

# Quality Committee Meeting

February 26, 2024

10:00am - 11:00am Eastern Time



# Agenda

## **Announcements**

- Upcoming Events
- Precision Feedback Trial Updates
- QI Reporting Tool Updates

## **Measure Review**

- New Measure Proposed: CARD-04 - Dr. Vikram Kumar, MGH
- Vote on CARD-02/03 retirement

## **Measure Update**

- Retiring Measures PONV-01/PONV-02/MED-01/GLU-01-GLU-05
- NMB 02

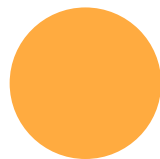
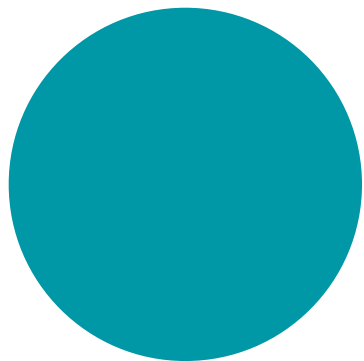
## **New Measures (time permitting)**

- ABX-02-C/ABX-03-C
- NMB 04
- BRAIN 01

# Meeting Minutes

## January 2023

Roll Call – via Zoom or contact  
MPOG



# Announcements





# Check out our Winter Newsletter


[MORE INFO](#)



# Welcome Nebraska Medicine

[MORE INFO](#)

Chair: Dr. Mohanad Shukry  
Quality Champion: Dr. Kyle Ringenberg  
PI: Dr. Troy Wildes  
IT Champion: Emily Glaser

UNMC  Nebraska Medicine

Durham Outpatient Center

UNMC  Nebraska Medicine

DURHAM OUTPATIENT CENTER



## Congratulations to Dr. Sydney Brown and team on Their Publication in Anesthesiology & Analgesia

[READ MORE](#)

ANESTHESIA  
&  
ANALGESIA

PEDIATRIC ANESTHESIOLOGY

### Factors Associated With Decision to Use and Dosing of Sugammadex in Children: A Retrospective Cross-Sectional Observational Study

Brown, Sydney E.S. MD, PhD<sup>1</sup>; Mentz, Graciela PhD<sup>2</sup>; Cassidy, Ruth MS<sup>3</sup>; Wade, Meridith MSN, RN<sup>4</sup>; Liu, Xinyue PhD<sup>5</sup>; Zhong, Wenjun PhD<sup>6</sup>; DiBello, Julia PhD<sup>7</sup>; Nause-Osthoft, Rebecca MD<sup>8</sup>; Kheterpal, Sachin MD, MBA<sup>9</sup>; Colquhoun, Douglas A. MB, ChB, MSc, MPH<sup>10</sup>; the Multicenter Outcomes Group (MPOG) Perioperative Clinical Research Committee







# Featured Member January and February

[MORE INFO](#)



Denise Schwerin, RN  
Bronson Healthcare



# Welcome Our 2024 MPOG Outcomes Research Fellows

[READ MORE](#)



**Dr. Dieter Adelmann**  
University of California  
San Francisco



**Dr. Brian Reon**  
University of Virginia

# 2024 Meetings

**Friday, April 12, 2024**

MSQC/ASPIRE Collaborative Meeting  
Schoolcraft College Vistatech Center  
Livonia, MI

**Friday, July 12, 2024**

ASPIRE Collaborative Meeting  
Henry Executive Center  
Lansing, Michigan

**Friday, September 13, 2024**

ACQR Retreat  
Henry Executive Center  
Lansing, Michigan

**Friday, October 18, 2024**

MPOG Retreat  
Philadelphia, Pennsylvania

[Upcoming Events](#)

# OB Subcommittee

## Meeting Summary (2/7/2024):

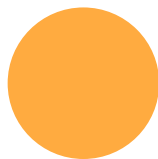
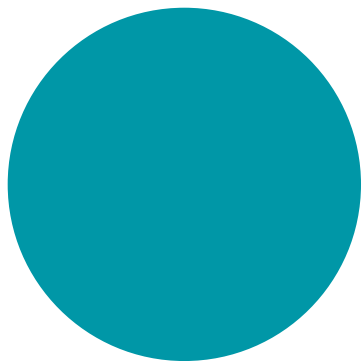
- Discussed recent studies about reducing bleeding after a cesarean delivery.
- Dr. Brendan Carvalho joined the subcommittee to discuss SOAP and the process to apply to become a Center for Excellence (COE).
- Thank you to Drs Melinda Mitchell and Sharon Abramovitz for leading the measure reviews of [GA-01](#) and [GA-02](#). Subcommittee voted to continue this measure as is (no changes).



