Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Quality Committee Meeting Notes – Monday, February 26, 2024

Attendance:

Abess, Alex (Dartmouth)	LaGorio, John (Trinity Muskegon)
Addo, Henrietta (MPOG)	Lalonde, Heather (Trinity Health)
Agerson, Ashley (Spectrum)	Liu, Linda (UCSF)
Armstrong-Browder, Lavonda (Henry Ford)	Lewandowski, Kristyn (Corewell)
Barrios, Nicole (MPOG)	Lopacki, Kayla (Mercy Health - Muskegon)
Bauza, Diego (Weill Cornell)	Lozon, Tim (Henry Ford - Wyandotte)
Benitez, Julio (MyMichigan)	Mathis, Mike (MPOG)
Berndt, Brad (Bronson)	Mack, Patricia (Weill Cornell)
Boctor, Baher (Corewell)	Malenfant, Tiffany (MPOG)
Bollini, Mara (WUSTL)	McEwan, Dana (Trinity Ann Arbor)
Bow, Peter (Michigan)	McKinney, Mary (Corewell Dearborn / Taylor)
Bowman-Young, Cathlin (ASA)	Mentz, Graciela (MPOG)
Brennan, Alison (Maryland)	Milliken, Christopher (Sparrow)
Buehler, Kate (MPOG)	O'Conor, Katie (Johns Hopkins)
Cassidy, Ruth (MPOG)	O'Dell, Diana (MPOG)
Charette, Kristin (Dartmouth)	Owens, Wendy (MyMichigan - Midland)
Chiao, Sunny (Virginia)	Pace, Nathan (Utah)
Chopra, Ketan (Henry Ford - Detroit)	Pantis, Rebecca (MPOG)
Clark, David (MPOG)	Pardo, Nichole (Corewell)
Cohen, Bryan (Henry Ford - West Bloomfield)	Parks, Dale (UAB)
Coleman, Rob (MPOG)	Paul, Jonathan (Columbia)
Corpus, Charity (Corewell Royal Oak)	Penningon, Bethany (WUSTL)
Cuff, Germaine (NYU)	Perkaj, Megan (Corewell)
Denchev, Krassimir (St Joseph Oakland)	Poindexter, Amy (Holland)
Dewhirst, Bill (Dartmouth)	Rozek, Sandy (MPOG)
Doney, Allison (MGH)	Ruiz, Joseph (MD Anderson)

Drennan, Emily (Utah)	Saffary, Roya (Stanford)
Edelman, Tony (MPOG)	Schwerin, Denise (Bronson)
Elkhateb, Rania (UAMS)	Scranton, Kathy (Trinity Health St. Mary's)
Esmail, Tariq (Toronto)	Shah, Nirav (MPOG)
Everett, Lucy (MGH)	Smiatacz, Frances Guida (MPOG)
Finch, Kim (Henry Ford Detroit)	Spanakis, Spiro (UMass)
Gibbons, Miranda (Maryland)	Tao, Jing (MSKCC)
Goatley, Jackie (Michigan)	Tallarico, Roberta (UCSF)
Goldblatt, Josh (Henry Ford Allegiance)	Togioka, Brandon (OHSU)
Hall, Meredith (Bronson Battle Creek)	Tyler, Pam (Corewell Farmington Hills)
Harwood, Tim (Wake Forest)	Vaughn, Shelley (MPOG)
Heiter, Jerri (St. Joseph A2)	Vitale, Katherine (Trinity Health)
Henson, Patrick (Vanderbilt)	Wade, Meredith (MPOG)
Janda, Allison (MPOG)	Vorenkamp, Kevin (Duke)
Jewell, Elizabeth (MPOG)	Wedeven, Chris (Holland)
Johnson, Rebecca (Spectrum & UMHS West)	Weinberg, Aaron (Weill Cornell)
Joseph, Tom (U Penn)	Wildes, Troy (Nebraska)
Kaper, Jon (Corewell Trenton)	Wissler, Richard (University of Rochester)
Karamchandani, Kunal (UT Southwestern)	Yuan, Yuan (MPOG)
Khan, Meraj (Henry Ford)	Zhao, Xinyi (Sarah) (MPOG)
Krauss, Kristin (Temple)	Zhu, Shu (Columbia)
Kumar, Vikram (MGH)	Zittleman, Andrew (MPOG)
Lacca, Tory (MPOG)	

Agenda & Notes

Meeting Start:

1) **Agenda**

2) **Roll Call**: Via Zoom or contact Coordinating Center (support@mpog.zendesk.com) if you were present but not listed on Zoom.

