Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Quality Committee Meeting Notes – Monday, January 27th, 2025

Attendance:

Abess, Alex (Dartmouth)	Lalonde, Heather (Trinity Health)
Abou Nafeh, Nancy (AUB)	Liu, Linda (UCSF)
Addo, Henrietta (MPOG)	Liwo, Amandiy (UAB)
Adelmann, Dieter (UCSF)	Lewandowski, Kristyn (Corewell)
Agerson, Ashley (Spectrum)	Lopacki, Kayla (Mercy Health - Muskegon)
Andreae, Michael (Utah)	Lozon, Tim (Henry Ford - Wyandotte)
Andrew, Ben (Duke)	Lu-Boettcher, Eva (Wisconsin)
Aouad, Marie (AUB)	Mack, Patricia (Weill Cornell)
Aziz, Mike (OHSU)	Madoff, Lauren (Boston Children's)
Barrios, Nicole (MPOG)	Malenfant, Tiffany (MPOG)
Bauza, Diego (Weill Cornell)	McComb, Joseph (Temple U)
Berndt, Brad (Bronson)	McCullough, Rose (Houston Methodist)
Berris, Josh (Corewell - Farmington Hills)	McKinney, Mary (Corewell Dearborn / Taylor)
Bollini, Mara (WUSTL)	Milliken, Christopher (Sparrow)
Bow, Peter (Michigan)	Mirizzi, Kam (MPOG)
Brennan, Alison (Maryland)	O'Conor, Katie (Johns Hopkins)
Buehler, Kate (MPOG)	O'Dell, Diana (MPOG)
Calabio, Mei (MPOG)	Ohlendorf, Brian (Duke)
Cassidy, Ruth (MPOG)	Ostarello, Claire (ASA)
Charette, Kristin (Dartmouth)	Owens, Wendy (MyMichigan - Midland)
Chopra, Ketan (Henry Ford - Detroit)	Pace, Nathan (Utah)
Clark, David (Stanford)	Pantis, Rebecca (MPOG)
Cohen, Bryan (Henry Ford - West Bloomfield)	Pardo, Nichole (Corewell)
Coleman, Rob (MPOG)	Parks, Dale (UAB)

Delhey, Leanna (MPOG)	Penningon, Bethany (WUSTL)
Denchev, Krassimir (St Joseph Oakland)	Phillips, Latoya (Trinity Health)
Dewhirst, Bill (Dartmouth)	Pimentel, Marc Phillip (B&W)
Drennan, Emily (Utah)	Poindexter, Amy (Holland)
Edelman, Tony (MPOG)	Qazi, Aisha (Corewell)
Elkhateb, Rania (UAMS)	Roselinsky, Howard (Yale)
Esmail, Tariq (Toronto)	Sakkab, Julie (AUB)
Everett, Lucy (MGH)	Schwerin, Denise (Bronson)
Finch, Kim (Henry Ford Detroit)	Shah, Nirav (MPOG)
Gibbons, Miranda (Maryland)	Shaygan, Lida (UT Southwestern)
Goatley, Jackie (Michigan)	Shettar, Shashank (OUHSC)
Goldblatt, Josh (Henry Ford Allegiance)	Smiatacz, Frances Guida (MPOG)
Greenblatt, Lorile (U Penn)	Smith, Mason (MyMichigan)
Grewal, Ashan (Maryland)	Steadman, Randy (Houston Methodist)
Hall, Meredith (Bronson Battle Creek)	Stewart, Alvin (UAMS)
Harwood, Tim (Wake Forest)	Stewart, Margaret (Michigan)
Heiter, Jerri (St. Joseph A2)	Stierer, Tracey (Johns Hopkins)
Horton, Brandy (Anes Associates)	Stumpf, Rachel (MPOG)
Janda, Allison (MPOG)	Tao, Jing (MSKCC)
Jewell, Elizabeth (MPOG)	Tyler, Pam (Corewell Farmington Hills)
Johnson, Rebecca (Spectrum & UMHS West)	Uzarski, Michelle (Corewell)
Joseph, Tom (U Penn)	Vaughn, Shelley (MPOG)
Kaper, Jon (Corewell Trenton)	Vitale, Katherine (Trinity Health)
Karamchandani, Kunal (UT Southwestern)	Wade, Meredith (MPOG)
Khan, Meraj (Henry Ford)	Walters, Andrew (UW)
Kheterpal, Sachin (MPOG)	Wedeven, Chris (Holland)
Kinney, Tyler (Houston Methodist)	Wilson, Blake (MyMichigan)