Next Meeting: Wednesday, May 22, 2024 at 1pm EST

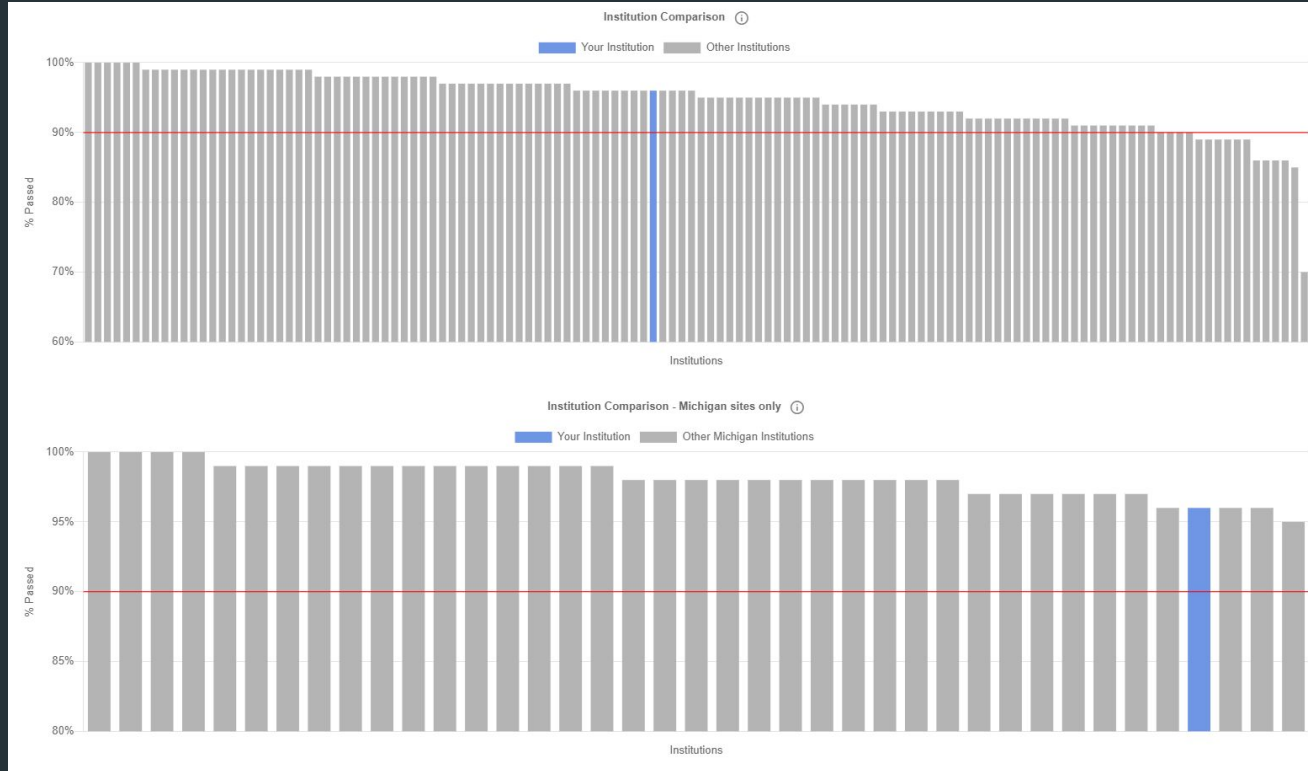
# Precision Feedback Trial Updates

- Plan to launch full study in May, 2024!
- Please opt out (by April 1, 2024) if:
  - Not interested in participating
  - May have a >2 month gap in uploads between May, 2024 and October, 2024
- Please meet your upload deadlines :)



# QI Reporting Tool Update

# Request from sites to add denominator counts to institution comparison graphs (departmental view only). Feedback?





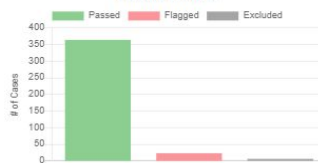
## BP-02: Avoiding Monitoring Gaps [More Info](#)

The percentage of cases that avoid blood pressure monitoring gaps >10 minutes

### Overall Score



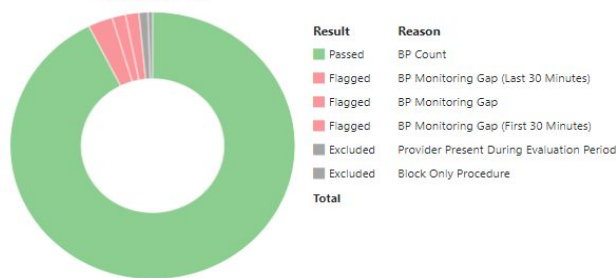
### Result Counts



### Performance Trend



### Result Reasons

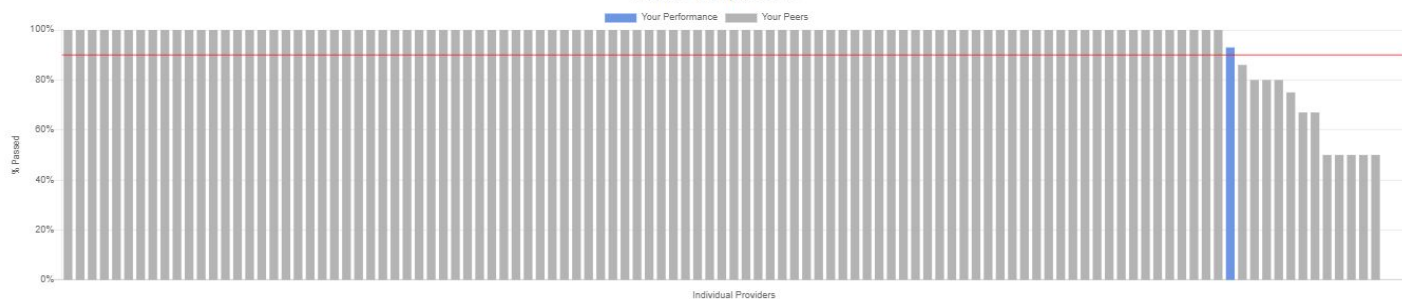


### My Flagged Cases

[View All Cases](#)