3) **Minutes from January 22, 2024**

4) **Announcements**
   a) Winter Newsletter
   b) Welcome Nebraska Medicine!
      1) Chair: Dr. Mohanad Shukry
      2) Quality Champion: Dr. Kyle Ringenberg
      3) PI: Dr. Troy Wildes
      4) IT Champion: Emily Glaser
   c) Featured Member January and February
      1) Denise Schwerin, RN – Bronson Healthcare
   d) Welcome Our 2024 MPOG Outcomes Research Fellows:
      1) Dr. Dieter Adelmann – University of California San Franciso
      2) Dr. Brian Reon – University of Virginia

5) **2024 Meetings**
   a) Friday, April 12, 2024: MSQC/ASPIRE Collaborative Meeting, Schoolcraft College Vistatech Center, Livonia, MI
   b) Friday, July 12, 2024: ASPIRE Collaborative Meeting, Henry Executive Center, Lansing, MI
   c) Friday, September 13, 2024: ACQR Retreat, Henry Executive Center, Lansing, MI
   d) Friday, October 18, 2024: MPOG Retreat, Philadelphia, Pennsylvania
   e) **Upcoming Events**

6) **OB Subcommittee**
   a) Meeting Summary
      1) Discussed recent studies about reducing bleeding after cesarean delivery
      2) Dr. Brendan Carvalho joined the subcommittee to discuss SOAP and the process to apply to become a Center of Excellence (COE)
      3) 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)
   b) Next meeting: Wednesday, May 22nd, 2024, at 1pm EST

7) **Precision Feedback Trial Updates**
   a) Plan to launch full study May 2024!
      1) All sites will be randomized – 50% to receive precision-feedback emails and 50% will receive the standard provider feedback emails.
      2) Email to be sent to sites in the next month to outline the specifics and allow sites the option to opt out.
      3) Thank you to MyMichigan and Holland for your participation in the pilot phase of the study.
      4) NIH funded and PCRC approved study.
   b) Please opt out by April 1st, 2024, if:
      1) Not interested in participating
      2) May have a > 2-month gap in uploads between May 2024 and October 2024

c) Please meet your upload deadlines if interested in participating. If you anticipate a 2-month or more gap in uploads, please opt out from participation. Thank you!

8) QI Reporting Tool Update

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

1) Discussion

(i) *Lucy Everett (Massachusetts General)*: Would another option be to allow filtering by hospital size?

(ii) *Nirav Shah (MPOG Quality Director):* Filter by hospital size and hospital bed?

(iii) *Lucy Everett (Massachusetts General)*:: is it easier to get the information you want at a glance?

(iv) *Julio Benitez (MyMichigan Health via chat)* - Ok with it- MyMichigan

(v) *Josh Goldblatt (Henry Ford Health via chat)* - What might that look like? Are you thinking of color coding the grey bars into categories?

(vi) *Nirav Shah (MPOG Quality Director):* – as the number of sites increase, we will need to figure out a way to do it so it doesn't clutter

(vii) *Kristen Krauss (Temple University via chat)*: hospital size doesn't always correlate with case volumes (denominators)

(viii) *Nirav Shah (MPOG Quality Director)*: Denominator – segmented and scalable across measures. Doesn't take into account of low or high denominator site

(ix) *Kunal Karamchandani (UT Southwestern via chat)* It's a percentage being reported, so takes into account the denominator. Would it make sense to divide institutions into quartiles?

(x) *Xan Abess* (*Dartmouth* via chat): no strong feelings either way; agree that case number can be very different than bed number for specific measures.

b) *NEW* Provider Summary Page

c) *NEW* Case Attribute Filters

d) *NEW* Multi-select Functionality

Measure Review:

9) CARD-04: Measuring the incidence of post-op troponin testing in high-risk population

a) Background

1) CARD-02 & CARD-03: Different troponin assays have been developed in recent years: troponin I vs. troponin T, high-sensitivity or not, units of measurement – too much variation across sites in test used to create a standard outcome measure with an assigned threshold.