Krauss, Kristin (Temple)	Woody, Nathan (UNC)
Kumar, Vikram (MGH)	Yuan, Yuan (MPOG)
Lacca, Tory (MPOG)	Zhao, Xinyi (Sarah) (MPOG)
Lai, Emily (MD Anderson)	Zhu, Shu (Columbia)
LaGorio, John (Trinity Health)	

Agenda & Notes

Meeting Start: 1001

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 November 2024 Quality Committee Meeting**
4. **Announcements**
   - A. MPOG App Suite Upgrade Released!
     - a. Upgrade package has been sent to each site's IT contact (if you do not know who this is for your site, contact support@mpog.zendesk.com)
     - b. More than half of all sites have already applied the upgrade!
     - c. Sites Using Desktop Virtualization (e.g., Citrix): Your site's IT team will upgrade the App Suite
     - d. Users using the App Suite installed on their PC:
       1. Your site's IT team will distribute the installer to all individuals at their site after the database upgrade has been applied.
     - e. Release Notes have posted on the MPOG website
   - B. Michigan Sites: 2025 Pay-for-Performance (P4P Scorecard)
     - a. Measure #1: Race and Ethnicity variables mapped to updated MPOG concepts to align with new OMB standards
       1. Sites will need to update Race & Ethnicity mapping to new concepts that the Coordinating Center has built
     - b. Sexual Orientation, Sex & Gender Identity: All sexual orientation and gender identity variables in electronic health record extracted and mapped to an accepted MPOG concept to align with updated OMB standards
       1. Sites will need to extract new data into a Patient Attributes file including all fields related to Sexual orientation, legal sex, sex at birth, and gender identity. Once extracted, sites will need to map these variables to standardized MPOG concepts– Patient Attribute File Specification

c. These initiatives align with MSHIELD definitions to begin assessing healthcare disparities.

C. Update: QI for Learners Committee

a. As discussed at the September 2024 Quality Committee, MPOG is forming a committee to develop a QI for Learners program
b. Program would allow residency leadership to assess engagement in practice improvement
c. Could help fulfill the practice-based learning and improvement components of residency training
d. If interested, could expand to include SRNAs
e. First meeting to be scheduled in March 2025

Colleagues interested in participating

Name	Institution
Tariq Esmail	University Health Network
Kate O'Connor	Johns Hopkins
Krassimir Denchev	Trinity Oakland
Greg Balfanz	University of North Carolina
Eva Lu-Bettcher	University of Wisconsin
Mara Bollini	Washington University
Bethany Pennington	Washington University
Rachel Moquin	Washington University
Alvin Stewart	University of Arkansas for Medical Sciences
Kunal Karamchandani	University of Texas – Southwestern
Fatima Msheik	American University of Beirut
Matt Caldwell	University of Michigan
Lara Zisblatt	University of Michigan

D. Featured Member – January – February 2025

a. Josh Goldblatt – ACQR – Henry Ford Hospital System – Allegiance

5. Upcoming Events

A. 2025 Meetings

a. Friday, April 11, 2025 – MSQC/ASPIRE Collaborative Meeting – Novi, MI
b. Friday, July 18, 2025 – ASPIRE Collaborative Meeting, Henry Executive Center – Lansing, MI
   1. Will focus on regional anesthesia. Chris Wu, an anesthesiologist in New York, will be our keynote and discuss the plan of care ultrasound.
c. Friday, September 2025 – Specific Date TBD – ACQR Retreat, Location TBD
d. Friday, October 10, 2025 – MPOG Retreat, San Antonio, Texas