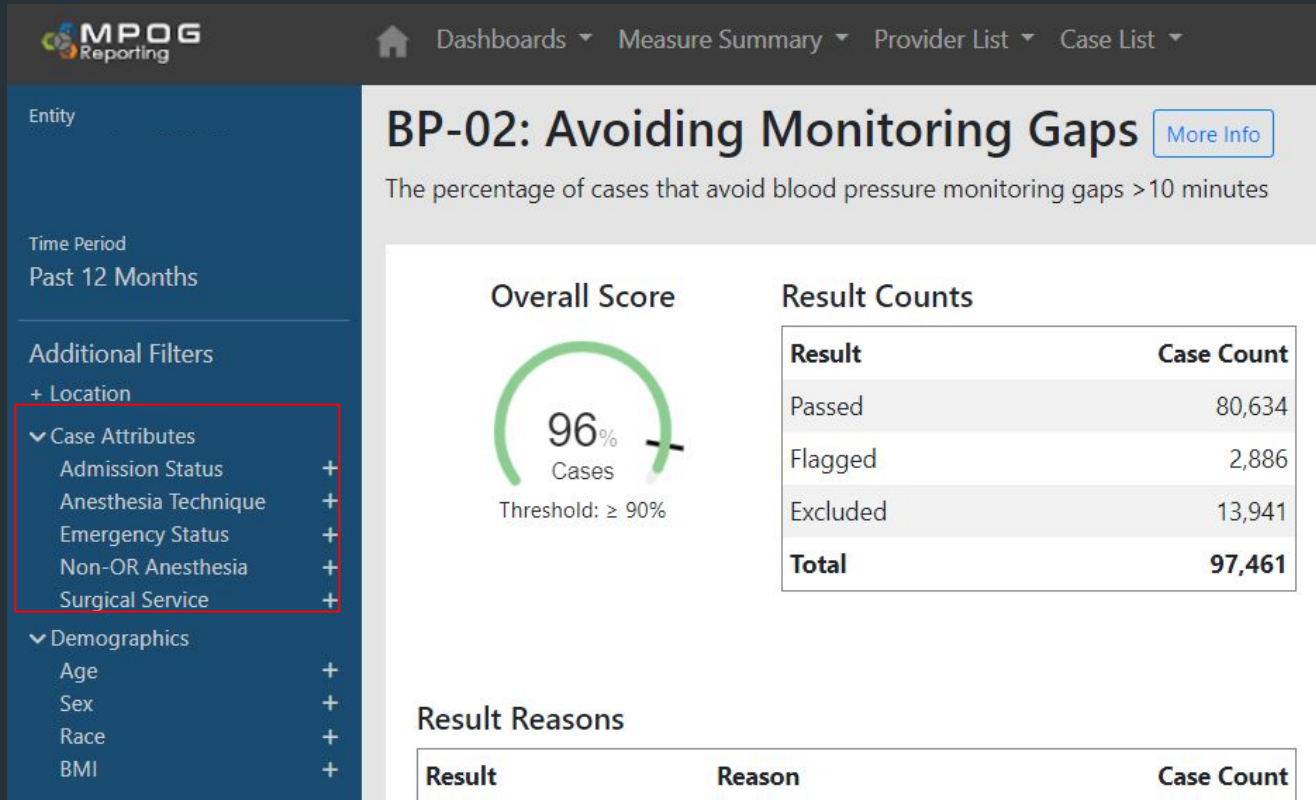
Case Count	View Case	Case Date	Procedure	Result Reason
364	<a href="#">View Case</a>	11/21/2023	(Actual)wide excision right nasal labial fold with sentinel lymph node biopsy (Right); SENTINEL LYMPH NODE BIOPSY (Right)	BP Monitoring Gap (First 30 Minutes): 10:32, 11 minutes
11	<a href="#">View Case</a>	10/31/2023	(Actual)Thoracic laminectomy for paddle-type spinal cord stimulator placement; Placement of Left buttock spinal neurostimulator pulse generator, C-Arm, Neuromonitoring, [PHI] Scientific, (Midline)	BP Monitoring Gap: 14:49, 11 minutes
6	<a href="#">View Case</a>	10/17/2023	(Actual)Temporomandibular Joint LEVEL 2 Arthroscopy with Arthrocare (Right)	BP Monitoring Gap (Last 30 Minutes): 14:55, 24 minutes
6	<a href="#">View Case</a>	8/22/2023	(Actual)TUMOR RESECTION - left scapulectomy (Left)	BP Monitoring Gap: 08:02, 12 minutes
6				
4				
2				
393				

### Provider Comparison



**\*NEW\***  
**Provider  
Summary  
Page**

# \*NEW\* Case Attribute Filters



# **\*NEW\* Case Attribute Filters**

**MPOG Reporting**

Entity

Time Period  
Past 12 Months

Additional Filters

+ Location

▼ Case Attributes

- Admission Status +
- Anesthesia Technique +
- Emergency Status +
- Non-OR Anesthesia +
- Surgical Service +

▼ Demographics

- Age +
- Sex +
- Race +
- BMI +

Admission Status - ☐ 23 Hour Observation

Anesthesia Technique + ☐ Admit

Emergency Status + ☐ Inpatient

Non-OR Anesthesia + ☐ Outpatient

Surgical Service + ☐ Other/Unknown

Anesthesia Technique - ☐ General

Emergency Status + ☐ MAC/Sedation

Non-OR Anesthesia + ☐ Neuraxial

Surgical Service + ☐ Peripheral Block

Emergency Status - ☐ No

Non-OR Anesthesia + ☐ Yes

Surgical Service +

Non-OR Anesthesia - ☐ No

Surgical Service + ☐ Yes

# **\*NEW\*** Multi-select Functionality

**Surgical Service**

> Demographics

- > Anesthesiology
- > Cardiothoracic
- ▼ General
  - ☐ Colorectal
  - ☐ General
  - ☐ Pediatric General Surgery
  - ☐ Pediatric Hematology - Oncology
  - ☐ Surgery- Oncology
  - ☐ Vascular
- > Head and Neck
- > Medical
- > Neuro
- > Not Specified
- > Obstetrics / Gynecology
- > Ophthalmology
- > Orthopedics

Apply

**+ Location**

> Case Attributes

> Demographics

- ▼ ☐ Corewell Health (Health System)
  - ▼ ☐ Corewell Health West (Spectrum Health) (Region)
    - > ☐ Corewell Health Big Rapids Hospital (Hospital)
    - > ☐ Corewell Health Butterworth Hospital (Hospital)
    - > ☐ Corewell Health Greenville Hospital (Hospital)
    - ☐ Corewell Health Reed City Hospital (Hospital)
    - > ☐ Corewell Health Zeeland Hospital (Hospital)
  - ☐ Lake Drive (Freestanding ASC)
  - ☐ South Pavillion (Freestanding ASC)
  - ☐ Spectrum Health Grand Haven Center (Freestanding ASC)

Apply



Measure Review: CARD-04  
Vikram Kumar, MD  
Massachusetts General Hospital

# CARD -04

Measuring the incidence of post- op troponin testing in high risk population



# Background

- CARD-02 & CARD-03
- High sensitivity vs Older Troponin assays
- Troponin T vs Troponin I
- Outcome measure

