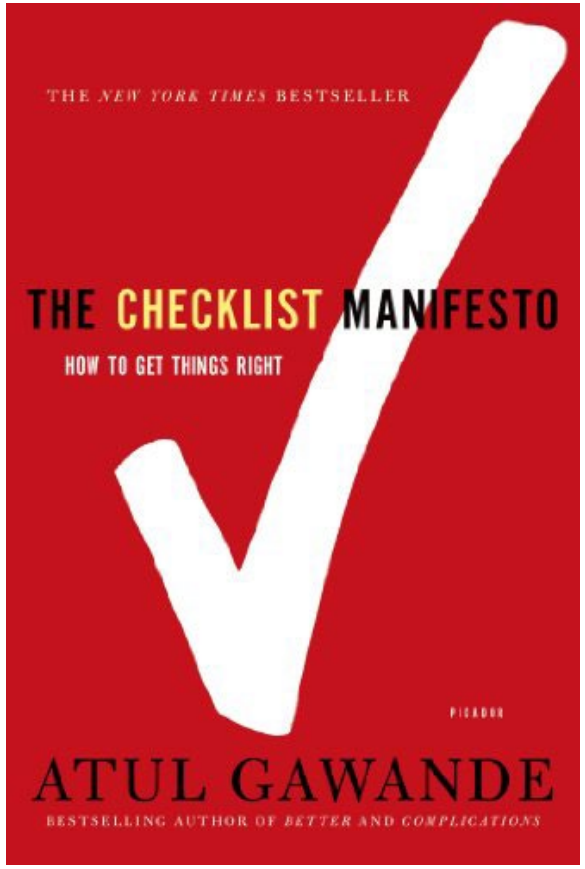
It works!

Changes Over Time in CLABSI Standardized Infection Rate in US hospitals



National Healthcare Safety Network. Data summary of HAIs in the US, 2006-2016. Last updated December 5, 2017

But why does it work?

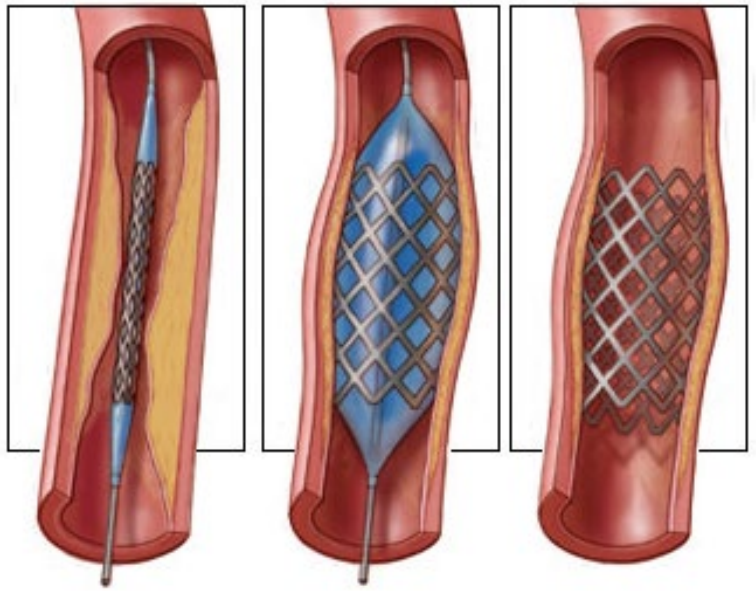


Potential advantages of clinician interventions

- Reach
- Cost-effectiveness
- Culture change

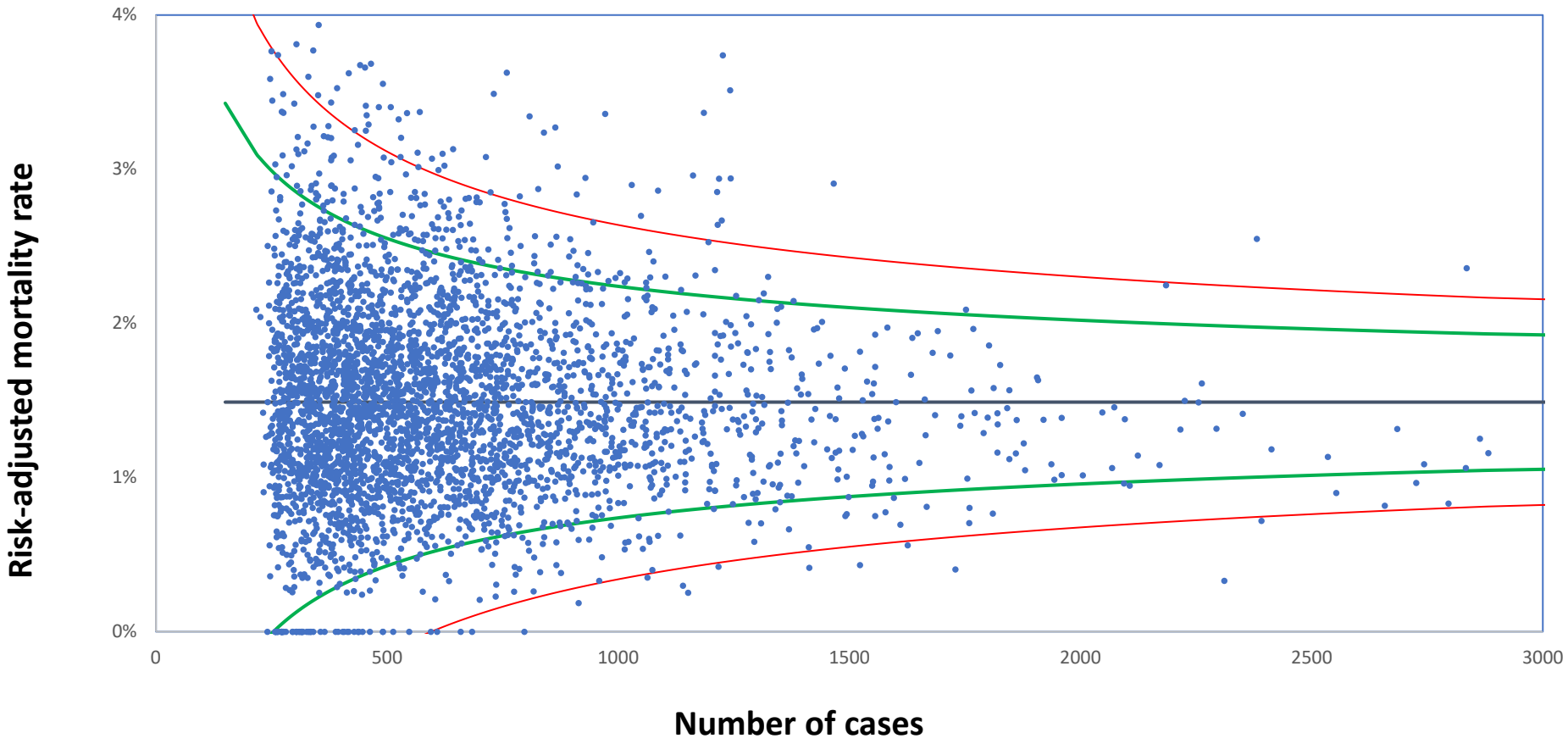
CDA-2: Peer Learning for Cardiac Procedures

- >600,000 procedures annually in the US
- Nearly universal enrollment in national quality improvement registries:
  - CathPCI
  - VA CART
- Heavily monitored care processes:
  - Multiple quality measures, mostly focused on hospital performance
  - Public reporting for some measures



Chen PS et al, *JAMA* 2011
Masoudi FA et al, *JACC* 2016
Maddox TM et al, *Am J Cardiol* 2014

Outcomes vary widely



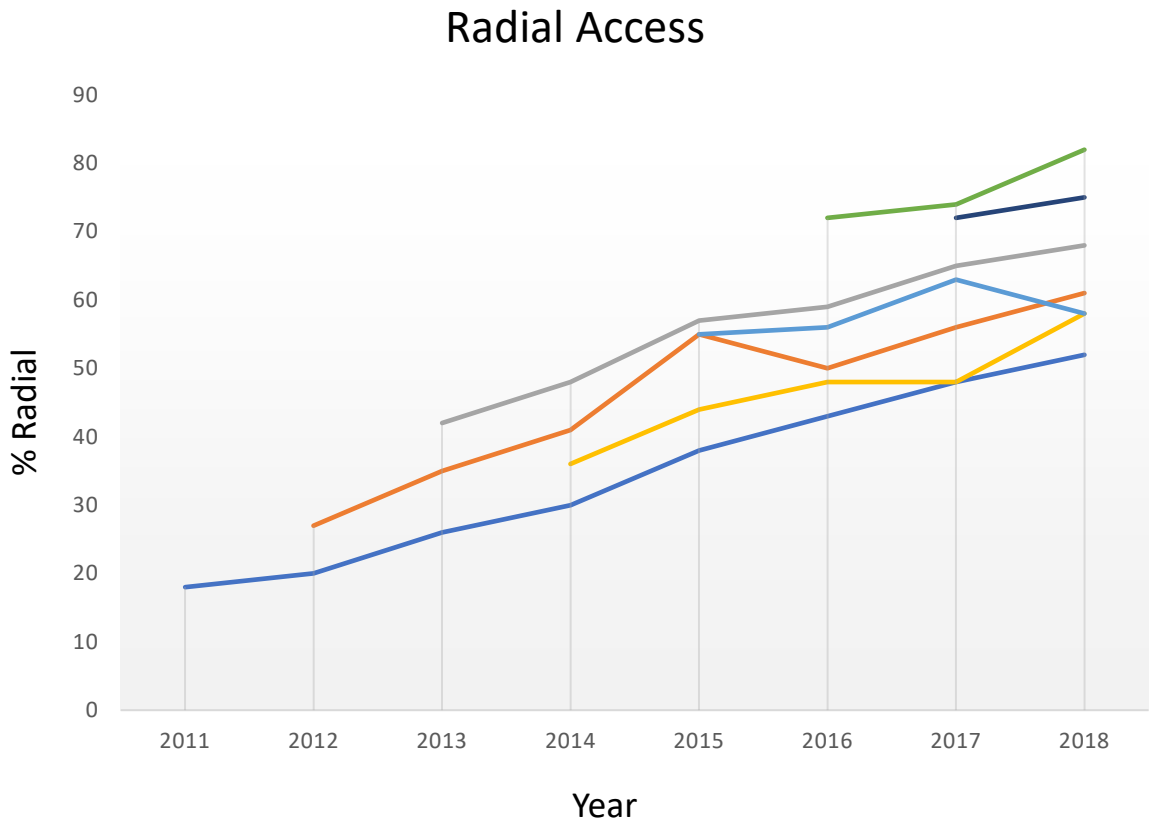
Doll JA et al, *JACC Card Interv*, 2017

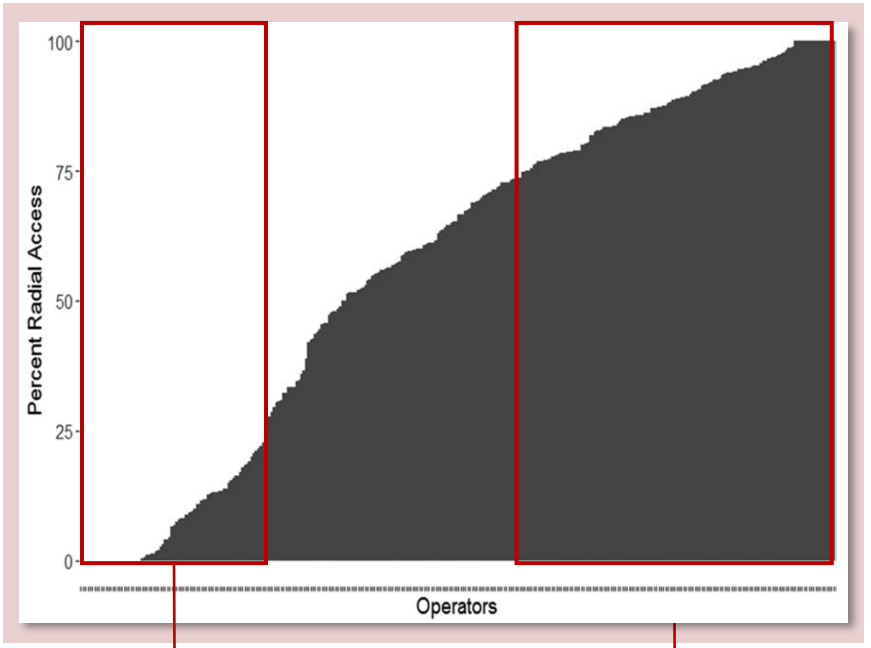
Challenges

- Patient outcomes are worse for clinicians more distant from training
- Clinicians dislike mandatory CME and Maintenance of Certification programs
- “Lake Wobegon Effect”
  - Clinicians are poor self-assessors
  - Worst performers are the worst self-assessors
- Clinical volume is essential for proceduralists

Norcini JJ, et al, *Med Education*, 2017
Norcini JJ et al, *Med Care*, 2013
Davis DA et al, *JAMA*, 2006
Cook DA et al, *Clin Proc*, 2016

