Surgical Pause Symposium Day 1 – Table of Contents

Surgical Pause Symposium

History of the Surgical Pause and Current State

Jason Johanning & Daniel Hall

VHA DIFFUSION OF EXCELLENCE
Surgical Pause Symposium

Disclosures:

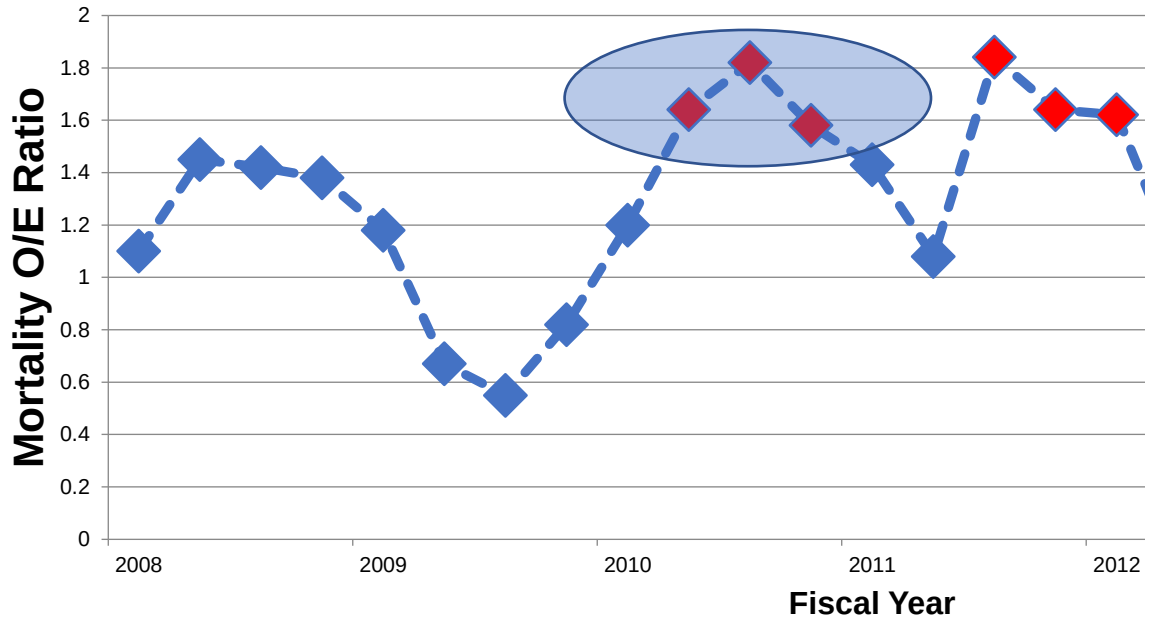
- Jason Johanning owns intellectual property related to frailty assessment through FutureAssure, LLC
- Daniel Hall has an unpaid consulting relationship with FutureAssure, LLC.
- Jason Johanning owns intellectual property related to targeted pressure relief through BlueFlower, LLC

Outline

- The Risk Analysis Index & the Surgical Pause
  - Origin story with color commentary
  - Conceptual framework
  - Data—It works
- Implementation Nuts and Bolts
- Lessons Learned
- Your Questions

Origin Story & Conceptual Framework
Omaha: We've got a problem

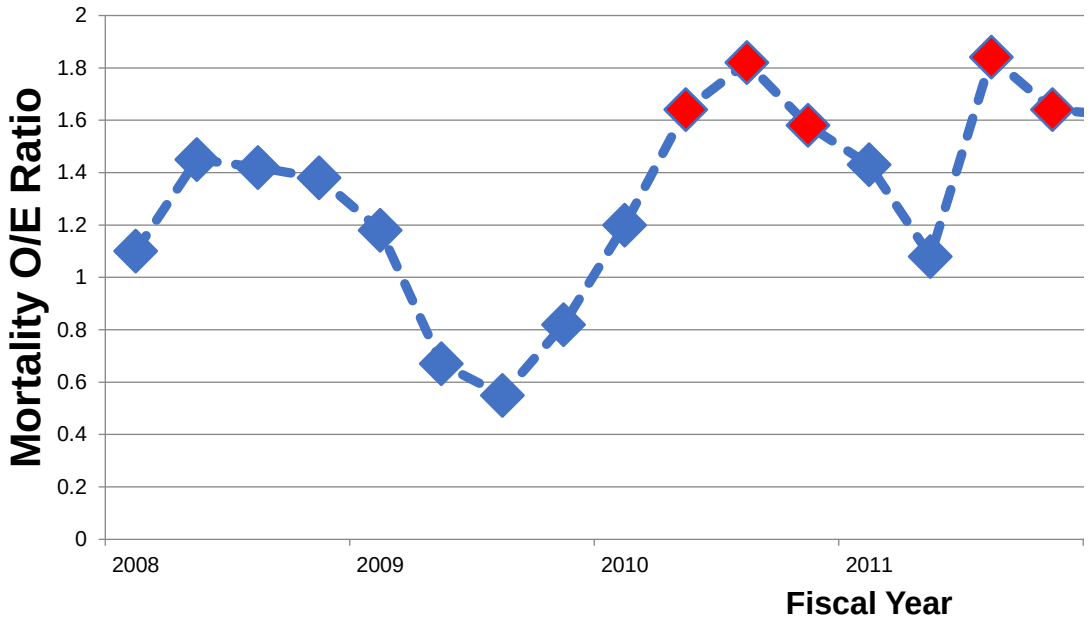
Observed/Expected Mortality at the Omaha VAMC (Red points are > 90% Confidence Interval)



How does a normal Chief of Surgery approach this situation? Run a high volume program!

Origin Story & Conceptual Framework
Omaha: We've got a problem

Observed/Expected Mortality at the Omaha VAMC (Red points are > 90% Confidence Interval)

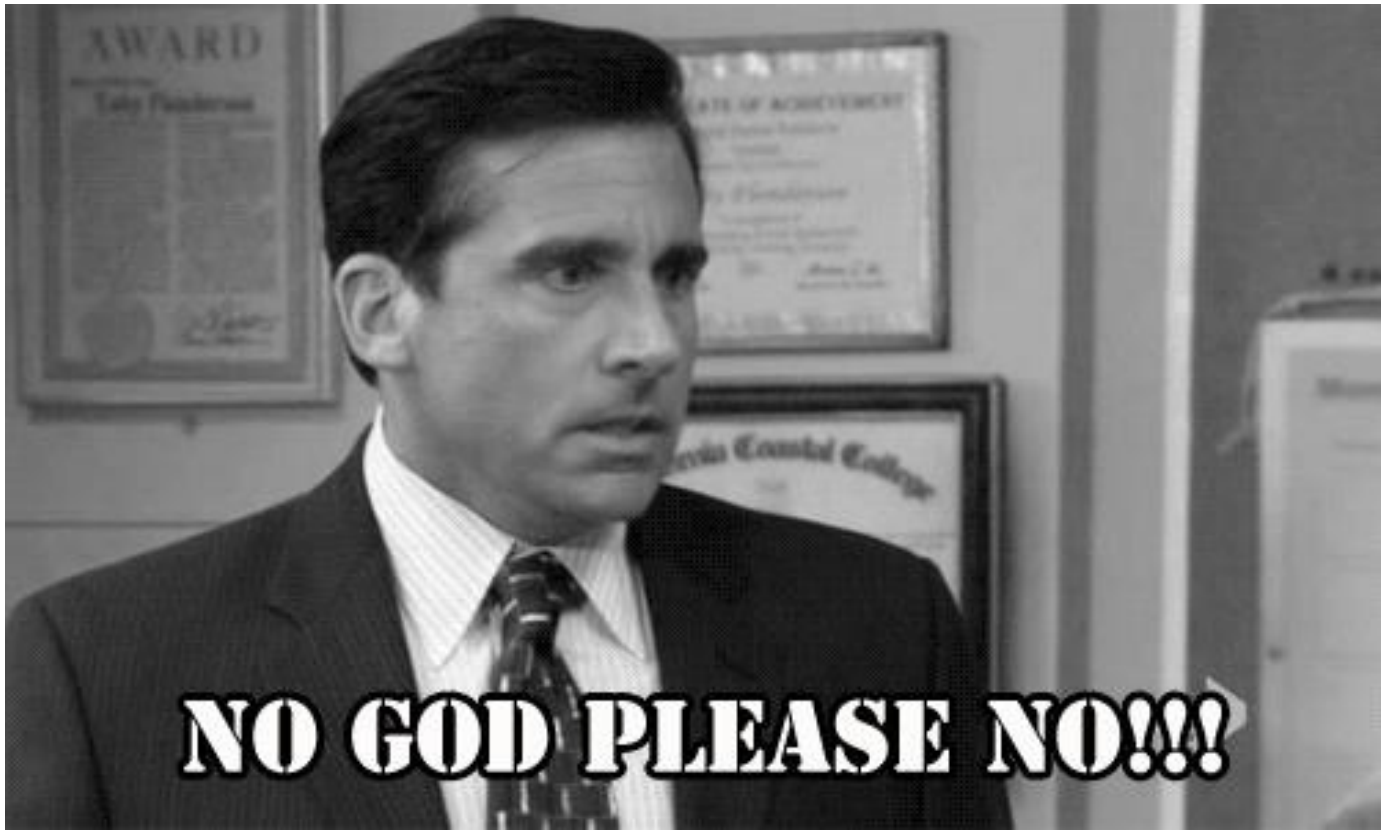


The Actors:

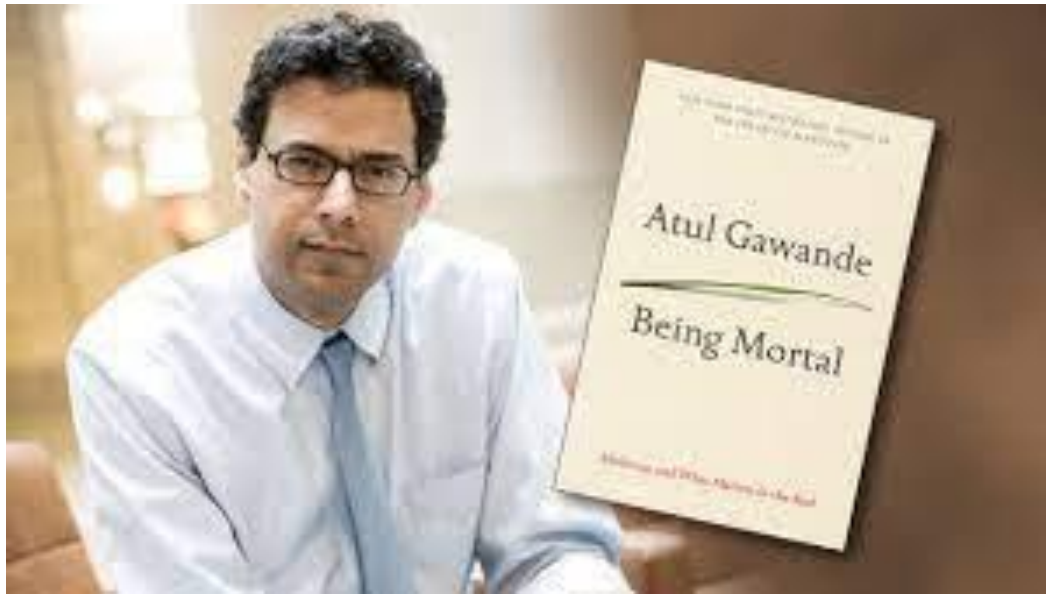
- Jason M. Johanning: Chief of Surgery
- Thomas G. Lynch, Chief of Staff-Soon to be ADUSH Clinical Operations
- William Gunnar, Director NSO
- William Nylander, Deputy Director NSO
- Mark Wilson, Medical Director VASQIP
- Marylin Lynn, NP-National Nurse Executive, NSO
- Dan Hall, Pittsburgh VA/CHERP
- Shipra Arya, Creighton University Resident/Vascular Surgeon Atlanta

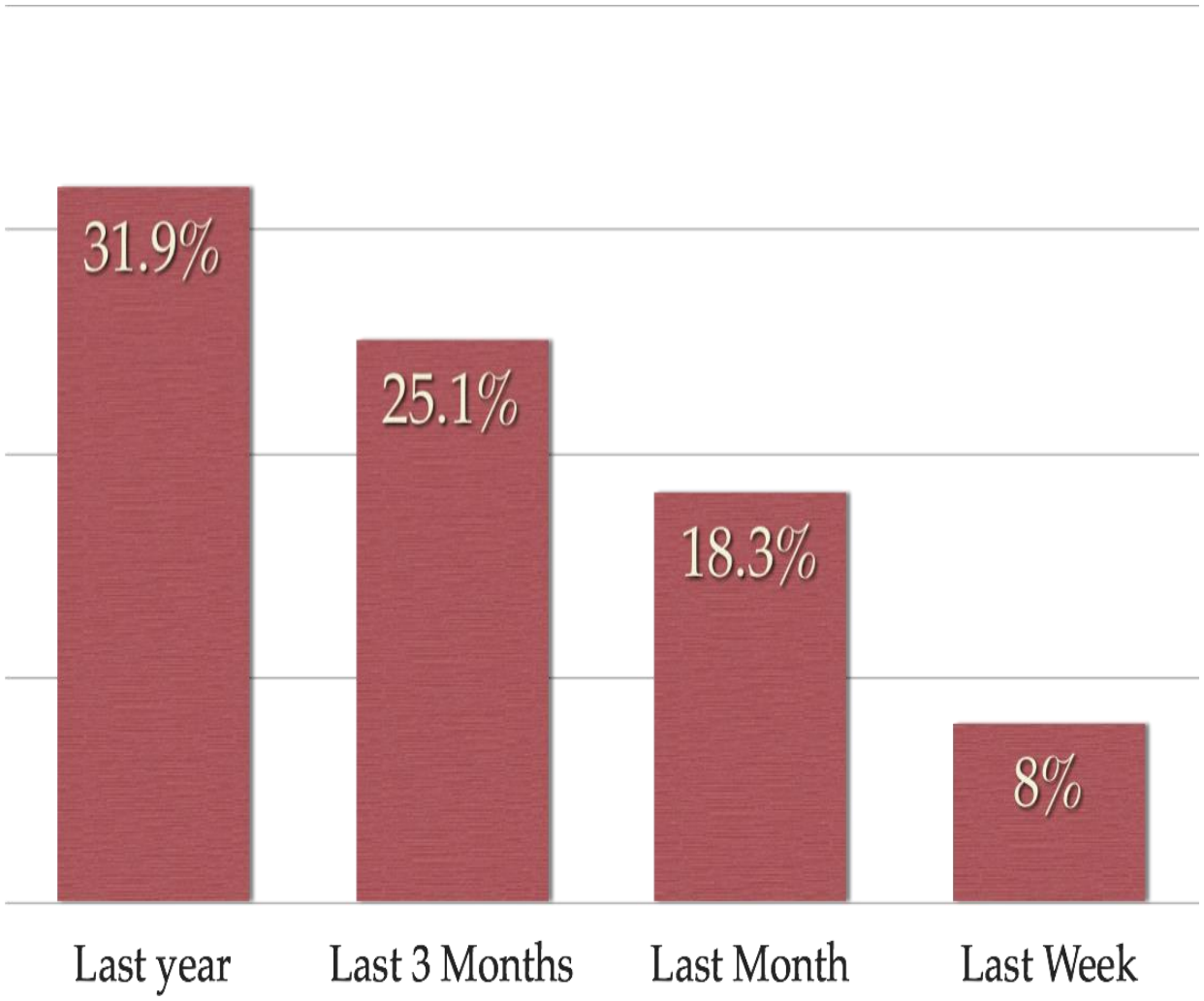
Think Different:

- If I told you your life expectancy was six months would you want a major elective ventral hernia repair?



- 1/3 of patients had surgical interventions in last year of life
  - Majority occurred in month before death
- Surgery associated with
  - More admissions
  - Longer LOS
  - Greater ICU LOS





Kwok AC. *Lancet.* 2011;378(9800):1408-1413.

Visionary…

Table 1. Dennis W. Jahnigen Career Development Scholar Awards (JCDA) Scholars and Jahnigen/Grants for Early Medical/Surgical Specialists' Transition to Aging Research (GEMSSTAR) Scholars: 2002–15

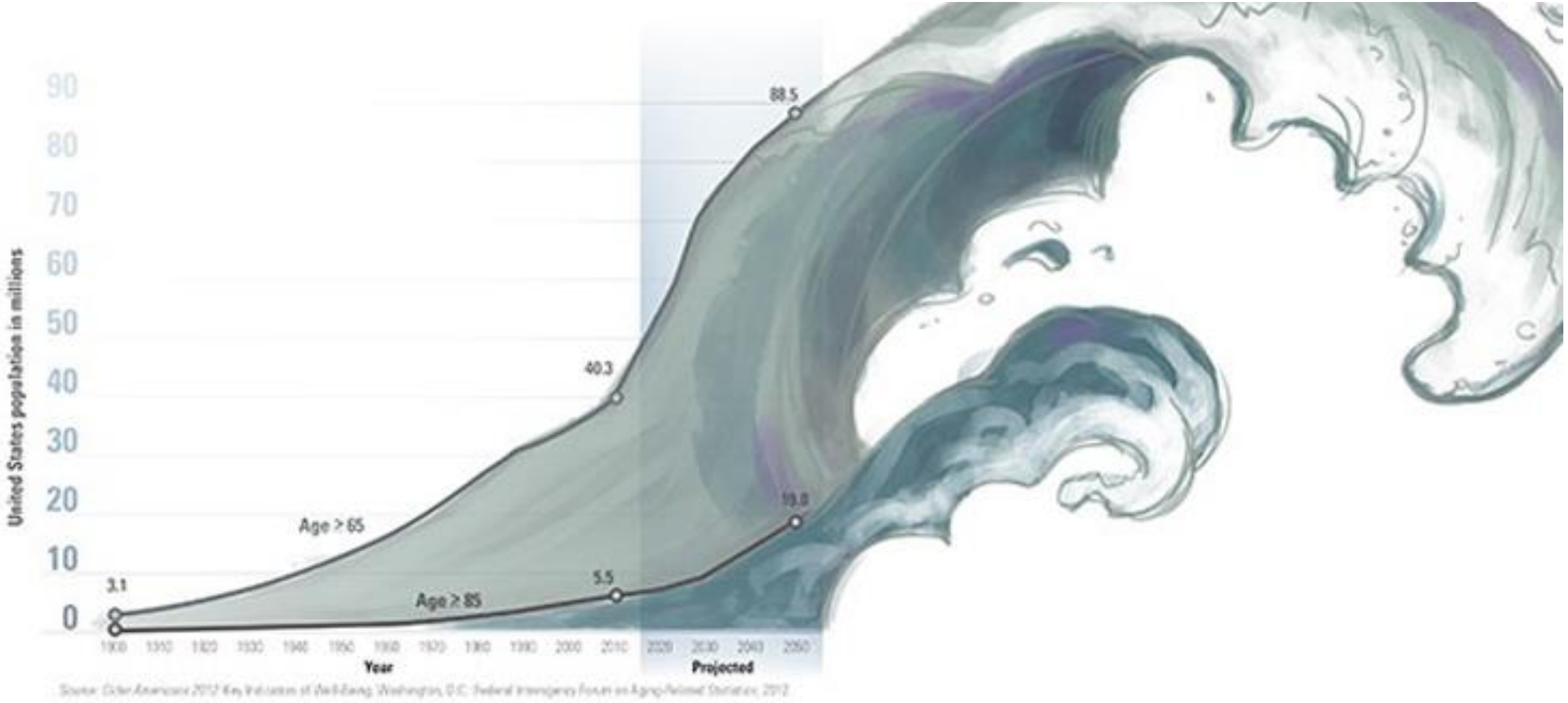
Specialty	JCDA Scholars (2002–09)	JCDA and GEMSSTAR Scholars (2011–15)	Scholars Funded (2002–15)	Percentage of Total Funded (2002–15)
	n			
Anesthesiology	6	5	11	11%
Emergency medicine	14	5	19	18%
General surgery	18	2	21	20%
Gynecology	4	4	8	8%
Ophthalmology	10	1	11	11%
Orthopaedic surgery	5	2	7	7%
Otolaryngology	5	0	5	5%
Physical medicine and rehabilitation	7	0	7	7%
Thoracic surgery	2	0	2	2%
Urology	8	2	10	10%
Vascular surgery	0	3	3	3%
Total	79	25	104	100%

Visionary…

Table 4. Number of Jahnigen Scholar Publications According to Year

Year	Publications, n
2002	532
2003	350
2004	386
2005	301
2006	423
2007	561
2008	385
2009	269
2010	259
2011	284
2012	307
2013	324
2014	369
Total	4,750

Silver Tsunami



A little bit of this and a little of that:

The American Journal of Surgery (2011) 202, 511–514

The American Journal of Surgery®

Association of VA Surgeons

Frailty predicts increased hospital and six-month healthcare cost following colorectal surgery in older adults

Thomas N. Robinson, M.D., F.A.C.S.[a,b,*], Daniel S. Wu, M.D.[a,b], Gregory V. Stiegmann, M.D., F.A.C.S.[a,b], Marc Moss, M.D.[c]

[a]Department of Surgery, Denver Veterans Affairs Medical Center, Denver, CO, USA; [b]Department of Surgery and [c]Department of Medicine, University of Colorado at Denver Health Sciences Center, Aurora, CO, USA

ORIGINAL SCIENTIFIC ARTICLE

Frailty as a Predictor of Surgical Outcomes in Older Patients

Makary, Martin A. MD, MPH, FACS[a, d, *]; Segev, Dorry L. MD, PhD, FACS[a, e]; Pronovost, Peter J. MD, PhD[a, c, d]; Syin, Dora MD[a]; Bandeen-Roche, Karen PhD[f]; Patel, Purvi MD, MPH[a]; Takenaga, Ryan MD[a, b]; Devgan, Lara MD, MPH[a]; Holzmueller, Christine G. BLA[c]; Tian, Jing MS[b]; Fried, Linda P. MD, MPH[b]

Author Information

Journal of the American College of Surgeons 210(6):p 901-908, June 2010. | ***DOI:*** 10.1016/j.jamcollsurg.2010.01.028

Frailty Conceptualized

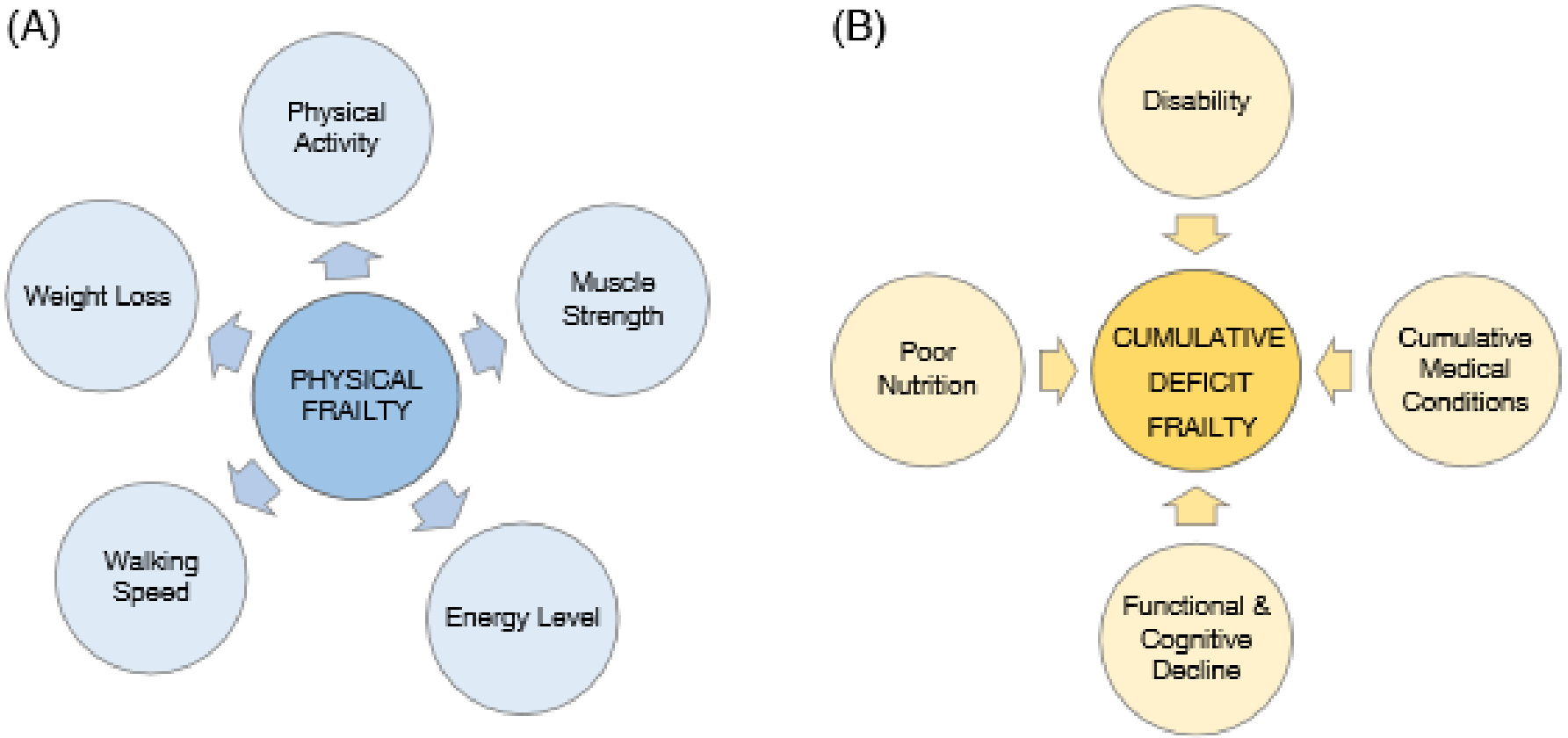
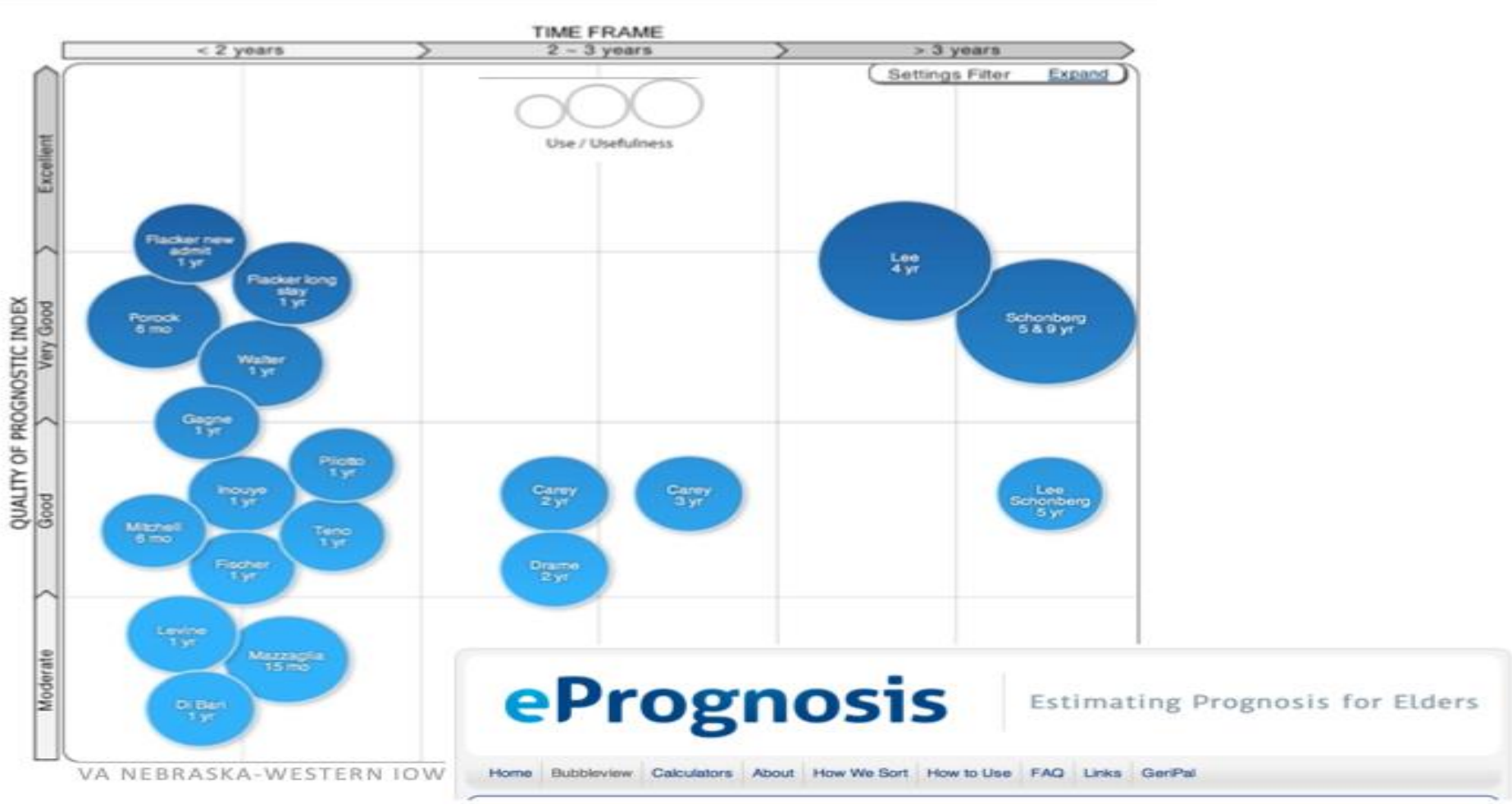


Figure 1. Representation of conceptual framework of two major theories on frailty. (A) Physical frailty, also termed phenotypic or syndromic frailty, is hypothesized to have a specific age-related biological basis that drives the appearance of signs and symptoms (outward pointing arrows). (B) Cumulative deficit frailty is hypothesized to be driven by cumulative nonspecific health, functional, psychological, and cognitive deficits (inward pointing arrows). Both concepts of frailty predict vulnerability to adverse outcomes and have led to multiple derivative frailty detection tools.

Walston J, et al. *J Am Geriatr Soc.* 2019;67(8):1559-1564.

If the shoe fits…



And lo and behold the RAI is mortality calculator with frailty questions

Risk Analysis Index

Last Name_____ Last four SSN_____
Date this Form completed_____
Date of Surgery-Anticipated_____
Proposed Operation_____

AGE, SEX, AND CANCER :

1. Sex — Female = 0/ Male = __5__

10A- Age and cancer Score	Score	Score
Age	without cancer	with cancer
< + 69	2	20
70 – 74	3	19
75 – 79	4	18
80- 84	5	17
85 – 89	6	15
90 -94	7	14
95 -99	8	14
100+	9	13

2. Age_____
(Excluding skin cancer, except for melanoma)
Score with Cancer _____
OR
Score without cancer _____

MEDICAL CO-MORBIDITIES:

2. Have you had unintentional weight loss in the past 3 months (>10 lbs)? No/Yes __5__
3. Renal failure? No/Yes__6__
4. Chronic/congestive heart failure? No/Yes__4__
5. Poor appetite? No/Yes__4__
6. Shortness of breath (at rest)? No/Yes__8__

COGNITION, RESIDENCE, AND ACTIVITY OF DAILY LIVING:

Cognition and Activities of Daily Living:

7. Do you reside at a setting other than independent living? (listed below) No/Yes_8__
   If YES, circle answer: Skilled Nursing Facility/ Assisted Living/ Nursing Home
   If YES, admission within in the past 3 months? No/Yes
8. Have your cognitive skills or status deteriorated over the last 3 months? No/Yes
9. Activities of Daily Living Chart:
   Without cognitive decline _____ (0-16)
   With cognitive decline _____ (2 to 21)
   TOTAL SCORE _____
   PERCENT _____

Mobility/locomotion	Eating	Toilet use	Personal hygiene
0. Independent	0. Independent	0. Independent	0. Independent
1. Supervised	1. Supervised	1. Supervised	1. Supervised
2. Limited assistance	2. Limited assistance	2. Limited assistance	2. Limited assistance
3. Extensive assistance	3. Extensive assistance	3. Extensive assistance	3. Extensive assistance
4. Total dependence	4. Total dependence	4. Total dependence	4. Total dependence

INDEPENDENT = No help or oversight – OR – help or oversight provided only 1 or 2 times in last 7 days SUPERVISED = *Oversight, supervision or cueing* provided 3 or more times during the last 7 days.
LIMITED ASSISSTANCE= patient *highly involved* in activity; but received physical help in guided maneuvering of limbs or other non weight bearing assistance 3 or more times in the last 7 days.
EXTENSIVE ASSISSTANCE= while patient performed *part* of activity over last 7 day period, help was provided for the following: weight bearing support OR full staff performance during part of the past 7 days. TOTAL DEPENDENCE= full staff performance during the past 7 days.
TOTAL DEPENDENCE= full staff performance during the past 7 days.

12- ADL POINTS SCORE	ADL POINTS SCORE with COGNITIVE DECLINE
0	ADL score -2
1,2	ADL score -1
3,4	ADL score 0
5,6,7	ADL score +1
8,9	ADL score +2
10,11	ADL score +3
12,13	ADL score +4
14,15,16	ADL score +5

Points = percent	Points = percent	Points = percent
0-5 = 4%	26 – 30 = 27%	56- 60 = 89%
6- 10 = 4%	31 – 35 = 36%	61 65 = 90%
11-15 = 7%	36 – 40 = 47%	66- 70 = 93%
16-20 = 11%	41 – 45 = 58%	71 -75 = 100 %
21- 25 = 17%	46- 50 = 69%	

Prove it's frailty

Deficit Accumulation Index (DAI)

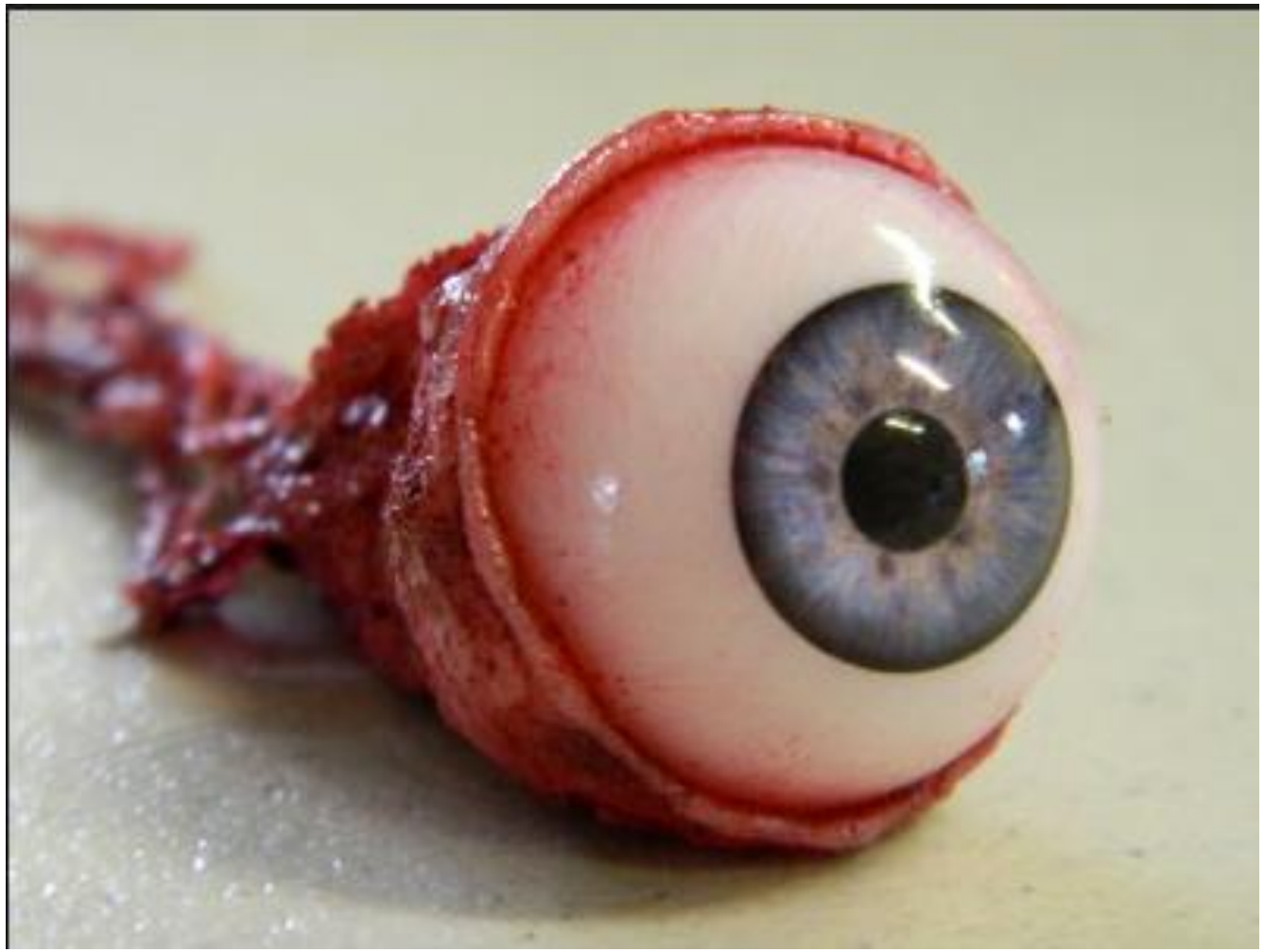
(Rockwood & Mitnitski 2001,2004,2006,2007a,b)

Appendix 1: List of variables used by the Canadian Study of Health and Aging to construct the 70-item CSHA Frailty Index

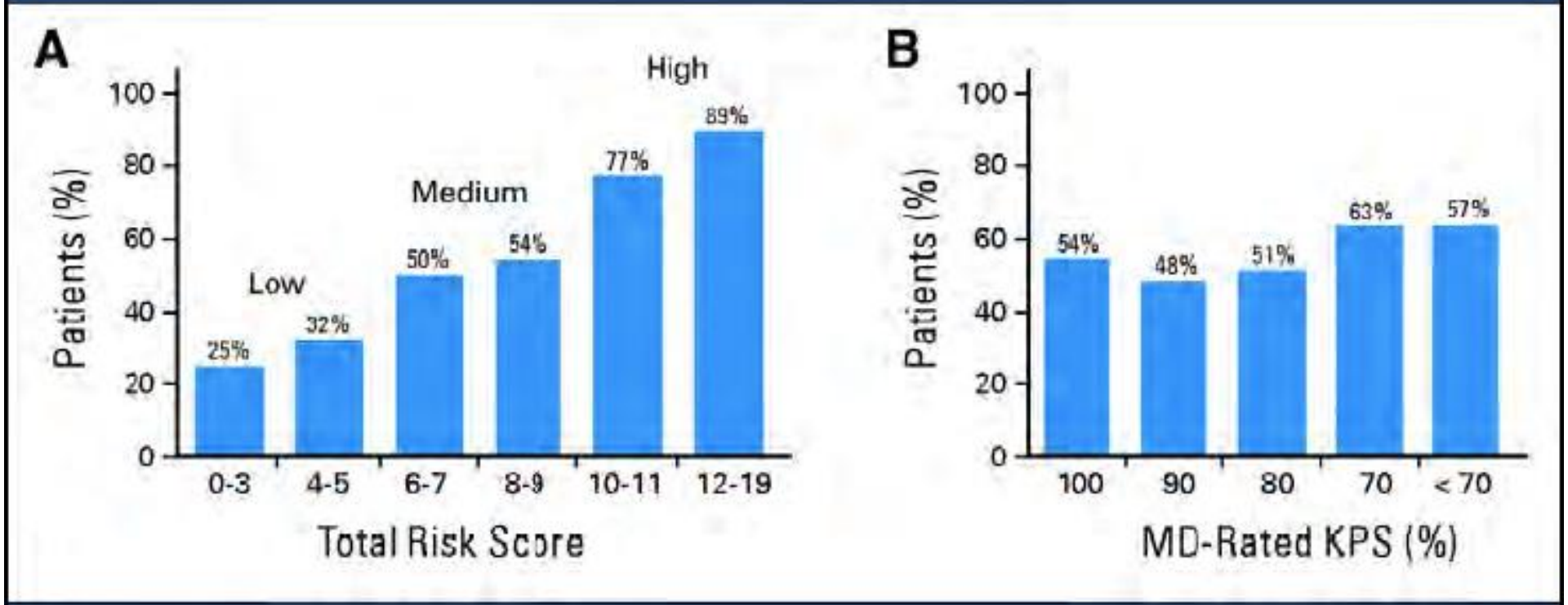
- Changes in everyday activities
- Head and neck problems
- Poor muscle tone in neck
- Bradykinesia, facial
- Problems getting dressed
- Problems with bathing
- Problems carrying out personal grooming
- Urinary incontinence
- Toileting problems
- Bulk difficulties
- Rectal problems
- Gastrointestinal problems
- Problems cooking
- Sucking problems
- Problems going out alone
- Impaired mobility
- Musculoskeletal problems
- Bradykinesia of the limbs
- Poor muscle tone in limbs
- Poor limb coordination
- Poor coordination, trunk
- Poor standing posture
- Irregular gait pattern
- Falls
- Mood problems
- Feeling sad, blue, depressed
- History of depressed mood
- Tiredness all the time
- Depression (clinical impression)
- Sleep changes
- Restlessness
- Memory changes
- Short-term memory impairment
- Long-term memory impairment
- Changes in general mental functioning
- Onset of cognitive symptoms
- Clouding or delirium
- Paranoid features
- History relevant to cognitive impairment or loss
- Family history relevant to cognitive impairment or loss
- Impaired vibration
- Tremor at rest
- Postural tremor
- Intention tremor
- History of Parkinson's disease
- Family history of degenerative disease
- Seizures, partial complex
- Seizures, generalized
- Syncope or blackouts
- Headache
- Cerebrovascular problems
- History of stroke
- History of diabetes mellitus
- Arterial hypertension
- Peripheral pulses
- Cardiac problems
- Myocardial infarction
- Arrhythmia
- Congestive heart failure
- Lung problems
- Respiratory problems
- History of thyroid disease
- Thyroid problems
- Skin problems
- Malignant disease
- Breast problems
- Abdominal problems
- Presence of snout reflex
- Presence of the palmomental reflex
- Other medical history

Rockwood, *J Gerontol*, 2007a

Now how accurate is your eyeball?



Risk score versus physician-rated KPS to predict chemotherapy toxicity



Hurria A, JCO 2011;29:3457-3465

It can’t hurt to measure frailty?

- And I am sure surgeons don’t have a clue what frailty really represents?

Deployed the RAI in Anesthesia Pre-Op clinic

- Accurate and easy
- Rapid review was possible
  - 100 cases a week/5-10 cases to review
- Too late in process
- Moved to clinic
- Required to book your operation
- Placed into scheduling package to alert all providers of patients frailty score as they proceeded through surgical care
- Partnered with Pierre Levadan, MD (Palliative Care)

So what happened?

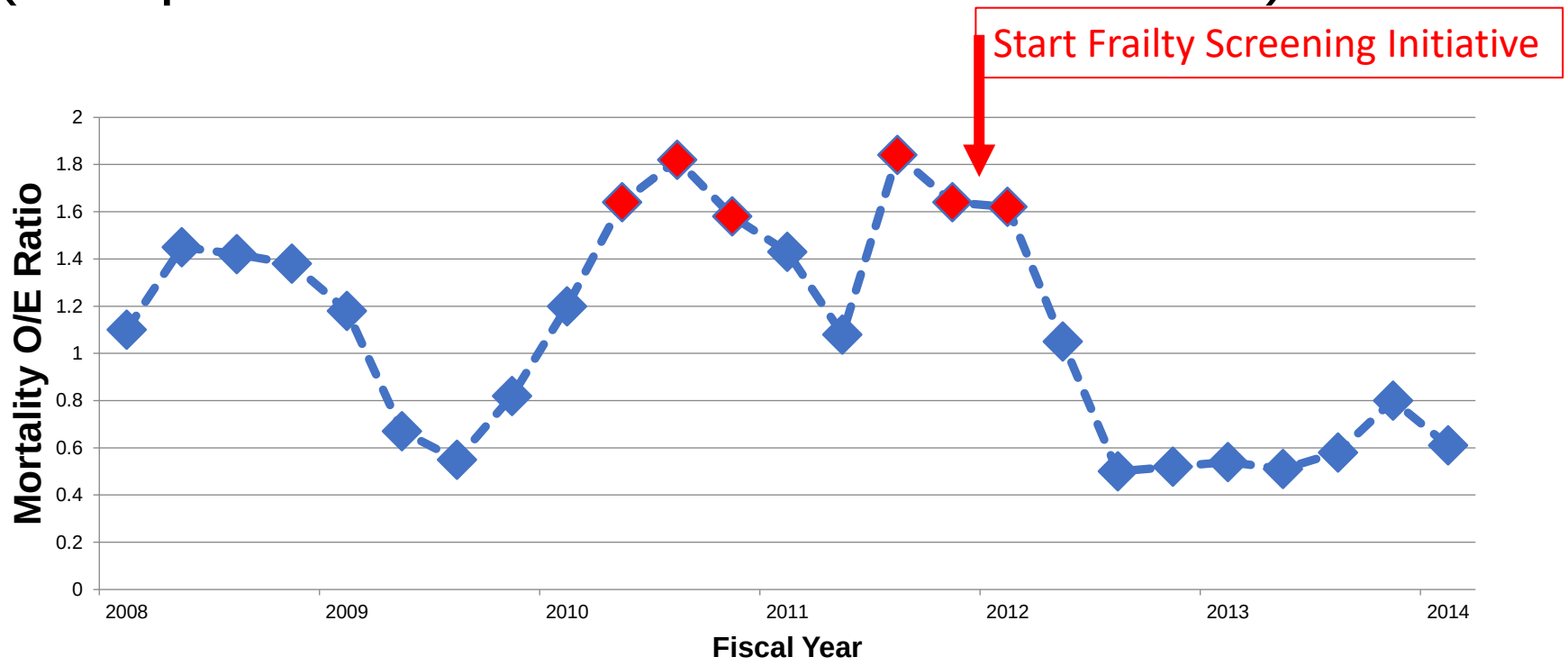
- Conducted weekly review of all surgeries scheduled on frail patients.
  - Spoke with surgeon to review operative decision making.
    - OK spoke with Chief Residents
  - Spoke with anesthesiologists to optimize anesthetic plan.
    - Ok spoke to Chief of Anesthesia Scott Hofmann
  - Spoke with intensivists to encourage post-operative rescue from near certain complications.
    - Matt Goede and Armour Forse
  - Aggressive referral for preoperative palliative care to clarify goals.
    - Pierre Levadan…Multiple conversations

Leading Indicator:

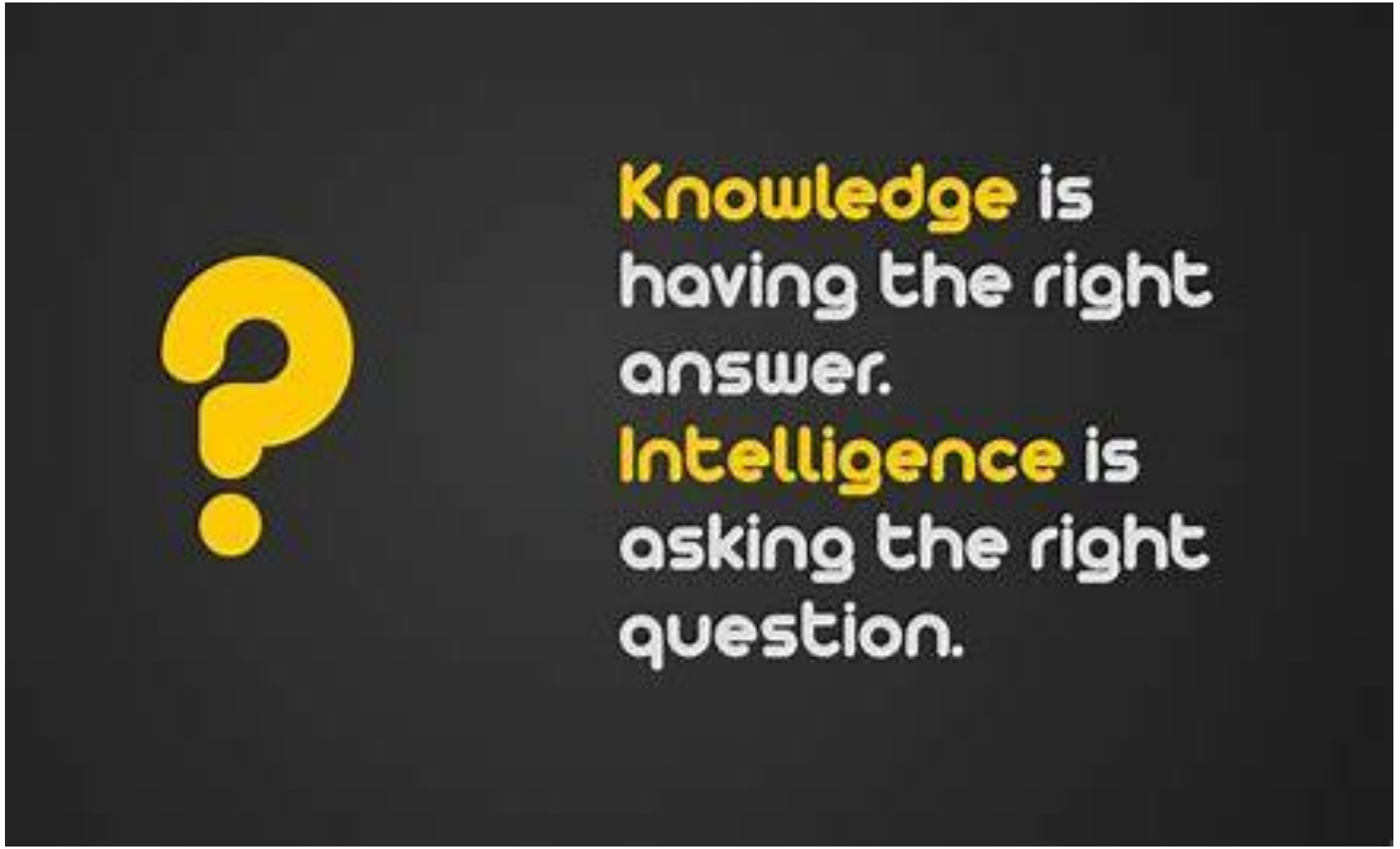
- Dr. Debra Romberger:
  - Chief of Research Omaha VA
  - Pulmonary Intensivist
  - Current Chief of Medicine UNMC
- We Need to Meet: Director's Conference Room
- Your assessment program is potentially limiting patients from having life saving operations!
- But you told me 6 months ago I was killing people by offering unnecessary operations?
- OK…Prove it works

Lagging Indicator: Decreased Mortality

Observed/Expected Mortality at the Omaha VAMC
(Red points are > 90% Confidence Interval)



What is the singularly most asked question regarding frailty and surgery



Proving it…

Original Investigation | ASSOCIATION OF VA SURGEONS

Surgical Palliative Care Consultations Over Time in Relationship to Systemwide Frailty Screening

Katherine F. Ernst, BS; Daniel E. Hall, MD, MDiv, MHSc; Kendra K. Schmid, PhD; Georgia Seever, RN; Pierre Lavedan, MD; Thomas G. Lynch, MD, MHA; Jason Michael Johanning, MD, MS

And then the snowball started…

JAMA Surgery | Original Investigation

Association of a Frailty Screening Initiative With Postoperative Survival at 30, 180, and 365 Days

Daniel E. Hall, MD, MDiv, MHSc; Shipra Arya, MD, SM; Kendra K. Schmid, PhD; Mark A. Carlson, MD; Pierre Lavedan, MD; Travis L. Bailey, BS; Georgia Purviance, RN; Tammy Bockman, RN, MHA; Thomas G. Lynch, MD, MHCM; Jason M. Johanning, MD, MS

Cheese anyone?

CrossMark

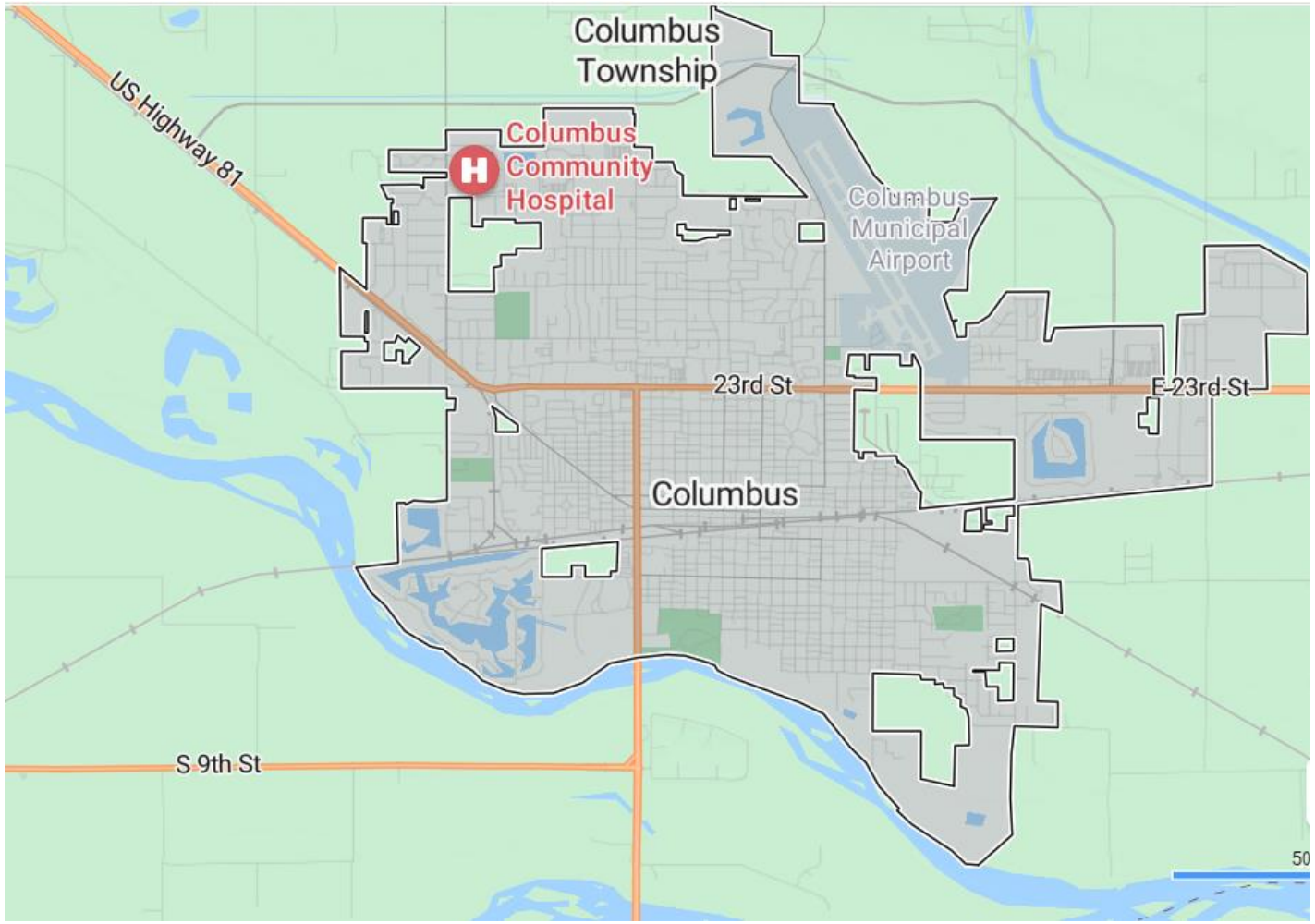
From the Society for Vascular Surgery

Preoperative frailty Risk Analysis Index to stratify patients undergoing carotid endarterectomy

Alyson A. Melin, DO,[a,b] Kendra K. Schmid, PhD,[b] Thomas G. Lynch, MD,[b] Iraklis I. Pipinos, MD,[a,b] Steven Kappes, MD,[c] G. Matthew Longo, MD,[a,b] Prateek K. Gupta, MD,[d] and Jason M. Johanning, MD,[a,b]

Omaha, Neb; Milwaukee, Wisc; and Memphis, Tenn

Corn anyone?



Ronald Earnst
(Father of Katie)
General Surgeon
Columbus, NE

CCH is a 50-bed acute care facility that is certified for swing beds, with four skilled nursing beds and 14 ambulatory outpatient beds.

Why Vascular?...

EMORY UNIVERSITY SCHOOL OF MEDICINE

Sites

- University of Utah - Principal Investigator, Larry Kraiss, MD (Lead)
- Dartmouth- Hitchcock - Philip P Goodney, MD, MS
- Emory University, Atlanta, GA – Shipra Arya, MD, SM
- University of Nebraska – Jason Johanning, MD
- Stanford University – Matthew Mell, MD

Frailty4Site…

INVITED COMMENTARY

Moving frailty assessment beyond knowing it when you see it

Larry W. Kraiss, MD, *Salt Lake City, Utah*

"I know it when I see it" —a colloquial expression that attempts to categorize an observable fact or event, although the category is subjective or lacks clearly defined parameters.[1]

somewhere in between in scope and
Instruments that can be completed
record review have been developed.[6,
no consensus as to which instrument

Frailty4Site…

Frailty assessment should become as routine (and easy) as taking vital signs. When that happens, we will be better able to meet the expectations of our patients.

Larry Kraiss, MD

Never too old to learn…

HEALTH AND AGING POLICY FELLOWS

HOME | HEALTH AND AGING POLICY | FELLOWSHIP APPLICATION | THE FELLOWS | PROGRAM NEWS | CONTACT | PORTAL

DEVELOPING A CADRE OF LEADERS FOCUSED ON CHANGING POLICY TO IMPROVE THE LIVES OF OLDER AMERICANS

Perverse Incentives…the C-Suite

Relationship Between Occurrence of Surgical Complications and Hospital Finances

Sunil Eappen, MD
Bennett H. Lane, MS
Barry Rosenberg, MD, MBA
Stuart A. Lipsitz, ScD
David Sadoff, MBA
Dave Matheson, JD, MBA
William R. Berry, MD, MPP, MPH
Mark Lester, MD, MBA
Atul A. Gawande, MD, MPH

Importance The effect of surgical complications on hospital finances is unclear.
Objective To determine the relationship between major surgical complications and per-encounter hospital costs and revenues by payer type.

Design, Setting, and Participants Retrospective analysis of administrative data for all inpatient surgical discharges during 2010 from a nonprofit 12-hospital system in the southern United States. Discharges were categorized by principal procedure and occurrence of 1 or more postsurgical complications, using International Classification of Diseases, Ninth Revision, diagnosis and procedure codes. Nine common surgical procedures and 10 major complications across 4 payer types were analyzed. Hospital costs and revenue at discharge were obtained from hospital accounting systems and classified by payer type.

Main Outcomes and Measures Hospital costs, revenues, and contribution margin (defined as revenue minus variable expenses) were compared for patients with and without surgical complications according to payer type.

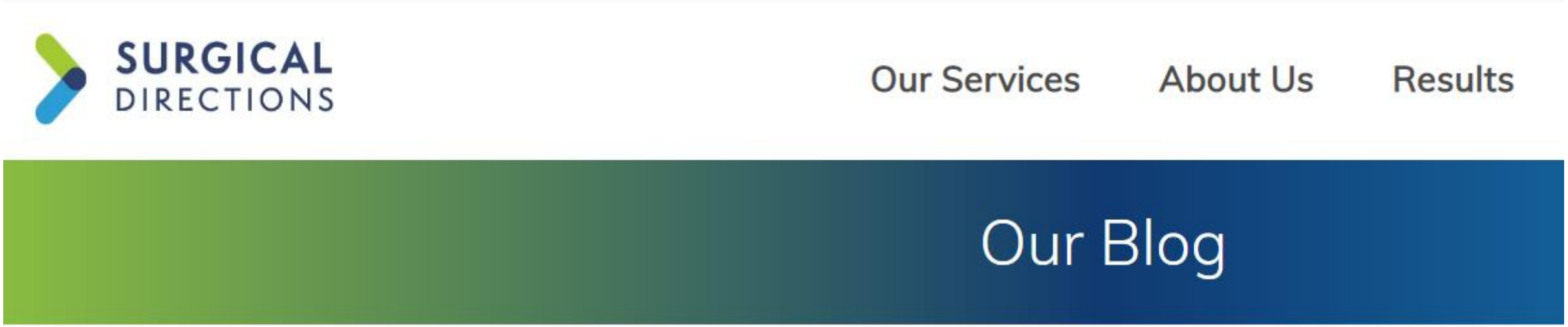
Perverse Incentives…the C-Suite

Relationship Between Occurrence of Surgical Complications and Hospital Finances

- Results Of 34 256 surgical discharges, 1820 patients (5.3%; 95% CI, 4.4%-6.4%) experienced 1 or more postsurgical complications. Compared with absence of complications, complications were associated with a $39 017 (95% CI, $20 069-$50 394; P.001) higher contribution margin per patient with private insurance ($55 953 vs $16 936) and a $1749 (95% CI, $976-$3287; P.001) higher contribution margin per patient with Medicare ($3629 vs $1880). For this hospital system in which private insurers covered 40% of patients (13 544), Medicare covered 45% (15 406), Medicaid covered 4% (1336), and self-payment covered 6% (2202), occurrence of complications was associated with an $8084 (95% CI, $4903-$9740; P.001) higher contribution margin per patient ($15 726 vs $7642) and with a $7435 lower per-patient total margin (95% CI, $5103-$10 507; P.001) ($1013 vs $6422).