# CARD 04 ( 2022 ESC Guidelines on cardiovascular assessment before NCS)

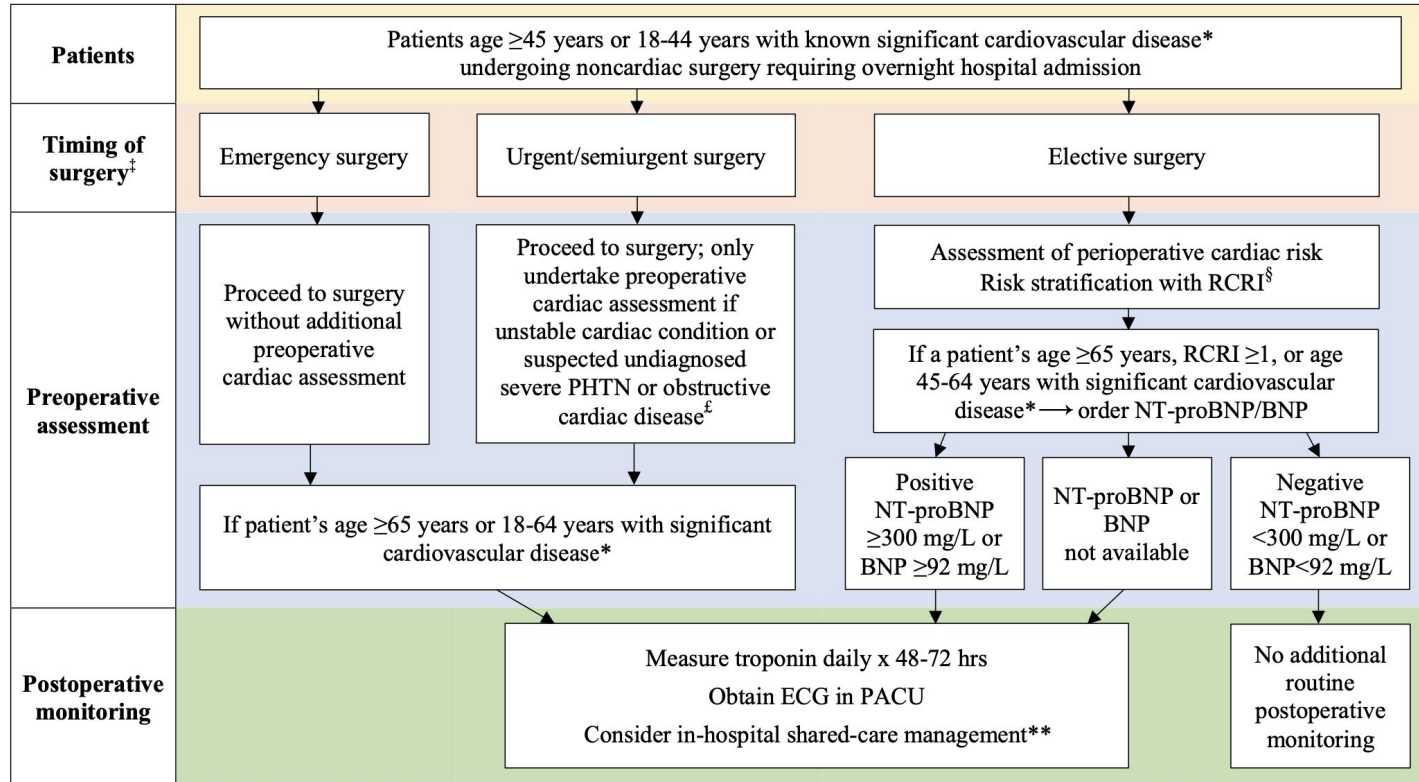
**Table 4B** Revised recommendations

Recommendations in 2014 version	Class	Recommendations in 2022 version	Class
<b>Preoperative assessment tools—<a href="#">Section 4</a></b>			
<b>Electrocardiography and biomarkers</b>			
Pre-operative ECG is recommended for patients who have risk factor(s) and are scheduled for intermediate- or high-risk surgery.	<b>I</b>	In patients who have known CVD or CV risk factors (including age ≥65 years), or symptoms or signs suggestive of CVD it is recommended to obtain a pre-operative 12-lead ECG before intermediate- or high-risk NCS.	<b>I</b>
Assessment of cardiac troponins in high-risk patients, both before and 48–72 h after major surgery, may be considered.	<b>IIb</b>	In patients who have known CVD, CV risk factors (including age ≥65 years), or symptoms suggestive of CVD, it is recommended to measure hs-cTn T or hs-cTn I before intermediate- and high-risk NCS, and at 24 h and 48 h afterwards.	<b>I</b>
NT-proBNP and BNP measurements may be considered for obtaining independent prognostic information for peri- operative and late cardiac events in high-risk patients.	<b>IIb</b>	In patients who have known CVD, CV risk factors (including age ≥65 years), or symptoms suggestive of CVD, it should be considered to measure BNP or NT-proBNP before intermediate- and high-risk NCS.	<b>IIa</b>
Universal pre-operative routine biomarker sampling for risk stratification and to prevent cardiac events is not recommended.	<b>III</b>	In low-risk patients undergoing low- and intermediate-risk NCS, it is not recommended to routinely obtain pre-operative ECG, hs-cTn T/I, or BNP/NT-proBNP concentrations.	<b>III</b>

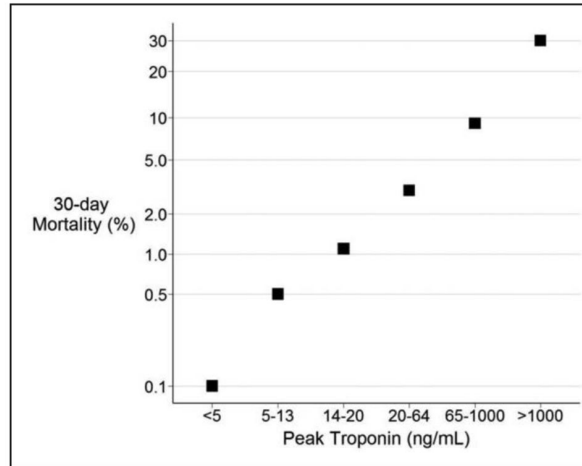
# CARD 04 ( AHA scientific statement on management of patients with myocardial injury after non cardiac surgery Ruetzler et al 2021 )

Given that the vast majority of prognostically important MINS will go undetected without cTn monitoring, we encourage serial cTn measurements during the first 2 to 3 days after noncardiac inpatient surgery in selected at-risk patients. For patients at high risk for cardiovascular events, it is also reasonable to obtain a preoperative baseline cTn measurement. According to a Canadian cost-consequence analysis of the VISION study, costs associated with a TnT monitoring program to detect MINS in at-risk patients, defined by age  $\geq 65$  years or with a history of atherosclerotic disease, were modest.<sup>96</sup> Cost implications for the US health system have yet to be defined. Furthermore, the benefit of establishing a diagnosis of MINS may be greatest among individuals in whom a diagnosis of MINS would lead to initiation of therapy that might otherwise be withheld. Currently, many patients with vascular disease or MINS do not receive medicines for secondary prevention.<sup>10,97</sup>

# CARD 04 ( Canadian guidelines)



# CARD 04 ( Evidence)



**Figure 4. Thirty-day mortality as a function of postoperative peak high-sensitivity troponin T.**

Mortality increases markedly from 0.1% at a troponin T concentration <5 ng/L to 30% mortality when troponin T exceeds 1000 ng/L.