Thanks to all that attended the 2024 Retreat

6. **2025 Measure Review Plan**

A. **Quality Committee Measure Review Schedule**

Reviewer	Date	Measure	Description
Tony Edelman, UMichigan	1/2025	NMB-01	Train of Four Monitoring
Mike Aziz, OHSU	1/2025	NMB-02	Reversal Administered
Kunal Karamchandani, UTSW	1/2025	TOC-01	Intraop Handoff
Joseph Ruiz, MD Anderson	2/20255	PONV-05	Postoperative Nausea
Sustainability Group	5/2025	All SUS	Sustainability Measures (All)
Sunny Chiao, UVA	7/2025	TEMP-01	Active Warming
Jonathan Kaper, Corewell Trenton	7/2025	TEMP-02	Core Temperature Monitoring
Marc Pimentel, Brigham & Women's	9/2025	BP-02	BP Monitoring Gaps
Rob Schonberger, Yale	9/2025	BP-05	Low MAP Avoidance < 55 mm Hg, Induction
Joe McComb, Temple	11/2025	PUL-01	Median Tital Volume < 10 mL/kg PBW
Ketan Chopra, HFH	11/2025	PUL-03	Administration of PEEP

B. **Cardiac Committee Measure Review Schedule**

Reviewer	Date	Measure	Description
Mariya Guebe, Cleveland Clinic Florida	2/2025	TEMP-06-C	Hypothermia Avoidance in Cardiac Surgery
Ashan Grewal, University of Maryland	2/2025	TEMP-07-C	Hyperthermia Avoidance in Cardiac Surgery

C. **Pediatric Committee Measure Review Schedule**

Reviewer	Date	Measure	Description
Brady Still – University of Chicago	Spring	SUS-05-Peds	Nitrous Avoidance, Induction
Charles Schrock – St. Louis Children's	Spring	NMB-03-Peds	NMB Dosing, Infants
TBD	Fall	FLUID-02-Peds	Minimizing Colloid Use, Pediatrics
Jeana Havidich - Vanderbilt	Winter	TRAN-03-Peds TRAN-04-Peds	Transfusion Vigilance Overtransfusion

7. **Measure Reviews**:

A. TOC-01: Transfer of Care – Intraoperative – Kunal Karamchandani, UTSW

a. Description: percentage of patients with documentation of intraoperative handoff for permanent transfers of care between in-room anesthesia providers

b. Threshold: 90%

c. Exclusions:

    1. ASA 5 & 6 including Organ Procurement
    2. Case with no permanent shift relief (outgoing provider returns within 40 minutes)
    3. Labor Epidurals including obstetric non-operative procedures
    4. Handovers between supervising anesthesiologists – those not performing anesthesia care in the operating room

d. Success Criteria: Documentation of intraoperative transfer of care in the electronic anesthesia record including the key handoff elements used

e. Other Measure Details:
    1. For cesarean delivery conversion cases, measure start time is 5 minutes after cesarean delivery start time to anesthesia end
    2. Only permanent intraoperative handoffs between in-room providers will be considered for this measure
    3. If more than one permanent intraoperative handoff occurs during the case, all events will be considered for determining success
    4. A permanent handoff is defined as:
        1. Staff relieve for > 40 minutes between staff change and Anesthesia End, or
        2. Staff change in which the original provider is relieved and does not sign back into the case
    5. The accepted time frame for documenting the intraoperative handoff is 15 minutes before to 15 minutes after the staff change.

f. Summary of presentation:
    1. Multi-center Handoff Collaboration (MHC) is working with Epic to finalize a tool with individual handoff elements for O.R to ICU handoff and looking for a few centers to do a pilot. Anesthesia providers as well as other perioperative team members (nurses, surgeons) will be included in the development of this tool. Possibly could partner with MPOG to track compliance with implementation.

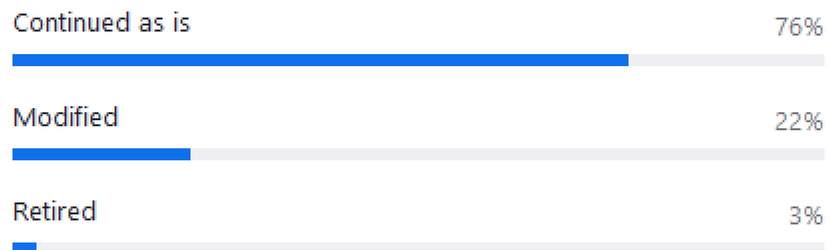
g. Discussion:

- Kunal Karamchandani *(UT Southwestern)*: UT Southwestern discussing with Epic to see if there is any way the individual component of the handoff can be tracked and incorporated into the handoff tool.
- Several site representatives mention that they have a single button for handoff documentation and do not include the individual handoff elements.
- *Joshua Berris (Corewell Health Farmington Hills) via chat*: Corewell Farmington Hills' prior Epic instance had handoff with all the individual smart data elements that were reportable.
- *Joeseph McComb (Temple University):* Temple uses Epic and have a button they can click on to say that handoff occurred. They have the option to add special elements if any major events occurred during a procedure.
- *Tariq Esmail (University Health Network)*: UHN uses Epic and has a button that says handoff. The click boxes can remind someone to do a handoff to address elements that they otherwise would have missed.

- *Nirav Shah (MPOG Quality Director):* It is difficult to measure the quality of a handoff. Previous feedback we've received for this measure is that it is more of a 'check-the-check box' measure, but at least it captures whether someone performed a handoff to the postoperative care team.
- *Joshua Berris (Corewell Health Farmington Hills) via chat*: The handoff should be built to display all the elements that should be part of the handover.
- *Alexander Abess (Dartmouth Hitchcock) via chat:* A thought of caution regarding mandated elements in handoffs: CMS mandated covering the 7 different elements in post-anesthesia note years ago. This has essentially limited the amount of meaningful information in postoperative notes for our team.
- *Joeseph McComb (Temple University):* Maybe have a button that says handoff occurred and I have no ongoing concerns or handoff occurred and had some issues intraoperatively. Fundamental question is, 'do you have concerns for the PACU or postoperative period?'
- Dr. Karamchandani will update the group if any relevant recommendations are made by the MHC group.

h. Vote:

1. 1 vote/site
2. Continue as is/modify/retire
3. Need > 50% to retire measure
4. Coordinating center will review all votes after meeting to ensure no duplication



i. Next steps:

1. The Coordinating center will add results of the Saha/Segal study to the rationale, as well as the HandiCAP trial
    1. A Qualitative Improvement Initiative to Reduce Adverse Effects of Transitions of Anesthesia Care on Postoperative Outcomes: A Retrospective Cohort Study

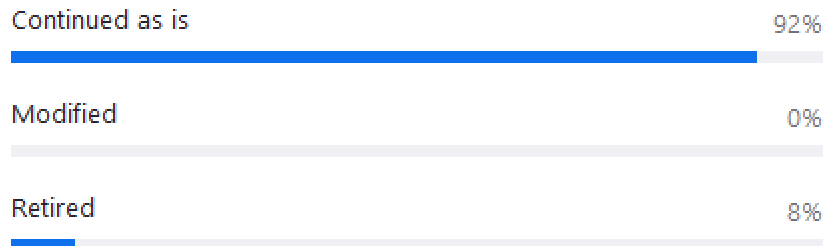
            2. Effect of Intraoperative Handovers of Anesthesia Care on Mortality, Readmission, or Postoperative Complications Among Adults: The HandiCAP Randomized Clinical Trial
        2. Measure will continue as is – no revisions needed.

B. NMB-01: Train of Four Measured – Tony Edelman, University of Michigan
    a. Description: Percentage of patients with a documented Train of Four (TOF) after last dose of non-depolarizing neuromuscular blocker
    b. Threshold: 90%
    c. Exclusions:
        1. ASA 5 & 6 including Organ Procurement
        2. Patients not receiving neuromuscular blockade
        3. Patients that were not intubated in the immediate postoperative period
        4. Procedure Type: Lung Transplant
    d. Success criteria: Documentation of a Train of Four count (1, 2, 3, 4) or sustained tetany, or TOF ratio provided by acceleromyography AFTER last dose or stopping of infusion of neuromuscular blocker before earliest extubation. **Note:** A Train of Four value of '0' is accepted for cases in which sugammadex is administered for reversal
    e. Other Measure Details:
        1. TOF values must be documented before extubation for the case to pass. If TOF values are *only* documented after extubation, the case will flag.
        2. If the only TOF value is 0 and sugammadex is administered, the sugammadex must be documented *before* extubation time for the case to pass.
        3. If tetanic fade is documented prior to extubation, case passes.
    f. Summary of presentation:
        1. New literature – ASA Guidelines for monitoring and antagonism of neuromuscular blockade
            1. Strong recommendation with moderate evidence that when neuromuscular block drugs are administered, clinical assessment alone is not enough to determine level of residual neuromuscular blockade.
        2. Lung transplant exclusion is related to the coordinating center's ability to pass or fail based on tube exchanges at the end of cases, so the exclusion is related to the complications related to the tube exchange.
    g. Coordinating center review:
        1. Updated measure result reasons and flowcharts
        2. Cleaned up measure code so that TOF values must be documented before extubation for the case to pass. If TOF values are *only* documented after extubation, the case will flag
        3. If the only TOF value is 0 and sugammadex is administered, the sugammadex must be documented *before* extubation time for the case to pass.