Practice patterns vary widely





Bleeding rate 3.9%

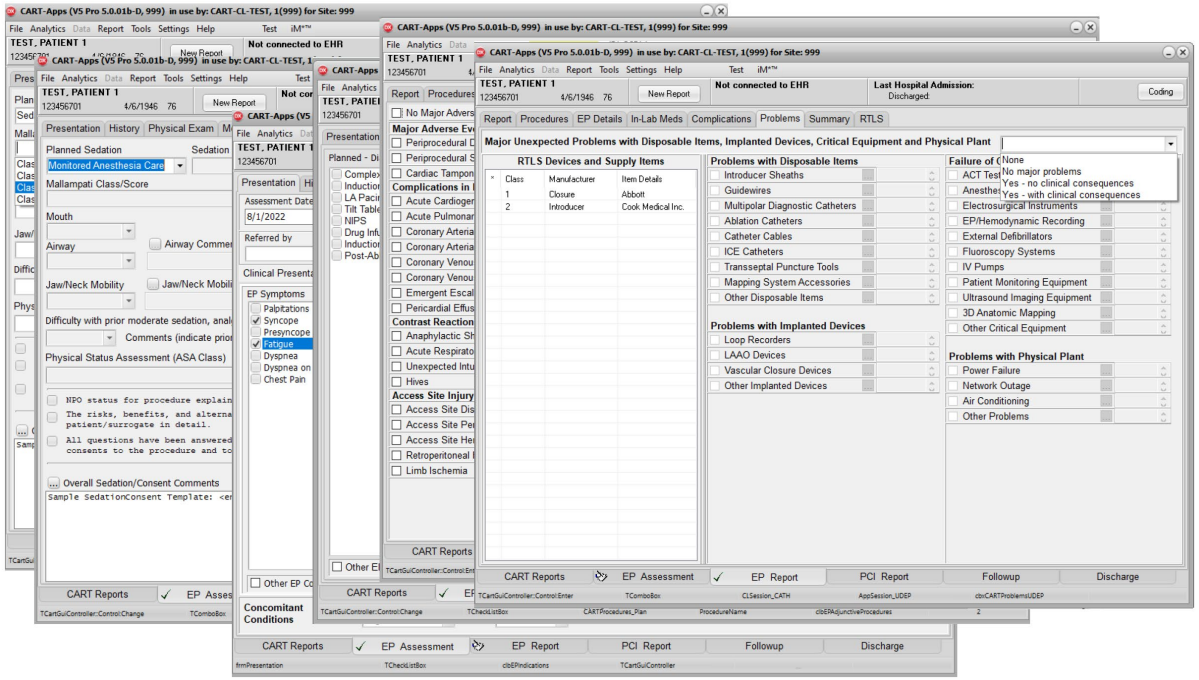
Bleeding rate 2.1%

Doll JA et al. *Circulation: CQO*, 2022;15:e008359

Quality improvement tools

CART

VA Clinical Assessment, Reporting and Tracking Program

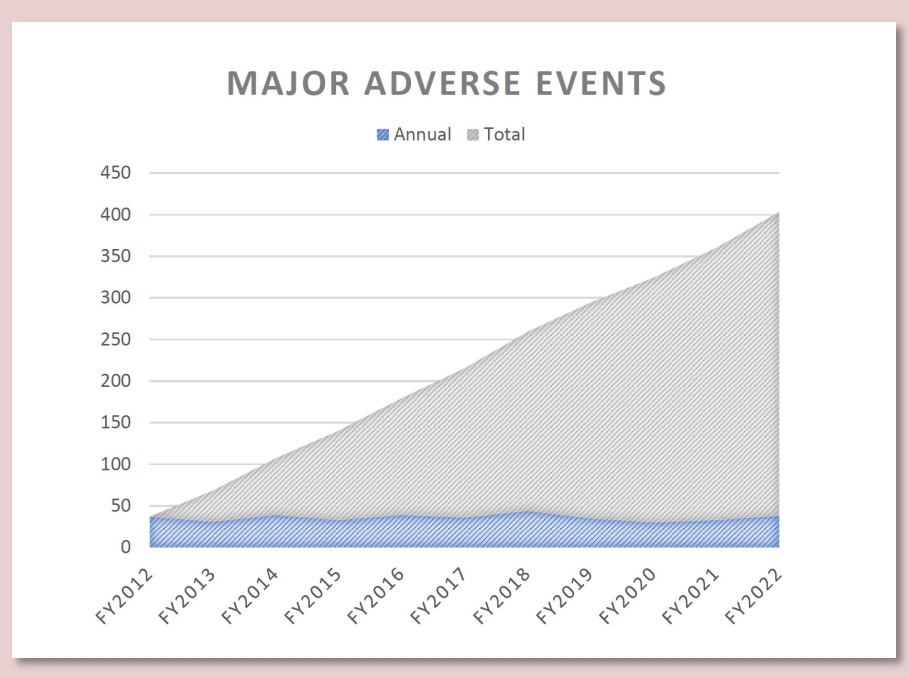


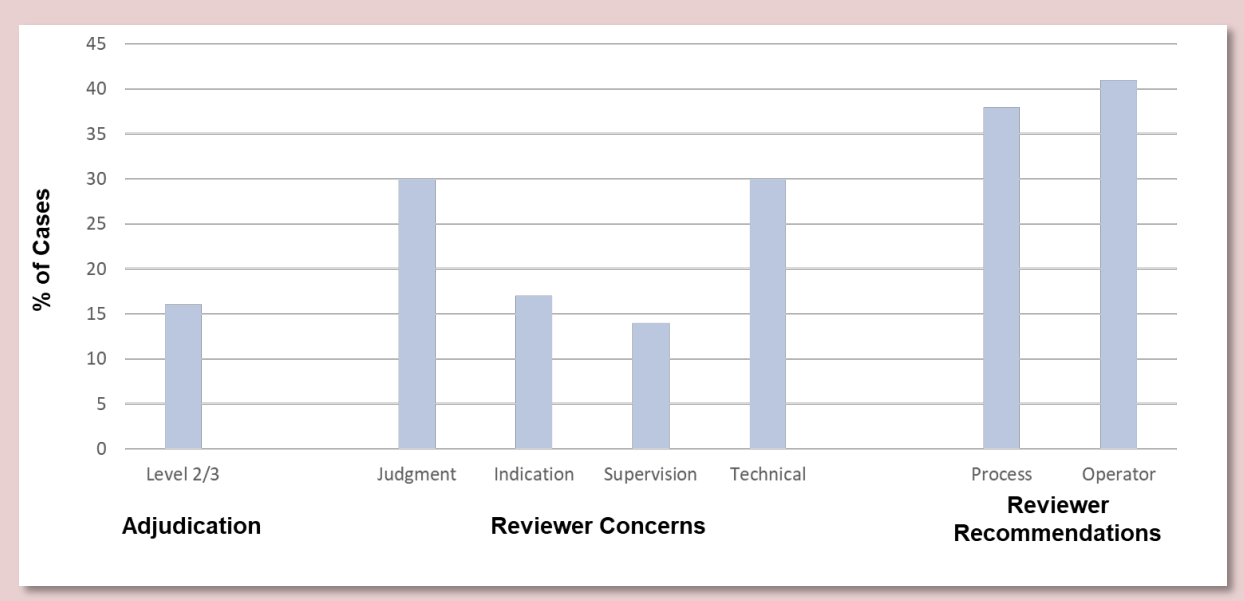
Feedback to clinicians

Peer review

Safety surveillance

Adverse event peer review





Doll JA et al. *JAMA Network Open*, 2019;2(8):e012236

A way forward?

Perhaps the CART system's success arises partly from avoiding the pitfalls of physicians' disempowerment by traditional QI initiatives . . . one strength of the approach lies in recognizing measurement's limits. Metrics, used judiciously, still matter. But with case-based peer review, every data point becomes a story, illuminating meaningful aspects of care that measures can't capture. Though we may not be able to extrapolate from CART to all of medicine, restoring some agency to clinicians has broad relevance. Can we build on these principles to productively reorient QI?

Rosenbaum L. *NEJM*, 2022; 386(19): 1850

CDA-2: Peer Learning for cardiac procedures

Interviews:

- 20 cardiologists (VA, Private, Academic)
- Themes:
  - Dissatisfaction with performance metrics
  - Perceived variation in physician skills
  - Hierarchy and power structures
  - Importance of process
  - Leadership and culture

Quotes:

- *"There's so many bureaucratic hurdles and worksheets and datasheets that we've got to enter on a daily basis, that's really time consuming. And I think that's met with a lot of scorn by a lot of physicians, because it's not really seen how it helps them to become better physicians."*

- *"A couple of times I pretty strongly disagreed with people's approaches, and I always in those instances, when I've spoken up at a meeting, I will usually try and back it up with data and studies so that it's very clear that I'm not disparaging someone, but that I'm trying to be evidence-based."*