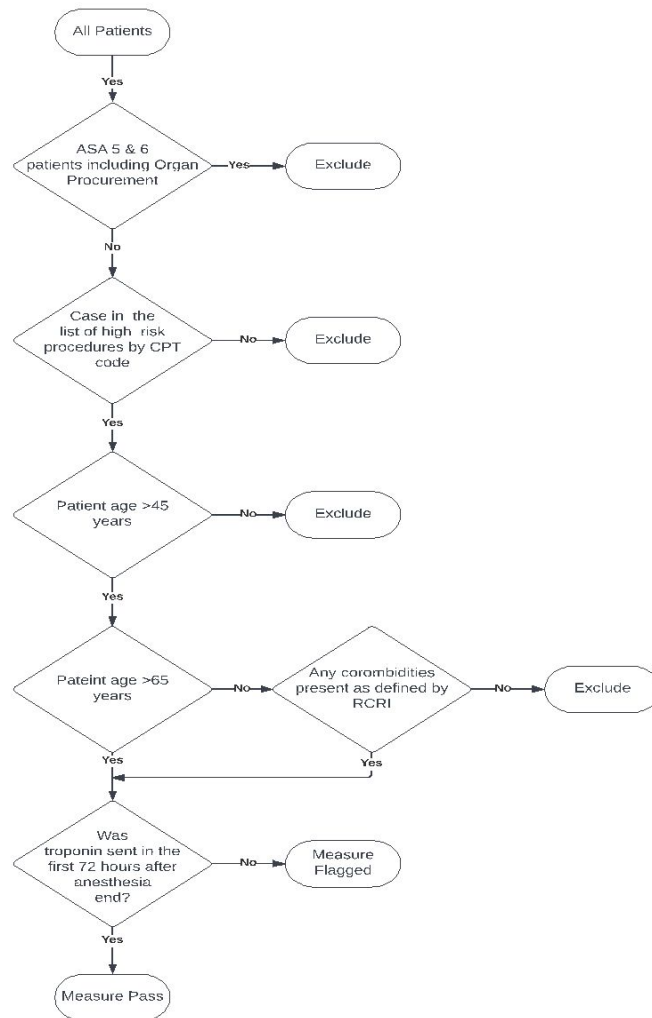
Adapted from the VISION study (Vascular Events In Noncardiac Surgery Patients Cohort Evaluation) investigators<sup>9</sup> with permission.

Copyright © 2012 American Medical Association.

# Specific issues

- Patient population
- Specific surgery types
- Pre-op vs intra-op only





# Why

- Build knowledge around how to manage these patients
- Change practice patterns
- Improve medication adherence according to guidelines

# CARD 04 ( Evidence)

## Association Between Hospital Postoperative Troponin Use and Patient Outcomes After Vascular Surgery

Paymon M. Azizi, MSc,\*† Duminda N. Wijeyesundera, MD, PhD,\*†‡ Harindra C. Wijeyesundera, MD, PhD,\*†§  
Peter C. Austin, PhD,\*† Angela Jerath, MD, MSc,\*†‡ Ahmed Kayssi, MD, MSc, MPH,\*† and  
Dennis T. Ko, MD, MSc\*†§

**BACKGROUND:** Acute myocardial injury after noncardiac surgery, which is most often symptomatically silent, is associated with increased mortality and morbidity. However, it is not known if routine postoperative troponin testing will affect patient outcomes.

**METHODS:** We assembled a cohort of patients who underwent carotid endarterectomy or abdominal aortic aneurysm repair in Ontario, Canada, from 2010 to 2017. Hospitals were categorized into high, medium, and low troponin testing intensity based on the proportion of patients who received postoperative troponin testing. Cox proportional hazards modeling was used to assess the association between hospital-specific testing intensity and 30-day and 1-year major adverse cardiovascular events (MACEs) while adjusting for patient-, surgery-, and hospital-level factors.

**RESULTS:** The cohort consisted of 18,467 patients from 17 hospitals. Mean age was 72 years, and 74.0% were men. Rates of postoperative troponin testing were 77.5%, 35.8%, and 21.6% in the high-, medium-, and low-testing intensity hospitals, respectively. At 30 days, 5.3%, 5.3%, and 6.5% of patients in high-, medium-, and low-testing intensity hospitals experienced MACE, respectively. Higher troponin testing rate was associated with lower adjusted hazard ratios (HRs) for MACE at 30 days (0.94; 95% confidence interval [CI], 0.89–0.98) and at 1 year (0.97; 95% CI, 0.94–0.99) for each 10% increase in hospital troponin rate. Hospitals with high-testing intensity had higher rates of postoperative cardiology referrals, cardiovascular testing, and rates of new cardiovascular prescriptions.

**CONCLUSIONS:** Patients undergoing vascular surgery at hospitals with higher postoperative troponin testing intensity experienced fewer adverse outcomes than patients who had surgery at hospitals with lower testing intensity. (Anesth Analg 2023;137:629–37)

### KEY POINTS

- **Question:** Is increased postoperative troponin surveillance after vascular surgery associated with better patient outcomes?
- **Findings:** Patients who had vascular surgery at high-intensity troponin testing hospitals had fewer major adverse cardiovascular events (MACEs) after surgery.
- **Meaning:** Increased postoperative troponin testing practices may be associated with reduced adverse, possibly mediated through increased physician referrals and medication changes.

Thank you !