- Conclusions and Relevance In this hospital system, the occurrence of postsurgical complications was associated with a higher per-encounter hospital contribution margin for patients covered by Medicare and private insurance but a lower one for patients covered by Medicaid and who self-paid. Depending on payer mix, many hospitals have the potential for adverse near-term financial consequences for decreasing postsurgical complications. JAMA. 2013;309(15):1599-1606 www.jama.com

Perverse Incentives…the C-Suite



Perverse Incentives…the C-Suite

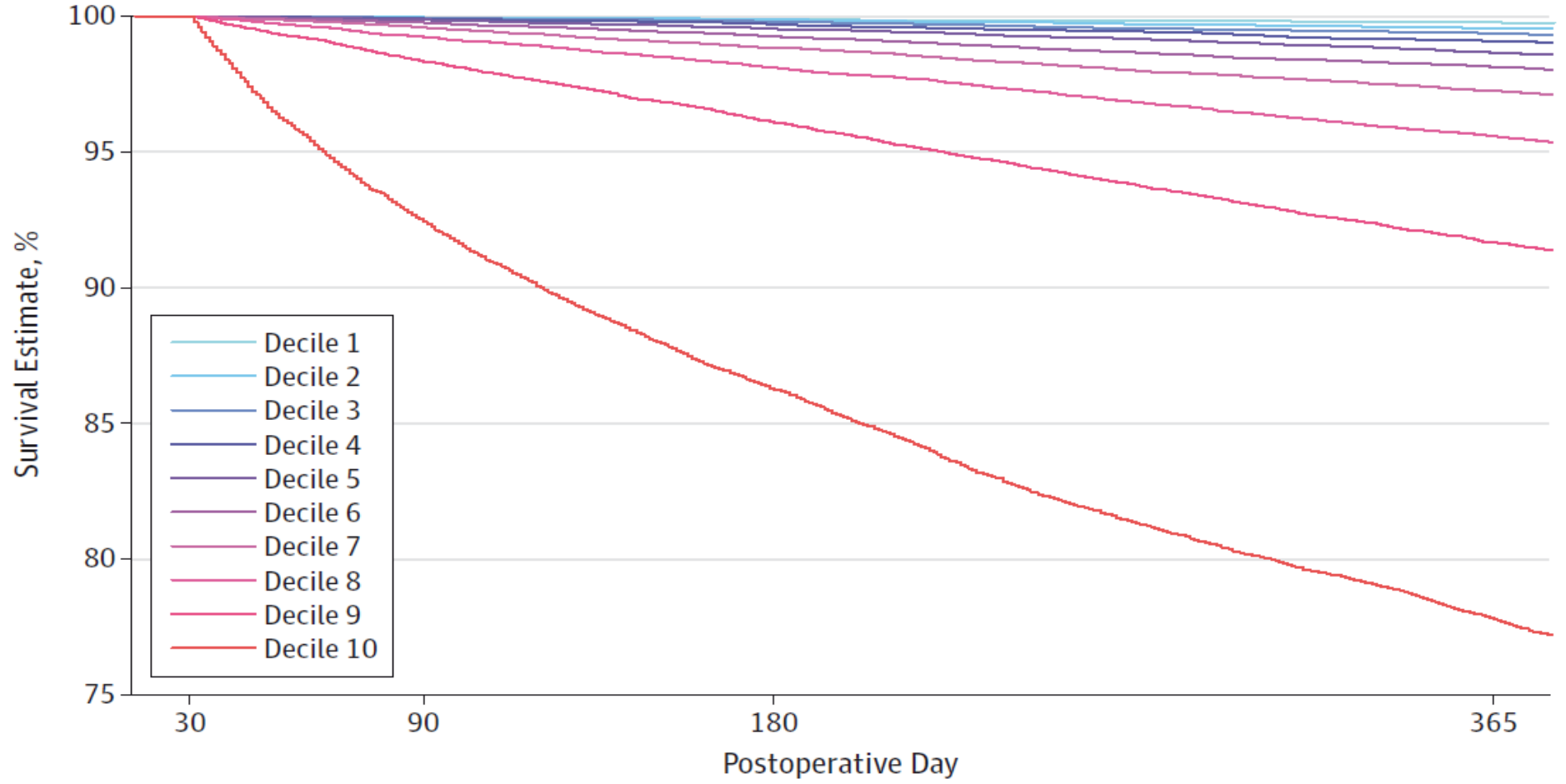
- **1 | Check OR contribution margin**
- **Background:** Most hospitals depend on perioperative services to drive profit margins. In the current environment, however, high nursing and anesthesia coverage costs are reducing OR profitability.
  Assessment: Check the OR department contribution margin. In better-performing organizations, perioperative services contributes 55% to the bottom line. If the OR contribution margin is significantly less in your facility, your hospital will struggle to achieve financial sustainability. Conversely, matching the OR contribution margin of top organizations will transform your hospital's financial results.
  Opportunity: There are two ways to improve OR margins — increase revenue or decrease expenses. Most hospitals should target both strategies. However, increasing revenue by building case volume is a mid- to long-term opportunity. Hospital leaders can improve perioperative contribution margins in the short term by right-sizing the OR footprint.
  Example: *A 10-room OR performs 8,000 cases per year. Despite high volumes, the department is only breaking even. Right- sizing the OR to 7 rooms could reduce costs by more than $3 million on the same volume. These savings would go straight to the bottom line*

- NOT going to tell you who should/should not have surgery

- May cause anxiety
  - New ways of thinking
  - Changing culture is hard

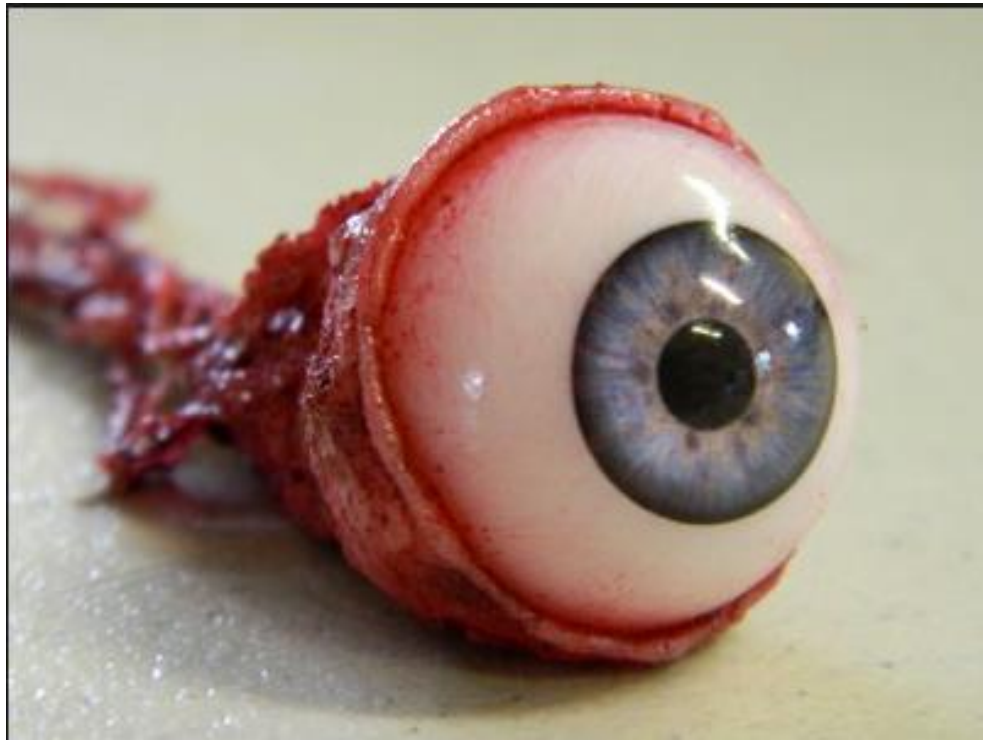
We know some patients don’t do well

Figure 2. Survival Curves for Risk Deciles, Excluding Patient Mortalities Prior to Postoperative Day 30



Smith T, et al., *JAMA Surg.* 2016;151(5):417-422.

Now how accurate is your eyeball?



Risk Analysis Index

Last Name_____ Last four SSN_____
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1. Sex — Female = 0/ Male = __5__

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100+	9	13

2. Age_____
(Excluding skin cancer, except for melanoma)
Score with Cancer _____
OR
Score without cancer _____

MEDICAL CO-MORBIDITIES:

2. Have you had unintentional weight loss in the past 3 months (>10 lbs)? No/Yes __5__
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COGNITION, RESIDENCE, AND ACTIVITY OF DAILY LIVING:

Cognition and Activities of Daily Living:

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TOTAL SCORE _____
PERCENT _____

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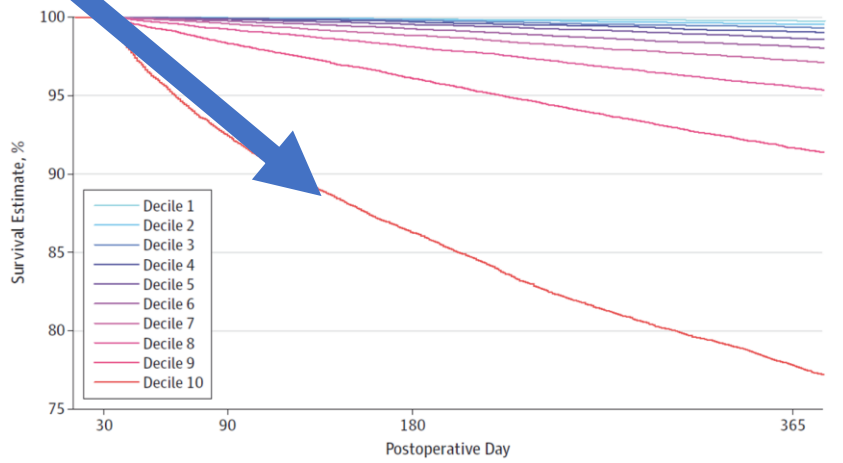
TOTAL DEPENDENCE= full staff performance during the past 7 days.

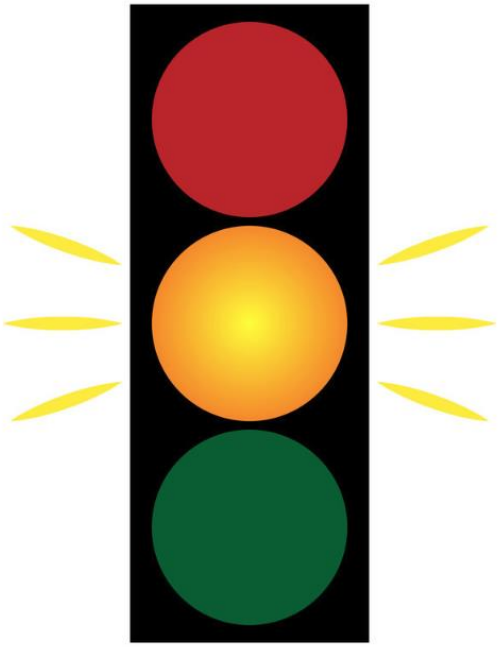
12- ADL POINTS SCORE	ADL POINTS SCORE with COGNITIVE DECLINE
0	ADL score -2
1,2	ADL score -1
3,4	ADL score 0
5,6,7	ADL score +1
8,9	ADL score +2
10,11	ADL score +3
12,13	ADL score +4
14,15,16	ADL score +5

Points = percent	Points = percent	Points = percent
0-5 = 4%	26 – 30 = 27%	56- 60 = 89%
6- 10 = 4%	31 – 35 = 36%	61 65 = 90%
11-15 = 7%	36 – 40 = 47%	66- 70 = 93%
16-20 = 11%	41 – 45 = 58%	71 -75 = 100 %
21-25 = 17%	46- 50 = 69%	

Figure 2. Surv[illegible] Curves for Risk Deciles, Excluding Patient Mortalities Prior to Postoperative Day 30



The Surgical Pause



Patient Presents to Outpatient Surgical Clinic

Risk Stratify by Assessing Frailty

Usual Care

SURGICAL PAUSE (*Make No Promises*)

- Further Risk Assessment & Mitigation
- Risk-informed Shared Decision Making Process

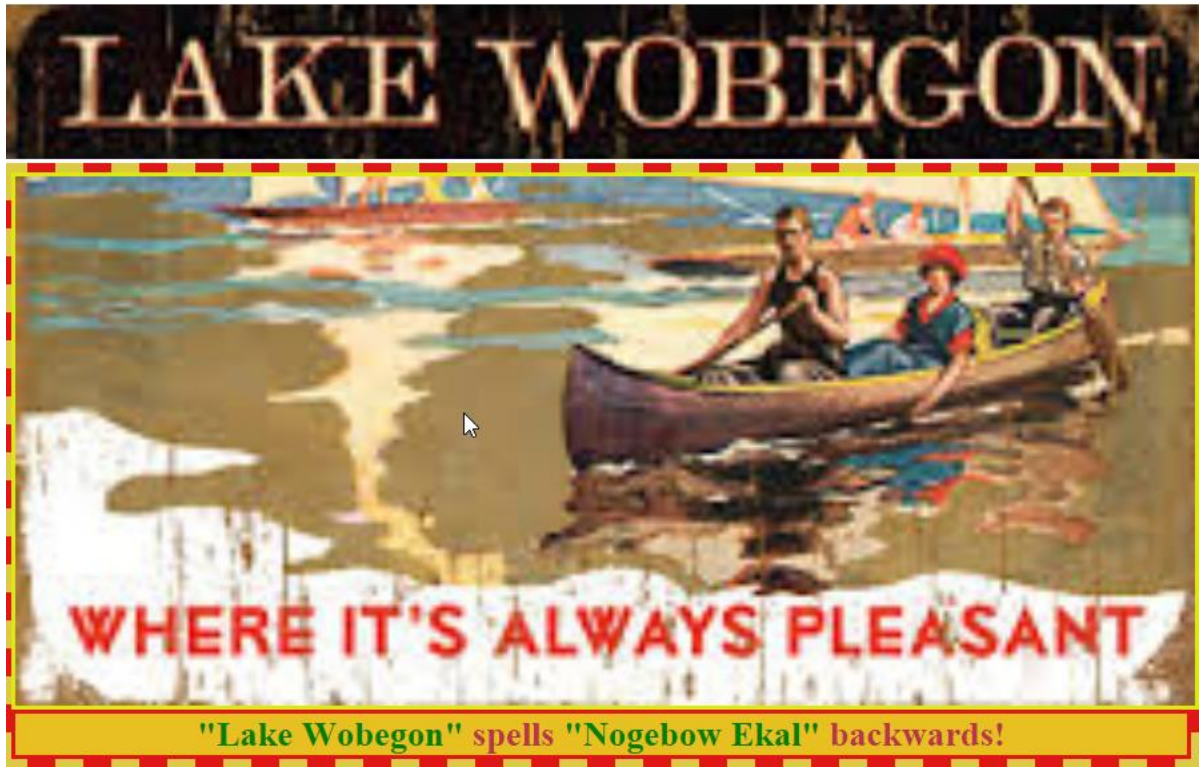
Prehabilitation

Surgery

Non Operative Management

Barriers?

But surgeons are optimists!

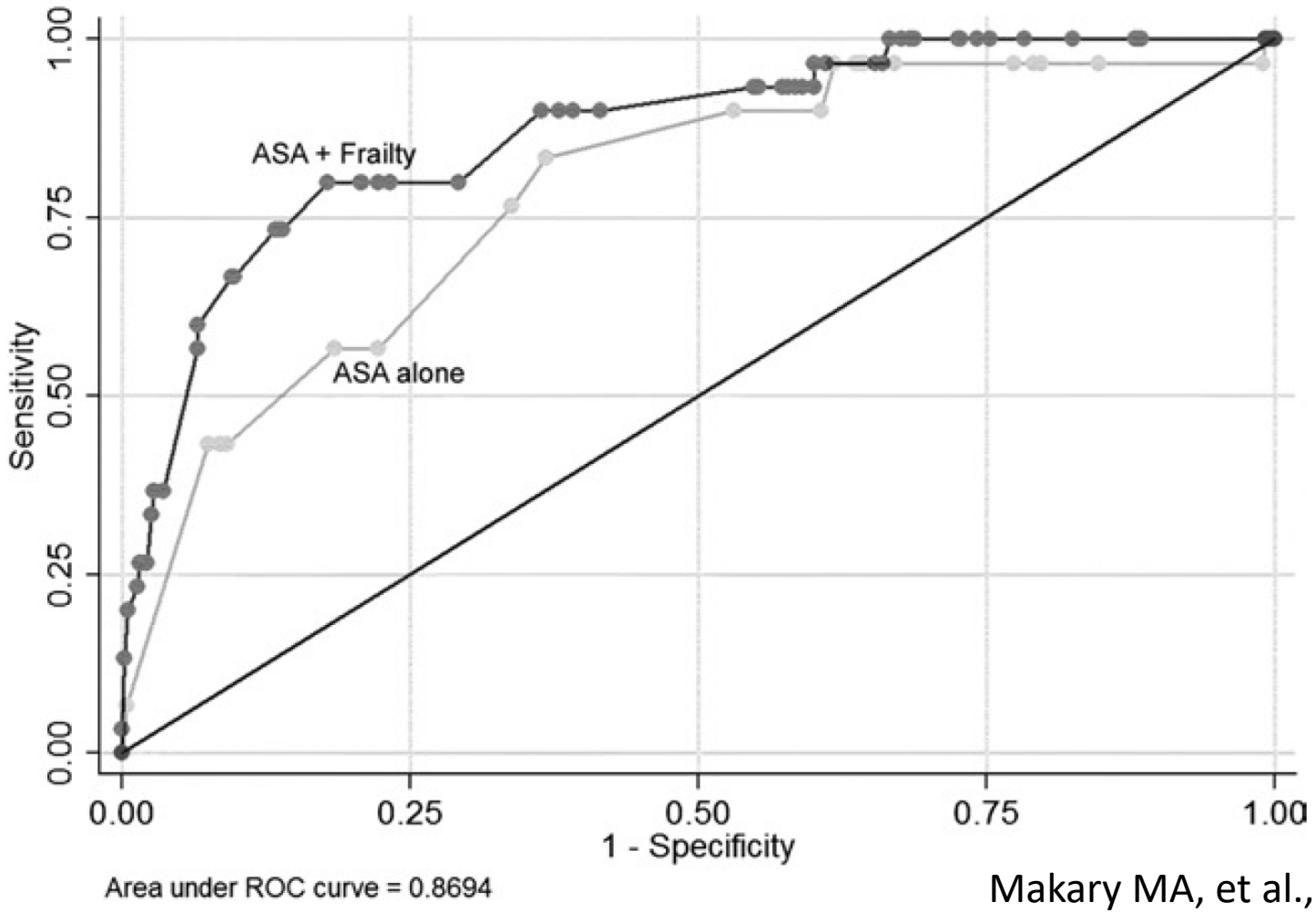


"Where all the surgeons are strong, all the anesthesiologists are good looking, and all the patients are above average."

Systematic, multifactorial, risk assessment

- “Foot of the bed” assessments of cardiac risk not reliable due to disagreement between clinicians.
  - Hii TB, et al. *Heart Lung Circ*. 2015;24(6):551-556.
- Multifactorial tools are superior to single-item assessments.
  - Afilalo J, et al. *Circulation*. 2017;135(21):2025-2027
  - Hurria A, et al. *J Clin Oncol*. 2011;29(25):3457-3465.
  - Fried L, et al. *The Journals of Gerontology: Series A*, 2004; 59(3):M255–M263
- Vascular Surgeons effectively estimate mortality, but underestimate complications and long-term disability compared to multifactorial tool.
  - George EL, et al. *J Surg Res*. 2020;248:38-44.
- Modified Geriatric Assessment (mGA) effectively identifies frailty among patients that oncologists considered non frail (e.g. ↑ sensitivity).
  - Kirkhus, et al. *Br J Cancer* 117, 470–477 (2017)

Frailty is the Best Predictor of Postoperative Outcomes….



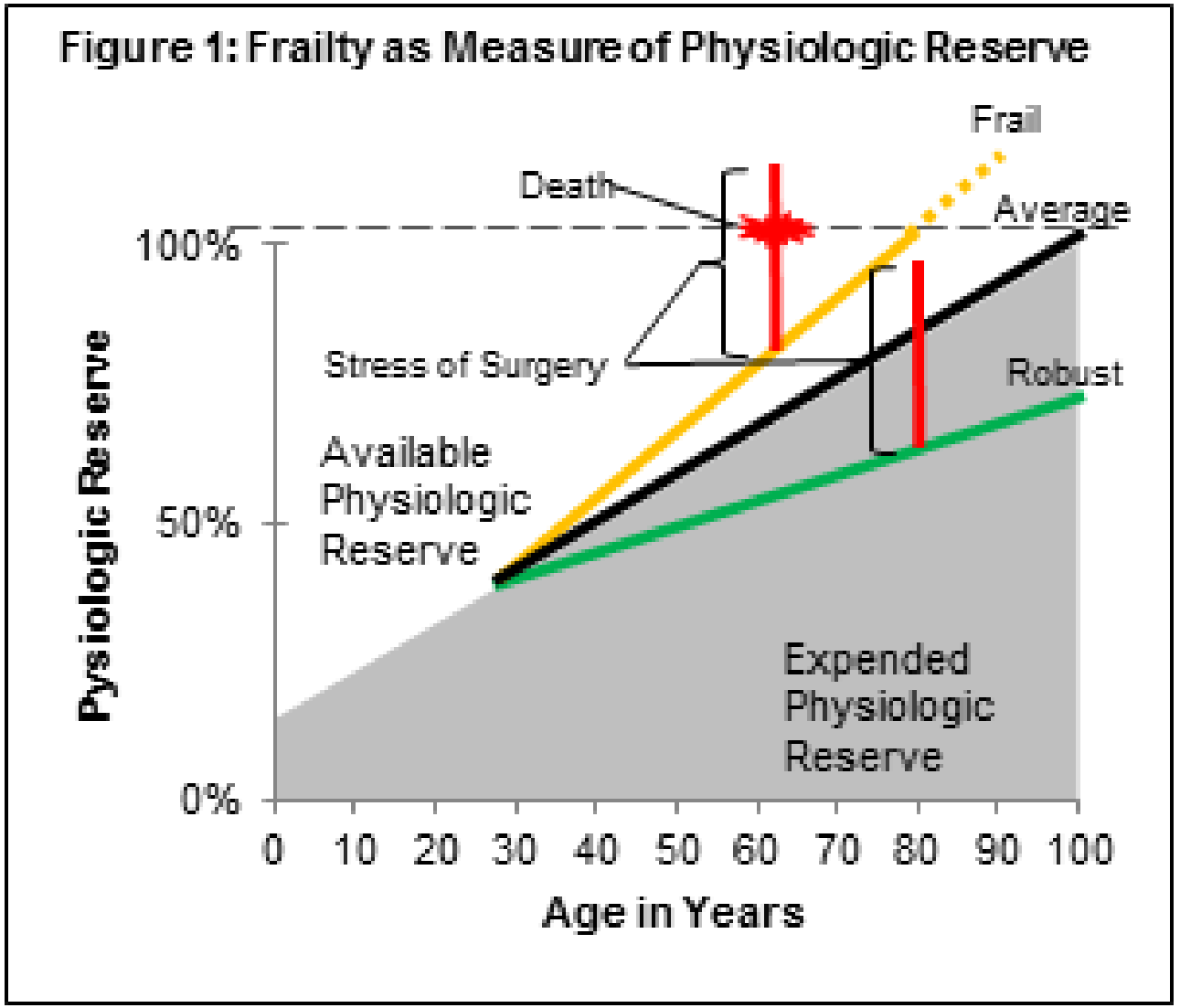
- Mortality
- Complications
- Failure to Rescue
- Length of Stay
- Readmission
- Loss of Independence

Makary MA, et al., *J Am Coll Surg.* 2010;210(6):901-908

Why Frailty?

A clinical syndrome of decreased physiological reserve

- process whereby small deficits accumulate in multiple adaptive systems, any one of which might be clinically insignificant, but together they produce significant vulnerability to stress that can lead to catastrophic decompensation.
- multiple causes and contributors
- characterized by diminished strength, endurance, nutrition, and cognitive capacity
- More than just age or the sum of comorbidities (not captured by standard risk stratification tools like ASA or Eagle criteria).



Robert, C. M., & Sean, M. B. (2014). *Physiological Reserve and Frailty in Critical Illness*. Oxford, UK: Oxford University Press.

Omaha Frailty Screening Initiative (FSI)

- 180-day mortality among frail fell from **23.9%** to **7.7%** ($p<0.001$)
- 3-fold survival advantage after FSI implementation (OR 2.87 [95%CI 1.98-4.16]), controlling for:
  - Age
  - Frailty
  - Predicted mortality based on VA risk-adjustment

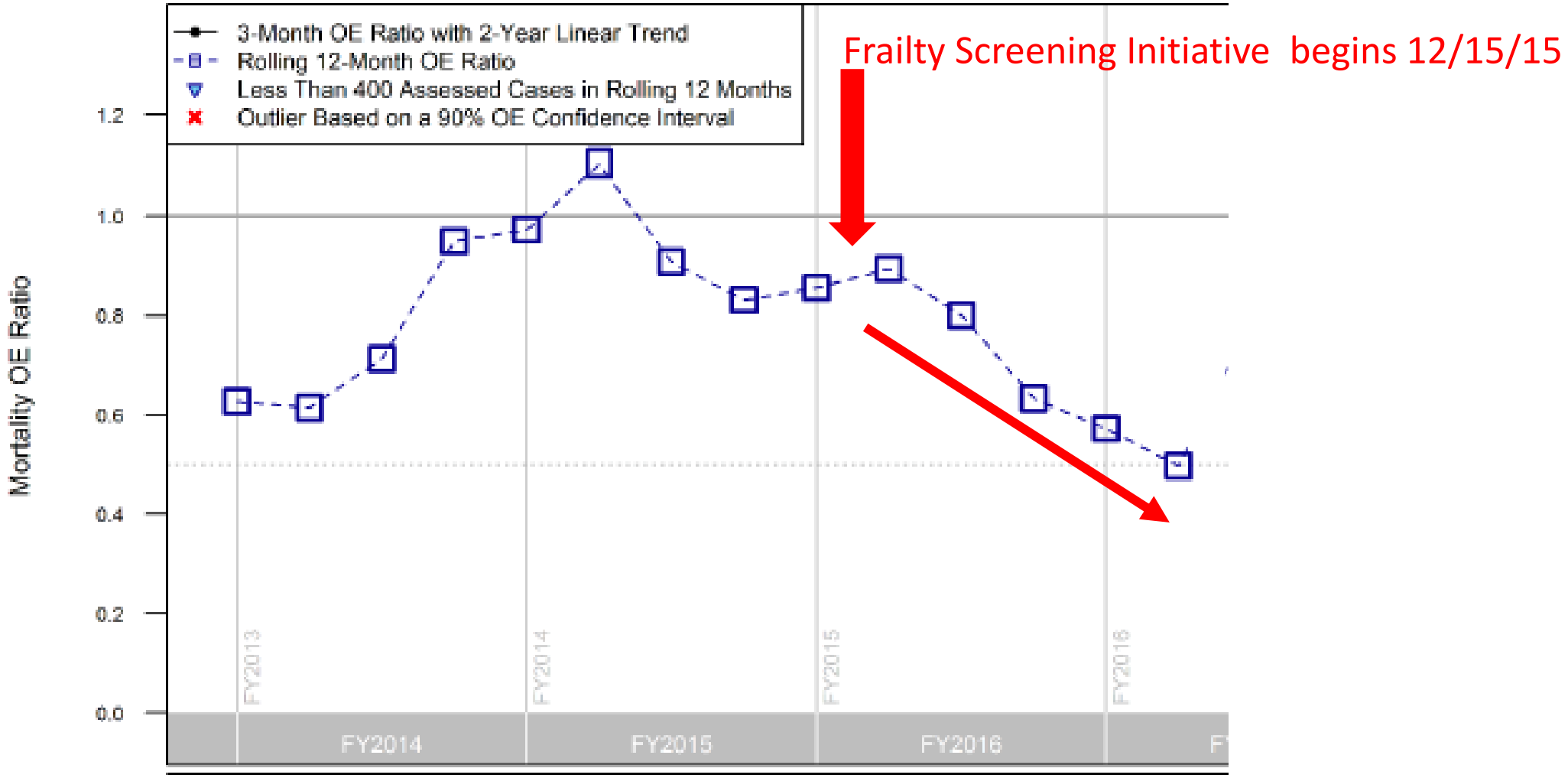
Hall, DE. et al. *JAMA Surgery* 152(3) doi:10.1001/jamasurg.2016.4202 (Nov 23).

FSI Changed Perioperative Palliative Care

- Changed Pattern of Perioperative Palliative Care Care Consult
  - *Rate increased* from 32 to 56 per year.
  - More often *ordered by a surgeon* (56.7% vs 24.4%; p< 0.05).
  - More often *ordered before surgery* (52.0% vs 26.3%; p< 0.05).
- Controlling for age, frailty and *whether the patient had surgery,* Preoperative Palliative Care Consult reduced risk of death when:
  - ordered by a surgeon (AOR 0.50[95% CI 0.30-0.83], p=0.007).
  - ordered before surgery (AOR 0.52[95% CI 0.30-0.90], p=0.02).
  - ordered by surgeon before surgery (AOR 0.27[95% CI 0.11-068], p=0.006)

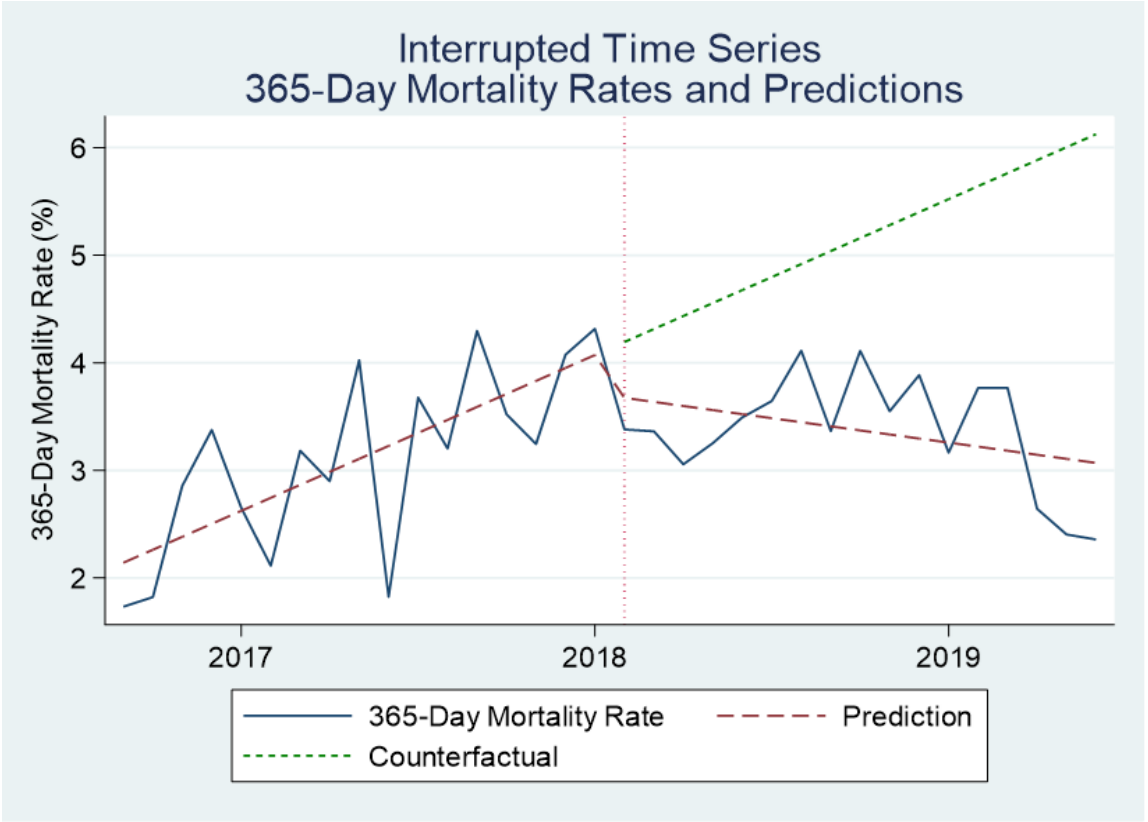
Ernst, K. F., et al(2014). *JAMA Surg, 149*(11), 1121-1126.

Decreased Mortality at VA Pittsburgh



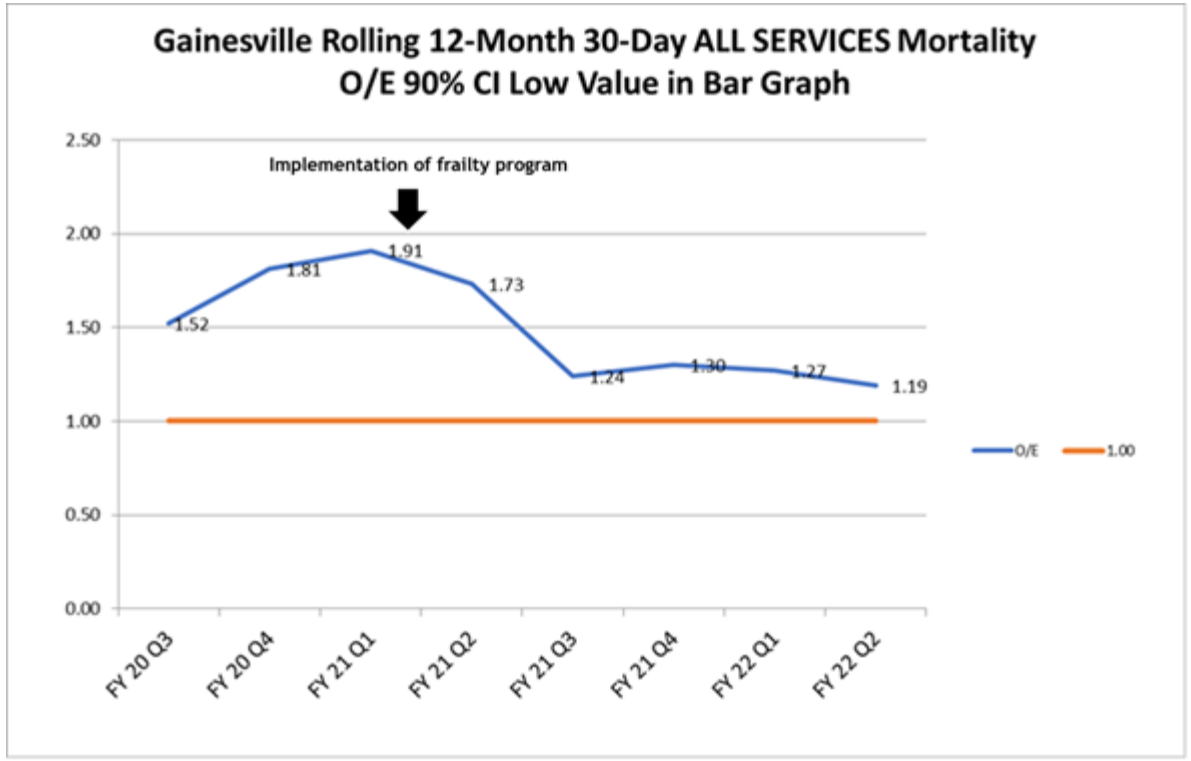
Decreased Mortality at UPMC

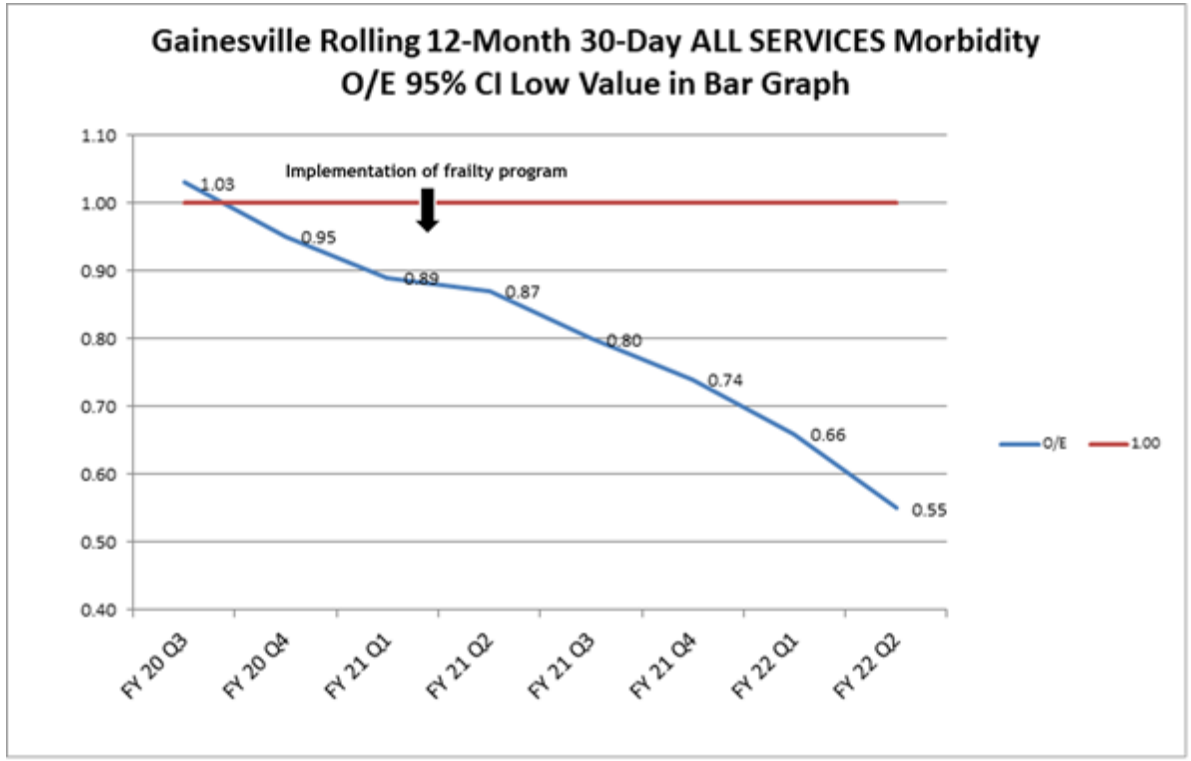
- Interrupted Time Sequence Analysis
  - with segmented regression.
- 50,463 patients July 2016-May 2019
  - 22,722 before BPA Implementation
  - 27,741 after BPA Implementation
- Overall 365-day mortality reduction
  - aOR 0.82 [95% CI 0.72-0.92]
  - Age, sex, race, ethnicity, BMI, Frailty, RVU, OSS
- Survival advantage greatest among frail.
  - 4.2% (95% CI 2.4-6.0) reduction in adjusted mortality
    - Cut adjusted mortality from 20.2% to 16.0%
- *Replication* of original findings from Omaha
  - Even more robust confounding control



Varley PR, et al Routine Preoperative Frailty Assessment is Associated with a Decrease in One-year Postoperative Mortality. *JAMA Surgery. 2023*
https://doi.org/10.1001/jamasurg.2022.8341

Decreased Mortality & Morbidity at VA Gainesville





Bottom Line: It works

- High quality, longitudinal data with robust confounding control
- Replicated in multiple sites
- Caveat: No randomized trials, but 2 are pending:
  - SAGE QUERI:
    - Routine, frailty triggered preoperative goal clarification
    - VA Pittsburgh, Philadelphia, Wilkes-Barre, Lebanon and Wilmington, DE
  - PAUSE Trial
    - Routine, frailty triggered multidisciplinary review & optimization
    - VA Palo Alto, VA Nashville, VA Houston

- *And YET*, efficacy is not the only barrier….

OK, but… I can get anyone through a minor procedure: RAI, Operative Stress and Mortality

- Delphi consensus methodology to rate operative physiological stress.
  - 566 surgical procedures that account for 90% all VA surgery
  - Ratings by panel of surgeons and anesthesiologists
  - Consensus reached after 3 rounds of rating.
- 5-point Operative Stress Score:

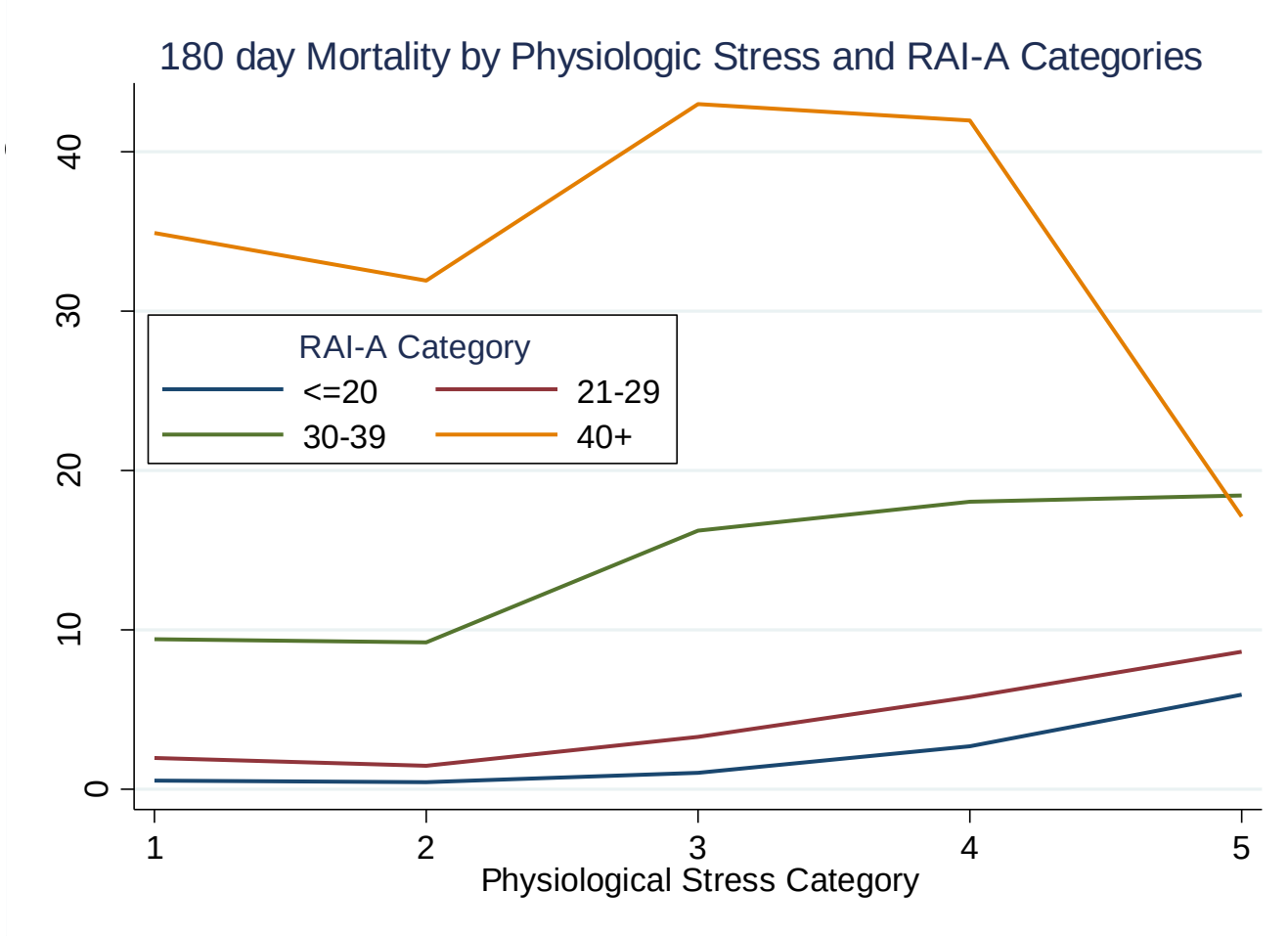
  1-cystoscopy, hydrocele, ganglion cyst

  2-inguinal or umbilical hernia, arthroscopy of kn or shoulder

  3-cholecystectomy, CEA, arthroplasty of knee, shoulder or hip

  4-open colectomy, prostatectomy, pulmonary lobectomy or segmentectomy

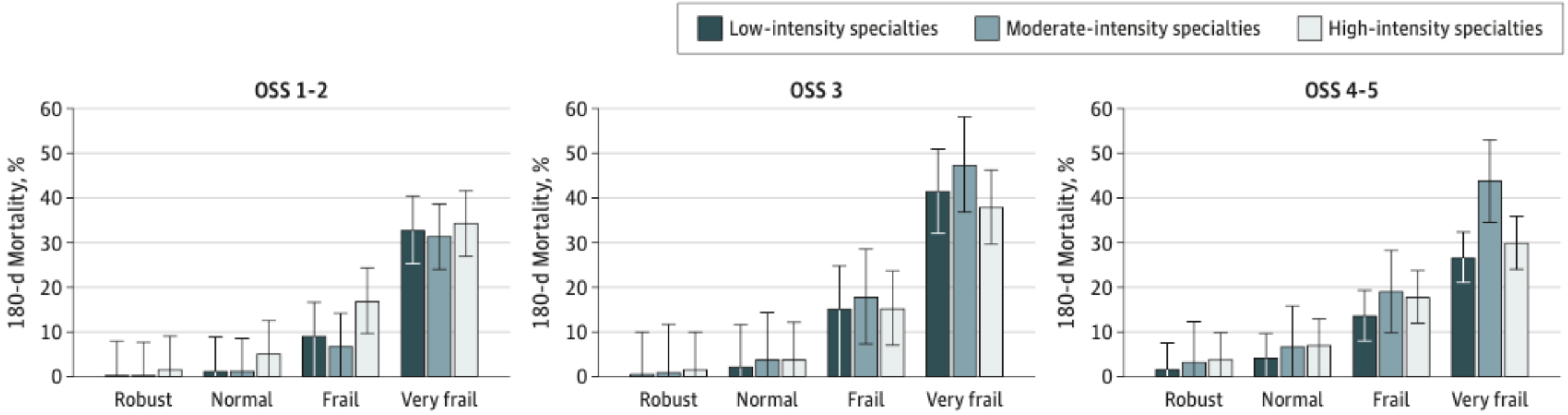
  5-abdominal aortic aneurysm, pancreaticoduodenectomy, esophagectomy



Shinall, Myrick C. et al. *JAMA Surgery* 10.1001/jamasurg.2019.4620 (Nov 13).

OK, but…it's only for those (other) surgeons: RAI, Operative Stress, Mortality and Specialty

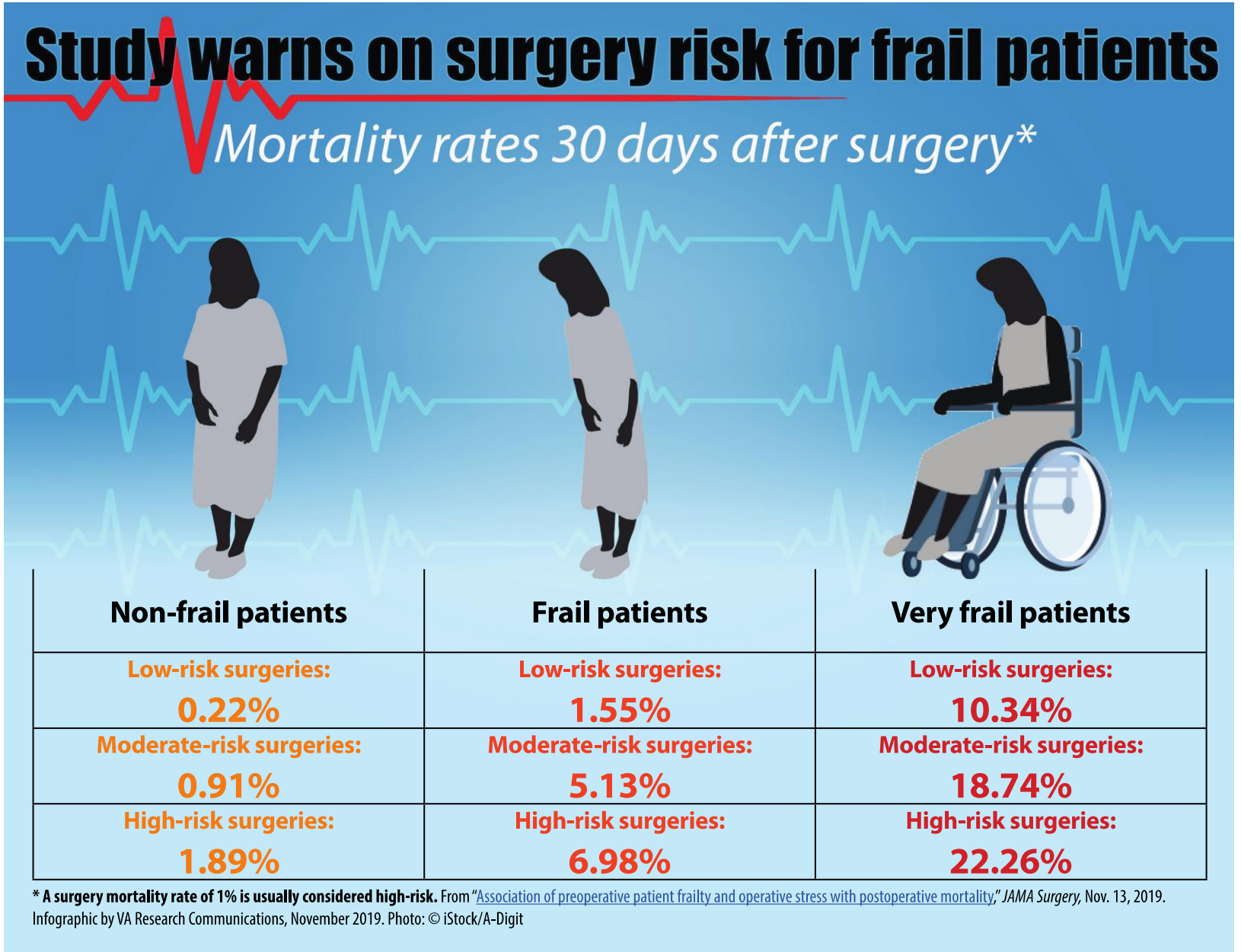
Figure 2. Veterans Affairs Surgical Quality Improvement Program (VASQIP) 180-Day Mortality Following Surgery in 9 Noncardiac Surgical Specialties Stratified by Frailty Status (Risk Analysis Index) and Operative Stress Score (OSS)



Specialties were categorized by the percentage of low-stress (OSS 1 and 2) procedures performed. Frail and very frail patients experienced high mortality rates following low- and moderate-stress procedures in all specialties. Error bars represent the SEs.

George EL, et al., *JAMA Surg.* 2020:e205152. 10.1001/jamasurg.2020.5152

NO SUCH THING AS LOW-RISK SURGERY FOR THE FRAIL



Practical Implementation

Risk Analysis Index (RAI)

- 14 Variables; weighted scale
- Grouped into 4 categories with increasing frailty severity

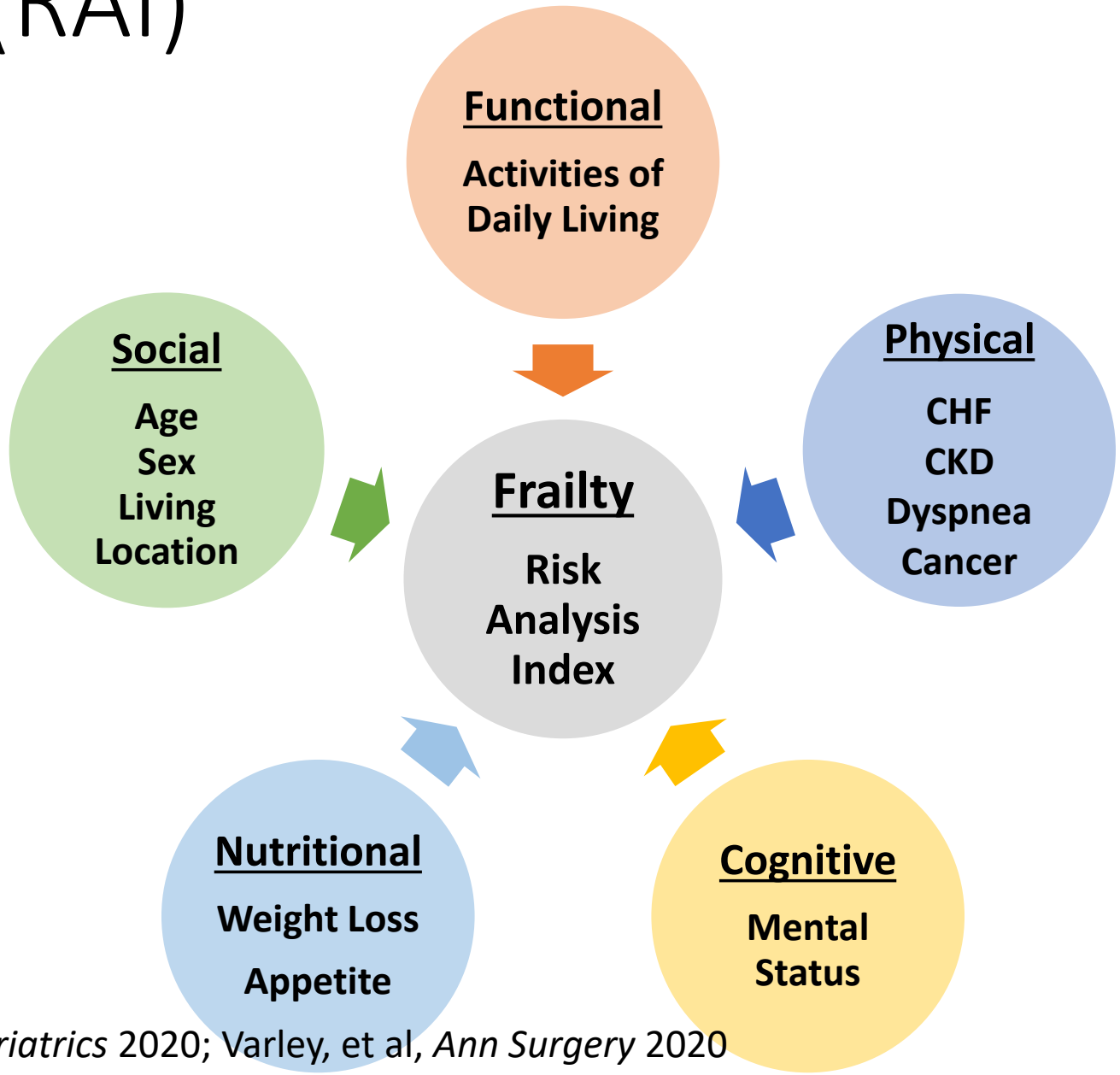
  Robust: 0-29

  Average: 30-36

  Frail: 37-44

  Very Frail: ≥ 45

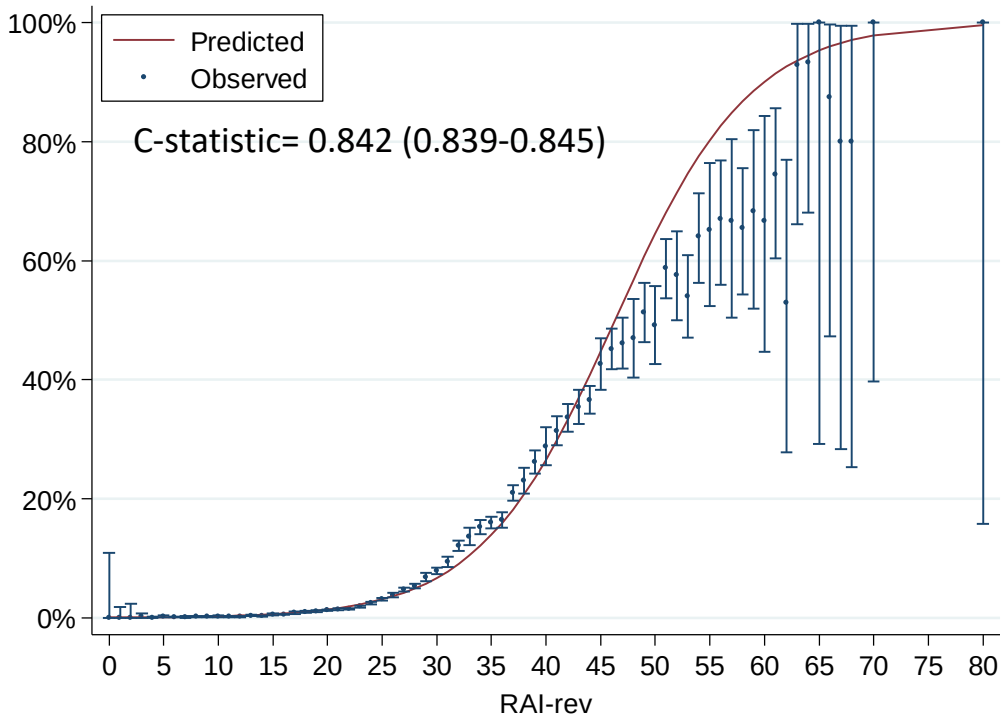
- Most thoroughly validated measure of *surgical* frailty, and only shown feasible for point-of-care testing[1]



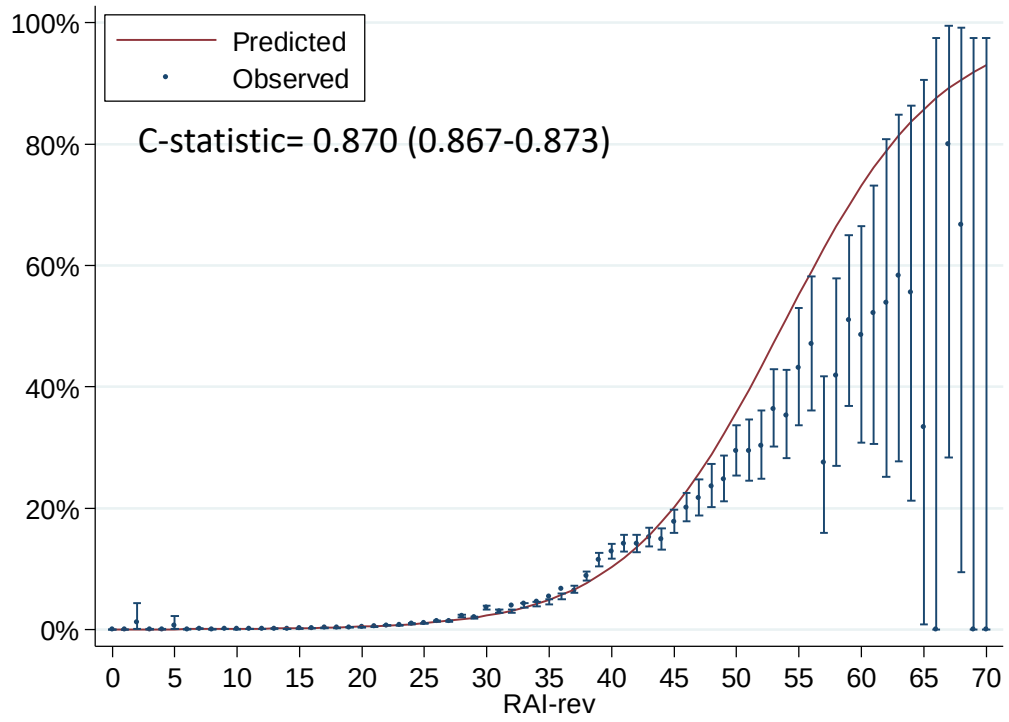
[1]Arya et al. *Ann Surgery* 2019; Shah, et al, *J Am Geriatrics* 2020; Varley, et al, *Ann Surgery* 2020

RAI Validation in Veterans and Private Sector VASQIP & ACS-NSQIP

VASQIP (c=0.842, n=480,731)



ACS-NSQIP (c=0.870, N=1,391,785)



Arya, S. et al. *Annals of Surgery* doi 10.1097/SLA.0000000000003276 (2019, March 23).

Frailty Screening

RAI Survey

Instructions: Please answer the following questions to the best of your ability. Your advocate or companion can help you complete this survey.

1. Do you live in place other than your own home? ☐ No ☐Yes
   If Yes, circle where: Nursing Home Skilled Nursing Facility Assisted Living Other_____
   When did you begin living in the place you are currently residing? Less than 3 months 3 months to 1 year Greater than one year ago

2. Any kidney failure, kidney not working well, or seeing a kidney doctor (nephrologist)? ☐ No ☐Yes
   If yes circle one: was your nephrologist visit for Kidney stones Other Both Kidney Stones and Other problem

3. Any history of chronic (long-term) congestive heart failure (CHF)? ☐ No ☐Yes

4. Any shortness of breath when resting? ☐ No ☐Yes
   Do you have trouble catching your breath when resting or doing minimal activities, like walking to the bathroom?

5. In the past five years, have you been diagnosed with or treated for cancer? ☐ No ☐Yes
   Prompt: Please answer "Yes" if the clinic visit today is to discuss the possibility of cancer surgery.