4. If tetanic fade is documented prior to extubation, case passes.
5. Excluded lung transplants as there were false failures when tube exchanges were being documented as extubation

h. Vote:

1. 1 vote/site
2. Continue as is/modify/retire
3. Need > 50% to retire measure
4. Coordinating center will review all votes after meeting to ensure no duplication



i. **Next steps:** Measure to continue as is

C. NMB-02: Reversal Administered – Mike Aziz, OHSU

a. Description: Percentage of patients administered neostigmine, sugammadex, and/or edrophonium before extubation and after the last dose of non-depolarizing neuromuscular blocker
b. Threshold: 90%
c. Exclusions:
   1. ASA 5 & 6 including Organ Procurement
   2. Patients not receiving neuromuscular blockade
   3. Patients that were not intubated in the immediate postoperative period
   4. Procedure Type: Lung Transplant
d. Success Criteria: Documentation of neostigmine, sugammadex, and/or edrophonium before earliest extubation OR an acceleromyography ratio > 0.9 documented after last dose of NMB and before earliest extubation before anesthesia end
e. Other Measure Details:
   1. Cases that receive defasciculating doses of NMBs are included in this measure and require documentation of neostigmine, sugammadex, or edrophonium before earliest extubation before anesthesia end to pass.

f. Summary of presentation:

1. There has been an updated ASA practice guideline on neuromuscular blockade monitoring and reversal. One is encouraging the use of quantitative monitoring, and another is outlining where sugammadex can and should be used versus neostigmine. Use of quantitative monitoring is going to be a dichotomous thing where an institution either uses or it doesn't. One of the recommendations in reading the guidelines is to wait 10 minutes from administration of neostigmine to extubation. Considering that the pharmacology and the neostigmine peak effect. is 3 minutes, I have some reservations around it, and it merits a discussion because this will be a modification of this measure if we were to track the timing for pass to be when neostigmine is administered 10 minutes to extubation. The measure does give you an opportunity to demonstrate a TOF ratio of 0.9 and not give a reversal. My inclination is to change the measure to look for time of administration of neostigmine to extubation to determine that it was at least 10 minutes but do not want to sabotage the measure for anyone. I am open to keeping the measure as is as an alternative.

g. Coordinating Center review:

1. Analysis of all cases for a month across MPOG last year (October 2024) showed that across ~8,299 cases where neostigmine was administered and extubation time documented, the average time between documentation of neostigmine and extubation was 17 minutes. The range was between 0 minutes and 22 hours. 23 cases where documentation (neostigmine and extubation) was at the same time. 16 cases where extubation time was before administration of neostigmine. This supports that enough variation in data exists to incorporate this information into a measure. Need discussion about adding this to NMB 02 vs creating a new measure.
2. NMB-02 Measure updates over past year:
    1. Updated code to ensure cases would appropriately flag if reversal was administered after extubation
    2. Updated code to ensure cases would appropriately pass if the acceleromyography ratio of ≥ 0.9 was documented after the last dose of NMB and before earliest extubation. (Some cases were being inadvertently excluded).
3. Flowchart and measure result reasons updated
4. Still need to review / validate that new quantitative monitoring concept values are being included in this measure

h. Discussion:

1. *Nirav Shah (MPOG Quality Director)*: I looked at October 2024 for all cases across MPOG where neostigmine was administered and had extubation time documented. There were about 8,000 cases

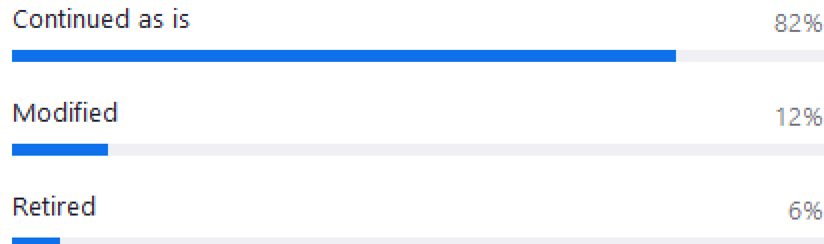
2. *Lucy Everett (MGH) via chat*: That is a reason for flagging in our data. One of the other measures is that it is flagged for reversal after extubation. It would be helpful to determine the time between documentation of neostigmine and extubation and determine if reversal was documented after extubation.
3. *Josh Goldblatt (Henry Ford Health System - Allegiance) via chat*: Can you add a column in case report for NMB-02 showing time between neostigmine and extubation?
    1. *Nicole Barrios (MPOG) via chat*: Yes, we can add that information to the measure case report
4. *Tony Edelman (MPOG)*: In doing the review for NMB-01, I saw the 10-minute time frame come up in different articles. We all know that qualitatively we should be administering neostigmine at the time of or very near extubation. Will there be any education required around that 10 minute prior to review? Prior to the review, I don't know if I could have said 10 minutes is the right time or not the right time. From an education standpoint, is it the right thing to do to bury it in the existing measure, or perhaps create a new measure?
    1. *Mike Aziz (OHSU)*: I think 10 minutes clinically makes sense. A lot happens in one minute in the EMR and I worry about the integrity of it and that will bypass any validation that we have. I'm not too thrilled about a new measure but concerned about the data integrity.
    1. *Nirav Shah (MPOG Quality Director)*: That is what I was worried about as well. A lot of documentation would essentially be happening at the same time. I was surprised to find that out of 8,000 cases, neostigmine documentation and extubation were on the same time a few dozen times. Sugammadex is coming off patent within the next year? Will anyone continue to give neostigmine after?

i. Vote:

1. 1 vote/site
2. Continue as is/modify/retire
3. Need > 50% to retire measure
4. Coordinating center will review all votes after meeting to ensure no duplication

QC Meeting 1.27.25: NMB 02

1. NMB 02 (Administration of NMB Reversal Agent) should be: (Single choice)



- j. **Next steps**:
    1. Measure to continue as is
    2. Add column to measure case report for time between last dose of neostigmine and earliest extubation

8. **Measure Updates**
    - A. QI Reporting Tool Measure Result Reasons
        - a. Over the past year, we have updated the pass/flag/excluded verbiage for each of our measures
        - b. As part of this review, we have updated the measure code to ensure alignment with the description
        - c. All measure result reasons should now have a clear description for pass, flag, or excluded criteria
        - d. Please reach out to us if you have any questions: support@mpog.zendesk.com
    - B. **NMB-05: Provider Attribution**
        - a. Since the release of NMB-05 in March 2024, sites have been updating variable mapping to train-of-four count and ratio to MPOG concepts
        - b. More sites have expressed interest in measuring quantitative monitoring use across their operating rooms
        - c. Currently, NMB-05 is informational only and available for departmental view only. No provider attribution assigned
        - d. Should attribution rules be developed? Make available for provider feedback emails?
    - C. **SUS-03: Updated Threshold**
        - a. Description: Total carbon dioxide equivalents per induction for cases where halogenated agents and/or nitrous oxide were administered during the induction period of anesthesia
        - b. **Updated threshold:** A carbon dioxide limit of 250 kg CO_2 will be applied for this informational measure as a threshold has not yet been established in the literature for the induction phase of anesthesia

c. Most cases will now pass, however, cases with a total CO_2 equivalent > 250 kg for induction will still flag. Sites may wish to review these cases to assess potential data quality issues.

Meeting Adjourned: 1102

Next meeting: February 24th, 2025