Prabhu KM…Doll JA. *Am Heart J*, 2021;235:97-103

Peer Learning

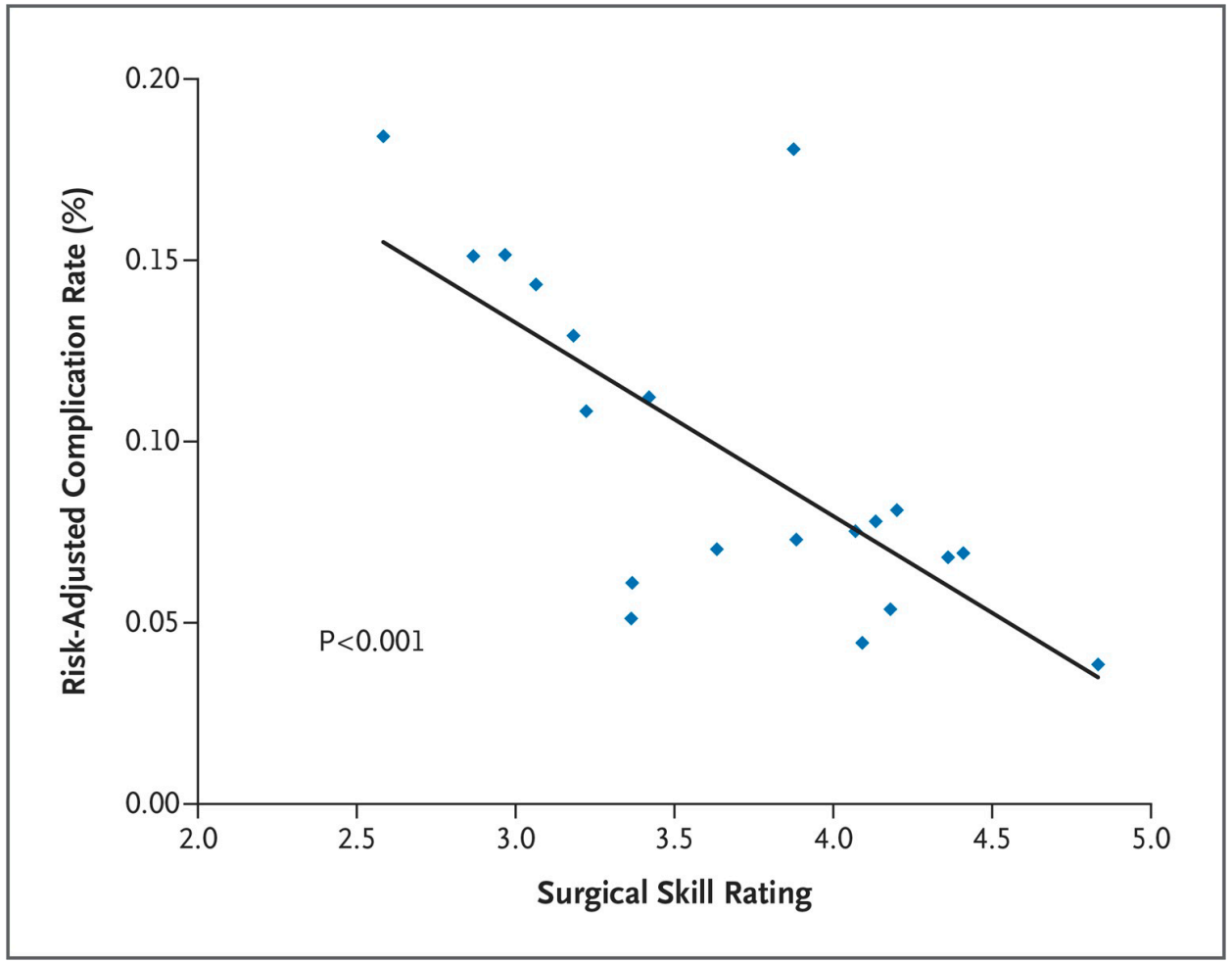
Systematic review:

- 32 studies of peer review for medical procedures
- 16 different review tools
  - Direct observation
  - Image/video review
  - Case review
- Good or excellent inter-observer agreement for all but 2 studies
- Good correlation (when tested) to other measures of performance or expertise

Thai T…Doll JA, et al. *BMC Med Ed*, 2022;22(521)

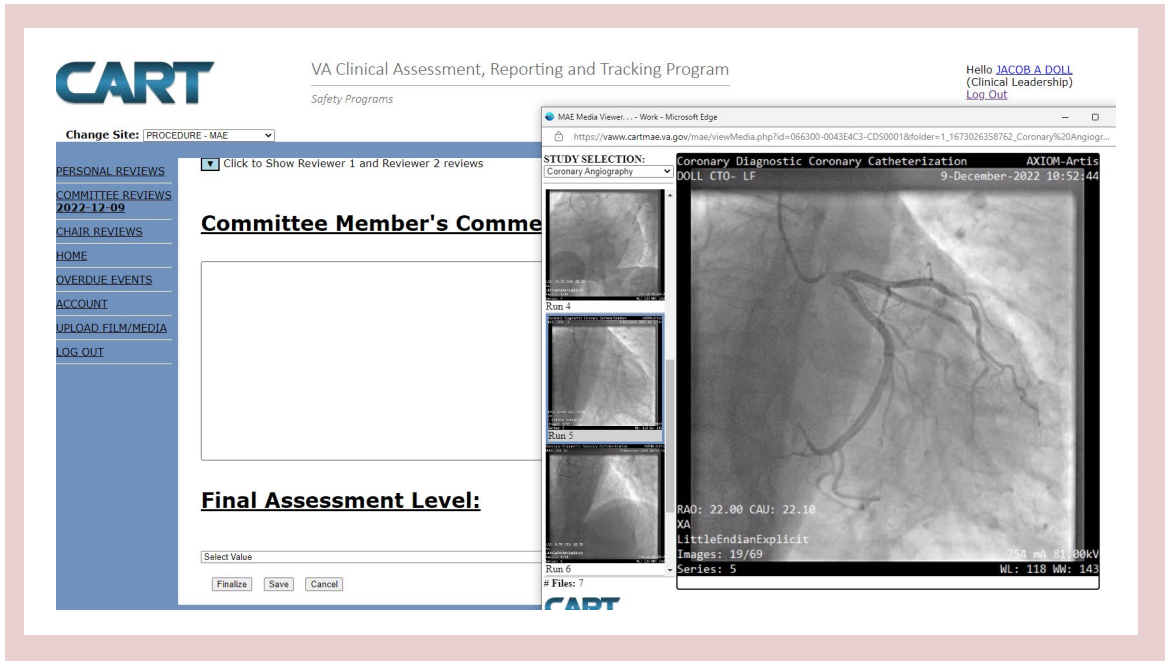
Peers can tell who is good and who isn't

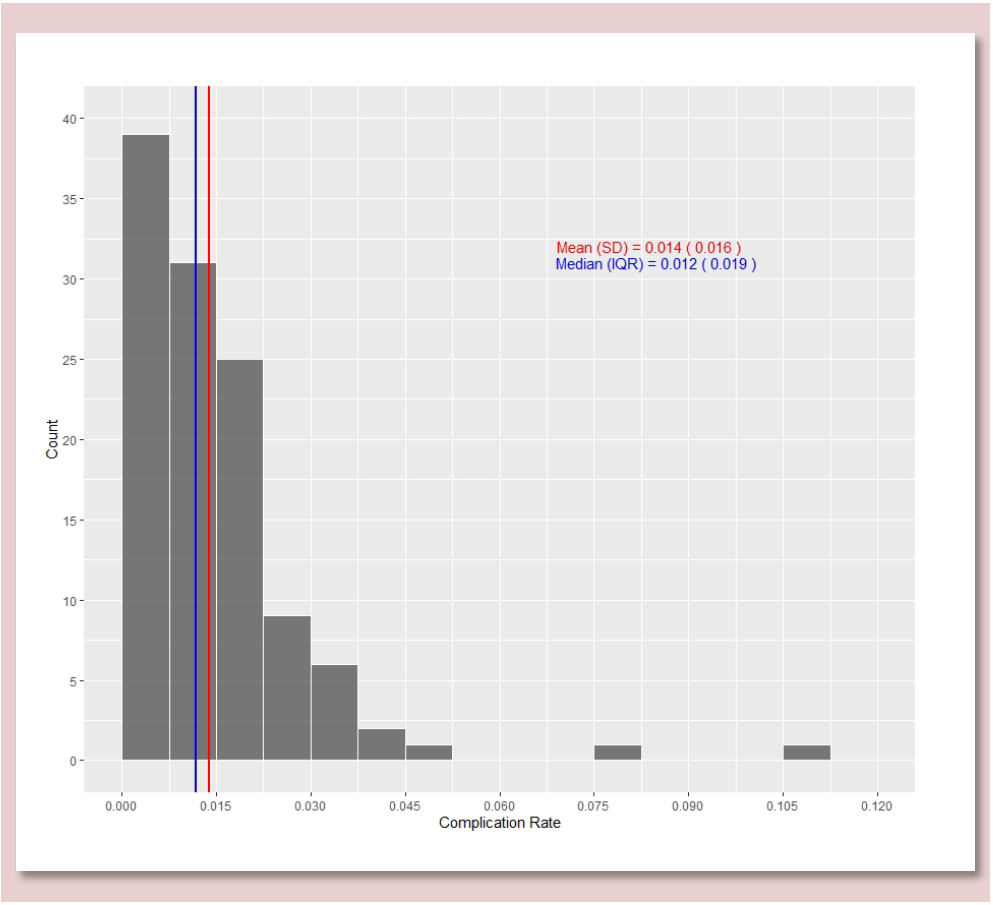
20 bariatric surgeons in Michigan



Birkmeyer et al, *NEJM*, 2013

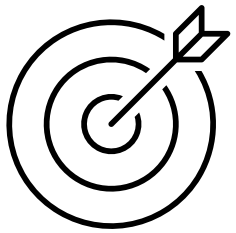
Peer Learning



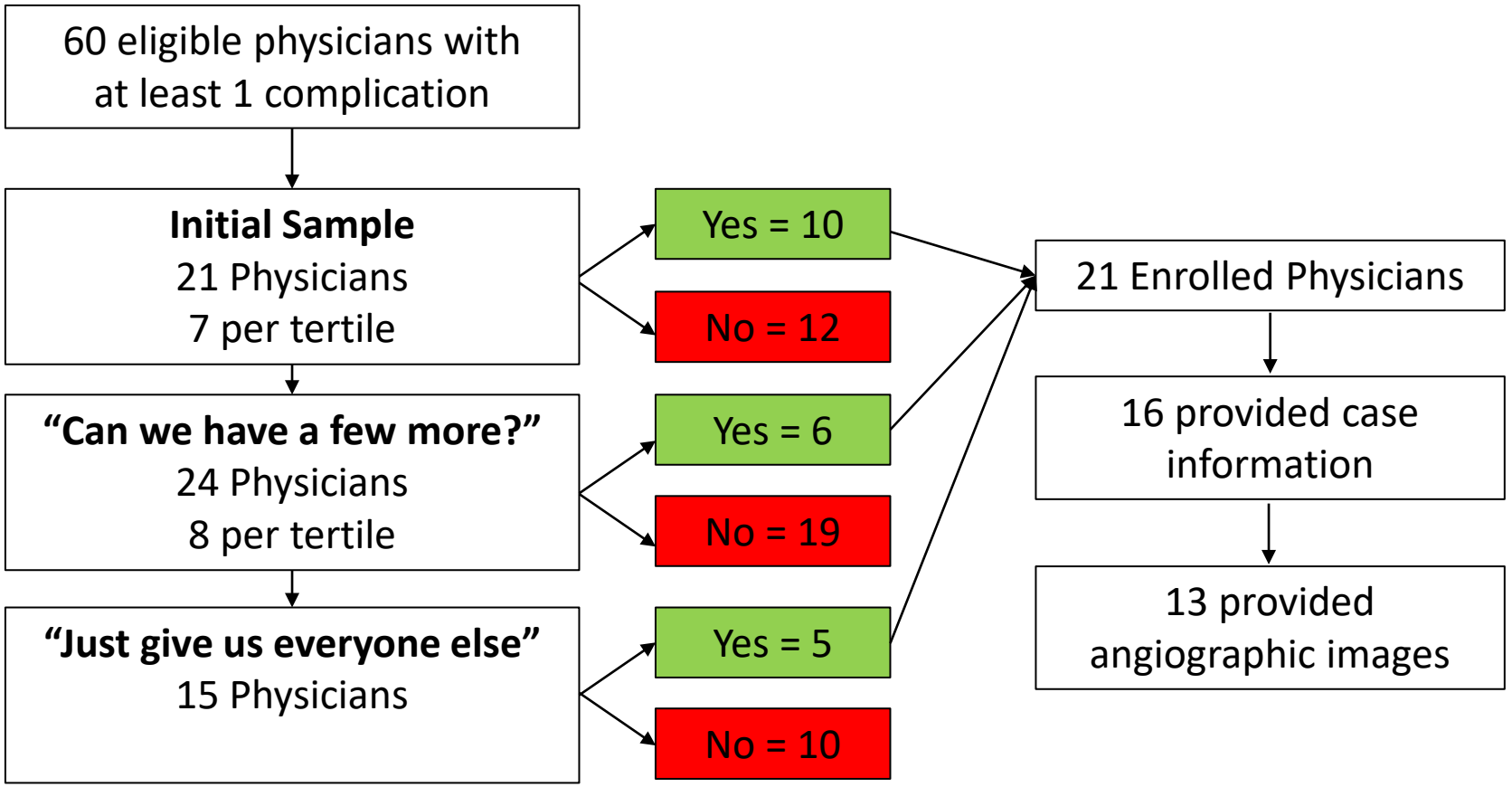


CDA-2: Peer Learning for Cardiac Procedures

CDA-2: Recruitment challenges



20+ physicians
5 cases each
100+ cases
(Minimum acceptable 60 cases)



Recruiting clinical personnel as research participants

Task	Metric
Gaining Entry	*Number of contact attempts to site to establish authorization to recruit*
Obtaining Accurate Records	*Percent of presumed eligible participants who are actually ineligible*
Reaching participants	*Number of contact attempts to a potential participant prior to receiving a response* *Cycle time in calendar days from initial contact to participant response*
Assessing willingness to participate	*Percent of respondents who declined*
Scheduling participants	*Cycle time from initial contact to activity completion among participants*

Hysong, et al. *Implementation Science*, 2013;8:125

CDA-2: Why is this so hard?

Problem 1: Clinicians are busy

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-9:00					
9:00-10:00					
10:00-11:00					
11:00-12:00					
12:00-1:00					
1:00-2:00					"Admin Time"
2:00-3:00					
3:00-4:00					
4:00-5:00					

Catch Up On Charting

Problem 1: Clinicians are busy

- Provide flexible scheduling
- Give honest estimates of time burden
- Capitalize on high-value activity when you have their attention
- Minimize number of required “touches”

Problem 2: Clinicians are expensive

Quotes:

"I do medical case review for a lawyer, and that's anywhere from $350 to $500 an hour. That's probably where I think it should be." –Interventional Cardiologist

"Jake, the only way to make your intervention less cost effective is if you had professional basketball players do your peer reviews." – A very smart health economist

Competing opportunities:

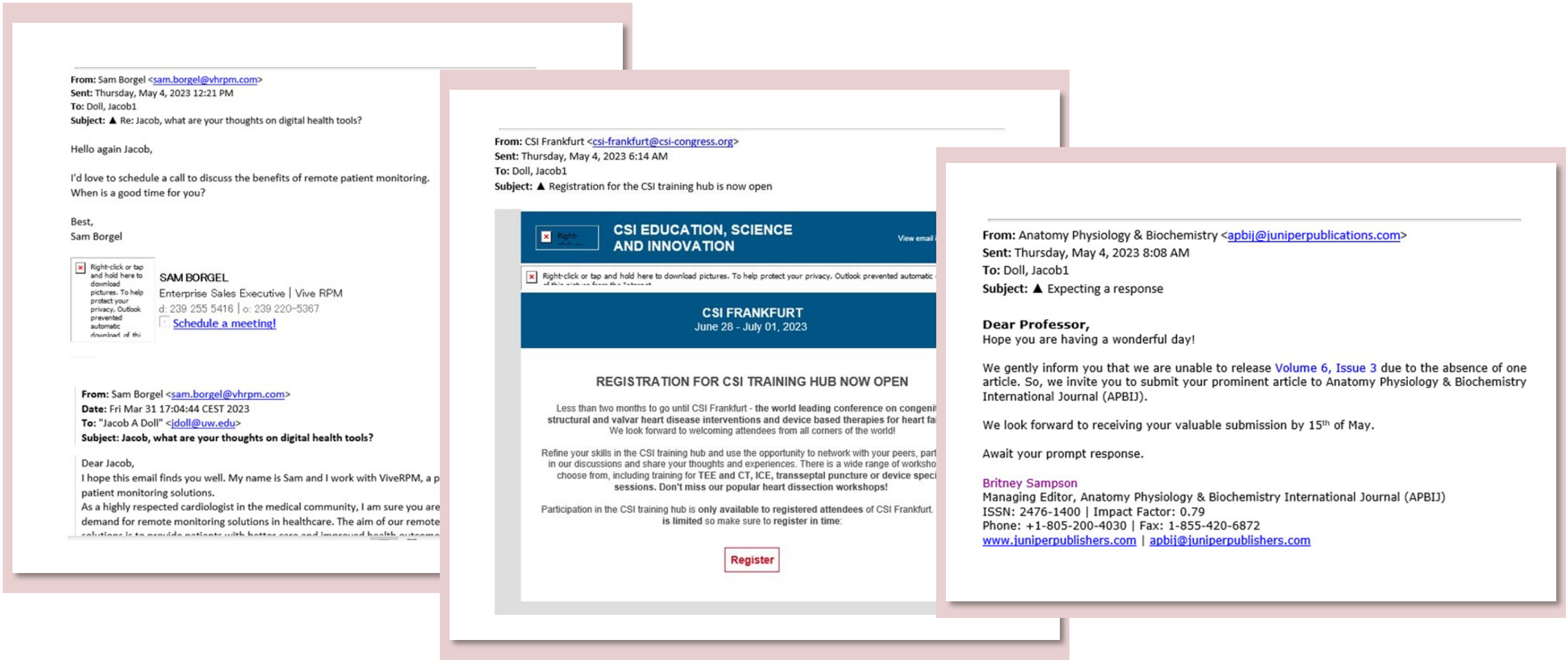
- RVU generation
- Consulting
- Expert witness
- Other surveys/interviews ($50-100 per 30 minutes)
- Industry-sponsored dinners/talks
- Time with family
- Watching television, etc.

Prabhu KM…Doll JA. *Am Heart J*, 2021;235:97-103

Problem 2: Clinicians are expensive

- Don’t try to compete for attention with money
- Align your solicitation with core professional values
  - Providing optimal patient care
  - Lifelong learning and professional excellence
  - Scientific advancement

Problem 3: Clinicians are solicited constantly



From: Sam Borgel <sam.borgel@vhrpm.com>
Sent: Thursday, May 4, 2023 12:21 PM
To: Doll, Jacob1
Subject: ▲ Re: Jacob, what are your thoughts on digital health tools?

Hello again Jacob,

I'd love to schedule a call to discuss the benefits of remote patient monitoring. When is a good time for you?

Best,
Sam Borgel

Right-click or tap and hold here to download pictures. To help protect your privacy, Outlook prevented automatic download of thi

SAM BORGEL
Enterprise Sales Executive | Vive RPM
d: 239 255 5416 | o: 239 220-5367
Schedule a meeting!

From: Sam Borgel <sam.borgel@vhrpm.com>
Date: Fri Mar 31 17:04:44 CEST 2023
To: "Jacob A Doll" <jdoll@uw.edu>
Subject: Jacob, what are your thoughts on digital health tools?

Dear Jacob,
I hope this email finds you well. My name is Sam and I work with ViveRPM, a p
patient monitoring solutions.
As a highly respected cardiologist in the medical community, I am sure you are
demand for remote monitoring solutions in healthcare. The aim of our remote

From: CSI Frankfurt <csi-frankfurt@csi-congress.org>
Sent: Thursday, May 4, 2023 6:14 AM
To: Doll, Jacob1
Subject: ▲ Registration for the CSI training hub is now open

Right-

CSI EDUCATION, SCIENCE AND INNOVATION

View email

Right-click or tap and hold here to download pictures. To help protect your privacy, Outlook prevented automatic

CSI FRANKFURT
June 28 - July 01, 2023

REGISTRATION FOR CSI TRAINING HUB NOW OPEN

Less than two months to go until CSI Frankfurt - **the world leading conference on congeni**
structural and valvar heart disease interventions and device based therapies for heart fa
We look forward to welcoming attendees from all corners of the world!

Refine your skills in the CSI training hub and use the opportunity to network with your peers, part
in our discussions and share your thoughts and experiences. There is a wide range of worksho
choose from, including training for **TEE and CT, ICE, transseptal puncture or device speci**
sessions. Don't miss our popular heart dissection workshops!

Participation in the CSI training hub is **only available to registered attendees** of CSI Frankfurt.
is limited so make sure to **register in time**:

Register

From: Anatomy Physiology & Biochemistry <apbij@juniperpublications.com>
Sent: Thursday, May 4, 2023 8:08 AM
To: Doll, Jacob1
Subject: ▲ Expecting a response

Dear Professor,
Hope you are having a wonderful day!

We gently inform you that we are unable to release Volume 6, Issue 3 due to the absence of one article. So, we invite you to submit your prominent article to Anatomy Physiology & Biochemistry International Journal (APBIJ).

We look forward to receiving your valuable submission by 15th of May.

Await your prompt response.

Britney Sampson
Managing Editor, Anatomy Physiology & Biochemistry International Journal (APBIJ)
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Problem 3: Clinicians are solicited constantly

- Be specific and aligned with expertise
- Rely on relationships
- Make it fun or unique

Recruiting Cardiologists: 3 Projects

"45-60 minute interviews to…get input from cardiologists about their experience with audit and feedback for [cardiac procedures]"

Response rate: 38%

Prabhu KM…Doll JA. *Am Heart J*, 2021;235:97-103

"10-minute online survey about public reporting and performance feedback"

Response rate: 25%

Unpublished data

"Selecting cases and uploading image files…to test an online system to facilitate peer-to-peer learning."

Response rate: 22%

In progress

Next Steps

- Complete peer reviews of 65 cardiac stenting cases
- Work the Office of Specialty Care and VA CART program to improve peer review processes
- Extend peer learning interventions to non-procedural fields including general cardiology

Summary

- Peer learning is a promising strategy for improving the quality and safety of procedures
- Research and interventions targeting clinicians can be highly impactful
- Engaging clinicians in research is challenging, but can be successful with persistence and focus

Thank You!


Healing Veterans' Hearts
VA Puget Sound Health Care System
2022