# CARD-04: Troponin Testing in High-Risk Cases

CARD-04: Percentage of patients with cardiac risk where troponin levels were checked postoperatively.

*Informational only - No threshold*

- Measure Time Period: Anesthesia End to 72 hours after Anesthesia End
- Exclusions:
  - ASA 5 & 6 including Organ Procurement
  - Cardiac cases as determined by the Procedure Type: Cardiac (value codes > 0)
  - Outpatient cases
- Success: In cases that meet the inclusion criteria if a Troponin I (or Troponin T) value is found within 72 hours after Anesthesia End the case will be considered a success.
  - If no Troponin I (or Troponin T) values are available within 72 hours after anesthesia end, the case will be flagged.

## **CARD-04: Troponin Testing in High Risk Cases**

## **CARD-02: Troponin Elevation**

## **CARD-03: Troponin Elevation, High Risk Cases**

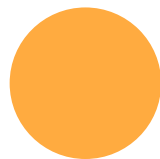
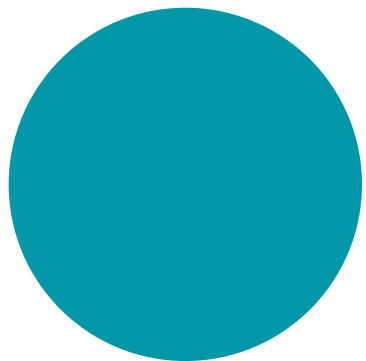
1 vote/ site

Continue as is/ modify/ retire

Need > 50% to retire measure

Coordinating center will review all votes after meeting to ensure  
no duplication





Measure Updates



# Retiring Measures

- [PONV-01](#): PONV Prophylaxis: Adults (Old)
- [PONV-02](#): PONV Prophylaxis (Old): Pediatrics
- [MED-01](#): Avoiding Medication Overdose (Naloxone or Flumazenil for reversal)
  - Replaced with [PAIN-03](#): Opioid Reversal with Naloxone



# Retiring Measures

- [GLU-01](#): Hyperglycemia Management, Intraop (> 200 mg/dL)
  - Replaced with [GLU-09](#): Hyperglycemia Management, Intraop (> 180 mg/dL)
- [GLU-02](#): Hypoglycemia Management, Intraop (< 60 mg/dL)
  - Replaced with [GLU-12](#): Hypoglycemia Management, Intraop (< 70 mg/dL)
- [GLU-03](#): Hyperglycemia Management, Periop (> 200 mg/dL)
  - Replaced with [GLU-10](#): Hyperglycemia Management, Periop (> 180 mg/dL)
- [GLU-04](#): Hypoglycemia Management, Periop (< 60 mg/dL)
  - Replaced with [GLU-13](#): Hypoglycemia Management, Periop (< 70 mg/dL)
- [GLU-05](#): Hyperglycemia Treatment, Periop (> 200 mg/dL)
  - Replaced with [GLU-11](#): Hyperglycemia Treatment, Periop (> 180 mg/dL)

## NMB-02: Appropriate Reversal

The measure was last reviewed by the Quality Committee in 2021 and the following changes were recommended:

1. Remove cardiac exclusion
2. Remove defasciculating dose exclusion
3. Remove the following success criteria: 3 hours between last dose of NMB and extubation does not require reversal for adults (2 hours for pediatric patients)

Examples of cases that may have previously passed but are now flagged include:

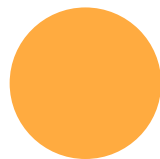
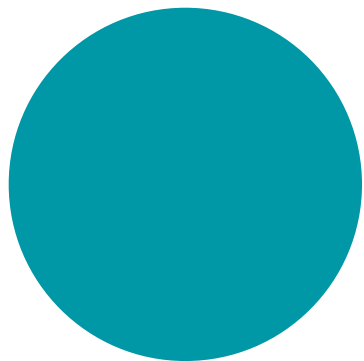
1. Cases where defasciculating doses were administered, but no reversal administered.
2. Long spine cases where TOF ratio was measured only by neuromonitoring team and not documented in the anesthesia record.

Score changes ranged from -7% to +1%. As you review cases, please contact the CC with feedback.

# NMB-02 Performance



January - December 2023  
Performance Range: 76-100%



New Measures

# ABX-02-C: Antibiotic Timing, Open Cardiac

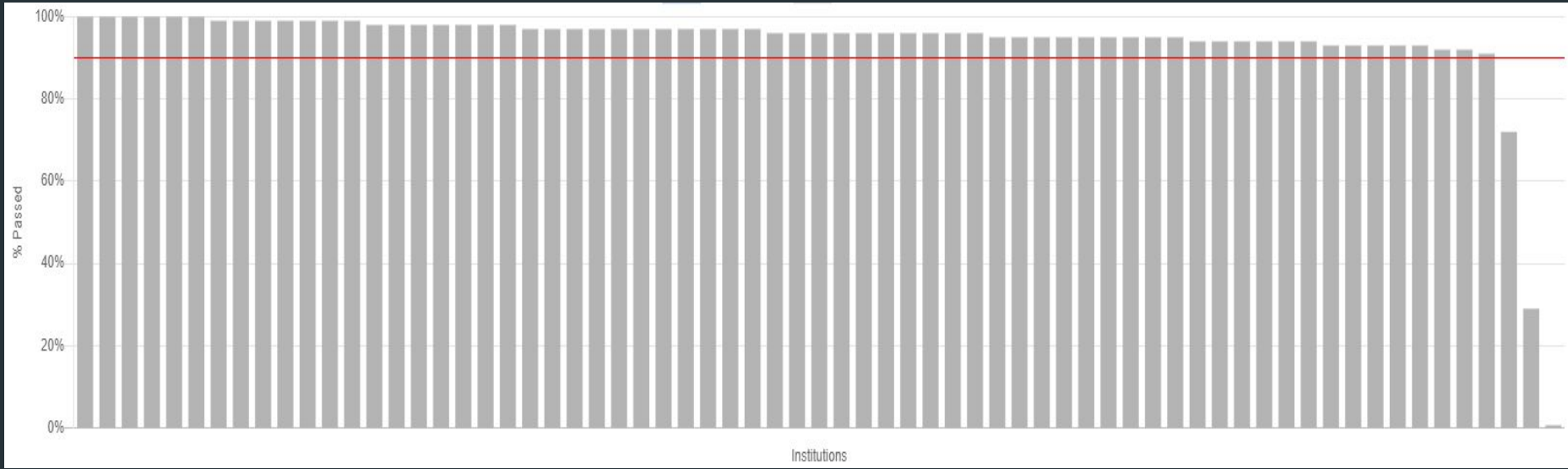
[ABX-02-C](#): Percentage of adult patients undergoing open cardiac surgery with antibiotic administration initiated within the appropriate time frame before surgical incision.