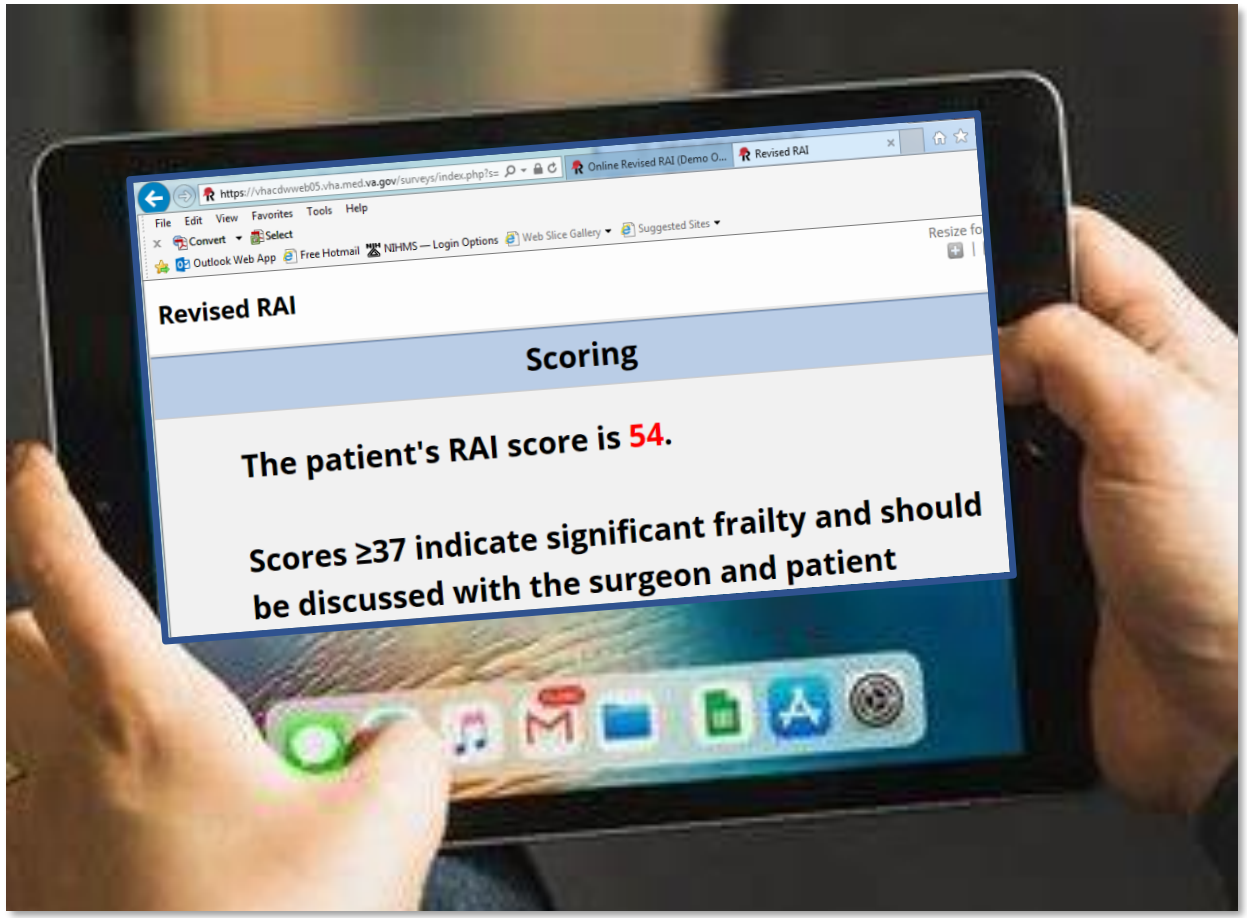
6. Have you lost weight of 10 pounds or more in the past 3 months without trying? ☐ No ☐Yes
   Prompt: Are your clothes feeling looser than in the past?

7. Do you have any loss of appetite?
   Prompt: Do you or your family notice that you are not eating as much? ☐ No ☐Yes

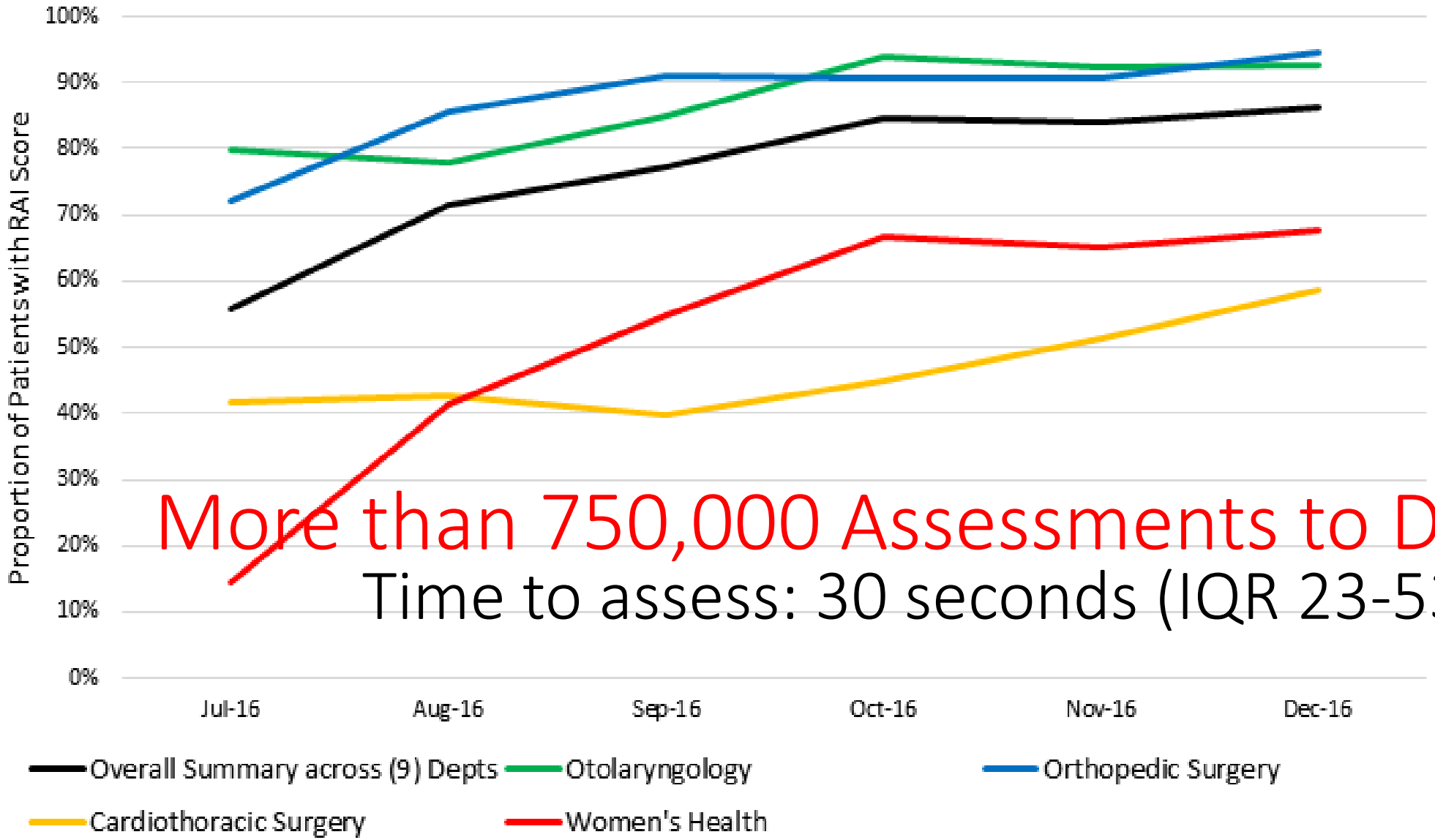
8. During the last 3 months has it become difficult for you to remember things or organize your thoughts? ☐ No ☐Yes

9. Getting around (mobility)	Can get around without any help	Needs help from a cane, walker or scooter	Needs Help from others to get around the house or neighborhood	Needs help getting in or out of a chair	Totally dependent on others to get around
10. Eating	Can plan and prepare own meals	Needs help planning meals	Needs help preparing meals	Needs help eating meals	Totally dependent on others to eat meals
11. Toileting	Can use toilet without help	Needs help getting to or from toilet	Needs help to use toilet paper	Cannot use a standard toilet, with help can use bedpan/urinal	Totally dependent on others for toileting
12. Personal hygiene (bathing, hand washing, changing clothes	Can shower or bathe without prompt or help	Can shower or bathe without help when prompted	Needs help preparing the tub or shower	Needs some help with some elements of washing	Totally dependent on others to shower or bathe

Online RAI



RAI Implementation at UPMC: Feasible



More than 750,000 Assessments to Date

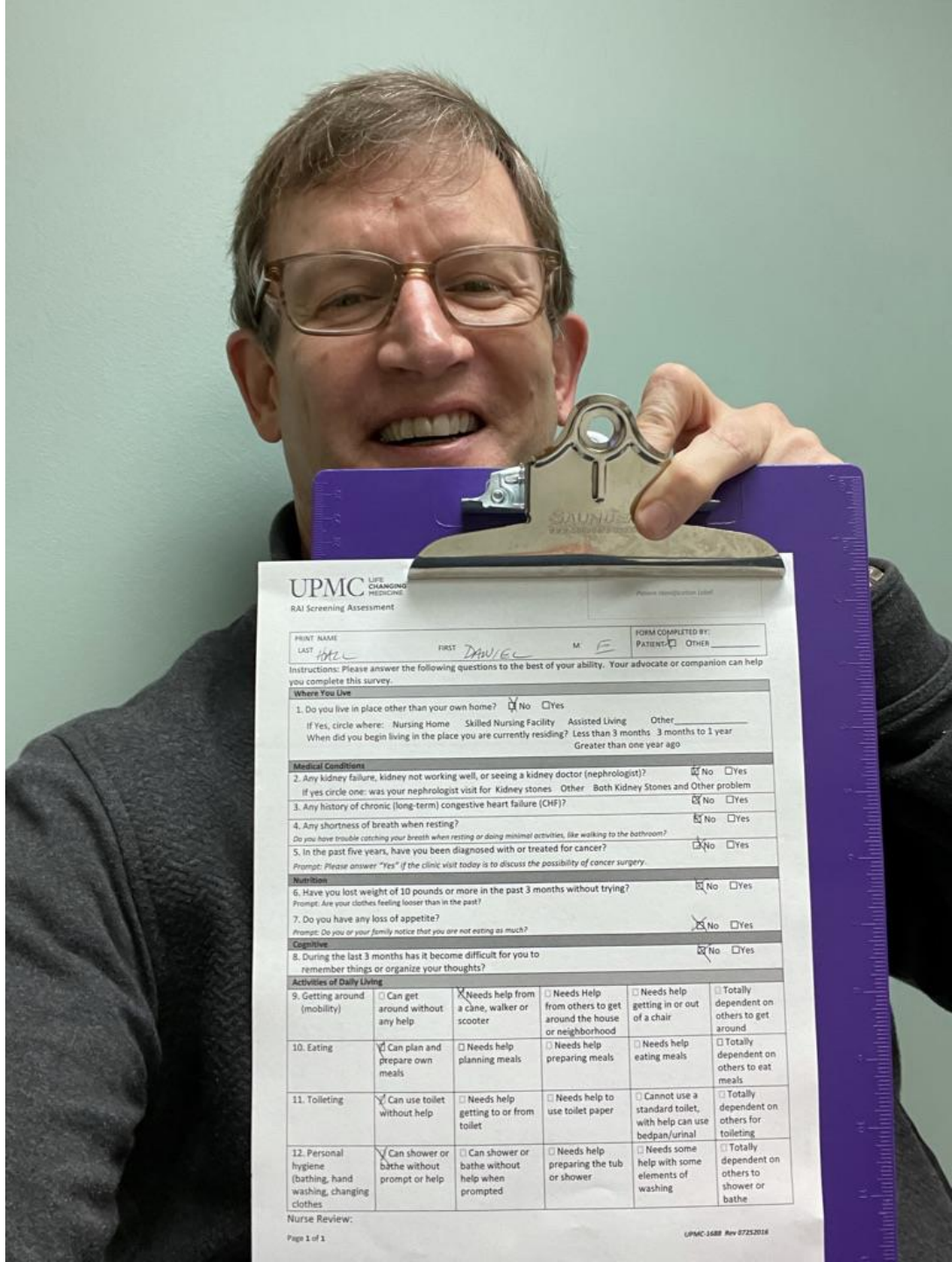
Time to assess: 30 seconds (IQR 23-53)

Varley PR, et al *Ann Surg.* 2020 10.1097/SLA.0000000000003808

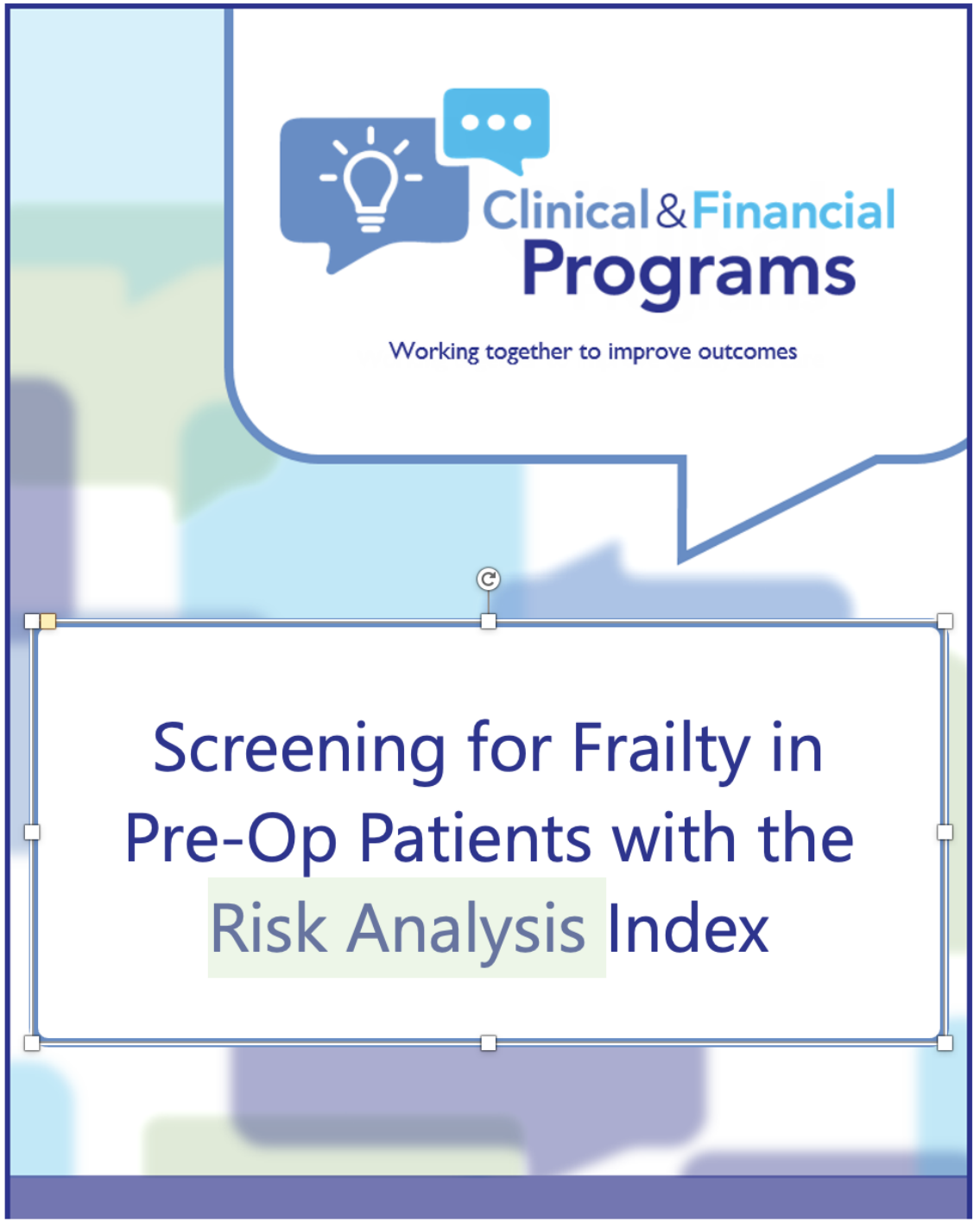
Including me!
5/20/2021

A torn achilles made me less mobile than the day before…

but not frail yet.

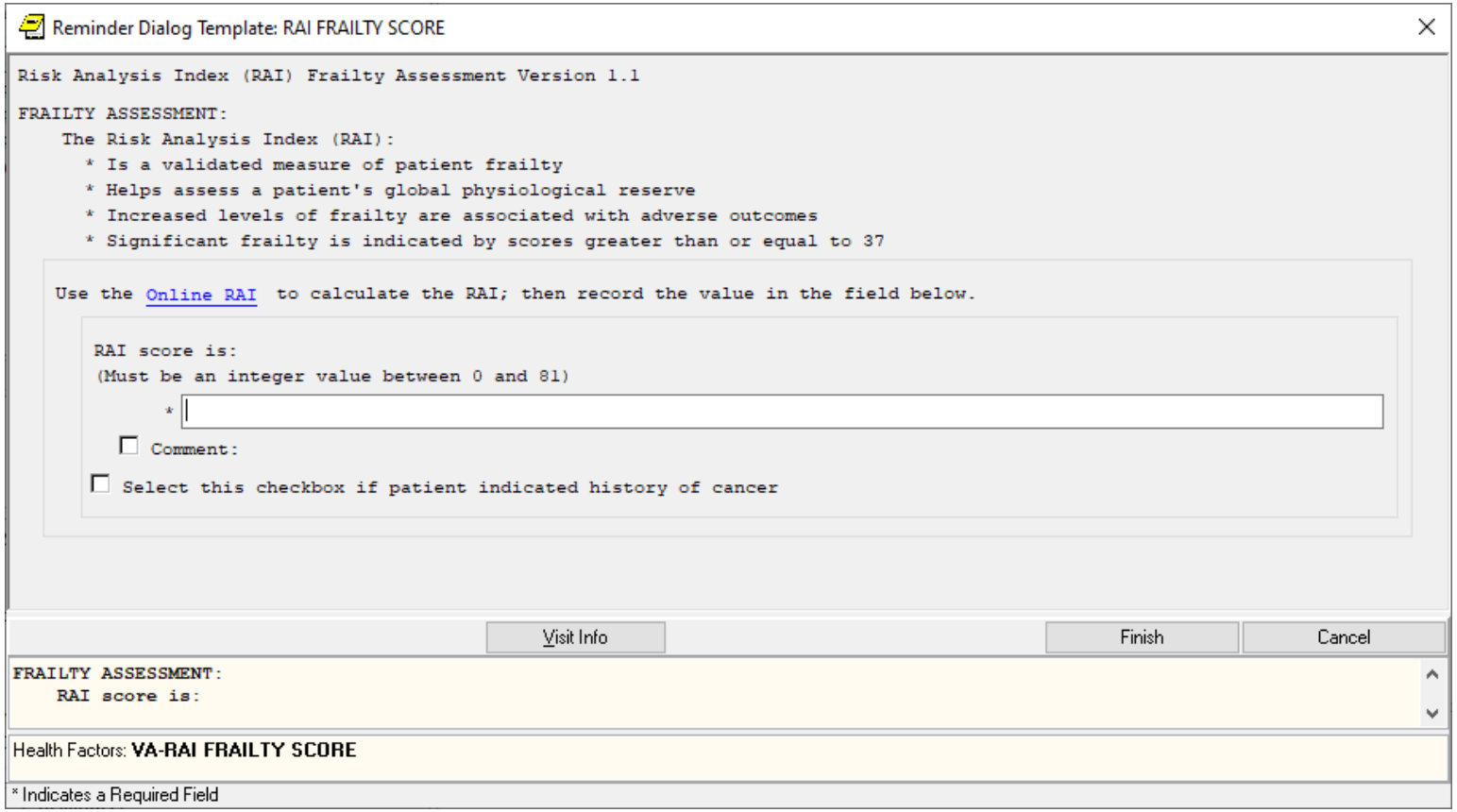


Now available in Epic as a Clinical Program



The CPRS RAI Reminder Dialogue Template

National Release 9/13/21



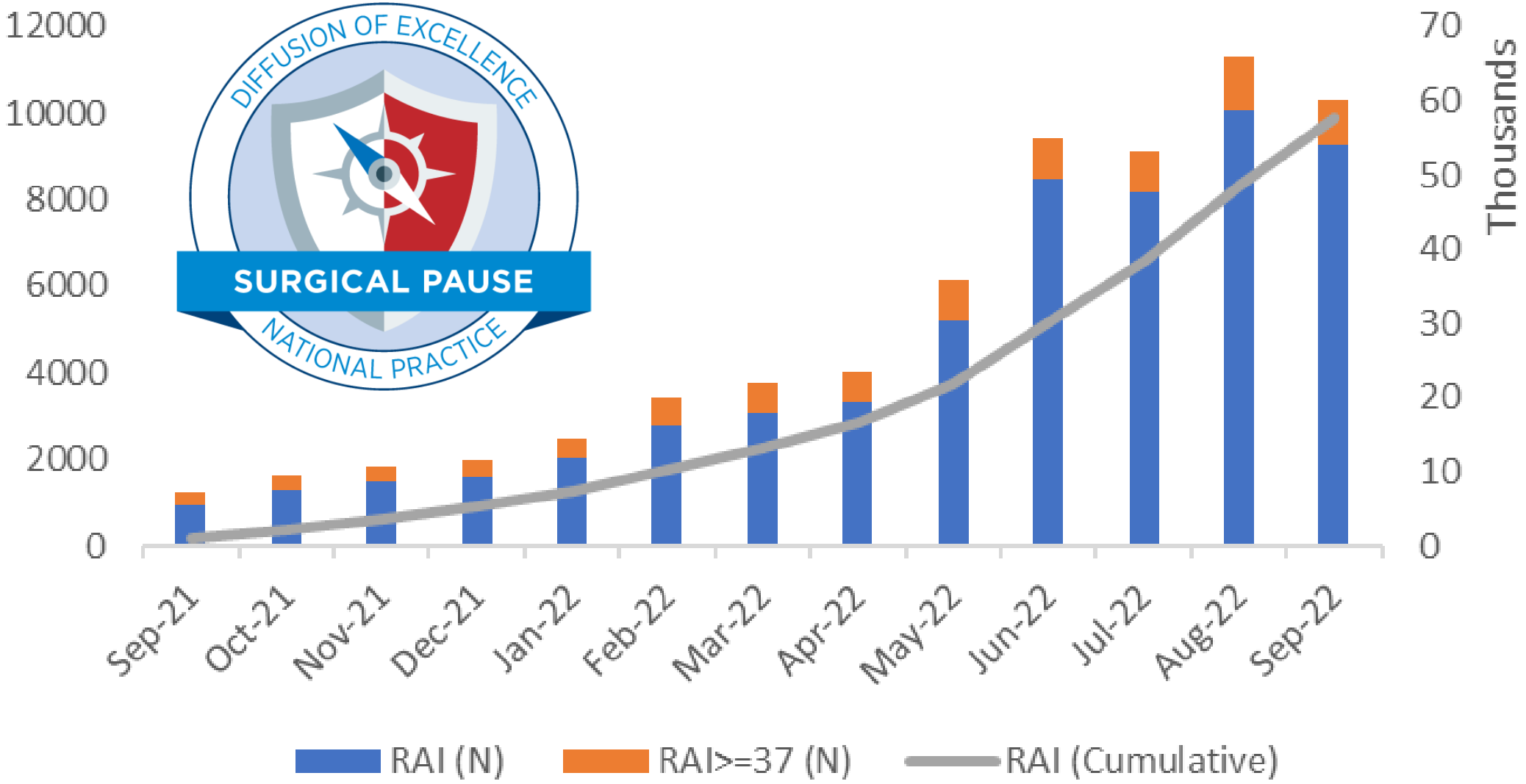
Cerner Next

eScreening

Implementation Map

- **Goal: 50 engaged sites across ALL 18 VISNs**
  - 42 Sites are active
    - 27 Advanced (≥500 values)
    - 10 Intermediate (≥100 values)
    - 4 Beginner (≥50 values)
    - 33 Exploratory (<50 values).

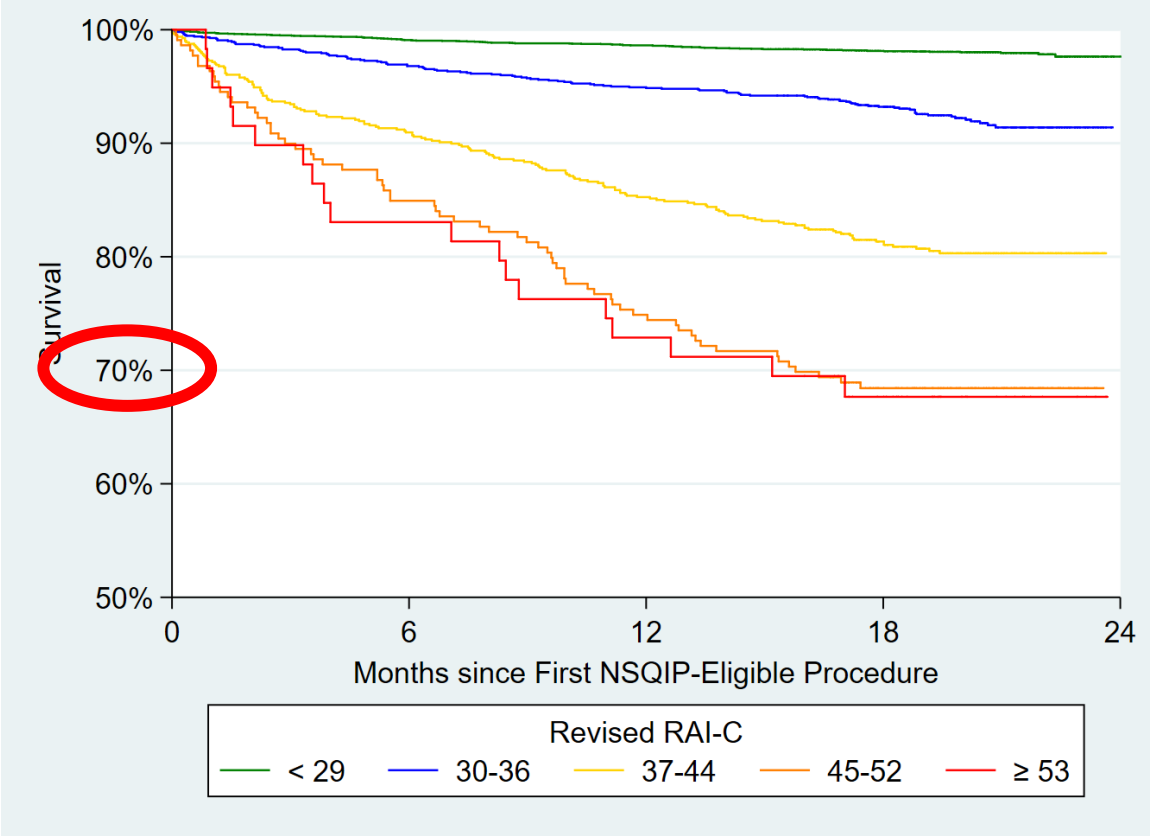
RAI Implementation FY22



RAI Survey Discrimination & Calibration

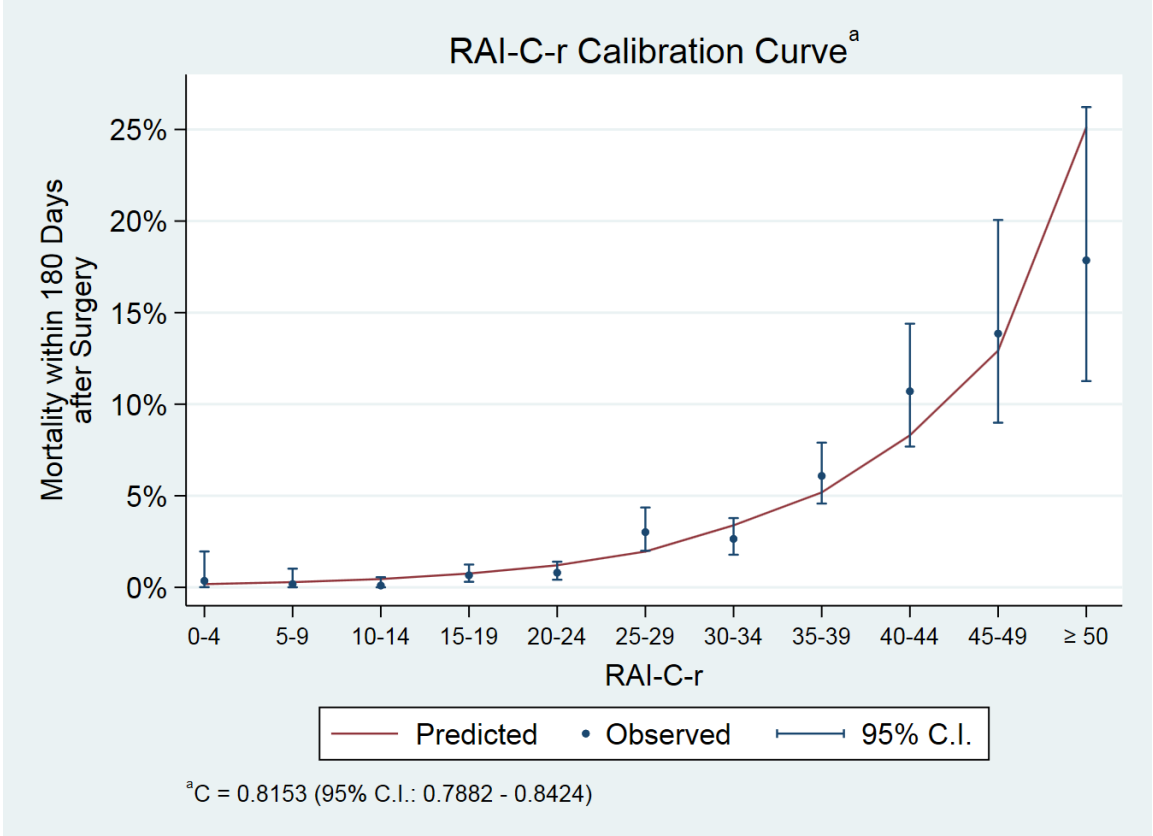
Discrimination

C= 0.815 (95% CI 0.788-0.842)



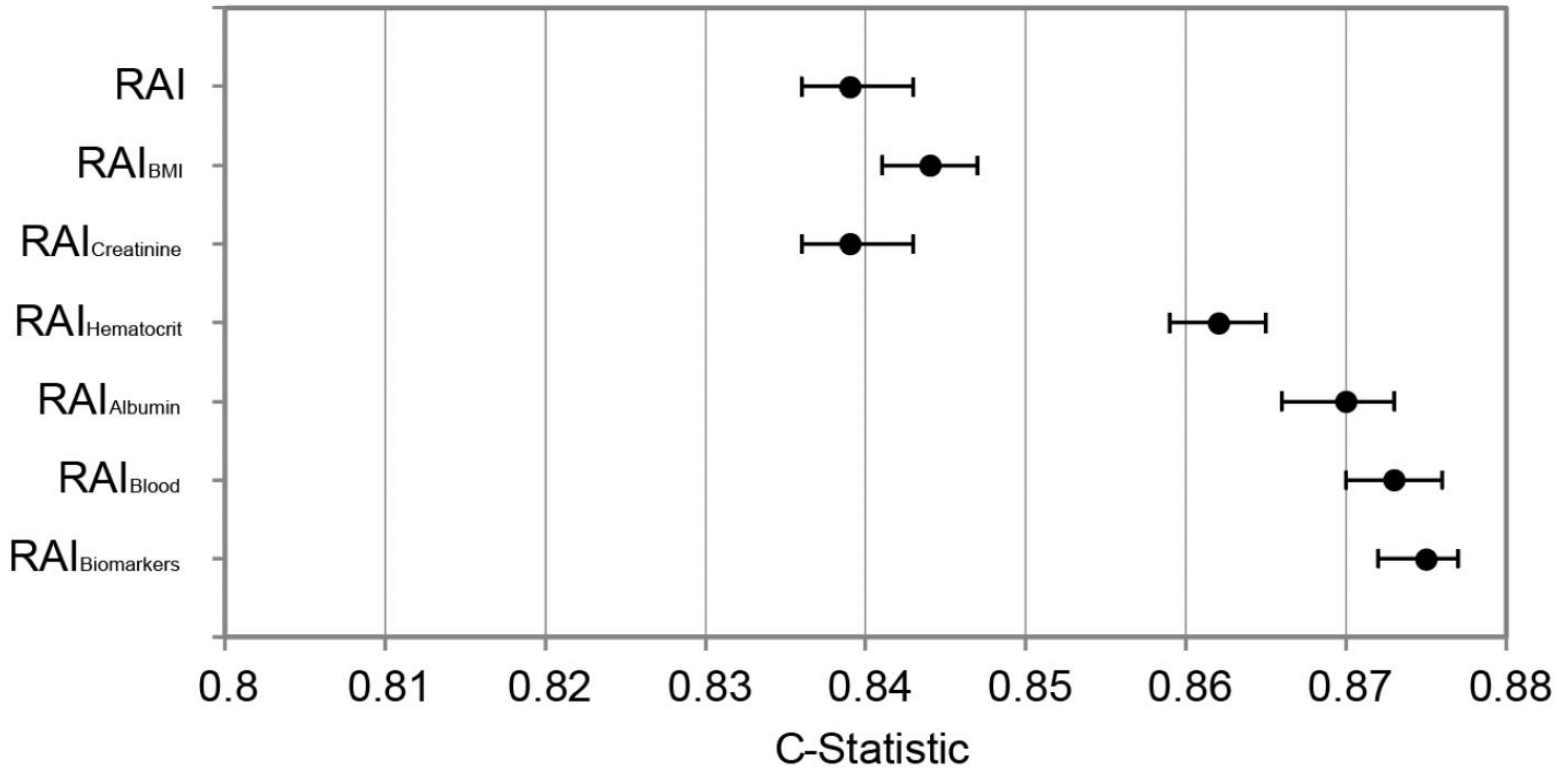
Calibration

95.6% of predicted deaths within 95% CI of observed deaths



Varley PR, et al *Ann Surg.* 2020 10.1097/SLA.0000000000003808.

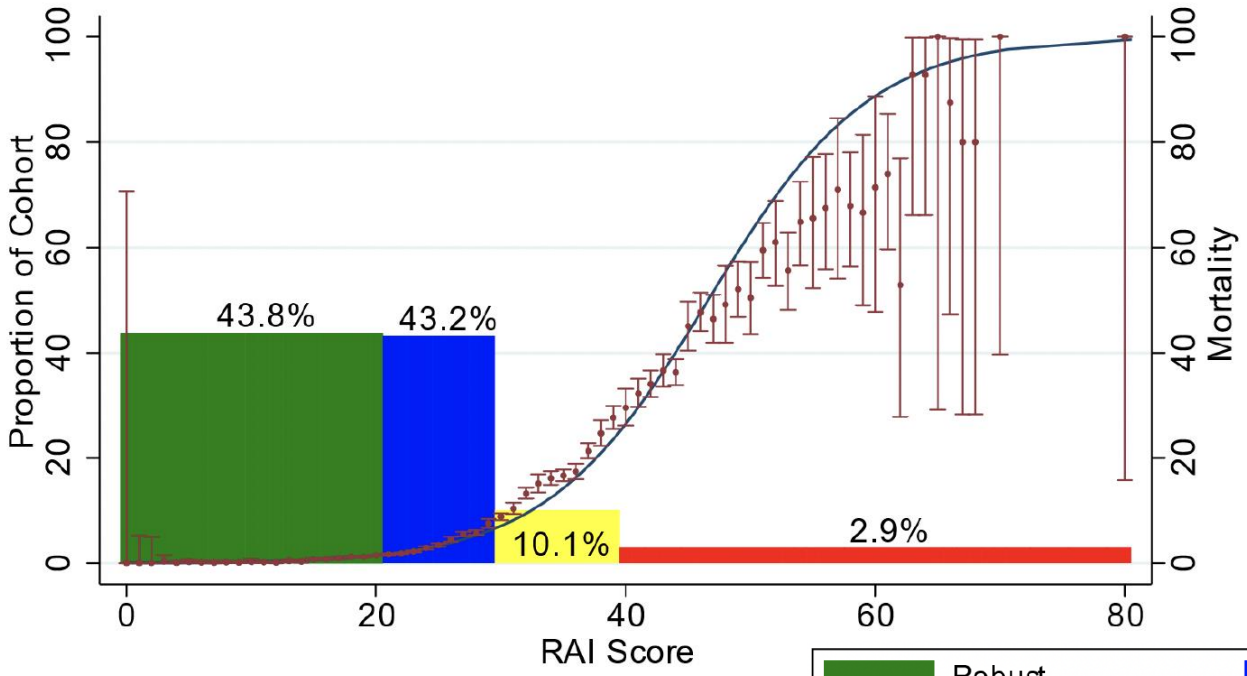
“But the RAI is too subjective….”
Do ”objective” biomarkers help?



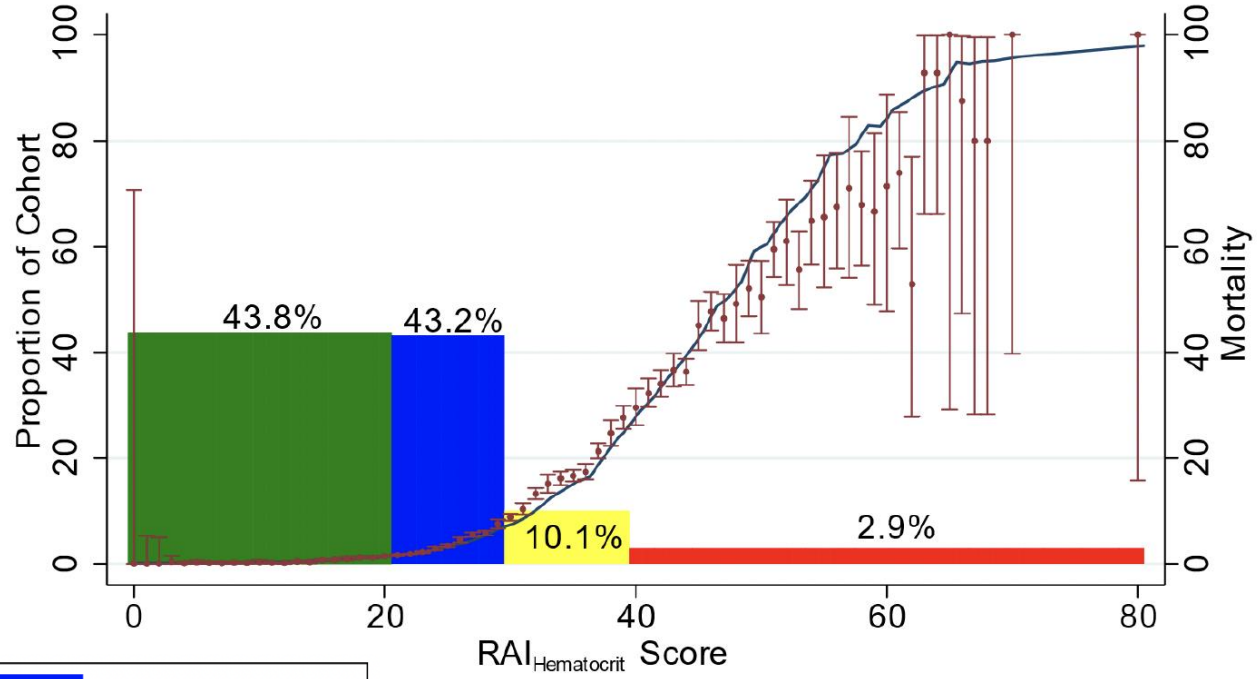
Pandalai, et al, ACS Clinical Congress, 2020

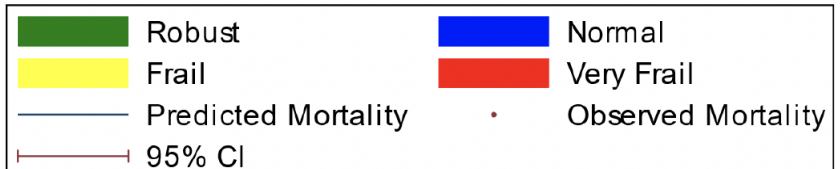
Maybe, but is the juice worth the squeeze?

RAI



RAI+Hematocrit





Pandalai, et al, ACS Clinical Congress, 2020

The Surgical Pause:
Measuring Frailty & Doing Something About It

Step 1:
Assess Frailty

Threshold for Action: Revised RAI ≥ 37

- Riskiest 10% of population;
- At least twice the average 6-month mortality
  - 12% vs 6%
- Twice the rate of 30- and 90-day readmission
  - 22% vs 12%
- Twice the rate of long term ICU stay ≥ 5 days
  - 6% vs. 3%
- Modest positive predictive value: 19%
- Strong negative predictive value: 96%
  - *<u>Safe to operate</u> on patients with Revised RAI<37 (e.g. most patients)*

Step 2:
Do *Something* About It

IF FRAIL

(a)

Interdisciplinary Review

↓Mortality

25% to 8% (6-month Mortality)

- 3-Fold Survival Advantage

(b)

Goal Clarification

Changes Care Plans

21% declined surgery

(c)

Exercise Training

3-6 Weeks Before Surgery

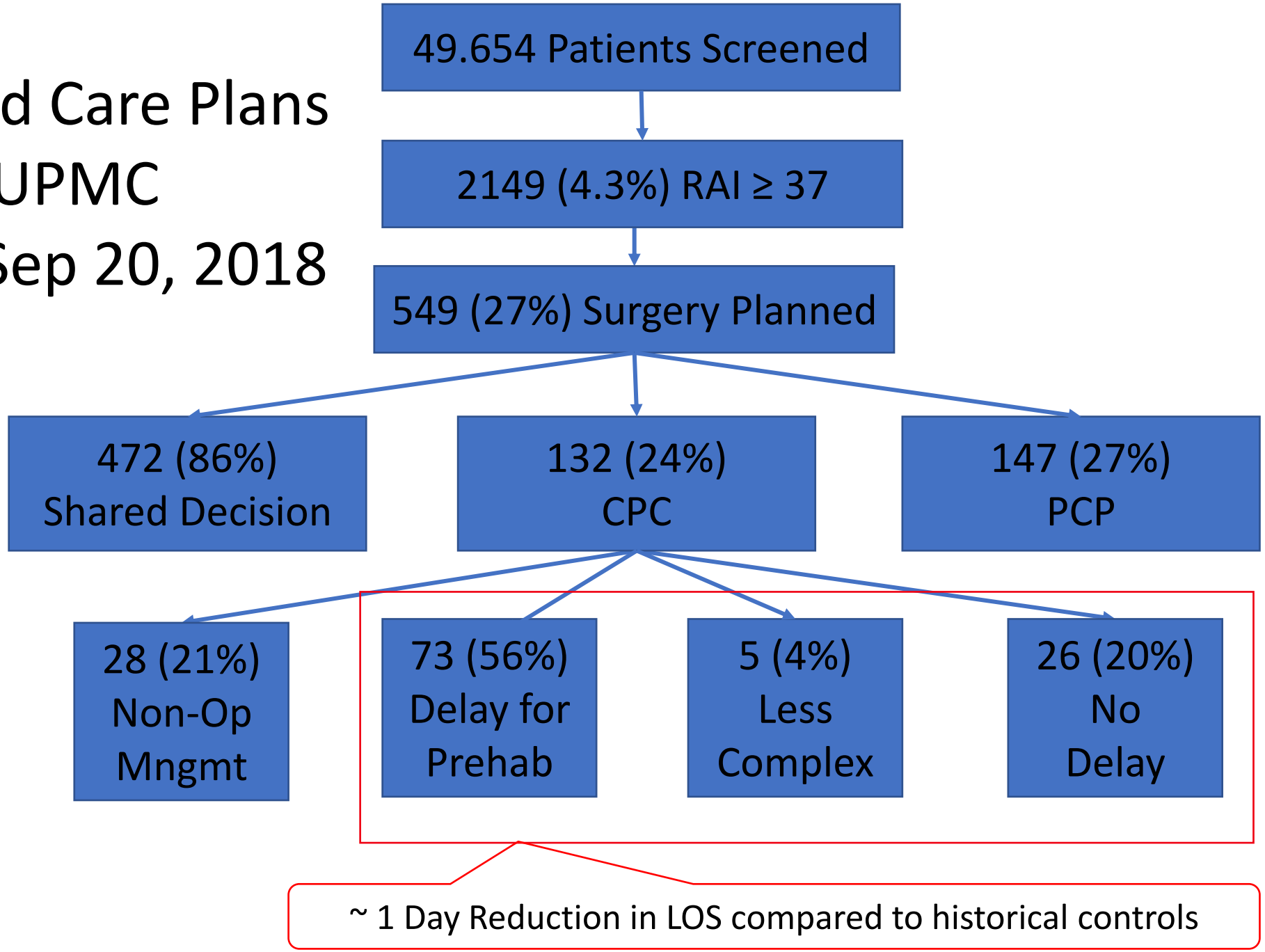
↑Functional Performance

↑Endurance

↑Gait Speed

↑Respiratory Pressures

Changed Care Plans
UPMC
Feb 1- Sep 20, 2018



Baseline to Day of Surgery

Significant Changes in Physical Performance

Measure	Baseline Mean (SD)	Day of Surgery Mean (SD)	Mean Difference (Standard Error)	P value	Minimum Clinically Important Difference
Extended TUG (seconds)	N=42 21.9 (12.5)	N=33 17.8 (4.6)	-2.3 (0.5)	<0.001	2.4s
Gait Speed (meters/second)	N=42 1.11 (0.32)	N=33 1.24 (0.30)	+0.1 (0.03)	0.002	0.1m/s
5 Chair Rise (seconds)	N=38 13.3 (5.7)	N=33 11.8 (4.6)	-1.6 (0.6)	0.007	2.3s
Six Minute Walk Test (meters)	N=40 348.6 (109.1)	N=30 380.6 (102.2)	+29.3 (15.6)	0.060	30m
SPPB Score	N=41 10.2 (1.9)	N=33 10.8 (1.1)	+0.6 (0.3)	0.068	1 unit

RAI & Cost: Direct and Net Hospital Costs

Univariate Analysis:

↑length of stay (0.8 v. 2.1 days)

↑ total cost ($6,934 v. $13,319)

↓ net hospital income ($5,447 v. $3,129)

Multivariate analysis:

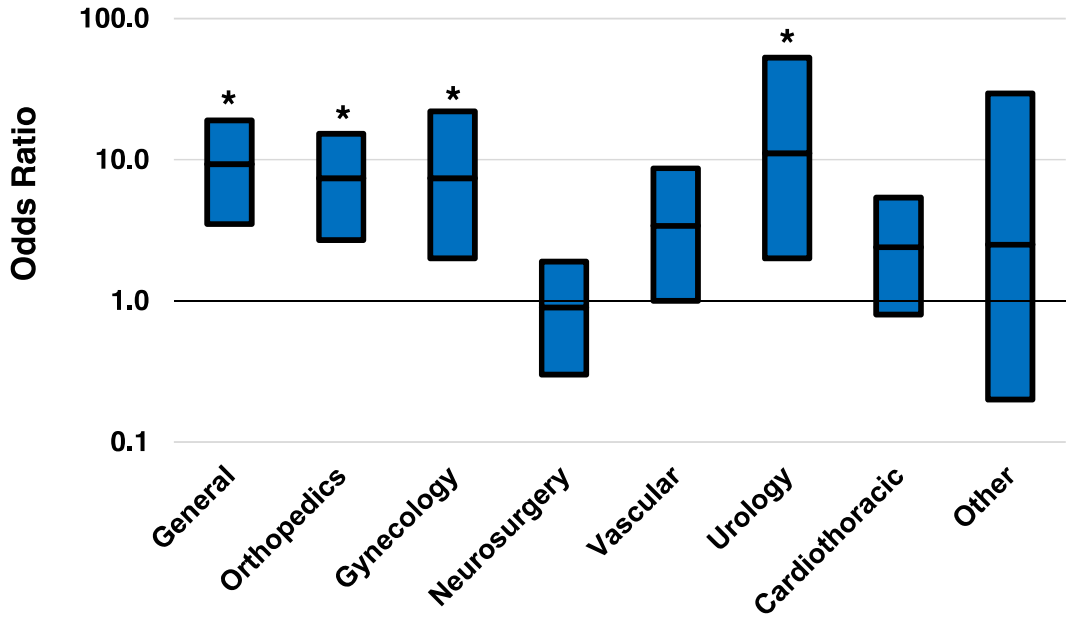
↑ direct cost (OR 2.2)

↑ indirect cost (OR 1.9)

↑ total cost (OR 2.2)

↓ net income (OR 0.8)

(all p<0.001)



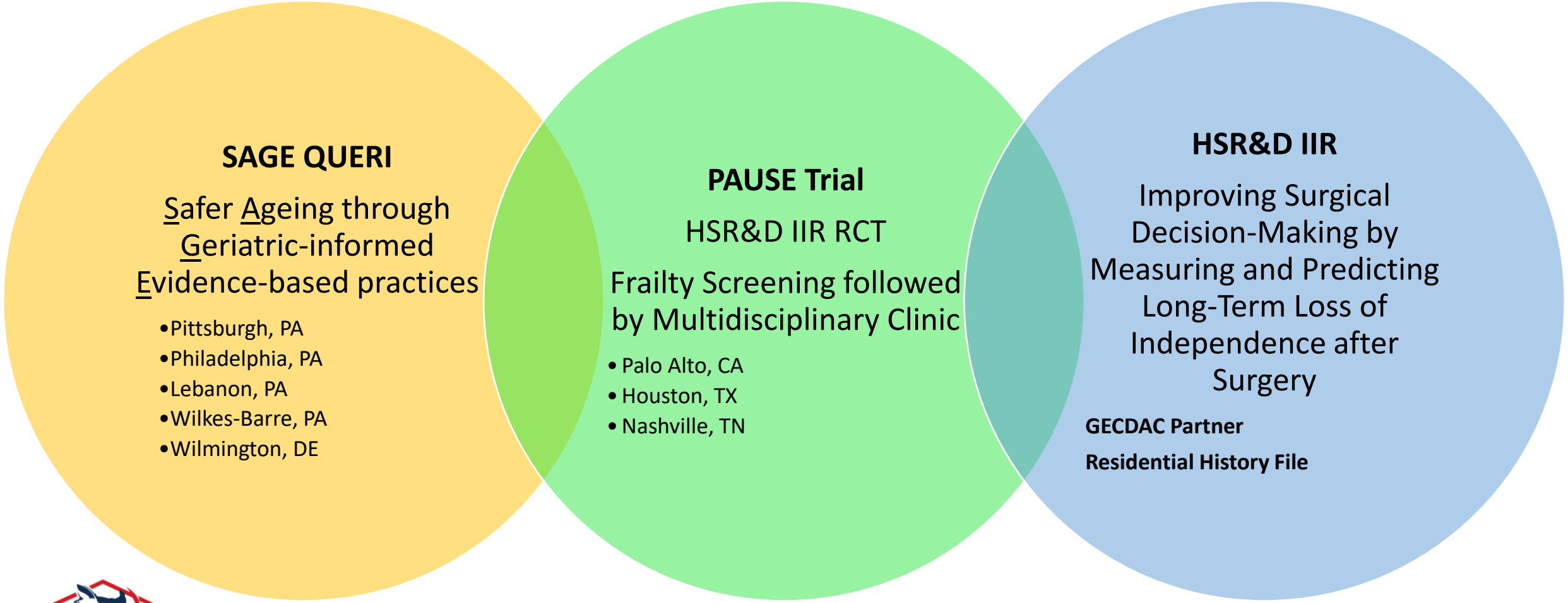
Total cost odds ratio (with 95% CI, as demonstrated by box plot) on logarithmic scale. Calculated as odds of significantly frail patients costing greater than the median cost for inpatient elective operations stratified by service and Risk Analysis Index with unfrail patients (not depicted) as the reference value (*p < 0.05).

Wilkes JG, et al. *J Am Coll Surg.* 2019;228(6):861-870.

UPMC Benefit Amounts normalized to 'Normal 30-36' total charges

	Category	Robust ≤29	Normal 30 to 36	Frail 37 to 44	Very frail ≥45
Inpatient	Inpatient Surgical DRG	0.34	0.34	0.35	0.34
	ER to Inpatient Surgical DRG	0.03	0.05	0.07	0.08
	Inpatient Medical DRG, General, Specialist and Observation	0.06	0.11	0.14	0.19
	Inpatient Rehabilitation	0.00	0.00	0.01	0.01
	Inpatient Behavioral Health	0.00	0.00	0.00	0.00
	Ambulance from Facility to Facility	0.00	0.00	0.00	0.00
	Subtotal Inpatient Charges	0.43	0.51	0.57	0.62
Outpatient	Outpatient Surgery	0.04	0.07	0.05	0.06
	Outpatient Hospital and Specialized Facility	0.09	0.28	0.21	0.24
	Outpatient Office, PCP and Other	0.01	0.02	0.02	0.03
	Therapy Service (Is this like Outpatient Rehab/PT?)	0.01	0.00	0.00	0.00
	Outpatient Behavioral Health	0.00	0.00	0.00	0.00
	ER Discharged to Home	0.01	0.01	0.01	0.01
	Observation, from ER or Office	0.01	0.01	0.01	0.01
	Subtotal Outpatient Charges	0.17	0.39	0.32	0.36
Post Acute	Nursing, Skilled and General	0.01	0.02	0.05	0.07
	Home Care	0.03	0.05	0.06	0.07
	Subtotal Post Acute Charges	0.04	0.08	0.11	0.14
Other	Other (e.g., Lab, OB/GYN, Maternity, Urgent Care)	0.00	0.01	0.01	0.00
	Shock Claims	0.04	0.01	0.05	0.04
	Subtotal Other Charges	0.04	0.02	0.05	0.04
	Total Charge	0.69	1.00	1.05	1.17

Complimentary Initiatives



SAGE QUERI PROGRAM
Safer Aging through Geriatrics-informed Evidence-based Practices

Implementation Nuts and Bolts

Two Step Process

- Step 1: Measure Frailty
  - Don ‘t Triage the Triage Tool (Measure on Everyone)
  - Must measure frailty before booking surgery date

Two Step Process

- Step 2: Do Something About It
  - Surgeon champion review
  - Interdisciplinary Review Panel
    - Surgery, Anesthesia, Palliative Care, Geriatrics, IMPACT Clinic
    - Real time or Time Asynchronous
  - Goal Clarification & Shared Decision Making
    - ”Not a candidate” is NOT shared decision making
    - Avoid mental model of “fixing it”
      - I’m worried that no matter what we do life will never be the same for you
    - Best, Worst, and Most Likely Scenarios of at least 2 options
    - Who has this conversation?
      - Palliative care has skill but not necessarily the knowledge
      - Surgeons have the knowledge, but not necessarily the skill
    - Training options available

Lessons Learned

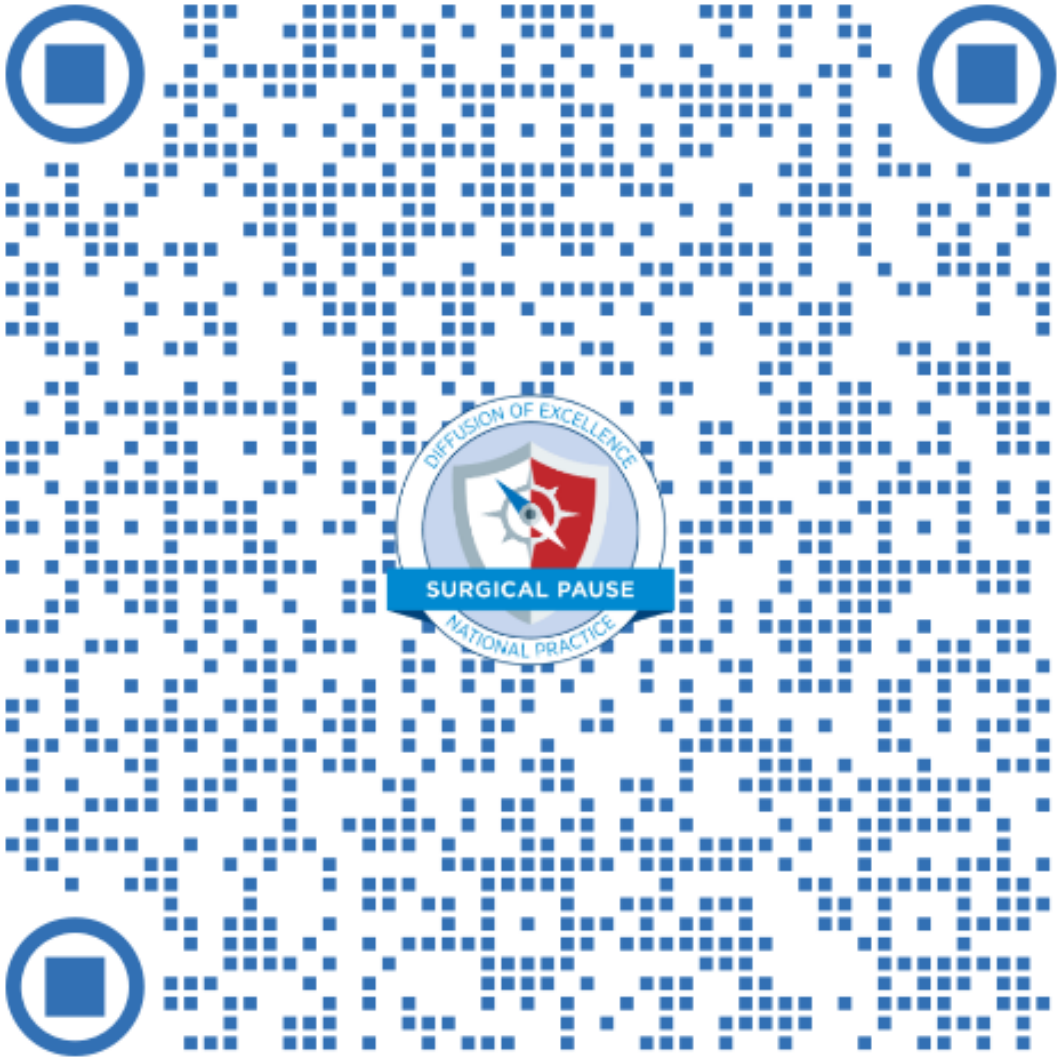
- It’s not a math problem
  - Maximizing c-statistics is a distraction
  - No algorithm can determine what we should/should not do
  - RAI signals need to shift from fast to slow thinking
- It’s about insight not technique
  - Shared decision making is *really* challenging, but it is the next frontier
  - Focusing on all-cause mortality creates opportunity
- The RAI works because it is simple, fast, and guides intervention
  - Phenotypical frailty may be more “pure” but not feasible for wide screening
  - Don’t try to triage the triage tool
- Light, flexible touch—not too much structure
  - With a gentle nudge, surgeons step up
  - So adapt to your site’s requirements
  - 1-2 hours/week of surgical champion

Many thanks to growing Research network.

- Health Systems with RAI
  - Atlanta-Emory/VA
  - Nashville-Vanderbilt
  - Phoenix-VA
  - Pittsburgh-UPMC/VA
  - Palo Alto-Stanford/VA
  - Omaha-UNMC/VA
  - Richmond-VA
  - Houston-Baylor/VA
  - Salt Lake-Utah/VA
  - San Antonio-UTH/VA
  - Indiana-University
  - University of New Mexico
- RAI Workgroup
  - Jason, Dan, Shipra
  - Ricky Shinall
  - Nader Massarweh
  - Rupen Shah
- VQI workgroup
  - Philip Goodney
  - Matthew Mell
  - Benjamin Brooke
  - Larry Kraiss
- Team Hall/UPMC/VAPHS
  - Ada Youk
  - Andrew Bilderback
  - Jacob Hodges
  - Jeff Borrebach
  - Mary K Wisniewski
  - Tami Minnier
  - Steve Shapiro
  - Mark Wilson
  - Joel Nelson
  - Bob Arnold
  - Johanna Bellon
  - Dan Forman
  - Kelly Allsup
  - Jonas Johnson
  - Stephen Esper
  - Jenn Holder-Murray
- Team Arya/Stanford/ VA Palo Alto/ VA Atlanta/ Emory
  - Sebastian Perez
  - Amber Trickey
  - Rui Chen
  - Kelly Blum
  - Elizabeth George
  - Kara Rothenberg
  - Jordan Stern
  - Arden Morris
  - Mary Hawn
  - Ronald Dalman
  - Paula Tucker
  - Luke Brewster
  - Theodore Johnson
  - Jason Hockenberry
- Team Johanning/ UNMC/NWICHS/ VISN 23
  - Tom Lynch
  - Kendra Schmid
  - Kaeli Samson
  - Georgia Lyles
  - Krishna Chaitanya
  - Karen Taylor
  - Tom Edes
  - Richard Allman
  - Scott Shreve
  - Jahnigen Scholars
  - Health and Aging Policy Fellowship

Questions?

hallde@upmc.edu



That's our story, and then there is peer review:

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Surgical Pause Symposium

Initiation of a multidisciplinary surgical prehabilitation program for frail patients leads to improved surgical outcomes by identifying patients fit to proceed with surgery

Schmit, BM; Tyson, A; Galvao, J; Donahoo, J; Engels, L; Tillman, J; Shorr, R; Solberg, L; Soberon, J; Hegland, D; Zaragoza, A; Goldstein, L.; Berry, S.

UF College of Medicine
Department of Surgery
UNIVERSITY of FLORIDA

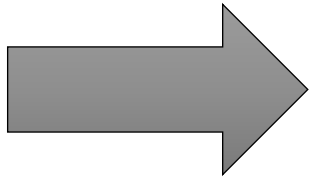
VA
U.S. Department of Veterans Affairs
Veterans Health Administration
VA Sunshine Healthcare Network (VISN 8)

Background

- Frailty is associated with poor surgical outcomes.
- The risk analysis index (RAI) is a well validated tool for measuring frailty in the veteran population.
- It is less clear how much of an effect prehabilitation of frail patients has on outcomes.
- We aimed to develop a VISN wide surgical prehabilitation program hoping to optimize outcomes for frail surgical patients.