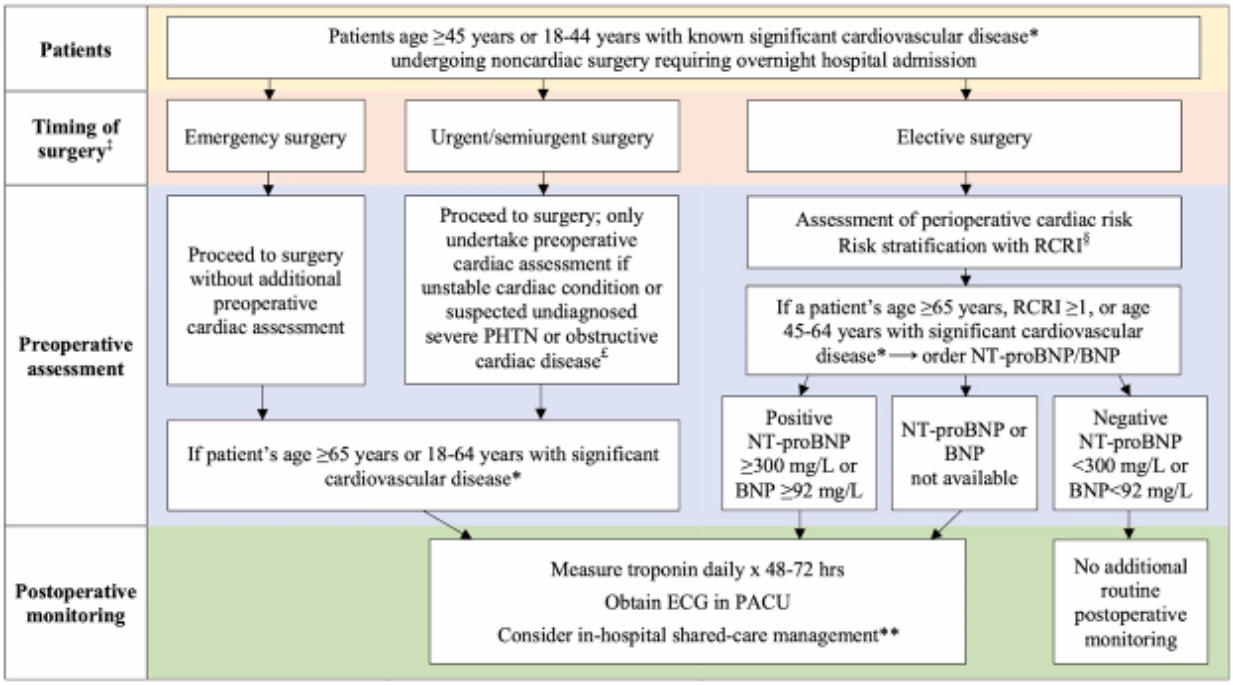
b) 2022 ESC (European Society of Cardiology) Guidelines on cardiovascular assessment before NCS (see slides for recommendation table)

Table 4B **Revised recommendations**

Recommendations in 2014 version	Class	Recommendations in 2022 version	Class
Preoperative assessment tools—*Section 4*			
Electrocardiography and biomarkers			
Pre-operative ECG is recommended for patients who have risk factor(s) and are scheduled for intermediate- or high-risk surgery.	I	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.	I
Assessment of cardiac troponins in high-risk patients, both before and 48–72 h after major surgery, may be considered.	IIb	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.	I
NT-proBNP and BNP measurements may be considered for obtaining independent prognostic information for peri- operative and late cardiac events in high-risk patients.	IIb	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.	IIa
Universal pre-operative routine biomarker sampling for risk stratification and to prevent cardiac events is not recommended.	III	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.	III

c) [AHA scientific statement] on management of patients with myocardial injury after non-cardiac surgery Ruetzler et al 2021

d) Canadian guidelines



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

f) Specific issues
   1) Patient population
   2) Specific surgery types
   3) Pre-op vs intra-op only

g) See slide for flowchart of measure – current state

h) Why
   1) Build knowledge around how to manage these patients

2) Change practice patterns
3) Improve medication adherence according to guidelines

i) CARD-04 (Evidence): Association between hospital postoperative Troponin use and patient outcomes after vascular surgery Azizi et al 2023

j) Discussion:

1) *Josh Goldblatt (Henry Ford Health) via chat*: Can you clarify the serial testing element of proposed Card-04?
2) *Ketan Chopra (Henry Ford Health) via chat*: 1. how many RCRI risk factors would qualify a patient? would they just need 1?
   (i) *Vikram Kumar (Massachusetts General)*: yes, they will need just 1
3) *Kunal Karamchandani (UT Southwestern) via chat*: I fear that implementing this metric would add more cost for centers that do not measure troponin routinely, so as to stay within the high performing quartile, and not sure if the evidence is robust enough to justify this cost
4) *Brandon Togioka (OHSU):* primary concern – some elderly patients will have elevated troponin. If preop trop isn't taken, postop trop might look high. It could increase cost in delay on surgeries. What are your thoughts on that?
   (i) *Vikram Kumar (Massachusetts General)*: ramifications of trop testing is what prevents many of us from ordering them. If you don't have preop you can draw post op and draw your own conclusions. Where patients intersect with preop can be tricky. There is initial worry of patients needing heart catheter.
5) *Jerri Heiter (Trinity Health) via chat*: all stages of CKD?
6) *Josh Goldblatt (Henry Ford Health) via chat*: How are sites currently operationalizing the scope of this testing within the Anesthesia service? vs by other services?
7) Troy Wildes via chat: Great Discussion and ideas. Questions:-Most of the guidance regarding troponin surveillance is international and US literature / societies have largely not YET weighed in favoring surveillance and it seems still quite controversial. Maybe best practice will be more clear when new AHA guidelines come out? For many/most departments, is it relevant that troponin testing may fall outside of the realm of anesthesiology departments? Especially in terms of the subsequent response to abnormal results?
   (i) *Vikram Kumar (Massachusetts General)*: surgical buyout is critical. We are not practicing as intensely as Europe or Canada
8) *Tim Harwood (Wake Forest) via chat*: Among the institutions that have higher rates of postop measurements, who is leading this? Surgeons, cardiologists, periop service? Surgeon buy-in seems critical for this to work.
9) *Ketan Chopra (Henry Ford Health) via chat:* My concern is that we are going to ask for a troponin to be drawn, then it's possibly elevated, now we will have our surgical ICU colleagues asking us why we are ordering this and what should be done about it? will require some buy in
10) *Xan Abess (Dartmouth) via chat*: As I understand it, it is still unclear what do with the results of the TropT; which has been the primary hesitancy in implementing.
11) *Kunal Karamchandani (UT Southwestern)*: increased cost of testing. Not ready for primetime in US hospitals yet due to cost