- Measure Time Period: 120 minutes prior to [Surgery Start Time](#) through [Surgery Start Time](#)
- Exclusions:
  - Age < 18 years
  - ASA 6 including Organ Procurement (CPT: 01990)
  - Lung Transplants
  - Procedure Type: Cardiac (value codes 0, 2, 3, and 4)
  - Patients already on scheduled antibiotics or had a documented infection prior to surgery as specified by the ABX Notes Phenotype
- Success: Documentation of antibiotics administered before Surgery Start Time ('Other Measure Details' has time expectations based on antibiotic selection).

# ABX-02-C Acceptable Antibiotics and Associated Timing:

Antibiotic	MPOG Concept ID	Appropriate Start Time
Azithromycin	10048	Within 90 minutes before incision
Cefamandole	10106	Within 60 minutes before incision
Cefazolin	10107	Within 60 minutes before incision
Cefepime	10108	Within 60 minutes before incision
Cefotaxime	10109	Within 60 minutes before incision
Cefotetan	10110	Within 60 minutes before incision
Cefoxitin	10111	Within 60 minutes before incision
Ceftazidime	10112	Within 60 minutes before incision
Ceftizoxime	10113	Within 60 minutes before incision
Ceftriaxone	10114	Within 60 minutes before incision
Cefuroxime	10115	Within 60 minutes before incision
Ciprofloxacin	10126	Within 90 minutes before incision
Daptomycin	10144	Within 120 minutes before incision
Gentamicin	10202	Within 90 minutes before incision
Levofloxacin	10245	Within 90 minutes before incision
Vancomycin	10444	Within 120 minutes before incision

# ABX-02-C Performance across MPOG



# ABX-03-C: Antibiotic Redosing, Open Cardiac

ABX-03-C: Percentage of adult patients undergoing an open cardiac surgery with antibiotic redose initiated within four hours after initial antibiotic administration (Cephalosporins only).

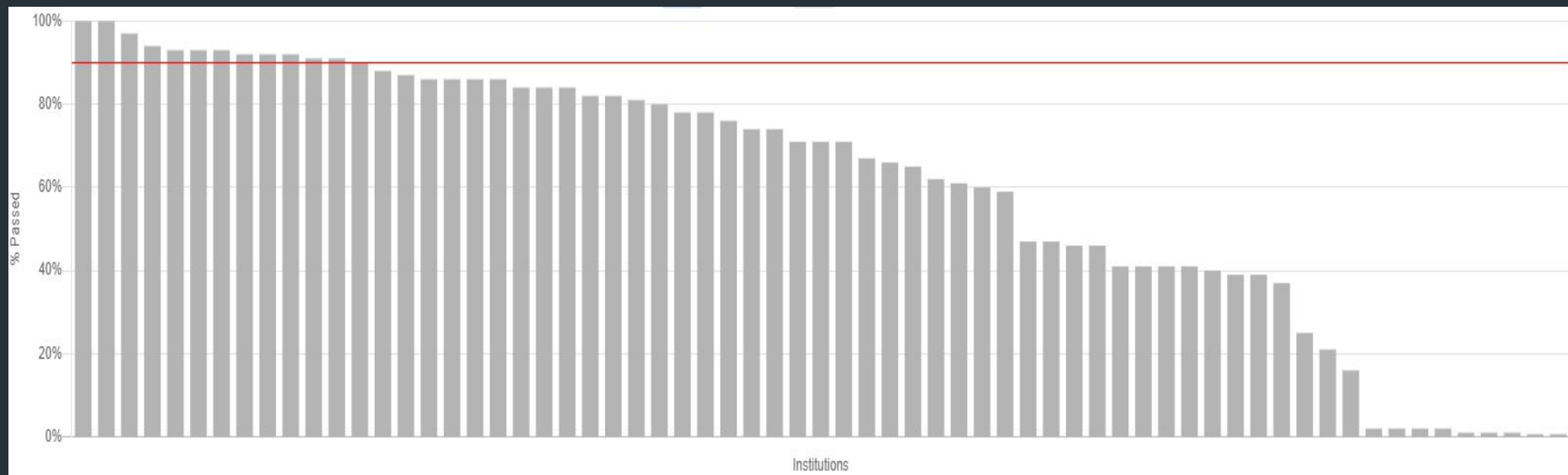
- Exclusions:
  - Age < 18 years
  - ASA 6 including Organ Procurement (CPT: 01990)
  - Cases where surgery end time occurs before redose is due
  - Cases without administration of a cephalosporin for antibiotic prophylaxis
  - Lung transplant
  - Procedure Type: Cardiac (value codes 0, 2, 3, and 4)
  - Patients already on scheduled antibiotics or had a documented infection prior to surgery as specified by the ABX Notes Phenotype
- Success:
  - Documentation of a cephalosporin redose within 180-255 minutes after each cephalosporin administration.
  - For longer cases, a second redose within 180-255 minutes after initial redose is required, unless the last cephalosporin dose is  $\leq$  255 minutes before Surgery End. If Surgery End not available, Anesthesia End.