VISN 8 Surgical Prehabilitation Program

Screen All new Surgical consults If RAI 37 And Planning Surgery

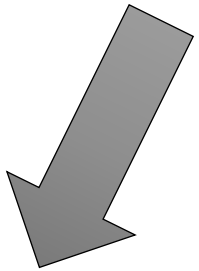


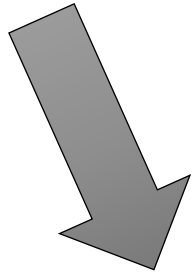
Detailed evaluation by dedicated frailty provider

Shared Decision Making → Palliative Care

Multidisciplinary Review / Discussion

Prehabilitation → PT, home exercise, respiratory training





Proceed with Surgery

Alternative Treatment
Conservative measures

One Visit Multiple Providers-Multidisciplinary approach

Dedicated Frailty Provider

- ADLs/IADLs
- Mini-cog test to assess for undiagnosed neurocognitive deficits
- Marcantonio delirium assessment
- Initial nutritional assessment
- Coordinates care of entire multidisciplinary team and serves as single contact person
- Refers to other services based off of need

Physical Therapy

- 30s sit to stand
- Timed up and Go
- 2 min step test
- Gait speed
- Develops individualized prehabilitation plan

Nutrition

- In depth nutritional assessment
- Orders supplements if needed
- Provides individualized recommendations and follow-up for optimal nutrition and healthy eating habits

Palliative Care

- Document LST preferences
- Detailed discussion with patient to understand what matters to them and if surgery truly is in their wishes.
- 40% increase in outpatient palliative care consults at GNV

Frailty Provider Clinic Visit

Amy Tyson
Frailty/Prehabilitation Program Coordinator
Certified Adult-Gerontology Nurse Practitioner

Frailty Provider Clinic Visit

- Patient contacted by provider for scheduling and discussion
  - Optimization clinic not a Clearance service
- Family and caregivers encouraged to attend this appointment
- Initial consult followed by return visit in 4-8 weeks for follow up of interdisciplinary recommendations and physical therapy outcome measurements
- Clinic documentation aligns with American College of Surgeons Geriatric Surgery Verification Program requirements

Assessment of ADLs and IADLs

ACTIVITIES OF DAILY LIVING

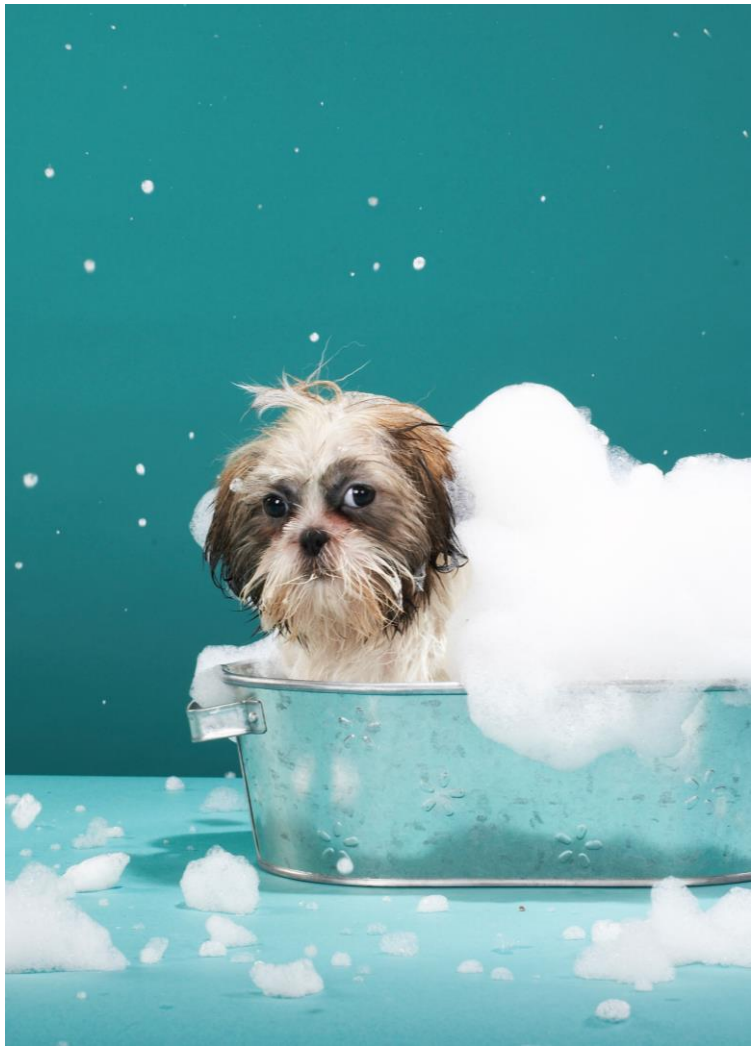
The questions are about how you usually take care of yourself. By usually, I mean half the time or more during the week

	Who answered?.....	Without help	With some Help	Unable	Not applicable
1.	During the past week, did you usually get in and out of bed or chair	○	○	○	○
2.	During the past week, did you usually dress and undress yourself	○	○	○	○
3.	During the past week, did you take a sponge bathtub bath or shower	○	○	○	○
4.	During the past week did you feed yourself	○	○	○	○
5.	During the past week, did you usually use the toilet for both bowel and bladder functions	○	○	○	○

INSTRUMENTAL ACTIVITIES OF DAILY LIVING

Now I would like to ask some questions about your daily living activities during the week just prior to coming to the hospital (office)

	Who answered?.....	Without help	With some help	Unable	Not applicable
1.	Did you use the telephone	○	○	○	○
2.	Did you get to places out of walking distances	○	○	○	○
3.	Did you prepare your own meals	○	○	○	○
4.	Did you go shopping for groceries	○	○	○	○
5.	Did you do your own housework	○	○	○	○
6.	Did you do your handyman work	○	○	○	○
7.	Did you do your own laundry	○	○	○	○
8.	Did you take your medicines	○	○	○	○
9.	Did you manage your own money	○	○	○	○



Mini-Cog©

Instructions for Administration & Scoring

ID: _____ Date: _____

Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are [select a list of words from the versions below]. Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

The following and other word lists have been used in one or more clinical studies.[1-3] For repeated administrations, use of an alternative word list is recommended.

Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Banana	Leader	Village	River	Captain	Daughter
Sunrise	Season	Kitchen	Nation	Garden	Heaven
Chair	Table	Baby	Finger	Picture	Mountain

Step 2: Clock Drawing

Say: "Next, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say: "Now, set the hands to 10 past 11."

Use preprinted circle (see next page) for this exercise. Repeat instructions as needed as this is not a memory test. Move to Step 3 if the clock is not complete within three minutes.

Step 3: Three Word Recall

Ask the person to recall the three words you stated in Step 1. Say: "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Word List Version: _____ Person's Answers: _____ _____ _____

Scoring

Word Recall: _____ (0-3 points)	1 point for each word spontaneously recalled without cueing.
Clock Draw: _____ (0 or 2 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions) with no missing or duplicate numbers. Hands are pointing to the 11 and 2 (11:10). Hand length is not scored. Inability or refusal to draw a clock (abnormal) = 0 points.
Total Score: _____ (0-5 points)	Total score = Word Recall score + Clock Draw score. A cut point of <3 on the Mini-Cog™ has been validated for dementia screening, but many individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of <4 is recommended as it may indicate a need for further evaluation of cognitive status.

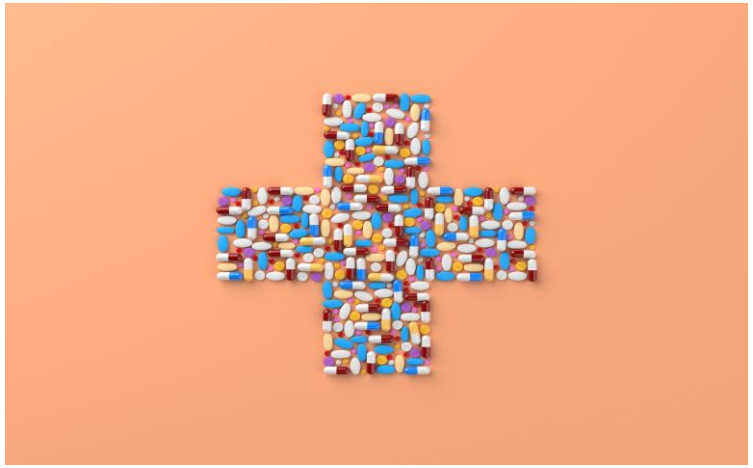
Marcantonio Delirium Risk Assessment

Age ≥ 70?	If yes = 1 point
Alcohol abuse?	1 point
Cognitive impairment? (Abnormal Mini-Cog or known MCI or dementia)	1 point
Severe physical impairment? (The patient cannot or does not perform to completion activities requiring > 2 metabolic equivalents. Example: cannot dress him/herself without stopping to rest)	1 point
Markedly abnormal preoperative sodium, potassium or glucose level: Sodium <130 or >150 mmol/L Potassium <3.0 or >6.0 mmol/L Glucose <60 or >300 mg/dL	1 point
Aortic aneurysm surgery	2 points
Noncardiac thoracic surgery	1 point
TOTAL	**≥ 3 points suggests high risk for delirium**

- History of postoperative delirium?
- Previous issues with anesthesia?
  - Family history?

Evaluation of major comorbidities and functional status

- Activity tolerance
- Medication compliance
- High risk medication use
- Patient's understanding of their major comorbidities



Facility Chart Audits

Surgical Risk Analysis Index (RAI) Report

Back to Terms & Conditions

VISN, Facility, Sta6a: 8 (VISN) + (573) N. Florida/S. Georgi...

Location Name: All

RAI > 36: ☐ Y

RAI w/out > 36: ☐ Y

Primary Stop Code: All

CHAR4: All

NSO Complexity: All

Surgical Stop: ☐ Y

Visit Date: 5/5/2023 – 5/15/2023

VISN	Facility	Division	Patient	Visit Date	Primary Stop Code	RAI Score	RAI Score Without Cancer	Location N
8	(573) N. Florida/S. Georgia HCS (Gainesville FL)	573		5/10/2023	401-GENERAL SURGERY	13		GNV GS C
8	(573) N. Florida/S. Georgia HCS (Gainesville FL)	573		5/10/2023	403-OTOLARYNGOLOGY/ENT	38	27	GNV ENT C
8	(573) N. Florida/S. Georgia HCS (Gainesville FL)	573		5/8/2023	403-OTOLARYNGOLOGY/ENT	23		GNV ENT C
8	(573) N. Florida/S. Georgia HCS (Gainesville FL)	573		5/9/2023	414-UROLOGY CLINIC	21		GNV UROL
8	(573) N. Florida/S. Georgia HCS (Gainesville FL)	573		5/10/2023	401-GENERAL SURGERY	21		GNV GS C
8	(573) N. Florida/S. Georgia HCS (Gainesville FL)	573		5/10/2023	403-OTOLARYNGOLOGY/ENT	29		GNV ENT C
8	(573) N. Florida/S. Georgia HCS (Gainesville FL)	573		5/15/2023	403-OTOLARYNGOLOGY/ENT	27		GNV ENT C
8	(573) N. Florida/S. Georgia HCS (Gainesville FL)	573		5/5/2023	409-ORTHO/JOINT SURG	38		GNV F2F C
8	(573) N. Florida/S. Georgia HCS (Gainesville FL)	573		5/8/2023	403-OTOLARYNGOLOGY/ENT	26		GNV ENT F

Visits w/ RAI Score: 249

Uniques w/ RAI Score: 246

Visits w/ RAI >36: 57

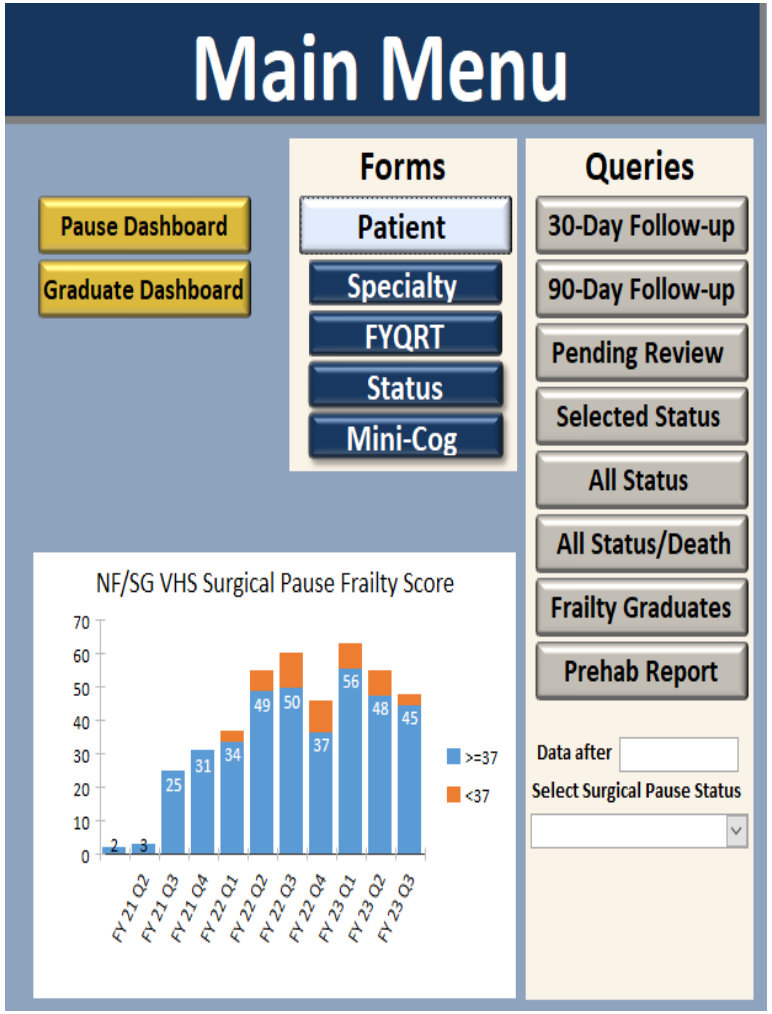
Uniques w/ RAI Score >36: 56

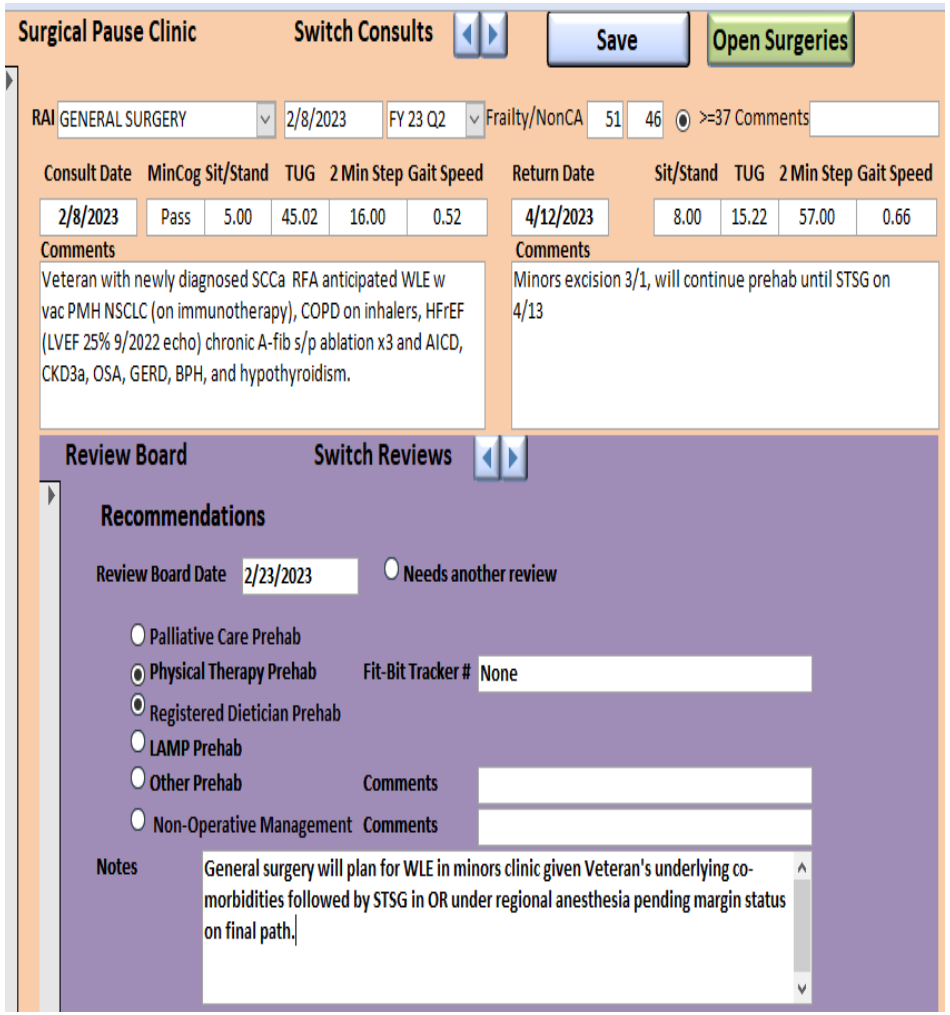
Visits w/ RAI w/o C >36: 2

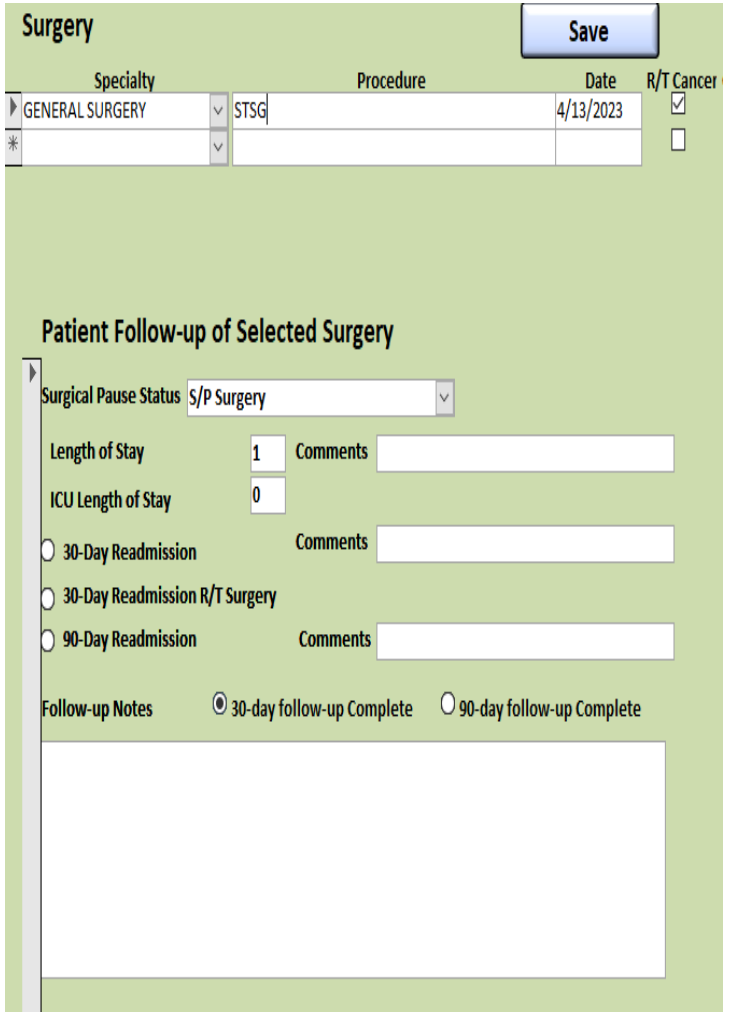
Uniques w/ RAI w/o C >36: 2

Urban	Rural	H. Rural
134	111	1

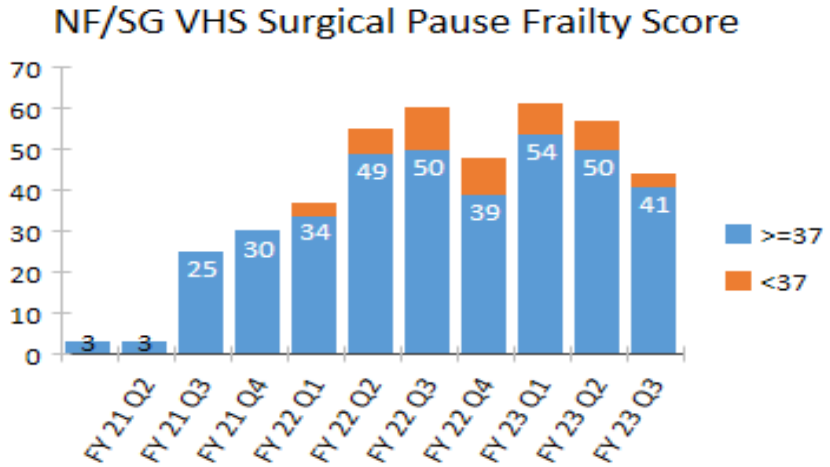
Veteran follow up

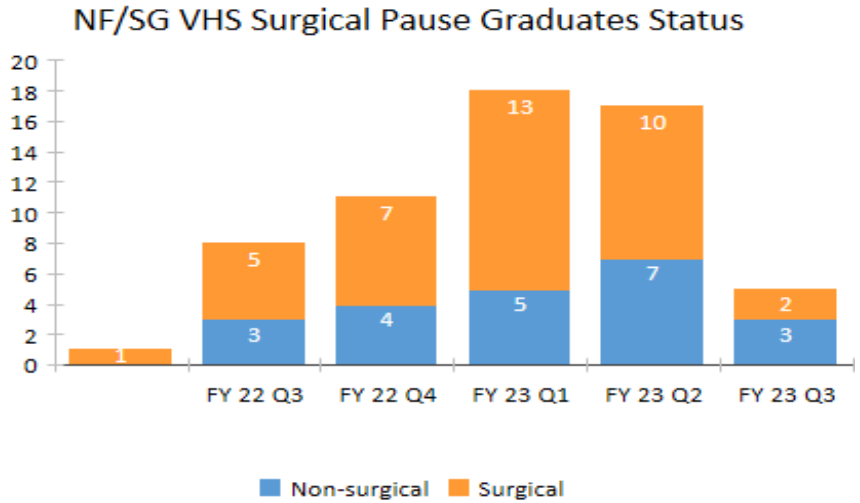


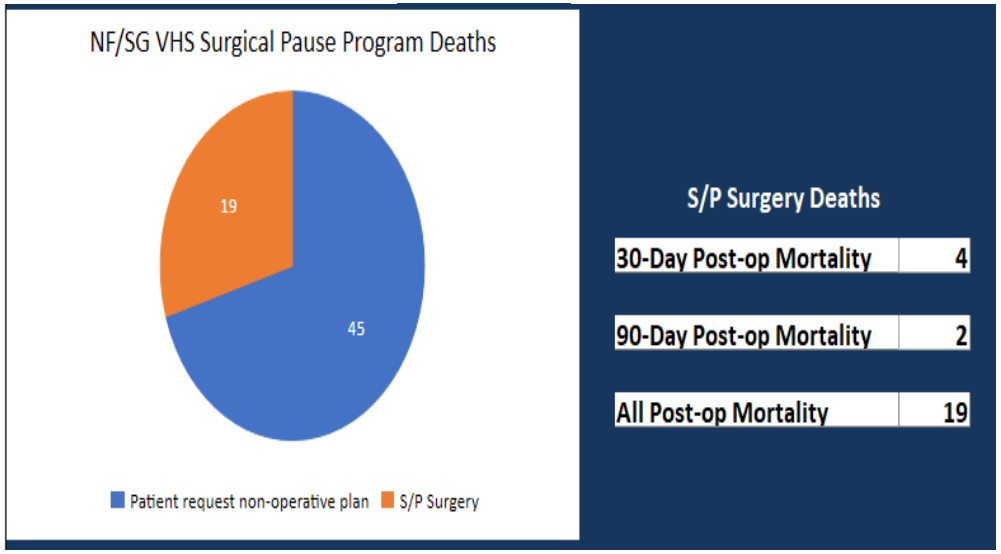




Veteran follow up







S/P Surgery Deaths

30-Day Post-op Mortality	4
90-Day Post-op Mortality	2
All Post-op Mortality	19

Physical Therapy Clinic Visit

Jackellyne Galvao
Frailty/Prehabilitation Physical Therapist
Board-Certified Clinical Specialist in Geriatric Physical Therapy (GCS)
APTA Certified Exercise Expert for Aging Adults (CEEAA)
Certified Fall Prevention Specialist (CFPS)

Physical Therapy Evaluation

Create individualized Prehabilitation Plan of Care

- Outcome measurements
- Identify the need for equipment
- Assessment regarding family assistance after surgery
- Follow-up with face to face or virtual visits during the perioperative period
- Re-assessment between 2-4 weeks before surgery
- Discharge ~1-2 weeks before surgery

Physical Therapy Evaluation

OUTCOME MESUREMENTS:

- 30 second sit to stand test
- Timed up and go
- 2 minute step test
- Gait speed

Physical Therapy Evaluation

30-Second Chair Stand

Purpose: To test leg strength and endurance

Equipment: A chair with a straight back without arm rests (seat 17" high), and a stopwatch.

NOTE: Stand next to the patient for safety.

① **Instruct the patient:**

1. Sit in the middle of the chair.
2. Place your hands on the opposite shoulder crossed, at the wrists.
3. Keep your feet flat on the floor.
4. Keep your back straight, and keep your arms against your chest.
5. On **"Go,"** rise to a full standing position, then sit back down again.
6. Repeat this for 30 seconds.

② **On the word "Go," begin timing.**

If the patient must use his/her arms to stand, stop the test. Record "0" for the number and score.

③ **Count the number of times the patient comes to a full standing position in 30 seconds.**

If the patient is over halfway to a standing position when 30 seconds have elapsed, count it as a stand.

④ **Record the number of times the patient stands in 30 seconds.**

Patient _____

Date _____

Time _____ ☐ AM ☐ PM

SCORING

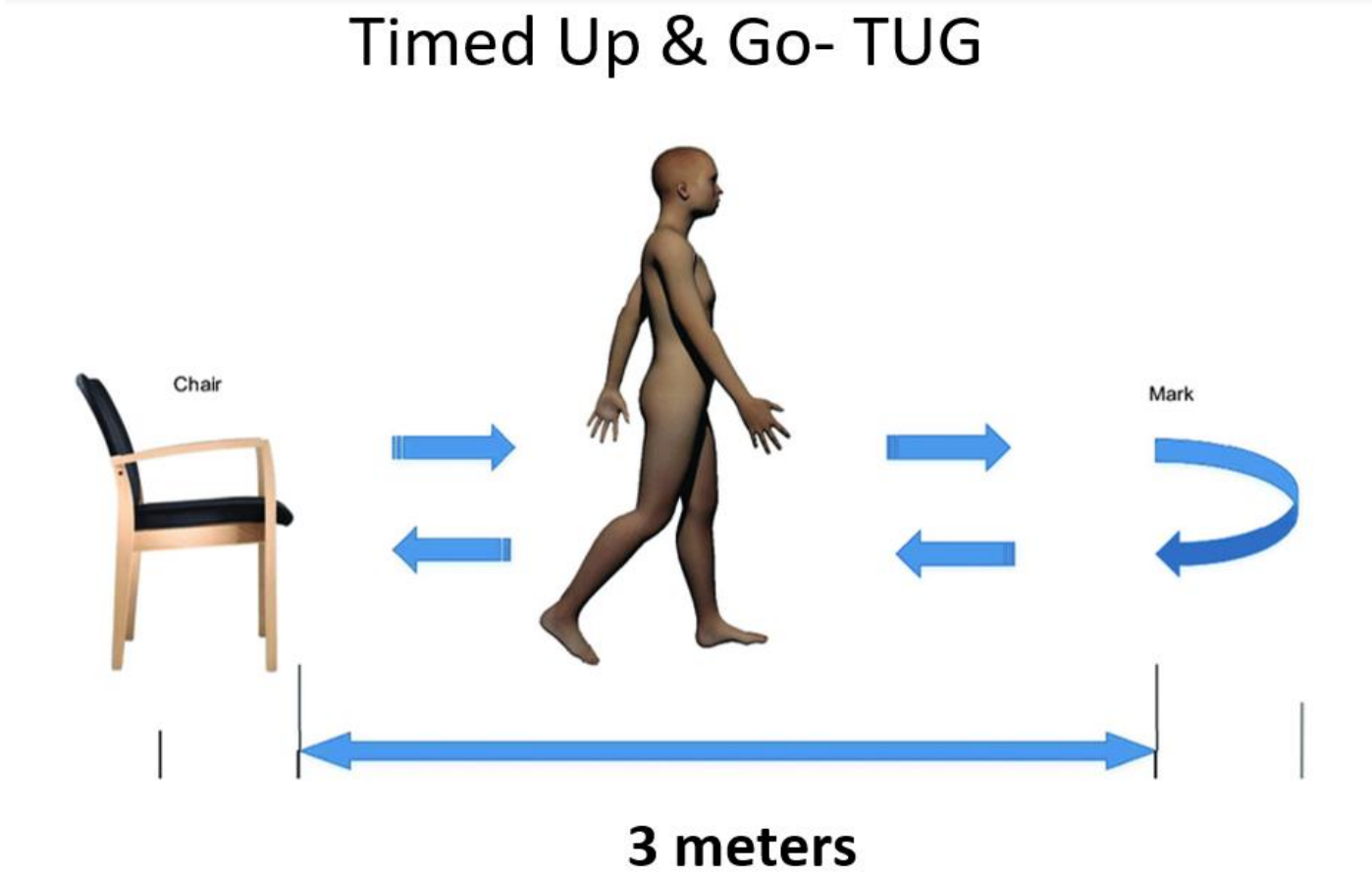
Chair Stand
Below Average Scores

AGE	MEN	WOMEN
60-64	< 14	< 12
65-69	< 12	< 11
70-74	< 12	< 10
75-79	< 11	< 10
80-84	< 10	< 9
85-89	< 8	< 8
90-94	< 7	< 4

LEG STRENGTH

- 30 second sit to stand test— score less than 8 is associated with lower levels of functional ability.
- Functional assessment of lower extremity strength (quadriceps)
- Assess ability to maintain balance in standing

Physical Therapy Evaluation

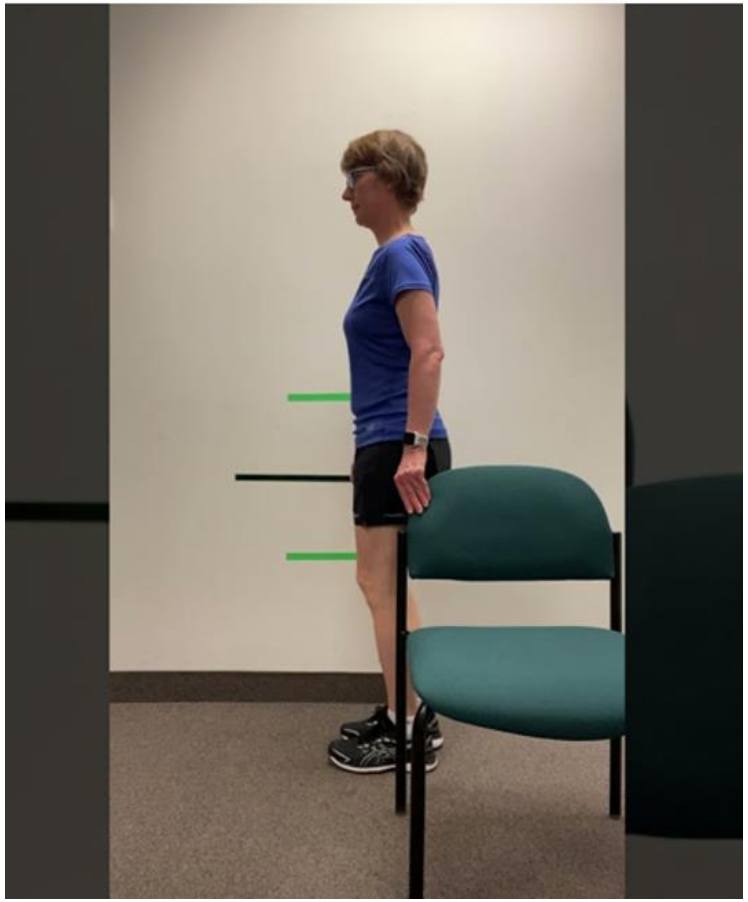


IDENTIFY FALL RISK

- Timed up and go—A cut off score of 12 seconds is the screening threshold value for increased fall risk as defined in STEADI trial.
- Test mobility, balance
- Patient can use an assistive device

Physical Therapy Evaluation

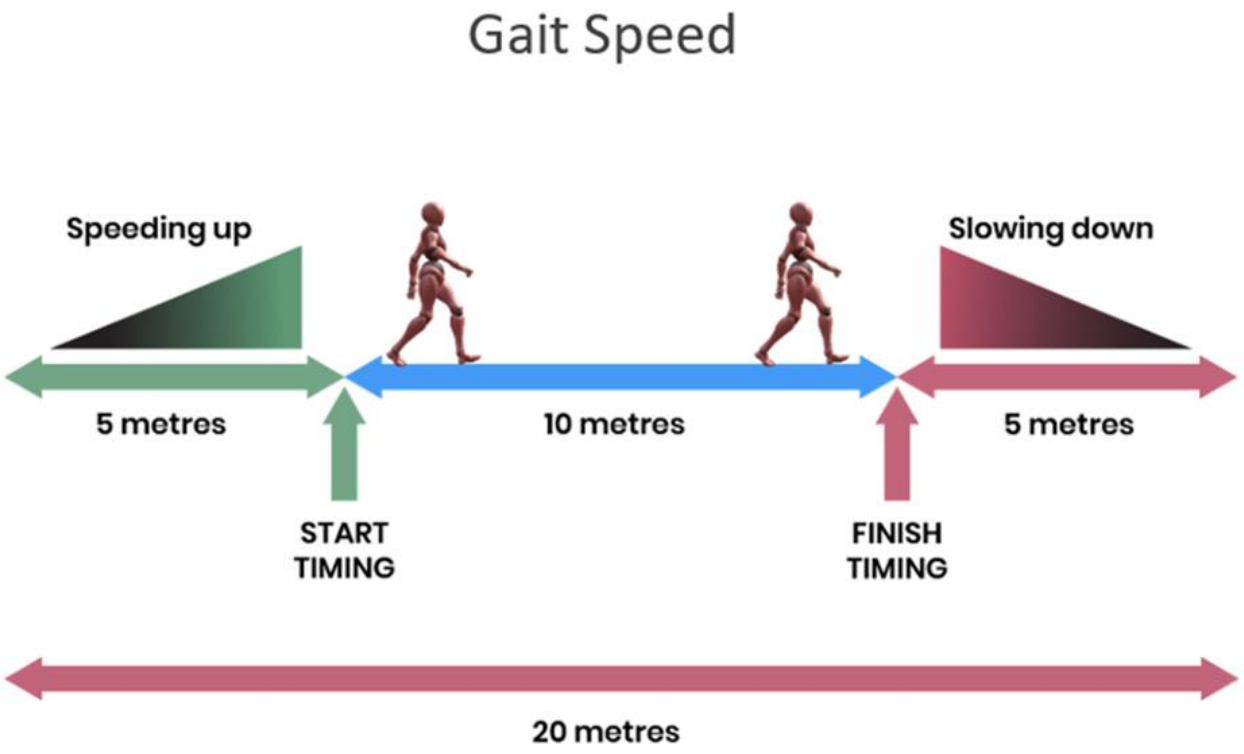
2 Minute Step Test



ENDURANCE

- 2 minute step test —Anything less than 65 steps associated with lower levels of functional mobility
- Midpoint between iliac crest and patella
- Score is number of times right knee reaches required height

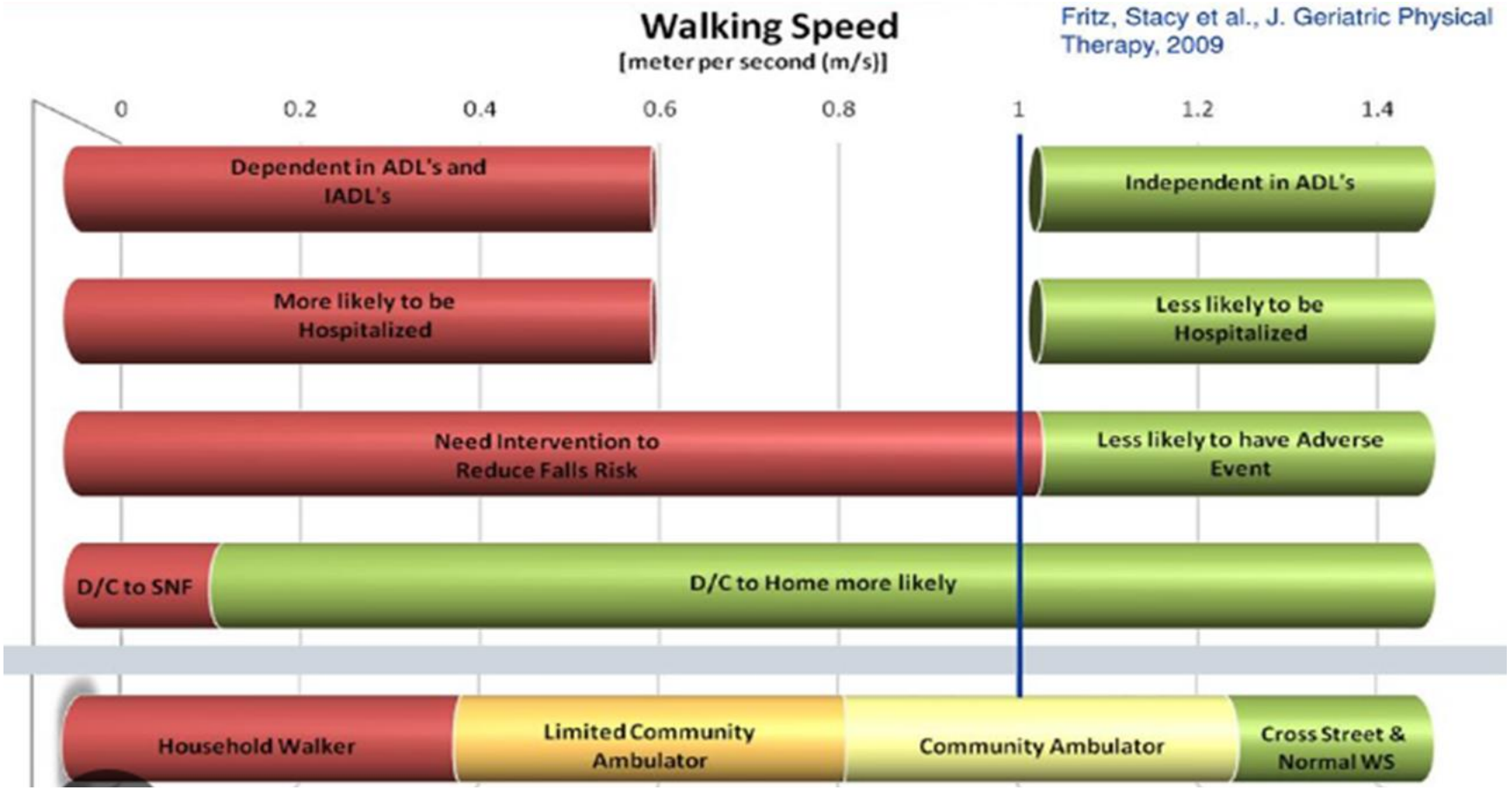
Physical Therapy Evaluation



THE 6th VITAL SIGN

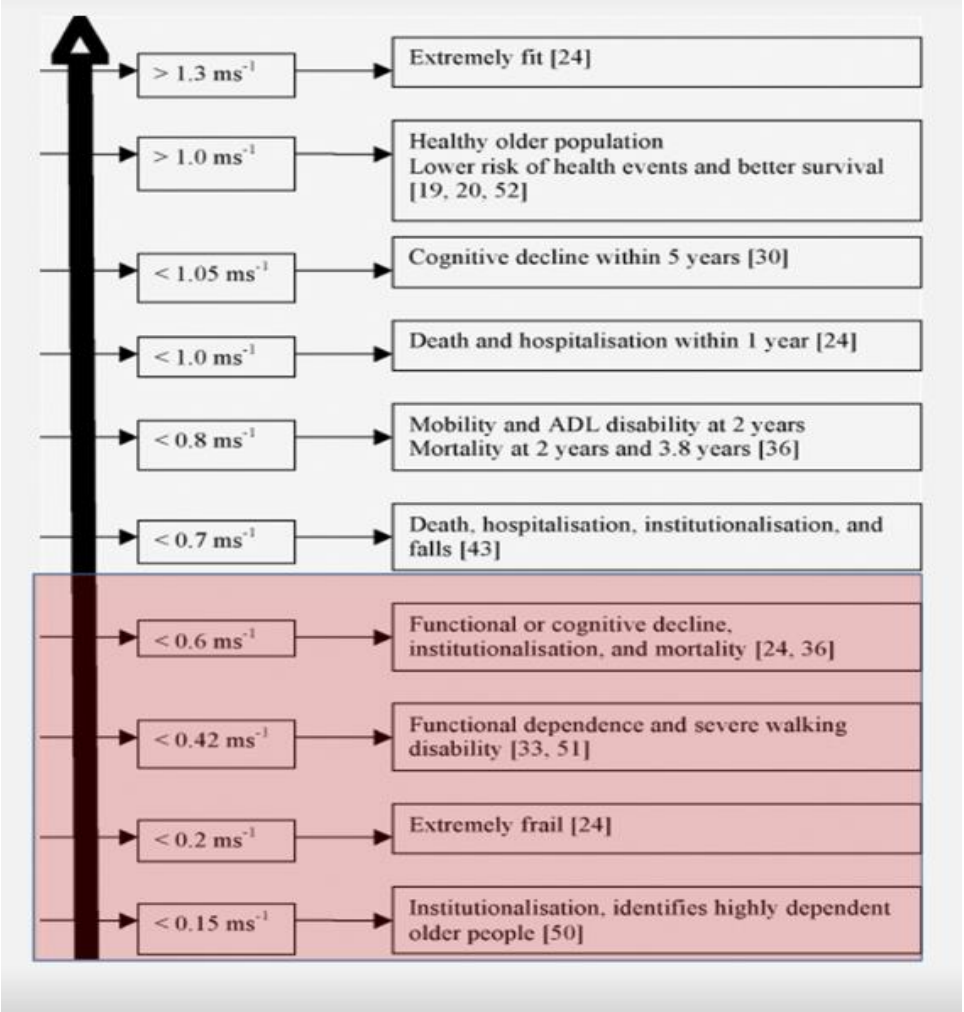
- 3, 4, and 6 meters are commonly used distances.
- *Speed (s) = distance (d) ÷ time (t)*

Physical Therapy Evaluation



Physical Therapy Evaluation

Gait Speed

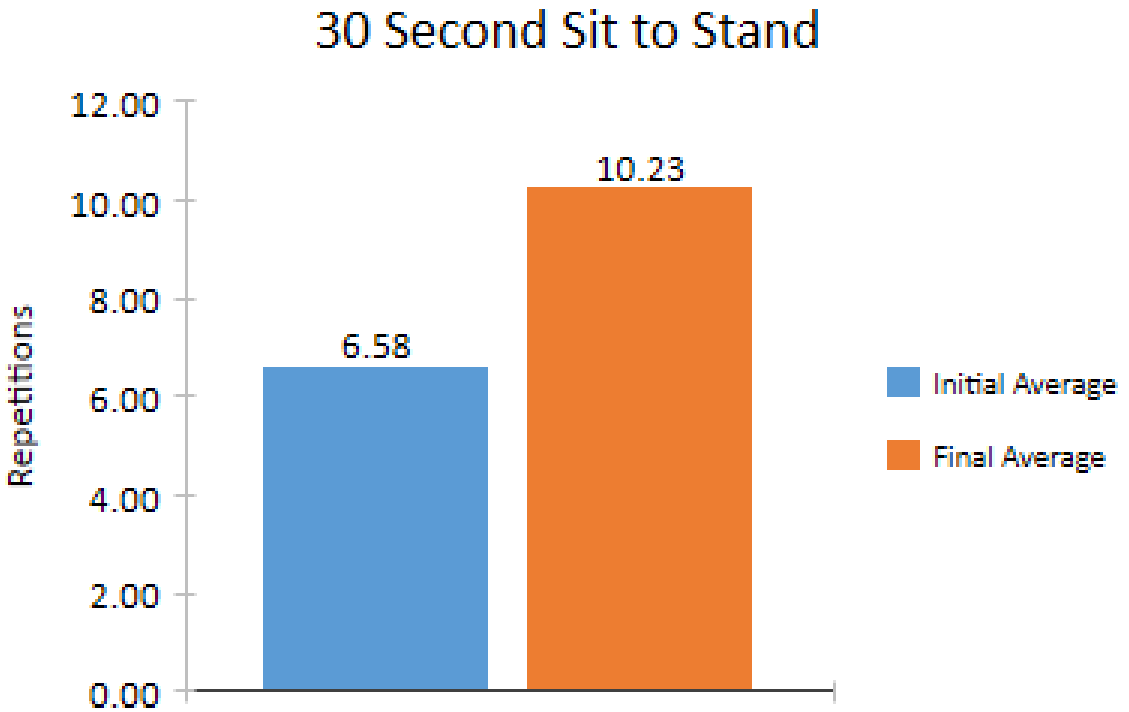


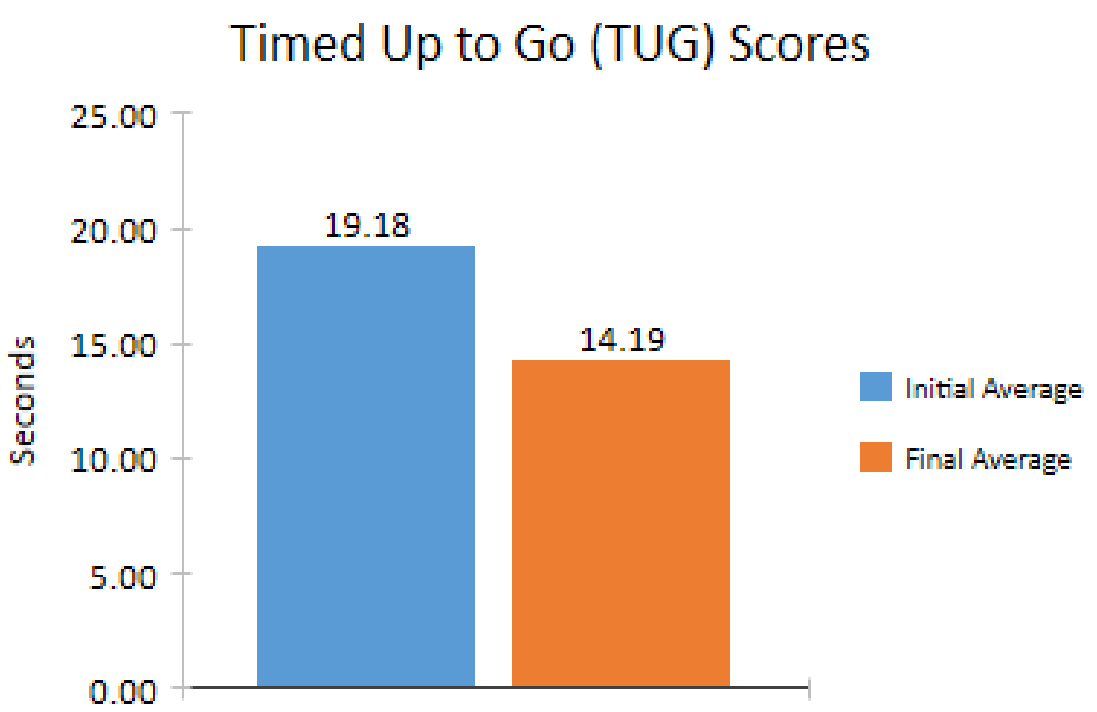
Physical Therapy Evaluation

Gait Speed

Walking speed			
m/sec	mph	METS	Function
.67	1.5	< 2	self care
.89	2.0	2.5	household activities
1.11	2.5	3.0	carry groceries, light yard work
1.33	3.0	3.5	climb several flights of stairs

Objective Outcome Measures



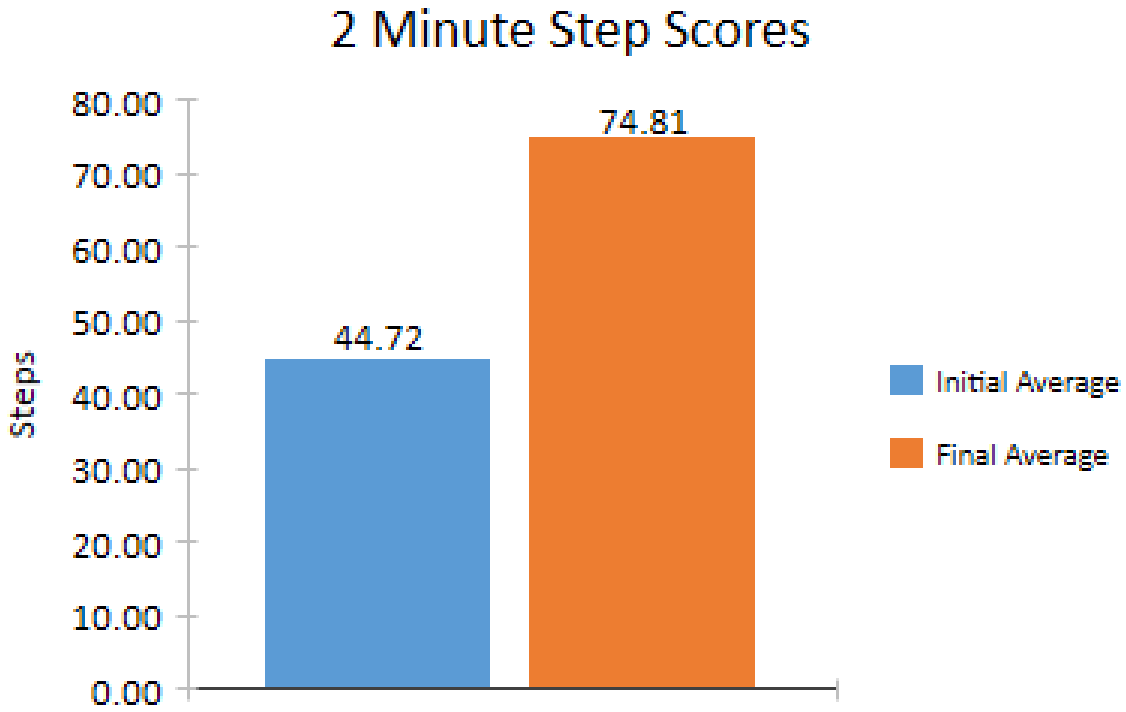


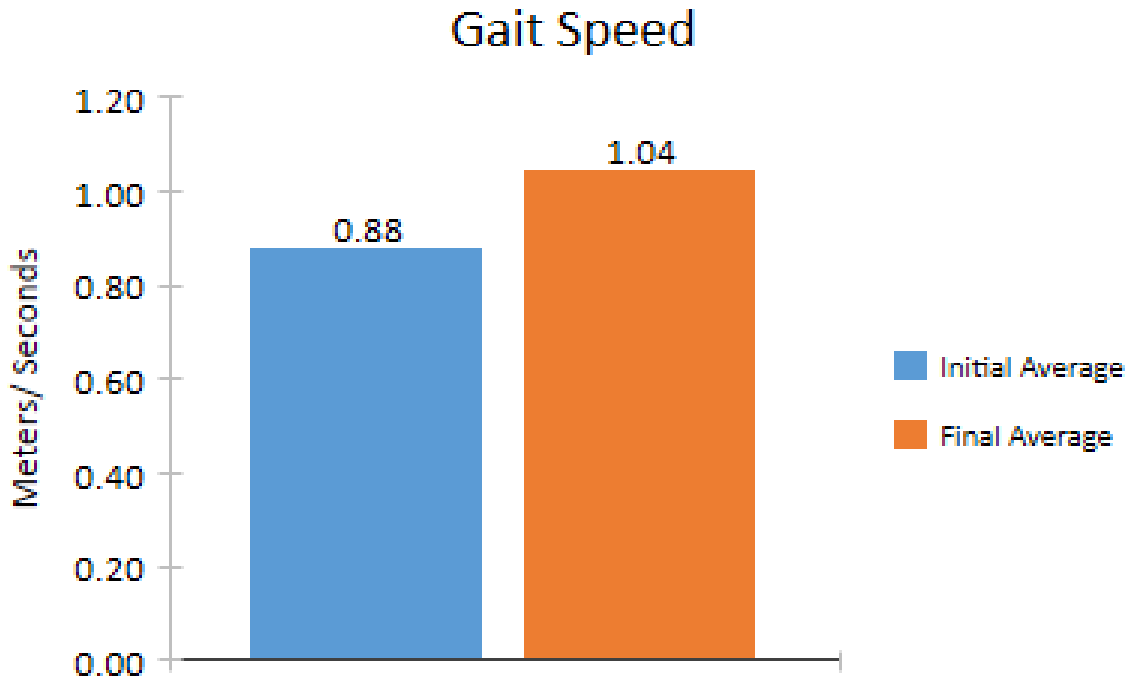
Average duration of prehabilitation:

Cancer related surgery — 7 weeks

Non-Cancer related surgery — 11 weeks

Objective Outcome Measures





Average duration of prehabilitation:

Cancer related surgery — 7 weeks

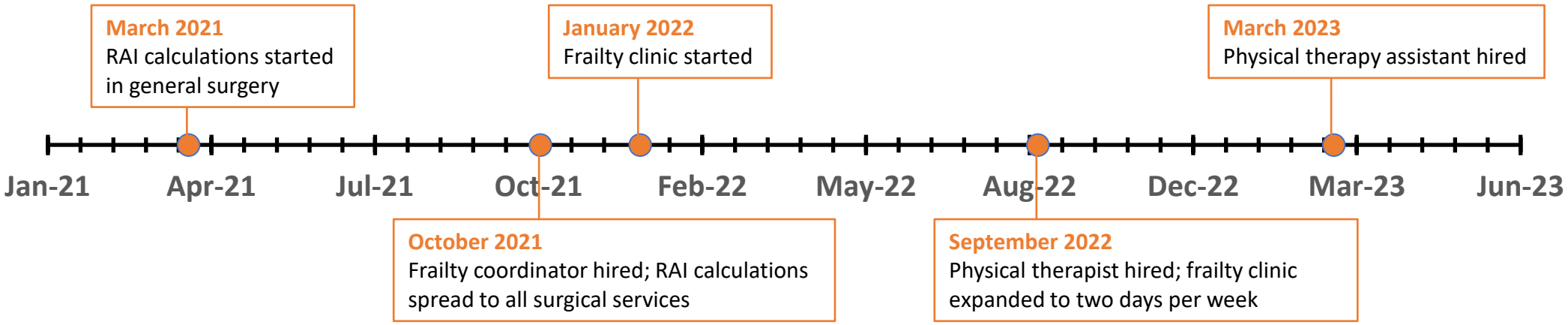
Non-Cancer related surgery — 11 weeks

Multidisciplinary review—weekly meeting

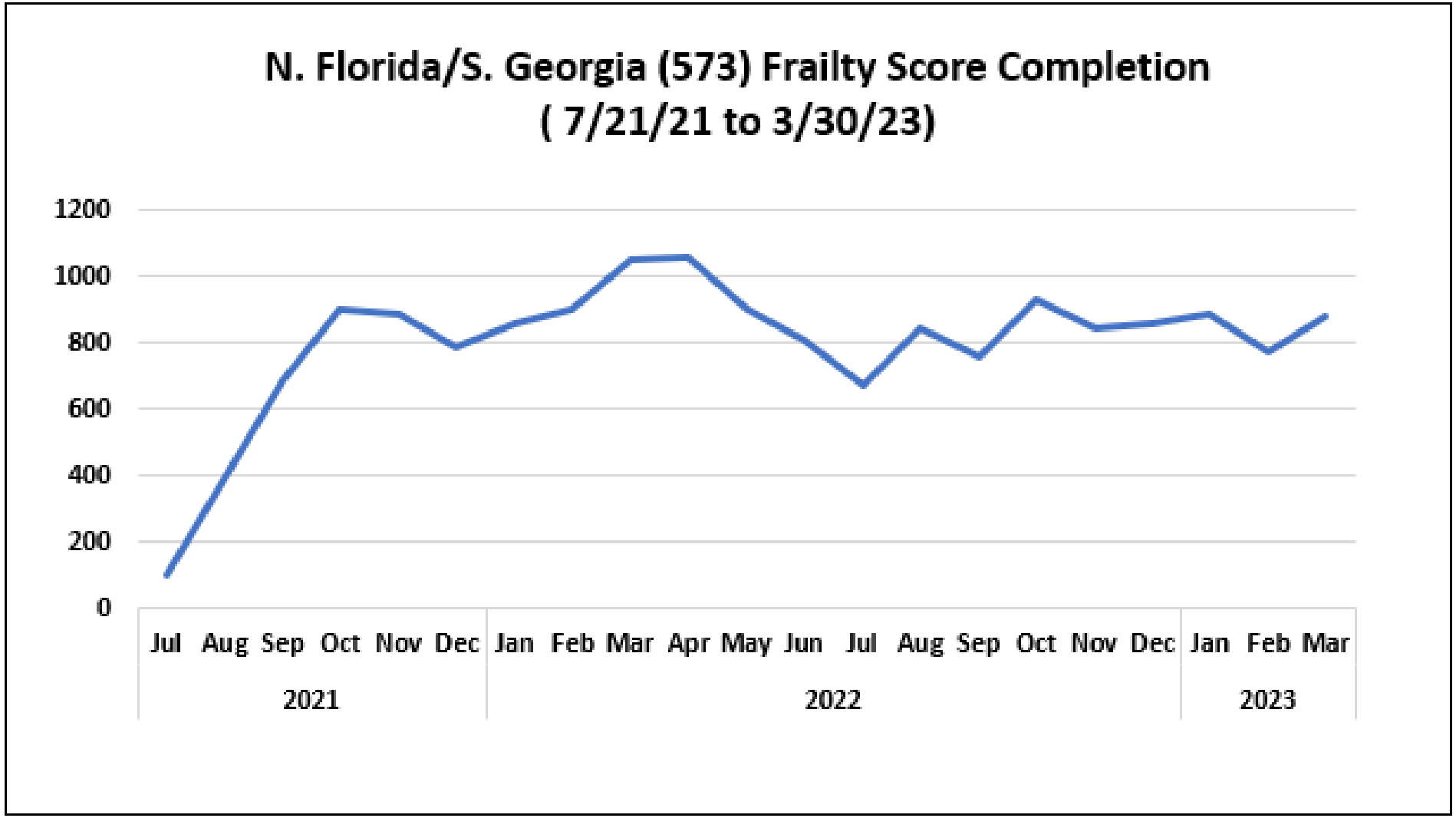
- Following face to face evaluations—weekly multidisciplinary meeting to discuss groups recommendations and plan for optimization including time frame for prehabilitation.
    - Physical therapy / PM&R
    - Palliative care
    - Nutrition
    - Speech pathology
    - Anesthesia
    - Geriatrics
    - Pharmacy
    - Cognitive neurologist
    - Social work
    - Frailty coordinator
    - Surgeon Champion

NFSG Experience/Timeline

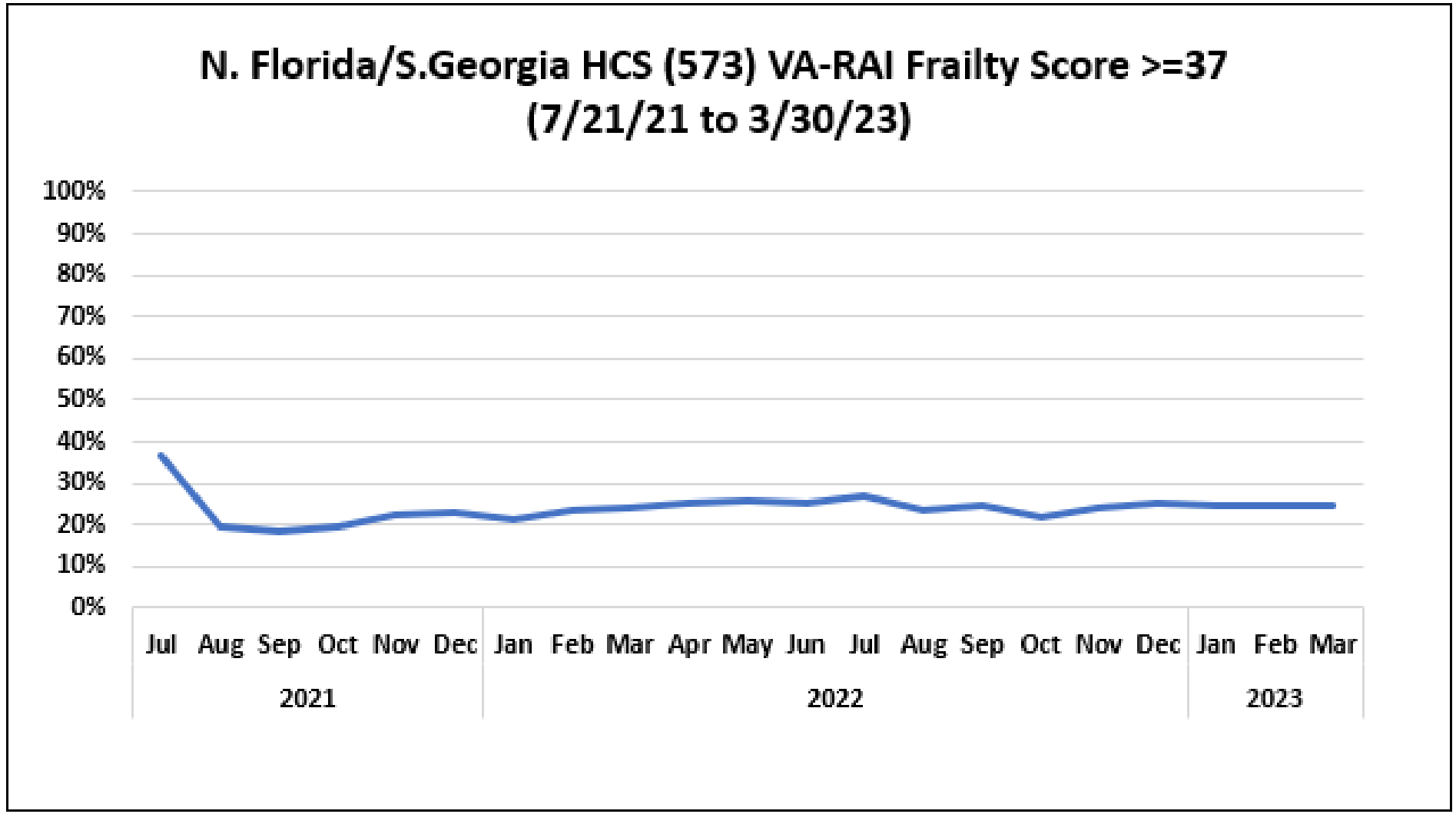
- Started calculating RAIs on surgical patients in early 2021.
- Since July of 2021 over 16,773 patients have been screened for frailty utilizing the RAI at our institution.
- Of these patients, 3,969 (24%) have had an RAI of 37 or greater, placing them in the highest risk for frailty related complications.



Patients Screened per month

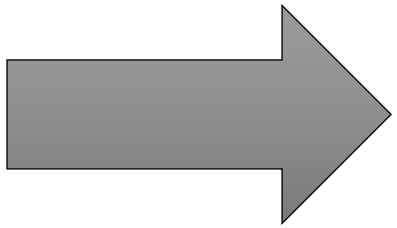


Percentage of patients screened as “frail”



NFSG Prehabilitation Program

392 Patients Referred for Prehabilitation

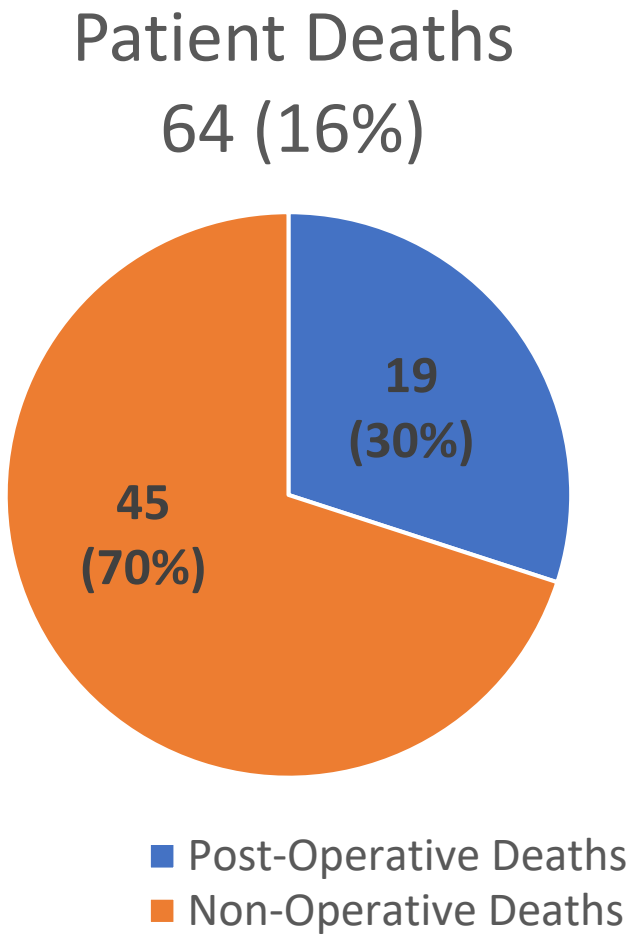


182 Completed Surgery (47%)

150 Non-Op Management (38%)

60 Still undergoing prehab/awaiting final plan (15%)

NFSG Prehabilitation Program



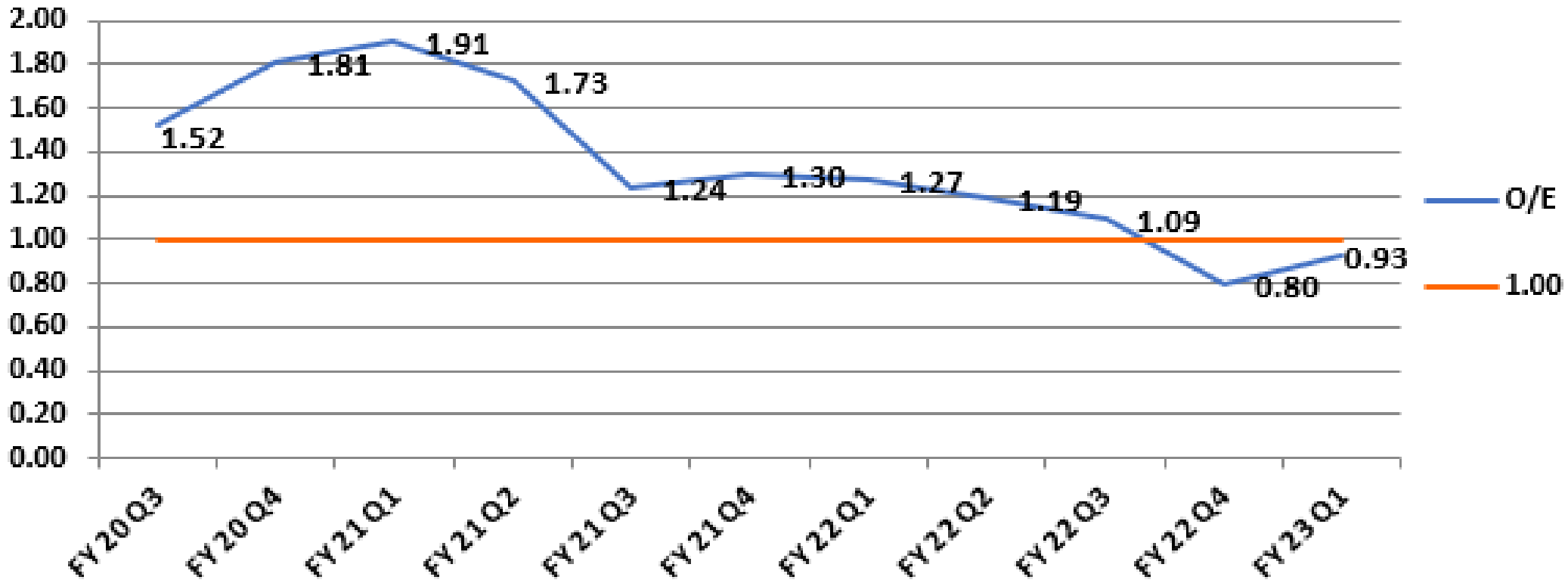
30d post-op mortality—4 deaths for a rate of 2.2%

90d post-op mortality—2 deaths for a rate of 3.3%

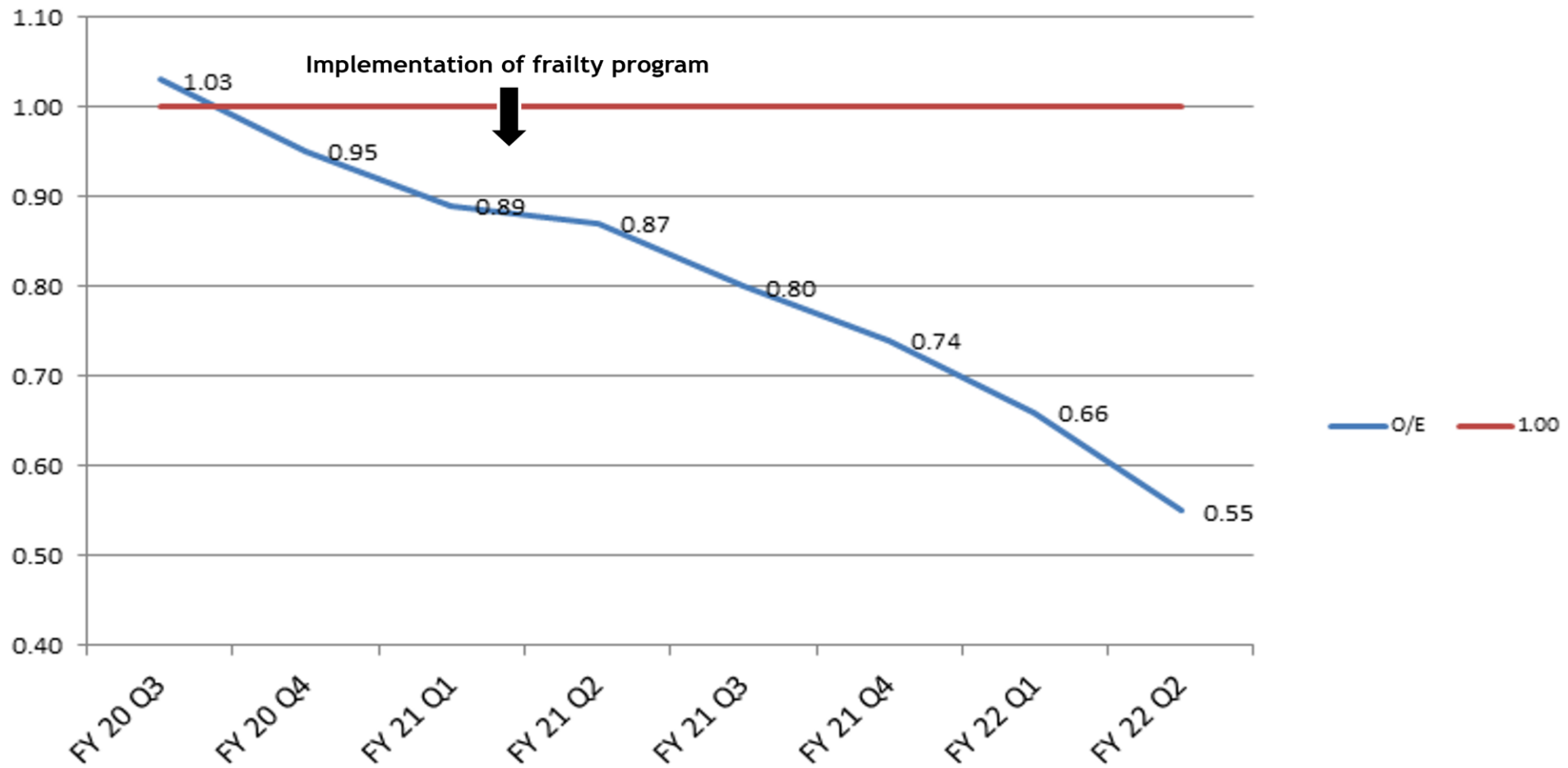
Post-Operative deaths
- Average from consult to death — 262 days
- Average from surgery to death — 210 days

Non-Operative deaths
- Average from consult to death — 189 days

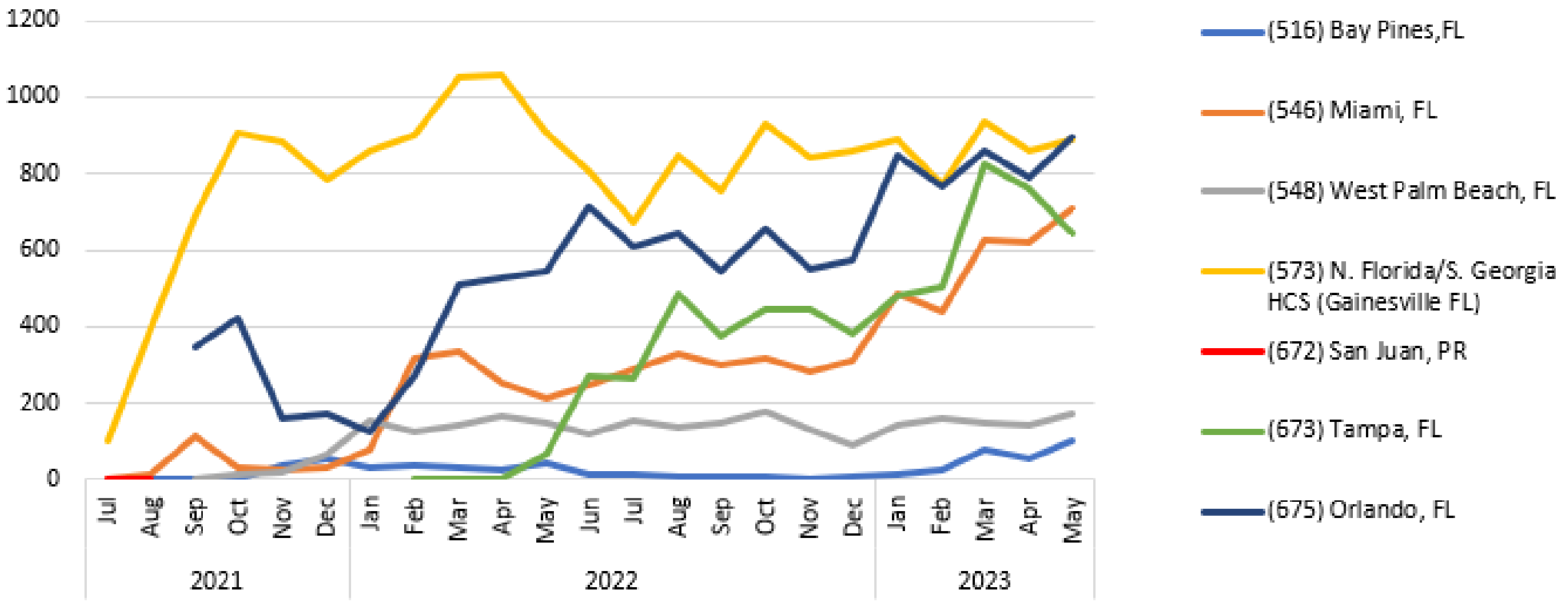
Gainesville Rolling 12-Month 30-Day ALL SERVICES Mortality
O/E 90% CI Low Value in Bar Graph



Gainesville Rolling 12-Month 30-Day ALL SERVICES Morbidity
O/E 95% CI Low Value in Bar Graph



VISN 8 Frailty Score Completion
(7/21/21 to 5/31/23)



Lessons learned

- Initial implementation in a stepwise fashion
- Identify champions to facilitate implementation compliance and growth of the interdisciplinary team
- Importance of outreach especially in the beginning stages
- Importance of having full-time dedicated staff
  - frailty coordinator and physical therapy

In conclusion

- Identification of frail surgical patients preoperatively allows for referral to a multidisciplinary high risk prehabilitation team.

- A majority of patients who complete the prehabilitation process go on to have successful surgery with mortality rates in line with accepted norms.

- The process selects out the highest risk candidates, avoiding surgery and presumably decreasing post-operative mortality rates, as evidenced by the high mortality rate in our non-operative group.

Future directions

- Beginning to standardize and replicate the success of the program at NFSG throughout the VISN with dedicated frailty coordinators on board at all facilities.

- Continued measurement of physical parameters (TUG, 30s sit to stand, gait speed and 2 min step test) to see how improvement corelates with outcomes.

- Obtain American College of Surgeons Geriatric Surgery Verification and expand to all patients aged 65 and greater.

NFSG VA Frailty/Prehabilitation Team

Surgeon champion—Bradley Schmit, MD
Frailty coordinator—Amy Tyson, ARNP
Physical therapy / PM&R— Jackellyne Galvao, DPT; Mark Ward, DPT; Morgan Harrington, PTA
Palliative care—Joni Donahoo, ARNP; Shayna Rich, MD
Nutrition—Lisa Engles, MS, RD
Speech pathology — Paige Crombie, MA, CCC-SLP
Cognitive Neurology—Benjamin Chapin, MD
Anesthesia—Jose Soberon, MD and Dustin Hegland, MD
Geriatrics—Ronald Shorr, MD; Laurence Solberg, MD
Pharmacy—Jacob Tillman, PharmD, BCPS
Social work—Audra Zaragoza, LCSW
Surgical quality nurse — Shirley Berry, RN, MSN

QUESTIONS??

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Jackellyne Galvao, PT
Jackellyne.Galvao@va.gov

Amy Tyson, ARNP
Amy.Tyson@va.gov

North Florida/South Georgia Veterans Health System
1601 SW Archer Rd, Gainesville, FL 32608

Surgical Pause Symposium

Tampa VA Frailty Initiative

John D. Marquardt, M.D.
Chief, Orthopedic Surgery
James A Haley VA Hospital
Tampa, FL

Surgical Pause and Orthopedic Surgery: An Oxymoron?

- https://youtu.be/q0S5EN7-RtI

Orthopedic Total Joint Surgeon Stereotype

- Obsessed with speed
- Operates 2-3 days a week
- Runs 2-3 rooms at a time
- Does 10-15 total joints a week

How did an Orthopedic Surgeon become a Physician Champion for a Frailty Initiative?

Orthopedic Career

- 1976-81: Residency
- 1981-90: Private practice
- 1990-2001: Academic practice
- 2001-14: Private practice with academic appointment
- 2015-Present: Tampa VA

Non-Veteran Patient Profile

- Healthy patients
- Annual health maintenance
- Pre-op medical optimization done automatically

Non-Veteran Patient Profile

- Hypertension: 60-70%
- CHF/Cardiomyopathy: 0.2-4%
- Chronic kidney disease: 0.2-4%
- Diabetes mellitus: 11-20%
- Tobacco: 9-22%
- Obesity: 14-18%
- Hepatitis C: Rare
- HIV/AIDS: Rare
- PTSD/Mental health disorders: Rare

VA Culture Shock

- Sicker patients
- Annual health maintenance not a given
- Pre-op medical optimization harder to get
- More of a PCP than an Ortho Surgeon

Comorbidities in VA Total Hips and Total Knees 2016-18

- Need to validate gut feelings
- Share findings with surgical and medical colleagues
- Goal of initiating a risk modification program
- 160 total knees in 112 veteran
- 79 total hips in 64 veterans

Hypertension

- Non-VA total joint population: 60-70%
- Tampa VA total knees: 92%
- Tampa VA total hips: 79.1%

CHF/Cardiomyopathy

- Non-VA total joint population: 0.2-4%
- Tampa VA total knees: 8%
- Tampa VA total hips: 7.5%

Chronic Kidney Disease

- Non-VA total joint population: 0.2-4%
- Tampa VA total knees: 11.6%
- Tampa VA total hips: 6.7%

Diabetes Mellitus

- Non-VA total joint population: 11-20%
- Tampa VA total knees
  - Oral meds: 27.7%
  - Insulin: 9.8%
- Tampa VA total hips
  - Oral meds: 16.4%
  - Insulin: 11.9%

Tobacco

- Non-VA total joint population: 9-22%
- Tampa VA total knees
  - Current: 17.9%
  - Former: 33%
- Tampa VA total hips
  - Current: 20.9%
  - Former: 32.8%

Obesity

- Non-VA total joint population: 14-18%
- Tampa VA total knees: 71.3%
  - Mild: 41.3%
  - Moderate: 26.3%
  - Morbid: 4.4%
- Tampa VA total hips: 57%
  - Mild: 31.6%
  - Moderate: 15.2%
  - Morbid: 10.1%

Other Co-Morbidities

- Hepatitis C
  - Tampa VA total knees: 7.1%
  - Tampa VA total hips: 10.4%
- HIV/AIDS
  - Tampa VA total knees: 3.6%
  - Tampa VA total hips: 1.5%
- Pre-op narcotic use
  - Tampa VA total knees: 20.6%
  - Tampa VA total hips: 34.2%
- PTSD/Mental health disorders
  - Tampa VA total knees: 51.6%
  - Tampa VA total hips: 43.3%

Data Dead End

- Presented to monthly Surgical Section Chiefs meeting
- Presented to monthly Surgical Work Group meeting
- Presented to monthly PCP meeting
- No provider or clinic to manage pre-op medical optimization until…

Risk Analysis Index: RAI tool

- Validated predictor of frailty and physiologic reserve
- Questionnaire easily completed within 2 minutes
- Validation prompted VISN-8 wide Frailty Initiative
- Designation of a Physician Champion at each VISN-8 facility
- Hiring an Advanced Practice Provider to be the Frailty Coordinator
- Creation of multi-disciplinary committee to review all elective surgical patients identified as frail

Physician Champion

- Selected not sentenced
- Totally committed to mitigation of risk
- Mandated initiative with value
- Bridge builder with multi-disciplinary connections

Fragility Coordinator

- Nurse Practitioner or Doctor of Nursing Practice
- Geriatric experience
- Team building and networking skills
- Supervisory experience
- Program development experience

Multidisciplinary Committee

- Chaired by the Frailty Coordinator
- Physician Champion
- Anesthesia
- Geriatrics
- Physical Therapy
- Social Work
- Pharmacy
- Palliative Care
- Advanced Practice Provider or Surgeon from the patient's team

Frailty Initiative Roll Out at Tampa VA

- Fragility Coordinator hire: April 2022
- RAI tool implementation: May 2022
- Multidisciplinary Committee formed: June 2022
- Surgical Frailty Clinic opened: August 2022
- Successful roll thanks to networking with other VA centers
  - Gainesville VA
  - Miami VA
  - Orlando VA

Statistics thru May 12, 2023

- RAI tool administered: 4972 veterans
- RAI score ≥ 37: 796 veterans (16.1%)
- Surgical Frailty Clinic consultations: 140
  - Face-to-Face: 130
  - VVC: 13
- Multidisciplinary Committee cases reviewed: 140
  - Surgery: 91 (65%)
  - Awaiting surgery: 26 (19%)
  - No surgery: 23 (16%)
  - Died before surgery: 3

Multidisciplinary Committee Contributions

- Initiation of prehabilitation
- Discovery of services available to veterans that committee members were not aware of
- True review and reconciliation of medications
- Recommendations for postoperative management and care especially in patients whose surgery is more urgent and doesn't afford much time for prehabilitation

Success Contingent Upon Buy From All Players

- Chief of Staff and Administration: $$$$
- Chief of Surgery
- Surgical Section Chiefs
- Surgeon and Surgery Advanced Practice Providers
- Clinic Nursing and Clerical Staff

Future Directions: Measuring Success

- Metrics
  - RAI tool repeated before surgery?
  - Mortality Risk Calculator with RAI at time of consult and pre-op?
- Outcome measures
  - Length of stay?
  - Readmission?
  - Surgical site infection?
  - 30-day mortality?

Contact Info

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Mobile 585-455-5090

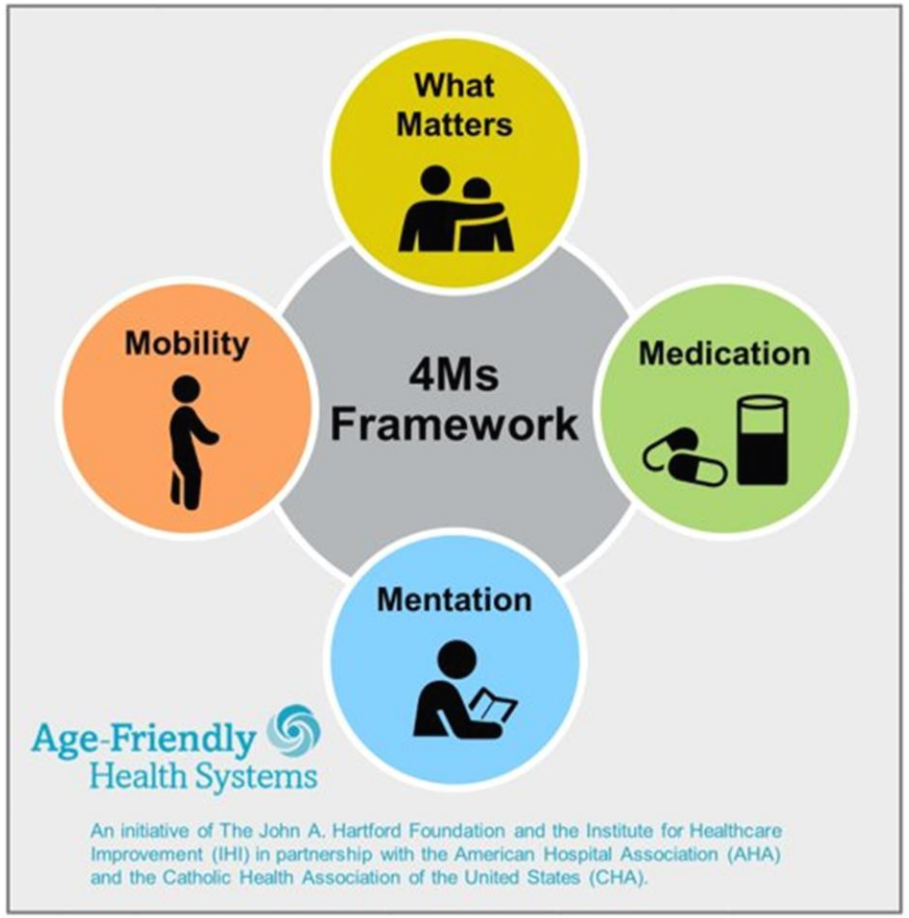
Surgical Pause Symposium

Age-Friendly Health Systems

- Kimberly Church, MS
- National Lead for Age-Friendly Health Systems
- VHA Office of Geriatrics and Extended Care (GEC)

Age-Friendly Health Systems & the 4Ms

Age-Friendly Health Systems



For related work, this graphic may be used in its entirety without requesting permission.
Graphic files and guidance at ihi.org/AgeFriendly

What Matters

Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to, end-of-life care, and across settings of care.

Medication

If medication is necessary, use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care.

Mentation

Prevent, identify, treat, and manage dementia, depression, and delirium across settings of care.

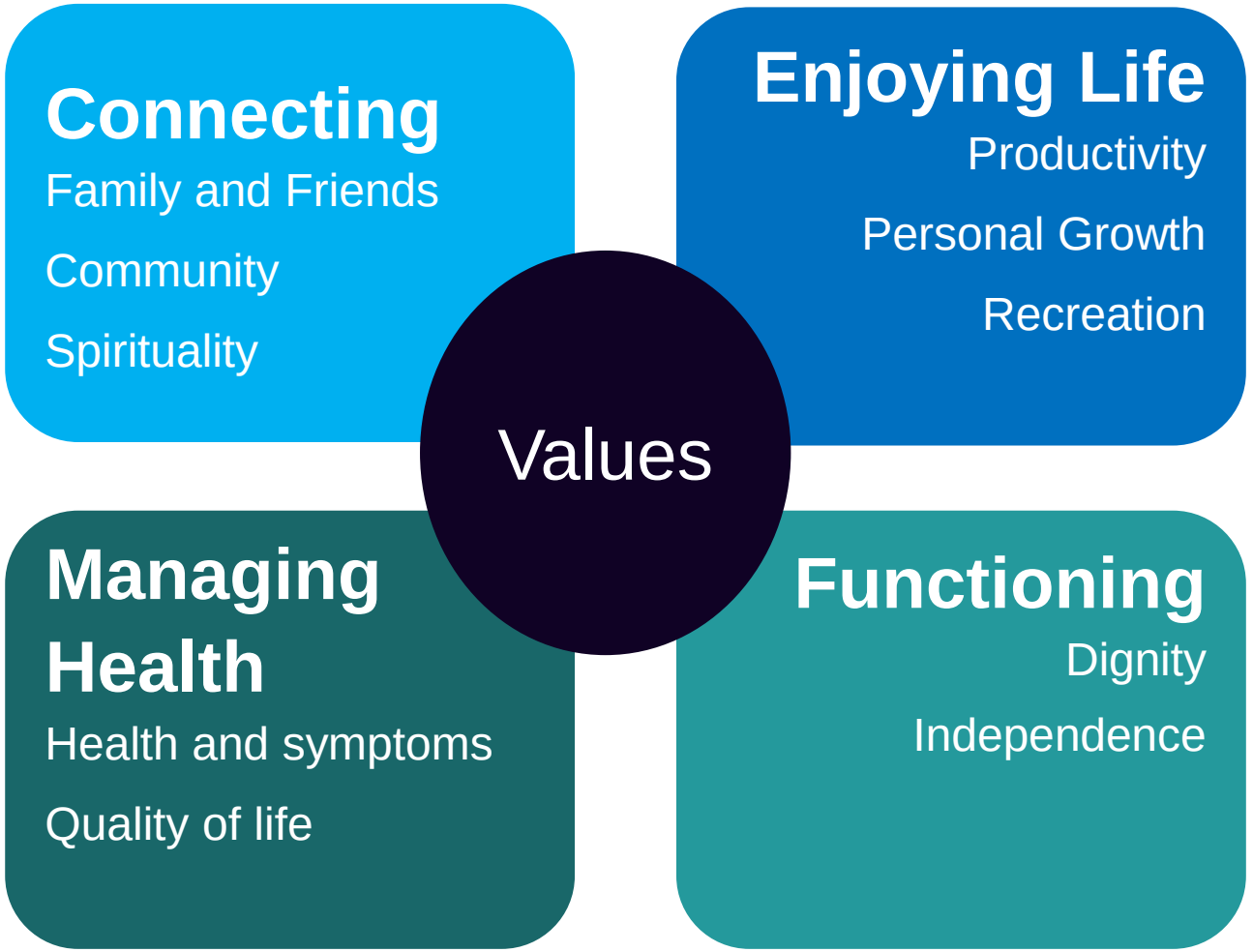
Mobility

Ensure that older adults move safely every day in order to maintain function and do What Matters.

What Matters

Age-Friendly Health Systems

- What brings you joy? What makes you happy? What makes life worth living?
- What makes today a good day?
- What are your most important goals now and as you think about the future with your health?
- What are your most important goals if your health situation worsens?
- What is most important to you about taking care of yourself?
- What do you hope your healthcare can do for you?



Recognition

Age-Friendly Health Systems

The Institute for Healthcare Improvement (IHI) recognizes clinical care settings that are working toward reliable practice of the 4Ms.

Level 1

Participant

Your team will develop a plan to implement the 4Ms in your clinical care setting.

Level 2

Committed to Care Excellence

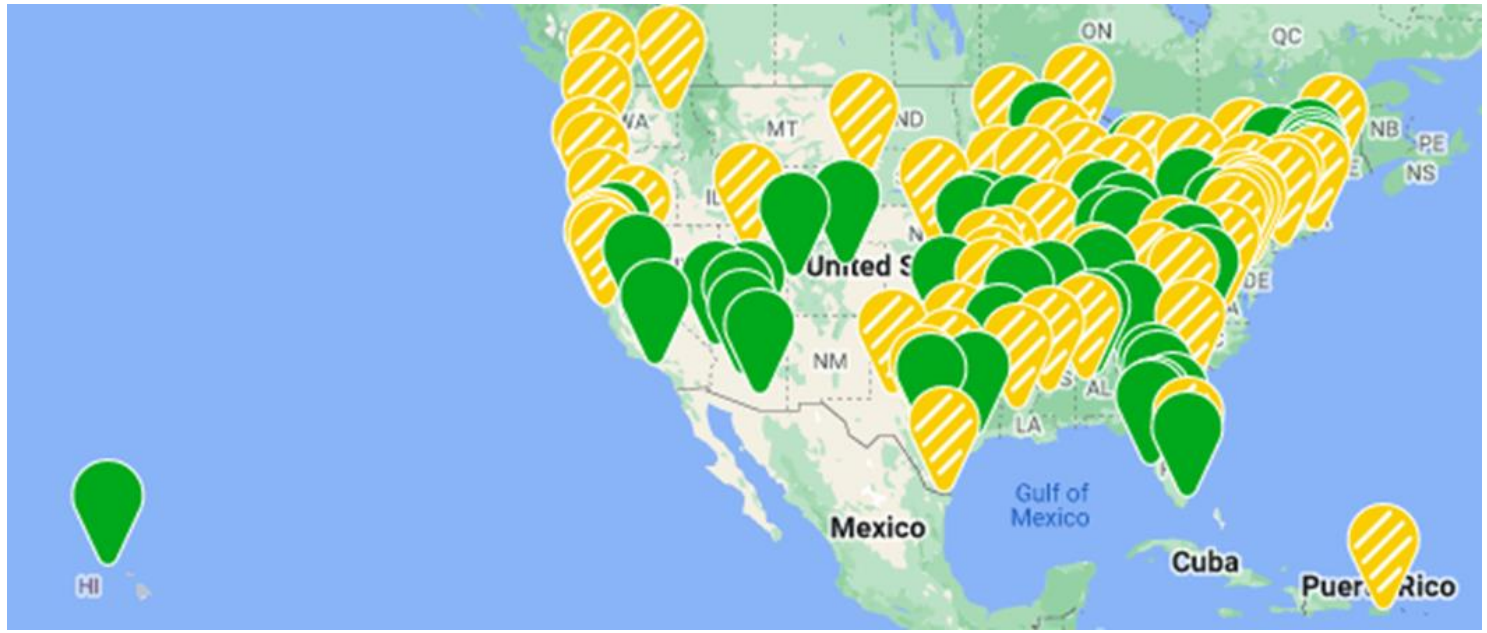
Your team will collect 3 months' worth of data to demonstrate the early impacts of your 4Ms plan.

www.ihi.org/agefriendly

Our aim

Age-Friendly Health Systems

Transform VHA into the largest Age-Friendly Health System in the U.S.



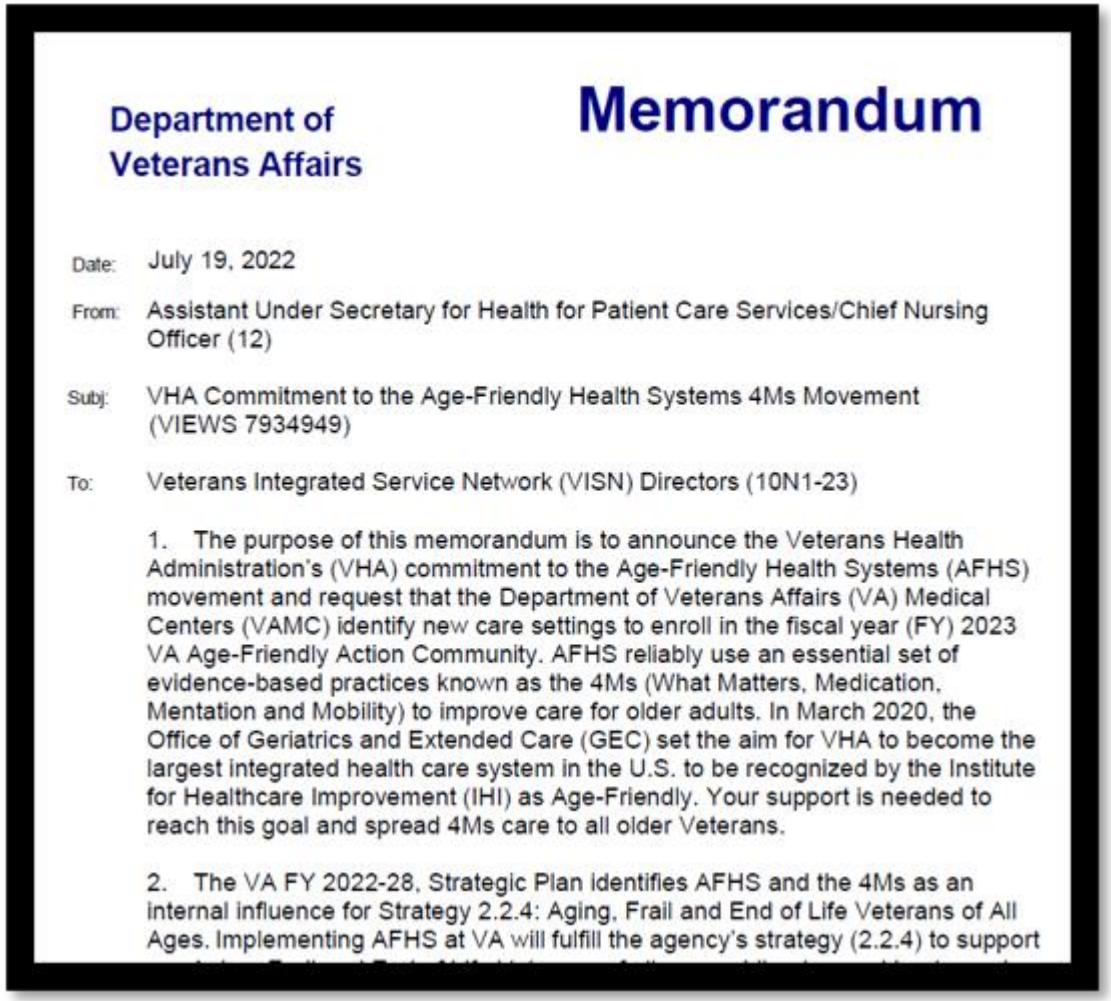
Map Key

In progress (yellow)= IHI Participant Recognition in 1+ care setting

Successful (green)= IHI Committed to Care Excellence Recognition in 1+ care setting

https://marketplace.va.gov/innovations/age-friendly-health-systems

Prioritizing Age-Friendly Health Systems & Aging in Place



Department of Veterans Affairs

Memorandum

Date: July 19, 2022

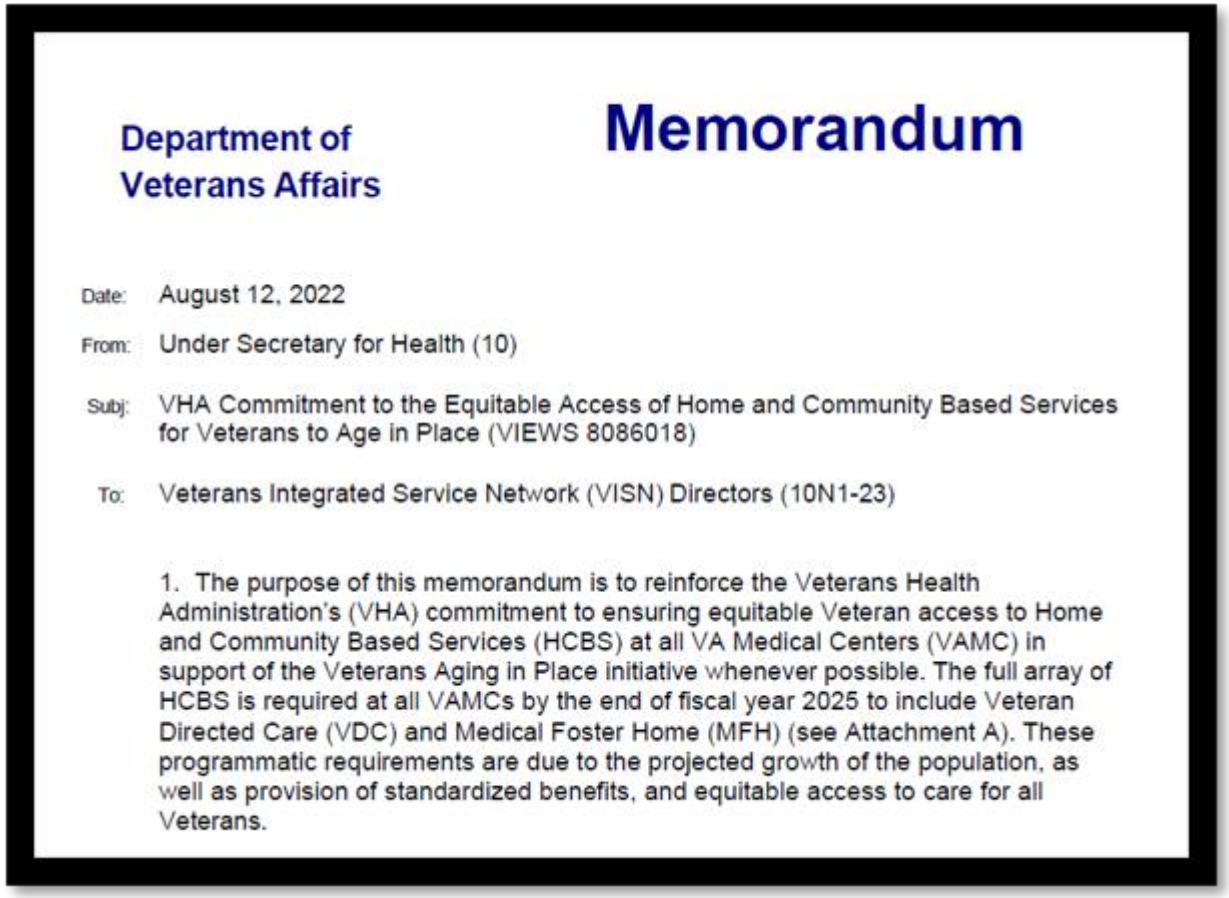
From: Assistant Under Secretary for Health for Patient Care Services/Chief Nursing Officer (12)

Subj: VHA Commitment to the Age-Friendly Health Systems 4Ms Movement (VIEWS 7934949)

To: Veterans Integrated Service Network (VISN) Directors (10N1-23)

1. The purpose of this memorandum is to announce the Veterans Health Administration's (VHA) commitment to the Age-Friendly Health Systems (AFHS) movement and request that the Department of Veterans Affairs (VA) Medical Centers (VAMC) identify new care settings to enroll in the fiscal year (FY) 2023 VA Age-Friendly Action Community. AFHS reliably use an essential set of evidence-based practices known as the 4Ms (What Matters, Medication, Mentation and Mobility) to improve care for older adults. In March 2020, the Office of Geriatrics and Extended Care (GEC) set the aim for VHA to become the largest integrated health care system in the U.S. to be recognized by the Institute for Healthcare Improvement (IHI) as Age-Friendly. Your support is needed to reach this goal and spread 4Ms care to all older Veterans.

2. The VA FY 2022-28, Strategic Plan identifies AFHS and the 4Ms as an internal influence for Strategy 2.2.4: Aging, Frail and End of Life Veterans of All Ages. Implementing AFHS at VA will fulfill the agency's strategy (2.2.4) to support



Department of Veterans Affairs

Memorandum

Date: August 12, 2022

From: Under Secretary for Health (10)

Subj: VHA Commitment to the Equitable Access of Home and Community Based Services for Veterans to Age in Place (VIEWS 8086018)

To: Veterans Integrated Service Network (VISN) Directors (10N1-23)

1. The purpose of this memorandum is to reinforce the Veterans Health Administration's (VHA) commitment to ensuring equitable Veteran access to Home and Community Based Services (HCBS) at all VA Medical Centers (VAMC) in support of the Veterans Aging in Place initiative whenever possible. The full array of HCBS is required at all VAMCs by the end of fiscal year 2025 to include Veteran Directed Care (VDC) and Medical Foster Home (MFH) (see Attachment A). These programmatic requirements are due to the projected growth of the population, as well as provision of standardized benefits, and equitable access to care for all Veterans.

Kimberly Church, MS

VHA Office of Geriatrics and Extended Care

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Surgical Pause Symposium

Surgical Pause
North Florida/South Georgia
Malcom Randall VA Hospital

Participants in Weekly Frailty Clinic (Surgical Pause)

Surgeon: Dr. Bradley Schmit

Surgical NP/Coordinator: Amy Tyson, APRN

Physical Therapy: Jackellyne Galvao, PT

PharmD: Dr. Jacob Tillman

Dietitian: Lisa Engels, MS, RDN

Palliative: Dr Joni Donahoo DNP, Audra Zaragoza LCSW

Anesthesiology: Dr. Dustin Hegland, Dr. Jose Soberon

Cognitive Neurology: Dr. Benjamin Chapman

Speech: Paige Crombie, MA, CCC-SLP

Geriatrics/Research: Dr. Laurence Solberg, Dr. Ronald Shorr

Palliative vs Hospice

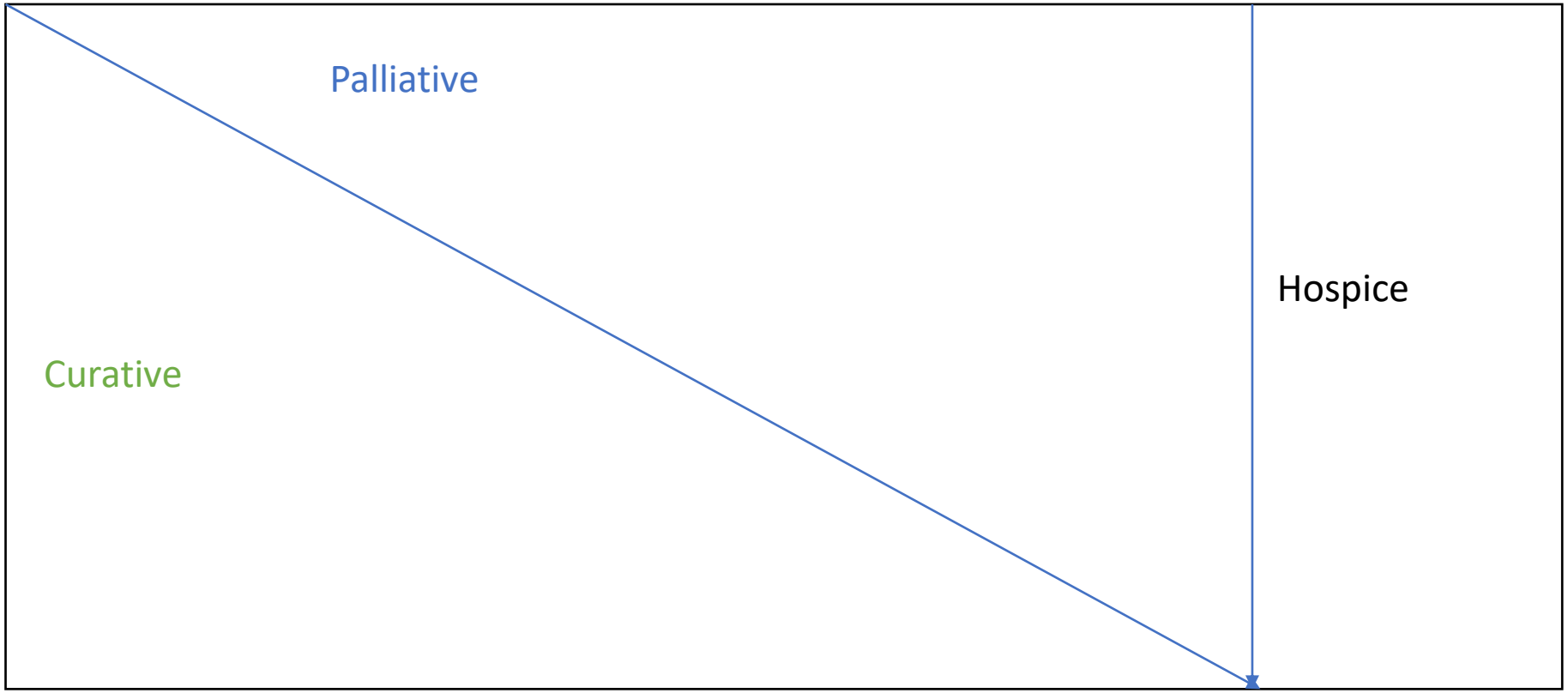
Palliative

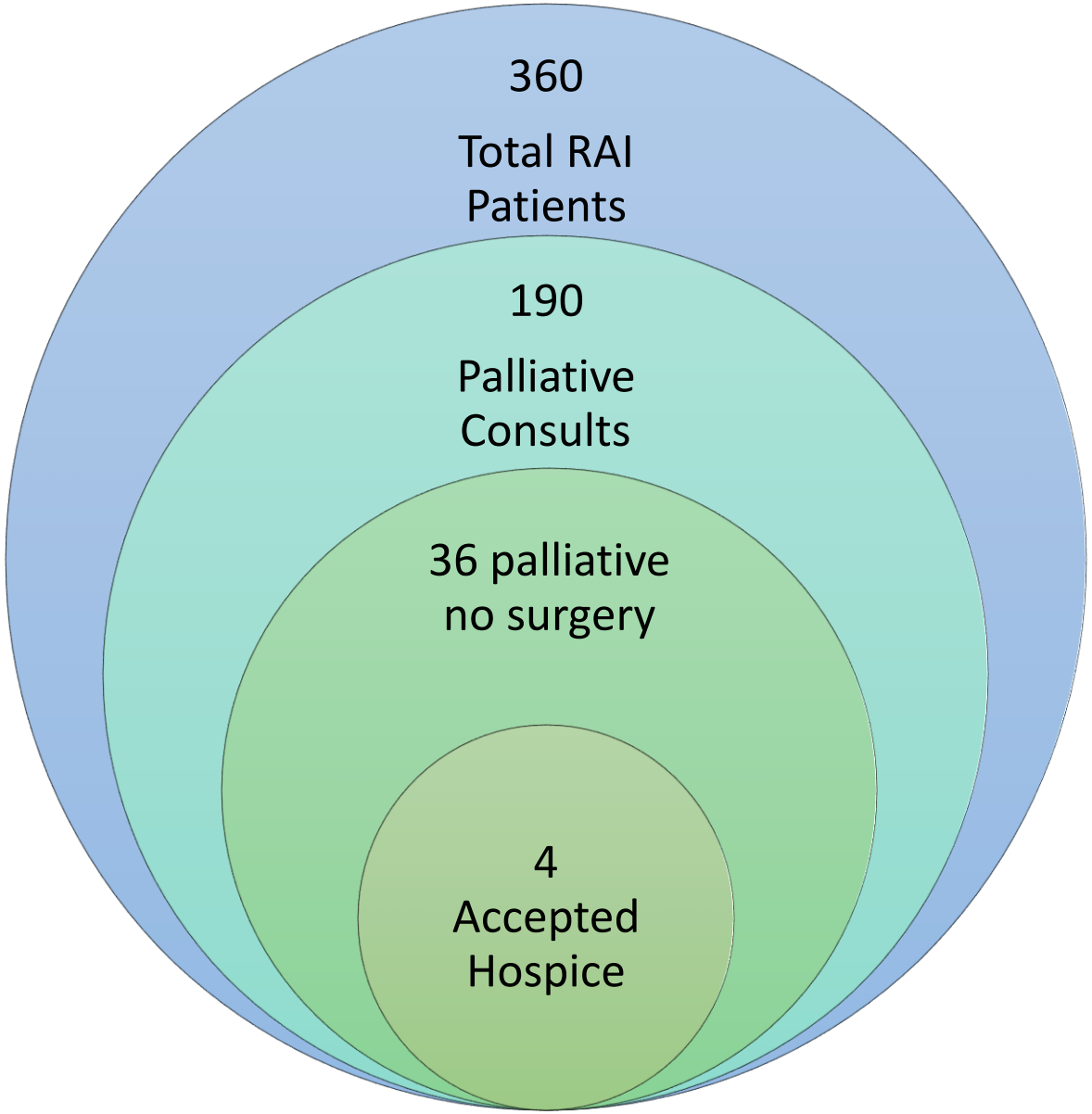
- **with** or **without** an end goal of being cured
- can **begin at any point** after diagnosis of a serious illness.
- The focus is on planning and providing relief from symptoms and stress
- The goal is to improve quality of life for the patient and family, with or without treatment

Hospice

- decide to **cease** curative or aggressive treatment.
- has **less than 6 months** to live
- The focus is on comfort. In the VA they can have concurrent palliative treatment and hospice.
- The goal is shifting the “fight” to something winnable: we may no longer be able to cure you, but we can make you more comfortable. We can “fight” for better quality of life.

Curative vs Palliative vs Hospice




360
Total RAI Patients
190
Palliative Consults
36 palliative no surgery
4
Accepted Hospice

Why Should Palliative be Involved in Surgical Pause?

Surgeons are great at explaining and operating

Palliative is great at asking and listening

We need to discover what the patient wants and what is most important to them

Patients will often follow a physician's advice, without thinking about how it will affect them afterward, they are focused on the fix.

Surgery may not be the veteran’s only option

Veteran 1

77 year old female underwent frailty assessment prior to R hip replacement surgery

PMH included HFrEF, AV stenosis with chronic anticoagulation, Aflutter, HLD, PVD with venous ulcer, hypothyroidism, RLS, GERD (with Xray findings concerns for malignancy, achalasia or esophageal stricture), OA, urinary incontinence, insomnia, constipation, rectal prolapse, Meniere's disease, L1 compression fx, fibromyalgia, hoarding, multiple falls and debility requiring mostly wheelchair use. In addition to chronic back pain, she has right hip pain which radiates into the groin. It is exacerbated by walking (uses walker), is aching and stabbing in quality and is worsening in frequency and intensity.

- Discussion:
  - Impact of chronic conditions on recovery from surgery
  - Falls, dizziness from Meniere's disease, wound healing, safety hazards due to hoarding
  - Chronic pain may not be cured with surgery
  - Although STR would be pursued, there was potential for not returning to independent living situation

- Veteran's values:
  - Pain control
  - Living independently as long as possible (would not want to live in LTC or with adult children)

- Outcome:
  - Non-surgical treatment for pain control+

Veteran 2

79 yo man considering Ventral Hernia Repair and/or possible colostomy reversal

History of HTN, HLD, CAD, CHF s/p heart transplant in 2002 on tacrolimus and mycophenolate, AAA, DM, L Spigelian hernia from LVAD, and ventral hernia with loss of domain from transplant postoperative complications, presenting with 3 weeks of constipation (having only liquid or pasty stool) despite 2 weeks of clear liquid diet, found to have small bowel obstruction at OSH, and presenting here for further evaluation and treatment for partial small bowel obstruction at level of ventral hernia by CT .

- Discussion:
  - With hernia surgery there is a possibility that he may require splenectomy.
  - Veteran is too fragile and will need PT to regain strength, quit smoking in order to perform colostomy reversal.
  - If veteran were to receive the reversal, then he would have to wear an adult brief and potentially have diarrhea most of the time.

- Veterans Values:
  - He stated a preference to avoid removing spleen if possible.
  - Veteran prefers to maintain colostomy bag vs adult briefs or potential consistent diarrhea

- Outcome:
  - Chose hospice

Veteran 3

100 yo male wanting Colectomy

Pt with partially obstructing cecal mass and abd pain, adamantly wanting removal of mass. PMHx oropharyngeal dysphagia status post partial gastrectomy, anemia of chronic disease, CKD stage III, urinary obstruction secondary to nodular prostate with indwelling Foley, recurrent major depression, chronic pain, chronic hyponatremia, DJD, hypertension, glaucoma and peptic ulcer disease.

- Discussion:
  - Pt would likely not survive surgery, Pt would likely live longer without surgery
  - He is completely dependent in his ADLs and IADLs,
  - has been bedbound for the past 3 years and not a candidate for rehabilitation.
  - He is a high aspiration risk, and has very poor nutritional status.
  - He is high risk for post-operative delirium and scored 2 on his mini-cog.
  - There were also concerns about his ability to tolerate/candidacy for general anesthesia.

- Pt values:
  - Pt wants to eat whatever he wants
  - Pt wants and needs full time care

- Outcome:
  - Hospice for pain management and comfort.

Palliative and the IHI 4Ms for Age Friendly Health Systems

What Matters:

- Palliative's main goal is to discover and align health and social outcomes and care preferences, not limited to end of life, across settings of care including surgery, other specialties as well as coordination with Primary care, DME and home services.

Medication:

- Ensuring medication is age friendly and appropriate for what matters, mobility and mentation. To this end palliative has a staff PharmD who specializes in pain management, in addition to the PharmD medication review offered by the RAI frailty group.

Mentation:

- Prevent, identify, treat and manage dementia, depression, and delirium. Palliative has a Licensed Clinical Social Worker (not offered by frailty group) as well as a palliative Psychologist (also not offered by the frailty group) to identify, prevent, treat and manage mental health conditions.

Mobility:

- Ensure patients move safely to maintain function. Palliative's SW works closely with the Frailty PT and NP to ensure patients have what they need at home to ensure physical, mental, and social safety and well being.

Dr Joni Donahoo, DNP, APRN

Palliative Nurse Practitioner
North Florida/South Georgia Veterans Health System

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Surgical Pause Symposium

Determining What Matters in the SAGE QUERI Program

Lindsay Pelcher & Daniel Hall

VHA DIFFUSION OF EXCELLENCE
Surgical Pause Symposium

SAGE QUERI PROGRAM

Safer Aging through Geriatrics-informed Evidence-based Practices

Aims to implement evidence-based practices that improve clinical outcomes for aging Veterans.

These evidence-based practices are aligned with the Age-Friendly Health System "4Ms" model: what Matters to older Veterans, Medications, Mentation, and Mobility.

Surgical Pause: pre-operative risk assessment that identifies frail older adults considering surgery and ensures surgery is aligned with Veteran goals.

EMPOWER: direct-to-consumer education tool that encourages older Veterans to talk to their provider about reducing their use of high-risk medications.

TAP: Tailored Activity Program that decreases dementia-related behavioral symptoms and reduces caregiver burden through meaningful activity.

CAPABLE: Addresses Veteran's self-identified goals in the areas of home safety, fall prevention, and ADL/IADL independence.

SAGE QUERI PROGRAM
Safer Aging through Geriatrics-informed Evidence-based Practices

Surgical Pause

A preoperative risk assessment program capturing what matters most to the patient to increase shared decision making between patient and surgeon

Step 1: Measure Frailty

Step 2: Clarify Goals

Why clarify Goals?

"Fix my hernia"

or

"Stabilize my fracture"

Is not enough information

What do we mean “not enough information”

Periprosthetic femur fracture in a frail woman with dementia

- Prognosis is uncertain
- Treatment options are complex
- Lack of long-term relationships
- Patients don’t understand what recovery from surgery really entails
- Patients have blind spots for poor outcomes
- Translating risk data into understandable picture

What do we mean “not enough information”

How it is usually done

- Detailed description of the disease process
- Describe surgery as a “solution”
- Give statistics of complication rates using technical terms
- Leave it up to the patient to decide

What do we mean “not enough information”

New Model:

- Developed by and for surgeons for preoperative conversations
- Presents a choice between two options.
- Uses story telling to describe what is likely under the best, worst and most likely scenarios.
- Sparks a conversation about patient goals, values, fears and aspirations.
- Memorialized in a graphic aid.
  - (Check out the white board video)
- Requires substantial communication skills.

6 Steps for Best Case/Worst Case Goal Clarification

1. Recognize that bad news needs to be broken
2. Create a visual aid
    - Surgery vs. Non Op Management
    - Treatment A vs. Treatment B
        - Gets you clear in your own head
        - Simplifies language
        - Physical deposit for family
3. Break bad news
4. Tell stories about best, worst and most likely scenarios
    - Why stories: Scenario Planning
5. Elicit preferences: What is important to you now?
6. Make a recommendation (and test alignment)

Periprosthetic femur fracture in a frail woman with dementia

- Mrs. Jackson is a 96 y/o woman with a history of dementia, hypertension, hypothyroidism, diet-controlled type 2 DM, prior DVT, and remote gynecologic cancer, who is now approximately 6 months out from a surgically repaired femur fracture on the left side. She presents to the hospital today with new onset left hip pain after suffering a fall in her bathroom. She is evaluated in the ED and found to have a left periprosthetic femur fracture distal to a recent left hip fracture repair. She had been functionally independent in a senior living facility up until 6 months prior when she experienced her original fracture and had slowly regained independence by ambulating with a walker. Her dementia has also been worse since her prior hospitalization. She has a daughter and son-in-law who live out of town but are involved with her care, frequently visiting Pittsburgh. She has a friend who is a nurse who looks in on her and helps take her to doctors' appointments. She is retired and does not smoke or drink. She offers no other complaints on presentation.

Exam: Awake, alert, but disoriented to the circumstances of her fall and reason for being in the hospital (e.g., not capacitated for medical decision making). Thin, frail appearing. No JVD. Lungs clear. Cardiac rhythm regular without murmur. No peripheral edema. Nonfocal neuro exam.

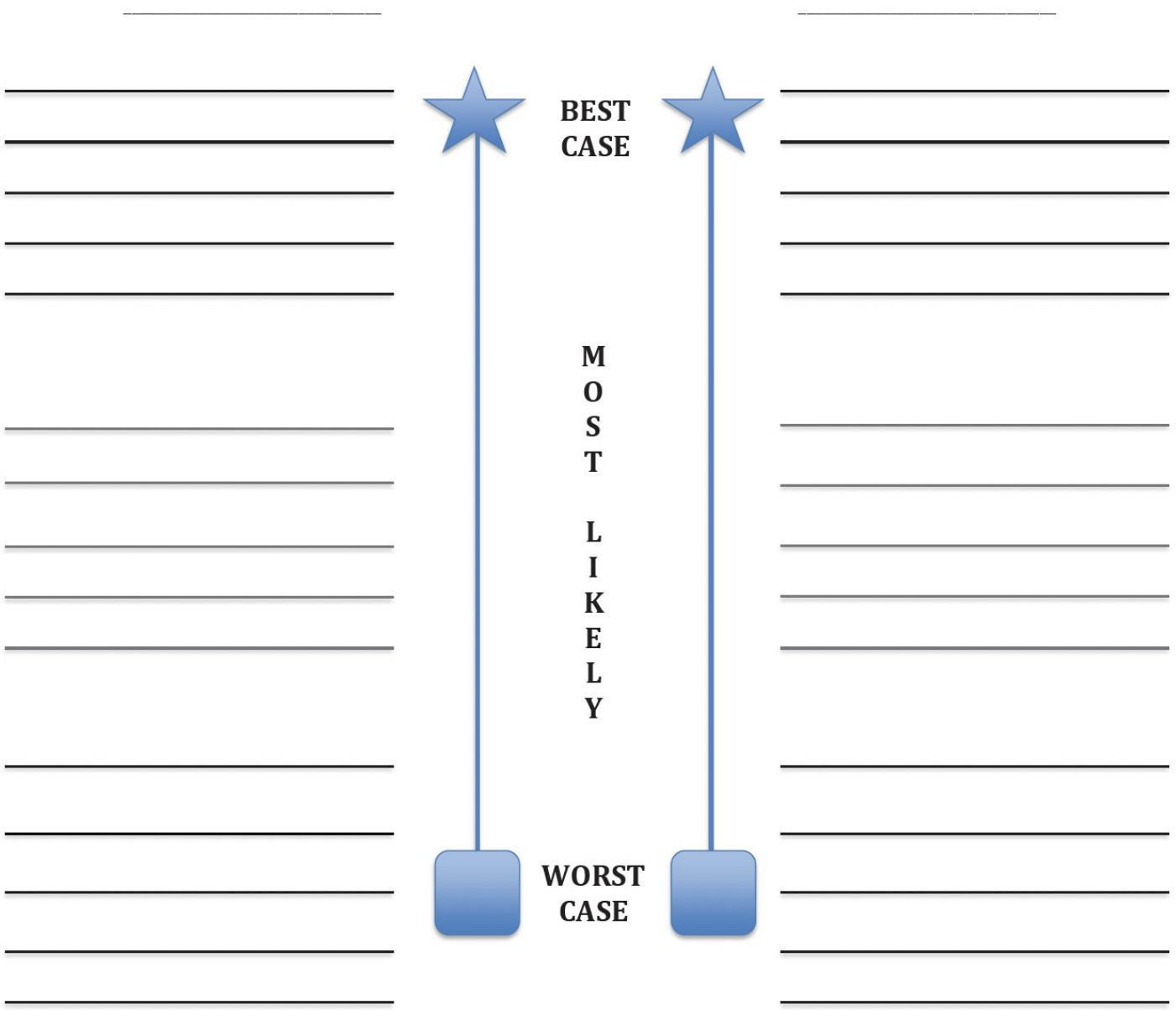
VS: T 36.4, BP 187/80, P 96, RR 16

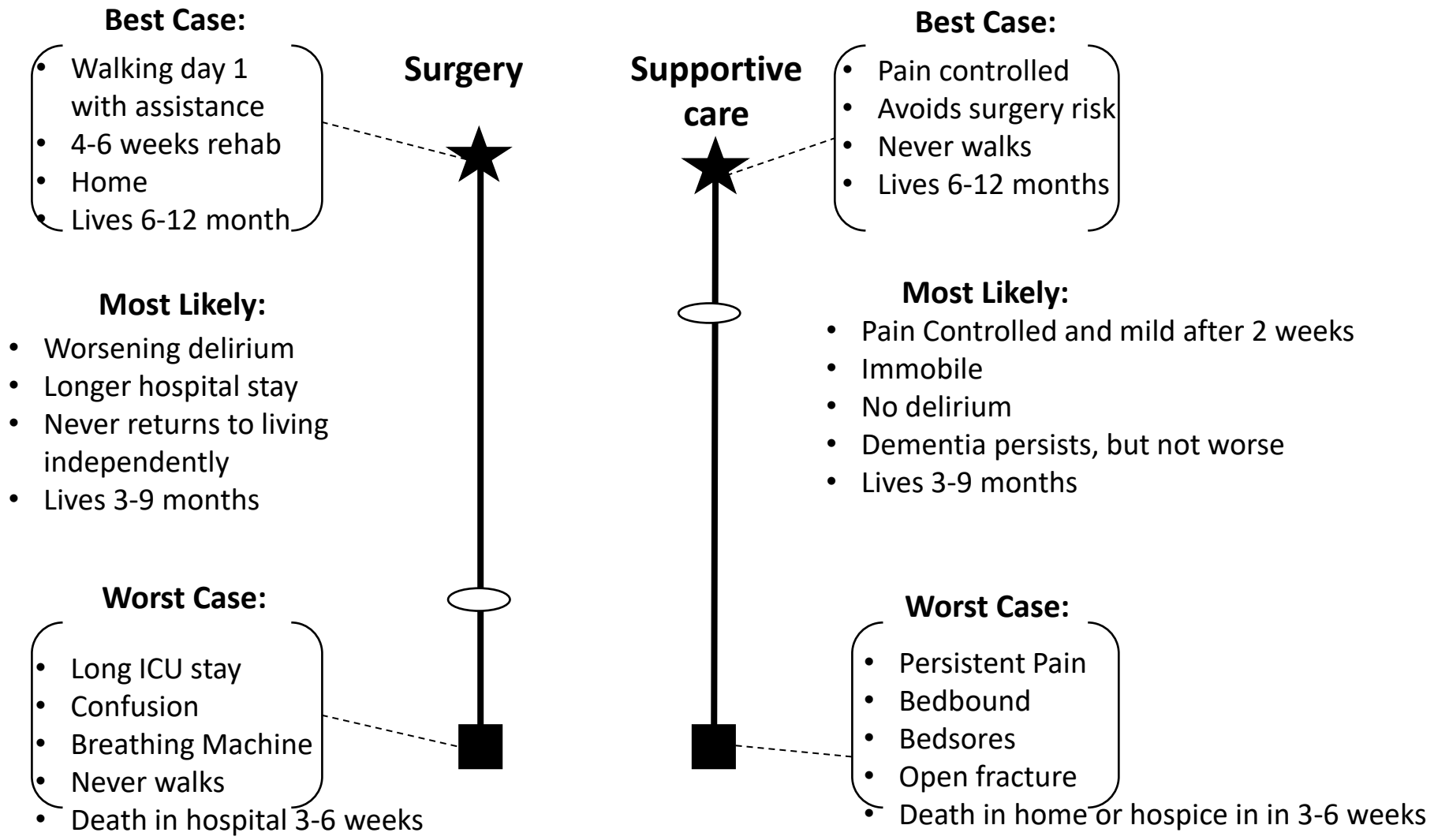
Labs: WBC 8.5, Hb 9.3, Cr 1.3, glu 114

Imaging: Acute displaced spiral fracture of the proximal left femoral shaft distal to the intramedullary nail from prior ORIF of an incompletely healed left intertrochanteric fracture.

EKG: Normal sinus rhythm, no ischemic changes

	With Surgery	Without Surgery
Best Case	• Uncomplicated surgery • Return to room post-op • OOB with PT • Reasonable pain control • No post-op medical complications • 4-6 weeks rehab in skilled nursing • Able to ambulate with walker • Return to apartment • Lives 6-12 months	• Avoids risk of surgery • Pain control • Emphasis on comfort managed by home hospice • Less intensive outpatient medical care • Never walks again • Lives 6-12 months
Worst Case	• Difficult surgical repair • ICU stay after OR • Severe delirium • Respiratory failure requiring ventilator • Prolonged ICU stay • Prolonged hospital stay • Never regains ability to walk • Death in hospital within 3-6 weeks	• Persistent pain on transfer and movement. • Medical complications from immobility • Conversion to open fracture • Completely dependent • Worsening delirium • Death at home or hospital in 3-6 weeks
Most Likely Case	• Worsened delirium • Longer hospital stay • Discharge to SNF • Never returns to living independently • Lives 3-9 months	• Reasonable pain control • Hospice enrollment • Immobile • No delirium • Dementia persistent, but no worse • Lives 3-9 months


BEST CASE
MOST LIKELY
WORST CASE



Given what I've told you about these options….

WHAT IS IMPORTANT TO YOU (YOUR LOVED ONE) NOW?

Adaptation for non-surgeons

- Gathering information on operative and non-operative options and outcomes
- Making a recommendation to the surgeon rather than the patient

- For further reference:
  - YouTube Videos
    - Surgery or supportive care for toxic megacolon.
    - Intensive Life Support or Supportive Care over time in the ICU,
    - In the setting of deciding whether to initiate dialysis.
  - BC/WC Publications
    - Kruser 2015 PMCID: PMC4747100 DOI: 10.1111/jgs.13615
    - Kruser 2017 PMCID: PMC5374034 DOI: 10.1016/j.jpainsymman.2016.11.014
    - Taylor 2017 PMCID: PMC5479749 DOI: 10.1001/jamasurg.2016.5674
  - BC/WC Training
    - Weil 2022 DOI: 10.1016/j.jsurg.2022.01.012

Best Case/Worst Case Training

- 2 hour in person training session for interested surgeons and all palliative care providers.
- Didactic
- Drills for what and how to have the conversation
- Practice making the graphic aid
- Roll Play

Homework to be completed before session

- Watch YouTube Video(s) on Best Case Worst Case Scenario:
  - Start with toxic megacolon. (If you've already seen this video you can see how BCWC is adapted for:
    - use over time in the ICU, or
    - in the setting of deciding about dialysis.
- Read Attached Instructions (attached .pdf)
  - Create a Visual Aid for the demonstration case

Topic	Schedule	Time
Introductions	2:00 -- 2:05	5 min
Didactic	2:05 – 2:25	20
Intro to small group (drills and role play)	2:25 –2:30	5
Drill Key Transitions	2:30 – 3:00	30
Graphic aid construction (Case 1 or 2)	3:00 – 3:15	15
Roll Play (Case 1 or Case 2)	3:15—3:45	30
Herding Cats, Asking for Help, and Documentation	3:45—3:55	10
Questions/Discussion	3:55—4:00	5

Goals of Care Consult Request: CPRS Implementation

Completed by the surgeon or surgeon's designee:

Reason for request:

Risk Analysis Index. No results within 180 days. Perform assessment.

This request is for a goals of care conversation based on the RAI greater than 37.

Planned surgery: *

Alternative choices: *

Based on this patient's comorbidities, the following describes the best case, most likely case, and worst-case scenario for each approach:

*

Suboptimal example: Based on this patients comorbidities, the following describes the best case, most likely case, and worst-case scenario for each approach: improvement in quality of life, improvement in symptoms related to hernia.

Good example: Background pertinent to case: multiple metastatic cancers, on active treatment, discussed with oncology team and determined it would be appropriate to proceed with surgery based on 2 metastatic cancers. Notable that this is elective palliative surgery, but oncology feels reasonable to proceed with surgery for this goal. Veteran's functional status was previously excellent, but now knee OA leading to decreased mobility.

Best case: successful hernia repair, minimal need for hospitalization after surgery, return to level of functioning pre-surgery.

Worst case: chronic groin pain in setting of recurrent hernia operation due to potential for nerve damage, post-operative seroma requiring drainage in post-operative period, prolonged hospitalization due to complications.

Most likely: successful hernia repair, may have some groin pain due to nerves being affected during surgery, seroma that would need drainage.

Goals of Care Note Template: CPRS Implementation

Palliative Care conducts Goals of Care conversation with patient

↓

Conversation is communicated back to surgeon via Teams and CPRS note

↓

Patient and Surgeon make shared decision

VALUES

Patient Hopes:

*

- ☐ live as long as possible
- ☐ symptom relief
- ☐ be mentally aware
- ☐ be independent
- ☐ be at home
- ☐ able to maintain interpersonal relationships including family
- ☐ be a support for family
- ☐ cultural/spiritual beliefs

Other:

Example of information discussed with patient and reported to surgeon for shared decision making.

Patient Concerns:

*

- ☐ pain
- ☐ other physical suffering
- ☐ inability to care for self or others
- ☐ loss of control
- ☐ finances
- ☐ being a burden
- ☐ cultural/spiritual beliefs
- ☐ inability to meaningfully interact with others

Other:

Hopes

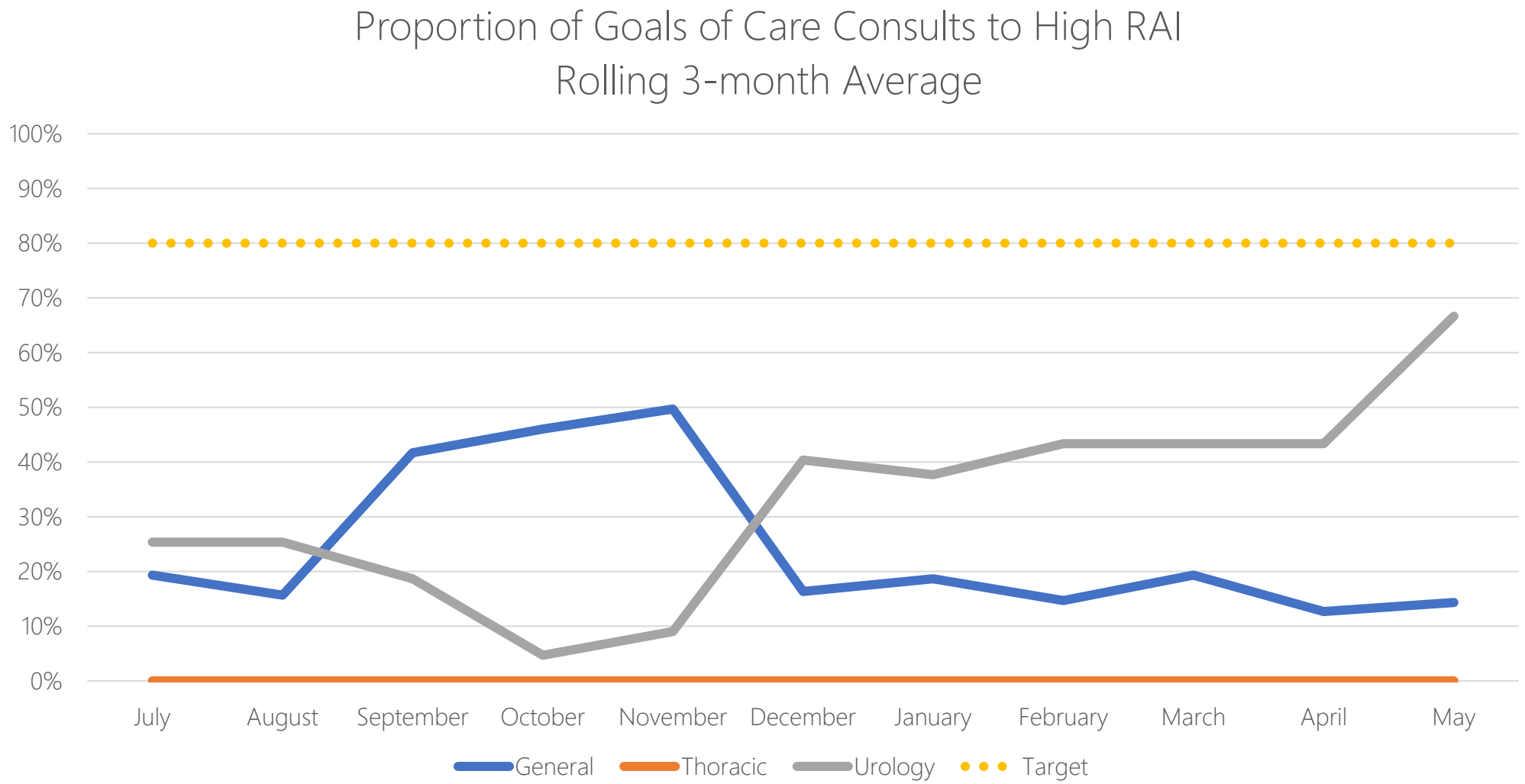
Fears

Overarching goals

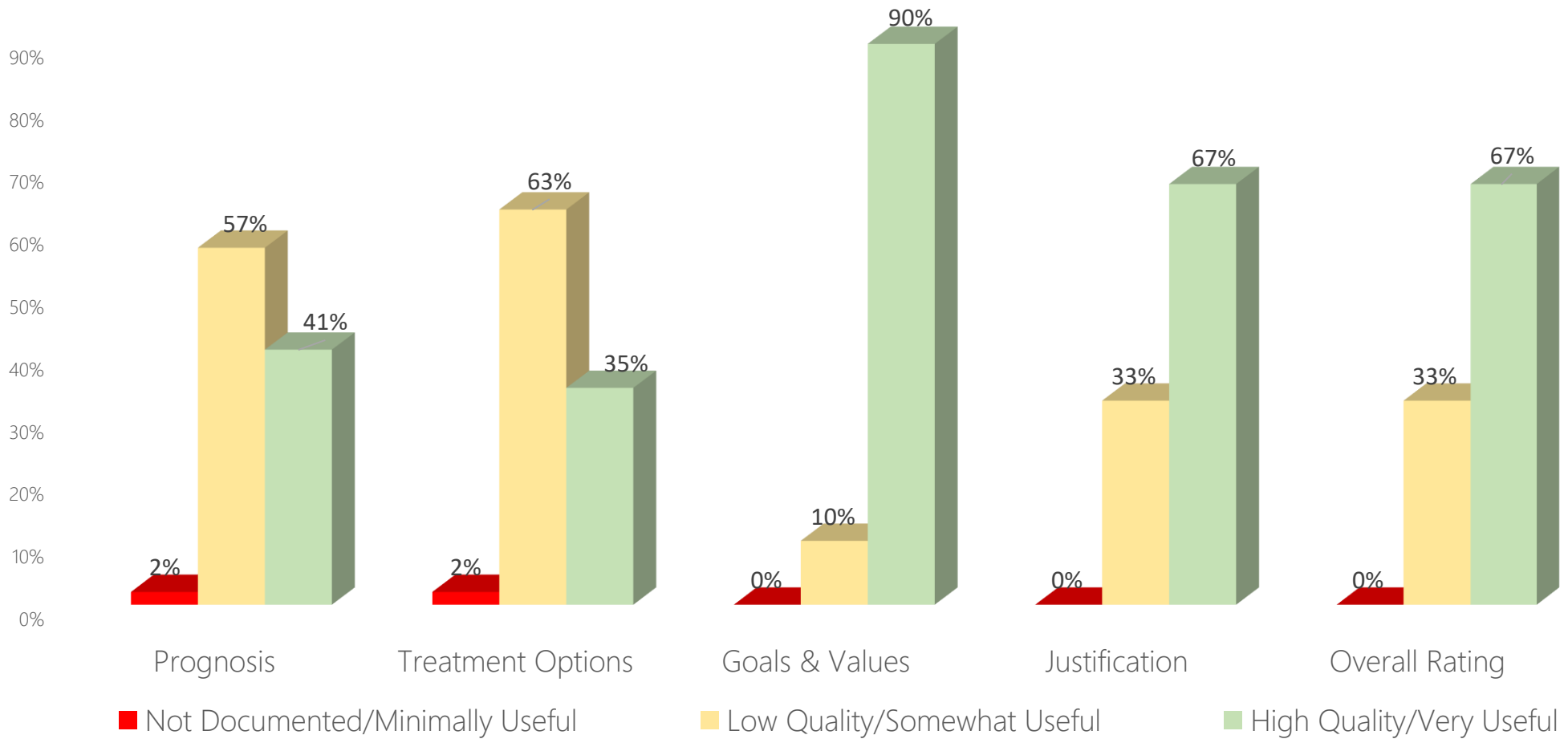
Patient's hopes and concerns expanded:

*

Goals of Care Audit and Feedback: Process



Goals of Care Audit and Feedback: Quality



Implementation Barriers & Facilitators

Barriers

- Culture change regarding the pause.
- Lack of ownership (completing the consult).
- Lack of communication between providers and Palliative Care.
- Stigma associated with Palliative Care (from providers and patients).

Facilitators

- Providers not scheduling surgery.
- Palliative Care clinicians feeling empowered.
- Clear timeline for completing the goal clarification conversations.
- Patients expressing gratitude for candor and forthrightness.

Thank you!

Questions?

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Surgical Pause Symposium

IMPACT clinic

Interdisciplinary Medical Preoperative Assessment Consultation and Treatment clinic

An outpatient clinic dedicated to provide "Best Practice" preoperative preparation to the veterans undergoing surgery.

Visala Muluk MD

Section Chief, IMPACT Clinic, VA Pittsburgh

Director of IMPACT, VISN4

Associate Professor of Medicine, University of Pittsburgh

Why IMPACT?

VAPHS Post-op outcomes (VASQIP) were below national standards before IMPACT Clinic

Preoperative Clinic prior to IMPACT was just making recommendations without follow up.

"CHANGE" was desperately needed

Core principles of IMPACT

- Optimization NOT “Clearance”
- Centralized coordination
- Multidisciplinary approach
- Minimum travel for the veterans
- EMR communication with stake holders until DOS

Barriers and Strategies

Barriers	Strategies
Establishing need	Examine current surgical outcomes compared to benchmarks
Acquiring Resources	Get Surgery and Anesthesia Chiefs on board
Creating a vision	“Optimization”, not “clearance”
Communicating the vision	Meet individually with Surgery Division chiefs
Create short-term wins	Choose high priority Division, gradual roll out
Address concerns about delays	Honor proposed surgery dates Optimization tailored to surgical complexity Build priority communication lines for rapid turnaround of tests

IMPACT Staffing model

Starting model

- **1 General Medicine Physician**
- **1 Anesthesiologist**
- **3 CRNPs**
- **1 Nurse manager**
- **4 RNs**
- **0.5 FTE MSA**

Current model

- 2 General Medicine Physicians (one is the Section Chief)
- 1 Lead Anesthesiologist (Does Second level review)
- 6 CRNPs
- 1 Nurse manager and 1 asst. Nurse Manager (shared with another unit)
- 2 Nurse Navigators (Triaging and follow-up)
- 5 RNs
- 1 MSA

Strategies for time efficiency

Increase the reach

In person and virtual evaluation(Telephone/CVT/VVC) options

Effective use of OR slots by communicating potential delays ahead of time

Anesthesia sees patient only on the day of surgery with EMR communication with IMPACT team until then

Network with Medical Subspecialty consultants

- Anticipate and coordinate testing in one visit
- Bypass outpatient subspecialty clinic visits
  - Take home OSA testing
  - Arranging cardiac catheterization

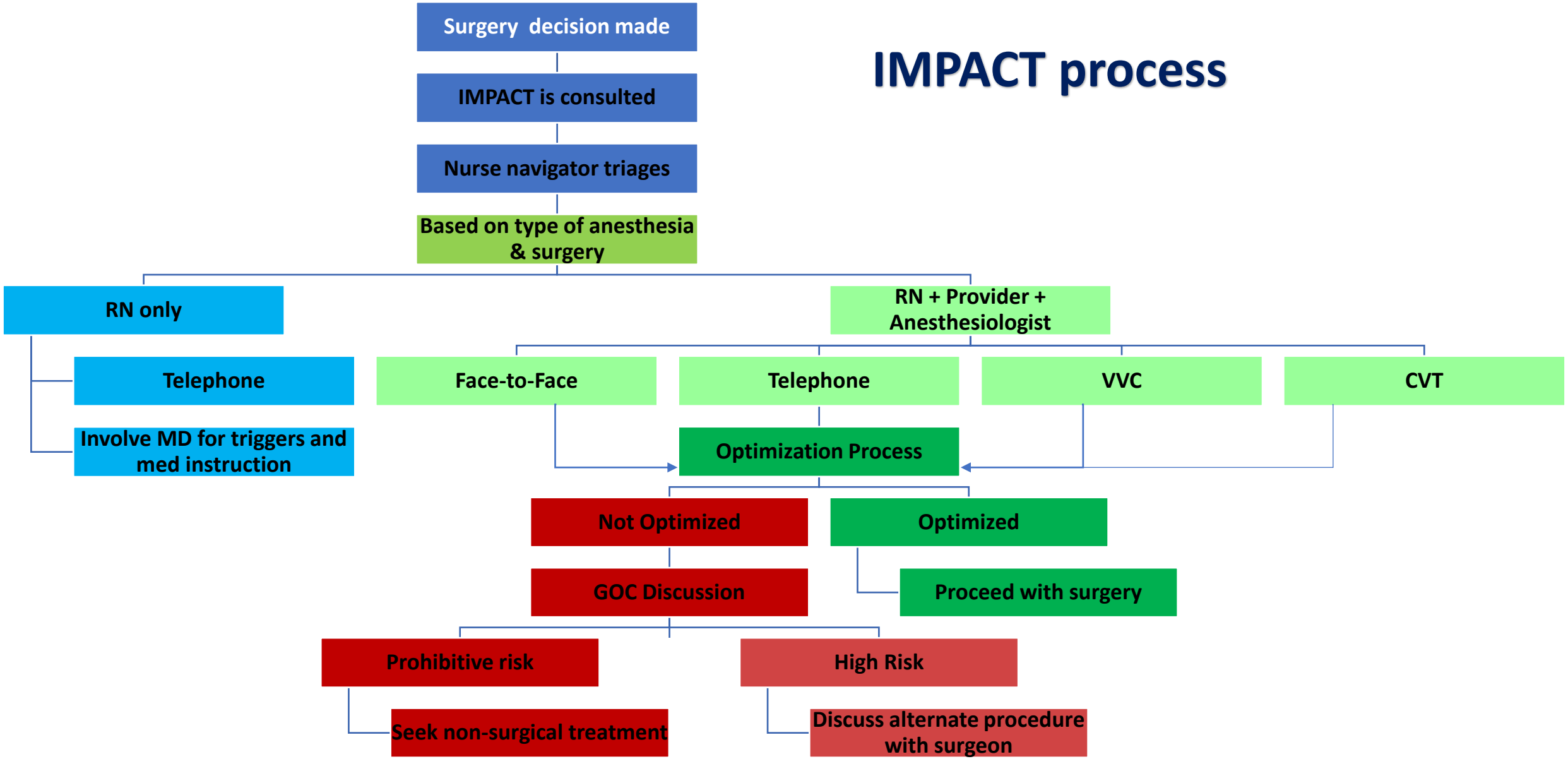
"Concierge service"

adopting the patient until optimization is complete

IMPACT Triage done by Nurse Navigator using guidelines

Local anesthesia or conscious sedation	• RN evaluation only • Positive findings and med instructions sent for physician review.
Higher levels of anesthesia	• RN screening • Medicine MD and/or CRNP evaluation • Anesthesiologist review
Different modes of evaluation based on complexity and distance to travel	• In person • Virtual (Telephone, CVT and VVC)

IMPACT process



IMPACT – Documentation in EMR

The multidisciplinary note is built as a "parent-child" note.

IMPACT team enters a comprehensive "parent" note

- Note appropriately tailored to each case

Anesthesiologist, Surgeon, medical consultant comments and test results are attached as "child" notes.

Surgeon and anesthesiologist wait for the cue "optimized" from the IMPACT team before proceeding with the surgery.

Comprehensive Preoperative Assessment process

Testing and risk prediction guided by algorithm-driven templates with embedded risk indices

- Maintains consistency
- Avoids unnecessary testing

Identify and Optimize modifiable risk factors

- Cardiopulmonary, Diabetes, HTN, OSA,VTE obesity
- Conditions requiring Prehab and Social work consults

Surgical Pause - RAI Frailty score

- Educate patient about risks of frailty like non home discharge and failure to rescue
- Goals of care consult to discuss “what ifs”
- Second level review by IMPACT Lead Anesthesiologist
- Enroll in Surgical Safety Net (30-day readmission prevention) for close follow-up

Address Mental Health and Substance use disorders

- RN screening includes suicide screening and substance use screening
- BH consulted when indicated
- Pre surgical admission arranged for detox

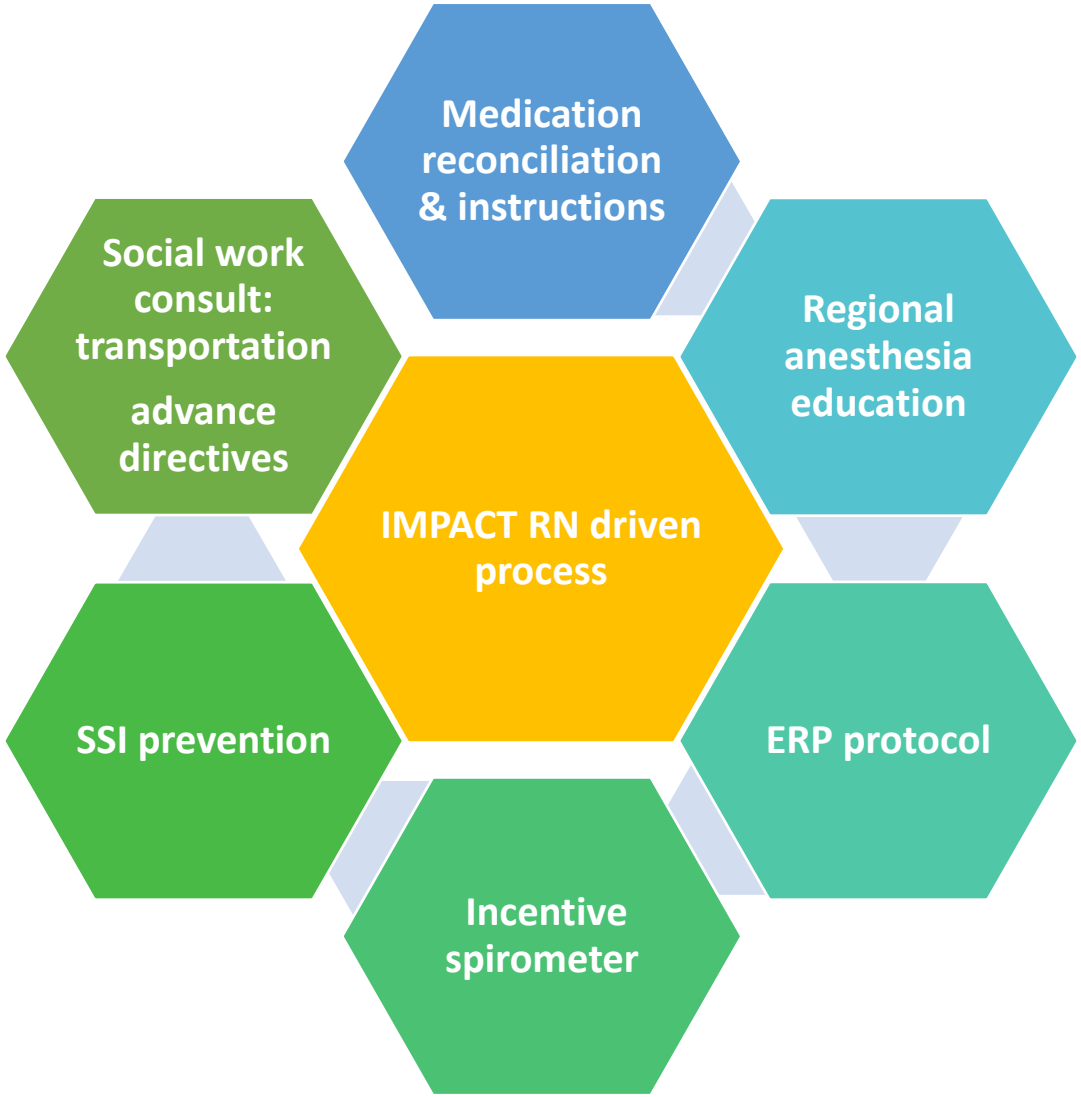
Medication reconciliation and management recommendations

- Anticoagulants/Antiplatelets
- Perioperative Opioid/MOUD management using STORM criteria
- Discuss pain management strategies with patient and surgery team in advance
  - prebuilt pain med order sets for discharge

Sample note

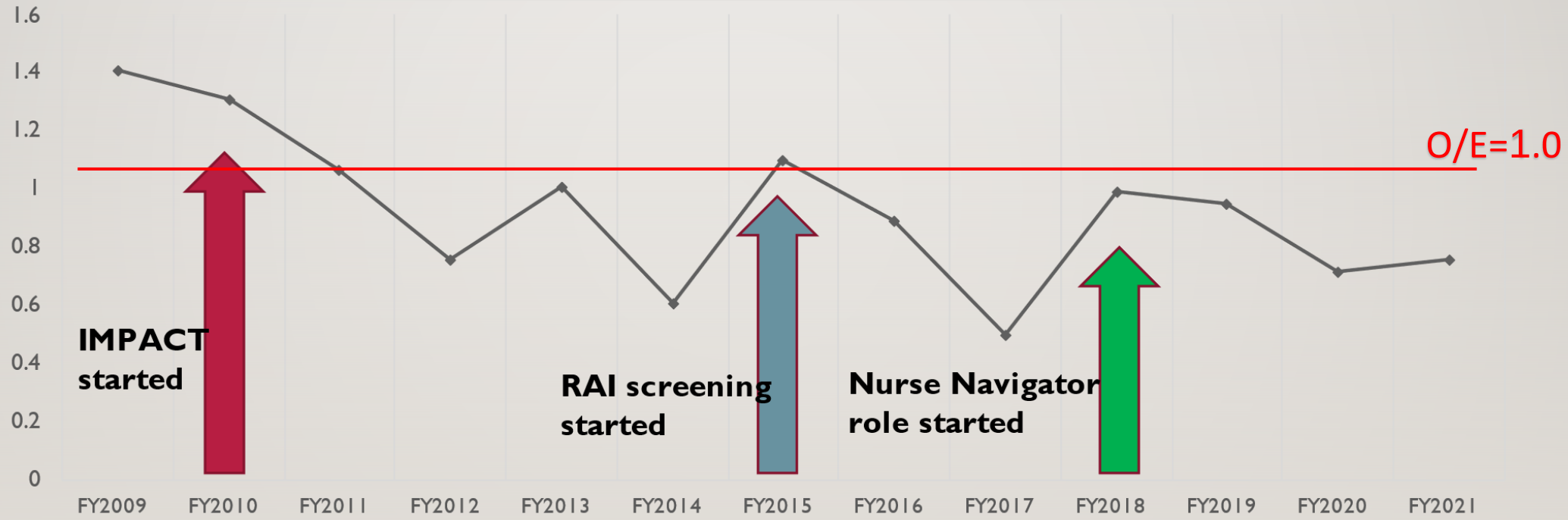
```
==========================================================================
COMPREHENSIVE RISK INDICES:

__________________________________________________________________________
ASA Physical Status/ASA Classification
  ASA Physical Status: 111-1V

__________________________________________________________________________
ACS NSQIP Surgical Risk Calculator
  Findings: Above average risk for serious complications, pneumonia, cardiac
  complications, non home discharge and readmission

__________________________________________________________________________
Lee's Revised Cardiac Risk Index
30-day risk of death, MI, or cardiac arrest
  % Risk: 11 (has >3 predictors)

__________________________________________________________________________
Gupta Perioperative Risk for Myocardial Infarction or Cardiac Arrest (MICA)
Risk of myocardial infarction or cardiac arrest, intraoperatively or up to 30
days post-op.
  % Risk: 5.3

__________________________________________________________________________
Gupta Postoperative Respiratory Failure Risk
Risk of mechanical ventilation for more than 48 hrs after surgery, or unplanned
reintubation within 30 days of surgery.
  % Risk: 23.5

__________________________________________________________________________
Gupta Postoperative Pneumonia Risk
  % Risk of postoperative pneumonia: 7.4

__________________________________________________________________________
ARISCAT Score for Postoperative Pulmonary Complications
Risk of in-hospital post-op pulmonary complications.
ARISCAT Score:
  86

42% risk of in-hospital post-op pulmonary complications.
  PostOp Pulmonary Risk: High risk

__________________________________________________________________________
Caprini Score for Venous Thromboembolic Risk
  Caprini VTE Score:9 Caprini VTE Risk: Highest risk

==========================================================================
FRAILTY ASSESSMENT:
  Risk Analysis Index (RAI)
  FRAILTY CALCULATION:
      Risk Analysis Index (RAI) score is:
        Score: 54
==========================================================================
FUNCTIONAL CAPACITY:
 Patient's daily functional capacity:Patient in ICU and bed ridden currently

==========================================================================
```

Preoperative education and training



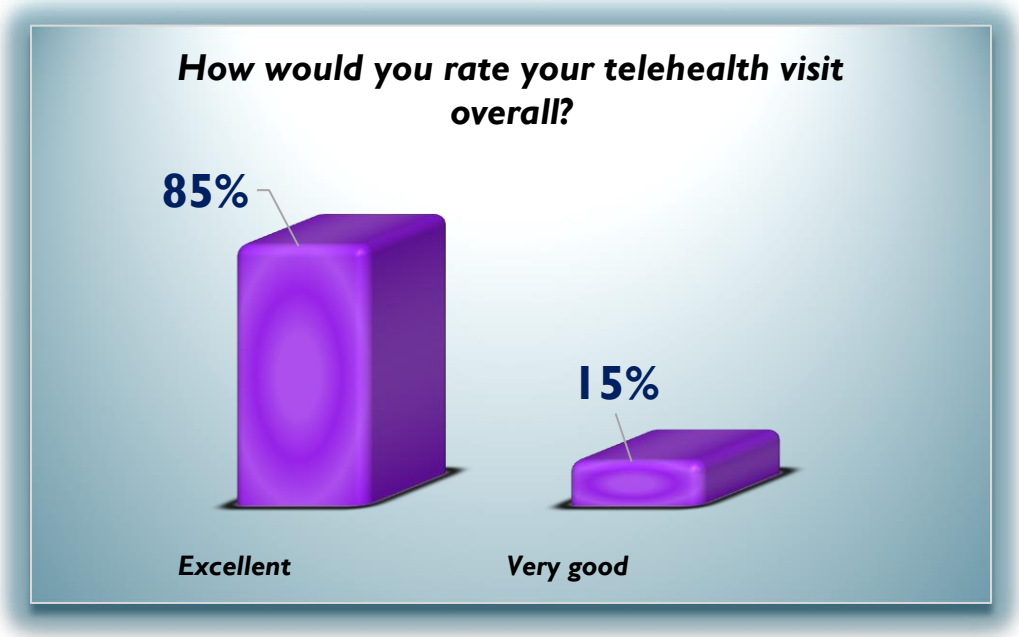
MEASURES OF SUCCESS:

SINCE IMPACT STARTED ALL CASE MORTALITY O:E RATIOS FOR VAPHS VASQIP HAS BEEN CONSISTENTLY ≤1.0

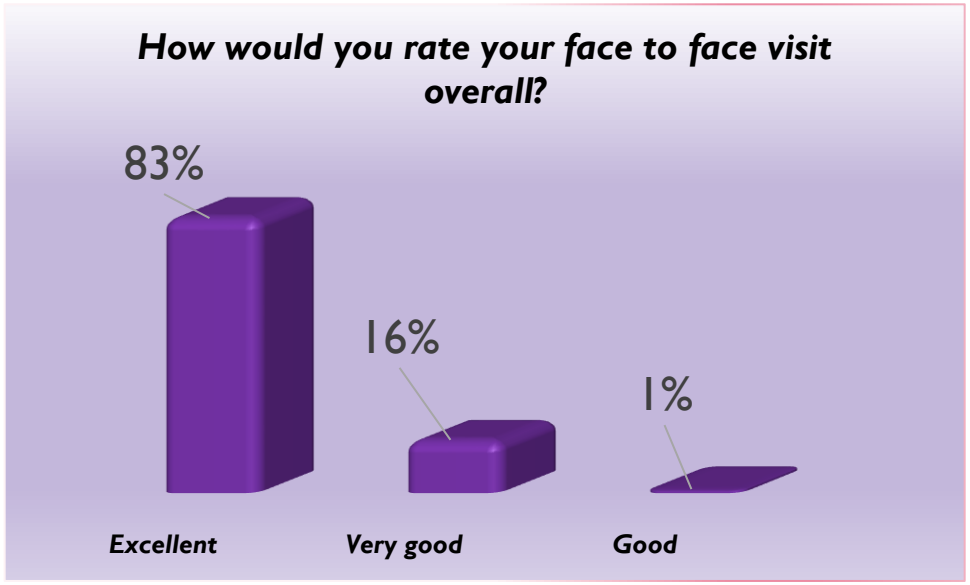


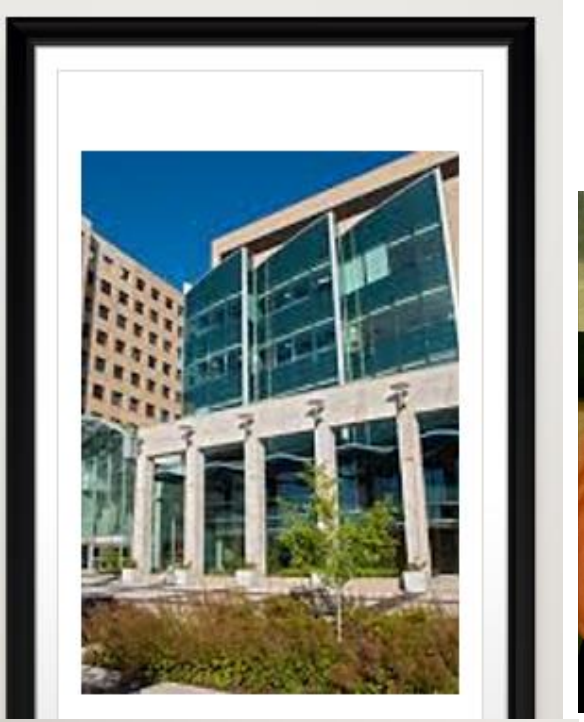
IMPACT Patient Satisfaction Survey 2023 Q1

CVT visit (48 out of 112; 43% participated)



F2F visit (94 out of 142; 66% participated)





Thank You! Any Questions?

Contact Information

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Surgical Pause Symposium

Second-Level Review

An Asynchronous, Anesthesia-Centered Case Review Strategy for Addressing RAI/Frailty (and other co-morbidities) in advance of booking an OR date, after "First Pass" in the Preop Clinic

Brian A. Williams, MD, MBA
VA Pittsburgh
Professor of Anesthesiology and Perioperative Medicine
University of Pittsburgh

Patient vs AnesMD Preferences for Care: Macario et al., 1999

Anesthesiologists' Rank	*Patients' Willingness to Pay (if $100 available):*
1. Death	$18 Vomiting
2,4. Recall	$18 ETT Gagging
3. Nerve injury	$17 Pain
5. Dental injury	$12 Nausea
6. Corneal abrasion	$14 Recall (w/o pain)
7,10. Vomiting, nausea	$21 others
8. Spinal headache	
9. Incisional pain	

Which Clinical Anesthesia Outcomes Are Both Common and Important to Avoid? The Perspective of a Panel of Expert Anesthesiologists

Alex Macario, MD, MBA*, Matthew Weinger, MD†, P. Truong, and M. Lee

*Departments of Anesthesia and Health Research and Policy Stanford University Medical Center, Stanford; and †Department of Anesthesiology, University of California San Diego and the San Diego Veterans Affairs Healthcare System, San Diego, California

Which Clinical Anesthesia Outcomes Are Important to Avoid? The Perspective of Patients

Alex Macario, MD, MBA*, Matthew Weinger, MD†, Stacie Carney, BA‡, and Ann Kim, BA‡

*Departments of Anesthesia and Health Research and Policy, Stanford University Medical Center, Stanford; †Department of Anesthesiology, University of California San Diego and the San Diego Veterans Affairs Healthcare System, San Diego; and ‡Stanford University, Stanford, California

A&A 1999;88:1085; A&A 1999;89:652

Intersection of RAI/Surgical Pause and Opioids/Pain/PONV - 2019

JOURNAL OF PAIN & PALLIATIVE CARE PHARMACOTHERAPY
2019, VOL. 33, NOS. 3–4, 82–97
https://doi.org/10.1080/15360288.2019.1668902

ARTICLE

Opioid-related respiratory and gastrointestinal adverse events in patients with acute postoperative pain: prevalence, predictors, and burden

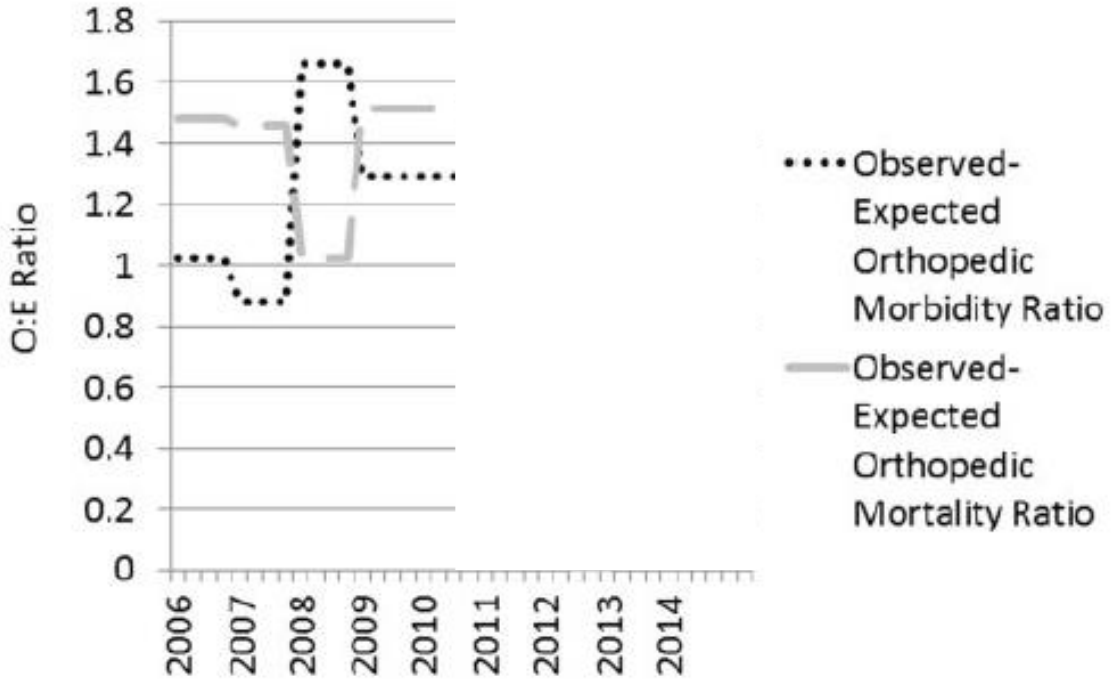
Gary M. Oderda, Anthony J. Senagore, Kellie Morland, Sheikh Usman Iqbal, Marla Kugel, Sizhu Liu and Ashraf S. Habib

- 600,000 hospital stays. Opioid-induced respiratory depression (OIRD) burden, postoperative nausea/vomiting (PONV) burden, and Length of Stay / cost implications
- One or more opioid (fentanyl, hydromorphone) doses in-hospital→
  - OIRD 3-17%: 3-9 days of LOS increment; $5k-$20k cost increment
  - PONV 44-72%: 2-5 days of LOS increment; $2k-$9k cost increment

2nd Level Review: Given this Background

- 2010 VA Pittsburgh Surgery VP focus: concerning O:E ratios
  - VA Pittsburgh hire: IMPACT Director charged with 2nd-Level Review, actively leading adjudication of proceeding *versus* palliative/conservative management, *versus* further optimization before proceeding on the purely elective
  - Further charge: Anesthesia re-engineering → steer away from "All GA, and only GA, all of the time."
  - c.2016 – Inauguration of Frailty Scoring; Opioid epidemic

Scope of concern (pre-2nd Level Review)



Pain Med 2017; 18(4):628-636.

PubMed PMID: 26896319

- VASQIP VACO NSO data
  VA Pittsburgh Orthopedics
- Quarterly audits,
  annualized on the graph:
  - >1 O:E is more frequent M&M than national VA benchmarks
  - <1 O:E is less frequent M&M than national VA benchmarks
- January'11: IMPACT Clinic / Periop.Surgical Home
- February'12: Regional Anesthesia replaces GA for 95+%

2nd Level Review *versus* "Tumor Board" equivalent

2nd Level Review	*Parameter*	Tumor Board
~2/8 FTEE (1/8 – 3/8)	***Resource Commitment***	Sustainable after extramural funding expires?
Shared / Anchored by AnesMD and Internist/ Hospitalist, Report to VP	***Leadership Structure***	Institution-specific
Part of Task/Charge	***Whole Health***	Uncertain inclusion
Part of Task/Charge (adjust FTEE prn)	***Pain / PONV / SUD / Opioid Stewardship***	Uncertain inclusion
Episodic, *ad hoc*	***Consultant Availability***	Most of meeting agenda likely not applicable to most consultants in attendance

2nd Level Review *versus* "Tumor Board" equivalent model

2nd Level Review	*Parameter*	Tumor Board
Email newsletter equivalent, encrypted	***"Meeting" Interface***	F2F / Teams
No (serial email; background Excel sheet)	***Admin.Asst.Support?***	Possible (agenda, minutes)
Ad hoc, with minimum q2mo; maximum 2x/mo	***Interaction Frequency***	Hard-scheduled
Structural tension	***Interaction mode***	Institution-specific
	How to…	

2nd Level Review: CPRS Progress Note Structure (i)

- Identifiers:

__ y/o, BMI __, ___threshold RAI (>37, >45), for (date) (surgery), and (same-day D/C home / hosp.admission).

- History/testing rundown

Per IMPACT team: (medical problems)

(echo, stress test)

(No echo or stress test in the system; no apparent indication for either)

2nd Level Review: Progress Note Structure (ii)

- Pain burden / opioid versus multimodal analgesia statement

Given likely postop pain burden / If GA, other evidence-based multimodal analgesic / anti-nociceptive opioid-sparing strategies may be useful (e.g., lidocaine[PubMed PMID 28564673], ketamine[PubMed PMID: 29870457], and esmolol [PubMed PMID 29028742]).

- "Methadone instead of usual opioid" statement

Suggest 10-15 mg preop PO methadone (or 0.15 mg/kg IV methadone IBW, after intubation), as opposed to hyperalgesia-inducing typical intraop/PACU opioids.

2nd Level Review: Progress Note Structure (iv)

- Antiemetic / PONV Prevention statement

Recently-published PONV advances (PubMed PMID 34015119, 36737386) indicate 5-drug antiemetic prophylaxis given before any anesthetic intervention may be more successful than strategies based on consensus guidelines and associated risk factor determination. There are no apparent contra-indications to these 5 drugs in combination for this pt., and that the combination recommended yielded 90+% success on both POD#0 and POD#1, as opposed to consensus-guided 30-70% success on POD#0-1:

IV: Palonosetron 75 mcg, dexamethasone 4 mg, diphenhydramine 12.5 mg;

PO: Perphenazine 4-8 mg, aprepitant 40 mg.

2nd Level Review: Progress Note Structure (v)

- "Rubber Stamp" statement

(CHOOSE ONE)

OK to proceed, given above factors.

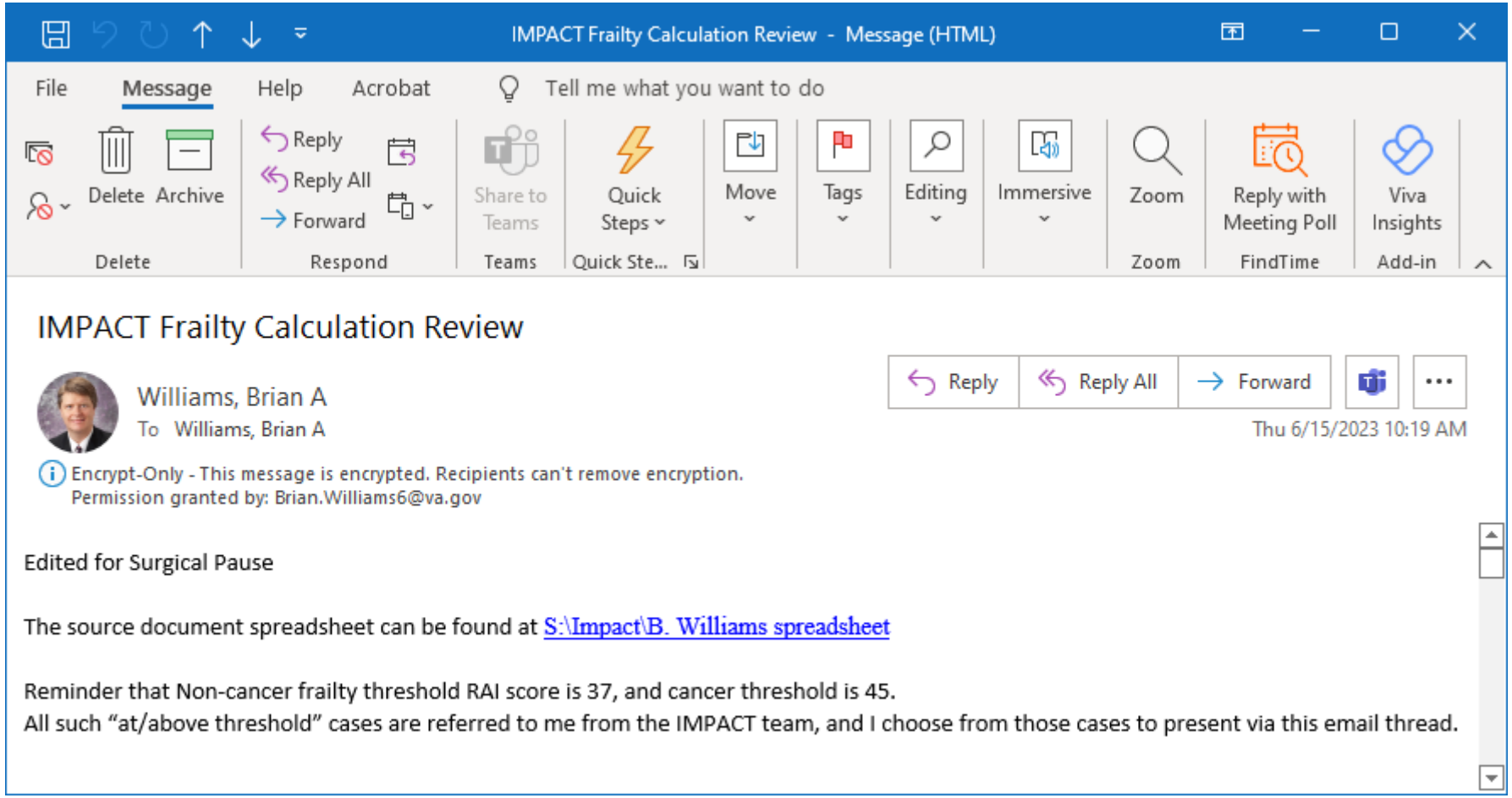
Not yet OK to proceed, pending above factors.

2nd Level Review: Caveats

- Review officer is not a service chief *per se*,
  but instead has direct reporting to VP (or higher) in organization
- Review officer is reasonably senior and well-experienced,
  to rapidly recognize inter-generational scheduling tendencies
  that led to poor patient outcomes
- *Authorized* Structural Tension
- Any "numerator" in O:E ratio is unlikely to help.
  Consider "Aim for Zero."

2nd Level Review: Tips (i)

- Authorized Structural Tension / Periodic Email Report (i)



2nd Level Review: Tips (i)

- Authorized Structural Tension / Periodic Email Report (ii)

Postop (follow-ups for 30d M&M):

- **Vascular: AAAA 1234 7082** – RAI 58/__. 74y, BMI 38 – orig.sched.for LLE bypass 6/10/22 but was a poor candidate
  R/S'ed as LLE angiogram, and was D/C'ed home the same day.
  Readmitted 7/13/22 delirium/osteomyelitis, great toe amp 7/15/22, still inpt. Will be off-listed next time.
- **Others**

Preop:

- **POD: BBBB 2345.** RAI 46/__. 71y, BMI 23. Inaugural podiatry case on this list. For TMA 7/22/22.
  Nerve block recommended, GA not recommended as first choice, parties notified.
  Not a "surgical pause" candidate in a strict sense because of urgency and treatability,
  but the Sage/Queri process is in place and working well for podiatry. Thanks to all.
- **Vascular: CCCC 3456.** RAI 26->38/__ . 73y, BMI 20; dementia/Altoona VA CLC.
  IMPACT internist considers inappropriate for open AAA, and anatomy is apparently "bad" for a fenestrated EVAR.
  Mod->sev.AoS (AVA0.9cm^2 in 5/2022), mod.TR, &mod.PulmHTN (2021); 2022 stress ok. Carotid stenosis/past CEA;
  "incapable of ...decisions". COPD; CKD 3; Bowel/bladder incontinence.
  This office agrees re:non-candidacy. Asking Anes.chief/Surg.VP to opine.
- **GenSurg: DDDD 4567.** RAI 46/__, 73y, BMI 29, for 8/9->8/12/22 lap.chole and D/C home. CAD s/p '21 CABG, Ozaki AVR;
  AFlutter s/p DCCV 5/6/22, on AC, amio, metoprolol; OSAnCPAP; HFrEF 35%; DMII A1c 5.9%; CKD - Cr ~1.1.
  Multiple recent hospitalizations, incl. 12/2021 Left cerebellar subacute hemorrhage/posterior reversible encephalopathy syndrome.
  If anyone wishes to "overrule" the current plan for Same-day D/C home after lap.chole, let us know so the anes.plan can be adjusted.
  I am not overtly recommending an overnight admission, rather, just making all aware of 30d M&M/readmission risk.
- **Others**

2nd Level Review: Tips (i)

- Authorized Structural Tension / Periodic Email Report (iii)

Cases avoided:

- **ORTH: EEEE 5678.** RAI 38/__, 73y, BMI 34, orig.sched.for TSA 7/8/22, but cx 7/1/22.
  Worsening MR/TR/PulmHTN(severe); RV pressure overload; Pancytopenia (SSI risk from low WBCs);
  Cirrhosis Child's A, MELD 19 (30-day mortality 26%), and still ongoing EtOH consumption -
  thrombocytopenia likely from both myelodysplasia and cirrhosis.
  OSA n/c CPAP. Lung CA (treated non-surgically)- no apparent mets 6/22 PET.
  Long-term CA survival predictions were unknown.
- **GenSurg: FFFF 6789.** RAI 43/__. 77y, BMI 20. Considered for open RIH, deemed non-candidate.
  Sev.COPD (FEV1 ~ 0.8L; home O2, mult.inhalers, 100p/y, refuses to quit), TTE 2021: moderate TR, norm PASP;
  chr.pain oxycodone, Afib.
- **Others**

7 total patients on postop roster, and 32->25 total preop-frailty-review patients now being followed

Thanks. bw

Brian A. Williams, MD, MBA
Director – IMPACT Clinic
Surgery Service Line – VA Pittsburgh
Professor of Anesthesiology and Perioperative Medicine
University of Pittsburgh
Brian.williams6@va.gov
412-360-1602

2nd Level Review: Tips (ii)

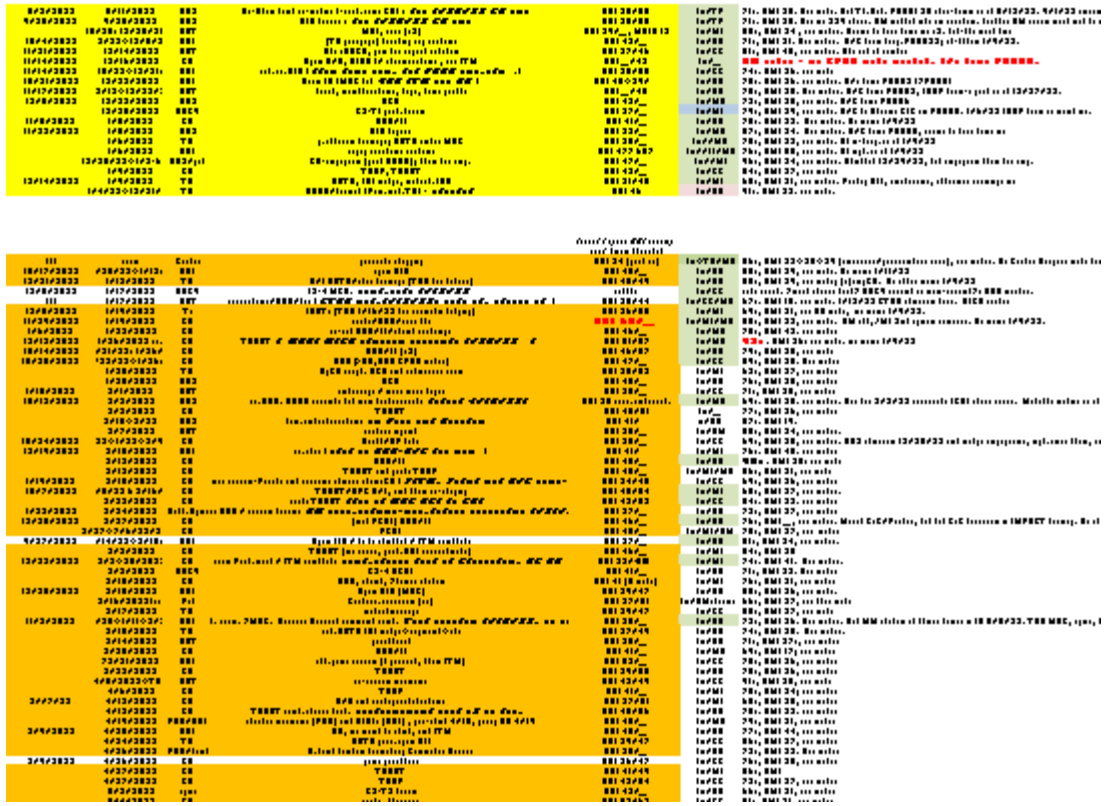
- Tracking Sheet for Periodic Follow-Up

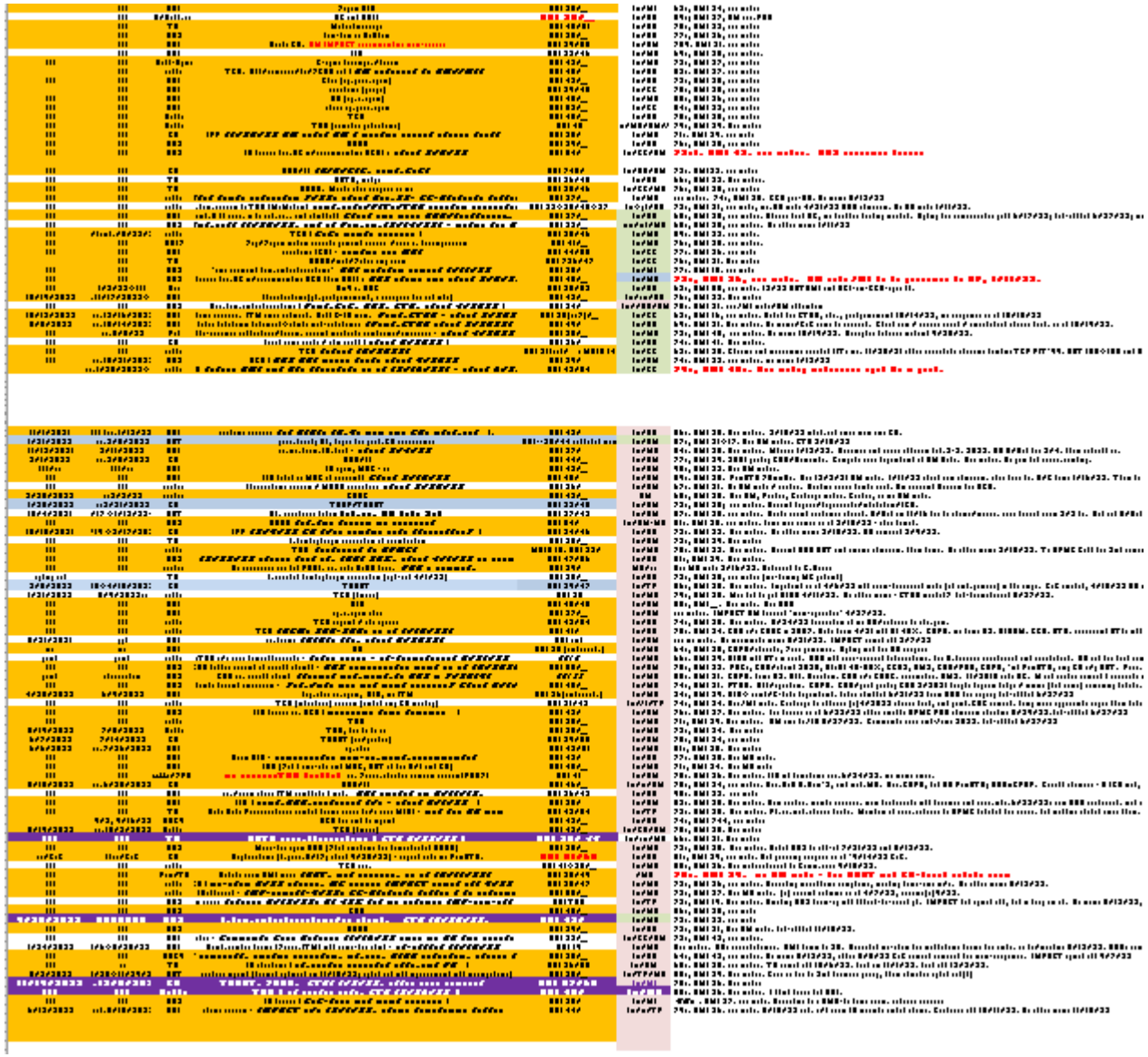
Frailty calculator report (v061523)				
Name	L4SSN	Date of Surgery Request	Surgery Date	Service
HIGHLIGHT INDICATES COMPLETED PROCEDURE				
Procedure				
BLUE HIGHLIGHT INDICATES CANCER-FRAILTY TRIGGER (≥45)				
ORANGE HIGHLIGHT INDICATES NON-CANCER FRAILTY TRIGGER (≥37)				

RAI Mortality calculation	Reviewer	Comment
Expired / Palliative List (hidden)	Episodic cases for review	
Closed cases (hidden)	Legacy OR encounters avoided - no LTFU planned	
Postop cases being followed		

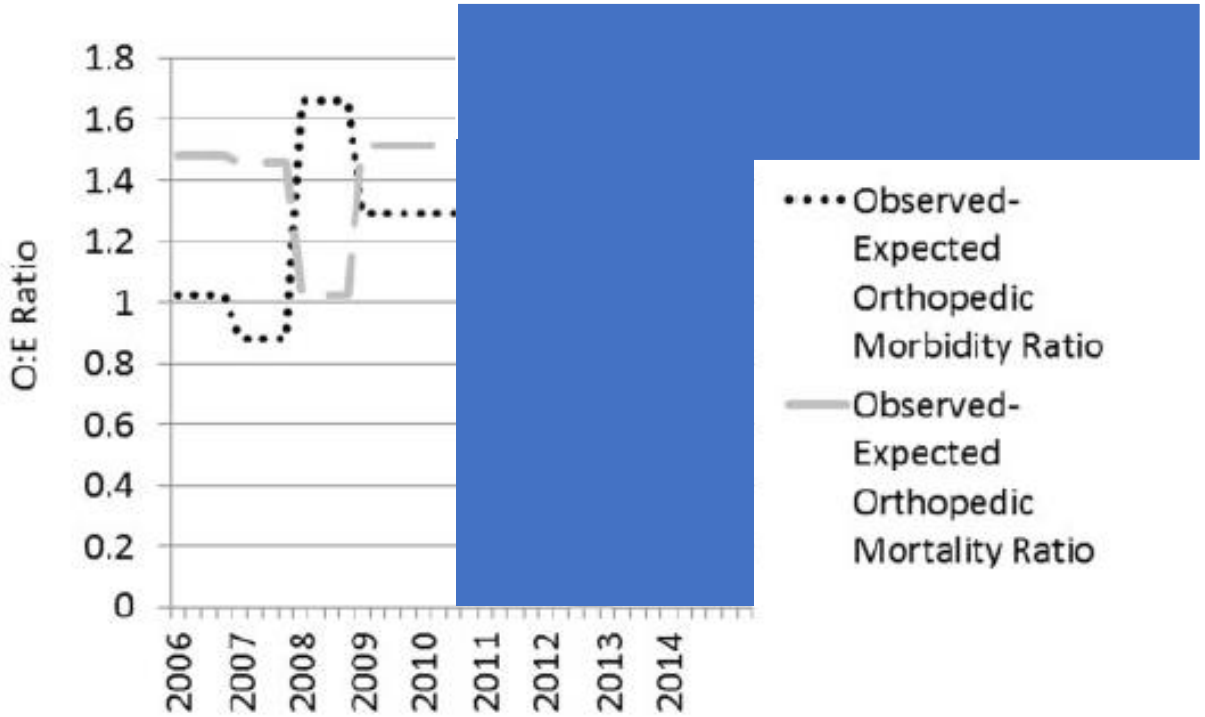
2nd Level Review: Tips (ii)

- Tracking Sheet for Periodic Follow-Up





Scope of concern (punchline)



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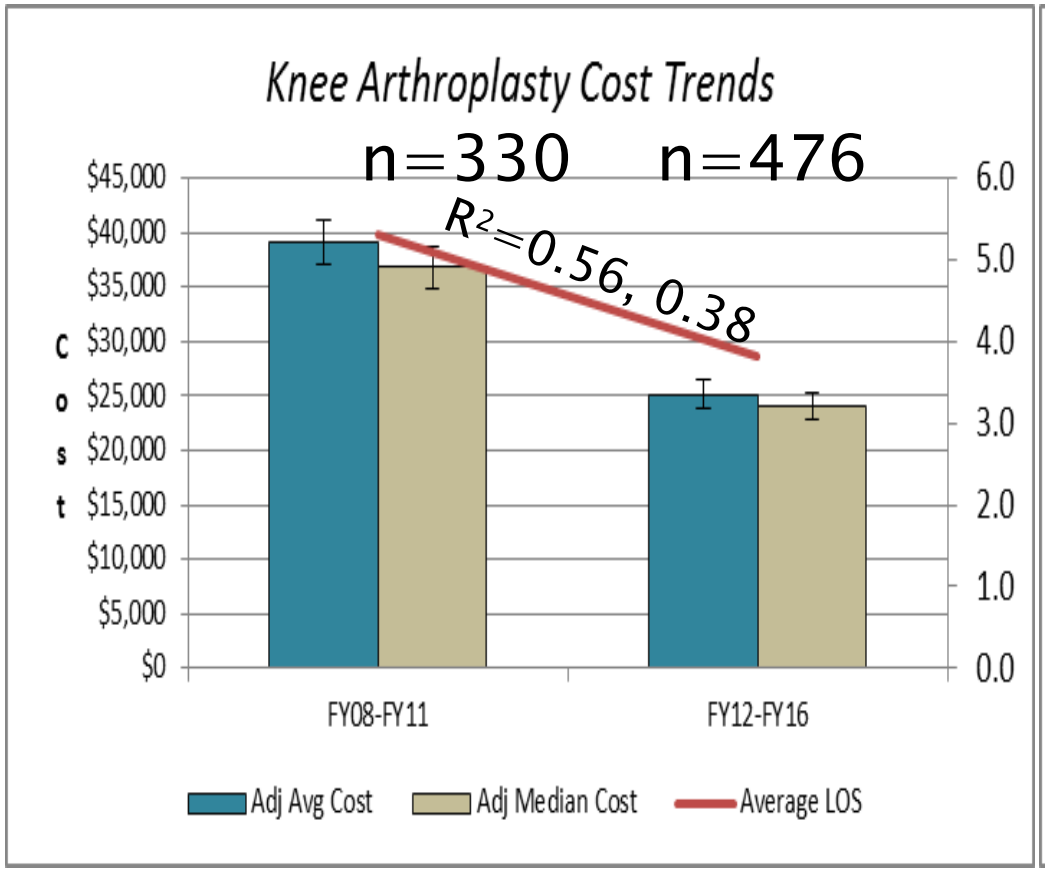
- February'12: Regional Anesthesia replaces GA for 95+%

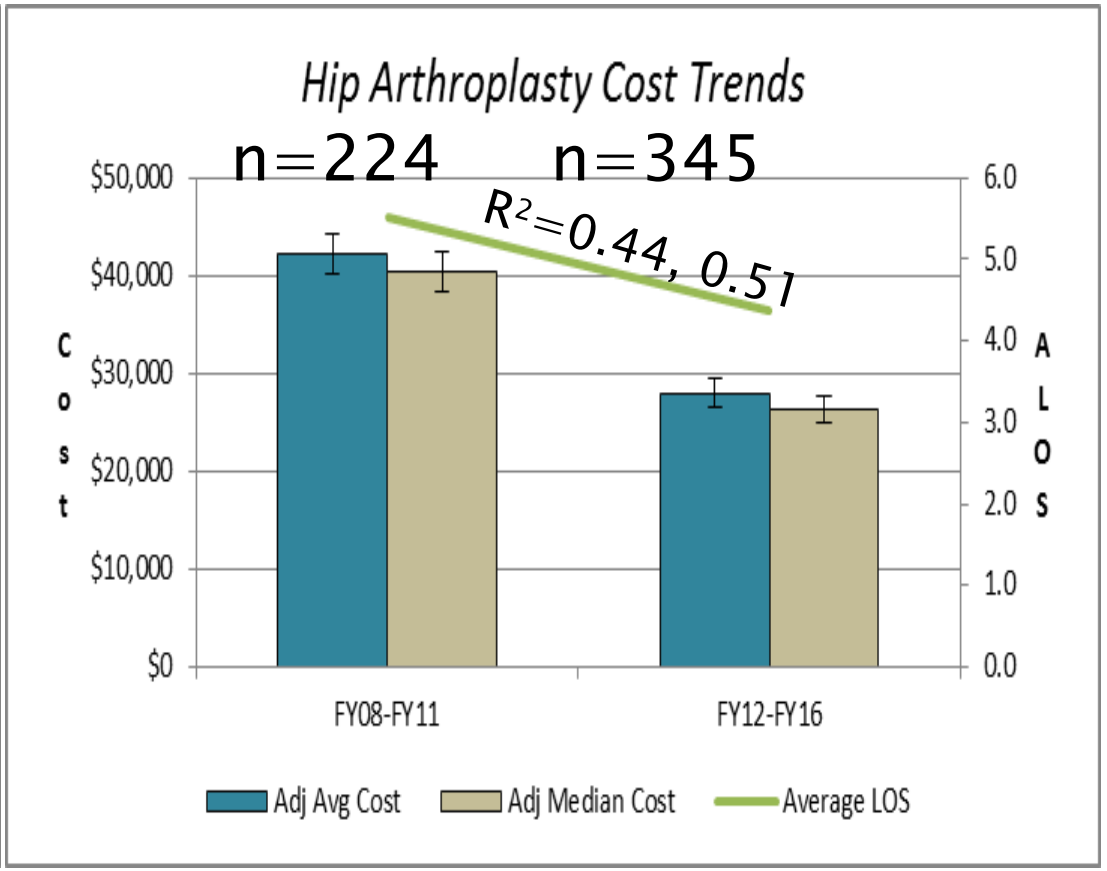
VA Pittsburgh Joint Replacement Cost Analyses: Pre-Post 2nd Level Review and Anesthesia Restructure

Excludes prosthesis costs *Courtesy VACO MCAO*

Knee (P<0.0001)

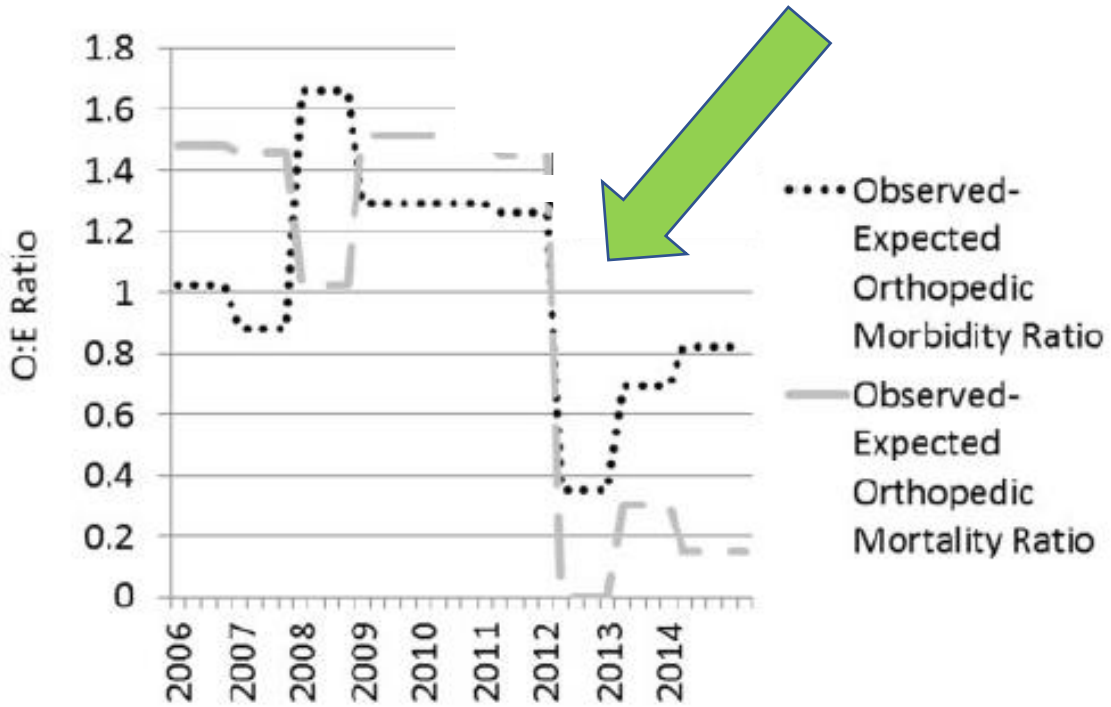


Hip (P<0.0001)



Association, not Causation; $14,000 cost savings per case

2nd Level Review / IMPACT / Regional Anesthesia Outcomes



Pain Med 2017; 18(4):628-636.

PubMed PMID: 26896319

Conclusions:

- Asynchronous anesthesia-centered review of patients' Whole Health and Frailty issues, in light of anesthesia-centered factors that ***will*** escalate LOS, M&M.
- Encourage empowerment of senior anesthesiologist 2nd Level Review Officer to (i) contribute to the "proceed" decision; and (ii) carry out the specific anesthesia plan that warranted the original multi-disciplinary review request following RAI Frailty calculation, both before scheduling a surgical date.

Tune in Tomorrow:
VA HEROES

(Hazard-avoiding Enhanced Recovery & Opioid/Environmental Stewardship)

A Response to the Opioid Epidemic by minimizing drug-induced euphoria in VA surgical patients

Brian A. Williams, MD, MBA - Presenter
Daniel E. Hall, MD, MS, MDiv, FACS – National Diffusion Fellow
VISN 4: VA Pittsburgh

Brian A. Williams, MD, MBA

Professor – University of Pittsburgh

Inaugural Director – IMPACT – VA Pittsburgh

Brian.williams6@va.gov

Available for Detailed Remote Consultation

Surgical Pause Symposium

HYBRID 1 EFFECTIVENESS IMPLEMENTATION TRIAL

PAtient-centered mUltidiSciplinary care for vEterans undergoing surgery (PAUSE) trial

Shipra Arya MD, SM, FACS, DFSVS

Professor of Surgery, Stanford University School of Medicine,
Section Chief, Vascular Surgery, VA Palo Alto Healthcare System
Director of Quality, Surgery Service Line, VAPAHCS

- VA Health Services Research and Development (HSR&D) 1I01HX003215-01A1

  No commercial COI

RISK ANALYSIS INDEX

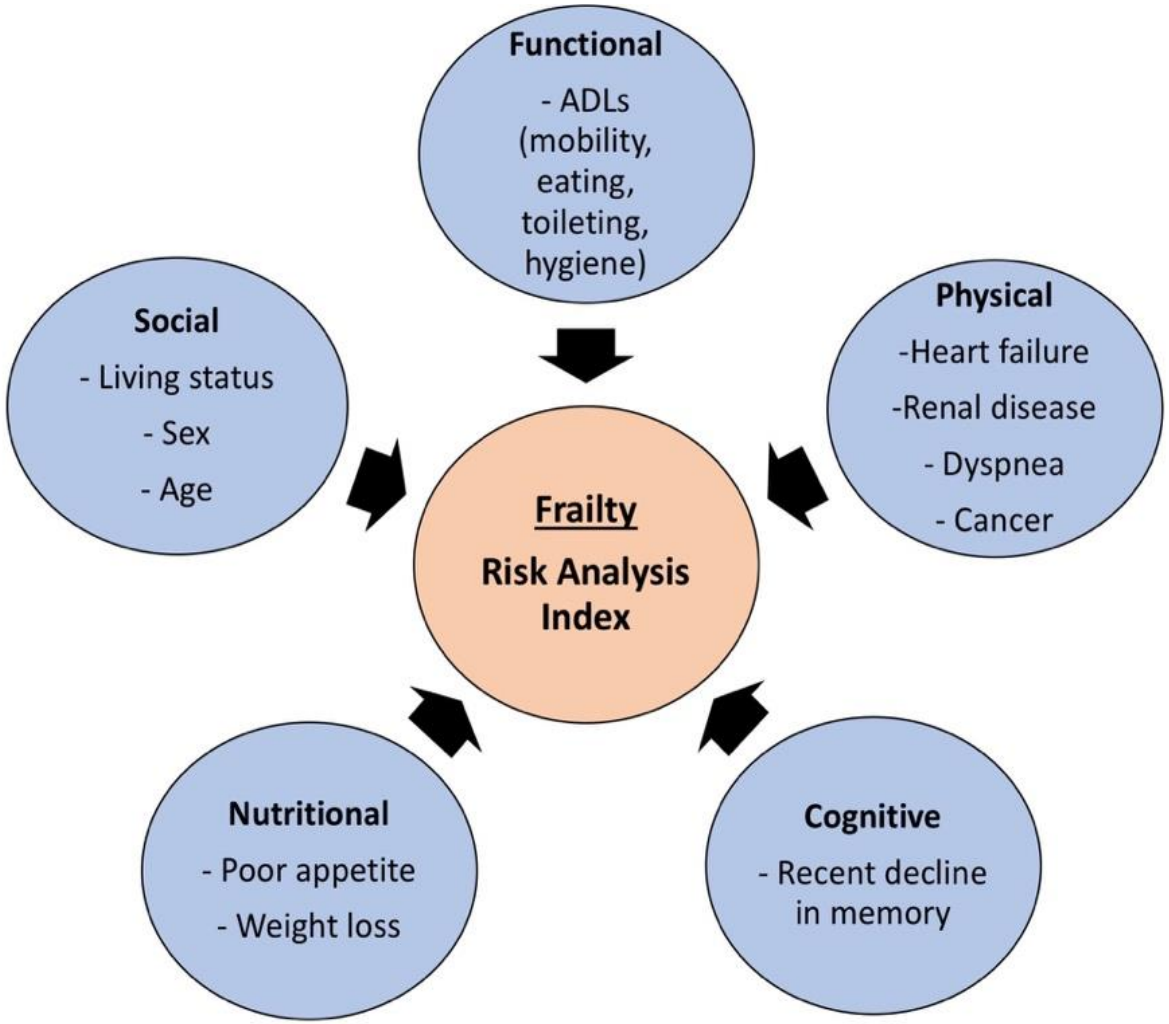


Figure 1. Domains of frailty captured by the Risk Analysis Index

JAMA Surgery | Original Investigation

Association of a Frailty Screening Initiative With Postoperative Survival at 30, 180, and 365 Days

Daniel E. Hall, MD, MDiv, MHSc; Shipra Arya, MD, SM; Kendra K. Schmid, PhD; Mark A. Carlson, MD; Pierre Lavedan, MD; Travis L. Bailey, BS; Georgia Purviance, RN; Tammy Bockman, RN, MHA; Thomas G. Lynch, MD, MHCM; Jason M. Johanning, MD, MS

Table 1. Changes in mortality before and after implementing FSI (%)

	30-day Mortality		180-day Mortality		365-day Mortality	
	Before FSI	After FSI	Before FSI	After FSI	Before FSI	After FSI
All	1.6	0.7	4.2	1.9	6.1	2.8
Non-frail	1.2	0.3	3.5	1.2	5	1.7
Frail	12.2	3.8	23.9	7.7	34.5	11.7

Pilot testing in surgical clinics- Atlanta VA

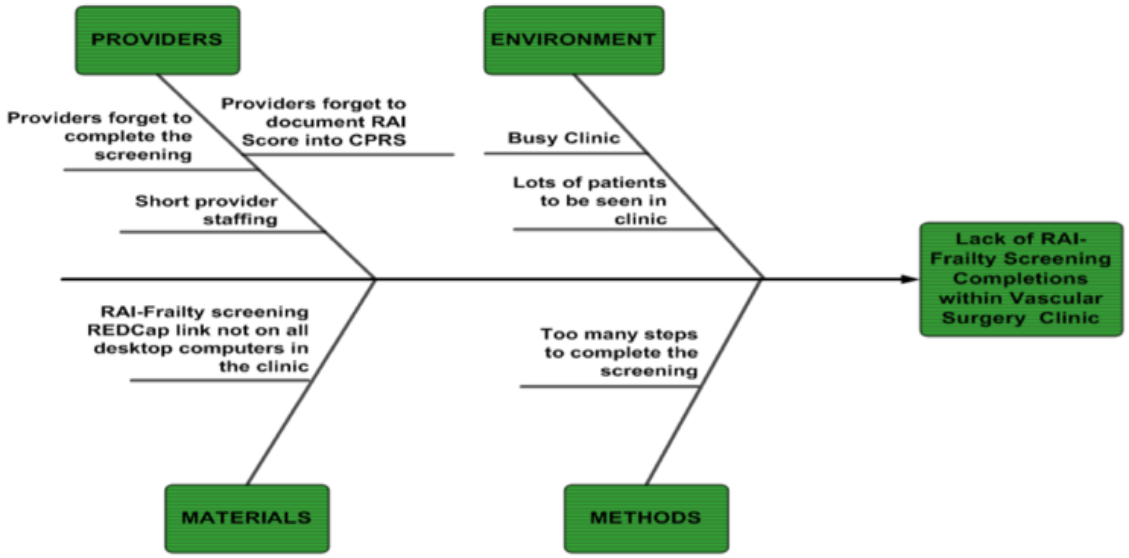


Figure 4a. Cause and effect diagram to identify barriers and facilitators to frailty screening in surgical clinics

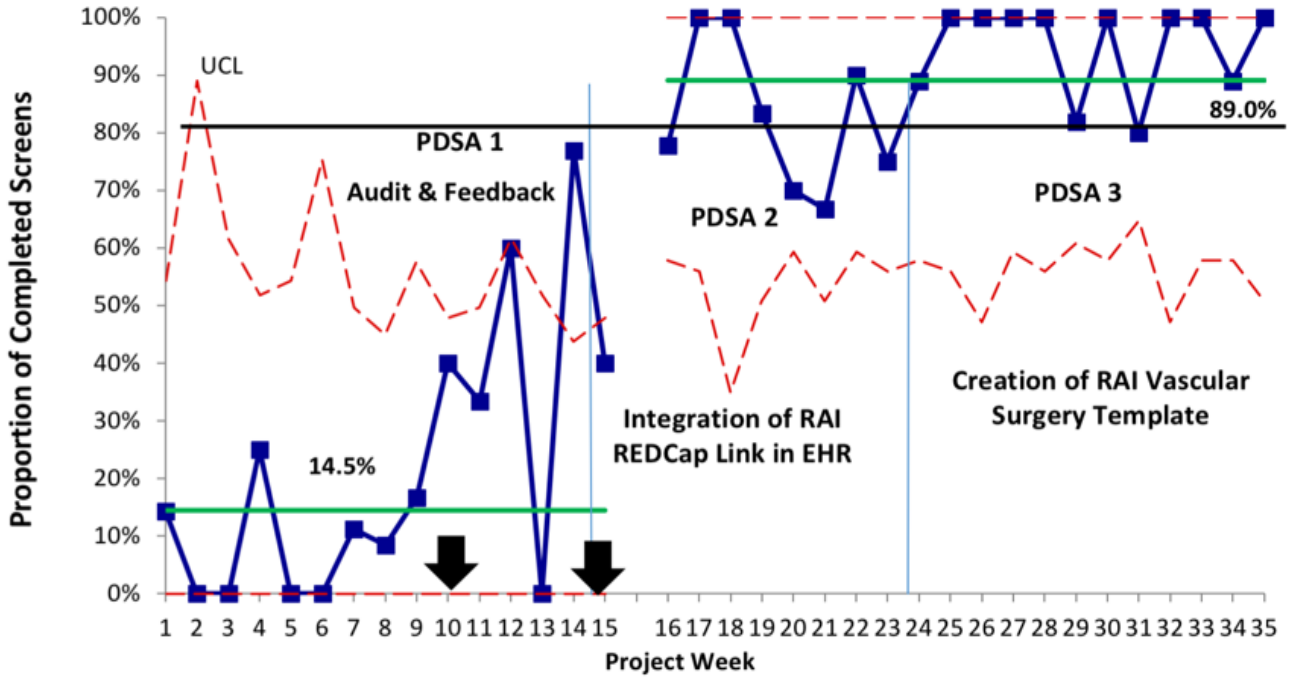


Figure 4b. Statistical Process Control (SPC) p-chart showing PDSA cycles and special cause signals in frailty screening rates in vascular surgery clinic

JAMA Surgery | Original Investigation | ASSOCIATION OF VA SURGEONS

Association Between Patient Frailty and Postoperative Mortality Across Multiple Noncardiac Surgical Specialties

Elizabeth L. George, MD, MSc; Daniel E. Hall, MD, MDiv, MHSc; Ada Youk, PhD; Rui Chen, MS; Aditi Kashikar, MBBS; Amber W. Trickey, PhD; Patrick R. Varley, MD; Paula K. Shireman, MD, MS, MBA; Myrick C. Shinall Jr, MD, PhD; Nader N. Massarweh, MD, MPH; Jason Johanning, MD, MS; Shipra Arya, MD, SM

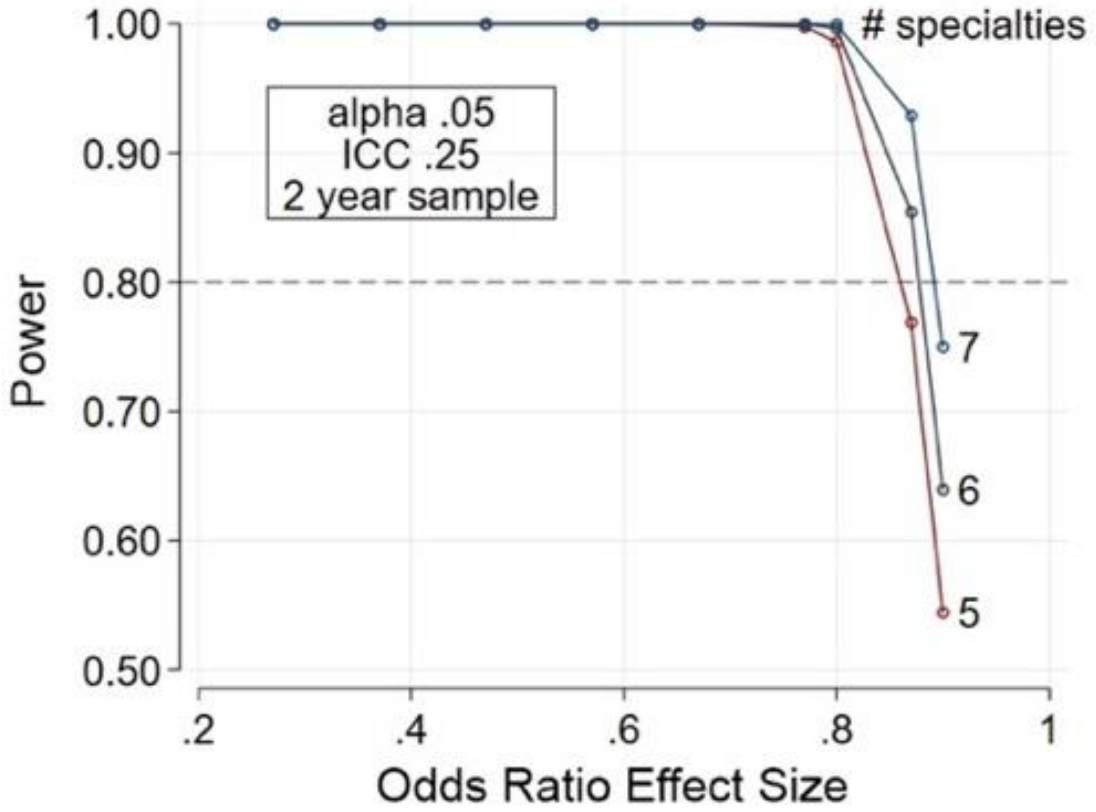


Table 1. Categorization of Surgical Spe

Specialty	NSQIP % OSS 1-2 case
Plastic surgery	92.5
Otolaryngology	87.2
Orthopedic surgery	64.0
Urology	57.1
Neurosurgery	53.6
General surgery	47.5
Gynecology	29.2
Vascular surgery	32.6
Thoracic surgery	11.8

Abbreviations: NSQIP, National Surgical C
Program.

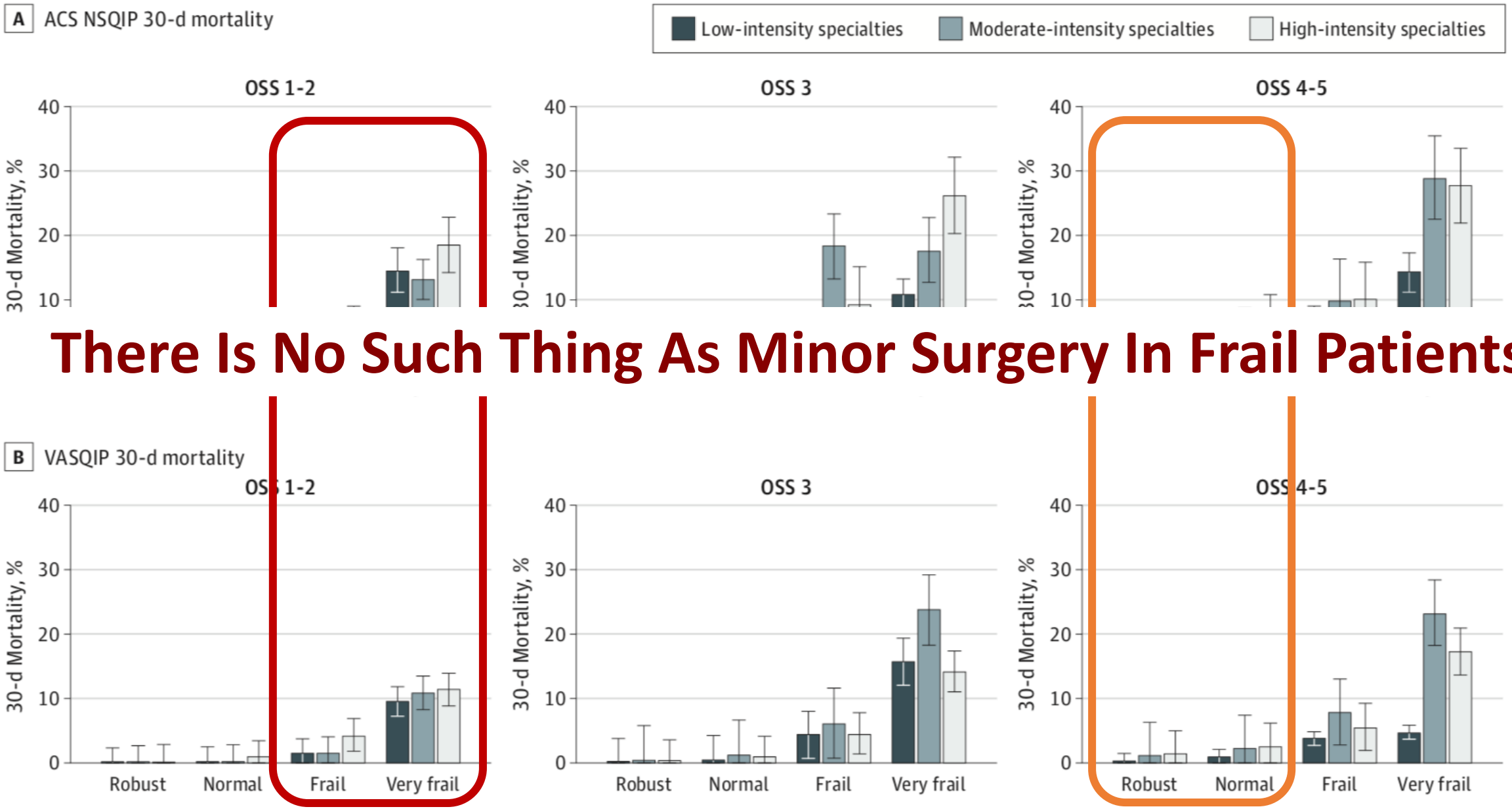
ormed[a]

ty category	% Frail	% Very frail
	7.2	1.2
	7.7	1.6
	5.0	1.5
	11.8	1.3
ate	8.6	2.4
ate	6.5	1.6
	0.4	0.0
	15.6	4.4
	13.5	4.7

rs Surgical Quality Improvement

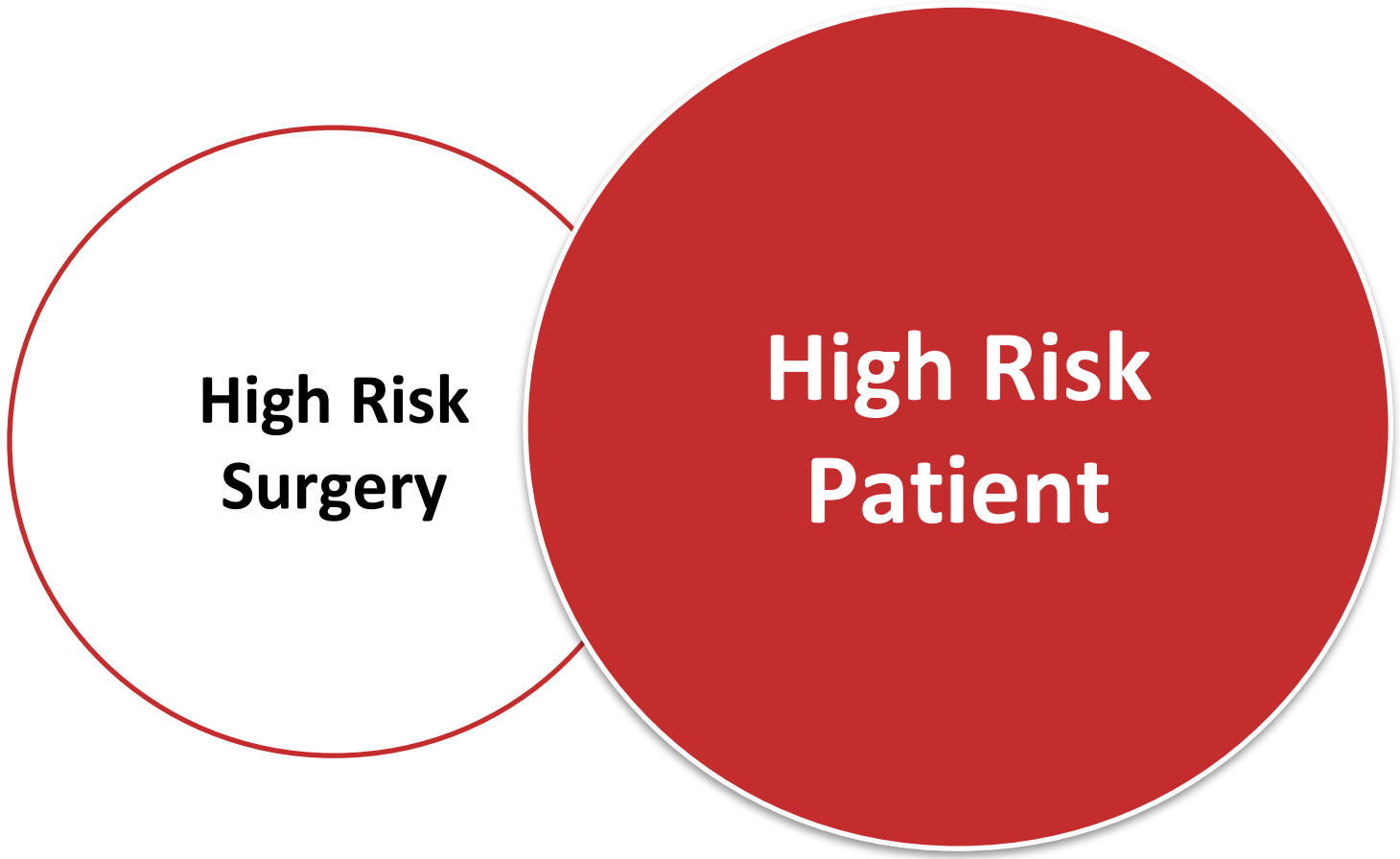
[a] Percentage frail and very frail indicate the proportion of the within-specialty records with Risk Analysis Index 30 to 39 (frail) and greater than or equal to 40 (very frail). Differences in proportions of frail and very frail patients among specialties were all significant at $P < .001$.

Figure 1. Thirty-Day Mortality After Surgery in 9 Noncardiac Surgical Specialties Stratified by Frailty Status (Risk Analysis Index) and Operative Stress Score (OSS)



There Is No Such Thing As Minor Surgery In Frail Patients

Preoperative risk stratification

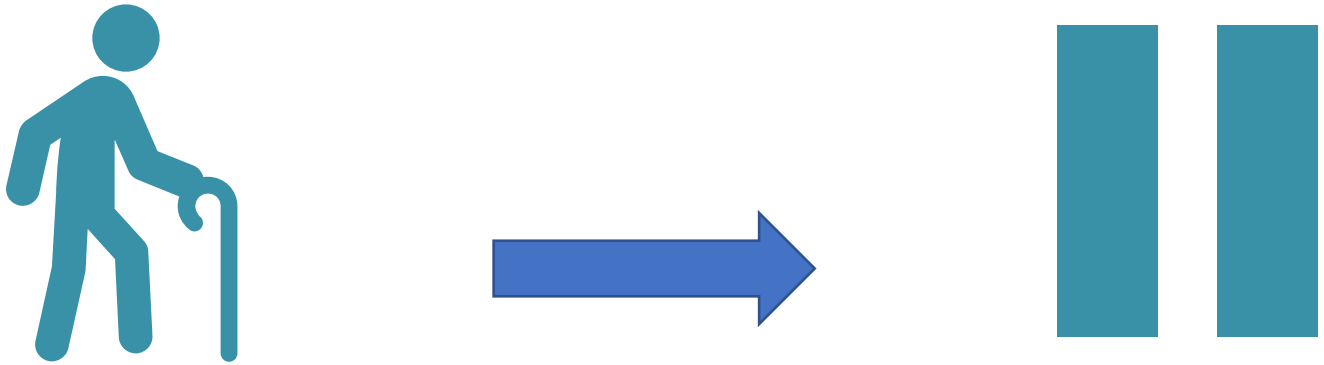


Paradigm Shift

PAUSE Trial

- Pragmatic trial
- Cluster randomized, stepped wedge design
- Three sites: Palo Alto, Houston, Nashville VAMCs
- Screening veterans for frailty in surgical clinics
- Referral for frail veterans being considered for surgery to PAUSE board for multidisciplinary discussion
- Formative evaluation based on Consolidated Framework for Implementation research (CFIR) constructs

Procedure for PAUSE trial



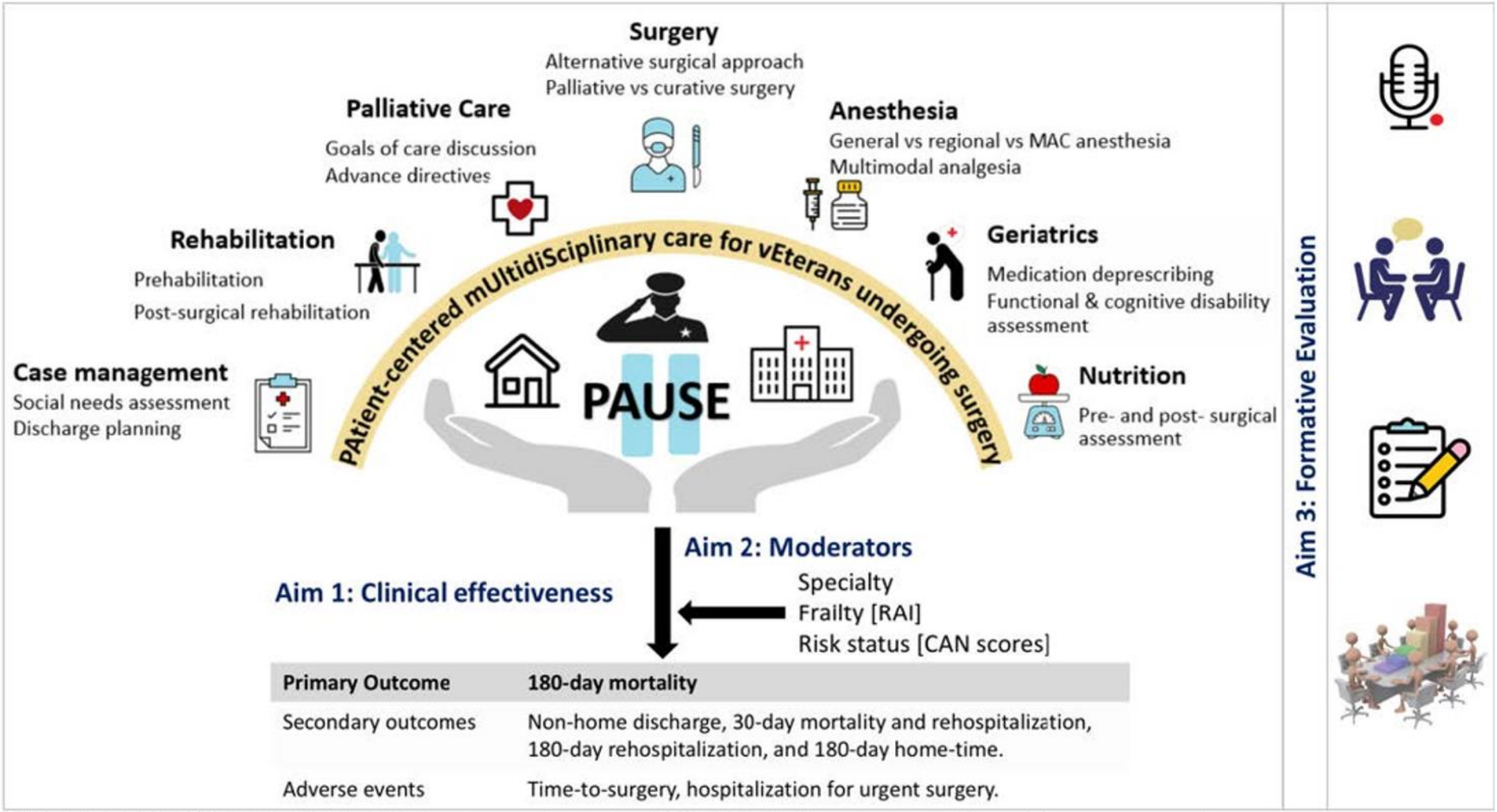
RAI frailty score screening for patients being scheduled for surgery

Who does screening: Surgery team member or nursing

Trained by PAUSE board coordinator

For RAI>=37, referral consult to PAUSE Board

PAUSE board coordinator: Does comprehensive assessment with patient, discusses in PAUSE board and documents/sends recommendations



VA HSR&D IIR 20-077: PAtient-centered mUltidiSciplinary care for vEterans undergoing surgery (PAUSE): a hybrid 1 clinical effectiveness-implementation intervention trial. PI: Dr. Shipra Arya

PAUSE Intervention

Randomization of a surgical specialty clinic cluster quarter
7 clusters at each site

Study Stage

Usual Care → **Onboarding** → **PAUSE Board Utilization** → **Post Intervention**

Data Collection

Site Visit 1
- Stakeholder qualitative interviews
- PAUSE board focus group

Qualitative
- Interviews
- Meeting notes

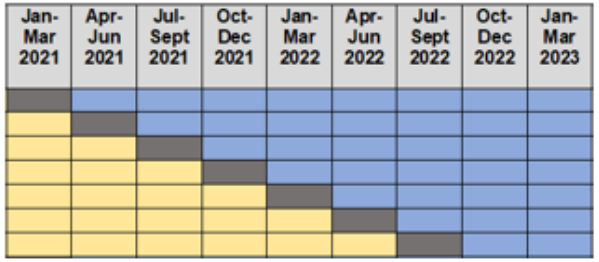
Quantitative
- Weekly audit and feedback reports

Qualitative
- PAUSE board meeting recordings

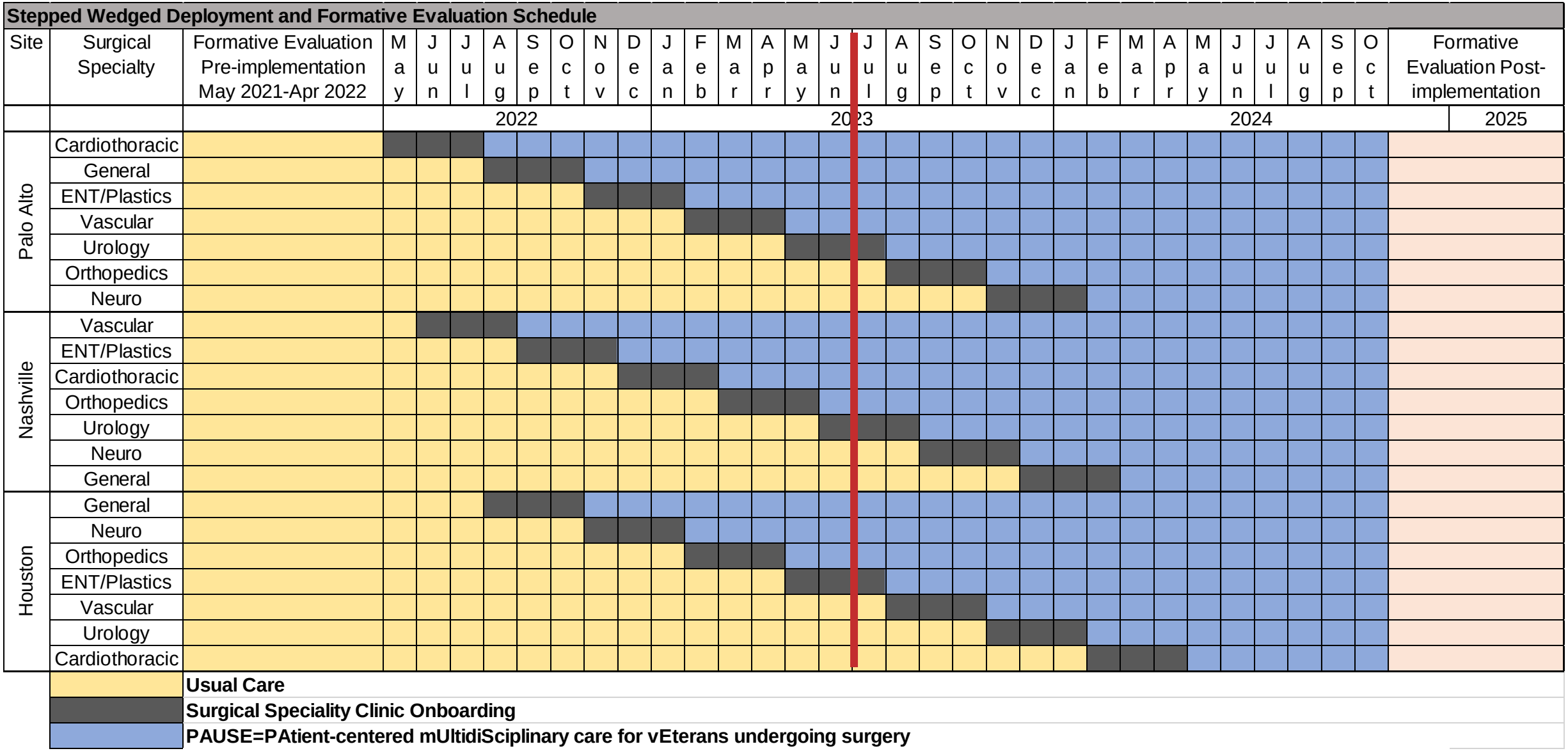
Quantitative
- PAUSE referral utilization

Site Visit 2
- Stakeholder qualitative interviews
- PAUSE board focus group
- Staff meetings

Analysis
- Primary and secondary outcomes.
- Transcription, coding, thematic analysis



Randomization Schedule



LOCAL TITLE: PAUSE
STANDARD TITLE: ADMI
DATE OF NOTE: [redacted]
AUTHOR: DORUK,
URGENCY:

Study Title: Patient-
surgery (PAUSE)
Study PI: Dr. Shipra

PAUSE Board Meeting
Staff Coordinating M
Patient is a [redacted]-year
endarterectomy. On [redacted]
Analysis Index with
the cancer status (w
patient was referred

PROCEDURE DETAILS
Surgical Specialty:
Provider referring t
Date referred to PAU
Attending Surgeon:
Type of Surgery:
Diagnosis: Occlu
I65.22)
Target Date for Surg
OSS/Anesthesia Pre-op

Pre-op Disposition:
is refusing PT/OT at
Anticipated Discharg

Comments:
* [redacted]
ECOG 3. Significant
2 and MI."

Lawton IADL
14. Ability to use tele
15. Shopping
16. Food preparation
17. Housekeeping
18. Laundry
19. Mode of transportat
20. Responsibility of m
21. Ability to handle f
TOTAL SCORE: __1___ / 8
Reference: 8 = high functio

22. Does anyone help yo
able to help you after your
Answer: spouse and daughter

28. Overall, in the pas
keeping your balance while
Answer: patient is on wheel

29. Have you had any fa
Answer: patient is on wheel

30. Are you able to han
releasing objects using you
Answer: yes

31. Are you currently u
your house, or to help with
Answer: wheelchair

32. Do you have a part
or move around in?
Answer: no

LOCAL TITLE: PAUSE BOARD CONSULT RECOMMENDATIONS
STANDARD TITLE: CONSULT
DATE OF NOTE: [redacted] ENTRY DATE: [redacted]
AUTHOR: DORUK,RANA NAGEHAN EXP COSIGNER:
URGENCY: STATUS: COMPLETED

The PAUSE Board convened on [redacted] The following are recommendations from representatives from surgery, geriatrics, anesthesia, nutrition, case management, rehabilitation and palliative care.
Patient is planned to undergo Left carotid endarterectomy procedure.

Surgery:
1) No additional recommendations.

Geriatrics:
1) Patient has metastatic cancer and is wheelchair bound and is having hard time being in the hospital. Patient refuses PT. Recommended for surgical team to discuss with the patient and family what are their priorities are in terms of medical care.

Anesthesia:
1) Blood pressure and heart rate is high, but patient is not on beta blocker. Recommended for PCP to prescribe beta blockers to reduce long-term risks.
2) Recommended for surgical team to advise patient to continue his PO iron for iron deficiency & anemia, and potentially consider iron infusion

CONSULTATIONS Comprehensive, Moderate Related to: Service Connected Condition
Diagnoses:
Occlusion and Stenosis of left Carotid Artery (ICD-10-CM I65.22) (Primary)
Cerebral Infarction, unspecified (ICD-10-CM I63.9)

Health Factors:
PAUSE-SURGICAL CANDIDATE
VA-RAI FRAILTY SCORE

es | Consults | Surgery | D/C Summ | Labs | Reports

Specific Aim 3. To use a mixed-method formative evaluation to understand the contextual and other factors that influence fidelity, adaptation and implementation of the PAUSE trial intervention.

Formative Evaluation

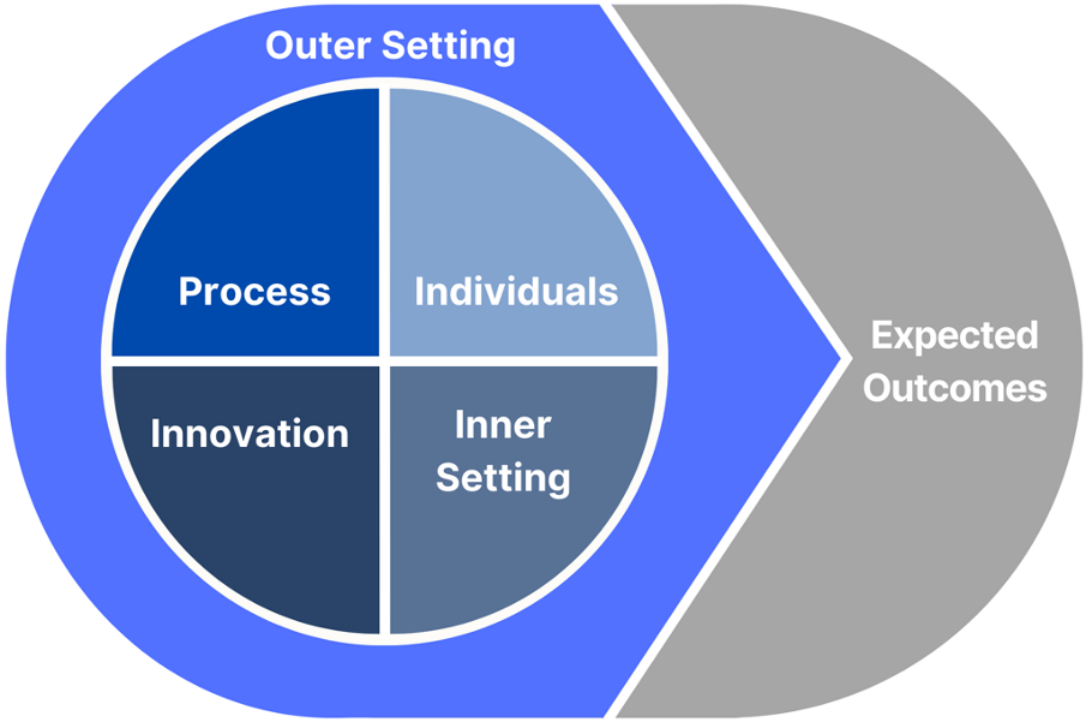
- Rigorous assessment process to identify potential and actual influences on the progress and effectiveness of interventions and implementation efforts
- Identifying modifications to intervention or implementation efforts that will optimize opportunities for success
- Analyzing the causal events leading to change and the specific components of the intervention that most influenced outcomes

Stages of Formative Evaluation

- Developmental: Initial interviews and focus groups; pre-implementation site visits
- Implementation focused: Site visits and onboarding
- Progress focused: Weekly reports, monthly calls, site notes
- Interpretive: PAUSE board meetings, monthly calls, post-implementation site visits, interviews and focus groups

CFIR Framework

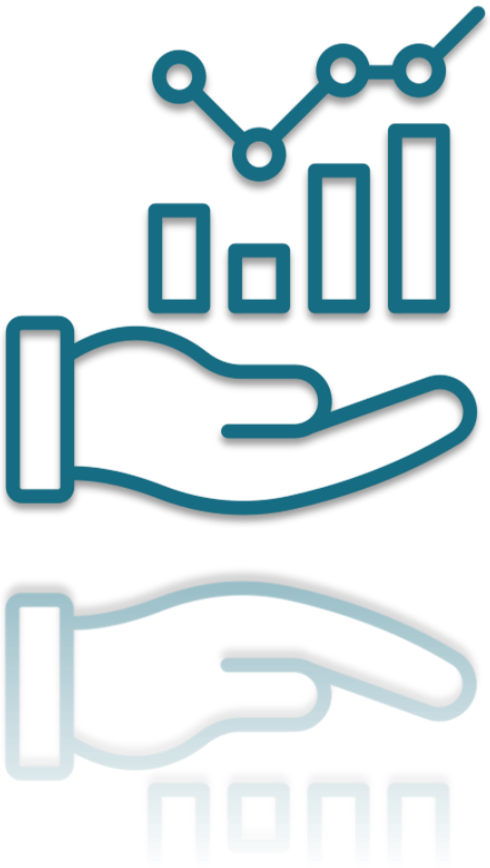
CIFR Domains Represented in the PAUSE Trial



https://cfirguide.org/constructs/

Innovation: PAUSE Trial
Outer Setting: VA Healthcare System; VA Sites; non-surgical specialties and clinicians providing care for frail patients; patients
Inner Setting: surgical specialties at the intervention sites; broader surgical teams within those specialties
Process: assessing stakeholders' needs, indicating barriers and facilitators to implementation, identifying roles and responsibilities, engaging stakeholders, indicating strategies to adapt the intervention
Individuals: surgical and nursing leadership, surgeons, other physicians, mid-level personnel, trainees, patients
Expected Outcomes: perceived acceptability, appropriateness, feasibility, implementation climate, implementation readiness, anticipated outcomes: implementation success or failure, intervention impact

Developmental FE



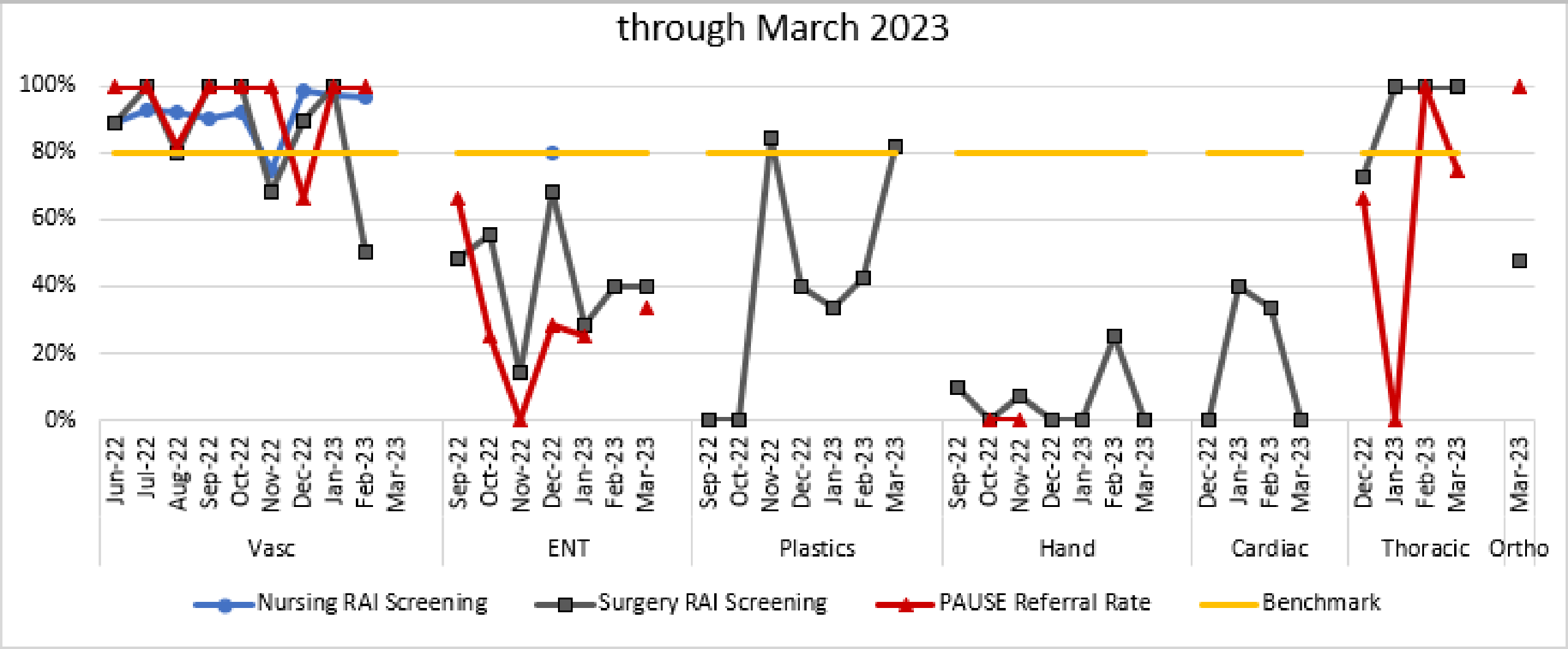
Key stakeholders identified champions, potential barriers and facilitators, and possible intervention adaptations.

Limited time, staff shortage, and the concern that the PAUSE model may delay surgery as the main barriers.

Nurses were identified as partners in intervention execution.

Surgical and nursing leadership engagement was indicated as crucial to adopting any new healthcare model in the studied facilities.