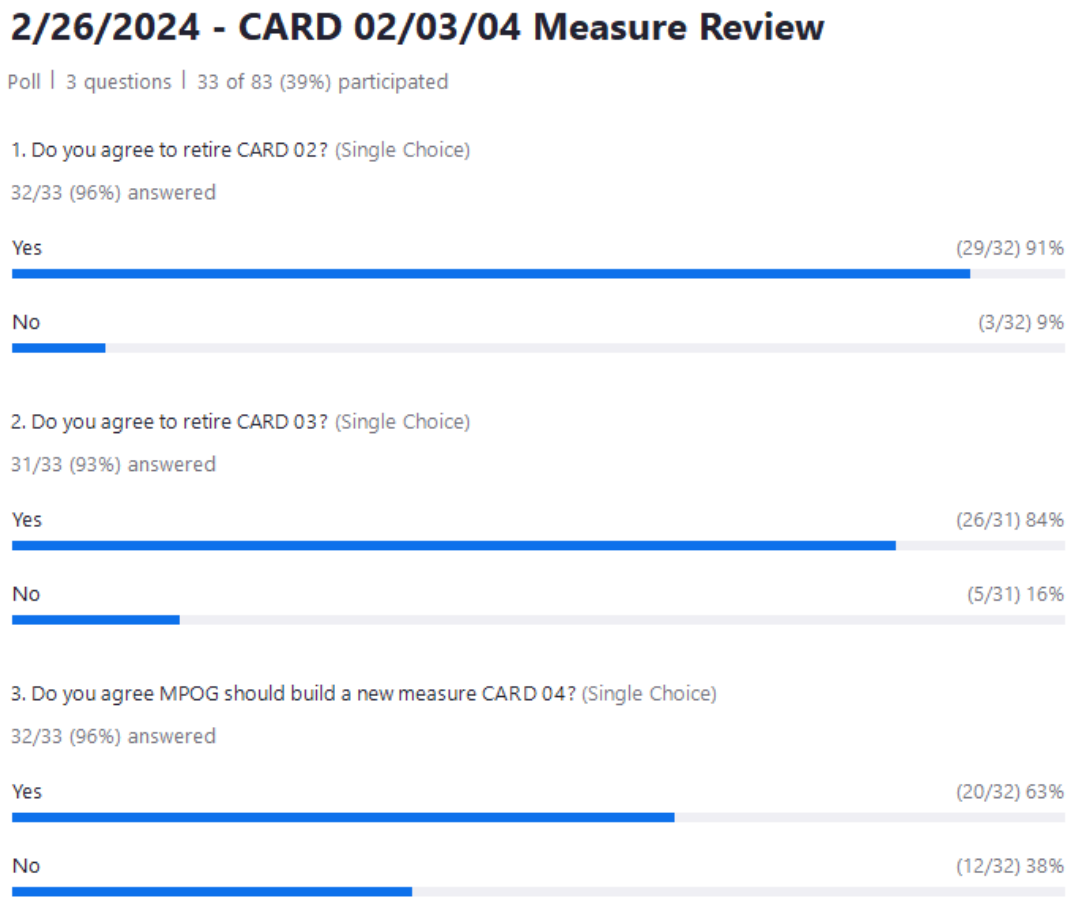
12) *Nirav Shah (MPOG Quality Director):* this measure would not have a threshold
13) *Vikram Kumar (Massachusetts General)*: 80% percent are asymptomatic. Will you send your patient home vs solutions? Solutions better than current state?
14) *Xan Abess* (*Dartmouth*): Hesitant to get a lab if I don't know what to do with the answer. If this is built as an informational measure it would probably be fine but not sure what to do with results and we need more clarity around how to handle the data. Buy-in from surgeons and cardiology consults.
15) *Nirav Shah (MPOG Quality Director)*: look at cases where trop wasn't measured and should have been measured? Discussion with vascular surgeons? Not all cases but specific case types.
16) *Josh Goldblatt (Henry Ford Health)*: I was looking through CARD-03 inclusion criteria, we are not excluding patients from that metric, correct?
    (i) *Vikram Kumar (Massachusetts General)*:: it is an outcome measure measuring the incidence

CARD-04: Troponin Testing in High-Risk Cases

10) Description: Percentage of patients with cardiac risk where troponin levels were checked postoperatively.
a) Informational only measure – No threshold
b) Measure Time Period: Anesthesia End to 72 hours after Anesthesia End
c) Exclusions:
    1) ASA 5 & 6 including Organ Procurement
    2) Cardiac cases as determined by the Procedure Type: Cardiac phenotype
    3) Outpatient cases
d) 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
    1) If no Troponin I (or Troponin T) values are available within 72 hours of Anesthesia End the case will be flagged

11) Vote

a) 1 vote/ site
b) Continue as is
c) Modify
d) Retire: Need > 50% to retire measure
e) Coordinating center will review all votes after meeting to ensure no duplication.



Next steps:

1) **Retire CARD 02**
2) **Retired CARD 03**
3) **Move forward with building CARD 04?**

Measure Updates

12) Retiring Measures:

a) PONV-01: PONV Prophylaxis: Adults (Old)
b) PONV-02: PONV Prophylaxis (Old): Pediatrics
c) MED-01: Avoiding Medication Overdose (Naloxone and Flumazenil for reversal)
    1) Replaced with PAIN-03: Opioid Reversal with Naloxone
d) GLU-01: Hyperglycemia Management, Intraop (> 200 mg/dL)
    1) Replaced with GLU-09: Hyperglycemia Management, Intraop (> 180 mg/dL)
e) GLU-02: Hypoglycemia Management, Intraop (< 60 mg/dL)
    1) Replaced with GLU-12: Hypoglycemia Management, Intraop (< 70 mg/dL)
f) GLU-03: Hyperglycemia Management, Periop (> 200 mg/dL)
    1) Replaced with GLU-10: Hyperglycemia Management, Periop (> 180 mg/dL)
g) GLU-04: Hypoglycemia Management, Periop (< 60 mg/dL)
    1) Replaced with GLU-13: Hyperglycemia, Perio (< 70 mg/dL)

h) GLU-05: Hyperglycemia Treatment, Periop (> 200 mg/dL)
    1) Replaced with GLU-11: Hyperglycemia Treatment, Periop (> 180 mg/dL)
i) Will be retiring in the next month or 2