# ABX-03-C: Cephalosporin Concepts

Antibiotic	MPOG Concept ID
Cefamandole	10106
Cefazolin	10107
Cefepime	10108
Cefotaxime	10109
Cefotetan	10110
Cefoxitin	10111
Ceftazidime	10112
Ceftizoxime	10113
Ceftriaxone	10114
Cefuroxime	10115

# ABX-03-C Performance



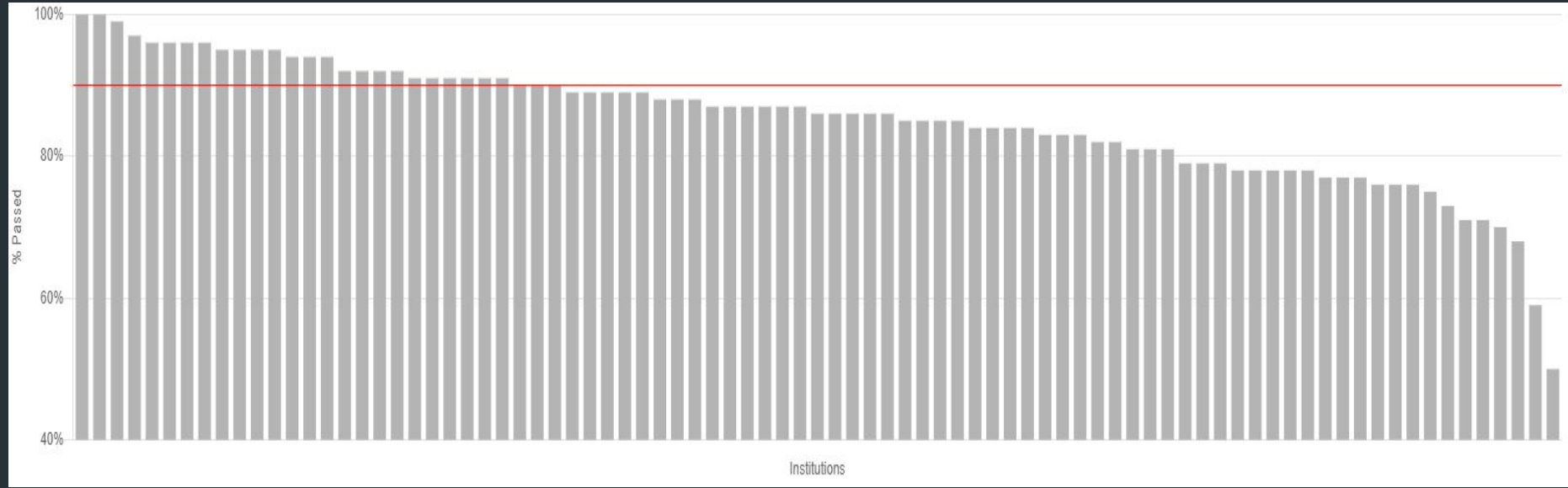
January 2023 - December 2023  
Performance Range: 0 - 100%

# NMB-04: Sugammadex Dosing

NMB-04: Percentage of adult and pediatric (> 3 years) cases with sugammadex administration where cumulative sugammadex dose is  $\leq 200$  mg OR  $\leq 3$  mg/kg

- Measure Time Period: Anesthesia Start to Earliest Extubation
- Exclusions:
  - Age  $\leq 2$  years
  - ASA 5 & 6
  - Cases < 30 minutes
  - Patients that were not extubated in the immediate postoperative period
- Success: Cases where cumulative sugammadex dose was  $\leq 200$  mg OR  $\leq 3$  mg/kg

# NMB-04 Performance



January 2023 - December 2023  
Performance Range: 50-100%

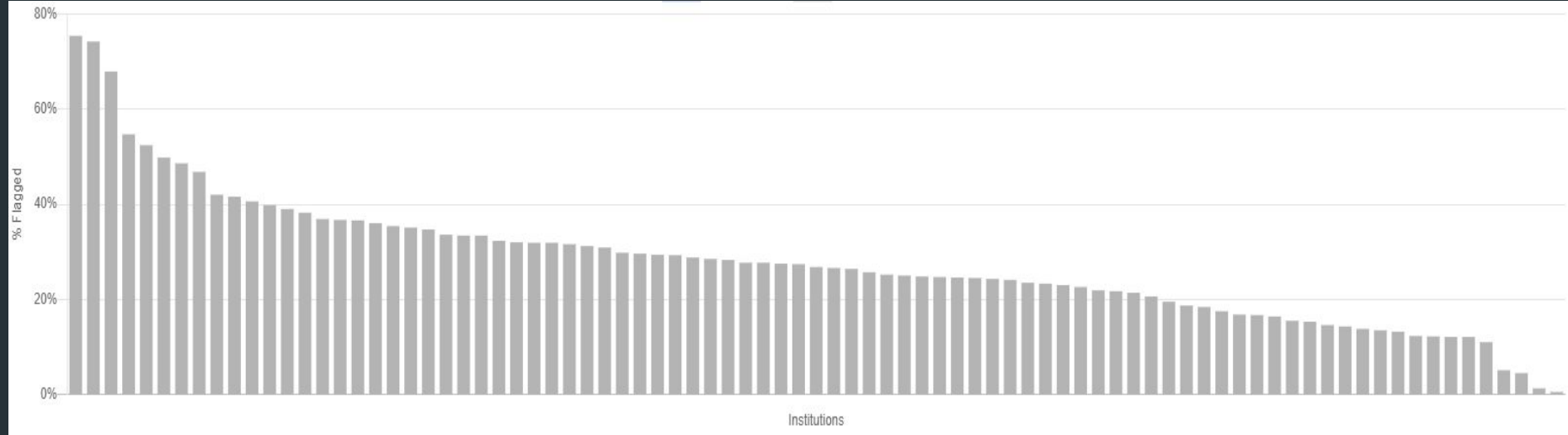
# BRAIN-01 Released!

BRAIN-01: Percentage of patients  $\geq 70$  years old who received a benzodiazepine perioperatively.

*Informational only - No threshold*

- Measure Time Period: Pre-op Start - PACU End
- Exclusions:
  - Age < 70 years
  - ASA 5 & 6
  - Floor/ICU emergent intubation only cases
  - ICU transfer postoperatively
- Success: Avoiding administration of benzodiazepines for patients  $\geq 70$  years old

# BRAIN-01 Performance (Inverse)



January 2023 - December 2023  
Performance Range: 0.1-75.4%



**Thank You!**

# CARD-02 Performance (Inverse)



January 2023 - December 2023  
Performance Range: 0 - 2.3%



# CARD-03 Performance (Inverse)



January 2023 - December 2023  
Performance Range: 0 - ~5%