We also learned that existing inter-site and inter-specialty variations might influence the implementation process.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Jan-23
Feb-23
Mar-23
Thoracic
Mar-23
Ortho
Nursing RAI Screening
Surgery RAI Screening
PAUSE Referral Rate
Benchmark

Study team and sponsors

- *VA Center for Implementation and Innovation (Ci2i) Palo Alto*
- *National Surgery Office*
- *Office of Geriatrics and Extended Care*
- *Office of Hospice and Palliative care*

Site	Name
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	Carolyn Seib
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	Rana Doruk
	Karleen Giantripani
Former	Rui Chen, Nicolas Barreto, Marzena Sasnal, Adam Furst

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Rachel Wang, MD
Kamala Shankar, MD
Chitra Gowda, MD
Trang Nguyen
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Ursula Braun, MD
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Denice Green

Thank You

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Strategies for Multidisciplinary Preoperative Evaluation
The Cleveland Experience:
Multidisciplinary High Risk Surgery Patient Conference

Surgical Pause Symposium

Eric Marderstein, MD, MPH
Section Chief of General Surgery
Northeast Ohio VA Healthcare Network
VISN 10 General Surgery Workgroup Lead

VHA DIFFUSION OF EXCELLENCE
Surgical Pause Symposium

Cleveland is a high-risk complex facility with excellent outcomes

- For Quarter ending Dec 2022: low outlier for BOTH morbidity (0.82) and mortality (0.67).
- We do an excellent job capturing risk. For same time period:
  - Expected morbidity 7.32%
  - Expected mortality 1.57% (Complex average <1.00%)
- We have many full-time staff including: Chiefs of Surgical Service, General Surgery, Vascular Surgery, Orthopedic Surgery, Neurosurgery, Anesthesia.

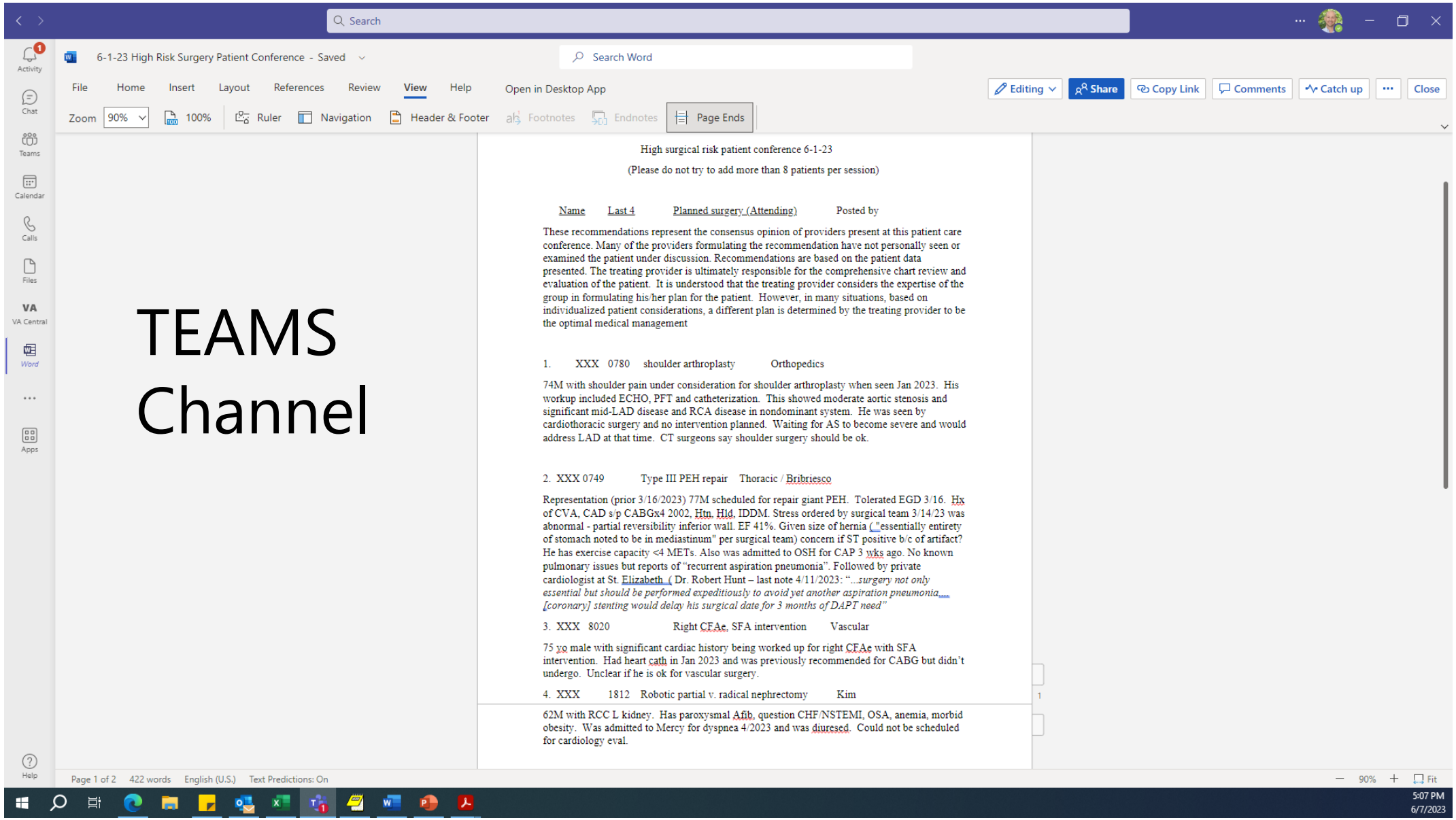
Cleveland experience: Our preoperative process

- Redesigned in 2012 to include comprehensive templated note to be performed by primary care/internal medicine.
- Reorganized and modernized in 2017 under anesthesia perioperative medicine using advance practice providers reporting to an anesthesia division head.
- All patients receiving a surgical procedure with anesthesia are seen in person or virtually.
- Physical presence at several outlying CBOC.

Cleveland experience: Reduce same day cancellations and agree on workup for high risk veterans

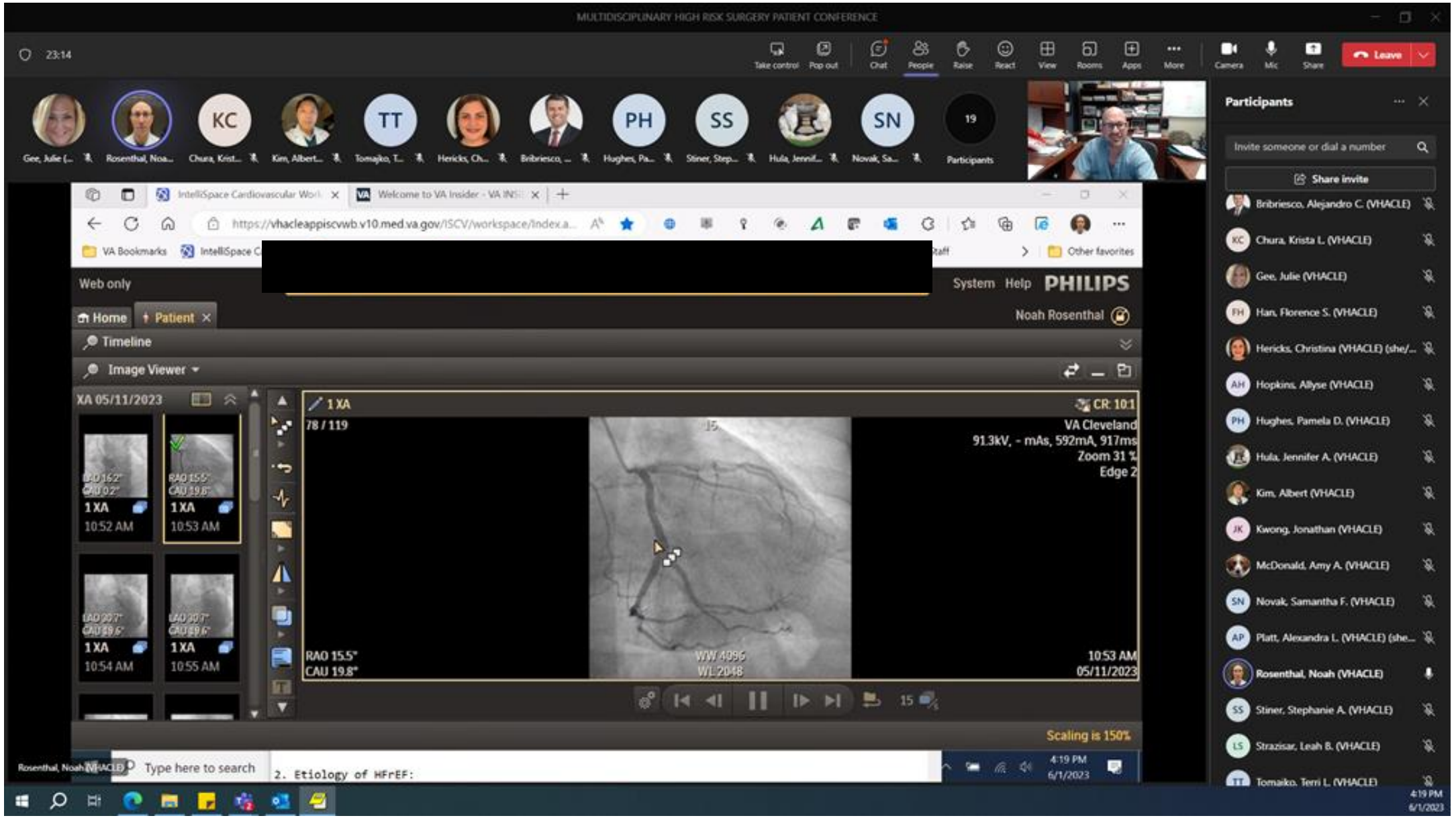
- Started the Multidisciplinary High Risk Surgery Patient Conference.
- Modelled after 'Tumor Board Format' including disclaimer.
- Created a TEAMS channel where cases could be 'posted.'
- Conference on Thursday afternoon first and third Thursday of the month.
- Critical attendees: cardiologist, pulmonologist, anesthesiologist, surgeon.

TEAMS Channel



Multidisciplinary High-Risk Surgery Patient Conference: Process

- Ideal moderator is a surgeon.
- Moderator, not the operating surgeon, presents the case.
- Ideally the operating surgeon attends and can speak to the details of the planned OR.
- Some discussion about potential for less invasive surgical options.
- Review specialty studies and discuss.
- After the conference, a note is entered in the patient chart for co-signature.
- Make recommendations that are useful but provide discretionary room.


MULTIDISCIPLINARY HIGH RISK SURGERY PATIENT CONFERENCE
Participants
Invite someone or dial a number
Share invite
Web only
PHILIPS
Home
Patient
Noah Rosenthal
Timeline
Image Viewer
XA 05/11/2023
1 XA
78 / 119
CR: 10:1
VA Cleveland
91.3kV, - mAs, 592mA, 917ms
Zoom 31 %
Edge 2
RAO 15.5°
CAU 19.8°
WW 4096
WL 2048
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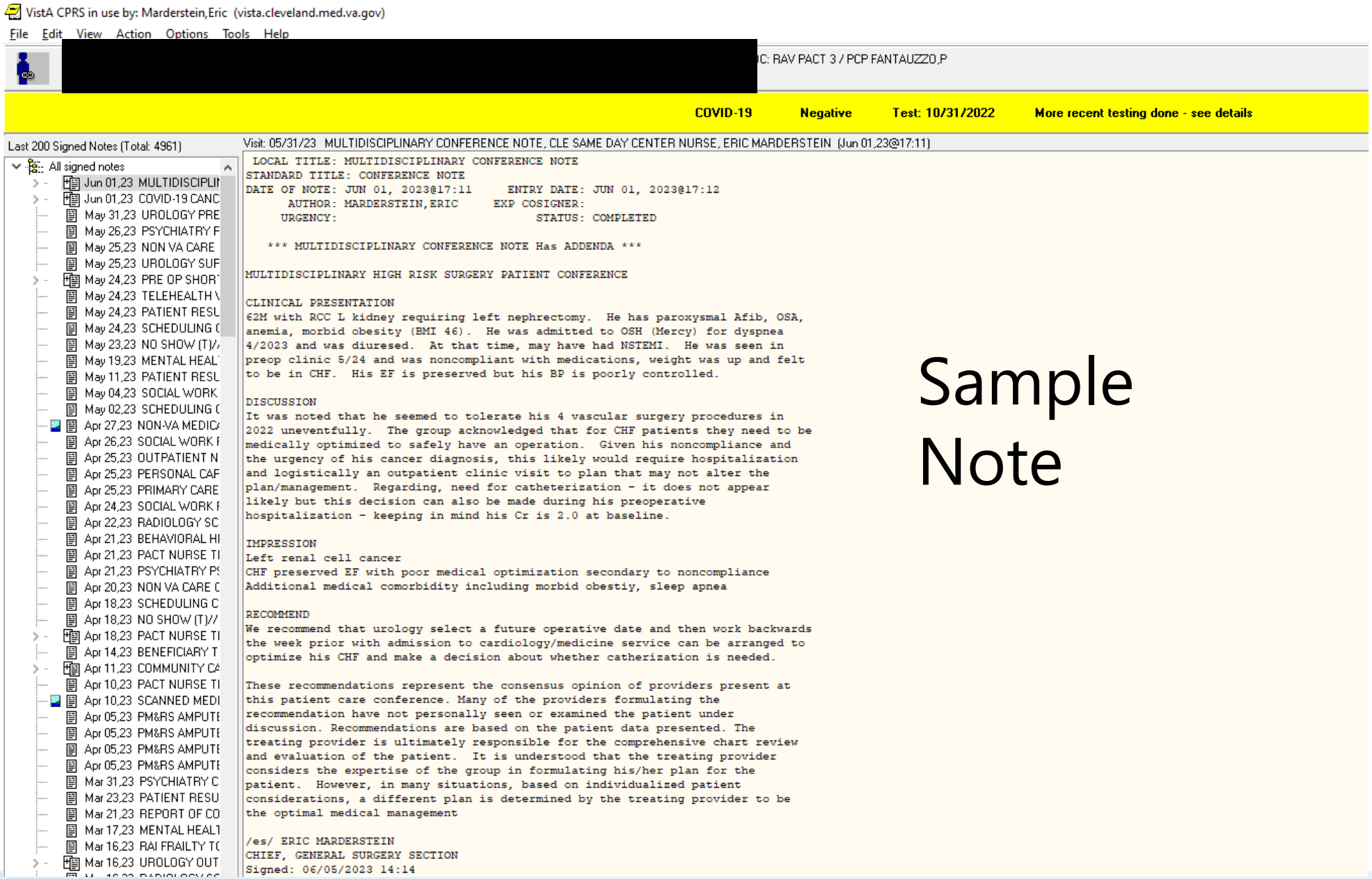
Scaling is 150%
2. Etiology of HFrEF: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C: RAV PACT 3 / PCP FANTAUZZO,P
COVID-19 Negative Test: 10/31/2022 More recent testing done - see details
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Jun 01,23 MULTIDISCIPLI
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Mar 16,23 UROLOGY OUT
Visit: 05/31/23 MULTIDISCIPLINARY CONFERENCE NOTE, CLE SAME DAY CENTER NURSE, ERIC MARDERSTEIN (Jun 01,23@17:11)
LOCAL TITLE: MULTIDISCIPLINARY CONFERENCE NOTE
STANDARD TITLE: CONFERENCE NOTE
DATE OF NOTE: JUN 01, 2023@17:11 ENTRY DATE: JUN 01, 2023@17:12
AUTHOR: MARDERSTEIN,ERIC EXP COSIGNER:
URGENCY: STATUS: COMPLETED
*** MULTIDISCIPLINARY CONFERENCE NOTE Has ADDENDA ***
MULTIDISCIPLINARY HIGH RISK SURGERY PATIENT CONFERENCE
CLINICAL PRESENTATION
62M with RCC L kidney requiring left nephrectomy. He has paroxysmal Afib, OSA, anemia, morbid obesity (BMI 46). He was admitted to OSH (Mercy) for dyspnea 4/2023 and was diuresed. At that time, may have had NSTEMI. He was seen in preop clinic 5/24 and was noncompliant with medications, weight was up and felt to be in CHF. His EF is preserved but his BP is poorly controlled.
DISCUSSION
It was noted that he seemed to tolerate his 4 vascular surgery procedures in 2022 uneventfully. The group acknowledged that for CHF patients they need to be medically optimized to safely have an operation. Given his noncompliance and the urgency of his cancer diagnosis, this likely would require hospitalization and logistically an outpatient clinic visit to plan that may not alter the plan/management. Regarding, need for catheterization - it does not appear likely but this decision can also be made during his preoperative hospitalization - keeping in mind his Cr is 2.0 at baseline.
IMPRESSION
Left renal cell cancer
CHF preserved EF with poor medical optimization secondary to noncompliance
Additional medical comorbidity including morbid obestiy, sleep apnea
RECOMMEND
We recommend that urology select a future operative date and then work backwards the week prior with admission to cardiology/medicine service can be arranged to optimize his CHF and make a decision about whether catherization is needed.
These recommendations represent the consensus opinion of providers present at this patient care conference. Many of the providers formulating the recommendation have not personally seen or examined the patient under discussion. Recommendations are based on the patient data presented. The treating provider is ultimately responsible for the comprehensive chart review and evaluation of the patient. It is understood that the treating provider considers the expertise of the group in formulating his/her plan for the patient. However, in many situations, based on individualized patient considerations, a different plan is determined by the treating provider to be the optimal medical management
/es/ ERIC MARDERSTEIN
CHIEF, GENERAL SURGERY SECTION
Signed: 06/05/2023 14:14

Sample Note

Disclaimer

- These recommendations represent the consensus opinion of providers present at this patient care conference. Many of the providers formulating the recommendation have not personally seen or examined the patient under discussion. Recommendations are based on the patient data presented. The treating provider is ultimately responsible for the comprehensive chart review and evaluation of the patient. It is understood that the treating provider considers the expertise of the group in formulating his/her plan for the patient. However, in many situations, based on individualized patient considerations, a different plan is determined by the treating provider to be the optimal medical management

Multidisciplinary High-Risk Surgery Patient Conference: Outcome

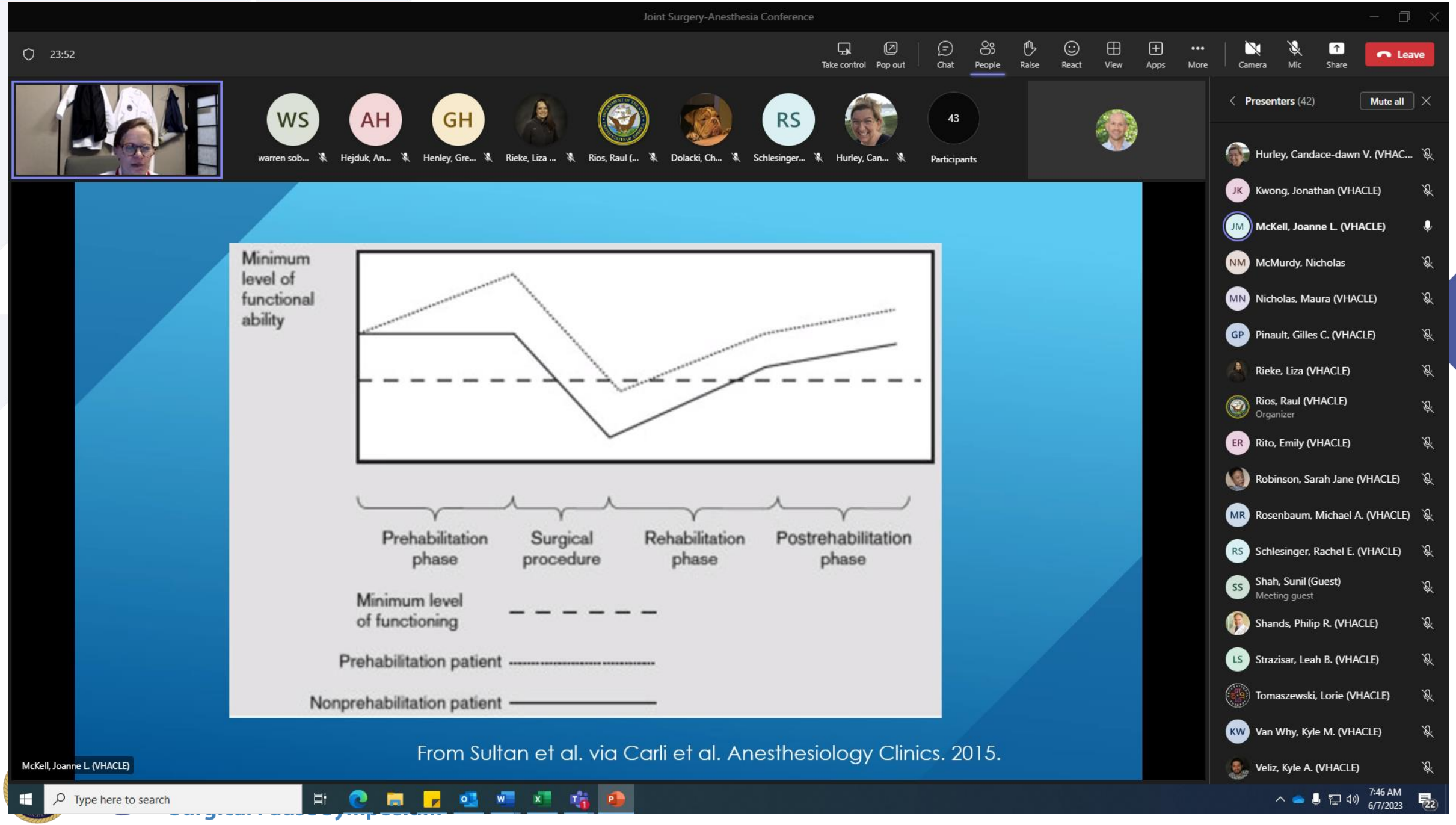
- Decision made to not proceed with surgery.
- Decision made to under significant optimization/prehabilitation.
- Additional tests, studies, consults and then reevaluation.
- Operating surgeon will discuss conference assessment with patient and reassess his symptoms, in light of the group opinion.
- Patient is optimized and high risk and going to have an operation and everyone needs to get on board.
- Patient is optimized and risk actually not that high.

Multidisciplinary High-Risk Surgery Patient Conference: Things I personally have learned.

- A pulmonologist can look at one set of PFT and tell you exactly who your patient is.
- Patients with lung disease need to be on the right inhalers, taking them and show up for surgery looking at least at their baseline.
- Patients with heart failure need to be on the right medications, taking them and show up for surgery not in heart failure.
- Many cardiac studies are read as abnormal but when reviewed in context can potentially be not nearly as concerning.
- Certain operations can be very stimulating and difficult from anesthesia perspective.
- Do not make recommendations for operative or anesthesia techniques that are not typically done just due to extreme patient risk.

Multidisciplinary High-Risk Surgery Patient Conference: Other advantages

- Creates institutional memory and learning for all the conference participants.
- Especially important to the preoperative advance practice providers to hear the experts review and discuss the complex cases they have seen in preoperative clinic.
- Provides feeder topics for our bimonthly Surgery-Anesthesia Joint Conference.
- Reduces same day cancellation by getting everyone on the same page prior to surgery.


Joint Surgery-Anesthesia Conference
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43
Participants
Presenters (42)
Mute all
Hurley, Candace-dawn V. (VHAC...
Kwong, Jonathan (VHACLE)
McKell, Joanne L. (VHACLE)
McMurdy, Nicholas
Nicholas, Maura (VHACLE)
Pinault, Gilles C. (VHACLE)
Rieke, Liza (VHACLE)
Rios, Raul (VHACLE)
Organizer
Rito, Emily (VHACLE)
Robinson, Sarah Jane (VHACLE)
Rosenbaum, Michael A. (VHACLE)
Schlesinger, Rachel E. (VHACLE)
Shah, Sunil (Guest)
Meeting guest
Shands, Philip R. (VHACLE)
Strazisar, Leah B. (VHACLE)
Tomaszewski, Lorie (VHACLE)
Van Why, Kyle M. (VHACLE)
Veliz, Kyle A. (VHACLE)
Minimum level of functional ability
Prehabilitation phase
Surgical procedure
Rehabilitation phase
Postrehabilitation phase
Minimum level of functioning
Prehabilitation patient
Nonprehabilitation patient
From Sultan et al. via Carli et al. Anesthesiology Clinics. 2015.
McKell, Joanne L. (VHACLE)
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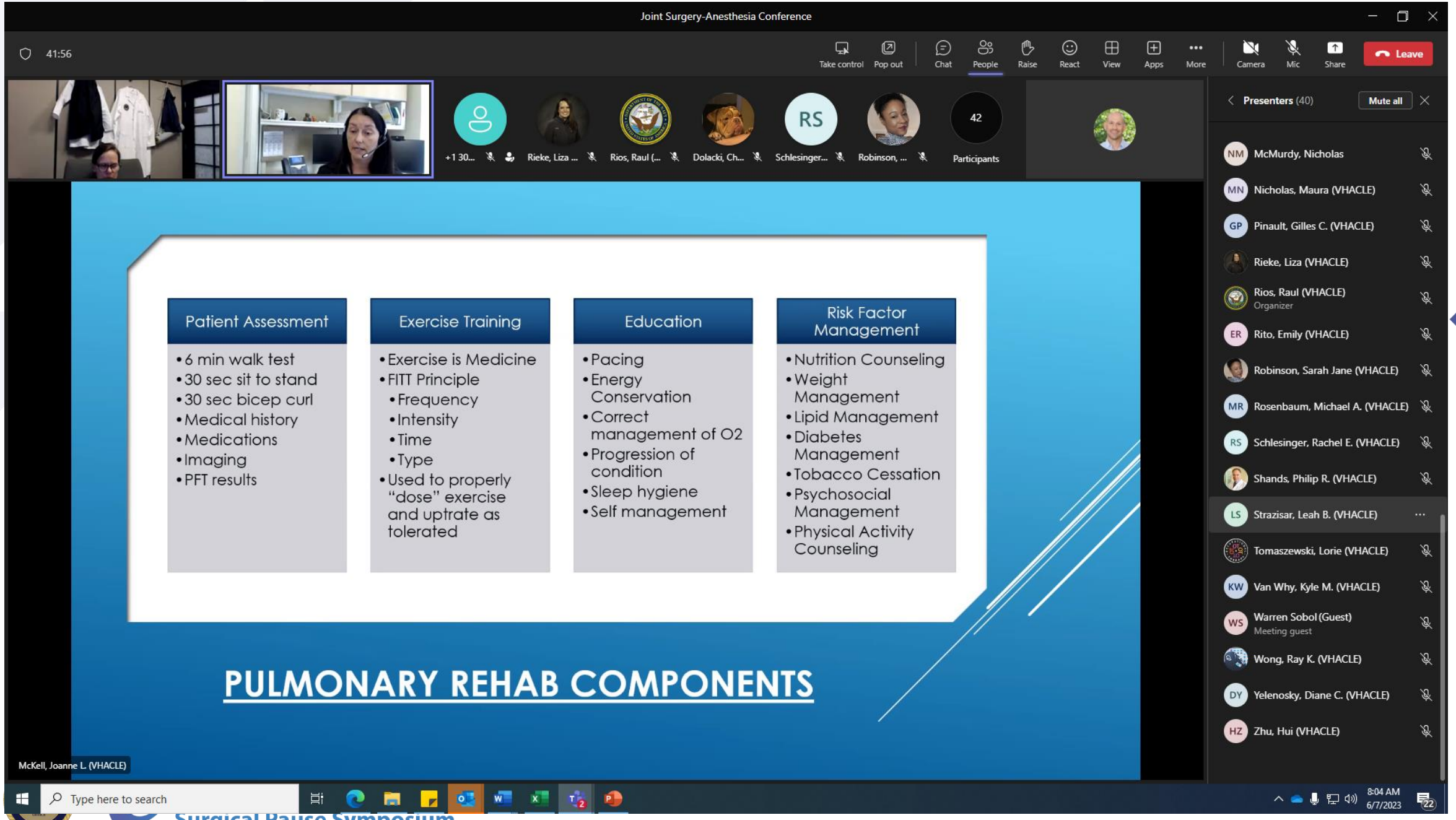
6/7/2023


Joint Surgery-Anesthesia Conference
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Rieke, Liza (VHACLE)
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Organizer
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Schlesinger, Rachel E. (VHACLE)
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Strazisar, Leah B. (VHACLE)
Tomaszewski, Lorie (VHACLE)
Van Why, Kyle M. (VHACLE)
Warren Sobol (Guest)
Meeting guest
Wong, Ray K. (VHACLE)
Yelenosky, Diane C. (VHACLE)
Zhu, Hui (VHACLE)
Patient Assessment
•6 min walk test
•30 sec sit to stand
•30 sec bicep curl
•Medical history
•Medications
•Imaging
•PFT results
Exercise Training
•Exercise is Medicine
•FITT Principle
•Frequency
•Intensity
•Time
•Type
•Used to properly "dose" exercise and uptrate as tolerated
Education
•Pacing
•Energy Conservation
•Correct management of O2
•Progression of condition
•Sleep hygiene
•Self management
Risk Factor Management
•Nutrition Counseling
•Weight Management
•Lipid Management
•Diabetes Management
•Tobacco Cessation
•Psychosocial Management
•Physical Activity Counseling
PULMONARY REHAB COMPONENTS
McKell, Joanne L. (VHACLE)
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6/7/2023

Thank you

Surgical Pause Symposium

Disclosures

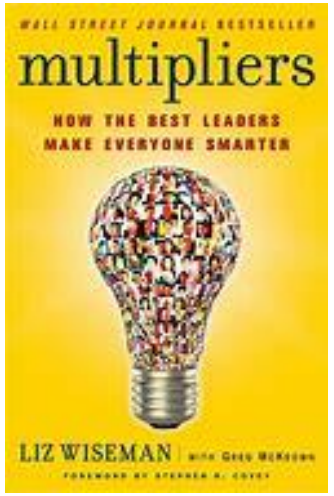
1. Nothing financial to report
2. I am a surgeon and therefore a trained decision maker and fixer

Motivating Residents and Team Members

Thomas Z. Hayward III, MD, MBA, FACS

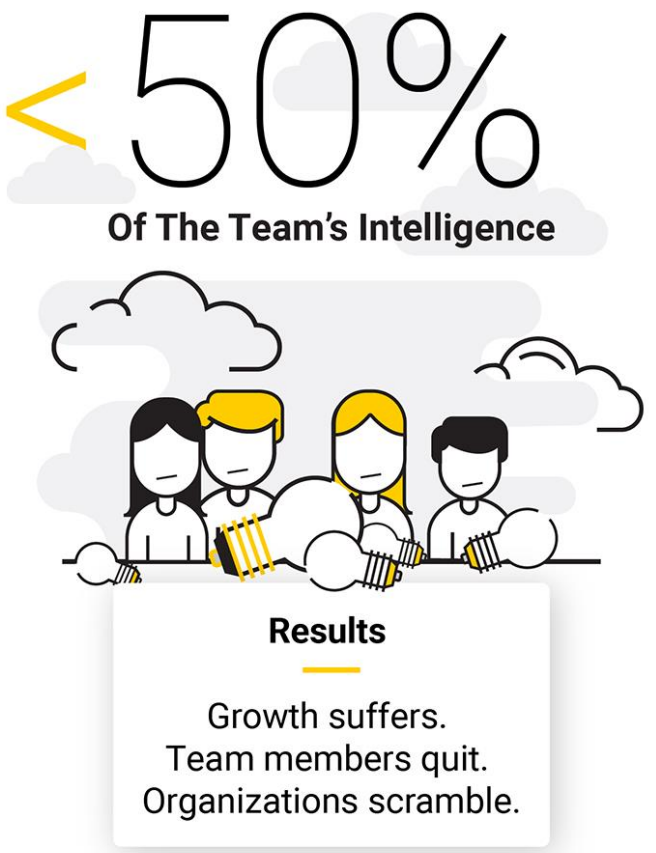
How to Lead

- There are tons of books, articles, speeches on this topic
- You will have decisions to make on how to lead
- One style of leadership doesn't work for in every situation or for every organization or for every individual
- Listen and be adaptative
- Here is the tale of two managers from Liz Wiseman author of the book "Multipliers"



The Diminisher

- A leader who squashes innovation and talent by doing all the thinking themselves.
- Believe that intelligent people are a rare breed and that I am one of the few smart people
  - Decision maker
  - Other people will never figure out things without me
- Creates temporary success because of standardization and making sure documentation is complete
  - Documentation and administrative rules are not patient care and cannot replace sound clinical judgment
- Ultimately the micromanager stifles innovation, creates dependency on the system and breeds discontent



The Multiplier

- A leader who grows intelligence by engaging it
- They don't need the credit, and they don't need to be the smartest in the room
- Engage people in debating the issues up front which leads to decisions that people understand and can execute efficiently
  - The process is more important that the results
- Trust that good people working collaboratively will get the desired results
- The best things in life are worth waiting for - resist the temptation for a quick fix

Five Disciplines of the Multipliers

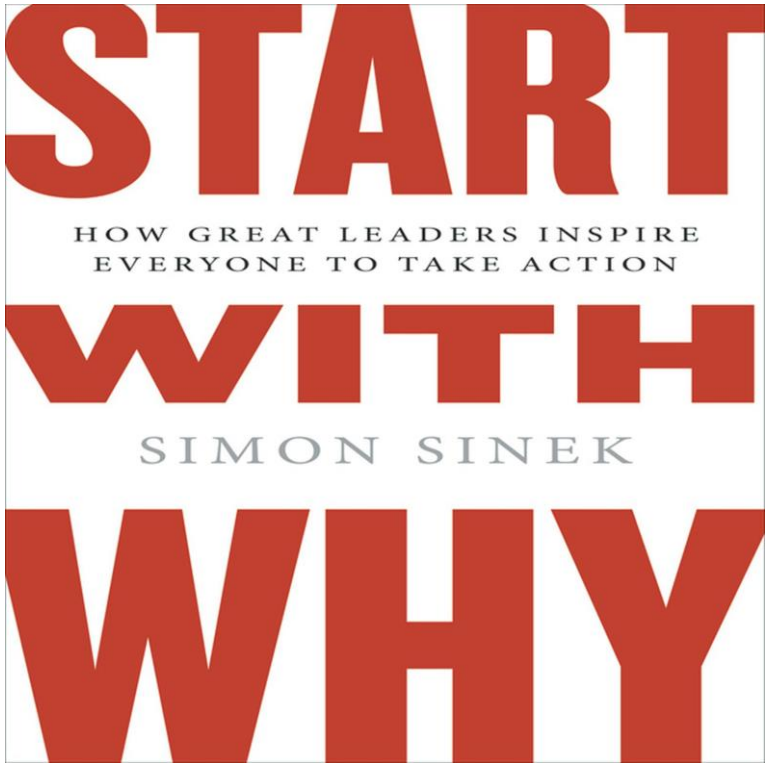
- The Talent Magnet: attract and optimize talent
  - Appreciate all types of genius
  - Connect people with opportunities
- The Liberator: require peoples best thinking
  - Insist on learning from mistakes
  - Shift the ratio of listening to talking
- The Challenger: extend challenges
  - Show the need
  - Lay out a path
- The Debate maker: debate decisions
  - Ask for the data
  - Ask for the hard question
- The Investor: instill accountability
  - Teach and Coach

Getting Started

- Eventually, a process will need to improve your results
  - Start with WHY NOT HOW.

Why

- Any person or organization can explain what they do
- Some can explain how they are different or better
- But few can clearly articulate why
- Why is not about Morbidity or Mortality/ Money or Profit – those are results
- Why is the thing that inspires us and inspires those around us



Surgery Why Statement for Indianapolis

- Our strategic focus is to care for our Veterans with compassion and thoughtfulness.
  - Surgery and procedures are the essence of what we do, but it is not the only way we care for our patients
  - Proceeding with surgery in an unoptimized patient dramatically increases the morbidity and mortality risks, and when unfortunate events intervene disappointments with outcomes.

Barriers

- Time
  - Multiplicity
  - Work hours
  - Preferences for work life balance
  - Fewer leaders to team members
    - You can only be at one place at one time
- Knowledge
  - They are not aware of what they are not aware of so you will have to teach
  - Challenge the assumptions
  - Reframe problems
- Resources
  - There is no such thing as a free lunch
  - You will have to compete to get people and equipment

Create Information

- Reports are sent on a weekly/monthly/quarterly basis that contain lots of data in spreadsheets
- Summarize the data
- Show perspective of data over time
- Demonstrates tradeoffs, rationale, and consequences

January 2022 – Present

Total FTE for OR Room Utilization	Staff Lost	Staff Gain	Remaining Open positions	Current Vacancy Rate (on paper)	Current FTE OFF orientation can be fully utilized	# Of Agency RN Support	True Operational Capacity per OR staffing	# Of Utilized OR rooms/Total OR rooms
58	31	18	13	22%	34	6	69%	6.5/11

Staff in Orientation	Discipline	Start Date	~Orientation Time	~Orientation End Date	Room Impact Progress	Room Impact (# of rooms open)	~Date OR room increase
A	RN	11/20/2022	6 months	6/2/2023		7.5 rooms	6/20/2023
B	RN	12/4/2022	6 months	5/22/2023		7.5 rooms	6/20/2023
C	RN	1/3/2023	6 months	6/2/2023		7.5 rooms	6/20/2023
D	CST	4/9/2023	3 months	7/5/2023			
E	RN	4/9/2023	4 months	8/15/2023			
F	RN	4/9/2023	4 months	8/15/2023			
G	RN	4/24/2023	4 months	8/15/2023			
H	RN	12/19/2022	9 months	9/15/2023			
I	CST	4/9/2023	6 months	9/15/2023			
K	RN	4/9/2023	9 months	12/15/2023			
Agency RN							
X	RN	4/12/2023	2 weeks	5/3/2023			
Fee Basis Contractors							

Communication

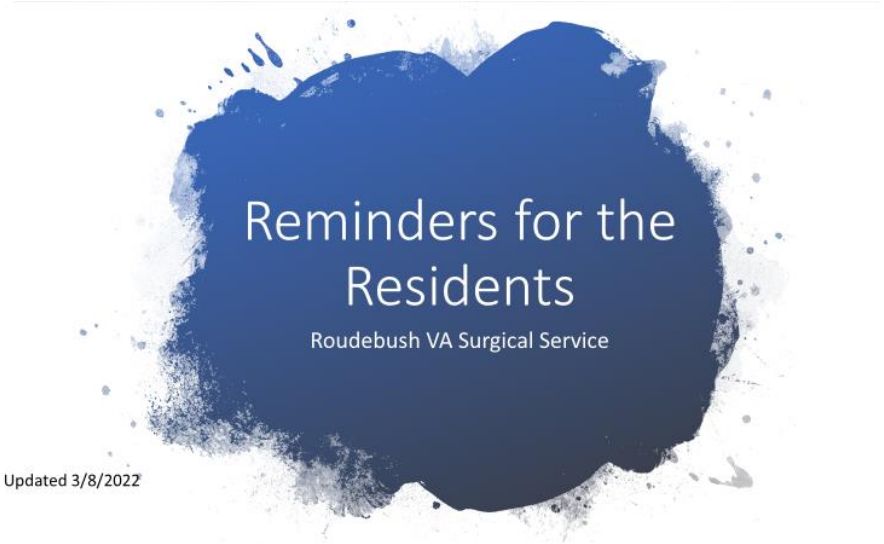
- The 21st century unicorn is the one meeting where everyone is in the same place and the same time
- Be creative
  - Servers
  - SharePoints
  - E-mails
  - Zoom or Teams
  - Social Events
  - Impromptu lectures
- Be organized
  - Canned Talks
  - Resources for teaching
  - Schedule a time for a communication meeting and be consistent

Monthly Chief of Surgery Update

- Review all NSO data every quarter
- Off Months from NSO reports
  - Congratulate successes
  - Talk about projects to improve
    - Morbidity
      - SSI
      - Glucose control
      - Respiratory Failure
    - Mortality
      - Non-surgical deaths
        - MI, PE's, Sepsis
  - Remind people of rule initiatives
    - The bureaucracy will demand
    - Identify the problem being addressed
    - Assuage concerns

Reminders for Residents

- Born out of JSPR complaints
  - Takes the negative and makes it a positive
  - Reduces repeat errors and infractions
  - Sets expectations



Overpacking a Consent

- Many times, it is routine to have another service perform an auxiliary procedure to help you complete your operation more efficiently, safer or with improved results (i.e., less pain, etc.)
  - Ureteral stent placement with lap colorectal cases or open rectal cases
- DO NOT place the auxiliary provider and procedure as an ADD ON the primary surgery.
- YOU MUST CREATE A SECOND CONSENT FOR THE AUXILIARY PROVIDER AND PROCEDURE. Otherwise, you get the pleasure of doing it twice.

3/2/2021 Contributed by J. Waters

Not My Job!

- You WILL get consults that are not part of your job
- RESTRAIN your frustration and annoyance
- RESIST the temptation to just say NO and NOT HELP
- DO LISTEN to the person consulting you and the problem they are asking help to solve.
- You know the system across the surgery world better than they do. Please HELP them solve their problem.
  - By doing so, you help the consult requesting physician become a better doctor and you won't have to answer the same consult questions again and again on your rotation
- Keys to a successful surgeon in any environment: BE AVAILABLE and BE AFFABLE

3/2/2021 Contributed by T. Hayward

Pause for Surgery Criteria

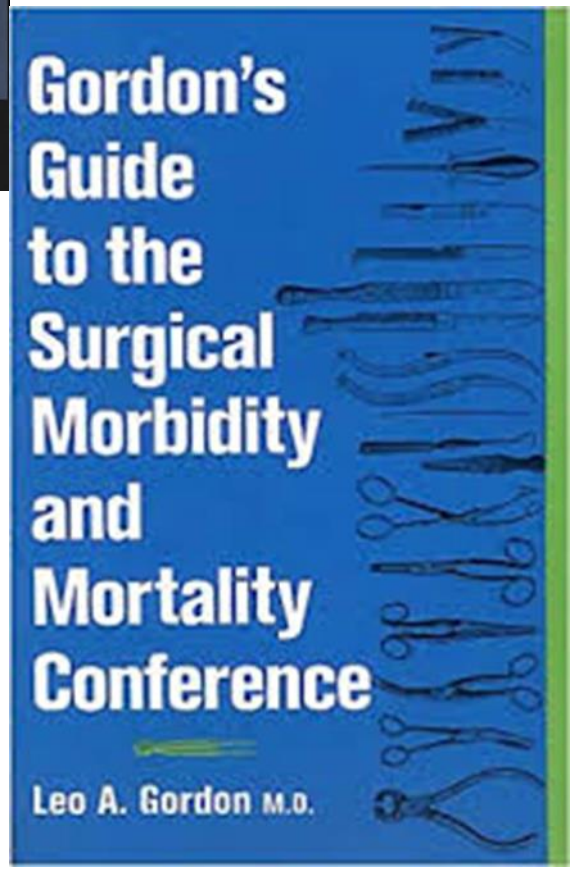
- Refer to the preoperative optimization clinic (medical consult option)
  - RAI ≥37 with or without cancer diagnosis
  - Creatinine ≥ 2.0
  - Home oxygen or <94% on RA
  - Inpatient medical admission for a problem unrelated to surgery and that surgery will not fix in the past year
  - Hemoglobin A 1C ≥ 8%
- Surgery Chief Memos - All Documents (sharepoint.com)

Servers and SharePoints

- Use technology don't be apprehensive about it
- Share
  - Keeping reports locked up is the hallmark sign of a diminisher
  - Leveraging the skills and talents of your team means that they need to have access to the data
    - Data must be kept secure
    - Data must be kept behind the firewall
    - Analysis and Reports are not personal health information
- Allows for time desynchrony
  - If the talks, the transcripts, the recordings and the reports behind the presentation are all accessible then everyone doesn't have to be in one place at one time

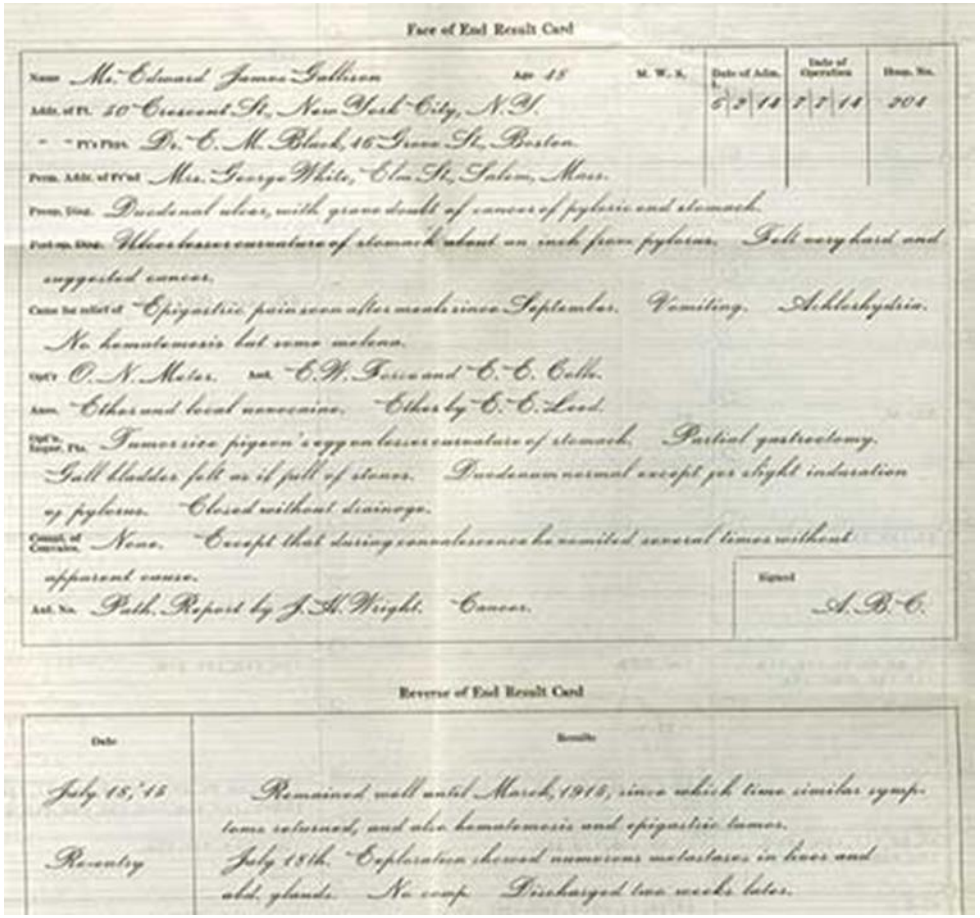
How to build a better M&M Conference Leo Gordon 2007

- M&M had evolved into the old ABC's of Surgical Education: abuse, berate and chastise
- Conference should be the hub of education
- Fulfill the core competencies
- Rigorous criteria of balance between frequency, education value and staff interest
- Record the main error and complication reducing points
- Distribute periodically the summary
- Test your residents and staff on these issues



End Results System - Earnest Codman

- Of the 337 patients discharged between 1911 and 1916, Dr. Codman recorded and published 123 errors
- Symptoms for which the patient seeks relief
- Diagnosis of pathologic conditions which doctor thinks cause the symptoms
- Treatment plan
- Complications
- Diagnosis at discharge
- Results documented every year afterward
- It became evangelical in fervor
  - Facts are not debatable; and facts and then more facts are needed to deal with those difficult problems of unnecessary surgical operations and operations performed by untrained surgeons
  - Became ACS objective in 1916



Face of End Result Card

Name Mr. Edward James Gallison Age 48 M. W. S. Date of Adm. 6/5/11 Date of Operation 7/7/11 Hosp. No. 301

Addr. of Pt. 50 Crescent St, New York City, N.Y.

Pt's Phys. Dr. E. M. Black, 16 Grove St, Boston.

Perm. Addr. of Pt's kin Mrs. George White, 61a St, Salem, Mass.

Prem. Diag. Duodenal ulcer, with grave doubt of cancer of pyloric end stomach.

Path. Diag. Ulcer lesser curvature of stomach about an inch from pylorus. Tell very hard and suggested cancer.

Cause for which rel'f sought Epigastric pain soon after meals since September. Vomiting. Achlorhydria. No hematemesis but some melena.

Op'r'n O. N. Meier. Ass't E. W. Terrell and E. E. Cobb.

Anes. Ether and local anesthesia. Ether by E. E. Lord.

Op'r'n Findgs. Pa. Tumor size pigeon's egg on lesser curvature of stomach. Partial gastrectomy. Gall bladder felt as if full of stones. Duodenum normal except for slight induration of pylorus. Closed without drainage.

Compl. of Convales. None. Except that during convalescence he vomited several times without apparent cause.

Aut. No. Path. Report by J. H. Wright. Cancer.

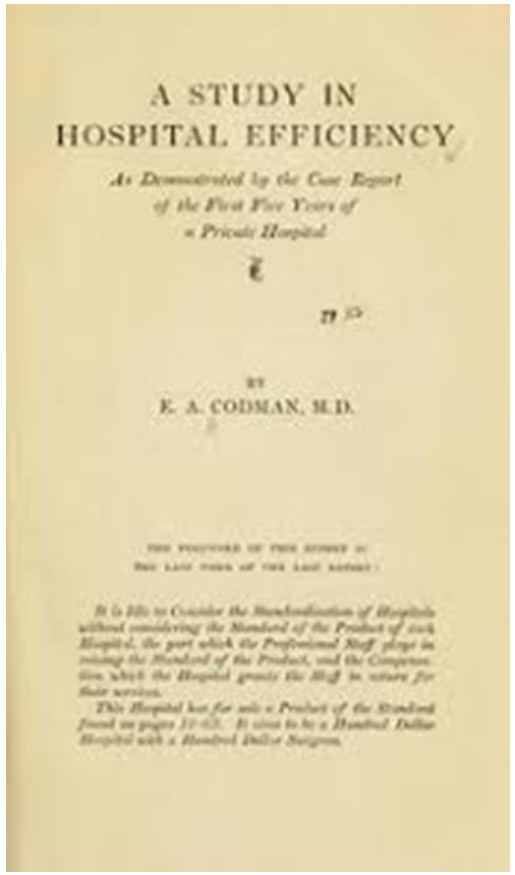
Signed A. B. C.

Reverse of End Result Card

Date	Results
July 15, '11	Remained well until March, 1916, since which time similar symptoms returned, and also hematemesis and epigastric tumor.
Recently	July 15th. Exploration showed numerous metastases in liver and abd. glands. No resp. Discharged two weeks later.

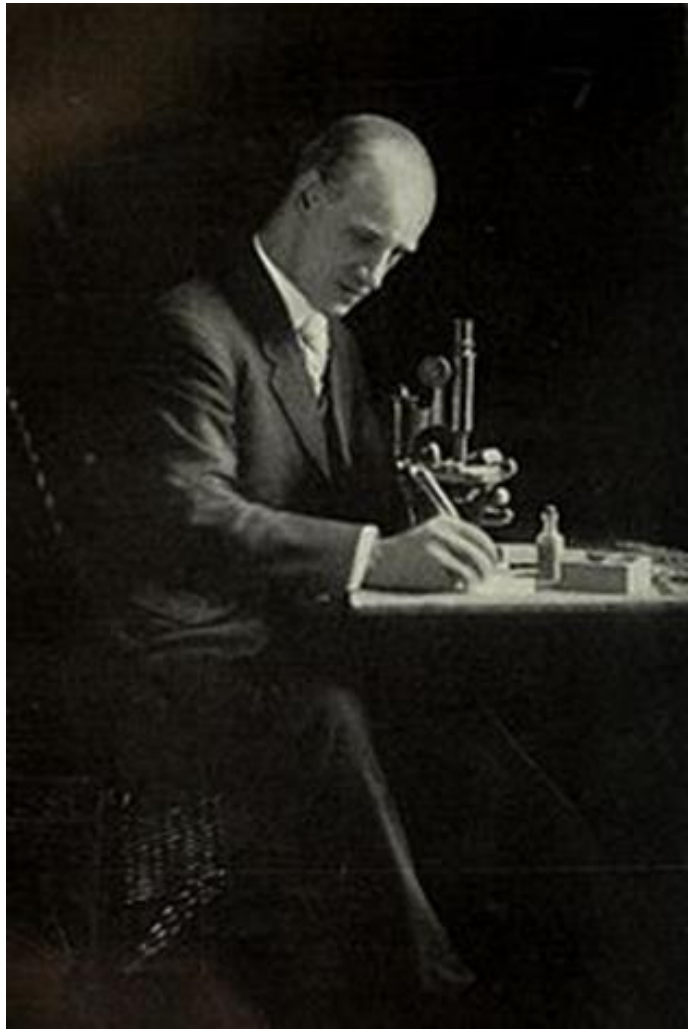
Codman's Book – 1916

- Dedicated to Richard C. Cabot
- "Because I respect his motives, admire his courage and energy, but heartily disapprove of some of his opinions and methods, for he seems to want to reform the bottom of the profession, while I think the blame belongs at the top"


A STUDY IN
HOSPITAL EFFICIENCY
As Demonstrated by the Case Report
of the First Five Years of
a Private Hospital
BY
E. A. CODMAN, M.D.

Richard C. Cabot

- Case Histories 1906, Mistaken Diagnoses 1910
- Identification of Mistakes 1912
- A goodly number of "classic" time-honored mistakes in diagnosis are familiar to all experienced physicians because we make them again and again
- “Some of these we can avoid; others are almost inevitable, but all should be borne in mind and marked on medical maps by a danger-signal of some kind: ”
    - "In this vicinity look out for hidden rocks," or “dangerous turn here, run slow"



Key Points about an Educational M&M at the VA

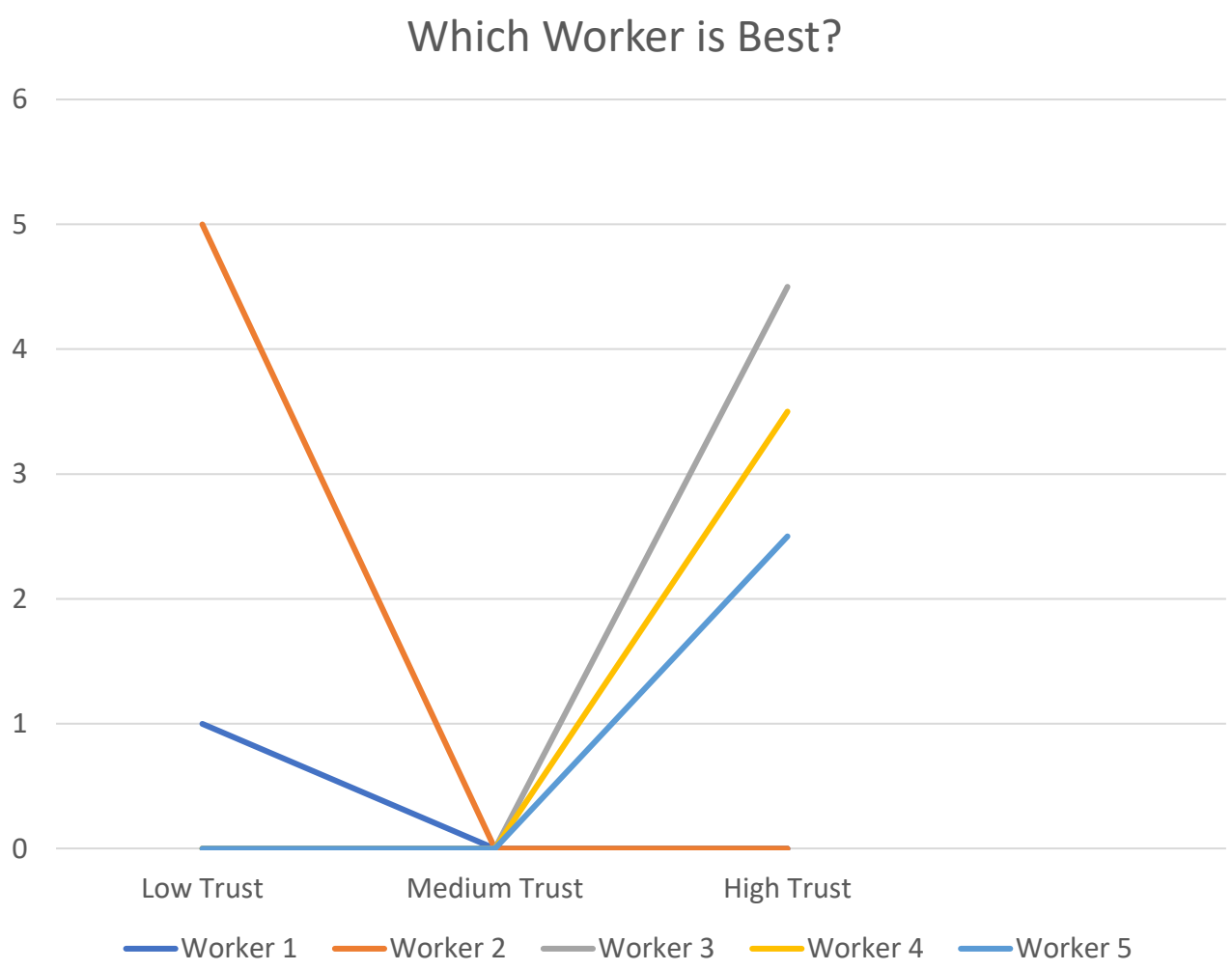
- Learn from your mistakes, and regard them as painful favors that enable you to grow
- In its modern form, the M&M conference embraces all ACGME core competencies and is a critical hour of surgical education.
- Graceful acceptance of criticism provides an effective learning experience and is the cornerstone of safe surgical practice
- Have each section have a one meeting at scheduled interval that is best for each service to review M&M
- Focus should be on constructive improvement
- A delicate balance of the themes of education, quality improvement, and socialization is required

- "Our greatest glory is not in never failing, but in rising up every time we fail"
- Ralph Waldo Emerson

Accountability

- Talk with people directly
- Go over reports together when there is joint responsibility
- When things go off the rails always have a face-to-face conversation
  - E-mails and texts lack non-verbal queues and can be more easily misinterpreted
  - Pull up a chair and Listen
  - People need to know when they are not meeting the standard
  - Set expectations

Performance vs. Trust



Worker 1 –low performance and low trust
= No Go
Worker 2 – High performer and low trust
= Toxic
Workers 3 – High trust with variable levels of performance
= Any of these workers will contribute to the organization and you can be successful

Coordinated Care

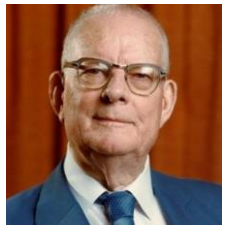
- Deliberately organizing patient care activities and sharing information among all the participants concerned with a patient's care to achieve safer and more effective care

3/2/2021

Contributed by Hayward_____

Final Thoughts

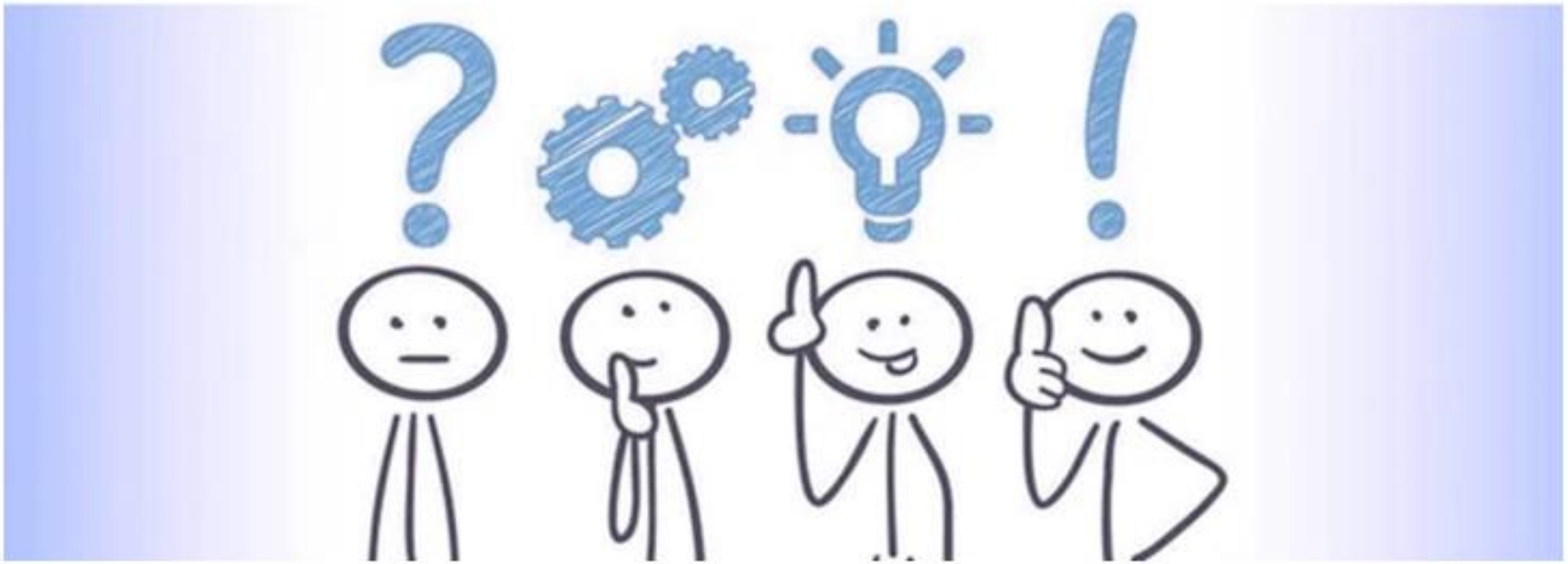
- A bad system will beat a good person every time
  - W. Edwards Deming



- Trust is more important than outcome
  - Build a team not an empire
  - A great team isn't just resilient it is anti-fragile in that it grows stronger because of adversity

- None of us is perfect or omnipotent
  - Be humble
  - Listen
  - Learn from failures

Questions




SURGICAL PAUSE