13) NMB-02: Appropriate Reversal

a) This measure was last reviewed by the Quality Committee in 2021 and the following changes were recommended:
    (i) Remove cardiac exclusion.
    (ii) Remove defasciculating dose exclusion.
    (iii) 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)
b) Examples of the cases that may have previously passed but are now flagged include:
    (i) Cases where defasciculating doses were administered, but no reversal administered.
    (ii) Long spine cases where TOF ratio was measured only by neuromonitoring team and not documented in the anesthesia record.
c) Score changes ranged from –7% to +1%. As you review cases, please contact the CC with feedback.
d) NMB-02 Performance across MPOG
    (i) January – December 2023 Performance Range: 76 – 100%

Meeting Adjourned: 1100
Next meeting: May 20th, 2024

New Measures

14) ABX-02-C: Antibiotic Timing, Open Cardiac

a) Description: Percentage of adult patients undergoing open cardiac surgery with antibiotic administration initiated within the appropriate time frame before surgical incision.
b) Measure time Period: 120 minutes prior to Surgery Start Time through Surgery Start Time
c) Exclusions:
    1) Age < 18 years
    2) ASA 6 including Organ Procurement (CPT: 01990)
    3) Lung Transplants
    4) Procedure Type: Cardiac (value codes 0, 2, 3, and 4)
    5) Patients already on scheduled antibiotics or had a documented infection prior to surgery as specified by the ABX Notes Phenotype
d) Success: Documentation of antibiotics administered before Surgery Start Time ('Other Measure Build Details' has time expectations based on antibiotic selection)
e) ABX-02-C Performance across MPOG
    1) January 2023 – December 2023 Performance range 0 – 100%

15) ABX-03-C: Antibiotic Re-dosing, Open Cardiac

a) Description: Percentage of adult patients undergoing open cardiac surgery with antibiotic re-dose initiated within four hours after initial antibiotic administration

b) Exclusions:
    1) Age < 18 years
    2) ASA 6 including Organ Procurement (CPT: 01990)
    3) Cases where surgery end time occurs before re-dose is due
    4) Cases without administration of a cephalosporin for antibiotic prophylaxis
    5) Lung transplant
    6) Procedure type: Cardiac (value codes 0, 2 ,3, and 4)
    7) Patients already on scheduled antibiotics or had a documented infection prior to surgery as specified by the ABX Notes Phenotype
c) Success:
    1) Documentation of cephalosporin re-dose with 180-255 minutrs after each cephalosporin administration.
    2) For longer cases, a second re-dose within 180-255 minutes after initial re-dose is required, unless the last cephalosporin dose is < 255 minutes before Surgery End. If Surgery End not available, then Anesthesia End.
d) ABX-03-C Performance across MPOG
    1) January 2023 – December 2023 Performance range 0 – 100%

16) NMB-04: Variation in Sugammadex Administration

a) Description: Percentage of adult and pediatric (> 3 years) cases with sugammadex administration where cumulative sugammadex dose ≤ 200 mg OR ≤ 3 mg/kg
b) Threshold: 90%
c) Measure Time Period: Anesthesia Start to Earliest Extubation
d) Exclusions
    1) Age ≤ 2 years
    2) ASA 5 & 6
    3) Cases < 30 minutes
    4) Patients that were not extubated in the immediate postoperative period
e) Success: Cases where cumulative sugammadex dose was ≤ 200 mg OR ≤ 3 mg/kg
f) NMB-04 Performance across MPOG
    1) January – December 2023 Performance range 50 – 100%

17) BRAIN-01 Released!

a) Description: Percentage of patients ≥ 70 years old who received a benzodiazepine perioperatively. *Informational only – No threshold*
b) Measure Time Period: Pre-op Start to PACU End
c) Exclusions
    1) Age < 70 years
    2) ASA 5 & 6
    3) Floor/ICU emergent intubation only cases
    4) ICU transfer postoperatively
d) Success: Avoiding administration of benzodiazepines for patients ≥ 70 years

e) BRAIN-01 Performance across MPOG (Inverse)
    1) January – December 2023 Performance Range 0.1 - 75.4%

Meeting Adjourned:
Next meeting: